LIST OF PUBLICATIONS

LUCA BATTISTELLA

1. Published and accepted papers

6. A geographical study of $\overline{M}_2(\mathbb{P}^2, 4)^{\text{main}}$
joint with: Francesca Carocci
https://arxiv.org/abs/2010.15799 (to appear in Adv. Geom.)

5. A smooth compactification of the space of genus two curves in projective space via logarithmic geometry and Gorenstein curves
joint with: Francesca Carocci
https://arxiv.org/abs/2008.13506 (to appear in Geom. & Topol.)

4. Curve counting in genus one: elliptic singularities and relative geometry
joint with: Navid Nabijou, Dhruv Ranganathan
Algebraic Geometry 8 (6) (2021) 637–679

3. Virtual classes for the working mathematician
joint with: Francesca Carocci, Cristina Manolache
SIGMA 16 (2020), 026, 38 pages

2. Reduced invariants from maps with cusps
joint with: Francesca Carocci, Cristina Manolache
Trans. Amer. Math. Soc. 373 (2020), no. 9, 6713–6756

1. Relative Quasimaps and Mirror Formulae
joint with: Navid Nabijou
Int. Math. Res. Not. IMRN 2021, no. 10, 7885–7931

2. Preprints

2. The local-orbifold correspondence for simple normal crossings pairs
joint with: Navid Nabijou, Hsian-Hua Tseng, Fenglong You
https://arxiv.org/abs/2103.09299 (submitted)

1. Modular compactifications of $\mathcal{M}_{2,n}$ with Gorenstein curves
https://arxiv.org/abs/1906.06367 (submitted - revised version available upon request)

3. Other publications

2. Reduced Gromov-Witten invariants in genus one: the absolute and relative theory of smooth hyperplane sections
on joint work with: Navid Nabijou, Dhruv Ranganathan
In Dan Abramovich, Michel van Garrel, Helge Ruddat: *Logarithmic Enumerative Geometry and Mirror Symmetry*. Oberwolfach Rep. 16 (2019), 1639-1695

1. Alternative compactifications in low genus Gromov-Witten theory
PhD thesis, Imperial College London, October 2018.
Published online in Spiral - Imperial College London's repository

ELENCO PUBBLICAZIONI

Dichiarazioni sostitutive di certificazioni (art. 46 D.P.R. 28/12/2000, n. 445)
Dichiarazioni sostitutive dell'atto di notorietà (art. 47 D.P.R. 28/12/2000, n. 445)

La sottoscritta Ilaria Castellano [redacted] sotto la propria responsabilità, ai sensi degli articoli 46 e 47 del D.P.R. 28/12/2000, n. 445, consapevole che le dichiarazioni mendaci sono punite ai sensi del codice penale e delle leggi speciali in materia, secondo quanto previsto dall'art. 76 del D.P.R. 28/12/2000, n. 445

DICHIARA

- di aver presentato n. 12 pubblicazioni scientifiche per la partecipazione alla procedura di selezione per il reclutamento di n. 1 ricercatore a tempo determinato, ai sensi dell'art. 24, comma 3 lettera b), della Legge n. 240/2010 – nel rispetto del limite massimo (se previsto dall'art. 1 del bando, inclusa la tesi di dottorato nel caso i cui si intenda presentarla) corrispondenti al seguente elenco:

1- Arora, S, Castellano, I, Corob Cook, G, Martinez-Pedroza, E (2021). Subgroups, hyperbolicity and cohomological dimension for totally disconnected locally compact groups. JOURNAL OF TOPOLOGY AND ANALYSIS. World Scientific Publishing Co.
doi: 10.1142/S1793525321500254

2- Castellano, I, Dikranjan, D, Freni, D, Giordano Bruno, A, Toller, D (2021). Intrinsic entropy for generalized quasi-metric semilattices.
To appear in JOURNAL OF ALGEBRA AND ITS APPLICATIONS. World Scientific Publishing Co.

3- Castellano, I, Zalesskii, P (2021). Subgroups of pro-p PD3 -groups. MONATSHEFTE FÜR MATHEMATIK. Springer-Verlag Wien. doi: 10.1007/s00605-020-01505-5

4- Castellano, I (2020). The corank of a flow over the category of linearly compact vector spaces. JOURNAL OF PURE AND APPLIED ALGEBRA, vol. 224, 106266, ISSN: 0022-4049. Elsevier.
doi: 10.1016/j.jpaa.2019.106266

5- Castellano, I, Corob Cook, G (2020). Finiteness properties of totally disconnected locally compact groups. JOURNAL OF ALGEBRA, vol. 543, p. 54-97, ISSN: 1090-266X. Academic Press Inc.
doi: 10.1016/j.jalgebra.2019.09.017

6- Castellano, I (2020). Topological entropy for locally linearly compact vector spaces and field extensions. TOPOLOGICAL ALGEBRA AND ITS APPLICATIONS, vol. 8, p. 58-66, ISSN: 2299-3231, De Gruyter. doi: 10.1515/taa-2020-0005

7- Castellano, I, Corob Cook, G, Kropholler, PH (2020). A property of the lamplighter group. TOPOLOGICAL ALGEBRA AND ITS APPLICATIONS, vol. 8, p. 1-4, ISSN: 2299-3231, De Gruyter.
doi: 10.1515/taa-2020-0001

8- Castellano, I, Giordano Bruno, A (2019). Topological entropy for locally linearly compact vector spaces. TOPOLOGY AND ITS APPLICATIONS, vol. 252, p. 112-144, ISSN: 0166-8641. Elsevier.
doi: 10.1016/j.topol.2018.11.009

9- Castellano, I (2018). Rational discrete first degree cohomology for totally disconnected locally compact groups. MATHEMATICAL PROCEEDINGS OF THE CAMBRIDGE PHILOSOPHICAL SOCIETY, Cambridge University Press. doi: 10.1017/S0305004118000762

10- Castellano, I, Giordano Bruno, A (2017). Algebraic entropy in locally linearly compact vector spaces. In: (a cura di): Fontana M. Frisch S. Glaz S. Tartarone F. Zanardo P., Rings, Polynomials, and Modules. p. 103-127, CHE:Springer International Publishing, ISBN: 978-3-319-65872-8, doi: 10.1007/978-3-319-65874-2_6 - Book Chapter

11- Castellano, I, Weigel, TS (2016). Rational discrete cohomology for totally disconnected locally compact groups. JOURNAL OF ALGEBRA, vol. 453, p. 101-159, ISSN: 0021-8693, Academic Press Inc. doi: 10.1016/j.jalgebra.2016.01.008

12- Castellano, I (2015). Stallings' decomposition theorem for totally disconnected and locally compact groups. PH.D. Thesis - Monograph

- che le pubblicazioni presentate sono conformi all'originale;

- che sono stati adempiuti gli obblighi previsti dalla normativa vigente in materia di deposito legale dei documenti di interesse culturale e destinati all' uso pubblico.

Data 25/10/2021

(1) Firma

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(1) La dichiarazione non necessita dell'autenticazione della firma se, ai sensi dell'art. 38 del D.P.R. 28/12/2000, n. 445, è sottoscritta ed inviata insieme alla fotocopia, non autenticata, di un documento di identità in corso di validità del dichiarante.

Elenco pubblicazioni presentate

1. Ceria, Michela, Mora, Teo, Sala, Massimiliano (2020). HELP: a sparse error locator polynomial for BCH codes. APPLICABLE ALGEBRA IN ENGINEERING COMMUNICATION AND COMPUTING, ISSN: 0938-1279, doi: 10.1007/s00200-020-00427-x - Articolo in rivista
2. Barkee, Boo, Ceria, Michela, Moriarty, Theo, Visconti, Andrea (2020). Why you cannot even hope to use Gröbner bases in cryptography: an eternal golden braid of failures. APPLICABLE ALGEBRA IN ENGINEERING COMMUNICATION AND COMPUTING, vol. 31 (3-4), p. 235-252, ISSN: 0938-1279, doi: 10.1007/s00200-020-00428-w - Articolo in rivista
3. Ceria M. (2019). Bar code vs janet tree. ATTI DELLA ACCADEMIA PELORITANA DEI PERICOLANTI, CLASSE DI SCIENZE FISICHE MATEMATICHE E NATURALI, vol. 97, p. 1-12, ISSN: 0365-0359, doi: 10.1478/AAPP.972A6 - Articolo in rivista
4. Ceria M. (2019). Bar Code: A Visual Representation for Finite Sets of Terms and Its Applications. MATHEMATICS IN COMPUTER SCIENCE, ISSN: 1661-8270, doi: 10.1007/s11786-019-00425-4 - Articolo in rivista
5. Ceria, Michela, Mora, Teo, Roggero, Margherita (2019). A general framework for Noetherian well ordered polynomial reductions. JOURNAL OF SYMBOLIC COMPUTATION, vol. 95, p. 100-133, ISSN: 0747-7171, doi: 10.1016/j.jsc.2019.02.002 - Articolo in rivista
6. Ceria, Michela (2019). Bar code for monomial ideals. JOURNAL OF SYMBOLIC COMPUTATION, vol. 91, p. 30-56, ISSN: 0747-7171, doi: 10.1016/j.jsc.2018.06.012 - Articolo in rivista
7. Ceria Michela, Mora Teo (2017). Buchberger-Zacharias Theory of multivariate Ore extensions. JOURNAL OF PURE AND APPLIED ALGEBRA, vol. 221, p. 2974-3026, ISSN: 0022-4049, doi: 10.1016/j.jpaa.2017.02.011 - Articolo in rivista
8. Ceria, Michela, Mora, Teo (2017). Buchberger-Weispfenning theory for effective associative rings. JOURNAL OF SYMBOLIC COMPUTATION, vol. 83, p. 112-146, ISSN: 0747-7171, doi: 10.1016/j.jsc.2016.11.008 - Articolo in rivista
9. Ceria, Michela, Mora Teo, Roggero Margherita (2015). Term-ordering free involutive bases. JOURNAL OF SYMBOLIC COMPUTATION, vol. 68, p. 87-108, ISSN: 0747-7171, doi: 10.1016/j.jsc.2014.09.005 - Articolo in rivista
10. 2020 Combinatorial decompositions for monomial ideals , Journal of Symbolic Computation, Volume 104, May-June 2021, Pages 630-652 DOI:10.1016/j.jsc.2020.09.004
11. Ceria M., Mora T. (2020). Toward involutive bases over effective rings. APPLICABLE ALGEBRA IN ENGINEERING COMMUNICATION AND COMPUTING, ISSN: 0938-1279, doi: 10.1007/s00200-020-00448-6 - Articolo in rivista
12. 2021 Why you cannot even hope to use Ore algebras in Cryptography, Applicable Algebra in Engineering, Communication and Computing, DOI: 10.1007/s00200-021-00493-9 With T.Mora, A.Visconti.

Ad esse si aggiunge la Tesi di Dottorato "Combinatorial structure of monomial ideals".

Bari, 25/10/2021

Published papers

(1) A journey from the octonionic $\mathbb{P}^2$ to a fake $\mathbb{P}^2$, with Lev Borisov and Anders Buch, **Proc. Am. Math. Soc.**, in press, https://doi.org/10.1090/proc/15840
(2) Fano 3-folds from homogeneous vector bundles over Grassmannians, with Lorenzo De Biase and Fabio Tanturri, **Revista Matemática Complutense**, in press, doi.org/10.1007/s13163-021-00401-2
(3) A note on a Griffiths-type ring for complete intersections in Grassmannians, with Giovanni Mongardi, **Mathematische Zeitschrift**, 299, 1651-1672 (2021), doi: 10.1007/s00209-021-02733-7
(4) Nested varieties of K3 type, with Marcello Bernardara and Laurent Manivel, **Journal de l'École polytechnique-Mathématiques (JEP)**, Tome 8 (2021), pp. 733-778.
(5) Fano varieties of K3 type and IHS manifolds, with Giovanni Mongardi, **Int. Math. Res. Not. (IMRN)**, Volume 2021, Issue 4, February 2021, Pages 3097- 3142 .
(6) Hodge numbers and deformations of Fano threefolds, with Gavin Brown, **Doc. Math.**, 25, 267-307 (2020).
(7) Surfaces of general type with $p_g = 1, q = 0, K^2 = 6$ and Grassmannians, **Math. Nachr.** 293 (2020), no. 1, Pages 88-100.
(8) Weighted Fano varieties and infinitesimal Torelli problem, with Francesco Zucconi and Luca Rizzi, **Journal of Geometry and Physics**, Volume 139, May 2019, Pages 1-16.
(9) Hodge Theory in Grassmannians, PhD Thesis, University of Warwick (2017)
(10) Hodge Theory and deformations of affine cones of subcanonical projective varieties, with Domenico Fiorenza and Carmelo di Natale, **J. Lond. Math. Soc.** (2) 96 (2017), no. 3, 524-544.

Camilla Felisetti

Università di Trento
Dipartimento di Matematica
Via Sommarive 14, 38123 Povo TN.
✉ *camilla.felisetti@unitn.it*

Publications

Published and accepted articles

1) **Betti Numbers of Brill-Noether varieties**, with Claudio Fontanari, to appear in *Atti Accad. Naz. Lincei Rend. Lincei Mat. Appl.* (2021).
2) **On the splitting principle of Beniamino Segre**, with Claudio Fontanari, *Ann. Mat. Pura Appl. published online at https://doi.org/10.1007/s10231-021-01171-w* (2021).
3) **Intersection cohomology of the moduli space of Higgs bundles on a curve of genus 2**, *Journal of the Institute of Mathematics of Jussieu*, pp.1-50 (2021).
4) **A support theorem for nested Hilbert schemes of planar curves**, *Manuscripta Math.*, 164 (2021), pp. 467-488 .
5) **Intersection cohomology of the moduli space of Higgs bundles on a genus 2 curve**, *Oberwolfach Reports* Volume 16, Issue 2, (2019), pp. 1357,Äì1417.
6) **Two applications of the decomposition theorem to moduli spaces**, PhD Thesis, Bologna, 2018.

Preprints

7) **On intersection cohomology and Lagrangian fibrations for irreducible symplectic varieties**, *arXiv:2108.02464*, with Junliang Shen and Qizheng Yin, submitted.
8) **P=W conjectures for character varieties with symplectic resolution**, *arXiv:2006.08752*, with Mirko Mauri, submitted.

Bologna, 28/10/2021

ELENCO DELLE PUBBLICAZIONI PRESENTATE

(1) A. Ferraguti e G. Micheli, "On the Mertens-Cesàro theorem for number fields", *Bulletin of the Australian Mathematical Society*, 93 (2016), no. 2, 199–210.

(2) A. Ferraguti e G. Micheli, "On the existence of infinite, non-trivial F-sets",*Journal of Number Theory*, 168 (2016), 1–12.

(3) A. Ferraguti, G. Micheli e R. Schnyder, "On sets of irreducible polynomials closed by composition", *Arithmetic of finite fields*, 77–83, Lecture Notes in Computer Science, 10064, Springer, Cham, 2016.

(4) P. Bruin e A. Ferraguti, "On L-functions of quadratic $\mathbb{Q}$-curves", *Mathematics of Computation*, 87 (2018), no. 309, 459–499.

(5) A. Ferraguti, "The set of stable primes for polynomial sequences with large Galois group", *Proceedings of the American Mathematical Society*, 146 (2018), no. 7, 2773–2784.

(6) A. Ferraguti, G. Micheli e R. Schnyder, "Irreducible compositions of degree two polynomials over finite fields have regular structure", *The Quarterly Journal of Mathematics*, 69 (2018), no. 3, 1089–1099.

(7) P. Bruin e A. Ferraguti, "Strongly modular models of $\mathbb{Q}$-curves", *International Journal of Number Theory*, 15 (2019), no. 3, 505–526.

(8) A. Ferraguti e G. Micheli, "Full classification of permutation rational functions and complete rational functions of degree three over finite fields", *Designs, codes and Cryptography* 88 (2020), no. 5, 867–886.

(9) A. Ferraguti e G. Micheli. "An equivariant isomorphism theorem for mod $\mathfrak{p}$ reductions of arboreal Galois representations", *Transactions of the American Mathematical Society*, 373 (2020), no. 12, 8525–8542.

(10) A. Ferraguti e C. Pagano, "Constraining images of quadratic arboreal representations", *International Mathematics Research Notices*, 2020, 2020(22), pp. 8486–8510.

(11) A. Ferraguti e G. Micheli, "Exceptional scatteredness in prime degree", *Journal of Algebra* 565 (2021), 691–701.

(12) A. Ferraguti, "Arithmetic of strongly modular $\mathbb{Q}$-curves and the arithmetic of coprime m-tuples of algebraic integers", tesi di dottorato.

Elenco pubblicazioni presentate e tesi di dottorato

1. A. Giambruno, A. Ioppolo, D. La Mattina,
   Varieties of algebras with superinvolution of almost polynomial growth,
   Algebras and Representation Theory, vol. 19 (2016), 599-611, DOI 10.1007/s10468-015-9590-3

2. A. Ioppolo, D. La Mattina,
   Polynomial codimension growth of algebras with involutions and superinvolutions,
   Journal of Algebra, vol. 472 (2017), 519-545, http://dx.doi.org/10.1016/j.jalgebra.2016.10.007

3. A. Ioppolo, F. Martino,
   Superinvolutions on upper-triangular matrix algebras,
   Journal of Pure and Applied Algebra, vol. 222 (2018), 2022-2039, http://dx.doi.org/10.1016/j.jpaa.2017.08.018

4. A. Ioppolo,
   The exponent for superalgebras with superinvolution,
   Linear Algebra and its Applications, vol. 555 (2018), 1-20, https://doi.org/10.1016/j.laa.2018.06.007

5. A. Ioppolo, F. Martino,
   Classifying G-graded algebras of exponent two,
   Israel Journal of Mathematics, vol. 229 (2019), 341-356, DOI: 10.1007/s11856-018-1804-z

6. A. Ioppolo,
   Some characterizations of algebras with involution with polynomial growth of their codimensions,
   Linear and Multilinear Algebra, vol. 67 (2019), 1217-1230, https://doi.org/10.1080/03081087.2018.1450352

7. A. Giambruno, A. Ioppolo, D. La Mattina,
   Superalgebras with involution or superinvolution and almost polynomial growth of the codimensions,
   Algebras and Representation Theory, vol. 22 (2019), 961-976, https://doi.org/10.1007/s10468-018-9807-3

8. A. Ioppolo,
   A Characterization of Superalgebras with Pseudoinvolution of Exponent 2,
   Algebras and Representation Theory, Available online 22 September 2020, https://doi.org/10.1007/s10468-020-09996-4

9. A. Ioppolo,
   Some results concerning the multiplicities of cocharacters of superalgebras with graded involution,
   Linear Algebra and Its Applications, vol. 594 (2020), 51-70, https://doi.org/10.1016/j.laa.2020.02.015

10. A. Ioppolo,
    Superalgebras with superinvolution or graded involution with colengths sequence bounded by 3,
    International Journal of Algebra and Computation, vol. 30 (2020), 821-838,
    https://doi.org/10.1142/S0218196720500204

11. A. Ioppolo, P. Koshlukov, D. La Mattina,
    Trace identities and almost polynomial growth,
    Journal of Pure and Applied Algebra, vol. 225 (2021), 106501, https://doi.org/10.1016/j.jpaa.2020.106501

12. A. Ioppolo, F. Martino,
    On multiplicities of cocharacters for algebras with superinvolution,
    Journal of Pure and Applied Algebra, vol. 225 (2021), 106536, https://doi.org/10.1016/j.jpaa.2020.106536

13. A. Ioppolo,
    Superalgebras with superinvolution,
    Tesi di dottorato

Lista Pubblicazioni di A. Javan Peykar

1. Polynomial bounds for Arakelov invariants of Belyi curves [with an appendix by P. Bruin].
   Algebra and Number Theory, Vol. 8 (2014), No. 1, 89-140.

2. Szpiro's small points conjecture for cyclic covers of prime degree [with R. von Känel].
   Documenta Math., 19 (2014) 1085-1103.

3. Complete intersections: Moduli, Torelli, and good reduction [with D. Loughran].
   Math. Ann. 368, 1191-1225 (2017).

4. Good reduction of Fano threefolds and sextic surfaces [with D. Loughran].
   Ann. Sc. Norm. Super. Pisa Cl. Sci. (5) Vol. XVIII (2018), 509-535.

5. Invariants of smooth Fano varieties in families [with F. Gounelas].
   Moscow Mathematical Journal, Volume 18, Issue 2 (2018), p. 305-319.

6. Effective estimates for the degrees of special maximal subvarieties [with C. Daw and L. Kühne].
   Selecta Math. New Ser. 26, 2 (2020).

7. Demailly's notion of hyperbolicity: geometricity, boundedness, moduli of maps [with L. Kamenova].
   Math. Z. 296, 1645–1672 (2020)

8. Arithmetic hyperbolicity and a stacky Chevalley-Weil theorem [with D. Loughran].
   J. London Math. Soc. (2) 103 (2021) 846-869.

9. Arithmetic hyperbolicity: automorphisms and persistence.
   Math. Ann. 381, 439-457 (2021)

10. Non-archimedean hyperbolicity and applications [with A. Vezzani].
    Journal für die reine und angewandte Mathematik (Crelles Journal), vol. 2021, no. 778, 2021, pp. 1-29.

11. Finiteness properties of pseudo-hyperbolic varieties [with J. Xie].
    International Mathematics Research Notices, 2020;, rnaa168, https://doi.org/10.1093/imrn/rnaa168. arXiv:1909.12187.

12. Albanese maps and fundamental groups of varieties with many rational points over function fields [with E. Rousseau].
    International Mathematics Research Notices, 2021;, rnab255, https://doi.org/10.1093/imrn/rnab255. arXiv:2010.02913

ROBERTO MOSSA – ELENCO DELLE PUBBLICAZIONI ALLEGATE

Di seguito è riportato l'elenco delle pubblicazioni e della tesi di dottorato presentate, con numero di citazioni ed impact factor (Web of Science è la banca dati di riferimento per gli indicatori riportati).

1. A. Loi, R. Mossa, *Kähler immersions of Kähler-Ricci solitons into definite or indefinite complex space forms*,
   Proc. Amer. Math. Soc. 149 (2021), no. 11, 4931-4941.
   DOI: 10.1090/proc/15628
   Journal Impact Factor (2020) 1.016.

2. R. G. Bettiol, A. Derdzinski, R. Mossa, P. Piccione, *Subspace foliations and collapse of closed flat manifolds*,
   To appear in Math. Nachr.
   DOI: 0.1002/mana.202000156
   arXiv:2002.05757
   Journal Impact Factor (2020) 1.228.

3. A. Loi, R. Mossa, F. Zuddas, *Finite TYCZ expansions and cscK metrics*,
   J. Math. Anal. Appl. 484 (2020), no. 1, 123715.
   DOI: 10.1016/j.jmaa.2019.123715
   Journal Impact Factor (2020) 1.583, *Citazioni 2.*

4. A. Loi, R. Mossa, F. Zuddas, *Bochner Coordinates on Flag Manifolds*,
   Bull Braz Math Soc, New Series 50 (2018), no 2, 497-514.
   DOI: 10.1007/s00574-018-0113-9
   Journal Impact Factor (2020) 1.177, *Citazioni 2.*

5. R. Mossa, *On the diastatic entropy and C^1-rigidity of complex hyperbolic manifolds*,
   J. Geom. Phys. 142 (2019), 213-228.
   DOI: 10.1016/j.geomphys.2019.04.006
   Journal Impact Factor (2020) 1.249.

6. A. Loi, R. Mossa, F. Zuddas, *The log-term of the Bergman kernel of the disc bundle over a homogeneous Hodge manifold*,
   Ann. Global Anal. Geom. 51 (2017), no. 1, 35-51.
   DOI: 10.1007/s10455-016-9522-4
   Journal Impact Factor (2020) 0.846, *Citazioni 7.*

7. A. Loi, R. Mossa, *Some remarks on homogeneous Kähler manifolds*,
   Geometriae dedicata. 179 (2015), no. 1, 377-383.
   DOI: 10.1007/s10711-015-0085-5
   Journal Impact Factor (2020) 0.667, *Citazioni 12.*

8. A. Loi, R. Mossa, F. Zuddas, *Symplectic capacities of Hermitian symmetric spaces*,
   J. Symplect. Geom. 13 (2015), no. 4, 1049-1073.

DOI: 10.4310/JSG.2015.v13.n4.a7
Journal Impact Factor (2020) 0.707, *Citazioni 6.*

9. R. Mossa, *A note on diastatic entropy and balanced metrics*,
J. Geom. Phys. 86 (2014), 492-496.
DOI: 10.1016/j.geomphys.2014.10.004
Journal Impact Factor (2020) 1.249, *Citazioni 4.*

10. R. Mossa, *The volume entropy of local Hermitian symmetric space of noncompact type*,
Differential Geom. Appl. 31 (2013), no. 5, 594-601.
DOI: 10.1016/j.difgeo.2013.05.005 *Journal Impact Factor (2020) 0.694*, *Citazioni 6.*

11. A. Loi, R. Mossa, *Berezin quantization of homogeneous bounded domains*,
Geom. Dedicata 161 (2012), 119-128.
DOI: 10.1007/s10711-012-9697-1
Journal Impact Factor (2020) 0.667, *Citazioni 29.*

12. A. Loi, R. Mossa, *The diastatic exponential of a symmetric space*, Math. Z. 268 (2011), 3-4, 1057-1068.
DOI: 10.1007/s00209-010-0709-2
Journal Impact Factor (2020) 0.964, *Citazioni 11.*

00. R. Mossa, Tesi di Dottorato, Relatore: Prof. Andrea Loi, Titolo tesi: *Balanced metrics on complex vector bundles and the diastatic exponential of a symmetric space.*

São Paulo, 12 ottobre 2021

Simone Naldi

Lista delle pubblicazioni presentate per questo bando

Publications in Peer-reviewed international journals

1. S. Naldi and R. Sinn.
   Conic programming: infeasibility certificates and projective geometry
   J. Pure Appl. Algebra 225(7), 2021.

2. M. Kummer, S. Naldi and D. Plaumann.
   Spectrahedral representations of plane hyperbolic curves
   Pacific J. Math. 303-1, 243–263 (2019).

3. D. Henrion, S. Naldi and M. Safey El Din.
   Real root finding for low rank linear matrices
   Appl. Algebr. Eng. Comm. 31(2):101-133 (2020)

4. S. Naldi, D. Plaumann.
   Symbolic computation in hyperbolic programming
   J. Algebra Appl. 17:10 (2018).

5. S. Naldi.
   Solving rank-constrained semidefinite programs in exact arithmetic
   J. Symb. Comput. 85C:206–223 (2018).

6. D. Henrion, S. Naldi, M. Safey El Din.
   Real root finding for determinants of linear matrices.
   J. Symb. Comput. 74:205–238 (2016).

7. S. Naldi.
   Nonnegative polynomials and their Carathéodory number
   Discrete Comput. Geom. 51(3):559–568 (2014).

*Publications in Peer-reviewed proceedings of international conferences of rank A**

8. S. Naldi and V. Neiger.
   A divide-and-conquer algorithm for computing Gröbner bases of syzygies in finite dimension
   Proceedings of the 2020 ACM ISSAC, July 2020, Kalamata GRE (2020).

PhD Thesis

9. S. Naldi.
   Exact algorithms for determinantal varieties and semidefinite programming
   PhD Thesis, Institut National de Sciences Appliquées, Université de Toulouse, 24 September 2015.

La lista completa delle pubblicazioni di Simone Naldi è disponibile al link:

https://www.unilim.fr/pages_perso/simone.naldi/research.html

Limoges, 24 ottobre 2021
Simone Naldi

List of works by Andrea Petracci

25th October 2021

Journal articles

1. (with Y. Liu) *On K-stability of some del Pezzo surfaces of Fano index 2* to appear in Bull. London Math. Soc. arXiv:2011.05094
2. (with A.-S. Kaloghiros) *On toric geometry and K-stability of Fano varieties*. Transactions of the American Mathematical Society, Series B (2021), Volume 8, 548-577. doi.org/10.1090/btran/82
3. *Some examples of non-smoothable Gorenstein Fano toric threefolds*. Mathematische Zeitschrift (2020), no. 295, 751-760. doi.org/10.1007/s00209-019-02369-8
4. *Homogeneous deformations of toric pairs*. Manuscripta Mathematica (2021), no. 166, 37-72. doi.org/10.1007/s00229-020-01219-w
5. (with A. Oneto) *On the quantum periods of del Pezzo surfaces with 1/3(1,1) singularities*. Advances in Geometry 18 (2018), no. 3, 303-336. doi.org/10.1515/advgeom-2017-0048
6. (with M. Akhtar, T. Coates, A. Corti, L. Heuberger, A. Kasprzyk, A. Oneto, T. Prince, K. Tveiten) *Mirror Symmetry and the Classification of Orbifold del Pezzo Surfaces*. Proceedings American Mathematical Society 144 (2016), no. 2, 513-527. doi.org/10.1090/proc/12876

Conference proceedings articles

7. (with A. Corti and M. Filip) *Mirror Symmetry and smoothing Gorenstein toric affine 3-folds*. To appear in P. Aluffi, D. Anderson, M. Hering, M. Mustaţă, S. Payne, S. (eds.), "Facets of Algebraic Geometry: A Collection in Honor of William Fulton's 80th Birthday", London Mathematical Society Lecture Note Series, Cambridge University Press. arXiv:2006.16885
8. *On deformations of toric Fano varieties*. To appear in Interactions with Lattice Polytopes, Springer. arXiv:1912.01538
9. *An example of Mirror Symmetry for Fano threefolds*. In Birational Geometry and Moduli Spaces, Springer INdAM Series (2020). doi.org/10.1007/978-3-030-37114-2_10

Other

10. *On Mirror Symmetry for Fano varieties and for singularities*, PhD thesis, Imperial College London, 2017. doi.org/10.25560/55877

LISTA ARTICOLI PRESENTATI Roberto Pirisi

1) Cohomological invariants of hyperelliptic curves of even genus,
autore Roberto Pirisi, edito da Algebraic Geometry,
Vol. 4, No. 4, 2017, pp. 424-443, DOI https://doi.org/10.1090/tran/7006
2) Cohomological invariants of algebraic stacks,
autore Roberto Pirisi, edito da Transactions of the American Mathematical Society,
Vol. 370, No. 3, 2018, pp. 1885-1906, DOI 10.14231/AG-2017-022
3) Cohomological invariants of genus three hyperelliptic curves,
autore Roberto Pirisi, edito da Documenta Mathematica,
Vol. 23, 2018, pp. 969-996, DOI 10.25537/dm.2018v23.969-996
4) The Picard group of the universal abelian variety and the Franchetta conjecture for abelian varieties,
autori Roberto Fringuelli e Roberto Pirisi, edito da Michigan Mathematical Journal,
Vol. 68, 2019, pp. 651-671, DOI 10.1307/mmj/1564106669
5) On the motivic class of the classifying stack of G2 and the Spin groups,
autori Roberto Pirisi e Mattia Talpo, edito da International Mathematical Research Notices,
Vol. 2019, No. 10, 2019, pp. 3265-3298, DOI https://doi.org/10.1093/imrn/rnx208
6) Gabriel's theorem and birational geometry,
autori John Calabrese e Roberto Pirisi, edito da Proceedings of the American Mathematical Society, DOI: https://doi.org/10.1090/proc/14990
Vol. 149, No. 3, 2021, pp 907-922
7) A complete description of the cohomological invariants of even genus hyperelliptic curves,
autori Andrea Di Lorenzo e Roberto Pirisi, edito da Documenta Matematica,
Vol. 26, 2021, pp. 199-230, DOI: 10.25537/dm.2018v23.969-996
8) The Brauer group of the universal moduli space of vector bundles over smooth curves,
autori Roberto Fringuelli e Roberto Pirisi, International Mathematical Research Notices, Volume 2021, Issue 18, Pagine 13609–13644, DOI https://doi.org/10.1093/imrn/rnz300
9) Brauer groups of moduli of hyperelliptic curves via cohomological invariants,
autori Andrea Di Lorenzo e Roberto Pirisi, edito da Forum of Mathematics Sigma,
Vol 9, 2021, DOI: https://doi.org/10.1017/fms.2021.55
10) Cohomological invariants of root stacks and admissible double coverings,
autori Andrea Di Lorenzo e Roberto Pirisi, 2020, accettato da Canadian Journal of Mathematics
11) Cohomological Invariants of Algebraic Curves, Tesi di dottorato,
Autore Roberto Pirisi, relatore Angelo Vistoli.

ELENCO DELLE PUBBLICAZIONI PRESENTATE

candidato Alberto Raffero

Pubblicazioni presentate:

[1] A. Fino, A. Raffero.
Einstein locally conformal calibrated G_2-structures.
Mathematische Zeitschrift, 280(3-4), 1093-1106, 2015.
doi: 10.1007/s00209-015-1468-x
ISSN della rivista: 0025-5874

[2] M. Fernández, A. Fino, A. Raffero.
Locally conformal calibrated G_2-manifolds.
Annali di Matematica Pura e Applicata, 195(5), 1721-1736, 2016.
doi: 10.1007/s10231-015-0544-5
ISSN della rivista: 0373-3114

[3] F. Podestà, A. Raffero.
On the automorphism group of a symplectic half-flat 6-manifold.
Forum Mathematicum, 31(1), 265-273, 2019.
doi: 10.1515/forum-2018-0137
ISSN della rivista: 1435-5337

[4] F. Podestà, A. Raffero.
Homogeneous symplectic half-flat 6-manifolds,
Annals of Global Analysis and Geometry, 55(1), 1-15, 2019.
doi: 10.1007/s10455-018-9615-3
ISSN della rivista: 0232-704X

[5] F. Podestà, A. Raffero.
On the automorphism group of a closed G_2-structure.
The Quarterly Journal of Mathematics, 70(1), 195-200, 2019.
doi: 10.1093/qmath/hay045
ISSN della rivista: 0033-5606

[6] A. Fino, A. Raffero.
Closed G_2-structures on non-solvable Lie groups.
Revista Matemática Complutense, 32(3), 837-851, 2019.
doi: 10.1007/s13163-019-00296-0
ISSN della rivista: 1139-1138

[7] A. Fino, A. Raffero.
Closed warped G_2-structures evolving under the Laplacian flow.
Annali della Scuola Normale Superiore di Pisa, Classe di Scienze, 20(1), 315-348, 2020.
doi: 10.2422/2036-2145.201709_004
ISSN della rivista: 0391-173X

[8] A. Fino, A. Raffero.
A class of eternal solutions to the G_2-Laplacian flow.
The Journal of Geometric Analysis, 31(5), 4641-4660, 2021.
doi: 10.1007/s12220-020-00447-6
ISSN della rivista: 1050-6926

[9] A. Raffero, L. Vezzoni
On the dynamical behaviour of the generalized Ricci flow.
The Journal of Geometric Analysis, 31(10), 10498-10509, 2021.
doi: 10.1007/s12220-021-00656-7
ISSN della rivista: 1050-6926

[10] V. del Barco, A. Moroianu, A. Raffero.
Purely coclosed G_2-structures on 2-step nilpotent Lie groups.
Revista Matemática Complutense, online first 2/4/2021.
doi: 10.1007/s13163-021-00392-0
ISSN della rivista: 1139-1138

[11] F. Podestà, A. Raffero.
Closed G_2-structures with a transitive reductive group of automorphisms.
Accettato per la pubblicazione su The Asian Journal of Mathematics in data 16/8/2021.
ISSN della rivista: 1093-6106

[12] A. Fino, A. Raffero, F. Salvatore.
Closed G_2-structures on unimodular Lie algebras with non-trivial center.
Accettato per la pubblicazione su Transformation Groups in data 16/10/2021.
ISSN della rivista: 1083-4362

Tesi di dottorato

[1] A.Raffero
Non integrable special geometric structures in dimensions six and seven
Università degli Studi di Torino, 2016

ELENCO DELLE PUBBLICAZIONI (Eleonora A. Romano)

1. *Positivity of anticanonical divisors from the viewpoint of Fano conic bundles*, Osaka Journal of Mathematics 56, 65--74, 2019.
2. *Non-elementary Fano conic bundles*, Collectanea Mathematica 70(1), 33--50, 2019.
3. *Non-elementary Fano conic bundles, PhD thesis, 2017. Available at https://sites.google.com/view/eleonora-anna-romano.*
4. *A characterization of some Fano 4-folds through conic fibrations*; with Pedro Montero, to appear in the International Mathematics Research Notices, IMRN; online version: https://doi.org/10.1093/imrn/rnz244.
5. *A note on flatness of some fiber type contractions*, Proc. Japan Acad., 95(7), Ser. A, 103--106, 2019.
6. *Adjunction for varieties with one dimensional torus actions*; with Jarosław A. Wiśniewski, to appear in Transformation Groups, 42 pages, DOI:10.1007s00031-020-09627-8;online version: https://doi.org/10.1007/s00031-020-09627-8, 2020.
7. *High rank torus actions on contact manifolds*; with Gianluca Occhetta, Luis E. Sola' Conde and Jarosław A. Wiśniewski, Sel. Math. New Ser. 27(10), 2021. DOI:10.1007/s00029-021-00621-w; online version: https://doi.org/10.1007/s00029-021-00621-w.

8. *Varieties with two projective bundles structures*; with Gianluca Occhetta, Luis E. Sola' Conde, accepted for the publication in the Proceedings of the AMS; arXiv:2001.06215,15 pages.

9. Classification of Fano 4-folds with Lefschetz defect 3 and Picard number 5; with Cinzia Casagrande, Journal of Pure and Applied Algebra, 226 (3)(2022), 106864, published online https://doi.org/10.1016/j.jpaa.2021.106864.

PREPRINTS

10. *Small bandwidth varieties with one dimensional torus actions and birational geometry*; with Gianluca Occhetta, Luis E. Sola' Conde and Jarosław A. Wiśniewski, arXiv:1911.12129, 43 pages, 2019, submitted.
11. *Small modifications of Mori dream spaces arising from C*-actions,* with Gianluca Occhetta, Luis E. Sola' Conde and Jarosław A. Wiśniewski, arXiv:2103.07209, 29 pages, 2021, submitted.
12. *Toric non-equalized flips associated to C*-actions*, with Lorenzo Barban, arXiv: , 20 pages, 2021, submitted.

13. Geometric realizations of birational transformations via C*-actions; with G. Occhetta, L. E. Sola Conde and J. A. Wisniewski, soon on arXiv.

Elenco della pubblicazioni trasmesse

Federico Alberto Rossi

Il sottoscritto ROSSI FEDERICO ALBERTO,

DICHIARA

Di aver consegnato le seguenti pubblicazioni che si intendono far valere ai fini della procedura di selezione:

1. D. Conti, V. del Barco e F. A. Rossi. "Diagram involutions and homogeneous Ricci-flat metrics". In: Manuscripta Math. (2020) issn: 1432-1785.
   doi: 10.1007/s00229-020-01225-y.

2. D. Conti e F. A. Rossi. "Indefinite Einstein metrics on nice Lie groups". In: Forum Mathematicum 32.6 (2020), pp. 1599–1619.
   doi: 10.1515/forum-2020-0049.

3. D. Conti e F. A. Rossi. "Construction of nice nilpotent Lie groups". In: Journal of Algebra 525 (2019), pp. 311–340. issn: 0021-8693.
   doi: 10.1016/j.jalgebra.2019.01.020.

4. D. Conti e F. A. Rossi. "Einstein nilpotent Lie groups". In: J. Pure Appl. Algebra 223.3 (2019), pp. 976–997. arXiv:1707.04454v2. issn: 0022-4049.
   doi: 10.1016/j.jpaa.2018.05.010.

5. D. Conti and F. A. Rossi. "Ricci-flat and Einstein pseudoriemannian nilmanifolds". In: Complex Manifolds 6.1 (2019), pp. 170–193. issn: 2300-744.
   doi: 10.1515/coma- 2019-0010.

6. D. Conti e F. A. Rossi. "The Ricci tensor of almost parahermitian manifolds". In: Ann. Global Anal. Geom. 53.4 (2018), pp. 467–501. issn: 1572-9060.
   doi: 10.1007/s10455-017-9584-y.

7. D. Angella, M. G. Franzini e F. A. Rossi. "Degree of non-Kählerianity a for 6-dimensional nilmanifolds". In: Manuscripta Math. 148.1-2 (2015), pp. 177–211. issn: 0025-2611.
   doi: 10.1007/s00229-015-0734-x.

8. D. Angella e F. A. Rossi. "Cohomology of D-complex manifolds". In: Differential Geom. Appl. 30.5 (2012), pp. 530–547. issn: 0926-2245.
   doi: 10.1016/j.difgeo.2012.07.003.

9. F. A. Rossi. "On deformations of D-manifolds and CR D-manifolds". In: J. Geom. Phys. 62.2 (2012), pp. 464–478. issn: 0393-0440.
   doi: 10.1016/j.geomphys.2011.11.007.

10. F. A. Rossi e A. Tomassini. "On strong Kähler and astheno-Kähler metrics on nilmanifolds". In: Adv. Geom. 12.3 (2012), pp. 431–446. issn: 1615-715X.
    doi: 10.1515/advgeom-2011-057.

11. F. A. Rossi. “Deformazioni di D-strutture ed esempi”. In: Atti XIX Convegno dell’Unione Matematica Italiana. A cura di UMI Unione Matematica Italiana. Alma Mater Studiorum - Università di Bologna, 2011, p. 881.

12. F. A. Rossi. “Metriche speciali su varietà complesse”. Tesi di Laurea Specialistica. Tesi di laurea mag. Università degli Studi di Parma, 2009.

Si allega inoltre la tesi di dottorato:
F. A. Rossi. “**D**-complex structures: cohomological properties and deformations”. Tesi di dott. Università degli Studi di Milano - Bicocca, 2013.
url: http://hdl.handle.net/10281/41976.

LISTA DI PUBBLICAZIONI PRESENTATE

(1) W. Herfort, K.H. Hofmann and F.G. Russo, Locally Compact Groups with Permutable Subgroups, Adv. Math. (2021), DOI:10.1016/j.aim.2021.107894.
(2) W. Herfort, K. H. Hofmann and F.G. Russo, Periodic locally compact groups, de Gruyter, Berlin, 2018
(3) W. Herfort, K.H. Hofmann, L. Kramer and F.G. Russo, The Sylow structure of scalar automorphism groups, Topology Appl. 263 (2019), 26–43.
(4) K.H. Hofmann and F.G. Russo, The probability that x and y commute in a compact group, Math. Proc. Cambridge Phil. Soc. 153 (2012), 557-571.
(5) K.H. Hofmann and F.G. Russo, Near abelian profinite groups, Forum Math. 27 (2015), 647–698.
(6) F. Bagarello and F.G. Russo, On the presence of families of pseudo-bosons in nilpotent Lie algebras of arbitrary corank. J. Geom. Physics 137 (2019), 124-131.
(7) F.Bagarello and F.G. Russo, A description of pseudo-bosons in terms of nilpotent Lie algebras, J. Geom. Physics 125 (2018), 1–11.
(8) F.G. Russo, Embeddings of n-Engel marginal subgroups in compact groups, Israel J. Math. 232 (2019), 921–929.
(9) D. Dikranjan, A. Giordano Bruno and F.G.Russo, Finiteness of topological entropy for locally compact abelian groups, Glasgow Math. J. (2020), doi: 10.1017/S0017089520000038.
(10) S. Nardulli and F.G. Russo, On the Hamilton's isoperimetric ratio in complete Riemannian manifolds of finite volume, J. Funct. Anal., DOI: 10.1016/j.jfa.2020.108843.
(11) P. Niroomand, M. Parvizi and F.G. Russo, Some criteria for detecting capable Lie algebras, J. Algebra 384 (2013), 36-64.
(12) P. Niroomand and F.G. Russo, A note on the Schur multiplier of nilpotent Lie algebras, Comm. Algebra 39 (2011), 1293–1297.

Cape Town (South Africa), October 20, 2021

Francesco G. Russo

Elenco delle pubblicazioni e della tesi di dottorato, Luca Schaffler

1. Luca Schaffler and Jenia Tevelev. *Compactifications of moduli of points and lines in the projective plane*. **International Mathematics Research Notices.** Published online: 06 August 2021. https://doi.org/10.1093/imrn/rnab200

2. Patricio Gallardo, Matt Kerr, and Luca Schaffler. *Geometric interpretation of toroidal compactifications of moduli of points in the line and cubic surfaces*. **Advances in Mathematics** 381, 16 April 2021. https://doi.org/10.1016/j.aim.2021.107632

3. Alessio Caminata, Noah Giansiracusa, Han-Bom Moon, and Luca Schaffler. *Point configurations, phylogenetic trees, and dissimilarity vectors*. **Proceedings of the National Academy of Sciences of the United States of America (PNAS)** March 23, 2021 118 (12). https://doi.org/10.1073/pnas.2021244118

4. Kuan-Wen Lai, Yu-Shen Lin, and Luca Schaffler. *Decomposition of Lagrangian classes on K3 surfaces*, (2020). To appear in **Mathematical Research Letters.** arXiv:2001.00202. Acceptance date: July 29, 2020.

5. Alessio Caminata and Luca Schaffler. *A Pascal's theorem for rational normal curves*. **Bulletin of the London Mathematical Society.** Published online: 15 June 2021.

   https://doi.org/10.1112/blms.12511

6. Han-Bom Moon and Luca Schaffler. *KSBA compactification of the moduli space of K3 surfaces with a purely non-symplectic automorphism of order four*. **Proceedings of the Edinburgh Mathematical Society** (2) 64 (2021), no. 1, 99–127. 12 April 2021.

   https://doi.org/10.1017/S001309152100002X

7. Alessio Caminata, Noah Giansiracusa, Han-Bom Moon, and Luca Schaffler. *Equations for point configurations to lie on a rational normal curve*. **Advances in Mathematics** 340 (2018), 653–683. 15 December 2018. https://doi.org/10.1016/j.aim.2018.10.013

8. Luca Schaffler. *K3 surfaces with $\mathbb{Z}_2^2$ symplectic action*. **Rocky Mountain Journal of Mathematics** 48 (2018), no. 7, 2347–2383. 14 December 2018.

   https://doi.org/10.1216/RMJ-2018-48-7-2347

9. Luca Schaffler. *The KSBA compactification of the moduli space of $D_{1,6}$-polarized Enriques surfaces*. **Mathematische Zeitschrift.** Published online: 01 September 2021.

   https://doi.org/10.1007/s00209-021-02842-3

10. Luca Schaffler. *On the cone of effective 2-cycles on $\overline{M}_{0,7}$*. **European Journal of Mathematics** 1 (2015), no. 4, 669–694. 25 September 2015.

    https://doi.org/10.1007/s40879-015-0072-2

(Per favore girare pagina, grazie.)

Tesi di dottorato

11. Luca Schaffler. *The KSBA Compactification of a 4-dimensional Family of Polarized Enriques Surfaces*. University of Georgia, 2017.

    https://getd.libs.uga.edu/pdfs/schaffler_luca_201708_phd.pdf

Luogo e data:
Stoccolma, 30/09/2021

List of publications

25. Oktober 2021

[1] “Lower bounds for Galois orbits of special points on Shimura varieties: A point counting approach.", to appear in Math. Ann. (with Gal Binyamini and Andrei Yafaev).

[2] “A short note on Manin-Mumford", to appear in IJNT.

[3] “Rational values of transcendental functions and arithmetic dynamics”, to appear in JEMS (with Gareth Boxall and Gareth Jones).

[4] “Pfaffian definitions of Weierstrass elliptic functions", to appear in Math. Ann. (with Gareth Jones).

[5] “A Manin-Mumford theorem for the maximal compact subgroup of a universal vectorial extension of a product of elliptic curves”, to appear in IMRN (with Gareth Jones).

[6] “Unlikely intersections in semi-abelian surfaces”, Algebra Number Theory 13 (2019), no. 6, 1455–1473 (with Daniel Bertrand).

[7] “Counting rational points and lower bounds for Galois orbits”, Atti Accad. Naz. Lincei Rend. Lincei Mat. Appl. 30 (2019), no. 3, 497–509.

[8] “Relative Manin-Mumford in additive extensions", Trans. Amer. Math. Soc. 371 (2019), no. 9, 6463–6486.

[9] “Pell’s equation in polynomials and additive extensions", Quart. J. Math. 68 (2017), 1335-1355.

[10] “Resultants and discriminants of multiplication polynomials for elliptic curves” (with an appendix written jointly with J.K. Canci), Journal of Number Theory 149 (2014), 70-91.

[11] “Multiplication polynomials and relative Manin-Mumford", PhD thesis Basel (published online).

Elenco delle pubblicazioni presentate

1. Carmelo Finocchiaro e Dario Spirito, *Some topological considerations on semistar operations*, Journal of Algebra **409** (2014), 199-218.

2. Carmelo Finocchiaro, Marco Fontana e Dario Spirito, *Spectral spaces of semistar operations*, Journal of Pure and Applied Algebra **220**(8) (2016), 2897–2913.

3. Carmelo Finocchiaro, Marco Fontana e Dario Spirito, *A topological version of Hilbert's Nullstellensatz*, Journal of Algebra **461** (2016), 25–41.

4. Carmelo Finocchiaro e Dario Spirito, *Topology, intersections and flat modules*, Proceedings of the Americal Mathematical Society **144**(10) (2016), 4125–4133.

5. Dario Spirito, *Vector subspaces of finite fields and star operations on pseudo-valuation domains*, Finite Fields and Their Applications **56** (2019), 17–30.

6. Carmelo Finocchiaro e Dario Spirito, *Suprema in spectral spaces and the constructible closure*, New York Journal of Mathematics **26** (2020), 1064–1092.

7. Giulio Peruginelli e Dario Spirito, *The Zariski-Riemann space of valuation domains associated to pseudo-convergent sequences*, Transactions of the American Mathematical Society **373**(11) (2020), 7959–7990.

8. Dario Spirito, *Decomposition and classifications of length functions*, Forum Mathematicum **32**(5) (2020), 1109–1129.

9. Alan Loper e Dario Spirito, *An ultrapower analogue of the Kronecker function ring*, Fundamenta Mathematicae **252** (2021), 103–119.

10. Dario Spirito, *Multiplicative closure operations on ring extensions*, Journal of Pure and Applied Algebra **225**(4) (2021), 106555.

11. Giulio Peruginelli e Dario Spirito, *Extending valuations to the field of rational functions using pseudo-monotone sequences*, Journal of Algebra **586** (2021), 756–786.

12. Dario Spirito, *Radicals of principal ideals and the class group of a Dedekind domain*, Pacific Journal of Mathematics **314**(1) (2021), 219–231.

OGGETTO: Elenco delle pubblicazioni presentate.

Il sottoscritto Francesco Strazzanti presenta le seguenti pubblicazioni per la procedura pubblica di selezione a n° 1 posto di ricercatore universitario a tempo determinato, ai sensi dell'Art. 24, c. 3 lettera b) della L. 240/2010, per il settore concorsuale 01/A2 presso il Dipartimento di Matematica e Fisica dell'Università degli Studi Roma Tre, il cui avviso è stato pubblicato sulla Gazzetta Ufficiale n. 77 del 28/09/2021:

1. M. D'Anna, F. Strazzanti, *The numerical duplication of a numerical semigroup*, Semigroup Forum **87** (2013), no. 1, 149-160.
2. V. Barucci, M. D'Anna, F. Strazzanti, *A family of quotients of the Rees Algebra*, Communications in Algebra **43** (2015), no. 1, 130-142.
3. F. Strazzanti, *One half of almost symmetric numerical semigroups*, Semigroup Forum **91** (2015), no. 2, 463-475.
4. E. Sbarra, F. Strazzanti, *A rigidity property of local cohomology modules*, Proceedings of the American Mathematical Society **145** (2017), 4099-4110.
5. A. Oneto, F. Strazzanti, G. Tamone *One-dimensional Gorenstein local rings with decreasing Hilbert function*, Journal of Algebra **489** (2017), 91-114.
6. D. Bolognini, A. Macchia, F. Strazzanti, *Binomial edge ideals of bipartite graphs*, European Journal of Combinatorics **70** (2018), 1-25.
7. M. D'Anna, R. Jafari, F. Strazzanti, *Tangent cones of monomial curves obtained by numerical duplication,* Collectanea Mathematica **70** (2019), no. 3, 461-477.
8. A. Moscariello, F. Strazzanti, *Nearly Gorenstein vs almost Gorenstein affine monomial curves,* Mediterranean Journal of Mathematics **18** (2021), article number: 127.
9. M. D'Anna, R. Jafari, F. Strazzanti, *Simplicial affine semigroups with monomial minimal reduction ideals,* accettato per la pubblicazione su Mediterranean Journal of Mathematics.
10. F. Strazzanti, S. Zarzuela Armengou, *The Hilbert-Kunz function of some quadratic quotients of the Rees algebra,* accettato per la pubblicazione su Proceedings of the American Mathematical Society.
11. M D'Anna, F. Strazzanti, *When is m:m an almost Gorenstein ring*?, accettato per la pubblicazione su Revista Matemática Complutense.
12. D. Bolognini, A. Macchia, F. Strazzanti, *Cohen-Macaulay binomial edge ideals and accessible graphs*, accettato per la pubblicazione su Journal of Algebraic Combinatorics.
13. F. Strazzanti, *A family of quotients of the Rees Algebra and rigidity properties of local cohomology modules*, tesi di dottorato, Università di Pisa.

Torino, 20/10/2021 Francesco Strazzanti

UNIVERSITÀ DEGLI STUDI ROMA TRE

selezione pubblica per n.1 posto di Ricercatore a tempo determinato ai sensi dell'art.24, comma 3, lettera b) della Legge 240/2010, settore concorsuale 01/A2 - Geometria e Algebra, presso il Dipartimento di Matematica e Fisica (avviso bando pubblicato sulla G.U. n. 77 del 28.09.2021).

Losanna, Svizzera, 27 Ottobre 2021

ROBERTO SVALDI: Lista pubblicazioni presentate

PUBBLICAZIONI E TESI PRESENTATE

Articles

1. (joint with G. Codogni, A. Fanelli, L. Tasin), Fano varieties in Mori fibre spaces, Int. Math. Res. Not., Volume 2016, Issue 7: 2026–2067, DOI:10.1093/imrn/rnv173.
2. (joint with M. Brown, J. M^{c}Kernan, H. R. Zong), A geometric characterization of toric varieties, Duke Math. J., Volume 167, Number 5 (2018), 923–968, DOI:10.1215/00127094-2017-0047.
3. (joint with A. Fanelli, G. Codogni, and L. Tasin), A note on the fibres of Mori fibre spaces, Eur. J. Math. 4 (2018), no. 3, 859–878, DOI:10.1007/s40879-018-0219-z.
4. (joint with J. V. Pereira), Effective algebraic integration in bounded genus, Algebraic Geometry 6 (4) (2019) 454–485, DOI:10.14231/AG-2019-021.
5. Hyperbolicity for log canonical pairs and the Cone Theorem, Sel. Math. New Ser. (2019), no.5, paper 67, 23 pp., DOI: 10.1007/s00029-019-0512-9.
6. (joint with S. Filipazzi), Invariance of plurigenera and boundedness for generalized pairs, Mat. Contemp. 47 (2020), 114–150, Proceedings of the ICM Satellite "Moduli spaces in Algebraic Geometry and Applications", Campinas, Brazil 2018, DOI: 10.21711/231766362020/rmc476
7. (joint with W. Chen, G. Di Cerbo, J. Han, and C. Jiang), Birational boundedness of rationally connected Calabi-Yau threefolds, Adv. Math., 378 (2021), 107541, 32 pp., DOI: 10.1016/j.aim.2020.107541
8. (joint with G. Di Cerbo), Birational boundedness of low dimensional elliptic Calabi-Yau varieties with a section, Compos. Math. 157 (2021), no. 8, 1766–1806. DOI: 10.1112/S0010437X2100717X.
9. (joint with C. Spicer), Local and global applications of the Minimal Model Program for co-rank one foliations on threefolds, in stampa presso Journal of the European Mathematical Society, 65 pp., arXiv:1908.05037.
10. (joint with L. Braun, J. Moraga, S. Filipazzi), The Jordan property for local fundamental groups, in stampa presso Geometry & Topology, 36 pp., arXiv:2006.01253.
11. (joint with S. Filipazzi), On the connectedness principle and dual complexes for generalized pairs, 48 pp., arXiv:2010.08018, sottomesso al processo di peer-review presso rivista dal novembre 2020.
12. (joint with C. Spicer) Effective generation for foliated surfaces: results and applications, 32 pp., arXiv:2104.11540, sottomesso al processo di peer-review presso rivista dall'agosto 2021.
13. Log geometry and extremal contractions, Doctoral thesis defended at Massachusetts Institute of Technology on 27.03.2015.

Losanna, 27 Ottobre 2021

Roberto Svaldi

Lista di pubblicazioni scelte

1. A Navas, M Triestino
On the invariant distributions of C2 circle diffeomorphisms of irrational rotation number,
Math. Z. 274, no. 1 (2013), 315–321
IF: 0,881
Citations: 8

2. M. Triestino
Généricité au sens probabiliste dans les difféomorphismes du cercle,
Ensaios Matemáticos 27, Soc. Brasil. Mat. (2014). Français. (libro)
IF: n/a
Citations: 1

3. M Khristoforov, V Kleptsyn, M Triestino
Stationary random metrics on hierarchical graphs via (min,+)-type recursive distributional equations,
Commun. Math. Phys. 345, no. 1 (2016), 1–76
ISSN: 0010-3616, doi: 10.1007/s00220-016-2650-7
IF: 2,102
Citations: 0

4. C. Bonatti, Y. Lodha, M. Triestino
Hyperbolicity as an obstruction to smoothability for one-dimensional actions.
GEOMETRY & TOPOLOGY, vol. 23, p. 1841-1876,
ISSN: 1364-0380, doi: 10.2140/gt.2019.23.1841
IF: 1,48
Citations: 8

5. Alvarez S, Filimonov D, Kleptsyn V, Malicet D, Menino Coton C, Navas A, Triestino M
Groups with infinitely many ends acting analytically on the circle.
JOURNAL OF TOPOLOGY, vol. 12 (2019), p. 1315-1367,
ISSN: 1753-8416, doi:10.1112/topo.12118
IF: 1,64
Citations: 6

6. Malicet D, Mann K, Rivas C, Triestino M
Ping-pong configurations and circular orders on free groups.
GROUPS, GEOMETRY, AND DYNAMICS, vol. 13 (2019), p. 1195-1218
ISSN: 1661-7207, doi: 10.4171/GGD/519
IF: 0,742
Citations: 1

7. Triestino M (a cura di) Di Brown A.
Entropy, Lyapunov exponents, and rigidity of group actions.
ENSAIOS MATEMÁTICOS, vol. 33 (2019), p. 1-197,
ISBN: 978-85-8337-159-5, ISSN: 2175-0432 (curatela)
IF: n/a
Citations: 0

8. Rivas C, Triestino M
One-dimensional actions of Higman’s group.
DISCRETE ANALYSIS, vol. 20 (2019)
ISSN: 2397-3129, doi: 10.19086/da.11151
IF: 1,18
Citations: 0

9. Lodha Y, Matte Bon N, Triestino M
Property FW, differentiable structures and smoothability of singular actions.
JOURNAL OF TOPOLOGY, vol. 13 (2020), p. 1119-1138
ISSN: 1753-8416, doi: 10.1112/topo.12151
IF: 1,64
Citations: 4

10. Matte Bon N, Triestino M
Groups of piecewise linear homeomorphisms of flows
Compositio Mathematica, vol. 156 (2020), 1595-1622
IF: 1,20
Citations: 1

11. Bonatti, C., Kim, S.-H., Koberda, T., Triestino, M.
Small C1 actions of semidirect products on compact manifolds
Algebraic and Geometric Topology, 2020, 20(6), pp. 3183–3203
IF: 0,876
Citations: 0

12. Triestino M
On James Hyde's example of non-orderable subgroup of Homeo(D,∂D)
L'ENSEIGNEMENT MATHEMATIQUE (2), vol. 66 (2020), no. 3-4, 409-418
IF: n/a
Citations: 0

Luca Battistella

Ruprecht-Karls-Universität Heidelberg
Mathematisches Institut & Exzellenzcluster STRUCTURES
Office 5/231, Im Neuenheimerfeld 205, 69120 Heidelberg, Germany
✉ *lbattistella@mathi.uni-heidelberg.de*
https://sites.google.com/sns.it/lbattistella

Work experience

2019-2022 **Ruprecht-Karls-Universität Heidelberg**, *Exzellenzcl. STRUCTURES & Math. Inst.*
Postdoc in the Mathematical Physics group (Prof. Dr. Johannes Walcher)

- Research on enumerative and tropical geometry
- Teaching of advanced classes within the Mathematical Institute and cluster of excellence
- Organisation of local and international interdisciplinary/research seminars
- Student supervision: Master's thesis of Arne Kuhrs (with Prof. Dr. Alexander Schmidt)

2018-2019 **Max-Planck-Institut für Mathematik, Bonn**, Post-doctoral fellow.
Mentor: JProf. Dr. Georg Oberdieck

Education

2014-2018 **Imperial College London & London School of Geometry and Number Theory**, PhD degree in Pure Mathematics awarded on 1.10.2018.
Thesis: Alternative compactifications in low genus Gromov-Witten theory,
Supervisor: Dr. Cristina Manolache.

2009-2014 **Scuola Normale Superiore di Pisa**, *Classe di Scienze (Matematica)*, Studente ordinario. Diploma di licenza, awarded: 3.6.2015, grade: 70/70 e lode.

2012-2014 **Università di Pisa**, *MSc in Mathematics*, awarded: 19.9.2014, grade: 110/110 e lode.
Thesis: The moduli stack of pointed stable curves, Supervisor: Prof. Angelo Vistoli.

2009-2012 **Università di Pisa**, *BSc in Mathematics*, awarded: 15.6.2012, grade: 110/110 e lode.
Thesis: Chern classes and topological K-theory, Supervisor: Prof. Andrea Maffei.

2004-2009 **Liceo Scientifico Statale "G. Marconi", Milano**, maturità, grade: 100/100 e lode.

Grants & Awards

2021 **STRUCTURES Young Researchers Convent**, *travel funds*, €2000.

2019 **STRUCTURES Young Researchers Convent**, *travel funds*, €1500.

2017 **LMS Travel Grant for Early Career Researchers**, £500.

2014-2018 **LSGNT - ICL**, *EPSRC scholarship*, p.a. approx. £15k salary + £2k travel funds.

2009-2014 **Scuola Normale Superiore di Pisa**, *studentship* covering board, lodging and university fees, based on a selective admission procedure (success rate ca. 1/20).

Research visits

8-15.10.2021 **University of Cambridge**, on invitation of D. Ranganathan.

~~Fall 2020~~ cancelled due to the pandemic **University of Colorado at Boulder**, *Ulam visiting professor.*
On invitation of Prof. Jonathan Wise

~~20-31.7.2020~~ **ICMS Edinburgh**, *Research in Groups*, with N. Nabijou and D. Ranganathan.

21.4-4.5.2019 **Math. Forschungsinstitut Oberwolfach**, *Research in Pairs*, with N. Nabijou.

31.1-5.2.2019 **University of Cambridge**, on invitation of D. Ranganathan.

30.4-4.5.2018 **MIT**, *Boston, MA, USA*, on invitation of D. Ranganathan.

18.1-23.3.2018 **MSRI**, *Berkeley, CA, USA*, Program Associate, *Enumerative geometry beyond numbers.*

Papers and preprints

A brief description of each item is available on my website.

8. **The local-orbifold correspondence for simple normal crossings pairs**, *with N. Nabijou, H.-H. Tseng and F. You*, `https://arxiv.org/abs/2103.09299`, submitted.
7. **A geographical study of $\overline{\mathcal{M}}_2(\mathbb{P}^2, 4)^{\mathbf{main}}$**, *with F. Carocci*, `https://arxiv.org/abs/2010.15799`, to appear in Adv. Geom.
6. **A smooth compactification of the space of genus two curves in projective space via logarithmic geometry and Gorenstein curves**, *with F. Carocci*, `https://arxiv.org/abs/2008.13506`, to appear in Geom. Topol.
5. **Curve counting in genus one: elliptic singularities and relative geometry**, *with N. Nabijou and D. Ranganathan*, Algebr. Geom. 8(6): 637–679, 2021.
4. **Modular compactifications of $\mathcal{M}_{2,n}$ with Gorenstein curves**, `https://arxiv.org/abs/arXiv:1906.06367`, submitted.
3. **Virtual classes for the working mathematician**, *with F. Carocci and C. Manolache*, SIGMA 16 (2020), 026, 38 pages.
2. **Reduced invariants from maps with cusps**, *with F. Carocci and C. Manolache*, Trans. Amer. Math. Soc. 373 (2020), no. 9, 6713–6756.
1. **Relative quasimaps and mirror formulae**, *with N. Nabijou*, Int. Math. Res. Not. IMRN, Volume 2021, Issue 10, May 2021, Pages 7885–7931.

Other publications

2. **Reduced Gromov-Witten invariants in genus one: the absolute and relative theory of smooth hyperplane sections**, *joint with N. Nabijou and D. Ranganathan*, Oberwolfach report 27 (2019).
1. **Alternative compactifications in low-genus Gromov-Witten theory**, *PhD thesis*, Imperial College London (2018), `https://spiral.imperial.ac.uk/handle/10044/1/64777`.

Teaching experience

Oct.2021-Feb.2022 — Heidelberg, Math. Inst. **Complex geometry**, *4+2 hours p.w. MSc course* (basic): local and global properties of complex manifolds, Hodge theory, vector bundles, sheaves and cohomology (with Dr. S. Noja).

Apr.-Jul.2021 — Heidelberg, Math. Inst. **Topics in supergeometry**, *2 hours p.w. seminar (for BSc and MSc students in Mathematics and Physics)*: smooth and algebraic supermanifolds, integration, BV formalism, Clifford algebras (with Dr. S. Noja and Prof. Dr. J. Walcher).

Apr.-Jul.2020 — Heidelberg, Math. Inst. & STRUCTURES Cluster of Excellence. **Introduction to toric geometry**. *2 hours p.w. MSc course* (advanced): construction from fans and polytopes, local and global properties of toric varieties, line bundles.

Oct.2019-Feb.2020 — Heidelberg, Math. Inst. & STRUCTURES Cluster of Excellence. **Topics in Algebraic Geometry - Introduction to moduli theory**. *2 hours p.w. MSc/PhD course* (advanced): functor of points, Hilbert and Quot schemes, deformation theory.

3-7.7.2017 — SISSA, Trieste. I organised two *exercise sessions* for the mini-course **Boundary contributions to enumerative invariants** by Dr. C. Manolache at the Summer School in Enumerative Geometry (with F. Carocci).

2015-18 — IC London. *Teaching Assistant* for M1GLA (Linear Algebra), M1P2 (Algebra I), M2PM2 (Algebra II), M2PM5 (Metric Spaces and Topology), M3P17 (Algebraic Combinatorics).

Student supervision

Apr.2021- — Arne Kuhrs, *Tropical compactifications*, Master's thesis (with Prof. Dr. A. Schmidt).

Service to the profession

Referee for Adv. Math., ANT, J. Differential Geom., JLMS, Math. Proc. Cambridge Philos. Soc, Math Rev., Selecta Math.

Apr.2021- Co-organiser, STRUCTURES interdisciplinary seminar of the Comprehensive Project 7 *Quantum Geometry and Topological Methods in Physics* (with Dr. A. Randecker).

Oct.2019-Feb.2020 Co-organiser, research seminar of the Mathematical Physics group (with Dr. I. Saberi and Prof. Dr. J. Walcher).

12.7.2021 External examiner for the Master's thesis of Shahverdi Vahid (EPFL, Switzerland)

Conference talks

30.4.2021 *Compattificazioni alternative dello spazio di moduli di curve puntate di genere due*
Giornate di Geometria Algebrica e argomenti correlati XV

26.6.2020 *A natural smooth compactification of the space of genus two curves in projective space*
Tropical Geometry in ~~Frankfurt~~ Zoom

18.6.2019 *Reduced Gromov-Witten invariants in genus one: the absolute and relative theory of smooth hyperplane sections*
Workshop: Logarithmic Enumerative Geometry and Mirror Symmetry, Oberwolfach

2.8.2018 *Applications of Gathmann's algorithm for relative invariants and quantum Lefschetz*
Workshop on Degenerate Contributions to Enumerative Invariants, Imperial College

Research seminars

Some modular compactifications of the space of pointed curves of genus two

13.10.2021 University of Cambridge, Algebraic Geometry seminar

A smooth modular compactification of the space of genus two curves in projective space

24.5.2021 Universität Bonn, Seminar on Enumerative Geometry

25.3.2021 Boston College, Algebraic Geometry/Number Theory Seminar

9.12.2020 Imperial College London, Fanosearch meeting

3.12.2020 KIAS, Seoul, South Korea

Reduced relative Gromov-Witten theory in genus one and singular curves

24.9.2019 University of Edinburgh, United Kingdom, EDGE seminar

4.7.2019 Universität Tübingen, Germany, Seminar Algebraische Geometrie,

16.5.2019 Freie Universität Berlin, Germany, Seminar Algebraische Geometrie

18.3.2019 Universität Heidelberg, Germany, Seminar Physikalische Mathematik

Genus zero relative quasimaps á la Gathmann

31.5.2018 Università di Pisa, Italy, Seminario di Algebra e Geometria

Reduced genus one invariants of the quintic threefold from maps with cusps

8.5.2018 Warwick University, United Kingdom, Algebraic Geometry Seminar

6.3.2018 University of Colorado at Boulder, USA, Algebraic Geometry Seminar

Other presentations (young, learning, contributed...)

Guided meditations in logarithmic Gromov-Witten theory (org. Nabijou):

4.10.2021 *Genus one Gorenstein singularities and logarithmic geometry*

8.7.2021 GAUS study seminar on the "$P = W$ conjecture", *$P = W$ for $GL(2, \mathbb{C})$*
Darmstadt–Frankfurt–Heidelberg–Mainz

18.1.2021 Study seminar on "Quadratic differentials as stability conditions", *Bridgeland stability conditions, algebraic curves, and quivers*, Heidelberg Math. Inst.

Working seminar on contraction of logarithmic subcurves (org. Wise):

(ii) 2.10.2020 *From genus two curves to maps*,

(i) 25.9.2020 *Compactifications of $\mathcal{M}_{2,n}$.*

Group meeting of the research unit on Mathematical Physics, Heidelberg

(iii) 14.1.2021 *Genus two curves in projective space*,

(ii) 30.4.2020 *The DRC and b-Chow rings*,
(i) 30.1.2020 *Tautological rings for curves and maps.*
15.11.2018 Three-speaker Oberseminar, MPIM Bonn
13.3.2018 Young People's seminar, MSRI, *Genus zero relative quasimaps á la Gathmann*
Junior Geometry Seminar, Imperial College London:
(iii) 28.1.2017 *Linear series on singular curves and applications*,
(ii) 20.11.2015 *Moduli of curves*,
(i) 15.5.2015 *Virtual fundamental classes*, with Francesca Carocci.
4th year colloquium, Scuola Normale Superiore di Pisa:
15.5.2013 *Springer's correspondence for* $\mathfrak{S}_n$, Advisor: Prof. Andrea Maffei.

Posters

13-17.1.2020 K-theory, algebraic cycles and motivic homotopy theory, IMI Cambridge
Modular compactifications of $\mathcal{M}_{2,n}$ *with Gorenstein curves*
20.3.2018 Structures in Enumerative Geometry, MSRI Berkeley
- *Relative quasimaps and a Lefschetz theorem*, with Navid Nabijou
- *Reduced vs Cuspidal invariants*, with Francesca Carocci
available at `https://sites.google.com/sns.it/lbattistella/research`

Languages

Italian (native), English (proficient), German (intermediate), Spanish (basic)

Computer Skills

LaTeX, git, Macaulay2, C/C++, Mathematica, HTML & CSS

Conference participation (selected)

25-29.10.2021 Oberwolfach seminar on resolution of singularities
27-30.4.2021 Giornate di Geometria Algebrica e argomenti correlati XV
Summer 2020 ATOM (Algebraic and Tropical Online Meetings)
Jan.2020- *TGiF(Z)-Tropical Geometry in Frankfurt (Zoom)*
5-7.11.2019 *Brill-Noether theory: geometric, tropical and singularity theory aspects*
Humboldt Universität zu Berlin, Germany
16-22.6.2019 *Logarithmic Enumerative Geometry and Mirror Symmetry*
Mathematisches Forschungsinstitut Oberwolfach, Germany
11-15.2.2019 *Winter School on Enumerative Geometry and Modular Forms*
Goethe-Universität Frankfurt am Main, Germany
30.7-3.8.2018 *Workshop on Degenerate Contributions to Enumerative Invariants*
Imperial College London, United Kingdom
19-23.3.2018 *Structures in Enumerative Geometry*
MSRI Berkeley, CA, USA
3-7.7.2017 *Summer School in Enumerative Geometry*
SISSA, Trieste, Italy
13-31.7.2015 *AMS Summer Institute in Algebraic Geometry*
University of Utah, Salt Lake City, UT, USA
22.6-10.7.2015 *PRAGMATIC 2015 - Moduli of Curves and Line Bundles*
University of Catania, Italy

Curriculum Vitae et Studiorum

(updated to October 20, 2021)

Ilaria Castellano

University of Milan-Bicocca
Department of Mathematics and Applications
Via Roberto Cozzi, 55
Milano, 20125
ITALY

Personal webpage:
[redacted]

E-mail:
[redacted]

Research Interests

My research area is mainly located in group theory and it is currently focused on totally-disconnected locally-compact (= TDLC) groups and their cohomology theory. In recent years TDLC-groups have attracted much attention. Researchers which persued this field of research in the last decade are G. Willis (Newcatle, NSW, Australia), H. Glöckner (Paderborn, Germany), P.E. Caprace (Louvain, Belgium), B. Remy, (Ecole polytechnique, Paris, France), M. Burger (ETH, Zürich, Switzerland), N. Monod (EPFL, Zürich, Switzerland) and Y. de Cornulier (Institut Camille Jordan, in University Lyon 1 Claude Bernard).
The high interest in the theory of TDLC-groups prompted several scientific meetings with the aim of bringing together all the researchers involved and providing a review of the current state of art. For instance,

May 2007 *Totally Disconnected Groups, Graphs and Geometry*, Heinrich-Fabri-Institut Blaubeuren, DE.
`https://carma.newcastle.edu.au/meetings/blaubeuren/Blaubeuren-Home_Page.htm`

Oct 2014 The Arbeitsgemeinschaft *Totally disconnected Groups*, Mathematisches Forschungsinstitut Oberwolfach, DE. `https://publications.mfo.de/handle/mfo/3437`

Nov 2016 *Permutation groups*, BIRS, Banff - CA.
`https://www.birs.ca/events/2016/5-day-workshops/16w5087`

Jul/Dec 2020 The semester *Locally compact groups acting on discrete structures*, Bernoulli center, SW.
`https://bernoulli.epfl.ch/semesters/39/show`

Aug 2021 *Totally Disconnected Locally Compact Groups via Group Actions*, BIRS, Banff - CA.
`https://www.birs.ca/events/2021/5-day-workshops/21w5151`

During my Ph.D. I was able to attend the important meeting at the Math. Forschungsinstitut Oberwolfach and get inspired to develop new directions for TDLC-groups and, specifically, for their cohomology theory. Indeed, my main contributions concerning this research area are establishing a “cohomology theory" for TDLC- groups able to reflect structural properties of these groups.

A part of my research also involves the dynamics of topological groups and the notion of entropy in topology and algebra; for instance, the theory of entropy for locally linearly compact vector spaces. Recently, I have contributed to create a notion of entropy for quasi-metric semilattices: it produces a scheme covering all those entropy functions that are known to be “intrinsic", i.e., their value depends only on the dynamics of a specific subclass of elements.

Language skills:

Italian: mother tongue; English: fluent

Positions:

Jun 2019 – Today **Research fellow**, University of Milan-Bicocca, IT. (current position)

Dec 2018 – May 2019 **Research fellow**, University of Udine, IT.

Oct 2016 – Sep 2018 **Research fellow**, University of Southampton, UK.

Oct 2015 – Sep 2016 **Research fellow**, University of Udine, IT.

Education

Grades:

2012 – 2015 **Ph.D. in Mathematics** at University of Bari (IT) under the supervision of Prof. Th. Weigel, University of Milan-Bicocca.

Thesis: *Stallings' decomposition theorem for totally disconnected locally compact groups.*

The Ph.D. degree has been conferred on May 21st, 2015.

2009 – 2011 **MSc in Mathematics** in Theoretical Mathematics, Summa Cum Laude, University of Bari, IT.

Thesis: *Gröbner basis of endomorphisms-invariant ideals: non-commutative and difference polynomials.*

Advisor: Prof. R. La Scala, University of Bari.

2006 – 2009 **BSc in Mathematics**, Summa Cum Laude, University of Bari, IT.

Thesis: *An introduction to commutative and non-commutative Gröbner basis.*

Advisor: Prof. R. La Scala, University of Bari.

Additional education courses:

Jul 2019 Advanced School on Representations of Pro-p Groups, ICMAT-Autonoma de Madrid, ES.

Jun 2016 Advances in group theory and applications 2016: the school, Vietri sul Mare, IT.

Mar 2015 Spring School on Algebraic K-theory of Topological Algebras, Universität Regensburg, DE.

Jun 2014 Bicocca Ph.D. School on Representation Theory 2014, University of Milano-Bicocca, IT.

Aug 2012 SMI - SCHOOL (Scuola Matematica Interuniversitaria), University of Perugia, IT.

Research Activities & Visits:

Nov 2021 Research in pairs (2 weeks) with Prof. P. Zalesski at Universidad Autonoma de Madrid, ES.

Jun 2019 Research in pair (1 week) with Prof. A. Giordano Bruno at University of Udine, IT.

Feb 2019 Research in pair (1 week) with Prof. Th. Weigel at University of Milan-Bicocca, IT.

Oct 2018 Research in pair (1 week) with Prof. Th. Weigel at University of Milan-Bicocca, IT.

Sep 2018 Research in pair (1 week)g with Prof. A. Giordano Bruno at University of Udine, IT.

Feb 2018 Research activity (2 weeks) with Dr. G. Corob Cook (University of Bilbao) and Prof. P. Kropholler (University of Southampton, UK). Hosting University: University of Bilbao, ES.

May 2017 Research in pair (1 week) with Prof. Th. Weigel at University of Milan-Bicocca, IT.

Mar 2017 Visiting researcher (4 months) at Isaac Newton Institute, Cambridge University, UK.

Jan 2017 Research activity (1 week) with Prof. R. Sauer (Karlsruhe Institute of Technology, DE), Dr. G. Corob Cook (University of Bilbao) and Prof. P. Kropholler (University of Southampton, UK). Hosting University: Karlsruhe Institute of Technology, DE

Dec 2016 Research in pair (1 week) with Prof. A. Giordano Bruno at University of Udine, IT.

Mar 2016 Visiting researcher (2 weeks) at École polytechnique – Université Paris-Saclay, FR.

May/Jul 2014 Visiting Ph.D. student University of Milano-Bicocca, IT.

Sep/Dec 2013 Visiting Ph.D. student at University of Newcastle, AU.

Gen/Jul 2013 Visiting Ph.D. student at University of Milano-Bicocca, IT.

Research Projects - *participation and direction*

2020/22 Direction of a joint research project supported by LMS "Visits to UK" grant, (UK)
`https://www.lms.ac.uk/grants/visits-uk-scheme-2`
Joint project with Anitha Thillaisundaram, University of Lincoln.
Hosting Universities: Lincoln-Southampton-Royal Holloway, UK.

2020/22 Direction of a joint research project supported by "Research in Pairs" grant by ICTP - INdAM
`https://tinyurl.com/y277e68o`
Joint project with Pavel Zalesskii, University of Brasilia.
Hosting University: Universidad Autonoma de Madrid, ES.

2016/18 Supported by *Soluble Groups and Cohomology* - EPSRC Grant N007328/1.
P.I. Peter Kropholler, University of Southampton, UK.

2015/16 Supported by *Project GADYGR - SIR 2014*, MIUR - Number RBSI14V2LI cup G22I15000160008.
P.I. Anna Giordano Bruno, University of Udine, IT.

Grants - Fellowships - Funded Projects (awarded):

2020 LMS "Visits to UK" grant, (research project)
`https://www.lms.ac.uk/grants/visits-uk-scheme-2`
Joint with Anitha Thillaisundaram, University of Lincoln.
Hosting Universities: Lincoln-Southampton-Royal Holloway, UK.

2020 "Research in Pairs" grant by ICTP - INdAM, (research project)
`https://tinyurl.com/y277e68o`
Joint with Pavel Zalesskii, University of Brasilia.
Hosting University: Universidad Autonoma de Madrid, ES.

2019 Financial support for conference organization by INdAM,
Conference: GABY 2020 (postponed to 2022).
Hosting University: Università di Milano-Bicocca, IT.

2019/21 4-years Research fellow at the University of Milan-Bicocca, IT.

2019 Financial support for conference participation by INdAM,

2018/19 1-year Research fellow at the University of Udine, IT.

2016/18 2-years Research fellow at the University of Southampton, UK.

2015/16 3-years Research fellow at the University of Udine, IT.

2015 Financial support for workshop organization by INdAM.
Conference: Xmaths Workshop 2015.
Hosting University: Università di Bari, IT.

2014 Financial support for workshop organization by INdAM.
Conference: Xmaths Workshop 2014.
Hosting University: Università di Bari, IT.

2013 Financial support for research visit at University of Milan-Bicocca (IT) by INdAM.

2013 Financial support for research visit at University of Newcastle (AU) by INdAM.

2012/15 Several grants for traveling during the Ph.D.

2012/15 Fellowship for Ph.D. in Mathematics by Regione Puglia (IT)

Advising:

2021 Co-Supervisor of master thesis, University of Milano-Bicocca, IT.
Student: Bianca MARCHIONNA
Thesis: Stallings-Swan theorem for totally disconnected locally compact groups.

2016 Co-Supervisor of master thesis, University of Udine, IT.
Student: Luisa GALLOVICH
Thesis: Dualità ed Entropia per spazi vettoriali localmente linearmente compatti.

Organizational Expertise

Scientific meetings:

Jun 2022 Groups & Algebras in Bicocca for Young Algebraists, University of Milan-Bicocca, IT.
Webpage: `http://staff.matapp.unimib.it/~/gaby/`

Jul 2020 Groups with Geometrical and Topological Flavours, online conference.
Webpage: `https://sites.google.com/view/gwgtf2020`

Jul 2018 Dynamical Methods in Algebra, Geometry and Topology, University of Udine, IT.
Webpage: `https://dagt.uniud.it`

Jul 2017 Homological algebra and Topological groups, University of Southampton, UK.
Webpage: `https://sites.google.com/site/haatg2017/`

Dec 2015 Xmaths Workshop 2015, University of Bari, IT.
Webpage: `http://www.xmathsworkshop.weebly.com`

Dec 2014 Xmaths Workshop 2014, University of Bari, IT.
Webpage: `http://www.xmathsworkshop.weebly.com`

Dec 2013 Xmaths Workshop 2013, University of Bari, IT.
Webpage: `http://www.xmathsworkshop.weebly.com`

Dec 2012 Xmaths Workshop 2012, University of Bari, IT.
Webpage: `http://www.xmathsworkshop.weebly.com`

Series of Seminars:

2019/Today "Al@Bicocca seminars", University of Milan-Bicocca, IT.
Webpage: `https://sites.google.com/unimib.it/algebra-in-bicocca-english/algebra-seminar`

2017/18 "Lunchtime seminars", University of Southampton, UK.
Webpage: `www.southampton.ac.uk/maths/research/seminars/pure/lunchtime_seminars.page`

Memberships:

- GNSAGA, INdAM - Istituto Nazionale di Alta Matematica, IT.
  Webpage: `umi.dm.unibo.it`
- FCG - Functor Categories for Groups, UK.
  Webpage: `https://www.lancaster.ac.uk/maths/fcg/`

Math Outreach:

Apr 2021 Talk at “Open day & Career expo" at the University of Milano-Bicocca, IT.

May 2019 Member of a workshop team at “Women in Non-Commutative Algebra and Representation Theory", University of Leeds, UK.

Review Activities:

- Reviewer for Zentralblatt Math.
- Reviewer for Mathematical Reviews of AMS.
- Reviewer for the journals: *Topological Algebra and its applications*, *Analysis and Mathematical Physics*.

Communications

Invited Talks:

Oct 2021 Oberseminar Groups and Geometry, Bielefeld University, DE.
`https://www.math.uni-bielefeld.de/groupsgeometry/`

Oct 2021 University of the Basque Country (UPV/EHU), ES.
`https://sites.google.com/site/bilbaoalgebraseminar/`

Sep 2021 Burnside and Mackey functors revisited, University of Lille, FR.
`https://www.lancaster.ac.uk/maths/fcg/ecr-meeting/`

Sep 2021 New Trends Around Profinite Groups, CIRM, IT.
`http://reh.math.uni-duesseldorf.de/~internet/Levico2020/`

Sep 2021 Algebra, Topology and its interactions, University of Udine, IT.
`https://algebratopology.uniud.it/`

Aug 2021 Totally Disconnected Locally Compact Groups via Group Actions, BIRS, CA. (online)
`http://www.birs.ca/events/2021/5-day-workshops/21w5151/videos/watch/20210817l007-Castellano.html`

Jun 2021 "Symmetry in Newcastle seminar", University of Newcastle, AU. (online)
Youtube channel: `https://youtu.be/wRs2PkQs3RU`

Apr 2021 FCG meeting, University of Lincoln, UK. (online)
`https://www.lancaster.ac.uk/maths/fcg/`

Sep 2020 LMS Autumn Algebra School, ICMS, UK. (online)
`https://www.icms.org.uk/events/event/?id=1073`

Sep 2019 YARC 2019, University of Naples “Federico II", IT.
http://www.advgrouptheory.com/yrac2019/program.html

Apr 2019 FCG, University of Lancaster, UK.
https://www.lancaster.ac.uk/maths/fcg/april-2019/

Feb 2019 Seminar at the University of Milan-Bicocca, IT.

Dec 2018 Seminar at the University of Milan-Bicocca, IT.

Sep 2018 Seminar at the University of Udine, IT.

Apr 2018 Pure colloquium, University of Southampton, UK.
https://www.maths.soton.ac.uk/pure-colloq/

May 2017 Seminar at the University of Milan-Bicocca, IT.

Mar 2017 Seminar at the University of Copenhagen, DK.

Feb 2017 Seminar at the Royal–Holloway University of London, UK.

Dec 2016 Seminar at the University of Udine, IT.

Dec 2016 GGE 2016, University of Southampton, UK.

Nov 2015 GTG-Groups and Topological groups 2015, Salerno, IT.
http://www.advgrouptheory.com/yrac2019/program.html

Oct 2013 Pure colloquium, University of Newcastle, AU.

Contributed Talks:

Oct 2019 GTG 2019, Cetara, IT. **Sep 2019** Of coarse! Quasi-isometries and groups: rigidity and classification, Ventotene, IT. **Jun 2019** AGTA 2019, Università del Salento, IT. **Jul 2018** Groups in Campinas, University of Campinas, BR. **Nov 2016** Permutation groups, Banff, CA. **Jul 2016** Toposym 2016, Prague, CZ. **Jun 2015** AGTA-Advances in Group theory and applications 2015, Porto Cesareo, IT. **Mar 2015** Spring School on Algebraic K-theory of Topological Algebras, Universität Regensburg, DE. **Dec 2013** Xmaths Workshop, University of Bari, IT. **Nov 2013** Victorian Algebra Conference 2013, University of Melbourne, AU. **Dec 2012** Xmaths Workshop , University of Bari, IT.

Teaching Experience - *list of courses taught and teaching assinstance*

Courses and Series of lectures:

2021 Ph.D. Course (28 hours and final exams)
Title: Cohomology and Geometry of totally disconnected locally compact groups.
University of Milano-Bicocca and University of Pavia, IT.
https://sites.google.com/view/jointphd/courses

2020 Ph.D. mini-course (1 week/3 lectures)
Title: An introduction to totally disconnected locally compact groups.
LMS Autumn Algebra School, International Center for Mathematical Sciences, UK.
The lectures are available on the LMS youtube channel:
`https://www.youtube.com/watch?v=FtT4PfigpFk`

2019 Lecture “The Lamplighter Group".
University of Udine, UK. (Master students)

2017 Ph.D. mini-course (2 weeks/6 lectures)
Title: Rational discrete cohomology for totally disconnected locally compact groups.
University of Southampton, UK.

2016 Ph.D. mini-course (2 weeks/6 lectures)
Title: Rational discrete cohomology for totally disconnected locally compact groups.
École polytechnique, Paris, FR.

Teaching Assistance & Tutorials:

2021/22 Logic and Algebra (Computer science-undergrads), Polytechnic University of Milan, IT.

2021/22 Linear Algebra and Geometry (Engineering-undergrads), Polytechnic University of Milan, IT.

2020/21 Mathematics (Sociology-undergrads), University of Milan-Bicocca, IT.

2020/21 Linear Algebra and Geometry (Engineering-undergrads), Polytechnic University of Milan, IT.

2019/20 Linear Algebra and Geometry (Mathematics-undergrads), University of Milan-Bicocca, IT.

2019/20 Mathematics (Sociology-undergrads), University of Milan-Bicocca, IT.

2019 Crash Course (2 weeks) Mathematics for Sociology, University of Milan-Bicocca, IT.

2018 Geometry and Topology (Mathematics-undergrads), University of Southampton, UK

2015 Geometry (Mathematics-undergrads), University of Bari, IT.

2013 Calculus (Engineering-undergrads), University of Bari, IT.

Teaching Assistance & Special learning difficulties:

2020/21 Teaching assistance (20 hours) for a student with special learning difficulties at the University of Milano-Bicocca, IT.

2019/20 Teaching assistance (20 hours) for a student with special learning difficulties at the University of Milano-Bicocca, IT.

Conferences, Workshops and Schools (participation):

Sep 2021 Burnside and Mackey functors revisited, University of Lille, FR. (online) **Sep 2021** New Trends Around Profinite Groups, CIRM, IT. **Aug 2021** Totally Disconnected Locally Compact Groups via Group Actions, BIRS, CA. (online) **Apr 2021** FCG meeting, University of Lincoln, UK. (online) **Sep 2020** LMS Autumn Algebra School - ICMS, UK. (online) **Jul 2020** Groups with Geometrical and Topological Flavours, University of Southampton, UK. (online) **Oct 2019** GTG 2019, Cetara, IT. **Sep 2019** YARC 2019, University of Naples "Federico II", IT. **Sep 2019** Of coarse! Quasi-isometries and groups: rigidity and classification, Ventotene, IT. **Jul 2019** Advanced School on Representations of Pro-p Groups, ICMAT-Autonoma de Madrid, ES. **Jul 2019** AGTA 2019 - Advances in Group Theory and Applications, Universotá del Salento, IT. **May 2019** Women in Non-Commutative Algebra and Representation Theory, University of Leeds, UK. **Mar 2019** FCG (Functor Categories Group) meeting, University of Lancaster, UK. **Sep 2018** Una giornata per Silvia, Udine, IT. **Jul 2018** Group Theory in Campinas, University of Campinas, BR. **Jul 2018** IMPA-Goup Theory, Cabo Frio, BR. **Jul 2018** Dynamical Methods in Algebra, Geometry and Topology, University of Udine, IT. **May 2018** GABY 2018, University of Milano-Bicocca, IT. **Apr 2018** Homological and Topological methods in group theory, University of Bielefeld, DE. **Mar 2018** K60 - Groups and Cohomology (in honor of P. Kropholler's 60th birthday), Southampton, UK. **Jul 2017** Homological algebra and Topological groups, University of Southampton, UK. **May 2017** Groups in Galway, NUI Galway, IE. **Dec 2016** GGT 2016, University of Southampton, UK. **Nov 2016** Groups in Madrid, Universidad Autonoma de Madrid, ES. **Nov 2016** Permutation groups, Banff, CA. **Jul 2016** Toposym 2016, Prague, CZ. **Jun 2016** Advances in group theory and applications 2016: the school, Vietri sul Mare, IT. **Dec 2015** XMaths Workshop 2015, University of Bari, IT. **Nov 2015** GTG- Groups and Topological Groups 2015, Salerno, IT. **Sep 2015** Manifolds and Groups, Ventotene, IT. **Jul 2015** AGTA-Advances in Group theory and applications 2015, Porto Cesareo, IT. **Mar 2015** Spring School on Algebraic K-theory of Topological Algebras, Universität Regensburg, DE. **Dec 2014** XMaths Workshop 2014, University of Bari, IT. **Oct 2014** Arbeitsgemeinschaft Deninger-Faltings: Totally Disconnected Groups, Oberwolfach, DE. **Apr 2014** Ischia group theory 2014, Ischia, IT. **Jun 2014** Bicocca Ph.D. School on Representation Theory 2014, University of Milano-Bicocca, IT. **Dec 2013** XMaths Workshop 2013, University of Bari, IT. **Nov 2013** Victorian algebra conference 2013, University of Melbourne, AU. **Sep 2013** Geometric and Analytic Group Theory, Ventotene, IT. **Jun 2013** AGTA-Advances in Group theory and applications 2013, Porto Cesareo, IT. **May 2013** Bicocca-Workshop on Lie algebras, University of Milano-Bicocca, IT. **Apr 2013** Locally compact groups beyond Lie theory, Spa, BE. **Dec 2012** XMaths Workshop 2012, University of Bari, IT. **Aug 2012** SMI - SCHOOL, University of Perugia, IT.

Michela Ceria

About Me Non-tenure track researcher, Polytechnic of Bari.

Academic positions

22/12/2020 - now Non-tenure track researcher, Dept. of Mechanics, Mathematics and Management; Polytechnic of Bari (IT) Art. 24, c. 3, lett. a) Law 240, 30/12/2010

1/05/2018 - 21/12/2020 Postdoc at Dept. of Computer Science, Univ. of Milan (IT). Art.22-Law 240, 30/12/2010

26/04/2017 - 25/04/2018 Postdoc at Dept. of Mathematics, Univ. of Trento (IT). Art.22-Law 240, 30/12/2010

07/04/2015 - 06/04/2017 Postdoc at Dept. of Engineering and Computer Science, Univ. of Trento (IT). Art.22-Law 240, 30/12/2010

Awards, Scholarships and grants

ACA-ERA Award 26th International Conference on Applications of Computer Algebra ACA ERA Award; awarded on 26/07/2021

French *qualification* to the function of *Maître de Conférences* *Mathematics* (11/02/2015 - 31/12/2019, n. 15225277843; 31/01/2019 - 31/12/2023, n. 19225277843), *Applied Mathematics* (04/02/2015 - 31/12/2019, n. 15226277843), *Computer Science* 19/02/2021, n. 21227277843.

2011-2013 **PhD scholarship** Funded by INdAM (National Institution of High Mathematics).
2017-2018 Grant ISCRA-CINECA, IsC50_OGBC4EC, HP10C3HFL2, "Optimization of Groebner Basis computations for ECDLP", with F.Pintore, M.Sala and A.Visconti

Research Interests (Keywords)

Combinatorial aspects of Computational Algebra; Commutative and noncommutative Groebner bases; Coding Theory and Cryptography; Computational Algebraic Geometry and Commutative Algebra; q-matroids theory, designs and rank metric codes; Finite geometry.

Publications

2021 *Bar Code and Janet-like division*, accepted by Atti dell'Accademia Peloritana dei Pericolanti, Classe di Scienze Fisiche, Matematiche e Naturali

2021 *Efficient cryptanalysis over multivariate Ore extensions*, accepted by De Cifris Seminars. With T. Moriarty and A.Visconti

2021 *Bits, bytes and friends* (book), accepted by the scientific committee of the "Cryptography" series of Aracne eds. With G.Rinaldo, M.Sala

2021 *Optimizing the key-pair generation phase of McEliece cryptosystem*, accepted by Lecture Notes on Data Engineering and Communications Technologies (special issue for WIDECOM2021) with A. De Piccoli, M. Tiziani, A. Visconti

2021 *Why you cannot even hope to use Ore algebras in Cryptography*, Applicable Algebra in Engineering, Communication and Computing, DOI: 10.1007/s00200-021-00493-9, With T.Mora, A.Visconti.

2020 *A Survey on Blockchain Consensus with a Performance Comparison of PoW, PoS and Pure PoS.* Mathematics 2020, 8 (10), 1782. DOI: 10.3390/math8101782 With C.Lepore, A.Visconti, U.Pratap Rao, K.Arvindbhai Shah, and L.Zanolini

2020 *Combinatorial decompositions for monomial ideals* , Journal of Symbolic Computation, Volume 104, May-June 2021, Pages 630-652 DOI:10.1016/j.jsc.2020.09.004

2020 *Toward involutive bases over effective rings*, Special issue of Applicable Algebra in Engineering, Communication and Computing, concerning "Algebraic Geometry from an Algorithmic point of View", 31, 359–387. DOI: 10.1007/s00200-020-00448-6. With T.Mora

2020 *Sublime Experience: New Strategies for Measuring the Aesthetic Impact of the Sublime*, In: Emmer M., Abate M. (eds) Imagine Math 7. Springer, Cham. DOI: 10.1007/978-3-030-42653-8_11, with M.Mazzocut-Mis, A.Visconti, H.Tahayori

2020 *Why you cannot even hope to use Gröbner bases in cryptography: an eternal golden braid of failures*, Special issue of Applicable Algebra in Engineering, Communication and Computing, concerning "Computer Algebra and application to combinatorics, coding theory and cryptography", 31, pages 235–252. Doi: 10.1007/s00200-020-00428-w With B.Barkee, T.Moriarty, A.Visconti.

2020 *HELP: a sparse error locator polynomial for BCH codes*, Special issue of Applicable Algebra in Engineering, Communication and Computing, concerning "Computer Algebra and application to combinatorics, coding theory and cryptography", 31, pages 215–233. Doi: 10.1007/s00200-020-00427-x With T.Mora, M.Sala

2019 *Zech Tableaux as tools for sparse decoding.* Rend. Semin. Mat. Vol. 78, 1 (2020), 43 – 56 ISSN: 0373-1243 With T.Mora, M.Sala.

2019 *Bar Code vs Janet tree. Atti dell'Accademia Peloritana dei Pericolanti, Classe di Scienze Fisiche, Matematiche e Naturali* VOL 97, NO 2 (2019) Doi: 10.1478/AAPP.972A6

2019 *Measuring Performances of a White-box Approach in the IoT Context.* Symmetry 2019, 11(8), 1000; Doi: 10.3390/sym11081000 With D.Albricci, A.Shakiba, A.Visconti, F. Cioschi, N.Fornari

2019 *Applications of Bar Code to involutive divisions and a greedy algorithm for complete sets. (extended abstract)* International Conference Polynomial Computer Algebra '2019 St. Petersburg, Russia April 15-20, 2019 International Euler Institute – ISBN 978-5-96511-1234-0

2019 *Weak involutive bases over effective rings (extended abstract)* International Conference Polynomial Computer Algebra '2019 St. Petersburg, Russia April 15-20, 2019 International Euler Institute - ISBN 978-5-96511-1234-0 With T.Mora

2019 *Bar code: a visual representation for finite sets of terms and its applications* Mathematics in Computer Science, 14(2), 497-513 (2020), online in 2019 doi:10.1007/s11786-019-00425-4

2019 *A general framework for Noetherian well ordered polynomial reductions Journal of Symbolic Computation*, Vol. 95, P. 100-133 ISSN: 0747-7171,
Doi: 10.1016/j.jsc.2019.02.002 With T.Mora, M.Roggero

2019 *Bar code for monomial ideals. Journal of Symbolic Computation*,
Doi: 10.1016/j.jsc.2018.06.012 vol. 91, p. 30-56, ISSN: 0747-7171

2018 *Combinatorics of ideals of points: a Cerlienco-Mureddu-like approach for an iterative lex game (abstract)* Doi: 10.15304/978841695487 In 24th Conference on Applications of Computer Algebra - ACA 2018: Proceedings, Applications of Computer Algebra, Santiago de Compostela, Spain, June 18-22, 2018. With T.Mora

2018 *Combinatorics of ideals of points: a Cerlienco-Mureddu-like approach for an iterative lex game (extended abstract)* International Conference Polynomial Computer Algebra '2018 St. Petersburg, Russia April 16-21, 2018 International Euler Institute - ISBN 978-5-9651-1141-1 With T.Mora

2018 *Efficient computation of squarefree separator polynomials (extended abstract)* Doi:10.1007/978-3-319-96418-8_12 In: Davenport J., Kauers M., Labahn G., Urban J. (eds) Mathematical Software – ICMS 2018. Lecture Notes in Computer Science, vol 10931p. 98-104, Springer, ISBN: 9783319964171, ISSN: 1611-3349, South Bend, 2018, with T.Mora, A.Visconti.

2017 *Buchberger-Zacharias Theory of Multivariate Ore Extensions.* Doi: 10.1016/j.jpaa.2017.02.011 *Journal of Pure and Applied Algebra*, vol. 221, p. 2974-3026, ISSN: 0022-4049. With T. Mora

2017 *Bitcoin, la moneta virtuale per transazioni reali*, Interlex, may 2017. With M.Sala

2017 *Buchberger-Weispfenning Theory for Effective Associative Rings.* Doi: 10.1016/j.jsc.2016.11.008 *Journal of Symbolic Computation*, vol. 83, p. 112-146, ISSN: 0747-7171. With T.Mora

2016 *Bitcoin e Blockchain*, with F.Pintore, M.Sala. Aused Informa, 98.

2016 *A computational approach to the theory of adjoints.* Doi: 10.1478/AAPP.942A7 *Atti della Accademia Peloritana dei Pericolanti, Classe di Scienze Fisiche, Matematiche e Naturali*, vol. 94, p. 1-14, ISSN: 1825-1242.

2015 *Term-ordering free involutive bases* Doi: 10.1016/j.jsc.2014.09.005, *Journal of Symbolic Computation*, vol. 68, p. 87-108, ISSN: 0747-7171, with T.Mora, M.Roggero

2014 *A proof of the "Axis of Evil theorem" for distinct points. Rendiconti del Seminario Matematico,* vol. 72, p. 213-233, ISSN: 0373-1243 (2014).

Other accepted works

2019 *Bar Code and Janet-like division (extended abstract)*, accepted for a talk at ACA2019.

2019 *Weak Involutive bases over effective rings (extended abstract)*, accepted for a talk at ACA2019 With T.Mora.

2019 *HELP: the knight gambit for efficient decoding of BCH codes (extended abstract)*, accepted for a talk at ACA2019. With T.Mora, M.Sala.

2019 *Why you cannot even hope to use Gröbner bases in cryptography: an eternal golden braid of failures (extended abstract)*, accepted for a talk at ACA2019. With B.Barkee, T.Moriarty, A.Visconti.

2019 *Combinatorial decompositions for monomial ideals (extended abstract)*, accepted for the poster presentation at MEGA2019.

2018 *Combinatorics of ideals of points: a Cerlienco-Mureddu-like approach for an iterative lex game* Accepted for a talk at *ACA 2018*, *PCA 2018*. With T.Mora.

2017 *On the discrete logarithm problem for prime-field elliptic curves* Accepted for a computation presentation at *MEGA 2017*. With A.Amadori, F.Pintore, M.Sala

Submitted works

2021 *Degroebnerization and its applications: a new approach for data modelling* With T. Mora and A. Visconti

2021 *De Nugis Groebneriatium 7: Janet, Gerdt, Tamari* With F. Mora

2021 *Degroebnerization and Its Applications: Reverse Engineering of Gene Regulatory Networks* With S.Lundqvist, F. Mora

2021 *Constructions of new matroids and designs over $GF(q)$* With E.Byrne, S.Ionica, R.Jurrius, E.Saçikara

Paper *Applications of Bar Code to involutive divisions and a greedy algorithm for complete sets.*

2021 *On near–MDS codes and caps*, with A. Cossidente, G. Marino, F. Pavese

2021 *Secret sharing schemes from hypersurfaces over finite fields*, with A.Aguglia and L. Giuzzi

2021 *Weighted Subspace Designs from q-Polymatroids*, with E. Byrne, R. Jurrius, S. Ionica.

2021 *Construction of new q-cryptomorphisms.* with E. Byrne and R. Jurrius

Available in Arxiv

2021 *The direct sum of q-matroids*, with R. Jurrius arXiv:2109.13637

2019 *Macaulay, Lazard and the Syndrome Variety* arXiv:1910.13189

In preparation

Paper *A trojan Diffie-Hellman-like protocol based on proof of gullibility*, with, A.De Piccoli, T.Moriarty and A.Visconti.

Paper *Half error locator polynomials for efficient decoding of binary cyclic codes*

Paper *Combinatorics of ideals of points: a Cerlienco-Mureddu-like approach for an iterative lex game.* With T.Mora

Paper *A variant of the iterative Moeller algorithm for giving Pommaret basis and its factorization*

Distributed software

2012 *JMBTest.lib: a J-marked basis tester* Library available from Singular 3-1-6: `https://www.singular.uni-kl.de/index.php/singular-download.html`

2012 *JMSConst.lib: a J-marked schemes contructor* Library available from Singular 3-1-6: `https://www.singular.uni-kl.de/index.php/singular-download.htmll`

Organized Conferences

Annual congress In the organizing committee for the Annual conference organized by the group CRITTOGRAFIA E CODICI (National Mathematical Union) and by De Componendis Cifris.

ACA202(1) Organizer (with T.Mora and A- Leroy) of the session Effective Ideal Theory in Commutative and non-Commutative Rings and its Applications. Online, July 2021.

Widecom2019 Local Chair and member of the Technical Commitee for the conference Widecom2019 - 11-13 Feb. 2019

One-day workshops Contribution to the organization of

- the one-day workshop on *Blockchain and Innovative Applications*, 10/02/2017
- the one-day workshop on *Cryptographic Aspects of Cloud and Distributed Computing*, 28/10/2016

MEGA 2015 Contribution to the local organization of the conference MEGA 2015, Univ. of Trento, Italy; 15-19 June 2015.

Miniworkshop *Coding Theory and Cryptography* 13-14 Oct. 2014, Univ of Turin. Organization, with C.Marcolla.

Visiting

Neuchâtel 10-12-2019 – 13-12-2019 I have been invited to Univ. of Neuchâtel by Prof. E. Gorla for research purpose and for delivering two seminars, one for the *research seminar on coding theory and cryptography* and the second for the *algebra seminar* (joint with Freiburg).

Rennes 26-08-2019 – 30-08-2019 Participation (completely funded) to the project WINE3 Workshop - Women in Numbers Europe 3 (3rd edition of the European WIN Workshop) In particular participation to the project by E. Byrne (University College Dublin) & R. Jurrius (The Netherlands Defense Academy) Title: q-Analogues in Combinatorics.

Linz 10-12-2018 – 15-12-2018 Invited for a seminar to the Univ. of Linz by Prof. M. Kauers.

Kaiserslautern During the period May-November 2012, I made short visits to *Univ. of Kaiserslautern* (Germany) and worked with Prof. W. Decker and H. Schoenemann. I implemented two libraries for the software Singular, which have been integrated in version 3-1-6 of the software. `http://www.singular.uni-kl.de/index.php/singular-devteams.html`.
Moreover, I followed some courses on computational algebraic geometry.

Referee (from 22-09-2016 on)

Journals and conferences I have been a referee for the journals *AAECC* (Applicable Algebra in Engineering, Communication and Computing), *JSC* (Journal of Symbolic Computation), Mathematische Nachrichten, Mathematics, Advances in Mathematics of Communications, Security and Communication Networks, Theoretical Computer Science and Internet of Things: Engineering Cyber Physical Human Systems; moreover I have been a referee for the conferences *ISSAC* (International Symposium on Symbolic and Algebraic Computation), *MEGA* (International conference On Effective Methods in Algebraic Geometry), *ITASEC 2020* and *WTSC* (Workshop on Trusted Smart Contracts).

Reviews

Zentralblatt Math 2012-today 7 papers. **Mathematical Reviews 2017-today** 5 papers.

Research groups

European Women in Mathematics (2019-) In 2020: part of the Corona Crisis Working Group

***UMI* National Mathematical Union (2018-)** In 2020: among the proposers of the Cryptography and Coding Theory group

De Componendis Cifris **National association in Cryptography (Autum 2017-)**

GNSAGA **National Group for Algebraic and Geometrical structures and their Applications (2012-)**

Students

Bachelor Thesis co-advisor for four students with Prof. P. Valabrega and for six students with Prof. A. Visconti. External advisor with Prof T. Mora for two students.

Master Master Thesis co-advisor for five students with Prof. M. Sala (one in collaboration with Dr. J. Shokrollahi of Bosh GmbH); Master Thesis co-advisor for one student with Dr. G. Rinaldo and for a student with Professor A. Visconti. Thesis opponent for 4 students.

Tutoring 10-04-2015 — 25-04-2018 I have been tutor of 14 students, studying in the Major *Coding Theory and Cryptography* (now called *Cryptography*) of the Master of Degree in Mathematics at Univ. of Trento, helping them with their study plans, average grade and in deciding about their internships in companies.

Conferences, Schools, Seminars (invited speaker)

Conference **Jul. 18 2021** Speaker at *Workshop in Honor of Vladimir Gerdt* within ISSAC2021. Titke: Applications of Bar Code to involutive divisions and a greedy algorithm for complete sets
Seminar **Mar. 05 2021** Joint PolSys SpecFun Seminar, Sorbonne University, Paris (online). Title: Combinatorics of ideal of points and Half Error Locator polynomials.

Seminar **Dec. 11 2020** Séminaire de l'équipe CASC Univ. Grenoble-Alpes (in French). Title: Dégroébnérisation: théorie et applications

Seminar **Nov. 26 2020** Séminaire Limousin de Calcul Formel en VISIO (in French). Title: Degroebnerisation et ses applications

Seminar **Nov. 24 2020** Seminar at the MAX Computer Algebra seminar, École polytechnique, Palaiseau. Title: Degroebnerization and error correcting codes: Half Error Locator Polynomial.

Conference **Oct. 12-17, 2020** Invited speaker at PCA2020. Title[1]: Groebner bases and error correcting codes: from Cooper Philosophy to Degrobnerization. Title[2]:Bar Code and involutiveness: Janet and Janet-like divisions.

Conference **July 13-16, 2020** Invited speaker to the session "Gröbner Bases in Theory and Practice" of *ICMS 2020*, Braunschweig, Germany. Title: Do It Yourself: Buchberger and Janet Base sover effective rings Part 3: What happens to involutive bases?

Seminar **21 May 2020** *De Cifris Augustae Taurinorum in webinar.* Title: Why you should not even think to use Ore algebras in Cryptography

Seminar **9 Apr. 2020** Invited for a seminar (online, in French) at the *séminaire Mathématiques Discrètes, Codes et Cryptographie*, Univ. of Paris 8.
Title: *Bases de Gröbner, degroebnerisation et leurs applications à la théorie des codes et à la cryptographie*

Seminars **10-13 Dec. 2019** Univ. of Neuchâtel. Title [1]: *Half error locator polynomials for efficient decoding of binary cyclic codes.* [2]: *Combinatorics of ideals of points: Groebner escaliers, separator polynomials and applications to Algebraic Statistics.*

Seminar **8 Nov. 2019** I have been invited by Prof. Ulmer at Univ. of Rennes for a seminar. Title: *Half error locator polynomials for efficient decoding of binary cyclic codes.*

Seminar **6 Jun. 2019** Invited by Univ. of Milano Bicocca. Title: *Efficient computation of squarefree separator polynomials and applications to algebraic statistics.*

Seminar **13 Dec. 2018** Invited by Univ. of Linz. Title: *DIY for Groebner bases: multivariate Ore extensions and effective rings.*

***Seminar* 5 Dec. 2018** Invited by Univ. of Genoa. Title: *DIY for Groebner bases: multivariate Ore extensions.*

***Seminar* 4 Dec. 2018** Invited by Univ. of Genoa. Title: *Bitcoin, blockchain and their applications.*

***Seminar* 27 Mar. 2018** Invited by CTI Liguria for a seminar at Palazzo Ducale, Genoa. Title: *La crittografia dietro Bitcoin e blockchain.*

***Seminar* 20 Dec. 2017** Invited for a seminar at Univ. of Genoa. Title: *Combinatorics of involutive divisions.*

***Seminar* 19 Dec. 2017** Invited for a seminar at Univ. of Genoa. Title: *Bitcoin, Blockchain e loro Applicazioni.*

***Conference* 26-27 Oct. 2017** Invited speaker to the *2nd Number Theory Meeting - Turin*, Polytechnic of Turin Title: *Groebner bases and ECDLP: Involution.*

***Conference* 29-30 May 2017** Invited speaker at *Theory and Computation in Algebra and Algebraic Geometry with a dedication to Paolo Valabrega on the occasion of his 70(+2)th Birthday*, Univ. of Turin
Title: *Combinatorics of involutive divisions*

***Conference* 4-7 Jun. 2014** Invited speaker at the conference *Giornate di Geometria Algebrica e Argomenti Correlati XII*, Salone d'Onore del Castello del Valentino, Turin. Title: *Basi involutive"Term-ordering free"*

Selected Conferences, Schools, Seminars (speaker/poster)

***Conference* 16-20 Aug.2021** Talk at SIAMAG21 Title: Degroebnerization and Its Applications: a New Approach for Reverse Engineering of Gene Regulatory Networks

***Conference* 23-27 Jul.2021** Talk at ACA2021 Title: Secret sharing schemes from hypersurfaces over finite fields

***Conference* 14-15 Jun.2021** Poster at AlCoVE: an Algebraic Combinatorics Virtual Expedition (online). Title: Constructions of new q-cryptomorphisms.

***Conference* 7–11 June 2021** Speaker at MEGA2021 . Title: Degroebnerization and its applications: a new approach for data modelling.

***Conference* 28 May 2021** Speaker at Giornata INdAM Unità di Ricerca di Bari 2021 MATEMATICA E INDUSTRIA con lo sguardo della Prof.ssa Rosa Maria Mininni. Title: Why you cannot even hope to use Ore algebras in Cryptography

***Conference* 19-24 Apr.2021** Speaker at PCA2021 (online). Title: Degroebnerization and its applications: a new approach for data modelling

***Conference* 15-16 Jun.2020** Poster at AlCoVE: an Algebraic Combinatorics Virtual Expedition (online). Title: Constructions of new matroids and designs over Gf(q)

***Conference* 2-7 Sept.2019** Speaker at *Congresso UMI* - Pavia, Italy. Title: *Bar Code: a visual representation for finite sets of terms and its applications*

***Conference* 16-20 July 2019** Speaker at *ACA 2019* - Montréal, Canada. Title [1]: *Bar Code and Janet-like division* [2]: *HELP: the knight gambit for efficient decoding of BCH codes*

***Conference* 24-27 June 2019** Speaker at *NCRA VI* - Lens, France. Title: *Why you should not even think to use Ore algebras in Cryptography*

***Conference* 16-21 June 2019** Poster presentation at *MEGA2019* - Madrid, Spain. Title: *Combinatorial decompositions for monomial ideals*

***Conference* 15-20 Apr. 2019** Speaker at *PCA2019* - St.Petersburg, Russia. Title: *Applications of Bar Code to involutive divisions and a greedy algorithm for complete sets.*

Conference 11-13 Febr. 2019 Tutorial Speaker at *Widecom2019* - Milan, Italy. Title: *Efficient cryptographic algorithms for securing passwords.*

Summer School Aug. 2018 Participation to the poster session of *AEC 2018* - RISC, Linz, Austria. Title: *Combinatorics of ideals of points: a Cerlienco-Mureddu-like approach for an iterative lex game.*

Conference 24-27 July 2018 Participation as speaker to *ICMS 2018* - Notre Dame, Indiana, USA. Title: *Efficient computation of squarefree separator polynomials.*

Conference 18-22 June 2018 Participation as speaker to *ACA 2018 - session Algorithms for zero-dimensional ideals* - Santiago de Compostela – Spain. Title: *Combinatorics of ideals of points: a Cerlienco-Mureddu-like approach for an iterative lex game.*

Conference 2-7 Apr. 2018 Participant to the poster session of the conference *Symmetry and Computation*, CIRM - Luminy - Marseille. Title: *Combinatorics of involutive divisions*

Conference 12-16 June 2017 Participation as speaker to *MEGA 2017. Effective methods in Algebraic Geometry*, Univ. of Nice, France. Title: *Bar Code for monomial ideals*

Summer School and Conference 1 - 10 July 2015 Speaker at the conference *Current Trends on Groebner Bases*, Osaka, Japan. Title: *A unifying form for noetherian polynomial reductions.* Participation to the summer school.

Conference 3- 7 June 2013 Participation to the poster session of the convention *MEGA 2013. Effective methods in Algebraic Geometry*, Univ. of Frankfurt, Germany. Title: *JMBTest.lib and JMSConst.lib: Singular Tools for J-Marked Schemes.*

Summer School 24-28 June 2013 *EACA'S Second International School On Computer Algebra and Applications*, Univ. of Valladolid, Spain. Seminar titled: *Bar-codes for monomial ideals.* Participation to courses.

Seminar Dec. 2012 Polytechnic of Turin Title: *L'Asse del Male* (The Axis-of-Evil Theorem).

Summer School 1-13 Oct. 2012 *Algebra for Secure and Reliable Communication Modeling*, Institute of Physics and Mathematics of the Univ. of Michoacán, Mexico. Lecturer of a seminar titled: *The Axis-of-Evil Theorem.* Participation to courses.

Conference 17-21 Sept. 2012 Participation as a speaker to the convention *MAP 2012 - Mathematics, Algorithms and Proofs*, Univ. of Konstanz, Germany. Title: *The Axis-of-Evil algorithm.* Participation to the 'Young Researchers' Session' with a brief talk on my research activities.

Summer School July-Aug. 2012 *PHD School on Groebner Bases, Curves, Codes and Cryptography*, Univ. of Trento. Seminar titled: *A Bar-Code algorithm for the 'Axis of Evil' Theorem.* Participation to courses.

Summer school Oct. 2011 *International School on Computational Commutative Algebra and Algebraic Geometry*, Villa Pace-Univ. of Messina. Seminar titled: *Classification of Adjoint Curves.* Participation to courses.

Teaching Experience - University courses

Oct. 2021- now Bachelor course in Algebra and Geometry for the first year at Polytechnic of Bari

Apr.-May 2020 PhD course for the Dept. of Computer Science, Univ. of Genoa "Blockchain 101", with M. Ribaudo

Supplementary course; 21 and 23 May 2018 Invited by Univ. of Genoa, within the course "Additional Useful Knowledge", Master in Computer Science. *A crash course in Bitcoin and Blockchain [part 1 and 2].*

18/09/2017 - 16/02/2018 Master Degree in Mathematics, Univ. of Trento: *Advanced Coding Theory and Cryptography* with M.Sala and CryptoLabTN.

14/09/2015 - 12/02/2016 and 14/09/2016 - 17/02/2017 Master Degree in Mathematics, Univ. of Trento: *Algebraic Cryptography*, with M.Sala and CryptoLabTN.

2016 PhD in Mathematics, Univ. of Trento: *Groebner Bases applied to Cryptography and Coding Theory*, with E.Bellini, M.Piva and M.Sala

2013–2014 Bachelor in Engineering, Polytechnic of Turin, *Geometry*, with G.Casnati.

2011–2013 Bachelor in Engineering, Polytechnic of Turin, *Geometry*, with C.Massaza.

Teaching Experience - courses for professionals

May 2018 Lecturer for the course *Post-Quantum Cryptography* for the part on multivariate post-quantum cryptography. Scientific coordination: M.Sala.

Nov. 2017 Lecturer for the course *Monero: the dark side of cryptocurrencies* Prof.: M.Sala.

Oct. 2017 Lecturer for the course *Bitcoin, Blockchain and their new frontiers in Milan* Prof.: M.Sala.

May 2017 Lecturer for the course *Bitcoin, Blockchain and their new frontiers in Trento* Prof.: M.Sala.

Nov. 2016 Assistant Lecturer for the courses *Bitcoin, Blockchain and their new frontiers in Milan*, *Bitcoin, Blockchain and their new frontiers in Rome*. Prof.: M.Sala.

Sept. 2016 Assistant Lecturer for the course *Bitcoin, Blockchain and their new frontiers II*, Univ. of Trento Prof.: M.Sala.

May 2016 - May 2017 Assistant Lecturer for the course *Bitcoin, Blockchain and their new frontiers*, Univ. of Trento Prof.: M.Sala.

Teaching Experience - e-learning and courses' coordination

Course coordination *2018/2019* Coordination (*Professore a contratto*) for the blended course in Computer Science for the faculty of Linguistic Mediation.

E-learning *2015 - 2018* *Applications of Cryptography to Security and Privacy* and *BoAB: Bitcoin and other Applications of Blockchain*, with M.Sala.

Teaching Experience - experience at school

November 2014 Liceo Istituto Comprensivo S. Francesco d'Assisi — Biella Brief mathematics substitute teaching.

Summer 2014 Liceo Giuseppe & Quintino Sella — Classico Linguistico Artistico Mathematics recovery course.

Editorial activity

Editor for special issue of AAECC dedicated to the conference ACA2021 with I. Kotsireas (Wilfrid Laurier Univ.), T. Mora (Univ. Genoa), D. Simos (SBA Research, Graz Univ. of Technology).

Education

2011-2013 **Univ. of Turin, Italy** *PhD in Mathematics*, Defence:14/02/2014. Title of PhD Thesis: *Combinatorial structure of monomial ideals.* Prof.: M.G. *Marinari*, T. *Mora*, M. *Roggero*.

2007-2010 **Univ. of Turin, Italy** *Master degree in Mathematics* Defence on 20/07/2010 with grade 110/110 cum laude and mention.
Title of MSc Thesis: *Conductor and adjoints of algebraic curves.* Prof.: M. *Roggero* and P. *Valabrega*.

2003-2007 **Univ. of Turin, Italy** *Bachelor degree in Mathematics* Faculty of Mathematical, Physical and Natural Science, Univ. of Turin · Bachelor degree obtained on 27/04/ 2007 with grade 104/110.
Title of Bachelor Thesis: *Matroids and parking functions.* Prof.: M. *Roggero*.

Foreign languages

Italian Mothertongue; **English** Good, IELTS (Academic), got in Sept. 2010, grade 7; **French** Scholastic, B1 MC Graw Hill certificate got online; **Japanese** Scholastic.

Software Development Skills

OS: Linux (Ubuntu), Microsoft Windows, Mac OS X, Android. **Programming:** C/C++ (basic notions), Singular, Magma. **Softwares:** Singular, Cocoa, Maple, Magma, Mathematica. **E-learning:** Moodle, Sakai, Google Classroom. **Videoconference:** Zoom, BBB,Skype, Google Meet, Microsoft Teams.

Other information

Advisory Board I contributed to the creation of an *Advisory Board* of companies in Trento. These companies financed stages and scholarships for students and iterfaced with the Department, higlighting the specific knowledge they would need for people to work within them.

Hopf Algebras course followed the Hopf algebra Course held by Prof. Ardizzoni to the PhD School in Mathematics at Univ. of Turin.

Lie Algebras course followed the Lie algebra Course held by Prof. De Graaf to the PhD School in Mathematics at Univ. of Trento.

Diffusion: Researchers' night (Turin and Trento), instructor for olympic games in Mathematics.

Bari, 25/10/2021

Le dichiarazioni rese nel presente curriculum corrispondono a veritá ai sensi degli artt. 46 e 47 del D.P.R. 20 dicembre 2000, n.445 e successive modificazioni e integrazioni.

Enrico Fatighenti

Sapienza - Università di Roma
Dipartimento di Matematica "Guido Castelnuovo"
Piazzale Aldo Moro 5, 00185 Roma RM.
✉ *enrico.fatighenti@uniroma1.it*

Academic Positions

05/2021 - **RTD-A**, *Sapienza Università di Roma.*

2020 - 2021 **Postdoctoral Fellow**, *IMT Toulouse*, Sponsored by CIMI Toulouse, 7 months.

2018 - 2020 **Postdoctoral Fellow**, *Loughborough University*, EPSRC Doctoral Prize Fellow, 24 months.

2017 - 2018 **Postdoctoral Fellow**, *Università Roma Tre*, Sponsored by MIUR-project FIRB 2012 "Moduli spaces and their applications", 12 months.

(Long) Research stays

02/2020 **Research In Paris**, *Institut Henri Poincaré*, Paris, 3 weeks.

08/2016 **Visiting Researcher**, *University of Nairobi*, Nairobi, 2 weeks.

09/2015 **Visiting Researcher**, *KIAS (Korea Institute for Advanced Studies)*, Seoul, 1 Month.

Education

2017 **PhD in Mathematics**, *University of Warwick*, Supervisor: Professor Miles Reid, FRS.
Thesis title: "Hodge Theory in Grassmannians"

2013 **MSc in Pure Mathematics**, *Sapienza Università di Roma.*
Final mark: 110/110 cum laude

Publications

Published Articles

A journey from the octonionic $\mathbb{P}^2$ to a fake $\mathbb{P}^2$, with Lev Borisov and Anders Buch, *Proc. Am. Math. Soc*, in press.

Fano 3-folds from homogeneous vector bundles over Grassmannians, with Lorenzo De Biase and Fabio Tanturri, *Revista Matemática Complutense*, in press.
doi.org/10.1007/s13163-021-00401-2

A note on a Griffiths-type ring for complete intersections in Grassmannians, with Giovanni Mongardi, *Mathematische Zeitschrift*, 299, 1651?1672 (2021).
doi.org/10.1007/s00209-021-02733-7

Nested varieties of K3 type, with Marcello Bernardara and Laurent Manivel, *Journal de l'École polytechnique-Mathématiques (JEP)*, Tome 8 (2021), pp. 733-778.

Fano varieties of K3 type and IHS manifolds, with Giovanni Mongardi, *Int.Math.Res.Not. (IMRN)*, Volume 2021, Issue 4, February 2021, Pages 3097-3142.

Hodge numbers and deformations of Fano threefolds, with Gavin Brown, *Doc. Math.* 25, 267-307 (2020).

Surfaces of general type with $p_g = 1$, $q = 0$, $K^2 = 6$ and Grassmannians, *Math. Nachr.* 293 (2020), no. 1 (January), Pages 88-100.

Weighted Fano varieties and infinitesimal Torelli problem, with Francesco Zucconi and Luca Rizzi, *Journal of Geometry and Physics*, Volume 139, May 2019, Pages 1-16.

Hodge Theory and deformations of affine cones of subcanonical projective varieties, with Domenico Fiorenza and Carmelo di Natale, *J. Lond. Math. Soc.* (2) 96 (2017), no. 3, 524-544.

Hodge theory in Grassmannians, PhD Thesis, Warwick, 2017.

Preprints

The generalized roof F(1,2,n): Hodge structures and derived categories, *arXiv:2110.10475*, with Michał Kapustka, Giovanni Mongardi and Marco Rampazzo, submitted.

Polyvector fields for Fano 3-folds, *arXiv:2104.07626*, with Pieter Belmans and Fabio Tanturri, submitted.

New explicit constructions of surfaces of general type, *arXiv:2004.02637*, with Lev Borisov, submitted.

Research Interests

Fano manifolds of K3 and Calabi–Yau type and link with hyperkähler geometry. Explicit constructions of varieties in homogenous varieties and their Hodge theory.

Explicit construction of surfaces of general type with small p_g, K^2 and Calabi-Yau quotients in low dimension.

Fano and Calabi-Yau varieties in Weighted Projective Spaces. Explicit birational classification, especially of $\mathbb{Q}$ -Fano threefolds.

Teaching experience

Undergraduate Teaching

2021/22 Lecturer for Istituzioni di Matematica 1. Corso di Laurea in Scienze Chimiche, Sapienza Università di Roma. 40 hours.

2018/19 Lecturer for 18MAB241 - Complex Variables, Loughborough University. 18 hours.

2015/16 Teaching Assistant for the module "Algebraic Geometry" at University of Warwick. 12 hours.

2014/15 Teaching Assistant for the module "Riemann Surfaces" at University of Warwick. 12 hours.

2013/14 Teaching Assistant for the module "Manifolds" at University of Warwick. 12 hours.

Graduate Teaching

2017/18 PhD Course "Topics on Fano varieties", Roma Tre University. 14 hours.

2016 Master course on "Topology of hypersurfaces", University of Nairobi. 8 hours.

Students supervised

2018-19 Xiaoshan Huang: BSc Final project, *Hilbert's Nullstellensatz and Bézout Theorem*. Served as committe member for Thesis defense.

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Fundings obtained

2020 Research In Paris grant, supported by Institut Henri Poincaré, €3000. Grant for the research project: *The hunt for fano varieties of K3 type*, in collaboration with Fabio Tanturri.

2018 Travel grant from INDAM (Italian national institute of higher mathematics) to visit Japan, €750.

2018 LMS Scheme 8 Grant (£2430) to organise the conference "2CinC: COW and Calf in Cardiff".

2017 Secured funding for GAeL XXV in Bath (£22149) from several funding bodies, including Compositio Mathematica, GMJT, Heilbronn, IMA, IMI, LMS, University of Bath.

Honours, Awards and Studentships

2017 EPSRC Doctoral Prize (18-Months postdoc at Loughborough University, starting October 2018)

2013 3.5-years Warwick University full studentship +EPSRC studentship covering fees

2013 Percorso D'Eccellenza per Laurea Magistrale (award of excellence for outstanding students during the MSc)

2008 MIUR (Ministry of Public Instruction and Research) Award of Excellence for Scientific High School degree

Talks and Courses given

Conferences

2021 *ANR FanoHK-kickoff conference, Versailles (2021)*, online
2021 *BMC-BAMC Glasgow 2021*, online
2020 *Simons conference on K-stability*, online
2020 *Japanese-European Symposium on Symplectic Varieties and Moduli spaces V*, online
2020 *Workshop EXARCHOS*, Ravenna
2019 *Winter school on Bridgeland stability*, Warwick University
2019 *Integrable systems and automorphic forms*, Lille University
2019 *Workshop on Fano varieties and IHS manifolds*, Rimini
2018 *Fano varieties and their automorphisms*, Loughborough
2018 *GAeL XXVI*, Strasbourg
2018 *Giornate di Geometria Algebrica e argomenti correlati XIV*, Genova
2018 *Motives of Calabi-Yau manifolds*, IMPAN Kraków
2017 *Higher Dimensional Birational Geometry-in honour of Professor Mori*, University of Warwick
2015 *Algebraic Geometry and Representation Theory in Rome*, La Sapienza

Seminars

2021 *ZAG seminar*, Online
2021 *Algebraic Geometry Seminar*, Università di Trieste
2021 *Oberseminar "Algebra und Theoretische Mathematik"*, TU Chemnitz
2021 *Algebraic Geometry Seminar*, Università di Trento
2020 *COW seminar*, Online COW
2020 *Nottingham Algebraic Geometry Seminar* , online
2020 *Algebraic Geometry Seminar*, Toulouse University
2020 *Seminaire de geometrie algebrique*, IMJ-PRG Paris
2019 *Algebraic Geometry Seminar*, Torino University
2019 *Algebraic Geometry Seminar*, Liverpool University
2019 *Geometry and Mathematical Physics Seminar*, University of Birmingham
2019 *Algebraic Geometry Seminar*, Oslo University
2019 *Algebraic Geometry Seminar*, Alma Mater Studiorum - Università di Bologna
2019 *MAGIC Seminar*, Imperial College London
2019 *GAPT Seminar*, Cardiff University
2019 *Algebraic Geometry Seminar*, Lille University
2018 *Algebraic Geometry Seminar*, Toulouse University
2018 *Algebraic Geometry Seminar*, HSE Moscow
2017 *Algebraic Geometry Seminar*, Università Roma Tre
2017 *Algebraic Geometry Seminar*, Loughborough University
2017 *Algebraic Geometry Seminar*, Alma Mater Studiorum - Università di Bologna
2017 *Algebraic Geometry Seminar*, Toulouse University
2016 *COW seminar*, University of Bath
2016 *Algebraic Geometry OberSeminar*, IAG Leibniz Universität Hannover
2016 *Algebraic Geometry Seminar*, Cardiff University
2015 *CALF Seminar*, University of Oxford
2015 *Algebraic Geometry Seminar*, KIAS

Academic activities

Referee for Compositio Mathematica, Journal of Algebraic Geometry, Proceedings of the London Mathematical Society, Beiträge zur Algebra und Geometrie and Revista Matemática Complutense

Reviewer for zbMATH and Math Reviews

Seminar and Conferences Organized

2/2017 **Organizer of the conference "2CinC: Cow and Calf in Cardiff"**, *Secured funding from London Mathematical Society, Cardiff University.*

2015-2017 **Main Organizer of the GAeL Conference (editions XXIV-XXV)** , *Secured funding from London Mathematical Society, Compositio Mathematica, Glasgow Mathematical Journal Trust, Heilbronn Foundation, Bath University, EPSRC via 3CinG Grant.*

2014-2017 **Main Organizer of the CALF Seminar**, *together with Claudio Onorati (Bath).*

Membership in Research groups, Grants and Projects

2021 - Member of the project PRIN 2017YRA3LK "Moduli spaces and Lie Theory". PI: Kieran Gregory O'Grady. Unit: Università degli Studi di ROMA "La Sapienza".

2020 Collaborator for EPRSC EP/T001968/1: "The Abram Gannibal Project: Collaborative research in applied algebra and geometry in Africa"

2018/2020 Member of the Centre for Geometry and Applications, Loughborough University

2017/18 Member of the Roma Tre unit for FIRB 2012 "Moduli Spaces and Their Applications". Coordinator: Filippo Viviani

2017- External collaborator for EPSRC EP/N03189X/1 "3CinG"

Languages

Italian Native

English Fluent *IELTS Certification (2013)*

Computer skills

Advanced Computer algebra softwares as Macaulay2, Magma and Singular

Camilla Felisetti

Università di Trento
Dipartimento di Matematica
Via Sommarive 14, 38123 Povo TN.
✉ *camilla.felisetti@unitn.it*

Academic Positions

09/2020- **Postdoctoral Fellow**, *Università di Trento*.

2018 - 2020 **Postdoctoral Fellow**, *Univerisité de Genève*, 24 months.

(Long) Research stays

05/2021 **Visiting Researcher**, *Université de Genève*, Genève, 2 weeks.

02/2020 **Visiting Researcher**, *Max Planck Institute for Mathematics*, Bonn, 2 weeks.

08/2016 **Visiting Researcher**, *Imperial College*, London, 2 weeks.

Education

2018 **PhD in Mathematics**, *Università di Bologna*, Supervisor: Professor Luca Migliorini.
Thesis title: "Two applications of the decomposition theorem to moduli spaces"

2014 **MSc in Pure Mathematics**, *Università di Bologna*.
Final mark: 110/110 cum laude

Publications

Published Articles

Betti Numbers of Brill-Noether varieties, with Claudio Fontanari, to appear in *Atti Accad. Naz. Lincei Rend. Lincei Mat. Appl.* (2021).

On the splitting principle of Beniamino Segre, with Claudio Fontanari, *Ann. Mat. Pura Appl.* (2021) published online at https://doi.org/10.1007/s10231-021-01171-w.

Intersection cohomology of the moduli space of Higgs bundles on a curve of genus 2, *Journal of the Institute of Mathematics of Jussieu*, (2021) pp. 1-50.
DOI:10.1017/S1474748021000347

A support theorem for nested Hilbert schemes of planar curves, *Manuscripta Math.*, 164 (2021), pp. 467–488.

Intersection cohomology of the moduli space of Higgs bundles on a genus 2 curve, *Oberwolfach Reports* Volume 16, Issue 2, (2019), pp. 1357–1417.

Two applications of the decomposition theorem to moduli spaces, PhD Thesis, Bologna, 2018.

Preprints

On intersection cohomology and Lagrangian fibrations for irreducible symplectic varieties, *arXiv:2108.02464*, with Junliang Shen and Qizheng Yin, submitted.

P=W conjectures for character varieties with symplectic resolution, *arXiv:2006.08752*, with Mirko Mauri, submitted.

Research Interests

Irreducible holomorphic symplectic (IHS) varieties. Study of their cohomological properties and their Hodge theory.

Non abelian Hodge theory. Study of the P=W conjecture and its compact analogues on IHS varieties

Support theorem and perverse sheaves.

Teaching experience

2022 Ph.D. course "Perverse sheaves and intersection cohomology" at University of Trento. 30 hours

2022 Ph.D. course "Perverse sheaves in Non abelian Hodge theory" at University of Illinois at Chicago. 5 Hours

2020/2021 Instructor for the module "Matematica e Statistica 1" at University of Trento. 24 hours

2020/2021 Teaching Assistant for the module "Geometria A" at University of Trento. 48 hours

2019/2020 Teaching Assistant for the module "Géométrie différéntielle" at University of Geneva. 30 hours

2019/2020 Teaching Assistant for the module "Algèbre I" at University of Geneva. 30 hours

2019/2020 Teaching Assistant for the module "Analyse reèlle II" at University of Geneva. 10 hours

2018/2019 Teaching Assistant for the module "Basic geometrical notions in Mechanics" at University of Geneva. 40 hours

2018/2019 Teaching Assistant for the module "Géométrie II" at University of Geneva. 30 hours

2017/18 Teaching Assistant for the module "Geometria 1 " at University of Bologna. 60 hours

2016/17 Teaching Assistant for the module "Geometria 1 " at University of Bologna. 60 hours

2015/16 Teaching Assistant for the module "Geometria e algebra" at University of Bologna. 50 hours

2014/15 Teaching Assistant for the module "Geometria e algebra" at University of Bologna. 50 hours

Fundings obtained

2021 INdAM grant for participating in the workshop *Enumerative Geometry, Physics and Representation Theory*, €800

2019 INdAM grant for participating in the workshop *ISAAC 2019*, €400

2017 GEAR grant, €750

2016 INdAM grant for participating in the workshop *Arithmetic aspects of moduli spaces*, €600

2016 INdAM grant for participating in the workshop *Higgs bundles and spectral data*, €1000

2015 INdAM grant for participating in the workshop *VBAC 2015. Fourier-Mukai: 34 years on*, €400

2015 INdAM grant for participating in the workshop *Aspects of Algebraic Geometry*, €1500

Honours, Awards and Studentships

2014 3years PhD Fellowship, University of Bologna

2012 Collegio Superiore Fellowship (award of excellence for outstanding students during the MSc)

2009 INDAM prize for students in Mathematics

2009 MIUR (Ministry of Public Instruction and Research) Award of Excellence for Scientific High School degree

Given talks

Conferences

2021 *VBAC conference*, online

2021 *Giornate di Geometria Algebrica e argomenti correlati XV*, online

2020 *DMV annual meeting*, online

2020 *ISAAC 2019*, Aveiro

2020 *Geometry and Physics of Higgs Bundles*, Oberwolfach

2019 *Workshop on Fano varieties and IHS manifolds*, Rimini

2018 *Current trends and spectral data for Higgs bundles*, Oxford

2018 *JAVA*, Tatihou

2017 *Higgs bundles and Hitchin systems*, Chicago

Invited talks

2021 *Geometry Seminar*, IST Lisboa, online

2021 *Geometry Seminar*, UC Riverside, online

2020 *Algebraic Geometry Seminar*, EPFL, online

2020 *Algebraic geometry seminar*, University of Strasbourg

2020 *Algebraic Geometry seminar*, University of Trento

2020 *Algebraic geometry seminar*, Max Planck Institute for Mathematics

2019 *MAGIC seminar*, Imperial College London

2017 *Geometry seminar*, University of Heidelberg

Academic activities

Referee for Journal of the European Mathematical Society, Journal of Algebraic Geometry, Journal of the Institute of Mathematics of Jussieu, Quarterly journal of Mathematics, Proceedings of the Cambridge Philosophical Society.

Seminar and Conferences Organized

2020- **Organizer of *Geometry Seminar at Unitn*.** *together with Elisa Postinghel and Luis Solá Conde*, University of Trento.

2018/2019 **Organizer of *Fable Géometriques*.** *together with Grigory Mikhalkin*, University of Geneva.

2018-2020 **Organizer of *Séminaire de la Tortue*.** *together with Andras Szenes*, University of Geneva.

2017 **Organizer of the conference *Workshop on IHS manifolds and stability conditions*.** *together with Giovanni Mongardi and Annalisa Grossi.*

2014-2018 **Organizer of *Ba.D. mood* seminar.**

2014 **Organizer of the conference *Perspectives in physical mathematics*.** *together with Marco Trozzo and Lorenzo Ruffoni (Bologna).*

Membership in Research groups, Grants and Projects

2020- Member of the project PRIN 2017 “Moduli Theory and Birational Classification"

2018/2020 Member of the SNF projects 17599 and 156645

2018/2020 Member of SWISSMAP

Languages

Italian Native

English Fluent *TOEFL Certification (2013)*

French Intermediate

Computer skills

Advanced Computer algebra software as Mathematica or Matlab

Miscellaneous LaTex, C++ Windows, Office

Bologna, 20/10/2021

Andrea Ferraguti

Curriculum Vitae

Situazione corrente

gen 2021 – pres. **Ricercatore a tempo determinato di tipo A**, *Scuola Normale Superiore di Pisa, Pisa, Italia.*

Impieghi precedenti

mag 2020 – gen 2021 **Assegnista di ricerca**, *Universitá degli Studi di Torino, Torino, Italia.*

set 2019 – dic 2019 **Ricercatore post-dottorato**, *Instituto de Ciencias Matemáticas, Madrid, Spagna.*

set 2018 – ago 2019 **Ricercatore post-dottorato**, *Max Planck Institute for Mathematics, Bonn, Germania.*

set 2016 – ago 2018 **Ricercatore post-dottorato**, *Department of Pure Mathematics and Mathematical Statistics, University of Cambridge, Cambridge, Regno Unito.*

Educazione

nov 2011 – mar 2016 **Dottorato in Matematica**, *Institut für Mathematik, Universität Zürich, Zurigo, Svizzera*, Titolo della tesi: "*Arithmetic of strongly modular $\mathbb{Q}$-curves and the density of coprime m-tuples of algebraic integers*".

set 2009 – lug 2011 **Laurea Magistrale in Matematica**, 110/110 *cum Laude, Università degli Studi di Milano, Milano, Italia*, Titolo della tesi: "*Galois representations attached to type* $(1, \chi)$ *modular forms*".

Master of Arts in Matematica, *Concordia University, Montreal, Canada.*

I due titoli sono stati ottenuti nell'ambito del programma Algant (`http://algant.eu/`).

set 2006 – lug 2009 **Laurea Triennale in Matematica**, 110/110 *cum Laude, Università degli Studi di Milano*, Milano, Italia.

Interessi di ricerca

Aritmetica dei sistemi dinamici, rappresentazioni galoisiane arboree, campi globali, curve ellittiche, algebra applicata.

Pubblicazioni

(11) A. Ferraguti e G. Micheli, "Exceptional scatteredness in prime degree", *J. Algebra* 565 (2021), 691–701.

(10) A. Ferraguti e C. Pagano, "Constraining images of quadratic arboreal representations", *Int. Math. Res. Not. IMRN* 2020, 2020(22), pp. 8486–8510.

(9) A. Ferraguti e G. Micheli, "An equivariant isomorphism theorem for mod $\mathfrak{p}$ reductions of arboreal Galois representations", *Trans. Amer. Math. Soc.* 373 (2020), no. 12, 8525–8542.

(8) A. Ferraguti e G. Micheli, "Full classification of permutation rational functions and complete rational functions of degree three over finite fields", *Des. Codes Cryptogr.* 88 (2020), no. 5, 867–886.

(7) P.J. Bruin e A. Ferraguti, "Strongly modular models of $\mathbb{Q}$-curves", *Int. J. Number Theory*, 15, no. 3, 505–526, 2019.

(6) A. Ferraguti, G. Micheli e R. Schnyder, "Irreducible compositions of degree two polynomials over finite fields have regular structure", *Q.J. Math.* 69, no. 3, 1089–1099, 2018.

(5) A. Ferraguti, "The set of stable primes for polynomial sequences with large Galois group", *Proc. Amer. Math. Soc.*, 146(7), 2773–2784, 2018.

(4) P.J. Bruin e A. Ferraguti, "On L-functions of quadratic $\mathbb{Q}$-curves", *Math. Comp.*, 87, no. 309, 459–499, 2018.

(3) A. Ferraguti, G. Micheli e R. Schnyder, "On sets of irreducible polynomials closed by composition", In Arithmetic of Finite Fields, volume 10064 of *Lecture Notes in Comput. Sci.*, 77–83, Springer, Cham, 2017.

(2) A. Ferraguti e G. Micheli, "On the existence of infinite, non-trivial F-sets", *J. Number Theory*, 1–12, 168 (2016).

(1) A. Ferraguti e G. Micheli, "On the Mertens-Cesàro theorem for number fields", *Bull. Austr. Math. Soc.*, 93(2), 199–210, 2016.

Abilitazioni professionali

24/5/2021–pres. Abilitazione al ruolo di professore di II fascia, settore concorsuale 01/A2 Geometria e Algebra

2017 – pres. Abilitazione al ruolo di Maître de conférences

Articoli sottomessi per la pubblicazione

(1) A. Ferraguti, C. Pagano e D. Casazza, "The inverse problem for arboreal Galois representations of index two", 2019. Versione ArXiv: `https://arxiv.org/abs/1907.08608`.

(2) A. Dukes, A. Ferraguti e G. Micheli, "Optimal selection for good polynomials of degree up to five", 2021. Versione ArXiv: `https://arxiv.org/abs/2104.01434`.

Research grants ottenuti come PI

2020 Fellowship "Lise Meitner" (Eur 151780), finanziata dal *Fondo Austriaco per la Scienza*

2016 Fellowship "Early postdoc mobility" (CHF 74250), finanziata dal *Fondo Nazionale Svizzero per la Ricerca Scientifica.*

Partecipazione a gruppi di ricerca nazionali

2020 Progetto di ricerca locale - linea B: "Metodi Matematici nelle Scienze Computazionali" (responsabile Prof. Cavoretto), Università degli Studi di Torino.

Esperienza d'insegnamento come titolare di corsi

2021 – 2022 Titolare del corso “Aritmetica delle curve ellittiche”, Scuola Normale Superiore di Pisa.

2020 Titolare del corso di dottorato “Elliptic Curves”, Politecnico di Torino.

2014 – 2015 Titolare del corso “Algebraic curves over finite fields” (MAT 544), Universität Zürich.

Esperienza d’insegnamento come assistente

2021 Esercitatore del corso “Complementi di Matematica” per matematici e fisici, Scuola Normale Superiore di Pisa.

2018 Supervisore per il corso “Number Fields”, University of Cambridge (Trinity College, Peterhouse College).

2017 – 2018 Supervisore per il corso “Number Theory”, University of Cambridge (Trinity College, Peterhouse College).

2016 – 2017 Supervisore per il corso “Number Theory”, University of Cambridge (Trinity College, Peterhouse College).

2015 – 2016 Assistente d’insegnamento per il corso “Lineare Algebra I” (MAT 111), Universität Zürich.

2015 Assistente d’insegnamento per il corso “Number Theory” (MAT 540), Universität Zürich.

2014 Assistente d’insegnamento per il corso “Elliptische Kurven” (MAT 512), Universität Zürich.

2013 – 2014 Assistente d’insegnamento per il corso “Algebra I” (MAT 211), Universität Zürich.

2013 Assistente d’insegnamento per il corso “Lineare Algebra II” (MAT 111), Universität Zürich.

2012 – 2013 Assistente d’insegnamento per il corso “Geometrie/Topologie” (MAT 701), Universität Zürich.

Compiti amministrativi

2021–2022 Membro del collegio docenti dei Dottorati per l’A.A. 2021/2022 - CICLO XXXVII, Scuola Normale Superiore di Pisa

2012–2015 In carica per l’amministrazione degli assistenti di insegnamento all’Universitá di Zurigo.

Seminari su invito

2021 *Abelian dynamical Galois groups*, 5th Number Theory Meeting, Torino, Italia.

2020 *Arboreal Galois representations and a geometric surjectivity theorem*, Seminario di Teoria dei Numeri di Torino, Italia.

2020 *Images of arboreal Galois representations*, University of South Florida Colloquium, USA.

2020 *The inverse problem for arboreal Galois representations of index two*, Joint Mathematics Meeting, Denver, USA.

2019 *Il problema inverso per rappresentazioni galoisiane arboree di indice finito*, XXI congresso UMI, Pavia, Italia.

2019 *An overview on arboreal Galois representations*, Number Theory Seminar, ICMAT Number Theory Seminar, Madrid, Spagna.

2019 *Permutation and complete rational functions via Chebotarev theorem for function fields*, SIAM Conference on Applied Algebraic Geometry, Berna, Svizzera.

2019 *An overview on arboreal Galois representations*, Number Theory Seminar, Institute for Analysis and Number Theory, Graz, Austria.

2019 *Arboreal Galois representations of index two*, Number Theory Seminar, Max Planck Institute for Mathematics, Bonn, Germania.

2018 *Arboreal Galois representations of index two*, EPFL Number Theory Seminar, Losanna, Svizzera.

2018 $\mathbb{Q}$*-curves and their L-functions*, Oxford Junior Number Theory Seminar, Oxford, Regno Unito.

2018 *Permutation rational functions via Chebotarev density theorem*, Luxembourg Number Theory Seminar, Lussemburgo.

2018 $\mathbb{Q}$*-curves and their L-functions*, ICMAT Number Theory Seminar, Madrid, Spagna.

2018 *Strongly modular models of* $\mathbb{Q}$*-curves*, London Number Theory Seminar, Londra, Regno Unito.

2017 *Strongly modular models of* $\mathbb{Q}$*-curves*, Number Theory Seminar, University of Cambridge, Regno Unito.

2017 *Stable polynomials and dynamically irreducible sets: finite, local and global aspects*, ICMAT Number Theory seminar, Madrid, Spagna.

2014 $\mathbb{Q}$*-curves, modularity and L-functions*, Algebra, Geometry and Number Theory seminar, Universiteit Leiden, Olanda.

2014 *Lubin-Tate formal groups*, ETH-UZH workshop "Periods and heights of CM abelian varieties", Alpbach, Austria.

2014 *What is . . . the BSD conjecture?*, ZGSM Graduate Colloquium, Zurigo, Svizzera.

2013 *Galois representations for weight one modular forms*, ETH-UZH workshop "p-adic modular forms", Alpbach, Austria.

Premi e riconoscimenti

2010 Borsa di studio "Internazionalizzazione delle lauree magistrali" (Eur 10000), finanziata dalla *Fondazione Cariplo*.

Altre attività

2016 – pres. Reviewer per l'American Mathematical Society.

2018 – pres. Reviewer per varie riviste scientifiche

Lingue straniere

Inglese C2

Francese B2

Conoscenze informatiche

LaTeX, software per la ricerca scientifica (Sage, Magma, Pari/GP), linguaggi di programmazione (Python).

Le dichiarazioni rese nel presente curriculum corrispondono a verità e sono da ritenersi rilasciate ai

sensi degli artt. 46 e 47 del D.P.R. 445/2000.

Curriculum Vitæ

Posizione attuale

01/03/2021 - oggi Assegnista di Ricerca in Algebra,
Dipartimento di Matematica e Applicazioni, Università di Milano Bicocca.

Posizioni passate

01/03/2019 - 28/02/2021 Post-doc in Algebra,
IMECC, UNICAMP (Campinas, Brasile).

A.Y. 2018-2019 Professore a contratto per il corso di Geometria,
Laurea Triennale in Ingegneria Biomedica, Università degli Studi di Palermo.

15/09/2017 - 14/03/2018 Post-doc in Algebra,
IMECC, UNICAMP (Brasile), Borsa di studio fornita dall'Università di Palermo.

01/11/2013 - 23/03/2017 Studente di Dottorato in Algebra,
Università degli Studi di Catania, Palermo e Messina.

Formazione accademica

19/12/2011 Laurea Triennale in Matematica, Università degli Studi di Palermo
Titolo della tesi: Decomposizione delle algebre gruppali FS_n and FA_n
Relatrice: Prof. Daniela La Mattina, Voto finale: 110/110

25/07/2013 Laurea Magistrale in Matematica, Università degli Studi di Palermo
Titolo della tesi: Metodi asintotici in algebre con identità polinomiali
Relatore: Prof. Antonio Giambruno
Voto finale: 110/110 e lode, con menzione al Premio Gugino

23/03/2017 Dottorato di Ricerca in Matematica e Informatica
Università degli Studi di Catania, Palermo e Messina
Titolo della tesi: Superalgebras with superinvolution
Advisor: Prof. Antonio Giambruno
Luogo esame finale: Dipartimento di Matematica, Università degli Studi di Catania

Premi e riconoscimenti per la ricerca

11/11/2020 Abilitazione scientifica Nazionale, Italia
Settore Concorsuale 01/A2 Geometria e Algebra, Seconda Fascia

04/10/2021 1° classificato: Premio Giovani Talenti dell'Università degli Studi di Milano-Bicocca
Finanziamento di 5000 euro per attività di ricerca

Borse di studio, assegni e finanziamenti ricevuti

Giugno 2015	Finanziamento INdAM di 500 euro. Partecipazione alla conferenza AGTA 2015, Porto Cesareo, Lecce, Italia.
Luglio 2015	Finanziamento INdAM di 500 euro. Partecipazione alla conferenza GRiTA 2015, Sofia, Bulgaria.
Luglio 2016	Finanziamento INdAM di 500 euro. Partecipazione alla conferenza GRiTA 2016, Sofia, Bulgaria.
Settembre 2017	Finanziamento INdAM di 300 euro. Partecipazione alla conferenza AGTA 2017, Lecce, Italia.
15/09/2017 - 14/03/2018	Borsa di studio per un periodo di ricerca all'estero (valore 6000 euro). Borsa fornita dall'Università degli Studi di Palermo, Svolta presso IMECC, UNICAMP, Campinas, Brasile.
01/03/2019 - 28/02/2021	Borsa Post-doc Fapesp n. 2018/17464-3 Valore della borsa: 177000 reais, corrispondenti a circa 41000 euro, IMECC, Unicamp, Campinas, Brasile.
Maggio 2019	Finanziamento Fapesp di 1000 reais (220 euro circa). Periodo di ricerca in visita all'ICEx, UFMG, Belo Horizonte, Brasile.
Giugno 2019	Finanziamento Fapesp di 3320 reais (760 euro circa). Partecipazione alla conferenza AGTA 2019, Lecce, Italia.
Settembre 2019	Finanziamento Fapesp di 5425 reais (1200 euro circa). Partecipazione alla conferenza INdAM Polynomial identities in algebras, Università di Roma La Sapienza, Roma, Italia.
01/03/2021 - Oggi	Assegno di ricerca, Università di Milano Bicocca.
04/10/2021	Finanziamento di 5000 euro per attività di ricerca, Premio Giovani Talenti 2021, Università di Milano Bicocca

Gruppi di ricerca

01/11/2013 - Oggi	Gruppo di Ricerca di Algebra. Dipartimento di Matematica, Università degli Studi di Palermo.
01/01/2015 - Oggi	Membro dell'INdAM, Istituto Nazionale di Alta Matematica
01/01/2015 - Oggi	Membro del GNSAGA, Gruppo Nazionale per le Strutture Algebriche, Geometriche e le loro Applicazioni
01/03/2019 - 28/02/2021	Gruppo di Ricerca di Algebra. IMECC, UNICAMP, Campinas, Brasile.
01/03/2021 - Oggi	Gruppo di Ricerca di Algebra. Dipartimento di Matematica e Applicazioni, Università di Milano Bicocca, Italia.

Periodi di ricerca in visita

06/03/2015 - 05/06/2015	IMECC, UNICAMP, Campinas Brazil, invitato dal Prof. P. Koshlukov.
04/09/2016 - 03/10/2016	IMECC, UNICAMP, Campinas Brazil, invitato dal Prof. P. Koshlukov.
15/09/2017 - 15/03/2018	IMECC, UNICAMP, Campinas Brazil, invitato dal Prof. P. Koshlukov.
27/05/2019 - 28/05/2019	ICEx, UFMG, Belo Horizonte, Brazil, invitato dalla Prof.ssa A. C. Vieira.

Attività didattica

A.A. 2014-2015 Attività didattica integrativa per il corso di Algebra 1, Prof. Daniela La Mattina, Laurea Triennale in Matematica, Università degli Studi di Palermo.

A.A. 2014-2015 Attività didattica integrativa per il corso di Istituzioni di Algebra, Prof. Antonio Giambruno, Laurea Magistrale in Matematica, Università degli Studi di Palermo.

A.A. 2014-2015 Attività didattica integrativa per il corso di Algebra non commutativa, Prof. Antonio Giambruno, Laurea Magistrale in Matematica, Università degli Studi di Palermo.

A.A. 2015-2016 Attività didattica integrativa per il corso di Algebra 1, Prof. Francesca Benanti, Laurea Triennale in Matematica, Università degli Studi di Palermo.

A.A. 2015-2016 Attività didattica integrativa per il corso di Istituzioni di Algebra, Prof. Antonio Giambruno, Laurea Magistrale in Matematica, Università degli Studi di Palermo.

A.A. 2015-2016 Attività didattica integrativa per il corso di Algebra non commutativa, Prof. Antonio Giambruno, Laurea Magistrale in Matematica, Università degli Studi di Palermo.

A.A. 2016-2017 Attività didattica integrativa per il corso di Istituzioni di Algebra, Prof. Antonio Giambruno, Laurea Magistrale in Matematica, Università degli Studi di Palermo.

A.A. 2016-2017 Attività didattica integrativa per il corso di Algebra non commutativa, Prof. Antonio Giambruno, Laurea Magistrale in Matematica, Università degli Studi di Palermo.

A.A. 2018-2019 Professore a contratto per il corso di Geometria, Laurea Triennale in Ingegneria Biomedica, Università degli Studi di Palermo.

A.A. 2020 Professore titolare del corso di Algebra non commutativa, Corso di Dottorato in Matematica, Università di Campinas.

A.A. 2021-2022 Professore titolare del corso "Polynomial identities in associative algebras", Corso di Dottorato in Matematica, Università di Milano Bicocca - Pavia - INdAM.

Partecipazione a commissioni

10/10/2019 Membro effettivo della commissione,
ICEx, UFMG (Belo Horizonte, Brazil).
Approvazione del progetto di Dottorato in Matematica
Studente: Willer Daniel da Silva Costa.

10/10/2019 Membro effettivo della commissione,
ICEx, UFMG (Belo Horizonte, Brazil)
Approvazione del progetto di Dottorato in Matematica
Studente: Maria Luiza Oliveira Santos.

22/07/2020 Membro effettivo della commissione,
ICEx, UFMG (Belo Horizonte, Brazil)
Valutazione intermedia del corso di Dottorato in Matematica
Studente: Marilice Assis de Oliveira.

19/03/2021 Membro effettivo della commissione,
ICEx, UFMG (Belo Horizonte, Brazil)
Conferimento del titolo di Dottore di ricerca in Matematica
Studente: Maria Luiza Oliveira Santos.

28/10/2021 Membro effettivo della commissione,
Departamento de Matemática, UFSC (São Carlos, Brazil)
Conferimento del titolo di Dottore di ricerca in Matematica
Studente: Mateus Eduardo Salomão.

Organizzazione di conferenze e seminari

17/05/2019 - 19/05/2019	Local committee per la Conferenza PSSL105 Dipartimento di Matematica e Informatica, Palermo (Italy).
17/05/2019 - 19/05/2019	Local committee per la Conferenza Categorical Methods in Algebra Dipartimento di Matematica e Informatica, Palermo (Italy).
01/03/2021 - Oggi	Local committee per il ciclo di seminari di algebra Al@Bicocca, Dipartimento di Matematica e Applicazioni, Università di Milano Bicocca.

Partecipazione a conferenze e comunicazioni

16/06/2015 - 19/06/2015	Partecipazione all'International workshop Advances in Group Theory and Applications 2015, Porto Cesareo (Lecce).
15/07/2015 - 22/07/2015	Partecipazione all'International workshop Groups and Rings Theory and Applications, Sofia (Bulgaria).
11/07/2016 - 15/07/2016	Talk "Standard identities on matrix algebras with superinvolution", International workshop Groups and Rings - Theory and Applications, Sofia (Bulgaria).
29/08/2016 - 02/09/2016	Partecipazione al First Joint Meeting Brazil – Italy in Mathematics, IMPA, Rio de Janeiro (Brasile).
29/09/2016	Talk "Varieties of superalgebras with superinvolution", IMECC, UNICAMP, Campinas, Brasile.
05/09/2017 - 08/09/2017	Talk "Varieties of superalgebras with superinvolution", International workshop Advances in Group Theory and Applications 2017, Lecce.
23/10/2017 - 28/10/2017	Talk "Superinvolutions on upper-triangular matrix algebras", Conferenza Lie and Jordan Algebras, Their Representations and Applications VII, Natal (Brasile).
05/12/2017	Talk "The exponent of associative algebras", IMECC, UNICAMP, Campinas, Brasile.
21/05/2018 - 25/05/2018	Talk "Polynomial identities for algebras graded by a group", Conferenza Groups & Algebras in Bicocca for Young algebraists, Università di Milano Bicocca.
27/05/2019	Talk "Kemer's theorem and Amitsur's conjecture for associative algebras", ICEx, UFMG, Belo Horizonte, Brasile.
25/06/2019 - 28/06/2019	Talk "The exponent of algebras graded by a group", International workshop Advances in Group Theory and Applications 2019, Lecce.
16/09/2019 - 20/09/2019	Talk "Polynomial identities in algebras with trace", INdAM Workshop Polynomial identities in algebras, Roma.
12/11/2019	Talk "Some PI-results on algebras with trace", IMECC, UNICAMP, Campinas, Brasile.
20/02/2020	Seminario su invito "Some PI-results in algebras with trace", Dipartimento di Matematica e Applicazioni, Università di Milano-Bicocca.
08/04/2021	Talk "Polynomial identities in associative algebras", Dipartimento di Matematica e Applicazioni, Università di Milano-Bicocca.
06/07/2021	Seminario su invito "Polynomial identities in associative algebras", IMECC, UNICAMP, Campinas, Brasile.
20/09/2021 - 24/09/2021	Seminario su invito "Some PI-results on superalgebras with pseudoinvolution", International Conference "Trends in Combinatorial Ring Theory", Sofia, Bulgaria.

1. A. Giambruno, ———, D. La Mattina,
Varieties of algebras with superinvolution of almost polynomial growth,
Algebra and Representation Theory, vol. 19 (2016), 599 – 611.

2. A. Giambruno, ———, F. Martino,
Standard polynomials and matrices with superinvolutions,
Linear Algebra and its Applications, vol. 504 (2016), 272 – 291.

3. ———, D. La Mattina,
Polynomial codimension growth of algebras with involutions and superinvolutions,
Journal of Algebra, vol. 472 (2017), 519 – 545.

4. ———, F. Martino,
Superinvolutions on upper-triangular matrix algebras,
Journal of Pure and Applied Algebra, vol. 222 (2018), 2022 – 2039.

5. ———,
The exponent for superalgebras with superinvolution,
Linear Algebra and its Applications, vol. 555 (2018), 1 – 20.

6. ———, F. Martino,
Varieties of algebras with pseudoinvolution and polynomial growth,
Linear and Multilinear Algebra, vol. 66 (2018), 2286 – 2304.

7. ———, F. Martino,
Classifying G-graded algebras of exponent two,
Israel Journal of Mathematics, vol. 229 (2019), 341 – 356.

8. ———,
Some characterizations of algebras with involution with polynomial growth of their codimensions,
Linear and Multilinear Algebra, vol. 67 (2019), 1217 – 1230.

9. A. Giambruno, ———, D. La Mattina,
Superalgebras with involution or superinvolution and almost polynomial growth
of the codimensions,
Algebra and Representation Theory (2019), vol. 22 (2019), 961-976.

10. ———,
A characterization of superalgebras with pseudoinvolution of exponent 2.
Algebra and Representation Theory, in press.

11. ———,
Some results concerning the multiplicities of cocharacters of algebras with graded involution,
Linear Algebra and its Applications, vol. 594 (2020), 51-70.

12. ———,
Superalgebras with superinvolution or graded involution with colength sequence bounded by 3,
International Journal of Algebra and computation, vol. 30 (2020), 821-838.

13. ———, P. Koshlukov, D. La Mattina,
Trace identities and almost polynomial growth,
Journal of Pure and Applied Algebra, vol. 225 (2021), 106501.

14. ———, F. Martino,
On multiplicities of cocharacters for algebras with superinvolution.
Journal of Pure and Applied Algebra, vol. 225 (2021), 106536.

15. ————, R. B. dos Santos, M. L. O. Santos, A. C. Vieira,
Superalgebras with graded involution: classifying minimal varieties of quadratic growth.
Linear Algebra and its Applications, vol. 621 (2021), 105-134.

16. W. D. S. Costa, ————, R. B. dos Santos, A. C. Vieira,
Unitary superalgebras with graded involution or superinvolution of polynomial growth.
Journal of Pure and Applied Algebra, vol. 225 (2021), 106666.

17. ————, P. Koshlukov, D. La Mattina,
Trace identities on diagonal matrix algebras.
Proceedings of the INdAM Workshop Polynomial identities in algebras,
Polynomial Identities in Algebras, Springer INdAM Series **44**,
Editors O. M. Di Vincenzo, A. Giambruno, Springer, 2021.

Tesi di dottorato

1. ————,
Superalgebras with superinvolution.

Articoli accettati per la pubblicazione

1. ————, F. Martino,
Varieties of algebras with pseudoinvolution: codimensions, cocharacters and colengths,
Journal of Pure and Applied Algebra.

Articoli in valutazione

1. ————, P. Koshlukov, D. La Mattina,
Matrix algebras with degenerate traces and trace identities.

2. L. Centrone, A. Estrada Serna, ————,
On PI-algebras with additional structures: rationality of Hilbert series and Specht's problem.

3. A. Giambruno, ————, D. La Mattina,
Algebras with trace and exponential growth.

Lavori in preparazione

1. ————,
Polynomial identities on 3×3 matrices with the orthosymplectic superinvolution.

2. D. Bessades, ————, A. C. Vieira,
Standard identities and pseudoinvolutions.

3. ————,
Involutions, pseudoinvolutions and superinvolutions on superalgebras.

4. ————,
Polynomial identities in matrix algebras with pseudoinvolution.

Lingue

Lingua madre: Italiano

Altre lingue	Comprensione		Parlato		Scritto
	Ascolto	Lettura	Comunicazione	Produzione	
Inglese	C1	C1	C1	C1	C1
Francese	A1	A1	A1	A1	A1
Portoghese	B1	B1	A2	A2	A2

Attività editoriale

Referee per diverse riviste scientifiche.

Curriculum Vitae of A. Javan Peykar

Date: 22.10.2021

Positions

1. Junior Professor (**non** tenure-track), Johannes Gutenberg-Universität Mainz. November 2015-October 2024.
   I was positively evaluated as a Junior Professor in May 2018, and therefore hold the equivalent of a Habilitation.
2. W3-Professor (Vertretungsstelle), TU Chemnitz. April 2020-April 2021.
3. CNRS, Paris XI, July-September 2020.
4. Visiting Researcher, IHES Paris, March 2020.
5. Visiting Professor, Paris XIII. June 2018.
6. Oberwolfach Leibniz fellow. May 2018.
7. Post-doc SFB/Transregio 45. Johannes Gutenberg-Universität Mainz. 2013-2015.

Degrees

1. Ph.D. Mathematics, obtained in June 2013.
   - Leiden University and Université Paris-Sud 11, 2010-2013.
2. MSc. Mathematics, obtained in July 2010.
   - Université Paris-Sud 11, 2008-2009.
   - Leiden University, 2009-2010.
3. BSc. Mathematics (Minor Physics), obtained in July 2008.
   - Leiden University, 2005-2008.

Papers

1. Polynomial bounds for Arakelov invariants of Belyi curves [with an appendix by P. Bruin].
   Algebra and Number Theory, Vol. 8 (2014), No. 1, 89-140.

2. Szpiro's small points conjecture for cyclic covers of prime degree [with R. von Känel].
   Documenta Math., 19 (2014) 1085-1103.

3. Néron models and the arithmetic Shafarevich conjecture for certain canonically polarized varieties.
   Bull. London Math. Soc., (2015) 47 (1).

4. Good reduction of algebraic groups and flag varieties [with D. Loughran].
   Archiv der Math., (2015) Vol. 104, Issue 2, 133-143.

5. An effective Arakelov-theoretic version of the hyperbolic isogeny theorem.
   Math. Proc. Cambridge Phil. Soc., (2016) Vol. 160, Issue 03, 463-476

6. Belyi's theorem for smooth complete intersections of general type.
   Michigan Math. J. Volume 66, Issue 1 (2017), 85-97.

7. Complete intersections: Moduli, Torelli and good reduction [with D. Loughran].
   Math. Ann. 368, 1191-1225 (2017).

8. The moduli of smooth hypersurfaces with level structure [with D. Loughran].
   Manuscripta Math. 154 (2017), no. 1-2, 1322.

9. Effectively computing integral points on the moduli of smooth quartic curves.
   The Quarterly Journal of Mathematics, Volume 68, Issue 2, 1 June 2017, 345358.

10. Bounding heights uniformly in families of hyperbolic varieties [with K. Ascher].
    New York J. Math. 23 (2017), 1791-1808.

11. The Belyi degree of a curve is computable [with J. Voight].
    Contemp. Math., 2019, 722, p. 43-57.

12. Good reduction of Fano threefolds and sextic surfaces [with D. Loughran].
    Ann. Sc. Norm. Super. Pisa Cl. Sci. (5) Vol. XVIII (2018), 509-535.

13. Invariants of smooth Fano varieties in families [with F. Gounelas].
    Moscow Mathematical Journal, Volume 18, Issue 2 (2018), p. 305-319.

14. Horospherical stacks [with K. Langlois and R. Terpereau].
    Münster J. of Math. Volume 12 (2019), p. 1-29.

15. Algebraicity of analytic maps to a hyperbolic variety [with R. Kucharczyk].
Math. Nachrichten, 293 (2020), no. 8 (August).

16. Effective estimates for the degrees of special maximal subvarieties [with C. Daw and L. Kühne].
Selecta Math. New Ser. 26, 2 (2020).

17. Demailly's notion of hyperbolicity: geometricity, boundedness, moduli of maps [with L. Kamenova].
Math. Z. 296, 16451672 (2020)

18. Rational points and ramified covers of products of two elliptic curves.
Acta Arith. 198 (2021), no. 3, 275287.

19. Arithmetic hyperbolicity and a stacky Chevalley-Weil theorem [with D. Loughran].
J. London Math. Soc. (2) 103 (2021) 846-869.

20. Arithmetic hyperbolicity: automorphisms and persistence.
Math. Ann. 381, 439-457 (2021)

21. Non-archimedean hyperbolicity and applications [with A. Vezzani].
Journal für die reine und angewandte Mathematik (Crelles Journal), vol. 2021, no. 778, 2021, pp. 1-29.

22. Finiteness properties of pseudo-hyperbolic varieties [with J. Xie].
IMRN, to appear. arXiv:1909.12187.

23. Albanese maps and fundamental groups of varieties with many rational points over function fields [with E. Rousseau].
IMRN, to appear. arXiv:2010.02913

Submitted papers

1. Boundedness in families with applications to arithmetic hyperbolicity [with R. van Bommel and L. Kamenova].
Submitted, arXiv:1907.11225.

2. Integral points on algebraic subvarieties of period domains: from number fields to finitely generated fields. [with D. Litt].
Submitted, arXiv:1907.13536.

3. Urata's theorem in the logarithmic case and applications to integral points [with A. Levin].
Submitted, arXiv:2002.11709

4. The Shafarevich conjecture revisited: Finiteness of pointed families of polarized varieties [with R. Sun and K. Zuo].
Submitted. arXiv:2005.05933

5. Good reduction and cyclic covers [with S. Mathur and D. Loughran.]
Submitted. arXiv:2009.01831

6. On the distribution of rational points on ramified covers of abelian varieties [with P. Corvaja, J. L. Demeio, D. Lombardo and U. Zannier].
Submitted. arXiv:2011.12840

7. Algebraic intermediate hyperbolicities [with A. Etesse and E. Rousseau].
Submitted. arXiv:2012.07803

8. Finiteness of non-constant maps over a number field.
Submitted.

Papers in preparation (selected)

1. Augmented irregularity of special pairs [with E. Rousseau].
In preparation.

2. Campana's special varieties and puncturing varieties with many rational points [with A. Levin].
In preparation.

Lecture notes and Expository Writing

1. The Lang–Vojta conjectures on projective pseudo-hyperbolic varieties.
Arithmetic geometry of logarithmic pairs and hyperbolicity of moduli spaces, 135-196, CRM Short Courses, Springer.

Teaching

1. Teacher MSc. Seminar *Topics in Commutative Algebra*. Universität Mainz, Summer 2021.

2. Teacher MSc. Course *Analytische Zahlentheorie*. Universität Mainz, Summer 2021.

3. Teacher BSc. Course *Algebraic Geometry*. TU Chemnitz, Winter 2020.

4. Teacher BSc. Course *Representation theory*. TU Chemnitz, Winter 2020.

5. Teacher BSc. Course *Algebra*. TU Chemnitz, Summer 2020.

6. Teacher. MSc. Course *Hyperbolic Geometry*. TU Chemnitz, Summer 2020.

7. Teacher MSc. Course *Algebraische Zahlentheorie II*. Universität Mainz, Winter 2019.
8. Teacher BEd. Course *Elementarmathematik*. Universität Mainz, Winter 2019.
9. Teacher MSc. Course *Algebraische Zahlentheorie I*. Universität Mainz, Sommer 2019.
10. Teacher BEd. Course *Elementarmathematik*. Universität Mainz, Sommer 2019.
11. Teacher BSc. Course *Lineare Algebra II*. Universität Mainz, Winter 2018.
12. Teacher BEd. Course *Elementarmathematik*. Universität Mainz, Winter 2018.
13. Teacher BSc. and MSc. Seminar *Analytische Zahlentheorie und Diophantische Approximation*. Universität Mainz, Summer 2018.
14. Teacher BSc. Course *Algebra 2*. Universität Mainz, Summer 2017.
15. Teacher BSc. Course *Lineare Algebra II*. Universität Mainz, Winter 2016.
16. Teacher MSc. Course *Elliptische Kurven II*. Universität Mainz, Winter 2016.
17. Teacher MSc. Course *Elliptische Kurven I*. Universität Mainz, Summer 2016.
18. Teacher MSc. Course *Algebraische Geometrie II*. Universität Mainz, Winter 2015.
19. Teacher MSc. Course *Elliptic curves, complex multiplication, modular curves* [with S. Müller-Stach]. Universität Mainz, Winter 2014.
20. Teaching Assistant for the course *Lineare Algebra und Geometrie II* taught by Theo de Jong. Universität Mainz, Winter 2014.
21. Teaching Assistant for the course *Algebraische Kurven und Riemannsche Flächen* taught by Duco van Straten. Universität Mainz, Summer 2014.
22. Teaching Assistant for the course *Zahlentheorie* taught by Manuel Blickle, Universität Mainz, Winter 2013.
23. Teaching Assistant for the course *Algebraic Topology* taught by Robin de Jong, Universiteit Leiden, Winter 2011.
24. Teaching Assistant for the course *Linear Algebra 2* taught by Bart de Smit, Universiteit Leiden, Winter 2011.
25. Teaching Assistant for the national Mastermath course *Algebraic Geometry* taught by Bas Edixhoven, Universiteit van Amsterdam, Summer 2011.
26. Teaching Assistant Mathematics, Universiteit Leiden, 2007-2008.

Graduate students

1. Cedric Luger. *The Hilbert property and rational points on varieties.* September 2021 - present.

2. Philipp Licht. *Integral points on the moduli space of Fano threefolds.* October 2017 - present.

3. Ruiran Sun. *Hyperbolicity of moduli spaces.* October 2017 - 2021. **Graduated May 28th 2021.** Co-supervisor: Kang Zuo (Mainz).

Supervised Master Theses

1. Cedric Luger, *The Hilbert property for arithmetic schemes,* Universität Mainz, 2021.

2. Julian Rausch, *The arithmetic puncture problem for abelian varieties*, Universität Mainz, 2021.

3. Nico Bischoff, *Faltings's finiteness theorem for Galois representations.* Universität Mainz, 2020.

4. Oliver Zell, *Existence of non-torsion points on elliptic curves.* Universität Mainz, 2020.

5. Moritz Dauber, *The weak-Hilbert property for fibrations and the product of varieties over number fields.* Universität Mainz, 2020.

6. Lars Hofmann, *Dominant rational maps with a view towards Lang's conjecture.* Universität Mainz, 2019.

7. Daniel Züfle, *Finiteness results for j-invariants of elliptic curves with complex multiplication.* Universität Mainz, 2017.

8. Sebastian Schösser, *Galois actions on dessins d'enfants and Beauville surfaces.* Universität Mainz, 2017.

9. Jennifer Pütz, *Simultaneous rank jumps of elliptic curves.* Universität Mainz, 2017.

10. Philipp Licht, *Finiteness theorems for complements of large divisors.* Universität Mainz, 2017.

11. Anesh Din, *Shafarevich-type finiteness results for Del Pezzo surfaces of degree one.* Universität Mainz, 2017

Supervised Bachelor Theses

1. Marie-Chantal Becker, *Rang Elliptischer Kurven in Körpererweiterungen*. Universität Mainz, 2021.

2. Maximilian Oischinger, *Belyi Abbildungen*. Universität Mainz, 2018

3. Oliver Zell, *Beweis des Hilbertschen Irreduzibilitätssatzes mittels thin sets*. Universität Mainz, 2018

International Mini-Courses

1. *Hyperbolicities: algebraic, analytic, and arithmetic*. Conference on Hyperbolic varieties in Montreal, Canada, May 13th until May 18th, 2019.

2. *Hyperbolicity of moduli spaces*, 7th Swiss-French workshop in algebraic geometry in Charmey, Switzerland, January 8th until January 12th, 2018.

3. *Faltings's proof of the Mordell conjecture*, USTC Hefei workshop on arithmetic geometry, China, May 4th until May 6th, 2017.

4. *Arakelov invariants, Belyi's theorem, and Szpiro's small points conjecture*, Chalmers University of Gothenburg, Sweden, April 4th until April 15th, 2016.

Organization of Conferences, Seminars, Workgroups

1. Workshop on "Lawrence-Sawin's proof of the Shafarevich conjecture for hypersurfaces in abelian varieties", joint with Thomas Krämer and Christian Lehn, TU Chemnitz and Humboldt Universität Berlin, January 2021.

2. Seminar on Potential density of rational points on varieties and the Hilbert-property, University of Mainz, Winter 2019.

3. Workshop *Galois representations, Integral points, Unlikely intersections*. Universität Mainz. April 9th until April 11th, 2019.

4. Seminar on hyperbolic varieties. Universität Mainz. Winter 2018.

5. International school on arithmetic geometry, joint with Davide Cesare Veniani and Dino Festi. University of Salerno, Italy. September 10th until September 14th, 2018.

6. Seminar on Faltings's proof of Mordell-Lang's conjecture, joint with Matthias Nickel. University of Mainz. July 17th and July 18th, 2018.

7. Seminar on p-adic Hodge theory. Universität Mainz. Winter 2017.

8. SFB Autumn School: Topics in algebraic and arithmetic geometry, joint with Davide Cesare Veniani and Dino Festi. Universität Mainz. October 9th until October 13th, 2017.

9. Talks on Hyperbolicity. Universität Mainz. June 28th and June 29th, 2017.

10. The Mainzer arXiv seminar. Universität Mainz. Summer 2017.

11. Seminar: Perfectoid spaces, joint with Robert Wilms. Universität Mainz, Summer 2017.

12. Darmstadt-Frankfurt-Mainz seminars, joint with Alejandro Soto Posada (Frankfurt). Winter 2016.

13. Seminar: derived categories in algebraic geometry, joint with Robert Wilms. Universität Mainz, Winter 2016.

14. Bonn-Mainz seminar on Fano varieties, joint with Lars Kühne (Bonn) and Ronan Terpereau (Bonn). MPI Bonn and Universität Mainz, Winter 2015

15. SFB Summer school: Algebraic stacks and related topics, joint with Ronan Terpereau. Universität Mainz, August 31st until September 4th, 2015.

16. Seminar: Hodge theory and Torelli theorems, joint with Ana-Maria Brecan and Ronan Terpereau. Universität Mainz. Summer 2014.

17. Seminar: Abelian varieties, joint with Ronan Terpereau. Universität Mainz, Winter 2014.

18. Seminar: Néron models, joint with Ronan Terpereau. Universität Mainz, Summer 2013.

19. Seminar: The Shafarevich conjecture, joint with David Holmes. Universiteit Leiden, Summer 2012.

Invited research visits

- University of Paris-Saclay, July-September 2020. (Invited by Olivier Wittenberg)
- Freiburg Institute of Advanced Study, November 2019. (Invited by Erwan Rousseau)
- Paris XIII, June 2018. (Invited by Alberto Vezzani)
- School of Mathematical Science, Hefei, May 2017. (Invited by Kang Zuo)
- Chalmers Technical University, Gothenburg, April 2nd - April 15th, 2016. (Invited by Per Salberger)

- Australian National University, Canberra, March 21st - March 25th, 2016. (Invited by Jarod Alper)
- Institute for Advanced Study, Princeton, February, 2012. (Invited by Rafael von Känel)

Selected talks: Conferences, seminars and colloquiums

Algebraic geometry seminar, Roma Sapienza, November 2021.
Algebraic geometry seminar, Ben Guring University Israel, Online, November 2021.
Algebraic geometry seminar, Nancy, October 2021.
Geometry via Arithmetic, Banff, Online, July 2021.
Columbia Algebraic Geometry Seminar, Online, April 2021.
Number Theory Seminar Beijing, Online, November 2020.
Number Theory Seminar Bordeaux, Online, November 2020.
IST Austria, Online, November 2020.
Western Algebraic Geometry Symposium, Online at Stanford, April 2020.
Kolloquium, Online at TU Chemnitz, April 2020.
Workshop on Arithmetic Geometry, Padova Italy, December 2019.
Seminar Algebraic and Complex Geometry, Strasbourg, November 2019.
Seminar Algebraic Geometry, Montpellier France, November 2019.
Seminar Number Theory, Grenoble France, October 2019.
Seminar Algebraic Geometry, EPFL Lausanne Switzerland, October 2019.
Seminar Algebraic Geometry, Rennes France, September 2019.
Seminar Algebraic Geometry, Lyon France, September 2019.
Seminar Algebraic Geometry, Dijon France, September 2019.
Workshop AGRG Alpbach Austria, July 2019.
Conference on hyperbolicity, Montreal Canada, May 2019.
Conference on moduli spaces, MSRI Berkeley, May 2019.
Conference on complex geometry, Luminy Marseille, February 2019.
Number Theory Seminar, Copenhagen, January 2019.
Séminaire géométrie algèbrique, Nancy France, January 2019.
Séminaire géométrie algebrique, Caen France, January 2019.
Séminaire géométrie algèbrique, Strasbourg, January 2019.
Séminaire géométrie algèbrique, École Polytechnique, Paris, November 2018.
Complex algebraic geometry seminar, Bochum, November 2018.
Arithmetic geometry seminar, Munich, November 2018.
Séminaire géométrie algèbrique, Nancy, November 2018.
Arakelov Intercity Seminar, Copenhagen Denmark, September 2018.
Kolloquium, Düsseldorf Germany, July 2018.
Arithmetic geometry seminar, Bielefeld Germany, July 2018.
Lorentz center, Leiden, June 2018.
Séminaire géométrie algèbrique, Paris XIII, June 2018.

Algebraic geometry seminar, Columbia University, April 2018.
Algebraic geometry seminar, UGA Athens Georgia, April 2018.
Algebraic geometry seminar, UW Seattle, March 2018.
Algebraic geometry seminar, UC Berkeley, March 2018.
Arithmetic geometry seminar, Brown University, March 2018.
Algebraic geometry seminar, M.I.T. Boston, March 2018.
Algebraic geometry seminar, Stony Brook, March 2018.
Swiss-French workshop in algebraic geometry, Charmey, January 2018.
Number theory seminar, Basel, December 2017.
Séminaire tournant de théorie de nombres, Lyon, Novembre 2017.
SFB seminar, Bonn, October 2017.
Algebraic geometry seminar, Dijon, September 2017.
Komplexe analysis, Oberwolfach, September 2017.
Stacks project workshop, Ann Arbor, August 2017.
Diophantine approximation, Banff, July 2017.
Arithmetic geometry, Alpbach, July 2017.
Moduli spaces, Hefei (China), May 2017.
Algebraic geometry seminar, Saarbrücken, May 2017.
Algebraic geometry seminar, Dijon, February 2017.
Complex geometry seminar, Marseille, February 2017.
Algebraic geometry seminar, Freiburg, February 2017.
Séminaire autour des cycles algébriques, Paris, December 2016.
Number theory seminar, Manchester, October 2016.
Seminar, Durham, October 2016.
Classical Algebraic Geometry, Oberwolfach, June 2016
AG Seminar, TU Munich, May 2016
Séminaire Variétés Rationelles, ENS Paris, May 2016
SAG, Max Planck Institute Bonn, May 2016
Seminar, Algebra and Number Theory, KTH Stockholm, April 2016.
SFB seminar, University of Essen, April 2016
Géométrie Algèbrique et Géométrie Complexe, CIRM Luminy, November 2015,
Seminar Zahlentheorie, Basel, September 2015
Summer School of the IRTH "Moduli of Automorphic Forms", Sienna, August 2015
AG-Seminar Algebra, Darmstadt, July 2015
Arithmetic Geometry Seminar, Humboldt-Universität Berlin, July 2015
Oberseminar Zahlentheorie und Arithmetische Geometrie, Hannover, May 2015
Seminar: Arithmetische Geometrie und Zahlentheorie, Hamburg, July 2014.
Diamant symposium, Arnhem, June 2014.
Seminaire de Théorie de Nombres, Bordeaux, December 2013.
Number Theory seminar, Chalmers University Göteburg, April 2016.
Oberseminar Algebra, Oldenburg, January 2015.
SFB Seminar, Regensburg, November 2014.
Number Theory Seminar ETH, Zürich, October 2014.

Intercity workshop in Arakelov theory, Rome, September 2014.
Méthodes arithmétiques et applications, Besancon, October 2013.
Autour de la Géométrie d'Arakelov, Institut de Mathématiques de Jussieu, March 2013.
Géométrie Diophantienne, Institut de Mathématiques de Bordeaux, November 2012.
Réseau d'étudiants en géométrie algèbrique, IHP Paris, October 2012.
Number Theory seminar, Besançon, September 2012.
Seminar: Arithmetische Geometrie und Zahlentheorie, Hamburg, May 2012.
Conference Heights 2011, Tossa de Mar, Spain, April 2011.

Languages

Dutch: Native speaker.

English: Fluent level of oral and written.

Farsi: Intermediate level of oral.

French: Fluent level of oral and written.

German: Fluent level of oral and written.

Miscellaneous

- Supervisor at mathematics camp "Vierkant voor Wiskunde" in the Netherlands.
- Reviewer for MathScinet.
- Member on several PhD committees in Bordeaux, Mainz, Frankfurt, and Strasbourg.
- Referee for several journals including *Algebra & Number Theory*, *Annali SNS*, *Beiträge zur Algebra und Geometrie*, *Compositio Mathematica*, *European Journal of Mathematics*, *Forum Mathematicum*, *Forum of Mathematics Sigma*, *Inventiones Mathematicae*, *Journal de Théorie des Nombres de Bordeaux*, *Journal of Algebraic Geometry*, *Journal of Differential Geometry*, *Journal de l'École Polytechnique*, *L'Enseignement Mathématique*, *Kyoto Journal of Mathematics*, *Manuscripta Mathematica*, *Mathematische Annalen*, *Mathematical Research Letters*.

IME-USP
Rua do Matão 1010
05508-090 São Paulo (SP), Brasile
+55 (11) 98338 3554
+55 (11) 3091 6150
roberto.mossa@gmail.com
www.ime.usp.br/ robertom/

Roberto Mossa

Curriculum Vitae

Educazione

2011 **Dottorato in Matematica e Calcolo Scientifico**, *Università degli Studi di Cagliari, Italia*, Relatore: Prof. Andrea Loi. Titolo tesi: "Balanced metrics on complex vector bundles and the diastatic exponential of a symmetric space".

2007 **Laurea Specialistica in Matematica**, *Università degli Studi di Cagliari, Italia.* Relatore: Prof. Andrea Loi. Titolo tesi: "Riemannian geometry of the Hartogs domains".

2005 **Laurea Triennale in Matematica**, *Università degli Studi di Cagliari, Italia.* Relatore: Prof. Andrea Loi. Titolo tesi: "Jordan-Brouwer separation theorem".

Abilitazione Scientifica Nazionale

2020 Abilitato per la funzione di professore associato, Settore Concorsuale 01/A2 Geometria e Algebra. Dal 07/01/2020 al 07/01/2029.
(https://asn18.cineca.it/pubblico/miur/esito/01%252FA2/2/3)

Interessi di Ricerca

- Geometria differenziale
- Geometria simplettica
- Geometria di Kähler

Posizioni accademiche ricoperte

Dal 4/11/2015 ad oggi senza soluzione di continuità svolgo l'attività di professore prima presso l'Università Federale di Santa Catarina (Brasile), poi presso l'Università di San Paolo (Brasile), nel dettaglio:

11/03/2021–Presente **Professor Associado (MS-5); (equipollente a Professor Associato, secondo il D.M. 662/2016)**, Universidade de São Paulo (USP), Brasile.

10/04/2018–10/03/2021 **Professor Doutor (MS-3); (equipollente a RTD-b, secondo il D.M. 662/2016)**, Universidade de São Paulo (USP), Brasile.

4/11/2015–9/04/2018 **Professor Adjunto; (equipollente a RTD-b, secondo il D.M. 662/2016)**, Departamento de Matemática, Universidade Federal de Santa Catarina (UFSC), Brasile.

Studi postlaurea

2015 **Postdottorato (1 semestre)**, Instituto de Matemática e Estatística (IME), Universidade de São Paulo, Brasile, (finanziato dalla FAPESP, processo 2014/25190-0).

2013–2014 **Assegno di ricerca (2 anni)**, Dipartimento di Matematica e informatica, Università degli Studi di Cagliari, Italia.

2012 **Postdottorato (1 anno)**, Laboratoire de Mathématiques Jean Leray, Université de Nantes, Francia.

2011 **Postdottorato (1 semestre)**, Institut Fourier de Mathématiques, Université de Grenoble 1, Francia.

Borse di ricerca

2018-Presente Responsabile del progetto di ricerca "Diastatic entropy and rigidity of hyperbolic manifolds". Progetto finanziato dal "Programa Jovens Pesquisadores em Centros Emergentes", sovvenzione fornita da FAPESP (Fundação de Amparo à Pesquisa do Estado de SP). Numero di processo 2018/08971-9 (130 KBRL per 4 anni).

2019-Presente Borsa dell'Università di São Paulo, Progetto finanziato dal "Programa de Apoio aos Novos Docentes da USP" (15 KBRL).

Partecipazione come relatore a congressi e seminari

2019 Seminario. Titolo: "Introduction to complex geometry ". Panoramas de matemática at the São Paulo University (IME-USP). São Paulo (Brasile).

2018 Congresso. III Congresso Brasileeiro Jovens Pesqisadores em Matematica Pura, Aplicada e Estatistica. Titolo del seminario: "On the Szegö kernel of the disk bundle over polarized manifolds". Curitiba-PR (Brasile).

2018 Seminario. Titolo: "Log-term of the Bergman kernel and Szegö kernel of the disc bundle over polarised manifold ". USP-UNICAMP Geometry Seminar at the São Paulo University (IME-USP). São Paulo (Brasile).

2017 Seminario. Titolo: "Capacidades simplécticas dos espaços Hermitianos simétricos". Pontifícia Universidade Católica of Rio de Janeiro (PUC). Rio de Janeiro (Brasile).

2017 Seminario. Titolo: "Capacidades simplécticas dos espaços Hermitianos simétricos". São Paulo University (IME-USP). São Paulo (Brasile).

2016 Congresso. II Congresso Brasileeiro de Jovens Pesquisadores em Matemática Pura e Aplicada. Titolo del seminario: "Symplectic capacities of Hermitian symmetric spaces". IMECC/UNICAMP, Campinas-SP (Brasile).

2016 Seminario. Titolo: "Gromov width of hermitian symmetric spaces". Geometry Seminar at the Federal University of Santa Catarina (UFSC). Florianopolis (Brasile).

2016 Congresso. First Joint Meeting Brasile-Italia in Mathematics. Titolo del seminario: "Upper and lower bound for the first eigenvalue and the Cheeger constant for Kähler manifolds in terms of Diastasis function". IMPA, Rio de Janeiro-SP (Brasile).

2015 Seminario. Titolo: "Diastasis e entropia diastatica". Geometry Seminar at the Federal University of Santa Catarina (UFSC). Florianopolis (Brasile).

2014 Seminario. Titolo: "Diastasis and diastatic entropy". Universidade de São Paulo (IME-USP). São Paulo (Brasile).

2014 Seminario. Titolo: "Upper and lower bounds for the first eigenvalue of noncompact K´ahler manifolds". Northumbria University. Newcastle (England).

2012 Seminario. Titolo: "Diastasis function and diastatic entropy". Laboratoire de Mathématiques Jean Leray, Nantes University. Nantes (Francia).

2012 Congresso. Journées Nancéiennes de Géométrie. Titolo del seminario: "Balanced metrics on complex manifolds". Institut Élie Cartan, Université de Lorraine, Nancy (Francia)

2012 Seminario. Titolo: "Balanced metrics on complex manifolds". Laboratoire de Mathématiques Jean Leray, Nantes University. Nantes (Francia).

2011 Seminario. Titolo: "The diastasis function". Institut Fourier, Université de Grenoble 1. Grenoble (Francia).

2011 Seminario. Titolo: “Balanced metrics on complex manifolds”. Institut Fourier, Université de Grenoble 1. Grenoble (Francia).

2010 Congresso. Progressi Recenti in Geometria Reale e Complessa. Titolo del seminario: “The diastatic exponential of a symmetric space”. Levico Terme (Italia).

2010 Congresso. International Congress in Differential Geometry (ICDG). Titolo del seminario: “The diastatic exponential of a symmetric space”. Veliko Tarnovo (Bulgaria).

2010 Congresso. Global Analysis and PDE on Manifolds. Titolo del seminario: “The diastatic exponential of a symmetric space”. IMI, BAS, Sofia (Bulgaria).

Soggiorni presso Università e Istituti di ricerca all'estero

2014 Universidade Federal de Rio de Janeiro, Brasile (1 mese).

2011 Institut Fourier de Mathématiques, Université de Grenoble 1, Francia (4 mesi).

Partecipazione a conferenze e scuole

2015 30th Colóquio Brasileeiro de Matemática , IMPA, Rio de Janeiro, Brasile.

2013 Conference on Complex Analysis and Geometry - XXI, Levico Terme, Trento, Italia.

2012 ICTP-ESF School and Conference on Geometrical Analysis, ICTP, Miramare-Trieste, Italia (2 settimane).

2012 Aspects Conformes de la Géométrie, ACG, Jussieu, Parigi, Francia.

2010 Scuola estiva: Scuola Matematica Interuniversitaria, SMI, Perugia, Italia (1 mese).

2009 Scuola estiva: Symplectic and Contact Geometry and Topology. MSRI, Berkeley California. Supportato da borsa INDAM (2 settimane).

2008 Scuola estiva: Scuola Matematica Interuniversitaria, SMI, Perugia, Italia (1 mese).

Esperienza di insegnamento

Corsi di dottorato e master

2021 “Varietà differenziabili e gruppi di Lie”, corso di 1 semestre presso il Dipartimento di Matematica dell'Istituto di Matematica e Statistica dell'Università di San Paolo, Brasile. (https://www.ime.usp.br/pos-matematica/disciplinas/) (48 ore)

2020 “Varietà differenziabili e gruppi di Lie”, corso di 1 semestre presso il Dipartimento di Matematica dell'Istituto di Matematica e Statistica dell'Università di San Paolo, Brasile. (https://www.ime.usp.br/pos-matematica/disciplinas/) (48 ore)

2019 “Geometria Kähleriana”, corso di 1 semestre presso il Dipartimento di Matematica dell'Istituto di Matematica e Statistica dell'Università di San Paolo, Brasile. (48 ore)

2017 “Differential Geometry”, Corso di 1 semestre per il Dipartimento di Matematica dell'Università Federale di Santa Catarina, Brasile. (http://ppgmtm.posgrad.ufsc.br/informacoes-ao-aluno/horarios-disciplinas-2017). (72 ore)

2015 (In collaborazione con il professor Paolo Piccione), “G-structures and Kähler geometry”, mini corso per il Dipartimento di Matematica dell'Istituto di Matematica e Statistica dell'Università di San Paolo, Brasile. (16 ore)

Corsi di laurea triennale

2021 Corsi semestrali per il Politecnico di Ingegneria dell'Università di San Paolo, Brasile.
- Calcolo differenziale e integrale III (due corsi, ciascuno di 60 ore)

2020 Corsi semestrali per il Politecnico di Ingegneria dell'Università di San Paolo, Brasile.
- Calcolo differenziale e integrale IV (due corsi, ciascuno di 60 ore)
- Calcolo differenziale e integrale III (due corsi, ciascuno di 60 ore)

2018-2019 Corsi semestrali per il Politecnico di Ingegneria dell'Università di San Paolo, Brasile.
- Calcolo differenziale e integrale IV (60 ore)
- Calcolo differenziale e integrale III (due corsi, ciascuno di 60 ore)
- Linear algebra II (due corsi, ciascuno di 60 ore)

2018 Corsi di un semestre presso l'Università Federale di Santa Catarina, Brasile.
- Matematica 1, Dipartimento di Scienze economiche (72 ore)
- Matematica finanziaria, Dipartimento di Scienze economiche (72 ore)

2017 Corsi di un semestre presso l'Università Federale di Santa Catarina, Brasile.
- Algebra lineare, Dipartimento di Agronomia (72 ore)
- Matematica finanziaria, Dipartimento di Scienze economiche (72 ore)

2016 Corsi di un semestre presso l'Università Federale di Santa Catarina, Brasile.
- Geometria analitica, dipartimento di ingegneria elettrica (72 ore)
- Teoria dei gruppi, dipartimento di matematica (72 ore)
- Geometria analitica, dipartimento di ingegneria elettrica (72 ore)

2014 Matematica discreta, corso di un semestre per il corso di laurea in Informatica presso il Dipartimento di Matematica e Informatica, Università di Cagliari, Italia.

2013 Matematica discreta, corso di un semestre per il corso di laurea in Informatica presso Dipartimento di Matematica e Informatica, Università di Cagliari, Italia.

2011 Esercitazioni di Matematica discreta, per il corso di laurea in Informatica presso il Dipartimento di Matematica e Informatica, Università di Cagliari, Italia.

2009 Esercitazioni di Topologia algebrica, per il corso di laurea in Matematica presso il Dipartimento di Matematica e Informatica, Università di Cagliari, Italia.

2006 Esercitazioni di Algebra lineare, per il corso di laurea in Matematica presso il Dipartimento di Matematica e Informatica, Università di Cagliari, Italia.

Pubblicazioni scientifiche

Al momento ho 18 lavori pubblicati, 2 in corso di stampa ed un lavoro sottomesso. In accordo con la banca dati Web of Science possiedo un totale di 95 citazioni e 6 di H-Index (Web of Science ResearcherID H-9979-2018).
Di seguito sono riportate le mie pubblicazioni con numero di citazioni ed impact factor (Web of Science è la banca dati di riferimento per gli indicatori riportati).

1. Loi A, Mossa R, 1. A. Loi, R. Mossa, Kähler immersions of Kähler-Ricci solitons into definite or indefinite complex space forms. PROCEEDINGS OF THE AMERICAN MATHEMATICAL SOCIETY, 149 (2021), no 11, 4931-4941, ISSN: 0002-9939,
Journal Impact Factor (2020) 1.016.

2. Mossa R (2021). On the Δ-property for complex space forms. ABHANDLUNGEN AUS DEM MATHEMATISCHEN SEMINAR DER UNIVERSITAT HAMBURG, 91 (2021), 137-143, ISSN: 0025-5858, doi: 10.1007/s12188-021-00233-3,
Journal Impact Factor (2020) 0.382.

3. Bettiol R G, Derdzinski A, Mossa R, Piccione P (in stampa). Subspace foliations and collapse of closed

flat manifolds. MATHEMATISCHE NACHRICHTEN, ISSN: 0025-584X, doi: 10.1002/mana.202000156,
Journal Impact Factor (2020) 1.228.

4. A. Loi, R. Mossa, F. Zuddas (2020). Finite TYCZ expansions and cscK metrics. JOURNAL OF MATHEMATICAL ANALYSIS AND APPLICATIONS, vol. 484, 123715, ISSN: 0022-247X, doi: 10.1016/j.jmaa.2019.123715,
Journal Impact Factor (2020) 1.583, *Citazioni 2*.

5. MOSSA R (2019). On the diastatic entropy and $\mathcal{C}^1$-rigidity of complex hyperbolic manifolds. JOURNAL OF GEOMETRY AND PHYSICS, ISSN: 0393-0440, doi: 10.1016/j.geomphys.2019.04.006,
Journal Impact Factor (2020) 1.249.

6. Andrea Loi, Roberto Mossa, Fabio Zuddas (2019). Bochner Coordinates on Flag Manifolds. BULLETIN BRAZILIAN MATHEMATICAL SOCIETY, vol. 50, p. 497-514, ISSN: 1678-7544, doi: 10.1007/s00574-018-0113-9,
Journal Impact Factor (2020) 1.177, *Citazioni 2*.

7. Andrea Loi, Roberto Mossa, Fabio Zuddas (2017). The log-term of the Bergman kernel of the disc bundle over a homogeneous Hodge manifold. ANNALS OF GLOBAL ANALYSIS AND GEOMETRY, vol. 51, p. 35-51, ISSN: 1572-9060, doi: 10.1007/s10455-016-9522-4,
Journal Impact Factor (2020) 0.846, *Citazioni 7*.

8. Mossa R (2016). Diastatic entropy and rigidity of complex hyperbolic manifolds. COMPLEX MANIFOLDS, vol. 3, p. 186-192, ISSN: 2300-7443, doi: 10.1515/coma-2016-0006,
Citazioni 2.

9. Mossa R, Placini G (2015). Minimal symplectic atlases of Hermitian symmetric spaces. ABHANDLUNGEN AUS DEM MATHEMATISCHEN SEMINAR DER UNIVERSITAT HAMBURG, vol. 85, p. 79-85, ISSN: 0025-5858, doi: 10.1007/s12188-015-0107-0
Journal Impact Factor (2020) 0.382.

10. Loi A, Mossa R (2015). Some remarks on homogeneous Kähler manifolds. GEOMETRIAE DEDICATA, vol. 179, p. 377-383, ISSN: 0046-5755, doi: 10.1007/s10711-015-0085-5
Journal Impact Factor (2020) 0.667, *Citazioni 12*.

11. Loi A, Mossa R, Zuddas F (2015). Symplectic capacities of hermitian symmetric spaces of compact and noncompact type. JOURNAL OF SYMPLECTIC GEOMETRY, vol. 13, p. 1049-1073, ISSN: 1527-5256, doi: 10.4310/JSG.2015.v13.n4.a7,
Journal Impact Factor (2020) 0.707, *Citazioni 6*.

12. Mossa R (2014). A note on diastatic entropy and balanced metrics. JOURNAL OF GEOMETRY AND PHYSICS, vol. 86, p. 492-496, ISSN: 0393-0440, doi: 10.1016/j.geomphys.2014.10.004
Journal Impact Factor (2020) 1.249, *Citazioni 4*.

13. Loi A, Mossa R, Zuddas F (2014). Some remarks on the Gromov width of homogeneous Hodge manifolds. INTERNATIONAL JOURNAL OF GEOMETRIC METHODS IN MODERN PHYSICS, vol. 11, 1460029, ISSN: 0219-8878, doi: 10.1142/S0219887814600299
Journal Impact Factor (2020) 1.874, *Citazioni 4*.

14. Mossa R (2013). A bounded homogeneous domain and a projective manifold are not relatives. RIVISTA DI MATEMATICA DELLA UNIVERSITÀ DI PARMA, vol. 4, p. 55-59, ISSN: 0035-6298
Citazioni 6.

15. Mossa R (2013). The volume entropy of local Hermitian symmetric space of noncompact type. DIFFERENTIAL GEOMETRY AND ITS APPLICATIONS, vol. 31, p. 594-601, ISSN: 0926-2245, doi: 10.1016/j.difgeo.2013.05.005
Journal Impact Factor (2020) 0.694, *Citazioni 6*.

16. Loi A, Mossa R (2012). Berezin quantization of homogeneous bounded domains. GEOMETRIAE DEDICATA, vol. 161, p. 119-128, ISSN: 0046-5755, doi: 10.1007/s10711-012-9697-1, *Journal Impact Factor (2020) 0.667*, *Citazioni 29*.

17. Mossa R (2011). Balanced metrics on homogeneous vector bundles. INTERNATIONAL JOURNAL OF GEOMETRIC METHODS IN MODERN PHYSICS, vol. 8, p. 1433-1488, ISSN: 0219-8878 *Journal Impact Factor (2020) 1.874*, *Citazioni 1*.

18. Loi A, Mossa R (2011). The diastatic exponential of a symmetric space. MATHEMATISCHE ZEITSCHRIFT, vol. 268, p. 1057-1068, ISSN: 0025-5874, doi: 10.1007/s00209-010-0709-2 *Journal Impact Factor (2020) 0.964*, *Citazioni 11*.

19. Loi A, Mossa R (2011). Uniqueness of balanced metrics on complex vector bundles. JOURNAL OF GEOMETRY AND PHYSICS, vol. 61, p. 312-316, ISSN: 0393-0440, doi: 10.1016/j.geomphys.2010.10.005 *Journal Impact Factor (2020) 1.249*, *Citazioni 3*.

Preprints

1. (In collaborazione con M. Zedda) *A Cartan-Hartogs version of the Polydisk Theorem* arXiv:2108.00199 (2021). Sottomesso.

2. (In collaborazione con M. Zedda) *Symplectic geometry of Cartan-Hartogs domains* arXiv:2010.05854 (2020). Sottomesso.

Riviste scientifiche per quali ho lavorato come referee

2017-Presente Journal of Geometry and Physics.

2020-Presente Journal of Geometric Analysis.

2020-Presente Annals of Global Analysis and Geometry.

Altri riconoscimenti

2021 Titulo de Livre Docente, presso l'Università di São Paulo, tramite prova scritte, orale, didattica e valutazione dei titoli. (Titolo che abilita per la funzione di professor associato nelle università statali di San Paolo).

2013 Abilitazione alla docenza in Francia (Qualification aux fonctions de maître de conférences, https://www.galaxie.enseignementsup-recherche.gouv.fr/ensup/pdf/qualification/archives_resultats_qualification/2013/qualifies2013MCF.pdf)

Lingue parlate

Italiano lingua nativa

Inglese fluente

Portoghese fluente

Francese buone capacità comunicative verbali e scritte.

Luogo e data: São Paulo, 12 ottobre 2021.

Candidatura ad un posto di RTD-B, settore 01/A2
Università di Roma Tre

Codice Bando 1396-2021

Simone Naldi

unilim.fr/pages_perso/simone.naldi/

Indice

1 Curriculum vitae

1.1 Attività professionale in sintesi

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Diffusione scientifica (selez.)	
Seminari in conf. internazionali	9
Seminari in conf. nazionali o gruppi	23

Responsabilità scientifiche e pedagogiche	
Organizzazione di conferenze	2 conferenze nazionali, 1 conferenza internazionale (GO 60 2021) 1 sessione in SIAM AG 2019, 3 sessioni in conferenze nazionali
Comitati di conferenze	Membro del Poster Committee di ISSAC 2019 e 2021
Responsabile Laurea Magistrale Responsabile di insegnamenti Responsabile Tesi di laurea	Primo anno (M1) della LM in Matematica dell'Univ. di Limoges 1 nel 2017–2018, 4 nel 2018–2019, 4 nel 2019–2020, 5 nel 2020–2021 Laurea magistrale in Matematica ACSYON (dal 2018)
Fondi per la ricerca	PI di un progetto ANR-JCJC[1] (85000 Euro, 2021-2025) PI di due progetti FMJH-PGMO (14000 Euro, 2018-2022)

1.2 Formazione

In sintesi

inizio	*fine*	*istituzione*	*funzione/statuto*
08/2014	11/2014	University of California at Berkeley	Visiting graduate student
10/2012	09/2015	UPMC (Paris) & CNRS LAAS (Toulouse)	Dottorando
10/2009	04/2012	Università degli Studi di Firenze	Laurea Magistrale in Matematica
10/2006	10/2009	Università degli Studi di Firenze	Laurea Triennale in Matematica

In dettaglio

Laurea in Matematica: Mi sono laureato in Matematica all'Università degli Studi di Firenze nel 2012 (magistrale) e nel 2009 (triennale). Nella mia tesi magistrale (relatori G. Ottaviani e M. Longinetti, Univ. Firenze) mi sono interessato alla geometria del cono dei polinomi positivi in più variabili. La tesi è sfociata in una pubblicazione in Discrete and Computational Geometry. Il relatore della mia tesi triennale è stato V. Ancona (Univ. Firenze).

Dottorato di Ricerca: Ho conseguito un dottorato di ricerca in matematica nel 2015 all'Université Pierre et Marie Curie, Parigi, e al CNRS LAAS, Tolosa, con relatori M. Safey El Din (UPMC) e D. Henrion (CNRS-LAAS). Nella tesi di dottorato (si veda più in basso) ho sviluppato metodi effettivi ed algoritmi per varietà algebriche con struttura determinantale e applicazioni in ottimizzazione polinomiale. I risultati più rilevanti sono stati pubblicati in differenti articoli di rivista (o atti di conferenza di rango Core A*).

Università di Berkeley: Ho visitato il gruppo di ricerca di B. Sturmfels dell'Università di Berkeley tra l'agosto ed il novembre 2014, partecipando al contempo al programma Algorithms and Complexity in Algebraic Geometry.

[1] Il progetto in questione è appena stato finanziato, ed i finanziamenti associati potranno essere utilizzati anche a distanza, se dovessi prendere servizio in un'altra università (anche non francese), si veda pagina 4.

Tesi di dottorato (UPMC e Université de Toulouse)

Titolo: *Exact algorithms for determinantal varieties and semidefinite programming*[2]

Istituzione: Université Pierre et Marie Curie (Parigi, Francia) e INSA / Université de Toulouse (Tolosa, Francia).

Discussione: 24/09/2015, CNRS LAAS, Tolosa, Francia.

Commissione di tesi:

Giorgio Ottaviani (Professor, University of Florence, Italy)
Bernd Sturmfels (Professor, UC Berkeley, USA - MPI Leipzig, Germany), reviewer
Bernard Mourrain (Directeur de Recherche Inria, Inria Mediterranée Sophia Antipolis, France)
Stéphane Gaubert (Directeur de Recherche Inria, Inria Saclay, France), reviewer
Markus Schweighofer (Professor, Universität Konstanz, Germany)
Jean-Charles Faugère (Directeur de Recherche Inria, UPMC Paris, France)
Bruno Salvy (Directeur de Recherche Inria, ENS Lyon, France), presidente della commissione
Didier Henrion (Directeur de Recherche CNRS, LAAS Toulouse, France), relatore
Mohab Safey El Din (Professor, UPMC Paris, France), relatore

1.3 Percorso professionale

In sintesi

inizio	*fine*	*istituzione*	*funzione/statuto*
09/2017	—	Université de Limoges, France	Maître de Conférences
04/2016	08/2017	Technische Universität Dortmund	Postdoc
09/2015	12/2015	Fields Institute (Toronto)	Postdoc

In dettaglio

Maître de Conférences (Université de Limoges) : Dal settembre 2017 sono ricercatore universitario (Maître de Conférences[3]) della Facoltà di Scienze dell'Università di Limoges. Faccio parte del gruppo di ricerca di Algebra e Geometria Computazionale (Calcul Formel) dell'Istituto XLIM. La mia attività di insegnamento si inserisce nell'offerta formativa prevista per il corso di laurea in Matematica e per altri corsi della Facoltà di Scienze (Informatica, Fisica, Chimica e Scienze della vita).

Postdottorato (Technische Universität Dortmund) : Tra l'aprile 2016 e l'agosto 2017, sono stato postdottorando dell'Università di Dortmund. Ho prestato servizio nel gruppo di Algebra e Geometria del Dipartimento di Matematica. Il responsabile scientifico è stato D. Plaumann, con cui ho avviato diverse collaborazioni.

Postdottorato (Fields Institute, Toronto) : Nell'autunno del 2015, sono stato postdottorando del Fields Institute for Research in Mathematical Sciences, durante il programma Thematic Program on Computer Algebra.

1.4 Finanziamenti, awards, fellowships

[2] La tesi è disponibile al link: https://tel.archives-ouvertes.fr/tel-01212502
[3] Per una equivalenza con le posizioni accademiche italiane, si veda la tabella ufficiale del MIUR al seguente link

Progetti finanziati

Periodo	*Dettagli del progetto*
2021–2025	*ANR JCJC "HYPERSPACE"*. Il progetto "Jeune Chercheuse Jeune Chercheur (JCJC)", dal nome HYPERSPACE, è stato finanziato nel contesto dell'ultimo appello dell'ANR (l'agenzia francese dei finanziamenti ministeriali per la ricerca). La tematica riguarda i polinomi iperbolici e le loro rappresentazioni determinantali (si veda il "Programma di ricerca (2021-2024)" in **??**). Il finanziamento accordato è di **83,200 Euro**. Sono il Principal Investigator di tale progetto, e la mia implicazione complessiva è pari al 70% del tempo ricerca.
2018–2021 2019–2022	*Progetto PGMO 2018-0061-H.* Responsabile principale del progetto PGMO[4] Hyperbolic Polynomials: Algorithms and Implementations, finanziato dalla Fondation Mathématique Jacques Hadamard, per il periodo 2018-2021 (**8,000 Euro**). Finanziamenti per missioni di ricerca (3 articoli scritti nel contesto di questo progetto) e remunerazione di stage per studenti di lauree magistrali (2 tesi magistrali che ho supervisionato: quella di A. Polyatikin, nel 2020, e quella di K. Elmalki, nel 2021, cf. Sezione 1.5.2). *Progetto PGMO P-2019-0023.* Prosecuzione del finanziamento del progetto PGMO precedente, fino al 2022 (6,000 Euro). Finanziamento della seconda tranche: **6,000 Euro**.

Progetti in corso di sottomissione

Periodo	*Dettagli del progetto*
2021–2024	*ANR PRC AAPG 2021.* Faccio parte di un consorzio che raggruppa l'Università di Limoges insieme ai laboratori LIRMM (Montpellier), LIP (Lyon), LJK (Grenoble). Tale consorzio ha presentato un progetto collaborativo dal nome CLAPAS (Computational Linear Algebra and Polynomial Arithmetic with Structure), il cui obiettivo è quello di sviluppare metodi algebrici e corrispondenti algoritmi efficaci per problemi in algebra lineare esatta ed in combinatoria enumerativa. In particolare, la mia contribuzione riguarderà il problema del calcolo di sizigie di moduli sull'anello dei polinomi in più variabili tramite moltiplicazione di matrici polinomiali. Il mio tasso d'implicazione in questo progetto è del 10% del tempo ricerca. La domanda di finanziamento è di 288,000 Euro. Il progetto sarà sottomesso alla prossima tornata ANR.

Awards e fellowships

Periodo	*Dettagli*
2019–2023	*PEDR (Prime d'Encadrement Doctorale et de Recherche).* Premio per l'attività di ricerca e di supervisione dottorale (18,000 Euro su quattro anni).
2017	*Concours CNRS 2017.* Ritenuto ammissibile per un posto da CR CNRS (Chargé de recherche), classificato terzo in sezione 41 (Matematica). Si veda il link.
09/2015–12/2015	*Fields Institute Postdoctoral Fellowship*. Borsa per soggiorno postdottorale al Fields Institute, Toronto ON, Canada (ca. 11,000 CAD).
08/2014–11/2014	*Bourse EDSYS*. Visita all'Università di Berkeley durante il dottorato (ca. 3,000 Euro).

[4] Pagina web del progetto: https://www.unilim.fr/pages_perso/simone.naldi/pgmo18.html

1.5 Supervisione di tesi

1.5.1 Tesi di dottorato

Jingchuan Xiao (2020-2023) : Dal Novembre 2020 sono relatore della tesi di dottorato di Jingchuan Xiao. Il contesto della tesi è la teoria algebrica e geometrica dei polinomi iperbolici e delle loro rappresentazioni determinantali. In particolare, ci si interessa allo studio di forme canoniche per polinomi iperbolici, legato al cosiddetto test d'iperbolicità. La tesi è co-supervisionata con M. Barkatou (Univ. Limoges).

1.5.2 Tesi magistrali

Grace Younes (Marzo-Settembre 2018) : Studentessa della laurea magistrale in Matematica dell'Université de Versailles Saint-Quentin-en-Yvelines, G. Younes ha elaborato la sua tesi magistrale a Limoges sotto la mia supervisione. L'argomento della tesi in oggetto è stato il calcolo efficace di sizigie di moduli sull'anello dei polinomi in più variabili. G. Younes è al momento dottoranda a INRIA Paris sotto la direzione di A. Quadrat.

Andrii Polyatikin (Marzo-Settembre 2020) : Studente della laurea magistrale in Matematica ACSYON (Univ. Limoges), A. Polyatikin ha effettuato la tesi magistrale sotto la mia supervisione. Nella tesi sono stati studiati i polinomi iperbolici, e sono state sviluppati delle varianti dei rilassamenti di Renegar per la risoluzione di problemi di programmazione iperbolica.

Khawla Elmalki (Marzo-Settembre 2021) : Studentessa della laurea magistrale in Matematica ACSYON (Univ. Limoges), K. Elmalki ha iniziato in Marzo 2021 la tesi magistrale sotto la mia supervisione. La tesi ha come obiettivo quello di utilizzare i polinomi iperbolici per lo sviluppo di rilassamenti di problemi di ottimizzazione combinatoria sui grafi, come per esempio il problema max-cut.

1.6 Responsabilità e diffusione

Organizzazione di conferenze

Mese/Anno	*Nome della conferenza*	*Luogo*	*Ruolo*
06/2021	GO 60 - Pure and Applied Algebraic Geometry	Levico Terme, Italia	Organizzatore
07/2021	ISSAC 2021	Saint Petersburg, Russia	Poster committee
07/2019	ISSAC 2019	Beijing, China	Poster committee
05/2019	Structured Matrix Days 2019	Limoges, Francia	Organizzatore
12/2019	PGMO DAYS 2019	Saclay, Francia	Organizzatore di sessione
07/2019	SIAM AG 2019	Bern, Svizzera	Organizzatore di sessione
05/2018	Structured Matrix Days 2018	ENS Lyon, Francia	Organizzatore
11/2018	PGMO DAYS 2018	Saclay, Francia	Organizzatore di sessione

Reviewer per riviste internazionali

Si riporta nella tabella in basso una selezione delle revisioni fatte per articoli sottomessi in riviste scientifiche o alla conferenza ISSAC.

Nome della rivista/conferenza	*Numero di revisioni*
Journal of Symbolic Computation	6
AMS Reviews	6
SIAM Applied Algebra and Geometry	2
Journal of Complexity	1
Appl. Algebra Eng. Comm. Comput.	1
ISSAC (Intern. Symp. Symb. Algebr. Comput.)	6

Responsabilità di insegnamenti

Nella tabella seguente, si riportano le ore d'insegnamento (didattica frontale, o a distanza durante la crisi sanitaria) effettuate a partire dal 2016 ed il numero di insegnamenti di cui sono, o sono stato, responsabile. Per una descrizione dettagliata dell'attività d'insegnamento, si veda la **??**. Si ricorda che il servizio standard di un maître de conférences è di 192 ore annuee.

Anno Accademico	*Università*	*Ore*	*Servizio dovuto*	*Responsabilità*
2020/2021	Université de Limoges	358	192	5
2019/2020	Université de Limoges	323	192	4
2018/2019	Université de Limoges	200	192	4
2017/2018	Université de Limoges	128[5]	128[5]	1
2016/2017	Technische Universität Dortmund	80	80	1
2015/2016	Technische Universität Dortmund	40	40	0

Dal 2021, sono responsabile del primo anno della laurea magistrale in Matematica "Mathématiques et Applications" dell'Università di Limoges. Dal 2018 sono anche il responsabile delle tesi di laurea della Laurea Magistrale in Matematica (ACSYON) dell'Università di Limoges. Il compito principale consiste nell'aiutare gli studenti (8–10 ogni anno) a trovare uno stage in una università o istituto di ricerca francese o estero, per il compimento della tesi di laurea magistrale, e nell'organizzazione delle sessioni di discussione di tesi.

Diffusione scientifica

Selezione[6] di seminari in conferenze internazionali

MEGA 2017. Effective Methods in Algebraic Geometry (*contributo*, Nice, June 12-16, 2017).
ACA 2018, "Algorithms for zero-dimensional ideals" (*sessione*), Santiago de Compostela, 19/06/2018.
SIAM Conference on Applied Algebraic Geometry (*sessione*, Atlanta, 01/08/2017);
BIRS Workshop on Geometry of Real Polynomials, Convexity and Opt. (*invitato*, Banff, Alberta, 27/05/2019).
AMS Southeastern Sectional Meeting 2021 (*sessione*, online seminar, 13/03/2021).
ACA 2021, "Effective ideal theory in commutative and non commutative rings" (*sessione*), 07/2021
SIAM Appl. Algebraic Geom. 2021 (*sessione* Convex Algebraic Geometry), Texas A&M University, 08/2021
BIRS Workshop on Real Polynomials, Counting and Stability (*invitato*, Online seminar, 22/10/2021).

Selezione[6] di seminari su invito in workshops o gruppi di ricerca

Séminaire de géométrie algébrique réelle (Rennes, 13/06/2012);
Computer Algebra Seminar (Fields Institute, Toronto, 16/10/2015);
Computer Science Seminars (Waterloo, Canada, 03/12/2015);
Seminario di Geometria Algebrica (Firenze, Italia, 26/01/2016);
Oberseminar Reelle Geometrie und Algebra (Konstanz, 05/02/2016);
Real Algebraic Geometry and Optimization (*contributed*, Atlanta, 13/07/2016).
Oberseminar Algebra und Geometrie (Dortmund, 03/11/2016);
Séminaire MAX de Calcul formel (LIX Palaiseau, 12/12/2016);
Séminaires de Calcul Formel (Lille, 15/12/2016);
Diskrete Mathematik, Geometrie und Optimierung (Frankfurt, 20/12/2016);
MPI Seminar on Nonlinear Algebra (Max Planck Institute, Leipzig, 21/02/2017).
Polynomials and Polytopes (TU Berlin, 10/06/2017).
Reading Group on Real Algebraic Geometry (Max Planck Institute, Leipzig, 04/07/2017).
First POEMA Meeting (Firenze, Italia, 15/01/2020).

[5]Nel 2017/2018 ho usufruito di uno sgravio di 1/3 di ore d'insegnamento in quanto primo anno di servizio.
[6]Lista completa: https://www.unilim.fr/pages_perso/simone.naldi/talks.html

1.7 Lista completa delle pubblicazioni

1.7.1 Riviste internazionali

1. *Conic programming: infeasibility certificates and projective geometry*
   S. Naldi and R. Sinn
   J. Pure Appl. Algebra 225(7), 2021
   DOI: doi.org/10.1016/j.jpaa.2020.106605

2. *Spectrahedral representations of plane hyperbolic curves*
   M. Kummer, S. Naldi and D. Plaumann
   Pacific J. Math. 303-1, 243–263, 2019
   DOI: doi.org/10.2140/pjm.2019.303.243

3. *Exact algorithms for semidefinite programs with degenerate feasible set*
   D. Henrion, S. Naldi and M. Safey El Din
   J. Symb. Comput. 104: 942–959, 2021
   DOI: doi.org/10.1016/j.jsc.2020.11.001

4. *Real root finding for low rank linear matrices*
   D. Henrion, S. Naldi and M. Safey El Din
   Appl. Algebr. Eng. Comm. 31(2):101-133, 2020
   DOI: doi.org/10.1007/s00200-019-00396-w

5. *Symbolic computation in hyperbolic programming*
   S. Naldi, D. Plaumann
   J. Algebra Appl. 17:10, 2018
   DOI: doi.org/10.1142/S021949881850192X

6. *SPECTRA - A Maple library for solving linear matrix inequalities in exact arithmetic*
   D. Henrion, S. Naldi and M. Safey El Din
   Optim. Method. Softw. 34(1):62–78, 2019
   DOI: doi.org/10.1080/10556788.2017.1341505

7. *Solving rank-constrained semidefinite programs in exact arithmetic*
   S. Naldi
   J. Symb. Comput. 85C:206–223, 2018
   DOI: doi.org/10.1016/j.jsc.2017.07.009

8. *Exact algorithms for linear matrix inequalities*
   D. Henrion, S. Naldi, M. Safey El Din
   SIAM J. Optim. 26(4):2512–2539, 2016
   DOI: doi.org/10.1137/15M1036543

9. *Real root finding for determinants of linear matrices*
   D. Henrion, S. Naldi, M. Safey El Din
   J. Symb. Comput. 74:205–238, 2016
   DOI: doi.org/10.1016/j.jsc.2015.06.010

10. *Nonnegative polynomials and their Carathéodory number*
    S. Naldi
    Discrete Comput. Geom. 51(3):559–568, 2014
    DOI: doi.org/10.1007/s00454-014-9588-3

1.7.2 Atti della conferenza ISSAC (A*)

Disclaimer 1. Alcuni dei miei articoli di ricerca sono stati pubblicati negli atti della conferenza ISSAC (International Symposium on Symbolic and Algebraic Computation). ISSAC è una conferenza con peer-reviewing, di rango Core A*, e rappresenta la conferenza di riferimento della comunità di computer algebra mondiale. È considerata al pari di riviste come J. Symb. Comput. o J. Compl., con un tasso medio d'accettazione del 50% (fonte[7]).

Disclaimer 2. Se il titolo di un articolo in rivista e di un articolo di conferenza coincidono, significa che il primo è la versione estesa del secondo. In questo caso l'articolo ha ricevuto una doppia revisione tra i pari (peer-reviewing), una dalla conferenza (prima) e una dalla rivista (dopo).

1. *A divide-and-conquer algorithm for computing Gröbner bases of syzygies in finite dimension*
   S. Naldi and V. Neiger
   Proceedings of the 2020 ACM ISSAC, July 2020, Kalamata GRE, 2020
   DOI: doi.org/10.1145/3373207.3404059 . Una versione estesa sarà inviata a J. Algebra.
2. *Exact algorithms for semidefinite programs with degenerate feasible set*
   D. Henrion, S. Naldi, M. Safey El Din
   Proceedings of the 2018 ACM ISSAC, July 2018, New York USA, pp. 191–198, 2018
   DOI: doi.org/10.1145/3208976.3209022
3. *Solving rank-constrained semidefinite programs in exact arithmetic*
   S. Naldi
   Proceedings of the 2016 ACM ISSAC, July 2016, Waterloo ON CAN, pp. 357–364, 2016
   DOI: doi.org/10.1145/2930889.2930925
4. *Real root finding for rank defects in linear Hankel matrices*
   D. Henrion, S. Naldi, M. Safey El Din
   Proceedings of the 2015 ACM ISSAC, June 2015, Bath UK, pp. 221–228, 2015
   DOI: doi.org/10.1145/2755996.2756667

1.7.3 Dati bibliometrici (fonte scopus[8])

numero di pubblicazioni dal 2014	14
numero di pubblicazioni dal 2016	12
numero di citazioni	72
h-index	4

1.8 Abilitazione Scientifica Nazionale

Ho inviato un dossier per il semestre attuale (primo semestre, ASN 2021-2023) per il settore 01/A2 - Algebra e Geometria. I risultati sono attesi per la fine dell'anno 2021. I valori soglia indicati nella sezione precedente permettono l'acquisizione di tale abilitazione nel settore 01/A2.

[7] ISSAC's acceptance rates: https://dl.acm.org/doi/proceedings/10.1145/3373207#acceptance-rates
[8] www.scopus.com/authid/detail.uri?authorId=56152224600

Andrea Petracci

Contact Information

Università di Bologna
Dipartimento di Matematica
Piazza di Porta San Donato 5
40126 Bologna
Italy

andrea.petracci@alumni.sns.it *(permanent)*
a.petracci@unibo.it
https://www.unibo.it/sitoweb/a.petracci/en
https://www.dm.unibo.it/~andrea.petracci3/

Personal Information

I am an Italian citizen.

Employment

Università di Bologna — Bologna, Italy
Ricercatore RTDa — October 2021 – present

Freie Universität Berlin — Berlin, Germany
Wissenschaftlicher Mitarbeiter — October 2018 – September 2021
In the research group of Klaus Altmann

University of Nottingham — Nottingham, UK
Research Fellow — October 2017 – September 2018
In the research group of Alexander Kasprzyk

Imperial College London — London, UK
Research Associate — April 2017 – September 2017
In the research group of Tom Coates

Education

Imperial College London — London, UK
Doctor of Philosophy in Mathematics — October 2013 – September 2017
– Thesis title: On Mirror Symmetry for Fano varieties and for singularities
– Advisor: Alessio Corti
– Examiners: Alessandro Chiodo, Richard Thomas

Scuola Normale Superiore — Pisa, Italy
Diploma in Mathematics — October 2010 – May 2013
– Assesment: 70/70

University of Pisa — Pisa, Italy
Master of Science in Mathematics — October 2010 – March 2013
– Thesis title: The hyperelliptic locus in the moduli stack of curves of given genus
– Advisor: Angelo Vistoli
– Assessment: 110/110 cum laude

University of Pisa — Pisa, Italy
Bachelor degree in Mathematics — October 2007 – July 2010
– Thesis title: Il teorema della sezione iperpiana di Lefschetz
– Advisor: Rita Pardini
– Assessment: 110/110 cum laude

Honors, Grants and Awards

Won the 'Federigo Enriques' prize from Unione Matematica Italiana, September 2019

Awarded a grant from Heilbronn Institute for Mathematical Research to organise a workshop about cluster algebras (£7,500), April 2018

Won the Doris Chen PhD Award in the academic year 2016-2017 from the Department of Mathematics of Imperial College London

Awarded the 'Roth Studentship' of the Department of Mathematics of Imperial College London, October 2013

Won a full scholarship at Scuola Normale Superiore di Pisa after selective examination, September 2010

PUBLICATIONS

A. Corti, P. Hacking, A. Petracci, *Smoothing toric Fano 3-folds*, in preparation.

S. Felten, A. Petracci, S. Robins, *Deformations of log Calabi–Yau pairs can be obstructed*, preprint arXiv:2109.00420

A. Petracci, *K-moduli of Fano 3-folds can have embedded points*, preprint arXiv:2105.02307

A. Petracci, *On deformation spaces of toric varieties*, preprint arXiv:2105.01174

A. Petracci, *A 1-dimensional component of K-moduli of del Pezzo surfaces*, preprint arXiv:2102.13510

Y. Liu, A. Petracci, *On K-stability of some del Pezzo surfaces of Fano index 2*, preprint arXiv:2011.05094, to appear on Bull. London Math. Soc.

S. Felten, A. Petracci, *The logarithmic Bogomolov–Tian–Todorov theorem*, preprint arXiv:2010.13656

A.-S. Kaloghiros, A. Petracci, *On toric geometry and K-stability of Fano varieties*, Transactions of the American Mathematical Society, Series B (2021), Volume 8, 548-577.

A. Corti, M. Filip, A. Petracci, *Mirror Symmetry and smoothing Gorenstein toric affine 3-folds*, preprint arXiv:2006.16885, to appear on "Facets of algebraic geometry"

A. Petracci, *On deformations of toric Fano varieties*, to appear on "Interactions with Lattice Polytopes", preprint arXiv:1912.01538.

A. Petracci, *An example of Mirror Symmetry for Fano threefolds*, Birational Geometry and Moduli Spaces (2020), Springer, pp. 173-188.

A. Petracci, *Some examples of non-smoothable Gorenstein Fano toric threefolds*, Mathematische Zeitschrift (2020), no. 295, 751-760.

A. Petracci, *Homogeneous deformations of toric pairs*, Manuscripta Mathematica (2021), no. 166, 37-72.

A. Oneto, A. Petracci, *On the quantum periods of del Pezzo surfaces with* $\frac{1}{3}(1,1)$ *singularities*, Adv. Geom. 18 (2018), no. 3, 303-336.

M. Akhtar, T. Coates, A. Corti, L. Heuberger, A. Kasprzyk, A. Oneto, A. Petracci, T. Prince, K. Tveiten, *Mirror Symmetry and the Classification of Orbifold del Pezzo Surfaces*, Proc. Amer. Math. Soc. 144 (2016), no. 2, 513-527.

Invited talks

Algebraic geometry seminar — October 2021
École Polytechnique Fédérale de Lausanne, Switzerland

Newton–Okounkov bodies and Fanosearch workshop — October 2021
Levico Terme, Italy

Algebraic geometry seminar — July 2021
Princeton University, US — online

Algebraic geometry seminar — June 2021
University of Milan, Italy — online

Algebra and Geometry seminar — May 2021
Frankfurt, Germany — online

Algebra, Geometry and Combinatorics colloquium — May 2021
McMaster University, Canada — online

Geometry and TACoS workshop — April 2021
University of Florence — online

Iskovskikh Seminar, Steklov Mathematical Institute — April 2021
Moscow, Russia — online

Algebra and Geometry seminar, University of Trieste — February 2021
Trieste, Italy — online

EDGE days "Explicit K-stability and moduli problems" — December 2020
Edinburgh, UK — online

Workshop "Toric Fano Varieties and Beyond" — December 2020
Palermo, Italy — online

3CinG Workshop 2020 "Algebraic and tropical geometry" — September 2020
London, UK — online

Online Algebraic Geometry Seminar — August 2020
Nottingham, UK — online

Workshop "Superpotentials in Algebra and Geometry" — February 2020
Oberwolfach, Germany

North German Algebraic Geometry Seminar — January 2020

Leibniz Universität Hannover

Einstein Workshop on Polytopes and Algebraic Geometry — December 2019
Freie Universität Berlin

Workshop "Toric Geometry" — September 2019
Oberwolfach, Germany

Workshop "Mutations: Mirror Symmetry, Deformations" — August 2019
BIRS, Banff, Canada

Workshop "Del Pezzo surfaces and Fano varieties" — July 2019
Universität Düsseldorf

Séminaire d'algèbre et géométrie — March 2019
Université de Versailles

Workshop "Young perspectives in deformation theory" — November 2018
Università di Torino

Conference "Giornate di Geometria Algebrica e argomenti correlati" — June 2018
Università di Genova

Università di Torino, Seminario di Geometria — May 2018

Seminar Algebraische Geometrie — April 2018
Freie Universität Berlin
Mirror Symmetry, Fano varieties and deformations of toric varieties

Workshop on moduli spaces of curves and mirror symmetry — March 2018
Institut Mittag-Leffler, Stockholm
Mirror Symmetry and Fano varieties

Mirror Symmetry and applications conference — December 2017
Higher School of Economics, Moscow
Quantum periods of orbifold del Pezzo surfaces

EDGE Seminar — November 2017
University of Edinburgh
Deformations of toric singularities and Mirror Symmetry

Experimental Classification of Fano varieties workshop — August 2017
Universität Tübingen, Germany
Quantum periods of orbifold del Pezzo surfaces and Mirror Symmetry

Higher dimensional birational geometry workshop — July 2017
University of Warwick
Deformations of toric singularities via Mirror Symmetry

IMPA, Algebra seminar — February 2017

Rio de Janeiro, Brazil
Deformations of toric Gorenstein singularities

Imperial College London, Junior Geometry Seminar — January 2017
Toric stacks

Imperial College London, Junior Geometry Seminar — October 2015
Elliptic curves

Postgraduate Conference in Complex Geometry — September 2015
University of Cambridge
Mirror Symmetry of del Pezzo surfaces

University of Cambridge, CALF Seminar — December 2014
On the quantum periods of del Pezzo surfaces

Summer School in Gromov–Witten Theory 2014 — July 2014
Pingree Park, Colorado (US)
Quantum periods of del Pezzo surfaces with $\frac{1}{3}(1,1)$ singularities

KTH & University of Stockholm, Algebra and Geometry Seminar — June 2014
On the quantum cohomology of a particular type of Del Pezzo surfaces

Imperial College London, Junior Geometry Seminar — March 2014
An introduction to moduli of curves and algebraic stacks

University of Pisa, Seminario di Geometria — February 2012
The fundamental quandle of a knot

Teaching

Summer Semester 2021, at Freie Universität Berlin, exercise classes of Algebraic Geometry (Algebra II), seminar on algebraic surfaces

Winter Semester 2020/21, at Freie Universität Berlin, lab course in Computer Algebra

Summer Semester 2020, at Freie Universität Berlin, lectures and exercise classes of Complex Analysis (Funktionentheorie)

Winter Semester 2019/20, at Freie Universität Berlin, lab course in Computer Algebra

Summer Semester 2019, at Freie Universität Berlin, lectures and exercise classes of Complex Analysis (Funktionentheorie)

Winter Semester 2018/19, at Freie Universität Berlin, exercise classes of Commutative Algebra

In the academic year 2016/2017 I was a teaching assistant for the undergraduate courses ‘Real analysis’ and ‘Metric spaces and Topology’ at Imperial College London.

In the academic year 2015/2016 I was a teaching assistant for the undergraduate course 'Foundations of mathematical analysis' at Imperial College London.

In the academic year 2014/2015 I was a teaching assistant for the undergraduate courses 'Foundations of mathematical analysis' and 'Algebraic topology' at Imperial College London.

In May 2014 I taught revision classes for the undergraduate courses linear algebra, real analysis, fundaments of analysis at Imperial College London.

Organising activities

In October 2019 I co-organised the opening conference of the Einstein semester on Algebraic Geometry in Berlin

In July 2018 I co-organised *Cluster algebras and algebraic geometry* workshop at the University of Nottingham

In the academic year 2014/2015 I co-organised the *Junior Geometry Seminar* at Imperial College London.

In April 2014 I co-organised *Traumatic Workshop: Birational Geometry and Fano Varieties* at Imperial College London.

Other activities

Referee for Compositio Mathematica and European Journal of Mathematics

Co-supervised BSc thesis by Michael Mavroskoufis at FU Berlin, Summer Semester 2019

Reviewer for Mathscinet and zbMATH.

Computer skills

I can use MAGMA software.

Language skills

Italian (mother tongue), English (fluent), German (B2)

References

Alessio Corti (Imperial College London)	a.corti@imperial.ac.uk
Tom Coates (Imperial College London)	t.coates@imperial.ac.uk
Klaus Altmann (Freie Universität Berlin)	kaltmann@math.fu-berlin.de
Richard Thomas (Imperial College London)	rpwt@ic.ac.uk
Mark Gross (University of Cambridge)	M.Gross@dpmms.cam.ac.uk

Bologna, 25th October 2021 Andrea Petracci

Roberto Pirisi

Curriculum Vitae

Posizioni Accademiche

10/2020-presente **Ricercatore Tempo Determinato tipo a (RTDa)**, Sapienza Università di Roma, Roma, Italia, https://www.mat.uniroma1.it/.

07/2020-09/2020 **Postdoctoral fellow**, CRM Ennio de Giorgi, Pisa, Italia, http://www.crm.sns.it/.
Supervisore: Angelo Vistoli

07/2018-06/2020 **Postdoctoral fellow**, KTH Stockholm, Stoccolma, Svezia, https://www.kth.se/math.
Supervisore: David Rydh

09/2016-07/2018 **Postdoctoral fellow**, University of British Columbia, Vancouver, BC (Canada), https://www.math.ubc.ca/.
Supervisori: Kai Behrend, Zinovy Reichstein

08/2015-07/2016 **Postdoctoral Fellow**, University of Ottawa, Ottawa, ON (Canada), http://science.uottawa.ca/mathstat/en.
Supervisore: Kirill Zaynullin

Istruzione

11/2011–07/2015 **Phd in Matematica**, *Scuola Normale Superiore*, Italia, *70/70 cum laude*.
Titolo tesi: Cohomological invariants for algebraic curves. Relatore: Angelo Vistoli

03/2009–09/2011 **Laurea Magistrale in Matematica**, *Università di Pisa*, Italia, *110/110 cum laude*.
Titolo tesi: A survey on diophantine results. Relatore: Roberto Dvornicich

09/2005–02/2009 **Laurea Triennale in Matematica**, *Università di Pisa*, Italia, *110/110 cum laude*.
Titolo tesi: Classificazione delle rappresentazioni del gruppo simmetrico. Relatore: Rocco Chirivì

Insegnamento

Autunno 2021 **Istruttore**, *Istituzioni di Matematica*, Sapienza Università di Roma, https://sites.google.com/view/rpirisi/istituzioni-di-matematica-modulo-i-2021-2022-scienze-naturali.

Primavera 2021 **Istruttore**, *Istituzioni di Matematica*, Sapienza Università di Roma, https://sites.google.com/view/rpirisi/istituzioni-di-matematica-modulo-2-2020-2021.

Inverno 2020 **Istruttore**, *Algebra I*, Sapienza Università di Roma, (20 ore).

Estate 2018 **Istruttore**, *Math 200-921: Multivariable calculus*, University of British Columbia, https://www.math.ubc.ca/Ugrad/index.shtml.

Primavera 2017 **Istruttore**, *Math 101: Integral Calculus with application to Physical Sciences and Engineering*, University of British Columbia, https://www.math.ubc.ca/~gerg/teaching/101-Winter2017/.

Autunno 2016 **Istruttore**, *Math 104: Differential Calculus with Applications to Commerce and Social Sciences* , University of British Columbia, https://www.math.ubc.ca/~shawn/Math104-184/.

Primavera 2016 **Istruttore**, *Math 1302B: Mathematical Methods II*, University of Ottawa, http://mysite.science.uottawa.ca/hsalmasi/mat1302/mat1302.htm.

Autunno 2015 **Istruttore**, *Math 2355: Introduction to Geometry*, University of Ottawa.

Primavera 2015 **Assistente**, *Algebra 2*, Università di Pisa, `http://people.dm.unipi.it/gianni/pagina-algebraII.htm`.

Primavera 2014 **Assistente**, *Algebra 2*, Università di Pisa.

Autunno 2013 **Istruttore**, *Matematica di base (Matematica 0)*, Università di Pisa.

Articoli e Preprint

[1] **Cohomological invariants for algebraic stacks**, *2018*, *Tran. Amer. Math. Soc., vol. 370, no. 3*, DOI https://doi.org/10.1090/tran/7006.

[2] **Cohomological invariants for hyperelliptic curves of even genus**, *2017*, *Algebraic Geometry, vol.4, issue 4*, DOI 10.14231/AG-2017-022.

[3] **Cohomological invariants of hyperelliptic curves of genus three**, *2018*, *Documenta Mathematica* 23, 969-996, DOI 10.25537/dm.2018v23.969-996.

[4] **The Picard group of the universal abelian variety and the Franchetta conjecture for abelian varieties**, *(con R.Fringuelli)*, 2019, *Michigan Math. J.*, 68,(3).
DOI 10.1307/mmj/1564106669

[5] **On the motivic class of the classifying stack of G2 and the Spin groups**, *(con M.Talpo)*, 2017, *Inter. Math. Res. Not.*, Volume 2019, Issue 10.
DOI https://doi.org/10.1093/imrn/rnx208

[6] **Gabriel's theorem and birational geometry**, *(con J.Calabrese)*, 2021, *Proc. Amer. Math. Soc.*, Volume 149, Issue 3.
DOI: https://doi.org/10.1090/proc/14990

[7] **A complete description of the cohomological invariants of even genus hyperelliptic curves**, *(con A.DI Lorenzo)*, 2019, Documenta Mathematica 26, 199-230.
DOI: 10.25537/dm.2018v23.969-996

[8] **The Brauer group of the universal moduli space of vector bundles over smooth curves**, *(con R.Fringuelli)*, 2021, *Int. Math. Res. Not*, Volume 2021, Issue 18, Pages 13609–13644.
DOI https://doi.org/10.1093/imrn/rnz300

[9] **Brauer groups of moduli of hyperelliptic curves via cohomological invariants**, *(con A.DI Lorenzo)*, 2021, Forum of Mathematics Sigma, Vol. 9.
DOI: https://doi.org/10.1017/fms.2021.55

[10] **Cohomological invariants of root stacks and admissible double coverings**, *(con A.DI Lorenzo)*, 2020, Accettato su *Canadian Journal of Mathematics*, visibile su arXiv:2009.07671 .

[11] **Cohomological invariants of algebraic curves**, *2015*, Tesi di dottorato, Visibile su `https://sites.google.com/view/rpirisi/home?authuser=0`.

Interessi di Ricerca

- Invarianti coomologici di stack di moduli e gruppi algebrici
- Gruppi di Picard, gruppi di Brauer e anelli di Chow di stack di moduli
- Anelli di Grothendieck, classi motiviche di stack classificanti
- Teorie dei cicli e teorie coomologiche orientate
- Geometria birazionale dal punto di vista non commutativo

Sovvenzioni

2021 **PRIN 2020**, *PI Angelo Vistoli*, Derived and underived algebraic stacks and applications, progetto 20208FCTCA, dirigente di unità locale Roma.
https://www.mur.gov.it/it/atti-e-normativa/decreto-direttoriale-n-2283-del-29-09-2021

Attività organizzative

18/10/2021-22/10/2021 **Motives and Hodge theory**, *conferenza*, Institut Mittag-Leffler, Co-organizzatore con J.C. Ottem, D. Petersen e D. Rydh.
https://sites.google.com/view/motives-hodge-theory/

Talk su Invito

15/10/2021 **Séminaire Théorie des Nombres**, *Université de Bordeaux, Bordeaux, Francia*, Titolo: *Brauer groups of moduli stacks via cohomological invariants*.

30/06/2021 **Algebraic Groups and Algebraic Geometry**, *Conferenza online*, Titolo: *Unramified cohomology, cohomological invariants and root stacks*.

12/06/2020 **Quadratic forms, Linear algebraic groups and Beyond**, *Zoom seminar series*, Titolo: *Brauer groups of moduli of hyperelliptic curves, via cohomological invariants*.

05/03/2020 **Seminario di geometria algebrica**, *Scuola Normale Superiore di Pisa, Pisa, Italia*, Titolo: *Brauer groups of moduli of hyperelliptic curves, via cohomological invariants*.

16/01/2019 **Algebra and geometry seminar**, *KTH Royal Institute of Technology, Stockholm, Svezia*, Titolo: *An arithmetic theory of characteristic classes for moduli problems*.

19/09/2018 **Algebraic geometry seminar**, *Scuola Normale Superiore di Pisa, Pisa, Italia*, Titolo: *Birational geometry and Gabriel's theorem*.

14/04/2018 **Spring 2018 AMS meeting, Special session on Moduli Spaces**, *Portland State University, Portland, Oregon, USA*, Titolo: *The Brauer group of the moduli stack of vector bundles on smooth curves*.

23/08/2017 **Lie Theory, Cohomology and Geometry in Wildrose Country**, *University of Alberta, Edmonton, Alberta, Canada*, Titolo: *On the motivic class of the classifying stacks of G2 and the Spin groups*.

19/09/2016 **Algebraic geometry seminar**, *University of British Columbia, Vancouver, British Columbia, Canada*, Titolo: *The Franchetta conjecture for abelian varieties*.

26/05/2016 **Giornate di Geometria Algebrica e Argomenti Correlati XIII**, *Università di Catania, Catania, Italia*, Titolo: *The Franchetta conjecture for abelian varieties*.

07/12/2015 **CMS Winter meeting**, *Montreal, Quebec, Canada*, Titolo: *Cohomological invariants of algebraic stacks*.

15/09/2015 **The Use of Linear Algebraic Groups in Geometry and Number Theory**, *Banff Centre, Banff, Alberta, Canada*, Titolo: *Cohomological Invariants for stacks of algebraic curves*.

29/04/2014 **Algebraic geometry seminar**, *Rice University, Houston, Texas, USA*, Titolo: *Cohomological Invariants for stacks of algebraic curves*.

Poster Session

11/09/2017 **WAGS Fall 2017**, *UCLA, Los Angeles, California, USA*, Titolo: *The motivic class of* BG_2 *and* BSpin_n.

14/10/2017 **British Algebraic Geometry Meeting III**, *University of Cambridge, Cambridge, UK*, Titolo: *The motivic class of* BG_2 *and* BSpin_n.

02/06/2015 **G.A.E.L. XXIII**, *KU Leuven, Leuven, Belgio*, Titolo:*Cohomological Invariants for stacks of algebraic curves*.

Conferenze e Workshop

30/09-04/10/19 **The Geometry of Algebraic Varieties**, *Centre International de Rencontres Mathématiques, Luminy, Francia.*

15-19/10/18 **Cohomology of Algebraic Varieties**, *Centre International de Rencontres Mathématiques, Luminy, Francia.*

14/04/2018 **Spring 2018 AMS meeting, Special session on Moduli Spaces**, *Portland State University, Portland, Oregon, USA.*

14-15/10/17 **WAGS Fall 2017**, *UCLA, Los Angeles, California, USA.*

11-13/09/17 **British Algebraic Geometry Meeting III**, *University of Cambridge, Cambridge, UK.*

21-25/08/17 **Lie Theory, Cohomology and Geometry in Wildrose Country**, *University of Alberta, Edmonton, Alberta, Canada.*

23-29/04/17 **Algebraic Groups MFO Workshop**, *MFO Oberwolfach, Oberwolfach, Germania.*

08-09/04/17 **W.A.G.S. Spring 2017**, *University of British Columbia, Vancouver, British Columbia, Canada.*

29-30/10/16 **ABC Algebra Workshop**, *University of Alberta, Edmonton, Alberta, Canada.*

15-16/10/16 **W.A.G.S. Fall 2016**, *Colorado State University, Fort Collins, Colorado, USA.*

25-28/05/16 **Giornate di Geometria Algebrica e Argomenti Correlati XIII**, *Università di Catania, Catania, Italia.*

08-10/04/16 **AGNES Spring 2016**, *Yale University, New Haven, Connecticut, USA.*

04-07/12/15 **CMS Winter meeting**, *Montreal, Quebec, Canada.*

13-18/09/15 **The Use of Linear Algebraic Groups in Geometry and Number Theory**, *Banff Centre, Banff, Alberta, Canada.*

01-05/06/15 **G.A.E.L. XXIII**, *KU Leuven, Leuven, Belgio.*

23-27/07/14 **GRIFGA-Lebesgue Summer school on derived categories**, *Université de Nantes, Nantes, Francia.*

25-27/04/14 **Agnes Spring Workshop**, *Simons Center for Mathematics and Physics, Stony Brook, Rhode Island, USA.*

16-20/12/13 **Fundamental Groups in Arithmetic and Algebraic Geometry**, *Centro Ennio de Giorgi, Pisa, Italia.*

11-21/06/13 **Developments in Moduli Theory**, *Kyoto University, Kyoto, Giappone.*

23-26/05/12 **Giornate di Geometria Algebrica e Argomenti Correlati XI**, *Centro Ennio de Giorgi, Pisa, Italia.*

Alberto Raffero

Curriculum Vitae et Studiorum

Posizione attuale

1/7/2018 - presente **Assegnista di ricerca**, *Dipartimento di Matematica "G. Peano", Università degli Studi di Torino.*

Posizioni precedenti

1/12/2016 - 30/6/2018 **Assegnista di ricerca**, *Dipartimento di Matematica e Informatica "U. Dini", Università degli Studi di Firenze.*

16/2/2016 - 30/11/2016 **Assegnista di ricerca**, *Dipartimento di Matematica e Informatica, Università degli Studi di Parma.*

Abilitazione Scientifica Nazionale

Abilitazione Scientifica Nazionale alle funzioni di professore universitario di seconda fascia nel settore concorsuale 01/A2 - Geometria e Algebra conseguita in data 11/11/2020 e valida fino al 11/11/2029.

Istruzione e formazione

4/3/2016 **Dottorato di Ricerca in Matematica**, *Scuola di Dottorato in Scienze della Natura e Tecnologie Innovative, Università degli Studi di Torino.*
Titolo della tesi: "Non-integrable special geometric structures in dimensions six and seven", relatore Prof.ssa A. Fino.

18/7/2012 **Laurea Magistrale in Matematica**, *Università degli Studi di Torino*, con votazione 110/110, Lode e Menzione.

16/7/2010 **Laurea Triennale in Matematica**, *Università degli Studi di Torino*, con votazione 110/110 e Lode.

Assegni di ricerca, borse di studio e premi

2020 **Assegno di ricerca** (21 mesi) L. 240/2010, presso l'Università degli Studi di Torino, nell'ambito del progetto PRIN 2017 "Real and Complex Manifolds: Topology, Geometry and Holomorphic Dynamics", con decorrenza dal 1/7/2020. Responsabile scientifico Prof.ssa A. Fino.

2018 **Assegno di ricerca biennale** L. 240/2010, presso l'Università degli Studi di Torino, con decorrenza dal 1/7/2018. Responsabile scientifico Prof. A. Andretta (Direttore del Dipartimento di Matematica al momento della stipula del contratto).

2016 **Assegno di ricerca biennale** (1+1) L. 240/2010, presso l'Università degli Studi di Firenze, con decorrenza dal 1/12/2016, rinnovato in data 1/12/2017 e interrotto volontariamente in data 30/6/2018. Responsabile scientifico Prof. F. Podestà.

2016 **Assegno di ricerca annuale** L. 240/2010, presso l'Università degli Studi di Parma, nell'ambito del progetto FIRB 2012 "Differential Geometry and Geometric Function Theory", con decorrenza dal 16/2/2016 e interrotto volontariamente in data 30/11/2016. Responsabile scientifico Prof. L. Biliotti.

2015 **Borsa di studio** nell'ambito del progetto "Preparazione della modalità e-learning del corso di insegnamento Istituzioni di Geometria" presso l'Università degli Studi di Torino, dal 4/12/2015 al 31/12/2015.

2014 **Medaglia d'argento** assegnata dall'Università degli Studi di Torino per la miglior tesi di Laurea Magistrale in Matematica dell'Anno Accademico 2011–2012.

2013 **Borsa di studio** triennale per il dottorato di ricerca in Matematica presso l'Università degli Studi di Torino dal 1/1/2013 al 31/12/2015.

Interessi di ricerca

Geometria differenziale. In particolare: geometria Riemanniana, strutture geometriche su varietà, flussi geometrici, teoria dei gruppi di Lie.

Partecipazione a gruppi e progetti di ricerca

1/7/2020-presente Partecipante al progetto di ricerca PRIN 2017 "Real and Complex Manifolds: Topology, Geometry and Holomorphic Dynamics", unità di ricerca dell'Università degli Studi di Torino.

16/2/2016-30/11/2016 Partecipante al progetto di ricerca FIRB 2012 "Differential Geometry and Geometric Function Theory", unità di ricerca dell'Università degli Studi di Parma.

1/1/2014-presente Membro del GNSAGA, *Gruppo Nazionale per le Strutture Algebriche, Geometriche e le loro Applicazioni*, dell'INdAM, *Istituto Nazionale di Alta Matematica*.

Ho inoltre partecipato a vari progetti di ricerca locale presso il Dipartimento di Matematica "G. Peano" dell'Università degli Studi di Torino e presso il DIMAI "U. Dini" dell'Università degli Studi di Firenze.

Pubblicazioni

Articoli pubblicati su rivista con peer-review

[19] A. Fino, A. Raffero, F. Salvatore. Closed G_2-structures on unimodular Lie algebras with non-trivial center. Accettato per la pubblicazione su *Transformation Groups* in data 16/10/2021.

[18] F. Podestà, A. Raffero. Closed G_2-structures with a transitive reductive group of automorphisms. Accettato per la pubblicazione su *The Asian Journal of Mathematics* in data 16/8/2021.

[17] V. del Barco, A. Moroianu, A. Raffero. Purely coclosed G_2-structures on 2-step nilpotent Lie groups. Accettato per la pubblicazione su *Revista Matemática Complutense*. doi: 10.1007/s13163-021-00392-0 (online first: aprile 2021).

[16] A. Raffero, L. Vezzoni. On the dynamical behaviour of the generalized Ricci flow. *J. Geom. Anal.*, **31** (10), 10498–10509, 2021.

[15] A. Fino, A. Raffero. A class of eternal solutions to the G_2-Laplacian flow. *J. Geom. Anal.*, **31** (5), 4641–4660, 2021.

[14] D. Alekseevsky, I. Chrysikos, A. Fino, A. Raffero. Homogeneous 8-manifolds admitting invariant Spin(7)-structures. *Internat. J. Math.* **31** (8), 2050060, 2020.

[13] A. Fino, A. Raffero. Remarks on homogeneous solitons of the G_2-Laplacian flow. *C. R. Math. Acad. Sci. Paris.* **358** (4), 401–406, 2020.

[12] M. Fernández, A. Fino, A. Raffero. Exact G_2-structures on unimodular Lie algebras. *Monatsh. Math.* **193**, 47–60, 2020.

[11] A. Fino, A. Raffero. Closed warped G_2-structures evolving under the Laplacian flow. *Ann. Sc. Norm. Sup. Pisa Cl. Sci.* **20** (1), 315–348, 2020.

[10] A. Fino, A. Raffero. Closed G_2-structures on non-solvable Lie groups. *Rev. Mat. Complut.* **32** (3), 837-851, 2019.

[9] F. Podestà, A. Raffero. On the automorphism group of a closed G_2-structure. *Q. J. Math.* **70** (1), 195–200, 2019.

[8] F. Podestà, A. Raffero. Homogeneous symplectic half-flat 6-manifolds. *Ann. Global Anal. Geom.* **55** (1), 1–15, 2019.

[7] F. Podestà, A. Raffero. On the automorphism group of a symplectic half-flat 6-manifold. *Forum Math.* **31** (1), 265–273, 2019.

[6] G. Bazzoni, A. Raffero. Special types of locally conformal closed G_2-structures. *Axioms* **7** (4), 90, 2018.

[5] L. Biliotti, A. Raffero. Convexity theorems for the gradient map on probability measures. *Complex Manifolds* **5** (1), 133–145, 2018.

[4] M. Fernández, A. Fino, A. Raffero. Locally conformal calibrated G_2-manifolds. *Ann. Mat. Pura Appl.* **195** (5), 1721–1736, 2016.

[3] A. Fino, A. Raffero. Einstein locally conformal calibrated G_2-structures. *Math. Z.* **280** (3-4), 1093–1106, 2015.

[2] A. Fino, A. Raffero. Coupled SU(3)-structures and supersymmetry. *Symmetry* **7** (2), 625–650, 2015.

[1] A. Raffero. Half-flat structures inducing Einstein metrics on homogeneous spaces. *Ann. Global Anal. Geom.* **48** (1), 57–73, 2015.

Articoli pubblicati in atti di convegno

[2] A. Fino, A. Raffero. Recent results on closed G_2-structures. Accettato per la pubblicazione sul volume dell'Abel Symposia "Geometry, Lie Theory and Applications - The Abel Symposium 2019", Springer, 2021.

[1] M. Fernández, A. Fino, A. Raffero. On G_2-structures, special metrics and related flows. In: *Lectures and Surveys on G_2-Manifolds and Related Topics*. Fields Institute Communications, vol 84. Springer, NY, 2020

Preprint attualmente sottoposti a rivista con peer-review

[2] A. Fino, L. Martín Merchán, A. Raffero. Exact G_2-structures on compact quotients of Lie groups. arXiv:2108.11664 (agosto 2021).

[1] A. Raffero. Special solutions to the Type IIA flow. arXiv:2107.12264 (luglio 2021).

Comunicazioni scientifiche

Seminari su invito

6/7/2021 "Special solutions to the Type IIA flow", Levico Terme (Trento), workshop "Cohomology of Complex Manifolds and Special Structures - II".

14/4/2021 "Symplectic half-flat manifolds", Geometry and Topology Seminar, Florida International University, Miami (US), online.

18/2/2021 "Symplectic half-flat manifolds with large symmetry group", the 6th workshop "Complex Geometry and Lie Groups", Niigata (JP), online.

14/10/2020 "Symmetries of closed G_2-structures", online seminar "Virtual seminar on geometry with symmetries".

7/5/2019 "Closed G_2-structures with symmetry", Oaxaca (MX), BIRS workshop "G_2 Geometry and Related Topics".

12/4/2019 "Closed G_2-structures with symmetry", Torino, workshop "Differential Geometry Day - Workshop and school".

22/2/2019 "The Laplacian flow for closed G_2-structures with special metrics", Pisa, workshop PRIN "Varietà reali e complesse: geometria, topologia e analisi armonica, 2019".

27/9/2018 "Closed G_2-structures and the G_2-Laplacian flow", Levico Terme (Trento), workshop "Progressi Recenti in Geometria Reale e Complessa - XI".

2/5/2018 "Introduction to G_2-geometry", Torino, workshop "Pluripotential Theory, Geometric Analysis and Calibrated Geometry".

30/1/2018 "Symplectic half-flat 6-manifolds and the Laplacian G_2-flow", Bruxelles, seminario per il ciclo "ULB geometry seminar" presso l'Université Libre de Bruxelles.

7/4/2017 "Convexity theorems for the gradient map on probability measures", Torino, workshop "Differential Geometry Days".

26/2/2016 "Locally conformal calibrated G_2-manifolds", Parma, workshop "Complex geometry BiDay".

Seminari

28/9/2021 "Recent results on closed G_2-structures", seminario online organizzato nell'ambito del progetto PRIN 2017 "Real and Complex Manifolds: Topology, Geometry and Holomorphic Dynamics".

22/11/2018 "Closed G_2-structures and Laplacian solitons", Firenze, Dipartimento di Matematica e Informatica "U. Dini".

24/1/2018 "Two remarkable classes of symplectic half-flat 6-manifolds", Cogne (Aosta), workshop "Informal geometry workshop in Paradiso".

13/5/2016 "Locally conformal calibrated G_2-structures", Torino, workshop "A Differential Geometry day in memory of Sergio Console".

24/9/2015 "A structure result for locally conformal calibrated G_2-manifolds", Amburgo (DE), congresso "Jahrestagung der Deutschen Mathematiker-Vereinigung (DMV)".

8/9/2015 "Coupled SU(3)-manifolds", Siena, XX congresso dell'Unione Matematica Italiana (UMI).

26/5/2015 "Coupled SU(3)-structures: an overview and a structure result", Marburg (DE), Dipartimento di Matematica della Philipps Universität Marburg.

22/4/2015 "Coupled SU(3)-manifolds", Cortona, in occasione della scuola "Extremal Kählerian metrics and stability".

Attività didattica

2021 **Co-titolare del corso di dottorato "Differential Geometry"**, con D. Angella (Firenze) e M. Parton (Chieti-Pescara), per l'International Doctorate in Civil and Environmental Engineering, Università degli Studi di Firenze, Università degli Studi di Pisa e Technische Universität Braunschweig, periodo Marzo-Maggio 2021 (4 ore delle 20 complessive del corso).

2021 **Docente a contratto per "Matematica II"**, presso l'Università degli Studi di Torino, Corso di Laurea Triennale in Chimica e Tecnologie Chimiche, II semestre dell'A.A. 2020–2021 (32 ore).

2020 **Esercitatore per "Geometria UNO"** ai sensi dell'Art. 76 dello Statuto dell'Università degli Studi di Torino, presso l'Università degli Studi di Torino, Corso di Laurea Triennale in Matematica, I e II semestre dell'A.A. 2020–2021 (40+25 ore).
Mansioni: preparazione degli esercizi e svolgimento del tutorato sincrono a distanza del corso.

2020 **Co-titolare del corso di dottorato "Topological properties of manifolds with exceptional holonomy"**, con A. Fino (Torino), per il Dottorato in Matematica Pura e Applicata, Università degli Studi di Torino e Politecnico di Torino, periodo Gennaio-Giugno 2020 (30 ore).

2018 **Titolare del corso di dottorato "Gruppi di olonomia in geometria Riemanniana"**, per il Dottorato in Matematica Pura e Applicata, Università degli Studi di Torino e Politecnico di Torino, periodo Novembre 2018 - Marzo 2019 (30 ore).

2016 **Esercitatore per "Geometria 1"**, presso l'Università degli Studi di Parma, Corso di Laurea Triennale in Matematica e Corso di Laurea Triennale in Fisica, I semestre dell'A.A. 2016–2017 (8 ore).

2016 **Esercitatore per "Geometria"**, presso l'Università degli Studi di Parma, Corso di Laurea Triennale in Ingegneria Meccanica, II semestre dell'A.A. 2015–2016 (24 ore).

2015 **Collaboratore per "Istituzioni di Geometria"**, presso l'Università degli Studi di Torino, Corso di Laurea Magistrale in Matematica, I semestre dell'A.A. 2015–2016.
Mansioni: preparazione degli esercizi e gestione della modalità e-learning del corso.

2011 **Collaboratore (Art. 13 L. 390/91) per "Geometria e Algebra Lineare"**, presso l'Università degli Studi di Torino, Corso di Laurea Triennale in Fisica, I trimestre dell'A.A. 2011–2012 (50 ore).
Mansioni: svolgimento del tutorato frontale del corso.

Attività di formazione o ricerca presso istituti italiani o stranieri

1–13/3/20 Periodo di ricerca presso il Laboratoire de Mathématiques d'Orsay, Université Paris-Saclay. Referente Prof. A. Moroianu.

5–10/5/19 Partecipazione al workshop BIRS-CMO "G_2 Geometry and Related Topics", Oaxaca (MX), Casa Matemática Oaxaca.

19–25/8/17 Partecipazione al "Workshop on G_2-manifolds and related topics", Toronto (CA), Fields Institute.

30/4–6/5/17 Partecipazione alla scuola "Kähler–Einstein metrics", Cortona, Scuola Matematica Interuniversitaria (SMI).

17–20/5/16 Partecipazione alla conferenza "Geometric structures related to Hermitian and almost Hermitian manifolds", Hannover (DE), Leibniz Universität.

17–31/5/15 Periodo di ricerca presso il Dipartimento di Matematica della Philipps Universität Marburg. Referente Prof.ssa I. Agricola.

19–25/4/15 Partecipazione alla scuola "Extremal Kählerian metrics and stability", Cortona, Scuola Matematica Interuniversitaria (SMI).

23–28/3/15 Partecipazione alla scuola "Komplex Analysis Weeklong School - KAWA 6", Pisa, Centro de Giorgi.

28/7–8/8/14 Partecipazione alla scuola "Geometry and Analysis", Berkeley (US), Mathematical Sciences Research Institute (MSRI).

7–11/7/14 Partecipazione alla scuola "An invitation to Geometry and Topology via G_2", Londra (UK), Imperial College.

8–12/7/13 Partecipazione al workshop "Ricci curvature: limit spaces and Kähler geometry", Edimburgo (UK), International Centre for Mathematical Sciences (ICMS).

1–5/7/13 Partecipazione alla scuola "Summer school for Ricci curvature: limit spaces and Kähler geometry", Edimburgo (UK), International Centre for Mathematical Sciences (ICMS).

Attività di referaggio

Ho svolto attività di referaggio per le seguenti riviste scientifiche: Abstract and Applied Analysis; Journal of Geometric Analysis; Kragujevac Journal of Mathematics; Mathematics; Revista de la Unión Matemática Argentina; Rendiconti del Seminario Matematico, Università e Politecnico di Torino; SIGMA - Symmetry, Integrability and Geometry. Methods and Applications; Turkish Journal of Mathematics.

Organizzazione di convegni e seminari

Ho fatto parte del comitato organizzatore dei seguenti convegni:

21/9/18 "Geometries with torsion", Torino.

11-15/6/18 "Complex Geometry and Lie groups V", Firenze.

Dal 10/9/2020 sono inoltre co-organizzatore del seminario online "Differential Geometry Seminar Torino".

Competenze linguistiche

Italiano (madrelingua), inglese (livello avanzato), tedesco (livello base).

University of Genova
UNIGE
Via del Dodecaneso 35, Genova, Italy
✉ *eleonoraanna.romano@unige.it*

Eleonora Anna Romano

Position held

01/11/2020 - present **Researcher (RTDA)**, *UNIGE, University of Genova, Faculty of Mathematics.*

01/09/2020 - 31/10/2020 **Post-Doc**, *UNITN, University of Trento, Faculty of Mathematics,*
Director: M. Andreatta.
Project: *research in Mathematics*

01/09/2018 - 31/08/2020 **Post-Doc**, *MIMUW, University of Warsaw, Faculty of Mathematics, Informatics and Mechanics,*
Director: Jarosław A. Wiśniewski.
Project: *Algebraic Torus Actions and Combinatorics.*

01/09/2017 - 31/08/2018 **Post-Doc**, *MIMUW, University of Warsaw, Faculty of Mathematics, Informatics and Mechanics,*
Director: Jarosław A. Wiśniewski.
Project: *Algebraic Geometry, Varieties and Structures.*

Education

01/2014 - 01/2017 **Ph.D. in Algebraic Geometry**, *Dept. of Mathematics, University of Torino,*
Advisor: Cinzia Casagrande.
Ph.D. thesis: *Non-elementary Fano conic bundles.*

10/2011 - 07/2013 **Master Degree in Mathematics**, *University of Palermo,*
Thesis: *Hurwitz spaces and the regular inverse Galois problem,*
Supervisor: Prof. Vassil Kanev.
Grade 110/110 cum laude et mentione

10/2007 - 03/2011 **Bachelor Degree in Mathematics**, *University of Palermo,*
Thesis: *Random fixed points and random approssimation,*
Supervisor: Prof. Pasquale Vetro.
Grade 110/110 cum laude

Visiting Positions

26/01–08/02/2020 **Dept. of Mathematics**, *University of Torino, Italy.*

7/10–30/11/2019 **Guest in occasion of the Einstein semester on Algebraic Geometry: Varieties, Polyhedra, Computation**,
Dept. of Mathematics, Freie Universität, Berlin, Germany.

5–17/11/2018; 7–21/01/2019; 7–17/05/2019; 14–31/07/2019; 9–23/12/2019 **Dept. of Mathematics**,
University of Trento, Povo, Italy.

11–15/12/2017 **Dept. of Mathematics**,
Jagiellonian University, Krakow, Poland.

18/04–18/05/2016 **Polish Algebraic Geometry mini-semester**,
Institute of Mathematics of the Polish Academy of Sciences, Warsaw, Poland.

Research field

Algebraic Geometry: Birational Geometry, Fano varieties, Mori Dream Spaces, Algebraic group actions on complex projective manifolds.

Publications

[1] **E. A. Romano**, *Non-elementary Fano conic bundles*, Ph.D. Thesis. Available at https://sites.google.com/view/eleonora-anna-romano.

[2] **E. A. Romano**, *Non-elementary Fano conic bundles*, Collectanea Mathematica, **70(1)**(2019), 33–50.

[3] **E. A. Romano**, *Positivity of anticanonical divisors from the viewpoint of Fano conic bundles*, Osaka J. Math., **56**(2019), 65–74.

[4] **E. A. Romano, with Pedro Montero**, *A characterization of some Fano 4-folds through conic fibrations*, arXiv:1803.09129v2, 28 pages. To appear in the International Mathematics Research Notices, IMRN.
DOI: 10.1093/imrn/rnz244; online version: https://doi.org/10.1093/imrn/rnz244

[5] **E. A. Romano**, *A note on flatness of some fiber type contractions*, arXiv:1906.10911, Proceeding of the Japan Academy of Sciences, series A, **95(7)**(2019), 103–106.
DOI:10.3792/pjaa.95.103

[6] **E. A. Romano, with J. A. Wiśniewski**, *Adjunction for varieties with a $\mathbb{C}^*$ action*, arXiv:1904.01896, 44 pages, accepted for publication in Trasformation Groups, 2020.
DOI:10.1007/s00031-020-09627-8; online version: https://doi.org/10.1007/s00031-020-09627-8

[7] **E. A. Romano, with G. Occhetta, L. E. Solá Conde and J. A. Wiśniewski**, *High rank torus actions on contact manifolds*, Sel. Math. New Ser. 27, 10 (2021).
DOI:10.1007/s00029-021-00621-w; online version: https://doi.org/10.1007/s00029-021-00621-w

[8] **E. A. Romano, with C. Casagrande**, *Classification of Fano 4-folds with Lefschetz defect 3 and Picard number 5*, Journal of Pure and Applied Algebra, 226 (3)(2022), 106864, published online https://doi.org/10.1016/j.jpaa.2021.106864.

[9] **E. A. Romano, with G. Occhetta, L. E. Solá Conde**, *Varieties with two projective bundles structures*, accepted for the publication in the Proceedings of the AMS, arXiv:2001.06215,15 pages.

Preprints

[10] **E. A. Romano, with G. Occhetta, L. E. Solá Conde and J. A. Wiśniewski**, *Small bandwidth $\mathbb{C}^*$-actions and birational geometry*, arXiv:1911.121229, 43 pages, 2019, submitted.

[11] **E. A. Romano, with G. Occhetta, L. E. Solá Conde and J. A. Wiśniewski**, *Small modifications of Mori dream spaces arising from $\mathbb{C}^*$-actions*, arXiv:2103.07209, 29 pages, 2021, submitted.

[12] **E. A. Romano, with L. Barban**, *Toric non-equalized flips associated to $\mathbb{C}^*$-actions*, arXiv:2104.14442, 20 pages, 2021, submitted.

[13] **E. A. Romano, with G. Occhetta, L. E. Solá Conde and J. A. Wiśniewski**, *Geometric realizations of birational transformations via $\mathbb{C}^*$-actions*, soon on arXiv.

Works in Progress

NOTE: draft can be sent via mail under request.

[14] **E. A. Romano, with C. Casagrande and Saverio Secci**, *Fano varieties with Lefschetz defect 3.*

[15] **E. A. Romano, with G. Occhetta, L. E. Solá Conde and J. A. Wiśniewski**, *Rational homogeneous spaces as geometric realizations of birational transformations.*

[16] **E. A. Romano, with L. Barban, L. E. Solá Conde and S. Urbinati**, *Mori Dream regions and $\mathbb{C}^*$-actions.*

Collaborators

Lorenzo Barban, *PhD student*,
Dept. of Mathematics, Univerisity of Trento, Italy.

Cinzia Casagrande, *Full Professor*,
Dept. of Mathematics, Univerisity of Torino, Italy.

Pedro Montero, *Academic*,
Dept. of Mathematics, Universidad Tecnica F. Santa Maria, Valparaiso, Chile.

Gianluca Occhetta, *Full Professor*,
Dept. of Mathematics, Univerisity of Trento, Italy.

Luis E. Solá Conde, *Associate Professor*,
Dept. of Mathematics, Univerisity of Trento, Italy.

Stefano Urbinati, *Associate Professor*,
Dept. of Mathematics, University of Udine, Italy.

Saverio Secci, *PhD student*,
Dept. of Mathematics, Univerisity of Torino, Italy.

Jarosław A. Wiśniewski, *Full Professor*,
Dept. of Mathematics, University of Warsaw, Poland.

Next plans: invitations for conferences

29/03–02/04/22 **Oberwolfach Workshop: Toric Geometry**,
Oberwolfach, Germany.

Research grants and awards

26-03-2021 **Seal of Excellence**, *awarded by the European Commission for the project proposal BIGTACO: Birational Geometry, Torus Actions and Combinatorics, presented with the University of Trento (Italy) and with Freie Universität of Berlin (Germany)*, Marie Sklodowska-Curie actions, call H2020-MSCA-IF-2020, score: 91/100.

01/09/2020-01/09/2021 **Research Grant: Fondazione Amici di Claudio Dematté**, *University of Trento, UNITN*, Italy.

01/09/2018-01/09/2020 **Research Grant: ATAG project**, *University of Warsaw, MIMUW*, Poland.

01/09/2017-01/09/2018 **Research Grant: AGVS project**, *University of Warsaw, MIMUW*, Poland.

01/01/2014-31/12/2017 **Three-year PhD scholarship sponsored by the University of Torino**, *UNITN*, Italy.

01/10/2008-31/07/2013 **Scholarship sponsored by Ersu Palermo**, *UNIPA*, Italy.

Given Talks: Conferences and Seminars

International Conferences and Workshop

05–08/10/21 **$\mathbb{C}^*$-actions and Mori Dream Spaces**, *Conference: Newton-Okounkov bodies and Fanosearch*,
Hotel Bellavista, Levico Terme, Trento, Italy.

14–18/10/21 **$\mathbb{C}^*$-actions and Mori Dream Spaces**, *in occasion of a meeting Warsaw-Berlin*,
Sopot, Poland.

19/03/2021 **Torus actions and birational geometry**, *in occasion of the online workshop "Birational Geometry and thereabouts"*,
Dept. of Mathematics, University of Palermo, Italy.

23/01/2020 **Torus actions on projective manifolds: Combinatorics vs Birational Geometry**, *in occasion of the workshop "EXARCHOS"*,
Dept. of Mathematics, University of Ravenna, Italy.

25/09/2019 **Recent results on Fano 4-folds via conic bundles**, *in occasion of the "workshop on Fano varieties"*, Dept. of Mathematics, University of Udine, Italy.

22/11/2018 **Adjunction theory for varieties with a one-dimensional torus action**, *in occasion of the conference "Torus Actions and Combinatorics"*,
Institute of Mathematics, Polish Academy of Sciences, Warsaw, Poland.

29/05-01/06/2018 **A characterization of some Fano 4-folds through conic fibrations**, *in occasion of the conference "Giornate di Geometria Algebrica ed Argomenti Correlati XIV"*, Dept. of Mathematics, University of Genova, Italy.

24/02/2017 **The Positivity Problem: an introduction and recent developments**, *in occasion of the conference Genova-Torino-Milano*, Dept. of Mathematics, University of Genova, Italy.

18/12/2017 **An overview of Fano conic bundles**, *in occasion of the workshop "Seminari di Natale"*, Dept. of Mathematics, University of Milano, Italy.

Invited Talks

05/03/2021 **Torus actions from the viewpoint of Birational Geometry**,
Dept. of Mathematics, University of Trieste, Italy.

09/10/2020 **Recent results on Fano 4-folds via conic bundles**,
Dept. of Mathematics, University of Trento, Italy.

29/01/2020 **Torus actions on projective manifolds: Combinatorics vs Birational Geometry**,
Dept. of Mathematics, University of Torino, Italy.

20/12/2019 **Torus actions on projective manifolds: Combinatorics vs Birational Geometry**,
Dept. of Mathematics, University of Trento, Italy.

11/12/2019 **Torus actions on projective manifolds: Combinatorics vs Birational Geometry**,
Dept. of Mathematics, University of Padova, Italy.

31/10/2019 **Torus actions on projective manifolds: Combinatorics vs Birational Geometry**,
Dept. of Mathematics, Freie Universität, Berlin, Germany.

01/10/2019 **Recent results on Fano 4-folds via conic bundles**,
Dept. of Mathematics, University of Bologna, Italy.

02/05/2019 **Adjunction theory for varieties with a one-dimensional torus action**,
Dept. of Mathematics, University of Torino, Italy.

28/03/2019 **Bandwidth 3 varieties and contact manifolds in dimension 11 and 13**,
MIMUW, University of Warsaw, Poland.

09/11/2018 **Adjunction theory for varieties with a one-dimensional torus action**,
Dept. of Mathematics, Trento, Italy.

25/05/2018 **A characterization of some Fano 4-folds through conic fibrations**,
Dept. of Mathematics, University of Bologna, Italy.

26/01/2018 **The Positivity Problem: an introduction and recent developments**,
Institute of Mathematics, Polish Academy of Sciences, Warsaw, Poland.

13/12/2017 **Mori Dream Spaces from the viewpoint of Birational Geometry**,
Institute of Mathematics, Polish Academy of Sciences, Krakow, Poland.

11/12/2017 **An overview of Fano conic bundles**,
Dept. of Mathematics, Jagiellonian University of Krakow, Poland.

9/11/2017 **Mori Dream Spaces and blow-ups of the Projective space**,
MIMUW, University of Warsaw, Poland.

19/10/2017 **Conic bundles: an introduction and work in progress**,
MIMUW, University of Warsaw, Poland.

01/02/2017 **The Positivity Problem: an introduction and recent developments**,
Dept. of Mathematics, Politecnico di Torino, Italy.

10/05/2016 **Non-elementary Fano conic bundles**,
Institute of Mathematics, Polish Academy of Sciences, Warsaw, Poland.

16/03/2016 **Non-elementary Fano conic bundles**,
Dept. of Mathematics, University of Torino, Italy.

Other Seminars

26/03/2021 **The Cone Theorem: its proof in the singular case**,
Lectures series for the research group, Dept. of Mathematics, Genova, Italy.

02/10/2020 **An introduction to the Minimal Model Program and the case of surfaces**, *Young researchers seminars*, Institute of Mathematics, Polish Academy of Sciences, Warsaw, Poland.

30/09/2020 **Chow quotients of torus actions and Mori chamber decomposition of bordisms**, *Lecture for the research group "Birational Geometry and related topics"*, Dept. of Mathematics, Trento, Italy.

28/11/2019 **Functoriality between PP-divisors and T-varieties**, *Lecture for a reading seminar*, Dept. of Mathematics, Freie Universität, Berlin, Germany.

04/11/2015 **Recent results on the Le-Brun Salamon conjecture for contact Fano manifolds in dimensions 7, 9, 11 and 13**, *Lecture for the research group "Complex Contact Fano Manifolds"*, Institute of Mathematics, Polish Academy of Sciences, Warsaw, Poland.

11/04/2018 **Torus Actions and Combinatorics**, *Lecture for the young group seminars*, MIMUW, University of Warsaw, Poland.

12/06/2015 **Mori's Cone**, *final exam for the Ph.D course "Intersection Theory in Algebraic Geometry"*, Dept. of Mathematics, University of Milano-Bicocca, Italy.

04/11/2015 **Generalized quaternion algebras and associated conics**, *Lecture for the research group*, Dept. of Mathematics, University of Torino, Italy.

13/05/2015 **A brief introduction to the Minimal Model Program and the case of surfaces**, *Seminar for students*, Dept. of Mathematics, University of Torino, Italy.

24/02/2015 **Semiample fibrations and the Iitaka fibration**, *final exam for the Ph.D course "Birational Geometry of Algebraic Varieties"*, Dept. of Mathematics, University of Torino, Italy.

28/07/2014 **Hermitian metric on complex vector bundles and Chern connection**, *final exam for the Ph.D course "Differential Geometry"*, Dept. of Mathematics, University of Torino, Italy.

28/05/2014 **Holomorphic vector bundles and the Picard Group**, *final exam for the Ph.D course "Advanced Geometry"*, Dept. of Mathematics, University of Torino, Italy.

Poster Presentations

19/03 - 23/03/2018 **A characterization of some Fano 4-folds through conic fibrations**, *School on "Birational Geometry of Hypersurfaces"*, Palazzo Feltrinelli, Gargnano del Garda, Italy.

05/06 - 09/06/2017 **Non-elementary Fano conic bundles**, *Lake Como School "Linear System on irregular varieties"*, Fondazione Alessandro Volta, Como, Italy.

Attended Schools, Conferences and Workshops

6–7/02/2020 **Workshop: Algebraic Geometry-Torino**, *University of Torino, Italy.*

22–24/01/2020 **Workshop: "EXARCHOS"**, *University of Ravenna, Italy.*

25/09/2019 **Workshop on Fano varieties**, *University of Udine, Italy.*

09–13/09/2019 **Autumn school: Homogeneous spaces and characteristic classes**, Warsaw University pension in Łukecyn, Poland.

29–31/01/2019 **Workshop on Fano and IHS manifolds**, Alma mater studiorum University of Bologna, Rimini, Italy.

07–11/01/2019 **Conference: A journey through Projective and Birational Geometry together with M. Andreatta**, *University of Trento, Povo, Italy.*

24–29/09/2019 **Conference: Algebraic Group Actions on Algebraic Varieties**, *Institute of Mathematics of the Polish Academy of Sciences, Warsaw, Poland.*

29/05–1/06/2018 **Conference: Giornate di Geometria Algebrica ed argomenti correlati, XIV edizione**, *University of Genova, Italy.*

21–22/04/2018 **School: A preparation school in Algebraic Geometry for next seminars**, *Pedagogical University of Krakow, Poland.*

19–23/03/2018 **School: Birational Geometry of Hypersurfaces**, *Palazzo Feltrinelli, Gargnano del Garda, Italy.*

18–19/12/2017 **Workshop: Seminari di Natale 2017**, *University of Milano, Italy.*

04–08/12/2017 **School: New advances in Fano manifolds**, *University of Cambridge, UK.*

11–15/09/2017 **Conference: Periods and Ricci flat manifolds**, *Institute of Mathematics of the Polish Academy of Sciences, Warsaw, Poland.*

03–09/09/2017 **School: Binomial ideals**, *Lukecin, Poland.*

05–08/07/2017 **School: School on deformation theory in Turin**, *University of Torino, Italy.*

05–09/06/2017 **School: Linear System on irregular varieties**, *Fondazione Alessandro Volta, Como, Italy.*

24–25/02/2017 **Conference: Some topics in Commutative Algebra and Algebraic Geometry**, *University of Genova, Italy.*

22–25/06/2016 **School: New methods in Birational Geometry**, *Institut de Mathématiques de Toulouse, France.*

12/05–18/06/2016 **Conference: Varieties with trivial canonical bundles**, *Institute of Mathematics of the Polish Academy of Sciences, Bedlewo, Poland.*

18–22/04/2016 **School: Varieties of Calabi-Yau type**, *Institute of Mathematics of the Polish Academy of Sciences, Warsaw, Poland.*

04–05/02/2016 **Conference: Algebraic Geometry in Torino**, *University of Torino, Italy.*

18–19/01/2016 **Conference: Algebraic Geometry Genova-Nice-Torino**, *Laboratoire de Mathématiques J.A. Dieudonné Nice, France.*

24–25/09/2015 **Conference: Some topics in Commutative Algebra and Algebraic Geometry**, *Politecnico di Milano, Italy.*

22/06–10/07/2015 **School: Pragmatic 2016, Moduli of Curves and Line Bundles**, *University of Catania, Italy.*

25–30/05/2015 **School: Algebraic Varieties and their Moduli**, *Centro di ricerca Ennio de Giorgi, Scuola normale di Pisa, Italy.*

14/05/2015 **Workshop: A categorial day in Turin**, *University of Torino, Italy.*

3–4/02/2015 **Workshop: Miniworkshop in Algebraic Geometry in Torino**, *University of Torino, Italy.*

23–27/06/2014 **School: Asymptotic aspects of Complex and Algebraic Geometry**, *University of Milano-Bicocca, Italy.*

4–7/06/2014 **Conference: Giornate di Geometria Algebrica ed argomenti correlati, XII edizione**, *Salone d'Onore del Castello del Valentino, Torino, Italy.*

Organization of conferences and seminars

09–13/09/2019 **Autumn school: Homogeneous spaces and characteristic classes**, Warsaw University pension in Łukecyn, Poland.

29–31/01/2019 **Workshop on Fano and IHS manifolds**, Alma mater studiorum University of Bologna, Rimini, Italy.

12/2015–01/2017 **Ph.D. seminars for students**, Dept. of Mathematic, University of Torino, Italy.

Partecipation in Projects

Member of the PRIN project, directed by Giovanni Mongardi, University of Bologna.

Member of the Project "Algebraic Torus Actions and Combinatorics", *University of Warsaw, MIMUW.*

Member of the Project "Algebraic Geometry, Varieties and Structures", *University of Warsaw, MIMUW.*

Member of GNSAGA, Gruppo Nazionale per le Strutture Algebriche, Geometriche e le loro Applicazioni.

Member of INDAM, Istituto Nazionale di Alta Matematica.

Students and supervised theses

2020–present **Lorenzo Barban**, *PhD student*, University of Trento, Italy.
Supervision together with Prof. Sola Conde

2019/2020 **Lorenzo Barban**, *Toric Mori theory and varieties of bandwidth two*, Trento, Italy.
Master thesis, supervision together with Prof. Sola Conde

Teaching

11/2020–12/2020 **Geometry**, DIME, course for the degree in mechanics engineering, University of Genova, Italy, 35 hours.

11/2020–12/2020 **Geometry**, DIME, course for the degree in biotechnical engineering, University of Genova, Italy, 24 hours.

10/2020–12/2020 **Geometry**, DICAM, course for the degree in construction engineering architecture, University of Trento, Italy, 22 hours.

11/2015–01/2016 **Geometry II**, *Teaching assistant for the master degree course of Prof. Albano*, Dept. of Mathematics, University of Torino, Italy, 30 hours.

03/2017–06/2017 **Geometry I**, *Tutor*, Camplus Lingotto, Residenza Universitaria, Torino, Italy, 30 hours.

03/2017–06/2017 **Mathematics**, *Teacher*, High school "G. Giolitti", Torino, Italy, 18 hours a week.

Languages

Italian mothertongue; English level B2; Polish and Spanish basic.

Genova, 24/10/2021,

Eleonora Anna Romano

Federico Alberto Rossi

Curriculum Vitae

www.unimib.it/federico-alberto-rossi

Personal Data

e-mail federico.rossi@unimib.it

ORCID 0000-0002-3170-0160

Web www.unimib.it/federico-alberto-rossi

Positions

01/06/2020-NOW **Researcher (RTD-a)** at Department of Mathematics and Applications of Università degli Studi di Milano - Bicocca. SSD MAT/03 Geometry (art. 24, comma 3, lett. a) Legge 30.12.2010 n. 240)

01/12/2019-31/05/2020 **Research fellow** at Department of Mathematics and Applications of Università degli Studi di Milano - Bicocca. Research project title: "Homogeneous Einstein manifolds"

01/04/2015-31/03/2019 **Research fellow** at Department of Mathematics and Applications of Università degli Studi di Milano - Bicocca. Research project title: "Obstructions to $\mathbf{D}$-structures and examples on Lie groups"

01/2010-02/2013 Ph.D. in "Pure and Applied Mathematics" at Department of Mathematics and Applications of Università degli Studi di Milano - Bicocca. Ph.D. Thesis: "**D**-complex structures: cohomological properties and deformations", advisors Prof. A. Tomassini and Prof. C. Medori (Università degli Studi di Parma), discussed 22/02/2013

Educations

07/01/2020 Italian scientific qualification for the position of associate professor in Geometry and Algebra (**Abilitazione Scientifica Nazionale - II fascia, Settore Concorsuale 01/A2 - Geometria e Algebra**) valid until 07/01/2029

24/07/2015 **Qualification for teaching in "Mathematics and Psychics" at secondary schools (code A027, ex-code A049 - TFA ex art. 15 D.M.249/2010 Insegnanti)**, *Università degli Studi di Modena e Reggio Emilia*, Modena, Dipartimento di Scienze Fisiche, Informatiche e Matematiche, .

Qualification Thesis:
"Probabilità e statistica in due classi quinte liceo scientifico", supervisor Prof. E. Dolera (Università degli Studi di Modena e Reggio Emilia), advisors Prof. A. Berra, Prof. A. Martelli, Prof. M. Santi

22/02/2013 **Doctor of Philosophy in Pure and Applied Mathematics**, *Department of Mathematics and Applications, Università degli Studi di Milano - Bicocca*, Milano, Ph.D. Science School, Ph.D. cycle XXV.
Ph.D. Thesis:
"**D**-complex structures: cohomological properties and deformations", supervisors Prof. A. Tomassini and Prof. C. Medori (Università degli Studi di Parma)

14/09/2009 **Master degree in Pure and Applied Mathematics (Classe 45/S)**, *Università degli Studi di Parma*, Parma, mark 110/110 with Honour.
Research Thesis: "Metriche speciali su varietà complesse" ("Special metrics on complex manifolds"), supervisor Prof. A. Tomassini (Università degli Studi di Parma)

22/02/2006 **Bachelor degree in Mathematics (Classe 32)**, *Università degli Studi di Parma*, Parma, .
Thesis: "Strutture complesse su varietà" ("Complex structures on manifolds"), supervisor Prof. A. Tomassini (Università degli Studi di Parma)

2002 **High school diploma, Scientific school**, *Liceo Classico Scientifico "Ariosto-Spallanzani"*, Reggio Emilia, .
Indirizzo PNI

Teaching experiences

2021-2022 **Lecturer**, *Università degli Studi di Milano - Bicocca*, Milano.
"Geometry III" ("Geometria III"), 16h-2CFU jointly with A. Della Vedova
Third-year course for bachelor degree in Mathematics

2021-2022 **Teaching assistant**, *Università degli Studi di Milano - Bicocca*, Milano.
"Geometry I" ("Geometria I"), 24h
First-year course for bachelor degree in Mathematics

2021-2022 **Teaching assistant**, *Università degli Studi di Milano - Bicocca*, Milano.
"Linear Algebra and Geometry" ("Algebra Lineare e Geometria"), 24h
First-year course for bachelor degree in Mathematics and for bachelor degree in Physics

2020-2021 **Teaching assistant**, *Università degli Studi di Milano - Bicocca*, Milano.
"Geometry I" ("Geometria I"), 24h
First-year course for bachelor degree in Mathematics

2020-2021 **Teaching assistant**, *Università degli Studi di Milano - Bicocca*, Milano.
"Linear Algebra and Geometry" ("Algebra Lineare e Geometria"), 24h
First-year course for bachelor degree in Mathematics and for bachelor degree in Physics

2019-2020 **Teaching assistant**, *Università degli Studi di Modena e Reggio Emilia*, Reggio Emilia.
"Mathematical Analysis" ("Analisi Matematica"), 27h
First-year course for bachelor degree in Management Engineering

2018-2019 **Teaching assistant**, *Università degli Studi di Milano - Bicocca*, Milano.
"Linear Algebra and Geometry" ("Algebra Lineare e Geometria"), 24h
First-year course for bachelor degree in Mathematics and for bachelor degree in Physics

2018-2019 **Teaching assistant**, *Università degli Studi di Modena e Reggio Emilia*, Reggio Emilia.
"Mathematical Analysis" ("Analisi Matematica"), 27h
First-year course for bachelor degree in Management Engineering

2018-2019 **Tutor**, *Università degli Studi di Milano - Bicocca*, Milano.
"Linear Algebra and Geometry" ("Algebra Lineare e Geometria"), 20h
First-year course for bachelor degree in Mathematics and for bachelor degree in Physics

2017-2018 **Teaching assistant**, *Università degli Studi di Milano - Bicocca*, Milano.
"Geometry I" ("Geometria I"), 24h
First-year course for bachelor degree in Mathematics

2017-2018 **Teaching assistant**, *Università degli Studi di Milano - Bicocca*, Milano.
"Linear Algebra and Geometry" ("Algebra Lineare e Geometria"), 24h
First-year course for bachelor degree in Mathematics and for bachelor degree in Physics

2017-2018 **Tutor**, *Università degli Studi di Milano - Bicocca*, Milano.
"Linear Algebra and Geometry" ("Algebra Lineare e Geometria"), 20h
First-year course for bachelor degree in Mathematics and for bachelor degree in Physics

2016-2017 **Teaching assistant**, *Università degli Studi di Milano - Bicocca*, Milano.
"Geometry I" ("Geometria I"), 24h
First-year course for bachelor degree in Mathematics

2016-2017 **Teaching assistant**, *Università degli Studi di Milano - Bicocca*, Milano.
"Linear Algebra and Geometry" ("Algebra Lineare e Geometria"), 24h
First-year course for bachelor degree in Mathematics and for bachelor degree in Physics

2016-2017 **Tutor**, *Università degli Studi di Milano - Bicocca*, Milano.
"Linear Algebra and Geometry" ("Algebra Lineare e Geometria"), 20h
First-year course for bachelor degree in Mathematics and for bachelor degree in Physics

2015-2016 **Teaching assistant**, *Università degli Studi di Milano - Bicocca*, Milano.
"Geometry I" ("Geometria I"), 24h
First-year course for bachelor degree in Mathematics, 24h

2015-2016 **Teaching assistant**, *Università degli Studi di Milano - Bicocca*, Milano.
"Linear Algebra and Geometry" ("Algebra Lineare e Geometria"), 24h
First-year course for bachelor degree in Mathematics and for bachelor degree in Physics

2012 **Teaching assistant**, *Università degli Studi di Milano - Bicocca*, Milano.
Second-year course "Mathematics III" ("Matematica III"), for bachelor degree in Materials Science

2012 **Teaching assistant**, *Università degli Studi di Milano - Bicocca*, Milano.
preparatory course "Mathematics recalls" ("Richiami di Matematica") (for bachelor degree in all the Science degree)

2012 **Collaborator**, *Università degli Studi di Milano - Bicocca*, Milano.
Supporting Information Technology for project "Lauree scientifiche"

2010 **Tutor**, *Università degli Studi di Milano - Bicocca*, Milano.
Second-year course "Geometry II" ("Geometria II"), for bachelor degree in Mathematics

2009 **Tutor**, *Università degli Studi di Parma*, Parma.
Second-year course "Surfaces and Curves" ("Curve e Superfici"), for bachelor degree in Mathematics

Research Activity

Projects' Membership

2021-NOW Member of Matematita, an Interuniversity Research Center for the Communication and Informal Learning of Mathematics

2020-NOW Participant research program FAR 2020 (Fondi di Ricerca di Ateneo "Geometria differenziale") "Differential Geometry", scientific manager Prof. D. Conti (Università degli Studi di Milano - Bicocca, Department of Mathematics and Applications)

2020-NOW Member of the UMI group "Matematica per l'Intelligenza artificiale e il Machine Learning" ("Matehmatics for Artificial Intelligence and Machine Learning")

2019-2020 Participant research program "Varietà omogenee di Einstein" ("Homogeneous Einstein manifolds"), scientific manager Prof. D. Conti (Università degli Studi di Milano - Bicocca)

2018-2018 Participant research program PRIN 2015 "Varietà reali e complesse: geometria, topologia e analisi armonica" ("Real and complex manifolds: geometry, topology and harmonic analysis"), national scientific manager Prof. F. Ricci (Pisa unit), local scientific manager Prof. S. Meda (Università degli Studi di Milano - Bicocca)

2015-2018 Participant research program FAR 2015, FAR 2016 and FAR 2017 (Fondi di Ricerca di Ateneo "Geometria e Topologia") "Geometry and Topology", scientific manager Prof. R. Paoletti (Università degli Studi di Milano - Bicocca, Department of Mathematics and Applications)

2010-NOW Member group GNSAGA, (2010-2016: Section "Complex geometry and topology", 2016-NOW: Section "Differential Geometry"), of Istituto Nazionale di Alta Matematica "F. Severi" (INdAM)

2011-NOW Member of European Mathematics Society (EMS)

2010-NOW Member of Unione Matematica Italiana (UMI)

2012-2015 Participant research program PRIN 2010/2011 "Varietà Reali e Complesse: geometria topologia e analisi armonica" ("Real and complex manifolds: geometry, topology and harmonic analysis"), national scientific manager Prof. F. Ricci (Pisa unit), local scientific manager Prof. S. Meda (Università degli Studi di Milano - Bicocca)

2010-2012 Participant research program FAR 2010 and FAR 2011 (Fondi di Ricerca di Ateneo "Geometria e Topologia") "Geometry and Topology", scientific manager Prof. R. Paoletti (Università degli Studi di Milano - Bicocca, Department of Mathematics and Applications)

Projects and Fund Responsibility

2018-2021 Manager of Grant "Young Talent Award" (Premio Giovani Talenti). (3500 Euro)

2015-2019 Principal investigator of the research project "Obstuction to **D**-structures and examples on Lie groups" ("Ostruzioni alle **D**-strutture ed esempi su gruppi di Lie"), Department of Mathematics and Applications, Università degli Studi di Milano - Bicocca, (from 01-04-2015 to 31-03-2019)

Talks

2021 10 September, Covilhã: "Indefinite Nilsolitons and Einstein Solvmanifolds", at "XXIX International Fall Workshop in Geometry and Physics", CMA-UBI, Covilhã (Portugal)

2021 5 July, Levico Terme: "A Way to Construct Special Einstein Pseudo-Riemannian metrics on Solvable Lie Groups", at the conference "Cohomology of Complex Manifolds and Special Structures - II", INVITED TALK, CIRM, Levico Terme (TN)

2021 28 May, Milano: “Uniqueness of ad-invariant metrics”, at Cycle of “Seminari AI@Bicocca da asporto”, organized by Università degli Studi di Milano-Bicocca, Milan (MI - Italy)

2021 30 April, Parma: “*Solitary* Lie algebras”, at Cycle of “Geometry Seminars - Unipr” (“Seminari di Geometria - Unipr”), organized by Università degli Studi di Parma, Parma (PR - Italy)

2021 18 February, Niigata: “Diagram involutions and homogeneous Ricci-flat metrics”, at “6th Workshop "Complex Geometry and Lie Groups"”, Niigata (Japan)

2019 18 July, Milano: “Construction of nice nilpotent Lie algebras and Ricci-flat metrics”, INVITED TALK, Dipartimento di Matematica e Applicazioni, Università degli Studi di Milano-Bicocca (MI)

2019 1 February, Zaragoza: “Classification of nice nilpotent Lie algebras and construction of Einstein and Ricci-flat pseudoriemannian metrics”, INVITED TALK, Departamento de Matemáticas, Universidad de Zaragoza, Zaragoza (Spain)

2018 26 September, Levico: “Riemannian and pseudo-Riemannian nilsolitons”, at the workshop “Progressi Recenti in Geometria Reale e Complessa - XI”, CIRM, Levico Terme (TN)

2018 12 June, Firenze: “Construction of nice nilpotent Lie algebras and Einstein metrics”, at “The 5th Workshop Complex Geometry and Lie Groups”, Firenze (FI - Italy)

2018 22 January, Cogne: “Einstein nilpotent Lie groups”, at “Informal Geometry Workshop in "Paradiso"”, Cogne (AO - Italy)

2017 11 December, Parma: “Metriche Einstein invarianti su gruppi di Lie”, INVITED TALK, Dipartimento di Scienze Matematiche, Fisiche e Informatiche, Università degli Studi di Parma

2017 19 April, Reggio Emilia: “Geometrie non-Euclidee”, educational talk for high school students, Liceo Classico-Scientifico “Ariosto-Spallanzani”, Reggio Emilia

2017 7 April, Torino: “The Ricci tensor of almost parahermitian manifolds”, at “Differential Geometry Days”, Dipartimento di Matematica “Giuseppe Peano”, Università degli Studi di Torino

2017 10 February, Milano: ”Left-invariant Einstein metrics on Nilmanifolds”, at “Insalate di Matematica”, Department of Mathematics and Applications, Università degli Studi di Milano - Bicocca

2012 12 July, Milano: “Comologia di Varietà **D**-complesse”, at “I Semiseminari 2011-2012”, Department of Mathematics and Applications, Università degli Studi di Milano - Bicocca

2012 22 May, “Introduzione alle Strutture **D**-Complesse, III”, XI talk of the series “Seminarii di Geometria”, Dipartimento di Matematica, Università degli Studi di Parma

2012 8 May, “Introduzione alle Strutture **D**-Complesse, II”, X talk of the series “Seminarii di Geometria”, Dipartimento di Matematica, Università degli Studi di Parma

2012 28 February, “Introduzione alle Strutture **D**-Complesse, I”, IX talk of the series “Seminarii di Geometria”, Dipartimento di Matematica, Università degli Studi di Parma

2012 11 January, Parma: "Introduzione alla geometria generalizzata, I", at "Seminario degli ex-studenti di Parma, seconda edizione", Dipartimento di Matematica, Università degli Studi di Parma

2011 16 September, Bologna: "Deformazioni di D-strutture ed esempi", at "XIX Congresso dell'Unione Matematica Italiana", sezione Geometria Complessa, UMI, Bologna

2010 21 December, Parma: "Geometria Para-complessa: un'introduzione", at "Seminario degli ex-studenti di Parma", Dipartimento di Matematica, Università degli Studi di Parma

2010 10 December, Milano: "Strutture Para-complesse", talk, Department of Mathematics and Applications, Università degli Studi di Milano - Bicocca

2010 8 April, Milano: "Metriche speciali su nilvarietà complesse", talk of the series "I Semiseminari 2010-2011", Department of Mathematics and Applications, Università degli Studi di Milano - Bicocca

Poster Session

2020 November-December: "Pseudo-Riemannian Nilsolitons: Problems and Examples", video-poster as part of the "15th International Young Researchers Workshop on Geometry, Mechanics, and Control", Utrecht (Netherlands),

2018 September, Sevilla: "Construction of nice nilpotent Lie algebras and Einstein metrics", accepted at the "XXVII International Fall Workshop on Geometry and Physics", Sevilla (Spain) – Not done for personal reasons

Organizational Experiences

2020 Co-organizer, jointly with Sonia Brivio, Diego Conti, Alberto Della Vedova, Filippo Favale and Roberto Paoletti, of the workshop "Geometria in Bicocca 2020", Department of Mathematics and Applications, Università degli Studi di Milano-Bicocca, orignially planned for September 24-25, suspended for COVID-19 pandemic

2018 Co-organizer, jointly with Filippo Favale, of the workshop "Joint Algebraic & Differential Encounters", Department of Mathematics and Applications, Università degli Studi di Milano-Bicocca, 18 June

2018 Co-organizer, jointly with Sonia Brivio, Diego Conti, Alberto Della Vedova, Filippo Favale and Roberto Paoletti, of the workshop "Geometria in Bicocca 2018", Department of Mathematics and Applications, Università degli Studi di Milano-Bicocca, 31 May-01 June

2018 Co-organizer, jointly with Amedeo Altavilla (UNIROMA2) and Nicoletta Tardini (UNIPI), of the seminars "Seminario degli ex-studenti - 3a edizione", Dipartimento di Scienze Matematiche, Fisiche e Informatiche, Università degli Studi di Parma, 8-9 January

2012 Co-organizer, jointly with Gennaro Amendola, Francesco Bastianelli, Diego Conti, Gianni Manno and Jasmin Raissy, of the workshop "Geometria in Bicocca 2012", Department of Mathematics and Applications, Università degli Studi di Milano - Bicocca, 10-11 May

2011-2012 Co-organizer of the seminars series "I Semiseminari 2011-2012", informal research seminars of the Ph.D. students of Department of Mathematics and Applications (Università degli Studi di Milano - Bicocca)

Research Periods Abroad

2019 Hosted at Département de Mathématiques Faculté des Sciences d'Orsay, Université Paris-Suds, supervisor: Prof. A. Moroianu and Dott. V. del Barco, 20-22 March

2019 Hosted at Departamento de Matemáticas, Universidad de Zaragoza, supervisor: Prof. L. Ugarte, 28 Gennaio-08 Febbraio

Awards and Grants

2018 Winner of the first prize at "Young Talent Award" ("Premio Giovani Talenti") of Università degli Studi di Milano-Bicocca joint with Accademia Nazionale dei Lincei – Edizione 2018 (Sector 1[1]). The Award aims to recognize the quality, originality and impact of the scientific production of unstructured researchers and encourage their training through international mobility actions

2009 Winner of a Ph.D. scholarship in Mathematics at Università di Pisa (rejected) and at Università di Milano - Bicocca (accepted)

2009 Master degree with Honour in Pure and Applied Mathematics (Classe 45/S) Università degli Studi di Parma

2003 Award as "Best Student" ("Miglior Studente") of the bachelor degree in Mathematics, academic year 2002/2003

2002 Winner of a scholarship by Istituto Nazionale di Alta Matematica "F. Severi" (INdAM) for studing Mathematics

Other Research Activity

2018-NOW Referee for Mathematics peer-review Journal (Revista de la Unión Matemática Argentina, Tsukuba Journal of Mathematics, Punjab University Journal of Mathematics, Mathematical Methods in the Applied Sciences, Quaestiones Mathematicae, Rivista di Matematica dell'Università di Parma)

2015-NOW Review for Mathematical Reviews (MatSciNet) of America Mathematical Society since 01-04-2015

2015-NOW Review for Zentralblatt MATH (zbMATH) of European Mathematical Society since 01-04-2015

Papers and Preprint

Published Papers

[1] D. Conti, V. del Barco, and F. A. Rossi. "Diagram involutions and homogeneous Ricci-flat metrics". In: *Manuscripta Math.* (2020). ISSN: 1432-1785. DOI: 10.1007/s00229-020-01225-y.

[2] D. Conti and F. A. Rossi. "Indefinite Einstein metrics on nice Lie groups". In: *Forum Mathematicum* 32.6 (2020), pp. 1599–1619. DOI: 10.1515/forum-2020-0049.

[1] Includes Mathematics and Computer Science (Area 01) and Industrial and Information Engineering (Area 09)

[3] D. Conti and F. A. Rossi. "Construction of nice nilpotent Lie groups". In: *Journal of Algebra* 525 (2019), pp. 311 –340. ISSN: 0021-8693. DOI: 10.1016/j.jalgebra.2019.01.020.

[4] D. Conti and F. A. Rossi. "Einstein nilpotent Lie groups". In: *J. Pure Appl. Algebra* 223.3 (2019), pp. 976–997. ISSN: 0022-4049. DOI: 10.1016/j.jpaa.2018.05.010.

[5] D. Conti and F. A. Rossi. "Ricci-flat and Einstein pseudoriemannian nilmanifolds". In: *Complex Manifolds* 6.1 (2019), pp. 170–193. ISSN: 2300-744. DOI: 10.1515/coma-2019-0010.

[6] D. Conti and F. A. Rossi. "The Ricci tensor of almost parahermitian manifolds". In: *Ann. Global Anal. Geom.* 53.4 (2018), pp. 467–501. ISSN: 1572-9060. DOI: 10.1007/s10455-017-9584-y.

[7] D. Angella, M. G. Franzini, and F. A. Rossi. "Degree of non-Kählerianity for 6-dimensional nilmanifolds". In: *Manuscripta Math.* 148.1-2 (2015), pp. 177–211. ISSN: 0025-2611. DOI: 10.1007/s00229-015-0734-x.

[8] D. Angella and F. A. Rossi. "Cohomology of $\mathbf{D}$-complex manifolds". In: *Differential Geom. Appl.* 30.5 (2012), pp. 530–547. ISSN: 0926-2245. DOI: 10.1016/j.difgeo.2012.07.003.

[9] F. A. Rossi. "On deformations of $\mathbf{D}$-manifolds and CR $\mathbf{D}$-manifolds". In: *J. Geom. Phys.* 62.2 (2012), pp. 464–478. ISSN: 0393-0440. DOI: 10.1016/j.geomphys.2011.11.007.

[10] F. A. Rossi and A. Tomassini. "On strong Kähler and astheno-Kähler metrics on nilmanifolds". In: *Adv. Geom.* 12.3 (2012), pp. 431–446. ISSN: 1615-715X. DOI: 10.1515/advgeom-2011-057.

Preprint

[11] D. Conti, V. del Barco, and F. A. Rossi. "Uniqueness of ad-invariant metrics". arXiv:2103.16477.

[12] D. Conti and F. A. Rossi. "Indefinite nilsolitons and Einstein solvmanifolds". arXiv:2105.09209.

[13] D. Conti and F. A. Rossi. "Nice pseudo-Riemannian nilsolitons". arXiv:2107.07767.

[14] F. Magri and F. A. Rossi. "Haantjes manifolds". In preparation.

[15] C. Medori and F. A. Rossi. "On para complex CR-algebras". In preparation.

[16] F. A. Rossi and L. Ugarte. "Paracomplex and complex product structures on 6-dimensional solvmanifolds". In preparation.

Thesis

[17] F. A. Rossi. *Probabilità e statistica in due classi quinte liceo scientifico*. Tesi di Abilitazione all'insegnamento in Matematica e Fisica (classe A049 - TFA ex art. 15 D.M.249/2010 Insegnanti). 2015.

[18] F. A. Rossi. "$\mathbf{D}$-complex structures: cohomological properties and deformations". PhD thesis. Università degli Studi di Milano - Bicocca, 2013. URL: http://hdl.handle.net/10281/41976.

[19] F. A. Rossi. "Metriche speciali su varietà complesse". Tesi di Laurea Specialistica. MA thesis. Università degli Studi di Parma, 2009.

Abstracts in Proceedings

[20] F. A. Rossi. "Deformazioni di D-strutture ed esempi". In: *Atti XIX Convegno dell'Unione Matematica Italiana*. Ed. by UMI Unione Matematica Italiana. Alma Mater Studiorum - Università di Bologna, 2011, p. 881.

Other topics

- Some articles have been completed thanks to the use of calculation software (Mathematica, Sage, Maple), which I can efficiently and productively use

Date: 23 October 2021

CURRICULUM VITAE

FRANCESCO G. RUSSO

1. Posizioni attualmente rivestite

Senior Lecturer dal primo di luglio del 2014
presso Department of Mathematics and Applied Mathematics
di University of Cape Town, Cape Town, Sud Africa.
e
External Professor da Aprile 2020
presso Department of Mathematics and Applied Mathematics
di University of the Western Cape, Bellville, Sud Africa.

2. Ruoli di natura accademica

Direttore del gruppo di ricerca "Topology, Algebra and Dynamical Systems"
https://sites.google.com/site/topolalgeb/
presso Department of Mathematics and Applied Mathematics
di University of Cape Town, Cape Town, Sud Africa.

Membro dell' "Internationalization Committee"
presso Department of Mathematics and Applied Mathematics
di University of Cape Town, Cape Town, Sud Africa.

Membro del "Network of Italian Researchers of the western Cape" (NIRC)
Italian Consulate of Cape Town, Cape Town, Sud Africa.
https://conscapetown.esteri.it/consolato_capetown/en/la_comunicazione/dal-consolato/network-ricercatori.html

Editore della rivista scientifica "Transactions on Combinatorics" [Special Issue, in progress].
https://toc.ui.ac.ir/

Editore della rivista scientifica "Topology and Its Applications" [Two Special Issues: 2017 and 2021 (in progress)].
https://www.sciencedirect.com/journal/topology-and-its-applications/special-issues

Editore della rivista scientifica "Quaestiones Mathematicae"
https://www.tandfonline.com/action/journalInformation?show=editorialBoard&journalCode=tqma20

Editore della rivista scientifica "Acta Mathematica Spalatensia"
https://amas.pmfst.unist.hr/ams/about.php

3. Progetti scientifici ottenuti, seminari e organizzazione di attivita' di ricerca

1. Principal investigator (P.I., ovvero responsabile) del progetto "Diversity in Topology" dal 2020, sponsorizzato da National Research Foundation of South Africa negli anni 2019, 2021, 2021, 2022. Questo progetto di ricerca ha carattere internazionale ed é stato scelto tramite un processo di selezione tra pari su modello delle ERC grants con un panel di referees esterni. Tratta vari aspetti della Topologia e ha consentito di supportare 5 studenti tra MSc e PhD e permesso di finanziare meetings, visite di esperti internazionali e conferenze tra il 2019 e il 2021, come illustrato nella pagina web del gruppo di ricerca "Topology, Algebra and Dynamical Systems". Alcune delle principali iniziative, supportate da questo progetto, sono indicate appresso

   https://sites.google.com/site/topolalgeb/home/conferences/mwta-2019

   https://sites.google.com/site/topolalgeb/home/conferences/wgttg2020

   https://sites.google.com/site/topolalgeb/home/activities

   e gli studenti coinvolti sono quelli elencati al link di sotto negli anni 2019–2021

   https://sites.google.com/site/topolalgeb/home/members

con rispettivo link alle relative tesi di MSc e PhD.

2. Coordinatore di ErasmusPlus tra University of Cape Town (Sud Africa) and Universita' di Spalato (Croazia) per il quinquennio 2020–2025.

3. P.I. del progetto scientifico "Spectral Graph Theory" di ISARP 2018-2020, sponsorizzato da National Research Foundation of South Africa negli anni 2018–2021. Questo progetto e' stato supportato dal Ministero degli Esteri e della Cooperazione Internazionale (MAECI) dell' Italia e ha carattere internazionale, essendo stato scelto tramite un processo di selezione tra pari su modello delle ERC grants con un panel di referees esterni. Ha coinvolto esperti italiani e sudafricani che lavorano nel settore della teoria spettrale dei grafi e della topologia. Abbiamo organizzato con la controparte italiana (P.I.: F. Belardo, Universita' di Napoli Federico II) un meeting in Italia e uno virtuale in Sud Africa su argomenti di Graph Theory, Combinatorics e Topology. In aggiunta, in periodo pre-covid, e' stato possibile promuovere uno schema di mobilita' aggiuntivo per colleghi, laureandi e dottorandi delle rispettive unita' di ricerca in Cape Town e Napoli, offrendo opportunita' di seminari, periodi intensivi di studio e corsi specialistici. Si vedano i seguenti links

   https://sites.google.com/site/topolalgeb/home/conferences/wgttg2020

   http://www.dma.unina.it/ocsuser/ocs/index.php/WAGTCN/2018

   https://drive.google.com/file/d/15SoJRL4TaLCdhd_7h0_mXUvn825m15R0/view

4. P.I. del progetto scientifico "Rhythms of growth for topological invariants", sponsorizzato dal National Research Foundation of South Africa negli anni 2015 - 2017. Questo progetto ha visto insieme esperti internazionali tra Sud Africa, Brasile, Germania, Iran, Italia, Francia e Lituania lavorare su temi di gruppi topologici e analisi funzionale. Si pone come progetto a carattere internazionale, essendo stato scelto tramite un processo di selezione tra pari su modello delle ERC grants con un panel di referees esterni. Alcune iniziative sono elencate nei links sottostanti

   https://sites.google.com/site/topolalgeb/home/conferences/wttg-2017

   https://sites.google.com/site/topolalgeb/home/conferences/wclt2017-1

5. Collaboratore del progetto "Topology for Tomorrow" il cui P.I. é Prof. David Holgate (University of the Western Cape, Bellville, Sud Africa), supportato da NRF negli anni 2021 – 2025 che prevede meetings di carattere scientifico e supporto a postdocs e PhD students su temi di topologia; si tratta di un progetto di rilevanza internazionale con competizione tra pari e processo di selezione tramite external referees su modello di selezione delle ERC grants; dal 01-09-2021 a oggi.

6. Collaboratore del progetto FAPESP 2021/05256-0 in geometria differenziale e analisi il cui P.I. é Prof. Stefano Nardulli (Universidade Federal do ABC, Santo André, Brasile) di rilevanza internazionale con competizione tra pari e processo di selezione tramite external referees su modello di selezione delle ERC grants; coinvolge ricercatori da USA, Brasile, Italia e Sud Africa; dal 01-09-2021 a oggi.

7. Organizzatore dei seminari (a carattere internazionale) elencati al seguente link:

   https://sites.google.com/site/topolalgeb/home/activities

   tramite fondi del National Research Foundation of South Africa e tramite fondi di altri enti di ricerca internazionali, usati da alcuni degli speakers che hanno visitato il gruppo di ricerca "Topology, Algebra and Dynamical Systems" in Cape Town in periodo pre-covid.

8. P.I. di 4 progetti scientifici a carattere locale su fondi di ateneo, ottenuti negli anni tra il 2014 e il 2018.

9. Supporto finanziario per partecipare (su invito) ai seguenti meetings in MFO (Oberwolfach, Germania) :

   http://www.mfo.de/occasion/1124a/www_view ; http://www.mfo.de/occasion/1150.

10. Membro del GNFM dell' Indam (Firenze, Italia) dal 2017 con supporto scientifico per missioni o visite a carattere scientifico.

4. Qualifiche di natura accademica

ASN in MAT/07 (Fisica Matematica) con SSD 01/A4
Rilasciata dal MIUR in Italia, valida dal 31/05/2021 al 31/05/2030.

Fellowship di Eccellenza
congiuntamente tra Instituto de Matemática Pura e Aplicada (Rio de Janeiro, Brasile)
e Universidade Federal do Rio de Janeiro (Rio de Janeiro, Brasile) in 2013 e 2014.

Postdoc
presso Universitá degli Studi di Palermo (Palermo, Italia) nel 2013.

Postdoc
presso Universitá degli Studi di Palermo (Palermo, Italia) nel 2011.

Phd in Matematica
presso Universitá degli Studi di Napoli Federico II (Napoli, Italia) ottenuta il 10/02/2009.

SSIS in A047 (Abilitazione per insegnamento in Matematica per scuole superiori)
presso Universitá degli Studi di Napoli Federico II (Napoli, Italia) il 21/04/2009.

SSIS in A049 (Abilitazione per insegnamento in Matematica e Fisica per scuole superiori)
presso Universitá degli Studi di Napoli Federico II (Napoli, Italia) il 23/04/2009.

Laurea in Matematica (V.O.)
presso Universitá degli Studi di Napoli Federico II (Napoli, Italia) il 16/07/2003.

Diploma di Pianoforte Principale (V.O.)
presso Conservatorio Statale di Musica N. Sala (Benevento, Italia) in data 11/07/2002.

5. Insegnamento a carattere accademico

Presso University of Cape Town (Cape Town, Sud Africa) sono stato (e sono) titolare dei seguenti corsi dal 2014:

MAM 2000W, 2RA, Real Analysis, 30 ore, Faculty of Science. Questo corso e' omologato ai corsi europei (e in particolare italiani) di Analisi I per studenti delle facolta' scientifiche, in base alla normativa vigente.

MAM 2000W, 2AC, Advanced Calculus, 30 ore, Faculty of Science. Questo corso e' omologato ai corsi europei (e in particolare italiani) di Analisi II per studenti delle facolta' scientifiche, in base alla normativa vigente.

MAM 1021F, Mathematics 1B for Engineers, 30 ore, Faculty of Engineering. Questo corso e' omologato ai corsi europei (e in particolare italiani) di Analisi I per studenti delle facolta' di Ingegneria, in base alla normativa vigente.

Algebra 2, Honours course at MAM, 30 ore, Faculty of Science. Questo corso e' omologato ai corsi europei (e in particolare italiani) di Algebra Superiore per studenti dei corsi di laurea in matematica e fisica degli ultimi anni (in base alla normativa vigente).

Algebraic Topology, Honours course at MAM, 30 ore, Faculty of Science. Questo corso e' omologato ai corsi europei (e in particolare italiani) di Topologia Algebrica per studenti dei corsi di laurea in matematica e fisica degli ultimi anni (in base alla normativa vigente).

Topology, Honours course at MAM, 30 ore, Faculty of Science. Questo corso e' omologato ai corsi europei (e in particolare italiani) di Topologia per studenti dei corsi di laurea in matematica e fisica degli ultimi anni (in base alla normativa vigente).

Metric Spaces, Honours course at MAM, 30 ore, Faculty of Science. Questo corso e' omologato ai corsi europei (e in particolare italiani) di Spazi Metrici per studenti dei corsi di laurea in matematica e fisica degli ultimi anni (in base alla normativa vigente).

Presso Universitá degli Studi di Palermo (Palermo, Italia) tra 2010 and 2012 sono stato titolare dei corsi di:

Geometria e Algebra, 60 ore, Ingegneria dell'Energia, Facolta' di Ingegneria;

Geometria e Algebra, 60 ore, Ingegneria Meccanica, Facolta' di Ingegneria.

6. Selezione di pubblicazioni

La lista completa e aggiornata si trova qui:

https://zbmath.org/authors —> Russo, Francesco G.

http://www.ams.org/mathscinet/ —> Authors —> Russo, Francesco G.

https://www.researchgate.net/profile/Francesco_G_Russo

https://www.scopus.com/freelookup/form/author.uri —> Russo, Francesco G.

Una selezione e' la seguente:

1. W.Herfort, K.H. Hofmann and F.G. Russo, Periodic Locally Compact Groups, de Gruyter, Berlin, 2018.
2. W. Herfort, K.H. Hofmann and F.G. Russo, Locally Compact Groups with Permutable Subgroups, Adv. Math. (2021), accepted.
3. K.H. Hofmann and F.G. Russo, The probability that x and y commute in a compact group, Math. Proc. Cambridge Phil. Soc. 153 (2012), 557-571.
4. F.Bagarello and F.G. Russo, A description of pseudo-bosons in terms of nilpotent Lie algebras, J. Geom. Physics 125 (2018), 1–11.
5. F. Bagarello, Y. Bavuma and F.G. Russo, Topological decompositions of the Pauli group and their influence on dynamical systems, Math. Phys. Anal. Geom. 24 (2021) , Article No: 16
6. F. Bagarello and F.G. Russo, Realization of Lie algebras of high dimension via pseudo-bosonic operators, J. Lie Theory 30 (2020), 925-938
7. F. Bagarello and F.G. Russo, On the presence of families of pseudo-bosons in nilpotent Lie algebras of arbitrary corank. J. Geom. Physics 137 (2019), 124-131.
8. P. Niroomand, M. Parvizi and F.G. Russo, Some criteria for detecting capable Lie algebras, J. Algebra 384 (2013), 36-64.
9. P. Niroomand and F.G. Russo, A note on the Schur multiplier of nilpotent Lie algebras, Comm. Algebra 39 (2011), 1293–1297.
10. D. Dikranjan, A. Giordano Bruno and F.G.Russo, Finiteness of topological entropy for locally compact abelian groups, Glasgow Math. J. (2020), doi: 10.1017/S0017089520000038

7. Supervisione di studenti

(1) MSc supervisor di Stephen Dzaka presso African Institute of Mathematical Science con MSc thesis intitolata *Dynamical Systems on Geometric Structures* disponibile qui

https://docs.google.com/viewer?a=v&pid=s ites&
srcid=YWltcy5hYy56YXxhcmNoaXZlfGd4O jRiMTlhYjNkZTBmOTQwMjQ

dal 01-12-2016 al 30-06-2017.

(2) PhD supervisor di Eniola Kazeem presso University of Cape Town con PhD thesis disponibile al link:

https://open.uct.ac.za/handle/11427/30383.

dal 01-01-2017 al 01-12-2019.

(3) Postdoc supervisor di Dr. Eniola Kazeem (University of Cape Town) su temi di interazione tra topologia e random walks discussi nella sua tesi di PhD nel 2019 dal 01-06-2020 a oggi.

(4) MSc supervisor di Yanga Bavuma presso University of Cape Town con tesi in topologia disponibile qui:

https://open.uct.ac.za/handle/11427/29763.

dal 01-04-2017 al 31-12-2018.

(5) PhD supervisor dal 2018 al 2021 di Yanga Bavuma presso University of Cape Town, con tesi intitolata *The relevance of the Pauli group in dynamical systems with pseudo-fermions*. Tesi discussa in Ottobre 2021.

(6) PhD supervisor di Seid Kassaw Muhie dal 01-05-2018 al 13-05-2020 presso University of Cape Town e Woldia University in Etiopia con tesi intitolata *A probabilistic approach to a result of Ore*. Tesi discussa in Dicembre 2020.

(7) MSc supervisor di Mr. Olwethu Waka (University of Cape Town) su temi di entropia in strutture geometriche nel periodo 2019-2021. Tesi discussa in Ottobre 2021, intitolata *Topics of Entropy in Locally Compact Abelian Groups*.

(8) MSc supervisor di Mr. Mita Ramabulana (University of Cape Town) su gruppi topologici. Tesi discussa in Ottobre 2021, intitolata *Topics of Nonabelian Tensor Products of Topological groups*.

8. Ulteriore servizio di natura accademica

Referee per progetti della National Research Foundation (of South Africa) dal 2015.

Membro di commissione per esami di
Teoria degli Operatori (Honours in matematica, ultimo anno),
Analisi Funzionale (Honours in matematica, ultimo anno),
Topologia (Honours in matematica, ultimo anno).
Anni accademici 2015 e 2016, presso University of Cape Town, Cape Town, Sud Africa.

Membro di commissione esterno per esami di
Teoria delle Categorie (Honours in matematica, ultimo anno),
Teoria degli Insiemi e Logica (Honours in matematica, ultimo anno),
Anno accademico 2014, presso Stellenbosch University, Stellenbosch, Sud Africa.

Membro di commissione per 3 MSc theses in Topology
presso University of the Witswatersrand (Johannesburg, Sud Africa) in 2017, 2018, 2019.

Membro di commissione per PhD di Luiz Tarrega presso Universitat Jaume I in Castellon (Spagna) in 2017.
La sua tesi sta qui:

https://www.tdx.cat/bitstream/handle/10803/460830/2017_Tesis_Tarrega%20Ruiz_Luis.pdf?sequence=1

Reviewer per Mathscinet and Zentralblatt dal 2007

Referee varie riviste di carattere scientifico, e ultimamente per J. Algebra, Arch. Math. (Basel), Topology Appl., J. Korean Math. Soc., Forum. Math., Graphs and Combinatorics, J. Math. Phys., J. Lie Theory, Comm. Algebra.

Appartenenza ai seguenti organi professionali:
Network of Italian Researchers of the Western Cape (NIRC, Italian Consulate of Cape Town);
Deutsch Mathematiker Vereinigung;
Istituto italiano Di Alta Matematica;
Unione Matematica Italiana;
American Mathematical Society;
South African Mathematical Society

Sincerely yours,

Francesco G. Russo.

Cape Town, South Africa, October 20, 2021.

Luca Schaffler, Curriculum Vitae

KTH Royal Institute of Technology
Department of Mathematics
Lindstedtsvägen 25
SE - 100 44 Stockholm, Sweden

Office: 3636
Email: lucsch@math.kth.se
Web: http://people.kth.se/~lucsch/

Research Interests

Algebraic geometry. Compactifications of moduli spaces, birational geometry, minimal model program, geometric invariant theory, Hodge theory. Algebraic surfaces, hyperplane arrangements, point arrangements. Combinatorial aspects related to algebraic geometry: toric varieties, convex geometry, matroids.

Positions Held

- Postdoc, KTH Royal Institute of Technology
  Dates: August 17, 2020 – present
  Research mentor: Prof. Sandra Di Rocco
- Marshall H. Stone Visiting Assistant Professor, University of Massachusetts Amherst
  Dates: September 1, 2017 – August 31, 2020
  Research mentor: Prof. Jenia Tevelev

Education

- Ph.D. Mathematics, University of Georgia, 2012 – 2017
  Thesis title: The KSBA Compactification of a 4-dimensional Family of Polarized Enriques Surfaces
  Advisor: Prof. Valery Alexeev
- M.S. Mathematics, Roma Tre University, 2010 – 2012
  Thesis title: Distribution of Rational Points on Algebraic Curves
  Advisor: Prof. Lucia Caporaso
  Grade: 110/110 cum laude
- B.S. Mathematics, Roma Tre University, 2007 – 2010
  Final test: comprehensive exam
  Grade: 110/110 cum laude

Publications

- *Compactifications of moduli of points and lines in the projective plane* (with J. Tevelev). **International Mathematics Research Notices.** Published online: August 6, 2021.
- *Geometric interpretation of toroidal compactifications of moduli of points in the line and cubic surfaces* (with P. Gallardo and M. Kerr). **Advances in Mathematics,** Volume 381, 16 April 2021.

- *Point configurations, phylogenetic trees, and dissimilarity vectors* (with A. Caminata, N. Giansiracusa, and H.-B. Moon). **Proceedings of the National Academy of Sciences of the United States of America (PNAS)** March 23, 2021 118 (12).
- *Decomposition of Lagrangian classes on K3 surfaces* (with K.-W. Lai and Y.-S. Lin), (2020). To appear in **Mathematical Research Letters.** arXiv:2001.00202
- *A Pascal's theorem for rational normal curves* (with A. Caminata). **Bulletin of the London Mathematical Society.** Published online: June 15, 2021.
- *KSBA compactification of the moduli space of K3 surfaces with a purely non-symplectic automorphism of order four* (with H.-B. Moon). **Proceedings of the Edinburgh Mathematical Society** (2) 64 (2021), no. 1, 99–127.
- *Equations for point configurations to lie on a rational normal curve* (with A. Caminata, N. Giansiracusa, and H.-B. Moon). **Advances in Mathematics** 340 (2018), 653–683.
- *K3 surfaces with $\mathbb{Z}_2^2$ symplectic action.* **Rocky Mountain Journal of Mathematics** 48 (2018), no. 7, 2347–2383.
- *The KSBA compactification of the moduli space of $D_{1,6}$-polarized Enriques surfaces.* **Mathematische Zeitschrift.** Published online: September 1, 2021.
- *On the cone of effective 2-cycles on $\overline{M}_{0,7}$.* **European Journal of Mathematics** 1 (2015), no. 4, 669–694.

Preprints

- *Families of pointed toric varieties and degenerations* (with S. Di Rocco), (2021). arXiv:2110.04842.

Teaching Experience

- KTH Royal Institute of Technology

  Main Instructor

  - (In progress) Commutative Algebra and Algebraic Geometry, MM7042, Master's Degree course joint between KTH and Stockholm University, Fall 2021 (co-taught with Timothy Hosgood)
  - Intersection Theory and Moduli Spaces, PhD reading course, Term 4, Spring 2021. Link to course webpage:
    `https://people.kth.se/~lucsch/intersection_theory_and_moduli_spaces_spring_2021.html`

  Teaching Assistant

  - Discrete Mathematics, SF1610, Term 4, Spring 2021
  - Calculus in One Variable, SF1685, Term 3, Spring 2021

- University of Massachusetts Amherst

  Main Instructor

  - Multivariate Calculus, MATH 233, one section, Spring 2020
  - Fundamental Concepts of Mathematics, MATH 300, two sections, Fall 2019
  - Fundamental Concepts of Mathematics, MATH 300, one section, Spring 2019
  - Introduction to Abstract Algebra I, MATH 411, two sections, Fall 2018

- Fundamental Concepts of Mathematics, MATH 300, one section, Spring 2018
- Multivariate Calculus, MATH 233, two sections, Fall 2017

- University of Georgia

  Main Instructor

  - Calculus I for Science and Engineering, MATH 2250, one section, Spring 2015
  - Precalculus, MATH 1113, one section, Fall 2014

  Teaching Assistant

  - Analytic Geometry and Calculus, MATH 2200, Fall 2013

  Grader

  - Real Analysis I, MATH 8100, Fall 2014
  - Graph Theory, MATH 4690/6690, Spring 2014
  - Modern Algebra and Geometry I, MATH 4000/6000, Fall 2013
  - Point Set Topology, MATH 4200/6200, Spring 2013
  - Algebraic Topology, MATH 8200, Spring 2013, Spring 2014
  - Combinatorics, MATH 4670/6670, Fall 2012
  - Real Analysis, MATH 4100/6100, Fall 2012

  Tutor

  - Precalculus and Calculus (Study Hall)

- Roma Tre University

  Tutor

  - Complex Analysis, AC310, Fall 2010
  - Mathematical Physics, FM1, Spring 2010

Awards for Teaching Activity

- Outstanding Teaching Assistant Award, University of Georgia, March 2016. Conferred by the University of Georgia. Nomination submitted by the Department of Mathematics.

Pedagogical Classes Taken at the University of Georgia

- MATH 9005 Precalculus and Calculus Teaching Seminar. Fall 2014 and Spring 2015. Instructor: Lisa Townsley. Description: Seminar designed to assist graduate students while teaching a first course in Precalculus and Calculus 1. We discussed the course outline, syllabus formation, tests and final exam creation, as well as the topics of the forthcoming lectures, emphasizing the difficult things for students to learn and how we can better assist them with learning. At the same time, the seminar begins the development and implementation of a successful teaching philosophy.
- GRSC 7770. Fall 2013. Instructor: Jacob Hicks. Description: We read Steven Krantz's book "How to Teach Mathematics." We had weekly group discussions, practice lectures, and activities related to topics from this book.
- LLED 7769. Fall 2012. Instructor: Daniel Gilhooly. Description: Preliminary course for international students to become teaching assistants at the University of Georgia.

Awards and Funding for Research Activity

- KTH travel fund, Academic Year 2021–2022, 20000 SEK.
- Research Support Fund, Massachusetts Society of Professors, Academic Year 2019–2020, $1000.
- Research Support Fund, Massachusetts Society of Professors, Academic Year 2018–2019, $1000.
- Marshall H. Stone Visiting Assistant Professor travel funding, $2000 per academic year, 2017 – 2020.
- Dissertation Completion Award, University of Georgia, May 2016, funding for Fall 2016 – Spring 2017.
- William Armor Wills Memorial Scholarship Award, University of Georgia, Department of Mathematics, April 2016, $1000.
- NSF Funding (PI: Valery Alexeev), University of Georgia, Fall 2015, Summer 2016 and 2017.
- RTG Funding, University of Georgia, Spring 2016.
- Graduate School Research Assistantship, University of Georgia, Summer 2013, 2014, and 2015.
- Graduate Student Teaching Assistantship, University of Georgia, Fall 2012 – Spring 2015.

Invited Conference Talks

- Hodge Theory, Arithmetic and Moduli II, Texas A&M University, College Station, February 8, 2020.
- PIMS Symposium on Hodge Theory, Arithmetic and Moduli, University of British Columbia, Vancouver, May 15, 2019.
- BATMOBYLE, Amherst College, Amherst, May 2, 2019.
- Hodge Theory, Moduli and Representation Theory, Stony Brook University, August 17, 2017.
- Workshop on Algebraic Varieties, Hodge Theory and Motives, Fields Institute, Toronto, March 12, 2017.
- Focused Research Group on Hodge Theory, Moduli and Representation Theory: Workshop VIII, Washington University in St. Louis, St. Louis, January 8, 2017.
- Joint Mathematics Meetings, AMS Contributed Paper Session on Algebraic Geometry, Atlanta, January 6, 2017.
- American Institute of Mathematics, Workshop on Positivity of Cycles, San Jose, August 4, 2016.
- "Giornate di Geometria Algebrica ed Argomenti Correlati XIII", University of Catania, Catania, Italy, May 25, 2016.

Invited Seminar Talks

- Tata Institute of Fundamental Research, Colloquium, online, January 22, 2021.
- University of California Riverside, UC Riverside Algebraic Geometry Seminar, online, January 19, 2021.
- University of California Riverside – Washington University in St. Louis, Mini-Seminar on Compactifications, online, October 1, 2020.

- University of Georgia, Algebraic Geometry Seminar, online, September 30, 2020.
- Rutgers University, Algebra Seminar, online, April 29, 2020.
- KTH Royal Institute of Technology, Fika webinar, online, April 23, 2020.
- Texas A&M University, Algebra and Combinatorics Seminar, College Station, February 7, 2020.
- Washington University in St. Louis, Algebraic Geometry Seminar, St. Louis, January 15, 2020.
- Pontificia Universidad Católica de Chile, Algebraic Geometry Seminar, Santiago, January 8, 2020.
- Duke University, Algebraic Geometry Seminar, Durham, August 30, 2019.
- Sapienza University of Rome, Algebra and Geometry Seminar, Rome, June 26, 2019.
- Washington University in St. Louis, Algebraic Geometry Seminar, St. Louis, February 27, 2019.
- University of Connecticut, Algebra Seminar, Storrs, November 14, 2018.
- Universitat de Barcelona, Barcelona Algebraic Geometry Seminar, Barcelona, June 8, 2018.
- Yale University, Yale Algebraic and Tropical Geometry Seminar, April 26, 2018.
- Northeastern University, Geometry, Physics, and Representation Theory Seminar, April 5, 2018.
- Stony Brook University, Algebraic Geometry Seminar, October 4, 2017.
- Colorado State University, FRAGMENT seminar, Fort Collins, May 4, 2017.
- Nagoya University, Algebraic Geometry Seminar, Nagoya, April 17, 2017.
- Kyoto University, Algebraic Geometry Seminar, Kyoto, April 14, 2017.
- Duke University, Algebraic Geometry Seminar, Durham, February 17, 2017.
- Leibniz Universität Hannover, Research Seminar Algebraic Geometry, Hannover, Germany, December 21, 2016.
- University of Utah, Algebraic Geometry Bootcamp, research group talk, Salt Lake City, July 2015.
- Roma Tre University, Algebraic Geometry Seminar, Rome, Italy, June 4, 2015.

Conference Poster Presentations

- "Riposte Armonie": Algebraic Geometry in Cetraro 2021 together with Ciro Ciliberto, September 22, 2021. Title: *Families of pointed toric varieties and degenerations*.
- AGNES, Stony Brook University, online, October 24, 2020. Title: *Compactifications of moduli of points and lines in the projective plane*.
- Ideals, Varieties, Applications: Celebrating the Influence of David Cox, Amherst College, June 11, 2019. Title: *A Pascal's theorem for rational normal curves*.
- AGNES, Brown University, September 22, 2018. Title: *Compactifications of moduli spaces of points and lines*.
- Birational Geometry and Moduli Spaces, INdAM, June 14, 2018. Title: *Compactifications of moduli spaces of points and lines*.

- AGNES, Northeastern University, October 14, 2017. Title: *K3 surfaces with $\mathbb{Z}_2^2$ symplectic action*.
- AGNES, University of Massachusetts Amherst, November 5, 2016. Title: *The KSBA compactification of the moduli space of $D_{1,6}$-polarized Enriques surfaces*.
- WAGS, Colorado State University, October 15, 2016. Title: *The KSBA compactification of the moduli space of $D_{1,6}$-polarized Enriques surfaces*.
- AGNES, Brown University, October 3, 2015. Title: *On the cone of effective 2-cycles on $\overline{M}_{0,7}$*.

Talks at KTH Royal Institute of Technology

- KTH – Stockholm University, Kombinatorik Seminarium, online, March 10, 2021. Title: *Point configurations, phylogenetic trees, and dissimilarity vectors*.
- KTH – Stockholm University, Onsdag Zoom Seminarium, online, November 18, 2020. Title: *Compactifications of moduli of points and lines in the projective plane*.
- KTH Seminar in Algebraic Geometry and its Applications, August 31 and September 7, 2020. Title: *Mustafin varieties and moduli of points in the projective plane, I and II*.

Talks at the University of Massachusetts Amherst

- Reading Seminar in Algebraic Geometry, March 9, 2020. Title: *Homological mirror symmetry for elliptic curves. II*.
- Valley Geometry Seminar, January 31, 2020. Title: *A Pascal's theorem for rational normal curves*.
- Reading Seminar in Algebraic Geometry, October 4, 2019. Title: *Lattice theory, K3 surfaces, and the Torelli theorem*.
- Discrete Math Seminar, September 12, 2019. Title: *Reconstructing degenerations of hyperplane arrangements*.
- Reading Seminar in Algebraic Geometry, February 22, 2019. Title: *Introduction to toric varieties*.
- Valley Geometry Seminar, February 15, 2019. Title: *Compactifications of the moduli space of K3 surfaces with order 4 purely non-symplectic automorphism*
- Reading Seminar in Algebraic Geometry, October 19, 2018. Title: *The Mukai lattice of the Kuznetsov component*.
- Reading Seminar in Algebraic Geometry, February 16, 2018. Title: *The moduli space of 8 points on $\mathbb{P}^1$ and automorphic forms, following S. Kondo*.
- Valley Geometry Seminar, February 9, 2018. Title: *Equations for points to lie on a rational normal curve*.
- Reading Seminar in Algebraic Geometry, October 23, 2017. Title: *$\mathbb{Q}$-Gorenstein deformations of surface singularities*.
- Valley Geometry Seminar, October 20, 2017. Title: *Toward a compactification of the moduli space of Enriques surfaces by KSBA stable pairs*.

Talks for general audience

- The "What Is ...?" Graduate Seminar (TWIGS), University of Massachusetts Amherst, February 16, 2021. Title: *What is a secondary polytope?*
- Undergraduate Math Club Talk, University of Massachusetts Amherst, October 10, 2018. Title: *Precalculus of lines and conics in the projective plane*.
- Graduate Student Summer Conference, University of Georgia, July 26, 2017. Title: *Hyperbolic spaces and reflections*.
- Graduate Students Seminar, University of Georgia, September 20, 2016. Title: *The arithmetic of Enriques surfaces*.
- Mock AMS Conference, University of Georgia, July 27, 2016. Title: *Polyhedral subdivisions of the unit cube*.
- Graduate Students Seminar, University of Georgia, October 27, 2015. Title: *Fiber polytopes*.
- Mock AMS Conference, University of Georgia, July 29, 2015. Title: *The secondary polytope*.
- Mock AMS Conference, University of Georgia, July 31, 2013. Title: *Moduli spaces and the Hilbert scheme*.

Conferences/Workshops Attended

- "Riposte Armonie": Algebraic Geometry in Cetraro 2021 together with Ciro Ciliberto, Cetraro, September 21–24, 2021.
- Invited participant to the research program Moduli and Algebraic Cycles, Institut Mittag-Leffler, Stockholm, August 30–December 10, 2021.
- K3 surfaces and hyperkähler manifolds, Università degli Studi di Milano, online, June 9, 2021.
- AGNES, Stony Brook University, online, October 23–25, 2020.
- Hodge Theory, Arithmetic and Moduli II, Texas A&M University, College Station, February 8–9, 2020.
- AGNES, Boston College, Chestnut Hill, September 20–22, 2019.
- Ideals, Varieties, Applications: Celebrating the Influence of David Cox, Amherst College, Amherst, June 10–14, 2019.
- PIMS Symposium on Hodge Theory, Arithmetic and Moduli, University of British Columbia, Vancouver, May 13–17, 2019.
- Recent Progress in Moduli Theory, MSRI, Berkeley, May 6–10, 2019.
- BATMOBYLE, Amherst College, Amherst, May 2, 2019.
- AGNES, University of Massachusetts Amherst, Amherst, March 22–24, 2019.
- AGNES, Brown University, Providence, September 21–23, 2018.
- Combinatorial Algebraic Geometry Retrospective Workshop, Fields Institute, Toronto, June 18–22, 2018.
- Birational Geometry and Moduli Spaces, INdAM, Rome, June 11–15, 2018.

- AGNES, Rutgers University, New Brunswick, April 13–15, 2018.
- Georgia Algebraic Geometry Symposium, Georgia Institute of Technology, Atlanta, February 23–25, 2018.
- AGNES, Northeastern University, Boston, October 13–15, 2017.
- Conference on Birational Geometry, Simons Foundation, New York, August 21–25, 2017.
- Hodge Theory, Moduli and Representation Theory, Stony Brook University, August 14–18, 2017.
- Workshop on Algebraic Varieties, Hodge Theory and Motives, Fields Institute, Toronto, March 9–12, 2017.
- Georgia Algebraic Geometry Symposium, University of Georgia, Athens, March 3–5, 2017.
- Joint Mathematics Meetings, Atlanta, January 4–7, 2017.
- Thematic Program on Combinatorial Algebraic Geometry, Workshop on Combinatorial Moduli Spaces and Intersection Theory, Fields Institute, Toronto, December 5–9, 2016.
- AGNES, University of Massachusetts Amherst, Amherst, November 4–6, 2016.
- WAGS, Colorado State University, Fort Collins, October 15–16, 2016.
- Georgia Summer Workshop in Algebraic Geometry, University of Georgia, Athens, August 27–28, 2016.
- Positivity of Cycles, American Institute of Mathematics, San Jose, California, August 1–5, 2016.
- Thematic Program on Combinatorial Algebraic Geometry, Graduate Summer School on Combinatorial Algebraic Geometry, Fields Institute, Toronto, July 18–22, 2016.
- "Giornate di Geometria Algebrica ed Argomenti Correlati XIII", University of Catania, Italy, May 25–28, 2016.
- Spring Southeastern Sectional Meeting, University of Georgia, Athens, March 5–6, 2016.
- Georgia Algebraic Geometry Symposium, Emory University, Atlanta, October 23–25, 2015.
- AGNES, Brown University, Providence, October 2–4, 2015.
- Summer Research Institute on Algebraic Geometry, University of Utah, Salt Lake City, July 13–24, 2015.
- The Graduate Students Bootcamp for the 2015 Algebraic Geometry Summer Research Institute, University of Utah, Salt Lake City, July 6–10, 2015.
- Georgia Algebraic Geometry Symposium, University of Georgia, Athens, October 17–19, 2014.
- Graduate Workshop on Moduli of Curves, Simons Center, Stony Brook University, July 7–18, 2014.
- Georgia Algebraic Geometry Symposium, University of Georgia, Athens, October 18–20, 2013.
- Advanced Course "Compactifying Moduli Spaces", Centre de Recerca Matemàtica, Barcelona, May 27–31, 2013.

Mentoring Experience

- Mentoring Lukas Gustafsson (Sandra Di Rocco's PhD student) on topics in pure algebraic geometry. KTH, Fall 2020.
- Research Experiences for Undergraduates (REU), University of Massachusetts Amherst, Summer 2018. Student: Patrick Lei.
  - For the background we covered Miles Reid's "*Undergraduate algebraic geometry*".
  - The research project was related to the paper: arXiv:1711.06286

Outreach

- UGA High School Math Tournament, 2016.
  - The day of the tournament I helped with registration, proctoring, and grading.
  - I designed the picture on the tournament T-shirt.
  - I drew most of the pictures for the tournament problems.
  - I helped with writing test problems and solutions.
- UGA High School Math Tournament, 2015. I helped with writing test problems and solutions.

Organizational Experience

- I organized the poster session for the conference AGNES in UMass Amherst, March 2019

Service

- University of Massachusetts Amherst
  - Jacob-Cohen-Killam competition, University of Massachusetts Amherst, February 2020. I helped with creating some of the problems, writing the solutions, proctoring, and grading.
  - Panelist, "*Panel discussion: how to apply for academic jobs in math*", September 2019.
  - Jacob-Cohen-Killam competition, University of Massachusetts Amherst, March 2019. I helped with creating some of the problems and with grading.
- University of Georgia
  - I helped with hospitality and whiteboard maintenance for the "Georgia Algebraic Geometry Symposium", March 2017
  - I helped with hospitality for the UGA conferences "Georgia Summer Workshop in Algebraic Geometry" and "Topological Approaches to Algebra and Arithmetic Geometry", August, September 2016
  - Seminar talk, Professional Development Summer, UGA Math Department Bootcamp, "*Programming for mathematical research*", July 2016
  - Panelist, Professional Development, making the transition after qualifying exams, 2016
  - Panelist, Graduate Visitation Day, for prospective graduate students, 2016, 2017
  - Panelist, The Graduate Student Boot Camp, for first and second year graduate students, 2014

Referral and Reviewing

- Referee for AMS Book Program, International Symposium on Symbolic and Algebraic Computation (ISSAC), and Mathematische Zeitschrift.
- Reviewer for *AMS Mathematical Reviews* (2019 – Present).

Programming Languages/Mathematics Software

C, Python/Mathematica, LRS, Macaulay2, Sage

Languages

- Italian (native language)
- English (fluent, written and spoken)
- Swedish (A1 level)

Place and date:
Stockholm, 15/10/2021

Curriculum Vitae

Harry Schmidt

Address

Departement Mathematik und Informatik,
Universität Basel,
Spiegelgasse 1,
4051 Basel, Schweiz

Education

09.2011-10.2015	PhD student at the University of Basel under the supervision of David Masser FRS. The title of my thesis is "Multiplication polynomials and relative Manin-Mumford in additive extensions" and I defended on the 08.10.2015.
09.2011	Master's degree in Mathematics at the University of Basel.

Employment

02.2019-present	PostDoc at the University of Basel. Research and teaching duties.
09.2019-01.2020	Lecturer at the HSLU, Horw.
06.2017-01.2019	Research Associate at the University of Manchester. Research on a project under a grant of the ESPRC. Lecturing a graduate course.
12.2015-05.2017	Research fellow at the University of Oxford (as an "Early Postdoc.Mobility" fellow of the "Swiss National Science Foundation").
09.2011-11.2015	Assistant at the University of Basel. Research on a project of the "Swiss National Science Foundation", teaching duties.
10.2005-07.2011	Tutor at the private educational institute "NHL" in Schopfheim, Germany.

publications

[1] "Lower bounds for Galois orbits of special points on Shimura varieties: A point counting approach.", to appear in Math. Ann. (with Gal Binyamini and Andrei Yafaev).

[2] "A short note on Manin-Mumford", to appear in IJNT.

[3] "Rational values of transcendental functions and arithmetic dynamics", to appear in JEMS (with Gareth Boxall and Gareth Jones).

[4] "Pfaffian definitions of Weierstrass elliptic functions", to appear in Math. Ann. (with Gareth Jones).

[5] "A Manin-Mumford theorem for the maximal compact subgroup of a universal vectorial extension of a product of elliptic curves", to appear in IMRN (with Gareth Jones).

[6] "Unlikely intersections in semi-abelian surfaces", Algebra Number Theory 13 (2019), no. 6, 1455–1473 (with Daniel Bertrand).

[7] "Counting rational points and lower bounds for Galois orbits", Atti Accad. Naz. Lincei Rend. Lincei Mat. Appl. 30 (2019), no. 3, 497–509.

[8] "Relative Manin-Mumford in additive extensions", Trans. Amer. Math. Soc. 371 (2019), no. 9, 6463–6486.

[9] "Pell's equation in polynomials and additive extensions", Quart. J. Math. 68 (2017), 1335-1355.

[10] "Resultants and discriminants of multiplication polynomials for elliptic curves" (with an appendix written jointly with J.K. Canci), Journal of Number Theory 149 (2014), 70-91.

Preprints

[11] "Polynomial dynamics and local analysis", *arXiv:2009.07609*.

[12] "Unlikely intersections of curves and algebraic subgroups of semi-abelian varieties" (with Fabrizio Barroero and Lars Kühne), *arXiv:2108.12405*.

[13] "Effective uniform counting for sets defined by pfaffian functions" (with Gal Binyamini, Gareth Jones and Margaret Thomas). *(In preparation.)*

Teaching Experience

FS 2021	Teaching Assistant for the undergraduate course "Introduction to arithmetic of dynamical systems", University of Basel.
HS 2020	Lecturing the undergraduate course "Einführung in die Zahlentheorie", University of Basel.
FS 2020	Teaching assistant for the undergraduate student seminar "Gitter und Codes", University of Basel.
HS 2019	Lecturing the module "Physik" at the HSLU, Horw.
FS 2019	Lecturing the undergraduate course "Lineare Algebra II", University of Basel.
Semester 1 2018	Lecturing the graduate course "Elliptic functions", University of Manchester.
FS 2015	Teaching assistant for the master's course "Fortgeschrittene Zahlentheorie", University of Basel.
HS 2014	Teaching assistant for the bachelor's course "Funktionentheorie und Vektoranalysis', University of Basel.
HS 2012-HS 2013	Teaching assistant for the master's course "Diophantische Themen", University of Basel.
HS 2011	Teaching assistant for the bachelor's course "Reelle Analysis", University of Basel.
09.2005- 07.2011	Tutoring and running preparatory courses for the German "Abitur"-exam, NHL Schopfheim.

Grants

[11.2015-04.2017] SNF fellowship "Early Postdoc.Mobility" (127'150.00 CHF).

Research visits.

11.2018/03.2019	Research visitor (two weeks each) at the Weizmann Institute, Israel.
01.2018	Research visitor (two weeks) at Stellenbosch University, South Africa.
01.2015	Research visitor (two weeks) at the University of Manchester, England.
02.2014	Student member (one month) at the MSRI in Berkeley (California) for the program "Model theory, arithmetic geometry and number theory".

Invited talks at conferences.

01.2020	"Donau-Rhein Modelltheorie und Anwendungen", University of Konstanz, Germany.
01.2020	"9th swiss-french workshop in Algebraic Geometry", Charmais, Switzerland.
01.2019	"AIMS-Stellenbosch University Number Theory 2019", Stellenbosch University, South Africa.
08.2018	"Model-theoretic methods in number theory and algebraic differential equations", University of Manchester, England.
07.2018	"Workshop on effectivity and ineffectivity for unlikely intersections" (woeful), University of Manchester, England.
06.2018	"Around functional transcendence", University of Oxford, England.
01.2018	"Stellenboch Number Theory Day", Stellenbosch University, South Africa.
06.2017	"Workshop on O-minimality and Diophantine Applications", Fields Institute, Toronto, Canada.
05.2017	"O-minimality and Diophantine applications", MFO, Oberwolfach, Germany.
02.2017	"Workshop on Heights and Applications to Unlikely Intersections", Fields Institute, Toronto, Canada.
09.2016	Informal meeting at the University of Manchester, England.
05.2016	"Diophantische Approximationen" MFO, Oberwolfach, Germany.
09.2014	"Functional Transcendence around Ax-Schanuel", Clay Research Workshop at the University of Oxford, England.
06.2014	"Second ERC research period on Diophantine Geometry", Conference in Cetraro, Italy.

Invited seminar talks

11.2020	Informal seminar on dynamics and number theory at the University of Harvard, USA (online).
11.2020	Arithmetic Dynamics International Online Seminar (ADIOS).
10.2020	Number Theory seminar of the University of Calgary, Canada (online).
11.2019	Number theory seminar of the University of Freiburg, Germany.
10.2018	Number theory seminar of the University of York, England.
06.2018	Logic seminar of the University of Oxford, England.
04.2018	Number theory seminar of the University of Basel, Switzerland.
12.2017	Logic Seminar of the University of Manchester, England.
11.2016	Advanced logic class of the University of Oxford, England.
03.2016	Advanced logic class of the University of Oxford, England.
01.2016	Number theory seminar of the University of Manchester, England.
01.2015	Logic seminar of the University of Manchester, England.
01.2015	Logic seminar of the University of Oxford, England.

Administrative experience

[09.2012-07.2015] Representative at the "Fakultätsversammlung" of the Phil.Nat. faculty of the University of Basel.

Outreach

[09.2018]	Referee for a student competition at the Universtity of Manchester funded by IBM.
[09.2019-02.2020]	Participated in the outreach project “Wissensbox” of the University of Basel.

Language Skills

German	native
English	fluent
French	advanced
Russian	basic

Dario Spirito

Esperienze accademiche

Marzo 2020–

Ricercatore a tempo determinato tipologia "A" in Algebra
Università degli Studi di Padova

Luglio 2017 – Febbraio 2020

Assegno di ricerca in Algebra
Università degli Studi "Roma Tre"
Titolo: "Metodi topologici nella teoria degli anelli commutativi"

Abilitazione Scientifica Nazionale a professore di seconda fascia

Settore concorsuale 01/A2 – Geometria e Algebra
Valida dal 7 gennaio 2020 al 7 gennaio 2029

Formazione

Giugno 2016 — Dottorato di ricerca in matematica
Università degli Studi "Roma Tre"
Tesi: "Spaces of closure operations on rings and numerical semigroups"
Relatore: Prof. Marco Fontana

Luglio 2012 — Laurea magistrale in matematica
Università degli Studi "Roma Tre"
110/110 e lode
Tesi: "Closure operations and star operations in commutative rings"
Relatore: Prof. Marco Fontana

Luglio 2010 — Laurea in matematica
Università degli Studi "Roma Tre"
110/110 e lode

Luglio 2007 — Maturità scientifica
Liceo scientifico "Aristotele", Roma
Voto: 100/100 e lode

Pubblicazioni

1. *Some topological considerations on semistar operations* (con Carmelo Finocchiaro), Journal of Algebra **409** (2014), 199-218.

2. *Star operations on numerical semigroups*, Communications in Algebra **43**(7) (2015), 2943–2963.

3. *Star operations on numerical semigroups: The multiplicity 3 case*, Semigroup Forum **91**(2) (2015), 476–494.

4. *New distinguished classes of spectral spaces: a survey* (con Carmelo Finocchiaro e Marco Fontana), in S. Chapman, M. Fontana, A. Geroldinger, B. Olberding (editor), *Multiplicative Ideal Theory and Factorization Theory: Commutative and Non-Commutative Perspectives*, Springer Proc. Math. Stat. **170**, Springer (2016).

5. *Spectral spaces of semistar operations* (con Carmelo Finocchiaro e Marco Fontana), Journal of Pure and Applied Algebra **220**(8) (2016), 2897–2913.

6. *A topological version of Hilbert's Nullstellensatz* (con Carmelo Finocchiaro e Marco Fontana), Journal of Algebra **461** (2016), 25–41.

7. *Topology, intersections and flat modules* (con Carmelo Finocchiaro), Proceedings of the Americal Mathematical Society **144**(10) (2016), 4125–4133.

8. *Star operations on numerical semigroups: antichains and explicit results*, Journal of Commutative Algebra **11**(3) (2019), 401–431.

9. *Jaffard families and localizations of star operations*, Journal of Commutative Algebra **11**(2) (2019), 265–300.

10. *Topological properties of semigroup primes of a commutative ring* (con Carmelo Finocchiaro e Marco Fontana), Beiträge zur Algebra und Geometrie **58**(3) (2017), 453–476.

11. *Non-compact subsets of the Zariski space of an integral domain*, Illinois Journal of Mathematics **60**(3–4) (2017), 791–809.

12. *Towards a classification of stable semistar operations on a Prüfer domain*, Communications in Algebra **46**(4) (2018), 1831–1842.

13. *Embedding the set of non-divisorial ideals of a numerical semigroup into $\mathbb{N}^n$*, Journal of Algebra and its Applications **17**(11) (2018), 1850205.

14. *The upper Vietoris topology on the space of inverse-closed subsets of a spectral space and applications* (con Carmelo Finocchiaro e Marco Fontana), Rocky Mountain Journal of Mathematics **48**(5) (2018), 1551–1583.

15. *Calculating the density of solutions of equations related to the Pólya-Ostrowski group through Markov chains*, Acta Arithmetica **186**(4) (2018), 319–336.

16. *The sets of star and semistar operations on semilocal Prüfer domains*, Journal of Commutative Algebra **12**(4) (2020), 581–602.

17. *Topological properties of localizations, flat overrings and sublocalizations*, Journal of Pure and Applied Algebra **223**(3) (2019), 1322-1336.

18. *The Zariski topology on sets of semistar operations without finite-type assumptions*, Journal of Algebra **513** (2018), 27–49.
    - *Corrigendum to "The Zariski topology on sets of semistar operations without finite-type assumptions"*, Journal of Algebra **551** (2020), 362–366.

19. *Star operations on Kunz domains*, International Electronic Journal of Algebra **25** (2019), 171-185.

20. *Vector subspaces of finite fields and star operations on pseudo-valuation domains*, Finite Fields and Their Applications **56** (2019), 17–30.

21. *When the Zariski space is a Noetherian space*, Illinois Journal of Mathematics **63**(2) (2019), 299–316.

22. *The number of star operations on numerical semigroups and on related integral domains*, in: Barucci V., Chapman S., D'Anna M., Fröberg R. (editor), *Numerical Semigroups*, Springer INdAM Series **40**, Springer (2020).

23. *When two principal star operations are the same*, in: Facchini A., Fontana M., Geroldinger A., Olberding B. (editor), *Advances in Rings, Modules and Factorizations. Rings and Factorizations 2018*, Springer Proc. Math. Stat. **321**, Springer (2020).

24. *Topological properties of subsets of the Zariski space*, in: Gładki P., Koenigsmann J., Koprowski P., Kubiś W., Kučera R., Kuhlmann F.-V., Mišík L. (editor), *Proceedings of the 5th Joint Conferences on Algebra, Logic and Number Theory*, Banach Center Publications **121**, Polish Academy of Sciences (2020)

25. *The Golomb topology on a Dedekind domain and the group of units of its quotients*, Topology and Its Applications **293** (2020), 107101.

26. *The Golomb topology of polynomial rings*, Quaestiones Mathematicae **44**(4) (2021), 447–468.

27. *An ultrapower analogue of the Kronecker function ring* (con Alan Loper), Fundamenta Mathematicae **252** (2021), 103–119.

28. *The Zariski-Riemann space of valuation domains associated to pseudo-convergent sequences* (con Giulio Peruginelli), Transactions of the American Mathematical Society **373**(11) (2020), 7959–7990.

29. *Decomposition and classification of length functions*, Forum Mathematicum **32**(5) (2020), 1109–1129.

30. *Wilf's conjecture for numerical semigroups with large second generator*, Journal of Algebra and Its Applications (to appear).

31. *Suprema in spectral spaces and the constructible closure* (con Carmelo Finocchiaro), New York Journal of Mathematics **26** (2020), 1064–1092.

32. *Multiplicative closure operations on ring extensions*, Journal of Pure and Applied Algebra **225**(4) (2021), 106555.

33. *Multiplicative properties of Integer valued Polynomials over split-quaternions* (con Antonio Cigliola e Francesca Tartarone), Communications in Algebra **49**(3) (2021), 1338–1351.

34. *The Golomb space is topologically rigid* (con Taras Banakh e Sławomir Turek), Commentationes Mathematicae Universitatis Carolinae **62**(3) (2021), 347–360.

35. *Asymptotic for the number of star operations on one-dimensional Noetherian domains*, Journal of the Korean Mathematical Society **58**(5) (2021), 1239–1260.

36. *Extending valuations to the field of rational functions using pseudo-monotone sequences* (con Giulio Peruginelli), Journal of Algebra **586** (2021), 756–786.

37. *Radicals of principal ideals and the class group of a Dedekind domain*, Pacific Journal of Mathematics **314**(1) (2021), 219–231.

38. *Metrizability of spaces of valuation domains associated to pseudo-convergent sequences* (con Giulio Peruginelli), Journal of Algebra and Its Applications (to appear).

39. *The derived sequence of a pre-Jaffard family*, Mediterranean Journal of Mathematics (to appear).

Preprint:

1. *Isolated points of the Zariski space* (arXiv: 2009.11141).

2. *The polynomial closure is not topological* (con Giulio Peruginelli; arXiv:2107.02552).

Conferenze

AMS Sectional Meeting, Special Session on Closure Operations in Commutative Algebra (Invited Speaker)
Georgetown University, 8–9 marzo 2015
Semistar operations and topology

Giornate di Geometria Algebrica ed argomenti correlati (Invited Speaker)
Università di Catania, 25–28 maggio 2016
Proprietà topologiche di insiemi di sovraanelli

Recent Advances in Commutative ring and Module Theory
Bressanone, 14–17 giugno 2016
Topological properties of sets of overrings of an integral domain

International Meeting on Numerical Semigroups with Applications (Invited Speaker)
Levico Terme, 4–8 luglio 2016
Star operations on numerical semigroups

Meeting of the Catalan, Spanish, Swedish Math Societies, Session on Numerical Semigroups and Applications (Invited Speaker)
Umeå, 12–15 giugno 2017
Star operations and shapes of the set of non-divisorial ideals

Conference on Rings and Factorizations
Graz, 19–23 febbraio 2018
Jaffard families and extension of star operations

ALaNT 5 – Joint Conferences on Algebra, Logic and Number Theory
Będlewo, 24–29 giugno 2018
Topological properties of subsets of the Zariski space

International Meeting on Numerical Semigroups with Applications (Invited Speaker)
Cortona, 3–7 settembre 2018
Star operations on numerical semigroups

Joint Mathematics Meeting 2021, Special Session on Commutative Rings: Ideals, Modules, and Factorizations (Invited Speaker)
6–9 gennaio 2021
Extending valuation domains through pseudo-monotone sequences, II

Conference on Rings and Polynomials 2021
Graz, 19–24 luglio 2021
Jaffard and pre-Jaffard families

Algebra, Topology and their Interactions (Invited Speaker)
Udine, 7–8 settembre 2021
The Golomb topology on Dedekind domains

Seminari

Università degli Studi "Roma Tre", 6 maggio 2013
Operazioni star su semigruppi numerici

Università degli Studi "Roma Tre", 3 giugno 2014
Operazioni semistar spettrali ed eab: analogie e differenze

City University of New York, 13 febbraio 2015
The Zariski topology on sets of semistar operations

George Mason University, 27 febbraio 2015
The Zariski topology on sets of semistar operations

Università di Padova, 21 novembre 2017
Estensioni di operazioni star e famiglie di Jaffard

Università di Padova, 11 luglio 2018
Decomposition and classification of length functions

Ohio State University, 15 ottobre 2018
The sets of star and semistar operations on a Prüfer domain

Università di Padova, 4 dicembre 2018
Sottoinsiemi non compatti dello spazio di Zariski

Attività professionali

Referee per le seguenti riviste:
Algebra Universalis, Communications in Algebra, Communications of the Korean Mathematical Society, International Electronic Journal of Algebra, Journal of Algebra and Its Applications, Journal of Commutative Algebra, Journal of Pure and Applied Algebra, Matematicki Vesnik, Portugaliae Mathematica, Rendiconti del Circolo Matematico di Palermo, Ricerche di Matematica, Rocky Mountain Journal of Mathematics, Topology and its Applications.

Reviewer per Mathematical Reviews e per Zentralblatt MATH.

Proofreading per il libro *Rings, Modules and Closure Operations* di Jesse Elliott, edito da Springer.

Riconoscimenti

2011 Borsa di studio INDAM per l'avviamento alla ricerca
2007 Borsa di studio INDAM per la laurea triennale, rinnovata per gli anni successivi al primo
2007 Medaglia d'oro alla fase nazionale delle Olimpiadi di Matematica

Didattica

2021 Istituzioni di Matematica
Corso di laurea in Biologia Molecolare
Dipartimento di Biologia, Università di Padova
Anno accademico 2021/2022

2020 Istituzioni di Matematica
Corso di laurea in Biologia Molecolare
Dipartimento di Biologia, Università di Padova
Anno accademico 2020/2021

2020 Algebra lineare e geometria, canale 5
Co-titolare (32 CFU su 96)
Dipartimento di Ingegneria dell'Informazione, Università di Padova
Anno accademico 2019/2020

2019 Corso avanzato di algebra commutativa noetheriana e omologica
Corso di dottorato
Dipartimento di Matematica e Fisica, Università di Roma Tre
Anno accademico 2018/2019

Sostegno alla didattica

2019 Esercitazioni per il corso di AL210 – Algebra 2
prof. Francesca Tartarone
Dipartimento di Matematica e Fisica, Università di Roma Tre
Anno accademico 2019/2020

2017 Esercitazioni per il corso di AL210 – Algebra 2
prof. Stefania Gabelli
Dipartimento di Matematica e Fisica, Università di Roma Tre
Anno accademico 2017/2018

2016 Esercitazioni per il corso di AL210 – Algebra 2
prof. Stefania Gabelli
Dipartimento di Matematica e Fisica, Università di Roma Tre
Anno accademico 2016/2017

2016 Esercitazioni per il corso di AL310 – Istituzioni di Algebra Superiore
prof. Stefania Gabelli
Dipartimento di Matematica e Fisica, Università di Roma Tre
Anno accademico 2015/2016

2012 Tutore per il corso di AC310 – Analisi complessa
prof. Edoardo Sernersi
Dipartimento di Matematica, Università di Roma Tre
Anno accademico 2011/2012

2010 Tutore per il corso di AC310 – Analisi complessa
prof. Lucia Caporaso
Dipartimento di Matematica, Università di Roma Tre
Anno accademico 2010/2011

2010 Tutore per il corso di TE1 – Teoria delle equazioni e teoria di Galois
prof. Francesco Pappalardi
Dipartimento di Matematica, Università di Roma Tre
Anno accademico 2009/2010

Soggiorni di ricerca

Settembre 2014–marzo 2015: attività di ricerca presso la George Mason University (Fairfax, Virginia), in collaborazione con il prof. Neil Epstein

Francesco Strazzanti

Dati personali

Nome	Francesco Strazzanti
Email	francesco.strazzanti@gmail.com
Sito web	https://sites.google.com/site/francescostrazzanti

Esperienze di ricerca postdottorali

01/05/2021 - oggi Assegno di ricerca, Dipartimento di Matematica "Giuseppe Peano", Università degli Studi di Torino.

01/05/2020 - 30/04/2021 Assegno di ricerca, Dipartimento di Matematica, Alma Mater Studiorum Università di Bologna.

01/04/2019 - 31/03/2020 Assegno di collaborazione ad attività di ricerca bandito dall'INdAM. Sede scelta: Dipartimento di Matematica e Informatica dell'Università degli Studi di Catania.

19/09/2018 - 18/03/2019 Mensilità di borse di studio per l'estero a.a. 2018-2019 bandite dall'INdAM. Sede scelta: Institute of Mathematics of the University of Barcelona (IMUB), Spagna.

23/05/2018 - 22/08/2018 Borsa di ricerca, Dipartimento di Matematica e Informatica, Università degli Studi di Catania.

19/01/2018 - 18/04/2018 Mensilità di borse di studio per l'estero a.a. 2017-2018 bandite dall'INdAM. Sede scelta: Institute of Mathematics of the University of Barcelona (IMUB), Spagna.

02/01/2017 - 31/12/2017 Postdoctoral researcher, Departamento de Álgebra e Instituto de Matemáticas de la Universidad de Sevilla (IMUS), Siviglia, Spagna.

Formazione

Dottorato in Matematica, Università di Pisa (2012-2016).
Titolo della tesi: *A family of quotients of the Rees algebra and rigidity properties of local cohomology modules.*
Relatore: Enrico Sbarra.

Laurea Magistrale in Matematica, Università degli Studi di Catania (2010 - 2012).
Titolo della tesi: *Anelli almost Gorenstein*.
Relatore: Marco D'Anna.
Voto: 110/110 e lode.

Laurea in Matematica, Università degli Studi di Catania (2007 - 2010).
Titolo della tesi: *Anelli seminormali ed estensioni subintegrali*.
Relatore: Marco D'Anna.
Voto: 110/110 e lode.

Abilitazione Scientifica Nazionale

Abilitazione Scientifica Nazionale alle funzioni di professore di seconda fascia nel settore concorsuale 01/A2 - Geometria e Algebra, valida dal 18/09/2018 al 18/09/2027.

Pubblicazioni e preprints

1. M. D'Anna, F. Strazzanti, *The numerical duplication of a numerical semigroup*, Semigroup Forum **87** (2013), no. 1, 149–160.

2. V. Barucci, M. D'Anna, F. Strazzanti, *A family of quotients of the Rees Algebra*, Communications in Algebra **43** (2015), no. 1, 130–142.

3. F. Strazzanti, *One half of almost symmetric numerical semigroups*, Semigroup Forum **91** (2015), no. 2, 463–475.

4. F. Strazzanti, *Minimal genus of a multiple and Frobenius number of a quotient of a numerical semigroup*, International Journal of Algebra and Computation **25** (2015), no. 6, 1043–1053.

5. V. Barucci, M. D'Anna, F. Strazzanti, *Families of Gorenstein and almost Gorenstein rings*, Arkiv för Matematik **54** (2016), no. 2, 321–338.

6. E. Sbarra, F. Strazzanti, *A rigidity property of local cohomology modules*, Proceedings of the American Mathematical Society **145** (2017), 4099–4110.

7. A. Oneto, F. Strazzanti, G. Tamone, *One-dimensional Gorenstein local rings with decreasing Hilbert function*, Journal of Algebra **489** (2017), 91–114.

8. D. Bolognini, A. Macchia, F. Strazzanti, *Binomial edge ideals of bipartite graphs*, European Journal of Combinatorics **70** (2018), 1–25.

9. M. D'Anna, F. Strazzanti, *New algebraic properties of quadratic quotients of the Rees algebra*, Journal of Algebra and its Applications **18** (2019), no. 3, 1950047.

10. V. Barucci, F. Strazzanti, *Dilatations of numerical semigroups*, Semigroup Forum **98** (2019), no. 2, 251–260.

11. M. D'Anna, R. Jafari, F. Strazzanti, *Tangent cones of monomial curves obtained by numerical duplication*, Collectanea Mathematica **70** (2019), no. 3, 461–477.

12. F. Strazzanti, K.-i. Watanabe, *Almost symmetric numerical semigroups with odd generators* in Numerical Semigroups - IMNS 2018, Springer INdAM Series **40** (2020), 335–349.

13. A. Moscariello, F. Strazzanti, *Nearly Gorenstein vs almost Gorenstein affine monomial curves*, Mediterranean Journal of Mathematics **18** (2021), article number: 127.

14. A. Caminata, F. Strazzanti, *Nearly Gorenstein cyclic quotient singularities*, Beiträge zur Algebra und Geometrie / Contributions to Algebra and Geometry, DOI: 10.1007/s13366-020-00533-4.

15. M. D'Anna, F. Strazzanti, *Almost canonical ideals and GAS numerical semigroups*, Communications in Algebra **49** (2021), no. 8, 3534–3551.

16. M. D'Anna, R. Jafari, F. Strazzanti, *Simplicial affine semigroups with monomial minimal reduction ideals*, accettato per la pubblicazione su Mediterranean Journal of Mathematics.

17. F. Strazzanti, S. Zarzuela Armengou, *The Hilbert-Kunz function of some quadratic quotients of the Rees algebra*, accettato per la pubblicazione su Proceedings of the American Mathematical Society.

18. M. D'Anna, F. Strazzanti, *When is* $\mathfrak{m} : \mathfrak{m}$ *an almost Gorenstein ring?*, accettato per la pubblicazione su Revista Matemática Complutense.

19. D. Bolognini, A. Macchia, F. Strazzanti, *Cohen-Macaulay binomial edge ideals and accessible graphs*, accettato per la pubblicazione su Journal of Algebraic Combinatorics.

Seminari su invito

Seminari di Algebra e Geometria Algebrica, Dipartimento di Matematica "Giuseppe Peano", Università degli Studi di Torino, 16 Giugno 2021 (seminario online).
Titolo: *Cohen-Macaulay binomial edge ideals*

1st MIM short research course on *Affine Semigroup Rings*, Kharazmi University, Teheran, Iran, 5 Dicembre 2020 (seminario online).
Titolo: *Almost Gorenstein and nearly Gorenstein numerical semigroup rings.*

Workshop for Young Researchers in Mathematics, Bucarest, Romania, 4 Giugno 2019.
Titolo: *A family of quadratic quotients of the Rees algebra.*

Frobenius Action in Commutative Algebra: Recent Developments (FACARD), Barcellona, Spagna, 17 Gennaio 2019.
Titolo: *A family of quadratic quotients of the Rees algebra.*

International meeting on numerical semigroups, Cortona (AR), 5 Settembre 2018.
Titolo: *Tangent cones of monomial curves obtained by numerical duplication.*

Dipartimento di Matematica e Informatica, Università degli Studi di Catania, 18 Maggio 2018.
Titolo: *Binomial edge ideals of bipartite graphs.*

University of Barcelona, Spagna, 2 Marzo 2018.
Titolo: *Binomial edge ideals of bipartite graphs.*

Institute of Mathematics of the University of Seville (IMUS), Spagna, 8 Novembre 2017.
Titolo: *Numerical Semigroups.*

Dipartimento di Matematica, Università di Pisa, 11 Settembre 2017.
Titolo: *Binomial edge ideals.*

Meeting of the Catalan, Spanish, Swedish Math Societies, Umeå, Svezia, 15 Giugno 2017.
Sessione speciale: *Numerical semigroups and applications.*
Titolo: *Numerical duplication and its associated graded ring.*

Workshop for young researchers in mathematics, Bucarest, Romania, 19 Maggio 2017.
Titolo: *Binomial edge ideals of bipartite graphs.*

Workshop on Algebra and Geometry 2017 (Thematic week on Semigroups and Applications), Badajoz, Spagna, 8 Maggio 2017.
Titolo: *Numerical duplication and its associated graded ring.*

Complutense University of Madrid, Spagna, 20 Aprile 2017.
Titolo: *Numerical semigroups and applications.*

University of Barcelona, Spagna, 6 Aprile 2017.
Titolo: *One-dimensional Gorenstein local rings with decreasing Hilbert function.*

International meeting on numerical semigroups with applications, Levico Terme (TN), 8 Luglio 2016.
Titolo: *Symmetric numerical semigroups with decreasing Hilbert function.*

Institute for Mathematics, University of Osnabrück, Germania, 30 Giugno 2016.
Titolo: *Rigidity properties of local cohomology modules.*

Welcome Workshop for the special spring semester 2016, Genova, 1 Febbraio 2016.
Titolo: *One-dimensional Gorenstein local rings with decreasing Hilbert function.*

Department of Mathematics, Royal Institute of Technology (KTH), Stoccolma, Svezia, 27 Gennaio 2016.
Titolo: *Rigidity properties of Betti numbers and local cohomology modules.*

Dipartimento di Matematica e Informatica, Università degli Studi di Catania, 1 Aprile 2015.
Titolo: *Idealizzazione e duplicazione amalgamata: un approccio unificato e applicazioni.*

International meeting on numerical semigroups, Cortona (AR), 9 Settembre 2014.
Titolo: *Numerical duplication of a numerical semigroup.*

Partecipazioni ad altre scuole e conferenze (selezionate)

Einstein Workshop on Polytopes and Algebraic Geometry, Berlino, Germania, 2-4 Dicembre 2019.

Algebraic Combinatorics in Genova, Genova, 11-13 Settembre 2019.

Recent developments in Commutative Algebra, Levico Terme (TN), 1-5 Luglio 2019.

School (and workshop) on syzygies, Trento, 4-9 Settembre 2017.

Incontro di Algebra Commutativa, Genova, 22-24 Ottobre 2015.

Combinatorial and Experimental Methods in Commutative Algebra and Related Fields, Osnabrück, Germania, 7-10 Ottobre 2015.

Effective Methods in Algebraic Geometry (MEGA), Trento, 15-19 Giugno 2015.

Joint meeting AMS/EMS/SPM, Porto, Portogallo, 10-13 Giugno 2015.

Minimal free resolutions, Betti numbers, and combinatorics, Edimburgo, Regno Unito, 1-5 Giugno 2015.

HTCA 2015 - Homology: Theoretical and Computational Aspects, Genova, 9-13 Febbraio 2015.

Summer school: Combinatorial structures in geometry, Osnabrück, Germania, 6-9 Ottobre 2014.

Meeting On Combinatorial Commutative Algebra, Levico Terme (TN), 10-12 Settembre 2014.

Pragmatic, Scuola di Ricerca: Local cohomology and syzygies of affine algebras, Catania, 23 Giugno - 11 Luglio 2014.

Summer course of mathematics organizzata dalla Scuola Matematica Interuniversitaria a Perugia, 31 Luglio - 2 Settembre 2011.

International school in computational commutative algebra and algebraic geometry, Messina, 18-23 Ottobre 2010.

Summer course of mathematics organizzata dalla Scuola Matematica Interuniversitaria a Perugia, 1 Agosto - 3 Settembre 2010.

Soggiorni di ricerca

Università di Pisa, 9-17 Settembre 2017.

University of Barcelona, Spagna, 2-8 Aprile 2017.

University of Osnabrück, Germania, 27 Giugno 2016- 2 Luglio 2016.

Royal Institute of Technology (KTH), Stoccolma, Svezia, 25-29 Gennaio 2016.

Philipps-Universität Marburg, Germania, 12-19 Ottobre 2015.

Universität Duisburg-Essen, Germania, 2-19 Ottobre 2014.

Partecipazione a progetti

Progetto di ateneo dell'Università degli Studi di Catania: *Proprietà locali e globali di anelli e di varietà algebriche* - PIACERI 2020-2022.
Responsabile: Marco D'Anna

Progetto di *Ricerca Locale 2021* Linea A, Dipartimento di Matematica "Giuseppe Peano" dell'Università degli Studi di Torino: *Algebra, Geometria e loro interazioni*.
Responsabile: Cristina Bertone

Progetto di *Ricerca Locale 2021* Linea B, Dipartimento di Matematica "Giuseppe Peano" dell'Università degli Studi di Torino: *Algebra, Geometria e Logica*.
Responsabile: Elena Martinengo

Partecipazione a progetti conclusi

Plan Estatal 2013-2016 Excelencia - Proyectos I+D (Ministero spagnolo): *Geometría Aritmética, D-Módulos y Singularidades*. Codice: MTM2016-75027-P.
Pagina web: http://investigacion.us.es/sisius/proyecto/27699.
Responsabili: Antonio Rojas León, Luis Narváez Macarro

Progetto di ateneo dell'Università degli Studi di Catania: *Proprietà algebriche locali e globali di anelli associati a curve e ipersuperfici* - PTR 2016-2018.
Responsabile: Marco D'Anna

Plan Estatal 2013-2016 Excelencia - Proyectos I+D (Ministero spagnolo): *Geometría Algebraica y Geometría Aritmética: Métodos Diferenciales, Singularidades, Cohomología y Curvas Elípticas*. Codice: MTM2013-46231-P.
Pagina web: https://investigacion.us.es/sisius/proyecto/24322
Responsabili: Antonio Rojas León, Luis Narváez Macarro

MIUR-DAAD Joint Mobility Program 2016: *Combinatorial and Computational Methods in Commutative Algebra*, project nr. 57267452.
Responsabile italiano: Matteo Varbaro
Responsabile tedesco: Martina Juhnke-Kubitzke

Prin 2010-11: *Geometria delle varietà algebriche*.
Responsabile locale (unità di ricerca di Pisa): Rita Pardini
Coordinatore nazionale: Alessandro Verra

Research in pairs con Raheleh Jafari e Marco D'Anna nell'ambito dell'*ICTP-INdAM Research in Pairs Programme*, Catania, 1-22 Ottobre 2019.

Appartenenza ad altri gruppi

Network spagnolo *Monoids and applications*, nodo di Barcellona.
Pagina web: http://www.ugr.es/~semigrupos/MyA/barcelona-en.html

Singularidades, Geometría Algebraica Aritmética, Grupos y Homotopía, un gruppo di ricerca spagnolo che si inquadra nel Piano Andaluso di Ricerca, Sviluppo e Innovazione.
Pagina web: http://grupo.us.es/gfqm218/php/index.php?carga=inicio

GNSAGA, Gruppo Nazionale di Ricerca Matematica dell'INdAM.
Pagina web: http://www.altamatematica.it/gnsaga

Didattica

(In corso) Corso di *Tutorato Disciplinare Algebra 1 Corsi A+B* (30 ore), Corso di Laurea in Matematica, Università degli Studi di Torino, a.a. 2021/22.

Attività di tutorato per il corso *Algebra 1* (30 ore), Corso di Laurea in Matematica, Alma Mater Studiorum Università di Bologna, a.a. 2020/21.

Corso di dottorato dal titolo *Semigruppi numerici e algebra commutativa* (24 ore), Dottorato in Matematica e Scienze Computazionali, Consorzio Università di Palermo, Catania e Messina, a.a. 2019/20.

Open course dal titolo *Numerical semigroups and commutative algebra* rivolto a dottorandi e professori (15 lezioni da 90 minuti), Departamento de Álgebra, Universidad de Sevilla, anno 2017.

Precorso di Matematica (30 ore) finalizzato al recupero dei debiti formativi, Dipartimento di Ingegneria Civile e Industriale, a.a. 2016/2017, Università di Pisa.

Attività di tutorato e didattica integrativa (10 ore), Dipartimento di Matematica, Università di Pisa, a.a. 2015/2016.

Corso di recupero per gli studenti del primo anno (20 ore) e didattica integrativa, Corso di Laurea in Matematica, Università di Pisa, a.a. 2014/2015.

Corso di recupero per OFA (20 ore) e didattica integrativa, Corso di Laurea in Matematica, Università di Pisa, a.a. 2013/2014.

Attività di tutorato nell'ambito del Corso di Laurea in Matematica (80 ore), Università degli Studi di Catania, a.a. 2011/2012.

Altro

Abilità informatiche: uso di software per il calcolo matematico, come Macaulay 2, Cocoa, Gap e Singular.

Abilità linguistiche: italiano (madrelingua), inglese (avanzato), spagnolo (base).

Referee per varie riviste di ricerca in ambito matematico e soprattutto algebrico.

Reviewer per ZbMATH.

Iscrizione all'albo degli esperti valutatori dell'ANVUR, profilo studente, negli anni 2014-2016. Partecipazione alla CEV per l'accreditamento periodico dell'Università degli Studi di Udine (2016).

UNIVERSITÀ DEGLI STUDI ROMA TRE

selezione pubblica per n.1 posto di Ricercatore a tempo determinato ai sensi dell'art.24, comma 3, lettera b) della Legge 240/2010, settore concorsuale 01/A2 - Geometria e Algebra, presso il Dipartimento di Matematica e Fisica (avviso bando pubblicato sulla G.U. n. 77 del 28.09.2021)

Losanna, Svizzera, 27 Ottobre 2021

ROBERTO SVALDI: Curriculum Vitae

CURRENT POSITION

Bernoulli Instructor and **Marie Curie Fellow**, 07/2019-present
École polytechnique fédérale de Lausanne, Institute of Mathematics.
The position of Bernoulli Instructor at EPFL is comparable to a fixed-term Lectureship or to an Assistant Professorship without tenure.
As a Marie Curie Fellow, hosted by the Chair of Algebraic Geometry, I carry out research on my project "Moduli and boundedness problems in Algebraic Geometry".

EMPLOYMENT HISTORY

University Research Fellow, University of Cambridge, 09/2015-06/2019
Department of Pure Mathematics and Mathematical Statistics.
Visiting Scholar at SISSA during academic year 2016-17.
The University Research Fellowship is comparable to an independent postdoc position.

Fellow and College Lecturer in Pure Mathematics, 10/2015-06/2019
Churchill College, Cambridge.
Visiting Scholar at SISSA during academic year 2016-17.

Assegnista di ricerca (Post-Doc), SISSA, 10/2016-09/2017
Area of Mathematics. Group of Geometry and Mathematical Physics.
Supervisor: Prof. Jacopo Stoppa. Funded under ERC Starting Grant no. 307119.
I visited Professor Jacopo Stoppa at SISSA Trieste as part of a collaboration at the interface between birational algebraic geometry and complex geometry focused on the study of Kähler–Einstein metrics on algebraic varieties.

RESEARCH INTERESTS

Minimal Model Program and its applications.
Birational geometry of Calabi–Yau and Fano varieties with applications to physics.
Boundedness questions in algebraic geometry and their topological implications.
The topology of singularities in algebraic geometry and interactions with physics.
Holomorphic foliations and dynamics on projective varieties.
Toric geometry and toroidal compactifications.
Hyperbolicity questions in algebraic geometry.

EDUCATION

Ph. D. in Mathematics. 09/2010-06/2015
Massachusetts Institute of Technology, Department of Mathematics.

Thesis: “Log geometry and extremal contractions”.
Advisor: Prof. J. M^{c}Kernan.

Laurea Specialistica in Matematica (equivalent of M.S. in Mathematics). 09/2008- 05/2010
Universitá degli Studi di Roma 3, Faculty of Sciences.
Thesis: “On the cohomology algebras of compact Kähler manifolds and the Kodaira problem”.
Advisor: Prof. L. Caporaso.
Graduated on 05/19/2010, with grade 110/110 cum laude.

Laurea Triennale in Matematica (equivalent of B.S. in Mathematics). 10/2005- 09/2008
Universitá degli Studi di Pavia, Faculty of Sciences.
Thesis: “Riemann’s singularity theorem”.
Advisor: Prof. M. D. T. Cornalba.
Graduated on 09/16/2008 with grade 110/110 cum laude.

AWARDS, FELLOWSHIPS, GRANTS

Scheme 4 Grant, Co-PI , London Mathematical Society, Ref.41916 (£1000), 10/2019
for the visit to King’s College London of 02|2020.
Marie Skłodowska Curie Individual Fellowship, PI, “Boundedness 07/2019-present
and Moduli problems in birational geometry”, Grant No.842071 (€191149,44)
EPSRC Postdoctoral Fellowship, PI, “Moduli and boundedness problems 02/2019
in geometry”, EP/S024808/1, rejected in favor of the MSCA Fellowship. (£293505,40)
Scheme 8 Grant, PI, London Mathematical Society, Ref.81613 (£4000), 06/2017
for the organization of the PhD School of 12|2017.
Federigo Enriques Prize, 2016, awarded by Unione Matematica Italiana and 03/2017
Fondazione Federigo Enriques (€2000).
AMS Graduate Student Travel Grant ($250). 03/2015
Praecis Presidential Fellow, Massachusetts Institute of Technology ($40000). 09/2010- 05/2011
INdAM scholarship for students of the Laurea Specialistica program, 04/2009- 03/2011
awarded by the National Institute for High Mathematics “F. Severi” (€9000).
INdAM scholarship for students of the Laurea Triennale program, 01/2006- 12/2008
awarded by the National Institute for High Mathematics “F. Severi” (€12000).
Scholarship at Collegio Borromeo and University Institute for Higher Studies, 10/2005- 10/2008
Pavia, Italy.

VISITING POSITIONS

Visitor at King’s College London (Host: C. Spicer). 02/2020
Visitor at University of Bonn (Host: L. Tasin). 10/2018
Visitor at Princeton University (Host: G. Di Cerbo). 03/2018
Visitor at BICMR, Beijing (Host: C. Xu). 10/2017
Visitor at SISSA, Trieste (Host: J. Stoppa). 10/2016- 09/2017
Visitor at IMPA, Rio de Janeiro (Host: J. V. Pereira). 03/2016- 04/2016
Visitor at Mathematics Department, UC San Diego. 02/2015- 06/2015
Visitor at Mathematics Department, Princeton University under the 09/2014- 12/2014
Exchange Scholar Program.
Visitor at Mathematics Department, UC San Diego. 10/2013- 06/2014
Long term visitor at Universitá di Trento 06/2012-present

PUBLICATIONS

Articles

1. (joint with G. Codogni, A. Fanelli, L. Tasin), Fano varieties in Mori fibre spaces, Int. Math. Res. Not., Volume 2016, Issue 7: 2026–2067, DOI:10.1093/imrn/rnv173.
2. (joint with M. Brown, J. McKernan, H. R. Zong), A geometric characterization of toric varieties, Duke Math. J., Volume 167, Number 5 (2018), 923–968, DOI:10.1215/00127094-2017-0047.
3. (joint with A. Fanelli, G. Codogni, and L. Tasin), A note on the fibres of Mori fibre spaces, Eur. J. Math. 4 (2018), no. 3, 859–878, DOI:10.1007/s40879-018-0219-z.
4. (joint with J. V. Pereira), Effective algebraic integration in bounded genus, Algebraic Geometry 6 (4) (2019) 454–485, DOI:10.14231/AG-2019-021.
5. Hyperbolicity for log canonical pairs and the Cone Theorem, Sel. Math. New Ser. (2019), no.5, paper 67, 23 pp., DOI: 10.1007/s00029-019-0512-9.
6. (joint with S. Filipazzi), Invariance of plurigenera and boundedness for generalized pairs, Mat. Contemp. 47 (2020), 114–150, Proceedings of the ICM Satellite "Moduli spaces in Algebraic Geometry and Applications", Campinas, Brazil 2018, DOI: 10.21711/231766362020/rmc476
7. (joint with W. Chen, G. Di Cerbo, J. Han, and C. Jiang), Birational boundedness of rationally connected Calabi-Yau threefolds, Adv. Math., 378 (2021), 107541, 32 pp., DOI: 10.1016/j.aim.2020.107541
8. (joint with G. Di Cerbo), Birational boundedness of low dimensional elliptic Calabi-Yau varieties with a section, Compos. Math. 157 (2021), no. 8, 1766–1806. DOI: 10.1112/S0010437X2100717X.
9. (joint with L. Braun, J. Moraga, S. Filipazzi), The Jordan property for local fundamental groups, accepted for publication at Geometry & Topology, 36 pp., arXiv:2006.01253.
10. (joint with C. Spicer), Local and global applications of the Minimal Model Program for co-rank one foliations on threefolds, accepted for publication at Journal of the European Mathematical Society, 65 pp., arXiv:1908.05037.

Pre-prints

11. (joint with H. Liu), Rational curves and strictly nef divisors on Calabi–Yau threefolds, submitted, 18 pp., arXiv:2010.12233.
12. (joint with S. Filipazzi), On the connectedness principle and dual complexes for generalized pairs, submitted, 48 pp., arXiv:2010.08018.
13. (joint with C. Birkar, G. Di Cerbo), Boundedness of elliptic Calabi–Yau varieties with a rational section, submitted, 44 pp., arXiv:2010.09769.
14. (joint with C. Spicer) Effective generation for foliated surfaces: results and applications, submitted, 32 pp., arXiv:2104.11540.
15. (joint with J. Moraga) A characterization of toric singularities, 57 pp., arXiv:2108.01717.
16. (joint with S. Filipazzi, C. Hacon) Boundedness of elliptically fibered Calabi–Yau threefolds. Available clicking here.

Surveys

17. On the structure of local and global singularities: Shokurov's Conjecture, Proceedings for the Kinosaki algebraic geometry symposium 2017, 12 pages, available electronically on the Kyoto University Research Information Repository.
18. Recent progress on the birational geometry of foliations on threefolds, Oberwolfach Reports 17 (2020), no. 2/3, 1002–1006 DOI: 10.4171/OWR/2020/19

INVITED TALKS

Invited lectures series

A geometric characterization of toric varieties, BAGS, Université de Loraine. 03/2018

Colloquia

The geometry of projective varieties, online talk, SISSA, Trieste. 04/2021

Invited conference talks

A characterization of toricness, 2021 Workshop on Algebraic Geometry: Generalised Pairs and Applications, online conference, Chinese Academy of Sciences & Tsinghua University. 08/2021

Boundedness of elliptic fibrations, Projective and birational higher dimensional geometry, online conference, Universitá di Trieste 04/2021

Recent progress on the birational geometry of foliations on threefolds, Algebraic Geometry: Moduli Spaces, Birational Geometry and Derived Aspects, MFO Oberwolfach. 07/2020

Minimal Model Program for foliations on threefolds and applications, Geometry and Dynamics of Foliations, online conference, CIRM. 05/2020

Birational boundedness of elliptic Calabi-Yau varieties, Workshop on the geometry of elliptic fibrations & COW Seminar, University of Warwick. 02/2020

A geometric characterization of toric morphisms, From Trento to Geometry and back, Universitá di Trento. 12/2019

Birational boundedness of elliptic Calabi-Yau varieties, Moduli and stability conditions, Leibniz Universitát Hannover. 07/2019

Birational boundedness of elliptic Calabi-Yau varieties, Western Algebraic Geometry Symposium, UC Berkeley. 04/2019

Towards birational boundedness of elliptic Calabi-Yau varieties, short communication Moduli spaces in Algebraic Geometry and applications, ICM Satellite Conference, Campinas. 07/2018

On the birational boundedness of the bases of elliptically fibered Calabi-Yau manifolds in low dimension, Geometry and Physics of F-theory, BIRS. 01/2018

On the geometry of Calabi-Yau varieties in low dimension, Korean-Italian Meeting on Algebraic Geometry 2018, KIAS, Seoul. 01/2018

Global vs. Local structure of singularities, Kinosaki Algebraic Geometry Conference, Japan. 10/2017

Log birational boundedness of Calabi-Yau pairs, Workshop on Fano varieties and Calabi-Yau varieties, Kobe University. 01/2017

Log birational boundedness of Calabi-Yau pairs, Birational Geometry and Characteristic $p > 0$, CIRM, Marseille. 09/2016

A geometric characterization of toric varieties, Giornate di Geometria Algebrica ed Argomenti Correlati XXIII, Universitá di Catania. 05/2016

Adjoint dimension of foliations, Cambridge–Tokyo Workshop, I, University of Cambridge. 11/2015

Hyperbolicity for log pairs, Postgraduate Conference in Complex Geometry, University of Cambridge. 09/2015

Hyperbolicity for log pairs, Distribution of Rational and Holomorphic Curves in Algebraic Varieties, Birs. 03/2015

A geometric characterization of toric varieties, The Geometry of Algebraic Varieties, AMS Sectional Meeting, Michigan State. 03/2015

A geometric characterization of toric varieties, Geometria e Rappresentazioni nella Capitale, II, Universitá degli Studi Roma 3. 12/2014

Invited seminar talks

Oberseminar: Algebra, Zahlentheorie und algebraische Geometrie, online talk, Albert-Ludwigs-Universität Freiburg.	07/2021
Algebraic Geometry seminar, online talk, University of Kansas.	04/2021
Algebraic Geometry Seminar, online talk, Université de Bordeaux.	04/2021
Dutch online Algebraic Geometry seminar, online talk, Universiteit van Amsterdam.	03/2021
Algebraic Geometry Seminar, online talk, University of Utah.	02/2021
Algebraic Geometry Seminar, online talk, UC San Diego.	01/2021
Iskovskikh Seminar (online), Steklov Mathematical Institute, Moscow.	11/2020
Algebraic Geometry Seminar, online talk, Ohio State University.	11/2020
Algebraic Geometry Seminar, online talk, Max Planck Institute, Bonn.	05/2020
Algebraic Geometry Seminar, University of Princeton.	03/2020
KCL/UCL Geometry seminar, University College London.	02/2020
Seminario di Geometria Algebrica, Universitá di Torino.	03/2019
Edinburgh Geometry Seminar, University of Edinburgh.	03/2019
Séminaire d'homotopie en géométrie algébrique, Université de Toulouse.	01/2019
Oberseminar Algebraische Geometrie, Universität des Saarlandes.	11/2018
Algebraic Geometry Seminar, Max Planck Institute, Bonn.	10/2018
Groups, Arithmetic & Algebraic Geometry Seminar, EPF Lausanne.	09/2018
Seminario di Geometria Algebrica, Universitá di Trento.	05/2018
Geometry and Mathematical Physics seminar, Loughborough University.	05/2018
Warwick Algebraic Geometry Seminar, University of Warwick.	05/2018
Algebraic Geometry Seminar, UC San Diego.	04/2018
Algebraic Geometry Seminar, University of Utah.	04/2018
Algebraic Geometry Seminar, Princeton.	03/2018
Math-Physics Joint Seminar, UPenn.	03/2018
Mathematics–String Theory Seminar, IPMU, Tokyo.	10/2017
Algebraic Geometry Seminar, University of Tokyo.	10/2017
Log birational boundedness of Calabi-Yau pairs, BICMR, Beijing.	10/2017
Algebraic Geometry Seminar, University of Oslo.	04/2017
Seminario di Geometria Algebrica, SISSA, Trieste.	03/2017
Algebraic Geometry Seminar, University of Cambridge	03/2017
Algebraic Geometry Seminar, University of Tokyo.	01/2017
Groups, Arithmetic & Algebraic Geometry Seminar, EPFL.	11/2016
Algebraic Geometry Seminar, UC San Diego.	11/2016
Seminario de Álgebra, IMPA, Rio de Janeiro.	03/2016
Algebraic Geometry Seminar, Princeton University.	03/2016
Algebraic Geometry Seminar, Columbia University.	03/2016
Geometry and Mathematical Physics seminar, Loughborough University.	02/2016
EDGE Seminar, University of Edinburgh.	01/2016
Geometry and Topology Seminar, Imperial College.	11/2015

Algebraic Geometry Seminar, University of Cambridge.	11/2015
Seminario di Geometria Algebrica, Universitá degli Studi di Pavia.	10/2015
CIRGET Seminar, UQAM, Montreal.	03/2015
Algebraic Geometry Seminar, Johns Hopkins University.	02/2015
Algebraic Geometry Seminar, UT Austin.	02/2015
Seminario di Geometria Algebrica, Universitá degli Studi Roma 3.	12/2014
Algebraic Geometry Seminar, UC San Diego.	05/2014

Contributed talks

Hyperbolicity for log pairs, AMS Summer Institute in Algebraic Geometry, Salt Lake City.	07/2015

TEACHING

Teaching as an Instructor at EPFL

Analysis I, 1st year Bachelor course, EPFL.	Fall 2021
Analysis I, 1st year Bachelor course, EPFL.	Fall 2020
Rings and modules, 3rd year Mathematics Bachelor course, EPFL.	Fall 2019
Complex Manifolds, 1st year Mathematics Master's course, EPFL.	Fall 2019

Teaching as a Research Fellow at University of Cambridge

Positivity in Algebraic Geometry, Part III course, University of Cambridge.	Lent (Spring) 2018
Linear Series, Part III course, University of Cambridge.	Lent (Spring) 2017
Introduction to birational geometry, Minicourse in 6 lectures, part of the Ph.D. course "Topics in algebro-geometric stability", SISSA, Trieste.	12/2016-1/2017

Teaching as a College Lecturer at Churchill College

Groups, Rings and Modules. Supervisor for 10 students (25 hours).	Lent (Spring) 2019
Geometry 1B. Supervisor for 7 students (16 hours).	Lent (Spring) 2019
Groups 1A. Supervisor for 12 students (30 hours).	Michaelmas (Fall) 2018
Group, Rings and Modules. Supervisor for 9 students (26 hours).	Lent (Spring) 2018
Geometry 1B. Supervisor for 7 students (16 hours).	Lent (Spring) 2018
Linear Algebra 1B. Supervisor for 13 students (35 hours).	Michaelmas (Fall) 2017
Group, Rings and Modules. Supervisor for 8 students (16 hours).	Lent (Spring) 2017
Geometry 1B. Supervisor for 9 students (15 hours).	Lent (Spring) 2017
Group, Rings and Modules. Supervisor for 9 students (25 hours).	Lent (Spring) 2016
Geometry 1B. Supervisor for 10 students (16 hours).	Lent (Spring) 2016
Analysis 1B. Supervisor for 12 students (28 hours).	Michaelmas (Fall) 2015
Topology and Metric Spaces. Supervisor for 8 students (12 hours).	Michaelmas (Fall) 2015

Teaching as a graduate student at MIT

18.095, Mathematics Lecture Series, Organizer and Recitation Leader.	IAP 2015
18.085, Computational Science and Engineering, Course Instructor.	Summer 2013
18.095, Mathematics Lecture Series, Organizer and Recitation Leader.	IAP 2013
18.02, Multivariable Calculus, Teaching Assistant.	Fall 2012
18.085, Mathematical Methods for Engineering, Grading Assistant and responsible for Office Hours.	Spring 2012
18.112, Complex Analysis, Grading Assistant and responsible for Office Hours.	Fall 2011
18.755, Lie Groups, Grading Assistant and responsible for Office Hours.	Fall 2011

Teaching as an undergraduate student in Italy

Complex Analysis, Teaching Assistant, University of Rome 3.	Spring 2010
Calculus 1, Teaching Assistant, University of Rome 3.	Fall 2009
General topology, Teaching Assistant, University of Rome 3.	Spring 2009

General Mathematics for Biological Sciences, Teaching Assistant, University of Pavia. Fall 2008

STUDENT SUPERVISION

Thesis supervision

Linus Rösler, MA Thesis, "The geometry of elliptic fibrations", EPFL. 02/2021-09/2021

Anaëlle Pfister, BA project (equivalent to a bachelor's thesis), "An introduction to toric geometry", EPFL. 02/2021-06/2021

Luca Nyckess, BA project (equivalent to a bachelor's thesis), "An introduction to complex manifolds and Hodge Theory", EPFL. 02/2020-06/2020

Simen Moe, Part III essay (equivalent to a master's thesis), "An introduction to the Minimal Model Program", University of Cambridge. 12/2018-05/2019

Study projects supervision

Linus Rösler, MA project (one semester project) "Elliptic surfaces in Algebraic Geometry", EPFL. 09/2020-12/2020

Maxime Matthey, MA project (one semester project), "Advanced topics in Commutative Algebra: Completions", EPFL. 09/2020-12/2020

Gheehyun Nahm, Study project for an undergraduate student on advanced topics in Algebraic Geometry, University of Cambridge. 08/2018-03/2019

Leon Zhang, Direct Reading Program, Supervisor for an undergraduate student learning Hodge Theory, MIT. IAP 2015

Minseon Shin, Direct Reading Program, Supervisor for an undergraduate student learning Scheme Theory, MIT. IAP 2013

CONFERENCES, SEMINARS AND WORKSHOPS ORGANIZATION

Conferences and workshops

Birational Geometry conference and 2020 meeting of the Swiss Mathematical Society, four-day conference, (team of 4), Lausanne, Switzerland. TBD
Originally planned for 2020, the conference was postponed to 2022 due to the pandemic.

Basel-Dijon-EPFL Workshop, two-day workshop, (team of 2), Lausanne, Switzerland. 11/2019

Cambridge-Tokyo Algebraic Geometry Workshop, III, two-day workshop, (team of 4), Cambridge, UK. 12/2018

New advances in Fano manifolds, five-day school for Ph.D. students, (team of 4), Cambridge, UK. 12/2017

British Algebraic Geometry, three-day conference, (local organizer), Cambridge, UK, 09/2017

Cambridge-Tokyo Algebraic Geometry Workshop, II, two-day workshop, (team of 4), Cambridge, UK. 03/2017

MIT-RTG Mirror Symmetry Workshop, five-day workshop, (team of 6), Big Bear Lake, CA. 05/2013

Seminars

Organizer for the Groups, Arithmetic & Algebraic Geometry Seminar, EPFL. 07/2019-present.

Organizer for the Algebraic Geometry Seminar, University of Cambridge. 10/2017-06/2019.

OUTREACH ACTIVITIES

HE+ Masterclass, Churchill College, Cambridge 04/2019
I gave a lecture on modern geometry and organized an exercise session for high school students.

Open days, Churchill College, Cambridge 07/2018
I gave a lecture on symmetries and geometry and organized an exercise session for high school students.

Orientation for high-school students, Liceo Classico "G. Prati", Trento 04/2012

I spoke to high school students about what are the challenges of becoming a maths student starting from a background in humanities.

ACADEMIC SERVICES

Referee for academic journals: Since 2015
Mathematics Research Letter, Michigan Journal of Mathematics,
International Mathematics Research Notices (3x), Mathematische Annalen,
Annali della Scuola Normale Superiore di Pisa, Journal of Algebraic Geometry,
Inventiones Mathematicae, International Journal of Mathematics,
Manuscripta Mathematica, Advances in Mathematics (2x), Transactions of the AMS,
Annales de l'Insitute Fourier, Journal of Differential Geometry, Proceedings of the LMS,
Advances in geometry, Forum Math Pi, Journal of the LMS, Electronic Research Archive.

Referee for conference proceedings (by conference title): Since 2013
Groups of Automorphisms in Birational and Affine Geometry; Moduli of K-stable Varieties;
Birational geometry, Kähler-Einstein metrics and degenerations.

Referee for grants and fellowships applications submitted to Since 09/2019
the Engineering and Physical Sciences Research Council, UK(3 grants reviewed).

Reviewer for Zentralblatt and Mathscinet. Since 2014

Master Thesis committee for Peter Simko, EPFL. 07/2017

Mentor for postgraduate students, Churchill College. 10/2017-06/2019

Mentor for the students of the Institute of Mathematics, EPFL. 11/2020-present

Admission Selection Interviews, Churchill College, Cambridge. 12/2018

Postdoc Selection Committee for the Chair of Algebraic Geometry, EPFL. 02/2021

LANGUAGES

Italian: mother tongue.
English: professional proficiency.
French: intermediate level.
German: beginner level.

Losanna, 27 Ottobre 2021

Roberto Svaldi

MICHELE TRIESTINO
Curriculum Vitae ai fini della pubblicazione

Part II – Education

Type	Year	Institution	Notes (Degree, Experience,…)
University graduation	2010	École Normale Supérieure de Lyon	Master 2 Recherche in Mathematics
PhD	2014	École Normale Supérieure de Lyon	Mathematics. Relatore Etienne Ghys

Part III – Appointments

IIIA – Academic Appointments

Start	End	Institution	Position
2014	2016	Pontificia Universdade Catolica de Rio de Janeiro (Brasile)	**Post-dottorato** presso il Dipartimento di Matematica (referente Lorenzo Diaz) con "Bolsa de pos-dotourado de excelencia financiado pelo IMPA em instituiçoes de pesquisa do Brasil" (borsa di post-dottorato di eccellenza finanziata dall'IMPA in istituti di ricerca del Brasile). Borsa di 2 anni con estensione possibile di 1 anno.
2016	2016	Universidade Federal Fluminense (Brasile)	Contratto di professore assistente (**professor adjunto A**) a tempo indeterminato nel GMA - Dipartimento di Matematica Applicata
2016	presente	Université de Bourgogne (Francia)	Contratto di professore assistente (**Maitre de Conférences Section 25 - Mathématiques**), a tempo indeterminato nel Dipartimento di Matematica
2018	2019	INRIA Lille, Francia	Ricercatore invitato (semestre sabbatico) presso il gruppo di ricerca Mephisto-Post di INRIA Lille, con "**délégation INRIA**" (assegno di ricerca dall'instituto francese di ricerca INRIA). (Nel sistema francese un maitre de conférences deve ricevere un finanziamento esterno per la propria università, per beneficiare della sospensione del servizio didattico)
2019	2019	Université de Lille, Francia	Ricercatore invitato (semestre sabbatico) presso il Laboratoire Paul Painlévé di Lille, con "**délégation**" finanziata dal progetto di ricerca Louis D. "Jeunes Géométres" diretto da François Labourie. (Nel sistema francese un maitre de conférences deve ricevere un

	finanziamento esterno per la propria università, per beneficiare della sospensione del servizio didattico) https://math.unice.fr/~labourie/LouisD/index.html

Part IV – Teaching experience

Year	Institution	Lecture/Course
2010	ICTP, Miramare, Trieste	4,5 ore di esercitazioni per il corso d'introduzione alla geometria iperbolica di Étienne Ghys, durante l'"Advanced School and Workshop on Discrete Groups in Complex Geometry"
2011	Dubna, Russia	5 ore di **minicorso** "Random walks on groups" alla scuola estiva per studenti russi (fine liceo-inizio università) "Contemporary mathematics" http://www.mathnet.ru/php/conference.phtml?confid=658&option_lang=eng
2011	École Normale Supérieure de Lyon, Francia	18 ore di **esercitazioni** per il corso "Groupes, distances et mesures" (teoria geometrica dei gruppi) di M2 (secondo anno magistrale, docenti Etienne Ghys e Romain Tessera)
2012	École Normale Supérieure de Lyon, Francia	22 ore di **esercitazioni** per il corso di Analisi complessa di Licence 3 (ultimo anno triennale, docente Philippe Eyssidieux)
2011-2012	École Normale Supérieure de Lyon, Francia	8 ore di **formazione** di studenti al concorso di "agrégation"
2012	École Normale Supérieure de Lyon, Francia	**Membro del comitato di organizzazione locale** 6 ore di supporto didattico a minicorsi di Laure Saint-Raymond, Kenneth Stephenson, Don Zaigier, durante la scuola estiva internazionale per studenti tra fine liceo e inizio università (International Summer School in Mathematics for Young Students 2012) http://www.issmys.eu/previous-year/lyon-2012
2013	École Normale Supérieure de Lyon, Francia	22 ore di **esercitazioni** per il corso di Analisi complessa di Licence 3 (ultimo anno triennale, docente Philippe Eyssidieux)
2013	Jacobs University, Brema, Germania	6 ore di **supporto didattico** a minicorsi di Nalini Anantharaman, Serge Tabachnikov, Vlad Vicol, durante la scuola estiva internazionale per studenti tra fine liceo e inizio università (Modern Mathematics, International Summer School for Students 2013) http://math.jacobs-university.de/summerschool/2013/
2013	École Normale Supérieure de Lyon, Francia	24 ore di **esercitazioni** per il corso di Algebra 1 (gruppi, anelli e moduli) di Licence 3 (ultimo anno triennale, docente Sandra Rozensztajn)
2013	École Normale Supérieure de Lyon, Francia	24 ore di **esercitazioni** per il corso di Intégration 1 (teoria della misura) di Licence 3 (ultimo anno

		triennale, docente Cyril Houdayer)
2013	École Normale Supérieure de Lyon, Francia	18 ore di **esercitazioni** per il corso “Le problème des trois corps” (meccanica celeste) di M2 (secondo anno magistrale, docente Etienne Ghys)
2014	École Normale Supérieure de Lyon, Francia	**Membro del comitato di organizzazione** Modern Mathematics, International Summer School for Students 2014 http://www.issmys.eu/
2015	Jacobs University, Brema, Germania	**Membro del comitato di organizzazione** Modern Mathematics, International Summer School for Students 2015 http://math.jacobs-university.de/summerschool/2015/index.php
2015	Dubna, Russia	5 ore di **minicorso** “Groups, trees, and ends” alla scuola estiva per studenti russi (fine liceo-inizio università) “Contemporary mathematics” https://www.mccme.ru/dubna/2015/courses/triestino.html
2016	Universidade Federal Fluminense, Brasile	2 **corsi** di 68 ore ognuno di “Metodos Matematicos I” (metodi matematici per l’ingegneria, analisi di Fourier)
2016	Université de Bourgogne, Francia	30 ore di **esercitazioni** per il corso di Maths 11, Analyse (calcolo a una variabile) di Licence 1 (primo anno triennale, docente Jean-Philippe Rolin)
2016	Université de Bourgogne, Francia	36 ore di **esercitazioni** per il corso di Maths 31, Analyse (analisi a una variabile) di Licence 2 (secondo anno triennale, docente Daniele Faenzi)
2016	Université de Bourgogne, Francia	26 ore di **esercitazioni** per il corso di Calcul Intégrale, Analyse (teoria della misura) di Licence 3 (terzo anno triennale, docente Olivier Couture)
2017	Université de Bourgogne, Francia	2 gruppi di 18 ore di **esercitazioni** per il corso di Mathématiques S2 (per la facoltà di economia) di Licence 1 (primo anno triennale, docente Alexandre Cabot)
2017	Université de Bourgogne, Francia	44 ore di **corso** di statistica per Licence 1 della facoltà di psicologia.
2017	Université de Bourgogne, Francia	30 ore di **esercitazioni** per il corso di Maths1A, Analyse (calcolo a una variabile) di Licence 1 (primo anno triennale, docente Jean-Philippe Rolin)
2017	Université de Bourgogne, Francia	34 ore di **esercitazioni** per il corso di Maths 31, Analyse (analisi a una variabile) di Licence 2 (secondo anno triennale, docente Daniele Faenzi)
2017	Université de Bourgogne, Francia	26 ore di **esercitazioni** per il corso di Calcul Intégrale, Analyse (teoria della misura) di Licence 3 (terzo anno triennale, docente Olivier Couture)
2017	Université de Bourgogne, Francia	18 ore di **esercitazioni** per il corso di Mathématiques S1 (per la facoltà di economia) di Licence 1 (primo anno triennale, docente Alexandre Cabot)
2019	Université de Bourgogne, Francia	2 gruppi di 18 ore di **esercitazioni** per il corso di Mathématiques S2 (per la facoltà di economia) di

		Licence 1 (primo anno triennale, docente Alexandre Cabot)
2018	Université de Bourgogne, Francia	20 ore di **esercitazioni** per il corso di statistica per Licence 1 della facoltà di psicologia (docenti Sébastien Leurent, Samuel Herrmann)
2018	Université de Bourgogne, Francia	30 ore di **esercitazioni** per il corso di MaPC2A, (algebra lineare) di Licence 1 (primo anno triennale, docente Emmanuel Wagner)
2018	Université de Bourgogne, Francia	20 ore di **laboratorio di programmazione** in Python per Licence 3
2018	Université de Bourgogne, Francia	Direzione di stage (equivalente tesi di laurea triennale) dello studente Robin Carlier di Licence 3 de l'Ecole Normale Supérieure de Lyon, titolo "Autour de l'espace extérieur"
2019	Université de Bourgogne, Francia	2 gruppi di 18 ore di **esercitazioni** per il corso di Mathématiques S1 (per la facoltà di economia) di Licence 1 (primo anno triennale, docente Alexandre Cabot)
2019	Université de Bourgogne, Francia	18 ore di **esercitazioni** per il corso di Mathématiques S3 (per la facoltà di economia) di Licence 2 (secondo anno triennale, docente Abderrahim Jourani)
2019	Université de Bourgogne, Francia	34 ore di **esercitazioni** per il corso di Math3A, Analyse (analisi a una variabile) di Licence 2 (secondo anno triennale, docente Daniele Faenzi)
2020	Université de Bourgogne, Francia	30 ore di **esercitazioni** per il corso di Math2A, Analyse (analisi a una variabile) di Licence 1 (primo anno triennale, docente José-Luis Jaramillo)
2020	Université de Bourgogne, Francia	33 ore di **esercitazioni** per il corso di Math4C, Géométrie (geometria affine) di Licence 2 (secondo anno triennale, docente Olivier Couture)
2020	Université de Bourgogne, Francia	28 ore di **esercitazioni** per il corso di Géométrie, courbes et surfaces (curve e superfici) di Licence 3 (terzo anno triennale, docente Gwenael Massuyeau)
2020	Université de Bourgogne, Francia	20 ore di **esercitazioni** per il corso di statistica per Licence 1 della facoltà di psicologia (docenti Sébastien Leurent, Samuel Herrmann)
2020	Université de Bourgogne, Francia	2 gruppi di 18 ore di **esercitazioni** per il corso di Mathématiques S1 (per la facoltà di economia) di Licence 1 (primo anno triennale, docente Alexandre Cabot)
2020	Université de Bourgogne, Francia	18 ore di **esercitazioni** per il corso di Mathématiques S3 (per la facoltà di economia) di Licence 2 (secondo anno triennale, docente Abderrahim Jourani)
2020	Université de Bourgogne, Francia	34 ore di **esercitazioni** per il corso di Math3A, Analyse (analisi a una variabile) di Licence 2 (secondo anno triennale, docente Daniele Faenzi)
2020	Université de Bourgogne, Francia	28 ore di **esercitazioni** per il corso di Topologie des espaces métriques(topologia) di Licence 3 (terzo anno triennale, docente Johan Taflin)

2021	Université de Bourgogne, Francia	26 ore di **esercitazioni** per il corso di Géométrie, courbes et surfaces (curve e superfici) di Licence 3 (terzo anno triennale, docente Gwenael Massuyeau)
2021	Université de Bourgogne, Francia	33 ore di **esercitazioni** per il corso di Math4C, Géométrie (geometria affine) di Licence 2 (secondo anno triennale, docente Olivier Couture)
2021	Université de Bourgogne, Francia	22 ore di **corso** di Math4A, Analyse (analisi a una variabile) di Licence 2 (secondo anno triennale)
2019	Université de Bourgogne, Francia	**Codirezione**, insieme a Christian Bonatti, della **tesi di dottorato** di Joao Carnevale (Partecipazione personale al 50%) all'Université de Bourgogne, Francia dal 01-10-2019 a oggi

Part V - Society memberberships, Awards and Honors

Year	Title
2015	**Relatore invitato** al convegno Workshop de Topologia & Dinâmica 2015, tenutosi all'Universidade Federal Fluminense, Niteori, RJ, Brasile. Titolo: About the dynamics of almost every circle diffeomorphism dal 02-02-2015 al 06-02-2015
2015	**Relatore invitato** al convegno Valparaiso's dynamics working days: Groups and low dimensional dynamics, tenutosi alla PUC-Valparaiso, Cile. Titolo: About the ends of groups of circle diffeomorphisms, their dynamics and the algebraic structure. http://ima.ucv.cl/congreso/valparaiso-dynamics/ dal 15-10-2015 al 16-10-2015
2015	**Relatore invitato** al convegno Frontiers in Analysis and Probability. Strasbourg/Zurich meeting, tenutosi all'Università di Zurigo, Svizzera. Titolo: Stationary random metrics on self-similar length spaces. https://www.math.uzh.ch/fap02/ dal 29-10-2015 al 30-10-2015
2016	**Organizzatore** del workshop internazionale "Groups acting on manifolds", Teresopolis, RJ, Brasile (50 partecipanti) http://workshop-2016-teresopolis.wikidot.com/ dal 20-06-2016 al 24-06-2016
2016	**Relatore invitato** al convegno International Conference on Dynamical Systems, organizzato dall'IMPA e tenutosi a Buzios, RJ, Brasile. Titolo: Markov partitions for groups of circle diffeomorphisms. https://impa.br/sobre/memoria/reunioes-cientificas/international-conference-on-dynamical-systems-2/ dal 04-07-2016 al 08-07-2016
2017	**Relatore invitato** al convegno Beyond Uniform Hyperbolicity, tenutosi alla BYU, Provo, UT, USA. Titolo: Are groups of piecewise projective homeomorphisms of the real line smoothable? dal 05-06-2017 al 16-06-2017
2017	**Relatore invitato** al congresso Coloquio Latinoamericano de Algebra, session Group Theory, tenutosi alla PUC-Quito, Ecuador. Titolo: On smooth actions of groups of piecewise-projective homeomorphisms of the real line https://www.puce.edu.ec/claquito2017/ dal 07-08-2017 al 11-08-2017
2017	**Relatore invitato (minicorso)** al convegno Affine and one-dimensional dynamics,

	tenutosi a Aussois, Francia. Titolo: Groups of affine and piecewise affine homeomorphisms. https://webusers.imj-prg.fr/~charles.fougeron/aussois/index.html dal 04-12-2017 al 08-12-2017
2018	**Relatore invitato** al convegno International conference on dynamical systems, tenutosi alla SUSTech, Shenzhen, Cina. Titolo: Smoothening singular group actions on manifolds. https://math.sustech.edu.cn/conference/10835.html?lang=en dal 18-06-2018 al 29-06-2018
2018	**Relatore invitato (minicorso)** al convegno Journée de Géométrie & Topologie Clermont-Fd–Grenoble–Lyon, tenutosi all'Ecole Normale Supérieure de Lyon, Francia. Titolo: Groupes de difféomorphismes analytiques du cercle. dal 30-11-2018 al 01-12-2018
2018	**Relatore invitato** al convegno Journées Nancéiennes de Géométrie, tenutosi all'IECL, Université de Lorraine, Nancy, Francia. Titolo: Lissage d'actions de groupes rigides par difféomorphismes singuliers. http://www.iecl.univ-lorraine.fr/Geometrie/JNG/JNG2018/ dal 10-12-2018 al 11-12-2018
2019	**Relatore invitato** al convegno Ordered Groups and Rigidity in Dynamics and Topology, tenutosi alla Casa Matematica Oaxaca, Messico. Titolo: Ping-pong partitions for virtually free groups. https://www.birs.ca/events/2019/5-day-workshops/19w5044 dal 16-06-2019 al 21-06-2019
2019	**Relatore invitato** al convegno Dubrovnik IX. Topology and dynamical systems, session Geometric Group Theory, tenutosi all'Inter-University Centre Dubrovnik, Croazia. Titolo: Ping-pong lemma: old and new. https://web.math.pmf.unizg.hr/~sonja/DubrovnikIX.html dal 24-06-2019 al 28-06-2019
2019	**Relatore invitato** al convegno KIAS Workshop on low-dimensional topology, tenutosi al KIAS, Seul, Corea del Sud. Titolo: Cantor dynamics and simple left-orderable groups. http://events.kias.re.kr/h/WLDT19/ dal 21-08-2019 al 21-08-2019
2019	**Relatore invitato** al convegno Arbeitsgemeinschaft: Zimmer's Conjecture, tenutosi al MFO Oberwolfach, Germania. Titolo: Proof of Zimmer's Cocycle Superrigidity: centralizers and finite dimensional invariant subspaces https://www.mfo.de/occasion/1942/www_view dal 13-10-2019 al 18-10-2019
2019	**Organizzatore** del workshop internazionale "One-dimensional actions of 3-manifold groups", Université de Bourgogne, Francia (55 partecipanti) http://mtriestino.perso.math.cnrs.fr/3mfd.html dal 04-11-2019 al 08-11-2019
2020	**Relatore invitato** al convegno Dynamics on your screen (a zoom mini-conference). Titolo: Actions of locally moving groups of homeomorphisms of the real line https://people.math.osu.edu/gogolyev.1/DynScreen.html dal 03-08-2020 al 06-08-2020
2020	**Relatore invitato** al convegno Arbre de Noël du GDR Géométrie Non Commutative (on-line). Titolo: Groupes d'homéomorphismes d'une suspention https://lmb.univ-fcomte.fr/IMG/pdf/titres_et_resumes_adn2020.pdf

	dal 02-12-2020 al 04-12-2020
2016	**Valutatore della tesi di dottorato** di Edgar Matias (PUC-Rio, Rio de Janeiro, Brasile), direttore di tesi Lorenzo Diaz, titolo della tesi "Non-hyperbolic Iterated Function Systems: attractors, stationary measures, and step skew products" dal 23-08-2016 al 23-08-2016
2020	**Membro della commissione di recrutamento** per il posto 0483 di Maitre de Conférences Section 25 (Mathématiques) all'Università di Bourgogne, Francia dal 10-04-2020 al 15-06-2020
2020	**Riconoscimento** "Prime d'Encadrement Doctoral et de Recherche" del Ministère de l'enseignement supérieure, de la recherche et de l'innovation (Francia), durata 4 anni (premio di 5400€ annui).

Part VI - Funding Information [grants as PI-principal investigator or I-investigator]

Year	Title	Program	Grant value
2017	Groupes localement discrets de difféomorphismes du cercle	PEPS Jeunes chercheur-e-s CNRS (progetto nazionale francese)	4000€
2019	Questions diverses sur les actions des groupes sur le cercle et la droite	PEPS Jeunes chercheur-e-s CNRS (progetto nazionale francese)	3500€
2019-2022	Actions de groupes sur les variétés	Progetto personale di ricerca regionale francese Accompagnement nouvelle équipe de récherche (ANER), Région Bourgogne-Franche-Comté	26000€
2019-2024	Groups of homeomorphisms of manifolds http://mtriestino.perso.math.cnrs.fr/Gromeov.html	ANR PRC Gromeov ANR-19-CE40-0007 (progetto nazionale francese)	184 060€

Part VII – Research Activities

Keywords	Brief Description
Group actions Orderable groups Geometric group theory Dynamical systems Geometric topology Foliation theory	Since my post-doc in Rio de Janeiro (2014), my main research interest is focused on group actions on manifolds, which is a generalization of classical dynamical systems (that can be seen as actions of the groups Z or R). There are basically two general questions: 1) given a group G (for example, abelian, nilpotent, solvable, amenable, lattices in semi-simple Lie groups…) and a manifold M (typically, a circle, the real line, a surface, a symmetric space…) what can be said about actions of G on M by homeomorphisms, or diffeomorphisms? 2) Conversely, if dynamical properties of the action of G on M are prescribed (such as, an invariant probability measure, an invariant volume form, an invariant fibration, zero topological entropy,…) what can be said on the group-theoretic structure of

G?

The theory is sufficiently rich for groups acting on one-dimensional manifolds. It is a remarkable fact that a countable group acts by homeomorphisms on the real line, if and only if it admits a left-invariant order. This allows to combine tools from dynamical systems and group theory. For instance, the approach from dynamical systems has been fundamental in the works in collaboration with C Rivas (reference 9 below), where it is shown that Higman's group is left-orderable, and with N Matte Bon (reference 10 below), where we construct a large family of groups which are finitely generated, simple and left-orderable (conceptualizing a recent construction by Hyde and Lodha, which solved a long-standing problem in the field).

The situation in higher dimension is much wilder, and very few results are known. References 10 and 12 listed below discuss results on actions on manifolds of arbitrary dimension.

Historically, part of the motivation comes from the study of foliations, which can be studied through the dynamics of their holonomy pseudo-groups (which act on a closed transversal to the foliation). My work in collaboration with several authors (reference 6 below), written when most of us were post-docs in Rio de Janeiro, had this motivation. Indeed, it is a relevant contribution towards the solution of old conjectures by Ghys, Sullivan and Hector in foliation theory (which are still unsolved). As a sample conjecture, let (M,F) be a foliation of a closed manifold of codimension 1, which is transversaly of class C2. Assume that the foliation is minimal, that is, every leaf is dense. Then the foliation is ergodic with respect to the volume, that is, every non-empty subset of M saturated by leaves of the foliation has full volume.

A different motivation comes from the so-called Zimmer's program, which is about "large groups acting on manifolds" and other rigidity problems. As a remarkable example, it has been proved recently by Brown, Fisher and Hurtado that if a lattice in a simple Lie group of real rank n (such as SL(n+1,Z)) acts on a compact manifold of dimension <n, then the action factors through an action of a finite group (note that this is somehow sharp, as SL(n+1,Z) acts on the projective space RP^n, which is of dimension n). Reference 8 below contains lecture notes from a workshop I organized in 2016 near Rio de Janeiro, right after the solution of Zimmer's conjecture by Brown, Fisher, and Hurtado.

Part VIII – Summary of Scientific Achievements

Product type	Number	Data Base	Start	End
Papers [international]	9	Scopus, WoS, MathSciNet	2013	2021
Papers [national]				
Books [scientific]	1	MathSciNet	2014	2021
Books [teaching]				

Total Impact factor	11,745
Total Citations	30
Hirsch (H) index	4
Normalized H index*	4/6=0,66

*H index divided by the academic seniority.

Part IX– Selected Publications

List of the publications selected for the evaluation. For each publication report title, authors, reference data, journal IF (if applicable), citations, press/media release (if any).

1. A Navas, M Triestino
On the invariant distributions of C2 circle diffeomorphisms of irrational rotation number,
Math. Z. 274, no. 1 (2013), 315–321
IF: 0,881
Citations: 9

2. M. Triestino
Généricité au sens probabiliste dans les difféomorphismes du cercle,
Ensaios Matemáticos 27, Soc. Brasil. Mat. (2014). Français. (libro)
IF: n/a
Citations: 1

3. M Khristoforov, V Kleptsyn, M Triestino
Stationary random metrics on hierarchical graphs via (min,+)-type recursive distributional equations,
Commun. Math. Phys. 345, no. 1 (2016), 1–76
ISSN: 0010-3616, doi: 10.1007/s00220-016-2650-7
IF: 2,102
Citations: 0

4. C. Bonatti, Y. Lodha, M. Triestino
Hyperbolicity as an obstruction to smoothability for one-dimensional actions.
GEOMETRY & TOPOLOGY, vol. 23, p. 1841-1876,
ISSN: 1364-0380, doi: 10.2140/gt.2019.23.1841
IF: 1,48
Citations: 8

5. Alvarez S, Filimonov D, Kleptsyn V, Malicet D, Menino Coton C, Navas A, Triestino M
Groups with infinitely many ends acting analytically on the circle.
JOURNAL OF TOPOLOGY, vol. 12 (2019), p. 1315-1367,
ISSN: 1753-8416, doi:10.1112/topo.12118
IF: 1,64
Citations: 6

6. Malicet D, Mann K, Rivas C, Triestino M
Ping-pong configurations and circular orders on free groups.
GROUPS, GEOMETRY, AND DYNAMICS, vol. 13 (2019), p. 1195-1218
ISSN: 1661-7207, doi: 10.4171/GGD/519

IF: 0,742
Citations: 1

7. Triestino M (a cura di) Di Brown A.
Entropy, Lyapunov exponents, and rigidity of group actions.
ENSAIOS MATEMÁTICOS, vol. 33 (2019), p. 1-197,
ISBN: 978-85-8337-159-5, ISSN: 2175-0432 (curatela)
IF: n/a
Citations: 0

8. Rivas C, Triestino M
One-dimensional actions of Higman's group.
DISCRETE ANALYSIS, vol. 20 (2019)
ISSN: 2397-3129, doi: 10.19086/da.11151
IF: 1,18
Citations: 0

9. Lodha Y, Matte Bon N, Triestino M
Property FW, differentiable structures and smoothability of singular actions.
JOURNAL OF TOPOLOGY, vol. 13 (2020), p. 1119-1138
ISSN: 1753-8416, doi: 10.1112/topo.12151
IF: 1,64
Citations: 4

10. Matte Bon N, Triestino M
Groups of piecewise linear homeomorphisms of flows
Compositio Mathematica, vol. 156 (2020), 1595-1622
IF: 1,20
Citations: 1

11. Bonatti, C., Kim, S.-H., Koberda, T., Triestino, M.
Small C1 actions of semidirect products on compact manifolds
Algebraic and Geometric Topology, 2020, 20(6), pp. 3183–3203
IF: 0,876
Citations: 0

12. Triestino M
On James Hyde's example of non-orderable subgroup of Homeo(D,∂D)
L'ENSEIGNEMENT MATHEMATIQUE (2), vol. 66 (2020), no. 3-4, 409-418
IF: n/a
Citations: 0