

**PROCEDURA PUBBLICA DI SELEZIONE PER L'ASSUNZIONE DI N.1
RICERCATORE A TEMPO DETERMINATO AI SENSI DELL'ART.24, COMMA 3,
LETT. B) DELLA LEGGE 240/2010 PER IL SETTORE CONCORSUALE 01/A2 -
SETTORE SCIENTIFICO DISCIPLINARE MAT/02 - ALGEBRA -
DIPARTIMENTO DI MATEMATICA E FISICA - UNIVERSITA' ROMA TRE.**

**VERBALE N. 2 – ALLEGATO A
(elenco pubblicazioni presentate dai candidati)**

Angelini Elena:

1. **E. Angelini**, C. Bocci, L. Chiantini, "*Catalecticant intersections and confinement of decompositions of forms*" (2019), arXiv:1911.07769v2 [math.AG], accettato per la pubblicazione su Journal of Symbolic Computation (volume speciale dedicato al MEGA 2019).
2. **E. Angelini**, L. Chiantini, "*On the identifiability of ternary forms*", Linear Algebra and its Applications 599 (2020), 36–65.
3. **E. Angelini**, L. Chiantini, A. Mazzon, "*Identifiability for a class of symmetric tensors*", Mediterranean Journal of Mathematics (2019), vol. 16, fascicolo 4, articolo 97.
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6. **E. Angelini**, C. Bocci, L. Chiantini, "*Real identifiability vs complex identifiability*", Linear and Multilinear Algebra, volume 66, numero 6 (2018), 1257-1267.
7. **E. Angelini**, F. Galuppi, M. Mella, G. Ottaviani, "*On the number of Waring decompositions for a generic polynomial vector*", Journal of Pure and Applied Algebra 222 (2018), 950–965.
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9. **E. Angelini**, "*Logarithmic bundles of multi-degree arrangements in P^n* ", Documenta Mathematica 20 (2015), 507-529.
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Capuano Laura:

1. **L. Capuano**, I. Del Corso, "A note on upper ramification jumps in abelian extensions of exponent p ", Riv. Mat. Uni. Par., Vol. 6, 2015, 317-329;
2. **L. Capuano**, D. Masser, J. Pila e U. Zannier, "*Rational points on Grassmannians and Unlikely Intersections in tori*", Bull. of London Math. Soc., 48 (1), 2016, 141-154;
3. F. Barroero, **L. Capuano**, "*Linear relations on families of powers of elliptic curves*", Algebra & Number Theory 10 (1), 2016, 195-214;
4. F. Barroero, **L. Capuano**, "*Unlikely intersections in products of families of elliptic curves and the multiplicative group*", Q. J. Math. 68, No. 4, 2017, 1117-1138;
5. **L. Capuano**, F. Veneziano e U. Zannier, "*An effective criterion for periodicity of l -adic continued fractions*", Math. Comp. 88 (2019), n. 318, 1851-1882;
6. F. Barroero, **L. Capuano**, "*Unlikely Intersections in families of abelian varieties and the polynomial Pell equation*", Proc. of LMS, 120, n. 2, (2020), 192-219;
7. **L. Capuano**, A. Turchet, "*Lang-Vojta conjectures for surfaces dominating G_m^2* ", arXiv:1911.07562, submitted, 29 pp;
8. **L. Capuano**, A. Di Scala, "*Linear Feedback Shift Registers and cyclotomic polynomials*", submitted, 12 pp;
9. **L. Capuano**, P. Jossen, C. Karolus, F. Veneziano, "*Hyperelliptic continued fractions and generalized Jacobians*", Capitolo tre del volume "Arithmetic and Geometry: Ten years in Alpbach", Annals of Mathematical Studies/Princeton Univ. Press, vol 202, 2019, pp. 56-101;

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Ceria Michela:

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Dose Valerio:

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Ferraguti Andrea:

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12. **A. Ferraguti**, C. Pagano, "Constraining images of quadratic arboreal representations", sottomesso per la pubblicazione.

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Iezzi Annamaria:

1. X.-d. Hou, **A. Iezzi**, "An application of the Hasse-Weil bound to rational functions over finite fields", *Acta Arith.* 195, no. 2, 207-216 (2020);
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Macchia Antonio:

1. **A. Macchia**, J. Neves, M. Vaz Pinto, R. H. Villarreal, *Regularity of the vanishing ideal over a parallel composition of paths*, to appear in J. Commut.

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2. **A. Macchia**, A. Wiebe, *Slack Ideals in Macaulay2*, in Mathematical software – ICMS 2020, 7th international conference, Braunschweig, Germany, July 13–16, 2020, Proceedings, 222–231;
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Schaffler Luca:

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2. **L. Schaffler**, *K3 surfaces with \mathbf{Z}^2_2 symplectic action*. Rocky Mountain J. Math. 48 (2018), no. 7, 2347–2383.
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Sentinelli Paolo:

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Spirito Dario:

1. C. Finocchiaro, **D. Spirito**, *Some topological considerations on semistar operations*, Journal of Algebra 409 (2014), 199-218.
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Stella Salvatore:

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Strazzanti Francesco:

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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. V. Barucci, **F. Strazzanti**, *Dilatations of numerical semigroups*, Semigroup Forum 98 (2019), no. 2, 251-260.
10. 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.
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*, Numerical semigroups – IMNS 2018, Springer INdAM Series 40 (2020), 335-349.

TESI DI DOTTORATO: "*A family of quotients of the Rees Algebra and rigidity properties of local cohomology modules*"

Turchet Amos:

1. K. Ascher, L. Braune, **A. Turchet**, *The Erdős-Ulam problem, Lang's conjecture, and uniformity*, Bulletin of the London Math. Society, 2020
2. K. Ascher, K. DeVleming, **A. Turchet**, *Hyperbolicity and uniformity of varieties of log general*, International Mathematics Research Notices, 2020 (to appear);
3. **A. Turchet**, *Fibered Threefolds and Lang-Vojta's Conjecture over Function Fields*, Transactions of the American Mathematical Society, vol. 369, 2017, pp 8537-8558;
4. K. Ascher, **A. Turchet**, *A fibered power theorem for pairs of log general type*, Algebra and Number Theory, vol. 10 (7), 2016, pp. 1581-1600;
5. P. Das, **A. Turchet**, *Invitation to Integral and Rational points on curves and surfaces*, Rational Points, Rational Curves, and Entire Holomorphic Curves on Projective Varieties, Contemporary Mathematics, vol. 654, Amer. Math. Soc., Providence, RI, 2015, pp. 53-73
6. K. Ascher, **A. Turchet**, *Hyperbolicity of Varieties of log general type: arithmetic and geometry*, Capitolo nel libro "Arithmetic Geometry of Logarithmic Pairs and Hyperbolicity of Moduli Spaces" in fase di stampa per CRM-Springer Short Courses Series.
7. L. Capuano, **A. Turchet**, *Lang-Vojta Conjecture over function fields for surfaces dominating G_m^2* , sottomesso per pubblicazione
8. E. Rousseau, J. T.-Y. Wang, **A. Turchet**, *Nonspecial Varieties And Generalized Lang-Vojta Conjectures*, sottomesso per pubblicazione

TESI DI DOTTORATO: *Geometric Lang-Vojta Conjecture in the projective plane*, 2014.

Valeri Daniele:

1. De Sole A., Kac V.G., **Valeri D.**, *Classical W -algebras and generalized Drinfeld-Sokolov bi-Hamiltonian systems within the theory of Poisson vertex algebras*, Comm.Math. Phys. 323 (2013), n. 2, 663-711.
2. De Sole A., Kac V.G., **Valeri D.**, *Dirac reduction for Poisson vertex algebras*, Comm.Math. Phys. 331 (2014), n. 3, 1155-1190.
3. De Sole A., Kac V.G., **Valeri D.**, *Double Poisson vertex algebras and non-commutative Hamiltonian equations*, Adv. Math. 281 (2015), 1025-1099.
4. De Sole A., Kac V.G., **Valeri D.**, *Adler-Gelfand-Dickey approach to classical W -algebras within the theory of Poisson vertex algebras*, Int. Math. Res. Not. 21(2015), 11186-11235.
5. Masoero D., Raimondo A., **Valeri D.**, *Bethe Ansatz and the Spectral Theory of $a\#ne$ Lie algebra-valued connections I. The simply-laced case*, Comm. Math. Phys. 334(2016), n. 3, 719-750.
6. De Sole A., Kac V.G., **Valeri D.**, *Structure of classical (finite and affine) W -algebras*, J. Eur. Math. Soc. 18 (2016), n. 9, 1873-1908.
7. De Sole A., Kac V.G., **Valeri D.**, *Classical W -algebras for \mathfrak{gl}_N and associated integrable Hamiltonian hierarchies*, Comm. Math. Phys. 348 (2016), n. 1, 265-319.
8. Masoero D., Raimondo A., **Valeri D.**, *Bethe Ansatz and the Spectral Theory of $a\#ne$ Lie algebra-valued connections II. The non simply-laced case*, Comm. Math. Phys. 349 (2017), n. 3, 1063-1105.
9. De Sole A., Kac V.G., **Valeri D.**, *Finite W -algebras for \mathfrak{gl}_N* , Adv. Math. 327 (2018), 173-224.
10. De Sole A., Kac V.G., **Valeri D.**, *Classical affine W -algebras and the associated integrable Hamiltonian hierarchies for classical Lie algebras*, Comm. Math. Phys. 360 (2018), no. 3, 851-918.
11. De Sole A., Kac V.G., **Valeri D.**, *A Lax type operator for quantum finite W -algebras*, Sel. Math. New Ser. 24 (2018), no. 5, 4617-4657.
12. (12) De Sole A., Kac V.G., **Valeri D.**, Wakimoto M., *Local and non-local multiplicative Poisson vertex algebras and differential-difference equations*, Comm. Math. Phys. 370 (2019), no. 3, 1019-1068.

TESI DI DOTTORATO: *Classical W -algebras*.

**PROCEDURA PUBBLICA DI SELEZIONE PER L'ASSUNZIONE DI N.1
RICERCATORE A TEMPO DETERMINATO AI SENSI DELL'ART.24, COMMA 3,
LETT. B) DELLA LEGGE 240/2010 PER IL SETTORE CONCURSALE 01/A2 -
SETTORE SCIENTIFICO DISCIPLINARE MAT/02 - ALGEBRA - DIPARTIMENTO
DI MATEMATICA E FISICA - UNIVERSITA' ROMA TRE.**

**VERBALE N. 2 - ALLEGATO B
(curricula dei candidati)**

CURRICULUM VITAE ET STUDIORUM

(AI FINI DELLA PUBBLICAZIONE)

ELENA ANGELINI

HONORS AND AWARDS

- September 18, 2018 – September 18, 2024
Scientific Habilitation to Associate Professor from Italian Ministry of Education, University and Research (Abilitazione Professore di II Fascia Settore Concorsuale 01/A2 – Geometria e Algebra – 2018, Quinto quadrimestre)
- April 15, 2016 – May 31, 2018
Postdoctoral Fellowship at Dipartimento di Ingegneria dell'Informazione e Scienze Matematiche, Università degli Studi di Siena, Italy (scientific advisors: professors Ilaria Cardinali and Luca Chiantini)
- September 15, 2016
Winner of an open competition based on qualifications and examinations (D.D.G. n. 106 del 23/2/2016) to teach in high school, ranking 1stbis in the result (classe di concorso A026 – Matematica)
- June 1, 2014 – April 14, 2016
Postdoctoral Fellowship at Dipartimento di Matematica e Informatica, Università degli Studi di Ferrara, Italy (scientific advisor: professor Massimiliano Mella (extended from June 1, 2015 to May 31, 2016)
- January, 2013 – July, 2013
Tirocinio Formativo Attivo in Matematica e Fisica (classe di concorso A049) at Università degli Studi di Pisa; title obtained on: July, 17 2013

EDUCATION

- January, 01 2010 – December, 31 2012
Ph.D. in Mathematics (ciclo XXV) at Dipartimento di Matematica “U. Dini”, Università degli Studi di Firenze, Italy; thesis on “The Torelli problem for Logarithmic bundles of hypersurface arrangements in the projective space”; scientific advisors: professors Giorgio Ottaviani and Daniele Faenzi; title obtained on: May, 6 2013
- October, 2007 – October, 2009
Master degree in Mathematics at Dipartimento di Matematica “U. Dini”, Università degli Studi di Firenze, Italy; thesis on “Varietà secanti alle varietà spinoriali”; scientific advisor: professor Giorgio Ottaviani; title obtained on: October 15, 2009; grade 110/110 with honour
- September, 2004 – October, 2007
Bachelor degree in Mathematics at Dipartimento di Matematica “U. Dini”, Università degli Studi di Firenze, Italy; thesis on “Il Teorema di de Rham”;

scientific advisor: professor Giorgio Ottaviani; title obtained on: October 12, 2009; grade 110/110 with honour

- September, 1999 – July, 2004
High school diploma at Liceo Scientifico Statale “Ernesto Balducci”, Pontassieve, Firenze (FI, Italy); title obtained on: July 8, 2004; grade 100/100
- May, 2003 and March, 2004
“Diplome d’études en Langue Française 1er degré” at Institut Français de Florence
- June, 2002
“Preliminary English Test” of University of Cambridge, Local Examinations Syndicate, International Examinations; grade pass

ORGANIZATIONAL EXPERIENCES

- September, 2019 →
Co-organizer, with Cristiano Bocci, Luca Chiantini, Massimiliano Mella and Giorgio Ottaviani of the cycle of seminars on “Algebraic Geometry and Applications” (system administration and maintenance of the website <http://web.math.unifi.it/gruppi/algebraic-geometry/GeometriaAlgebricaeApplicazioni20192020.html>)
- September, 2018 →
Co-organizer, with Cristiano Bocci, Luca Chiantini, Massimiliano Mella and Giorgio Ottaviani of the cycle of seminars on “Algebraic Geometry and Tensors” (system administration and maintenance of the website <http://web.math.unifi.it/gruppi/algebraic-geometry/GeometriaAlgebricaeTensori20182019.html>)
- June, 2018 – July, 2019
Co-organizer, with E. Carlini and A. Oneto, of the Mini Symposium SIAMAG “The algebra and geometry of tensors, 2: structured tensors” (MS127) held in Bern from July, 9 2019 to July, 13 2019 (<https://www.conftool.com/siamag2019/sessions.php>)
- June, 2018 →
Co-organizer, with A. Boralevi, C. Brambilla, D. Faenzi, S. Naldi and E. Rubei of the workshop GO60 that will take place in Levico (TN, Italy) from June, 22 2020 to June, 26 2020 (re-scheduled from June, 20 to June, 25 2021 due to Covid-19 health emergency) on the occasion of Giorgio Ottaviani’s 60th birthday (<http://staff.polito.it/ada.boralevi/GO60/index.html>)
- September, 2017 – August, 2018
Co-organizer, with Cristiano Bocci, Luca Chiantini, Massimiliano Mella and Giorgio Ottaviani of the cycle of seminars on “Algebraic Geometry and Tensors” (system administration and maintenance of the website <http://web.math.unifi.it/gruppi/algebraic-geometry/GeometriaAlgebricaeTensori20172018.html>)
- 2017
Co-organizer, with Cristiano Bocci and Giorgio Ottaviani, of the workshop “A Spring day in Projective Geometry – On the occasion of Luca Chiantini’s 60th birthday”, held at the Dipartimento di Matematica e Informatica “U. Dini”, Università degli Studi di Firenze, on May 5, 2017 (system administration and maintenance of the website)

<https://sites.google.com/unife.it/aspringdayinprojectivegeometry/home>

- December, 2016 – May, 2017
Co-organizer, with Cristiano Bocci, Luca Chiantini, Massimiliano Mella and Giorgio Ottaviani of the cycle of seminars on “Algebraic Geometry and Tensors” (system administration and maintenance of the website <http://web.math.unifi.it/gruppi/algebraic-geometry/GeometriaAlgebraicaTensori20162017.html>)
- November, 2015 – May, 2016
Co-organizer, with Cristiano Bocci, Luca Chiantini, Massimiliano Mella and Giorgio Ottaviani of the cycle of seminars on “Real Algebraic Geometry and Tensors” (system administration and maintenance of the website <http://web.math.unifi.it/gruppi/algebraic-geometry/GeometriaAlgebraicaRealeTensori20152016.html>)
- January, 2015 – October, 2015
Co-organizer, with Cristiano Bocci, Luca Chiantini, Massimiliano Mella and Giorgio Ottaviani of the cycle of seminars on “Numerical Algebraic Geometry” (system administration and maintenance of the website <http://web.math.unifi.it/gruppi/algebraic-geometry/GeometriaAlgebraicaNumerica20142015.html>)
- September, 2012 – February, 2013
Organizer of the seminars “Seminari del dottorato” at the the Dipartimento di Matematica e Informatica “U. Dini”, Università degli Studi di Firenze

SERVICE EXPERIENCES

- Editor (Curatrice editoriale) of the volumes that collect Paolo de Bartolomeis’ papers: “Matematica. Passione e conoscenza. Scritti. 1975-2016” edited by FUP (Firenze University Press), November 2019
- September, 2018 →
Reviewer for Mathematical Reviews (AMS)
- February, 2015 – April, 2016
Post-Doc representative at the Dipartimento di Matematica e Informatica, Università degli Studi di Ferrara, Italy
- September, 2013 →
Referee of international scientific journals
- December, 2011 →
System administration and maintenance of the website <http://web.math.unifi.it/gruppi/algebraic-geometry/> of the Algebraic Geometry group in Florence
- September, 9 2010 – January, 10 2011
Tutor Junior at Facoltà di Scienze Matematiche Fisiche e Naturali, Università degli Studi di Firenze

RESEARCH GROUPS MEMBERSHIP

- January, 2018 →
Participant of the Italian research program PRIN 2015 - Geometry of Algebraic Varieties (B16J15002000005), coordinator in Florence Prof. Giorgio Maria

Ottaviani

- February, 2017 →
Participant of the project “Progetto strategico di ricerca di base Anno 2014 – Azioni di gruppi su varietà e tensori”, Università di Firenze, coordinator Prof. Giorgio Maria Ottaviani
- April, 2015 →
Member of the Italian UMI
- June, 2014 – April, 2016
Participant of the Italian FAR, Università degli Studi di Ferrara, coordinator Prof. Massimiliano Mella
- January, 2012 →
Member of the Italian GNSAGA (Gruppo Nazionale per le Strutture Algebriche, Geometriche e le loro Applicazioni), sezione Geometria algebrica e algebra commutativa, of INdAM (Istituto Nazionale di Alta Matematica)
- January, 2012 – December, 2013
Participant of the Italian research program PRIN “Varietà reali e complesse: geometria, topologia e analisi armonica”, coordinator in Florence: Prof. Graziano Gentili
- January, 2010 – December, 2012
Participant of the Italian research group of MIUR “Classificazione delle varietà reali e complesse” (ex 60%), coordinators: professors Giorgio Ottaviani and Giorgio Patrizio

RESEARCH INTERESTS

ALGEBRAIC GEOMETRY

- Tensors decomposition over the complex and real field and identifiability
- Simultaneous Waring decomposition of homogeneous polynomials
- Numerical Algebraic Geometry and homotopy continuation techniques (use of softwares: Bertini, Macaulay2, Julia)
- Geometry of tensors and quantum information theory
- Birational geometry: Cremona equivalence of surfaces in P^3 and generalizations
- Torelli type problems for logarithmic bundles of hypersurfaces arrangements in the complex projective space
- Vector bundles over algebraic varieties
- Moduli spaces of vector bundles
- Secant varieties
- Defectivity problem for secant varieties

PUBLICATIONS

- E. Angelini, L. Chiantini, “Minimality and uniqueness for decompositions of specific ternary forms” (2020), submitted for publication
- E. Angelini, C. Bocci, L. Chiantini, “Catalecticant intersections and confinement of decompositions of forms” (2019), arXiv:1911.07769v2 [math.AG], accepted for publication on Journal of Symbolic Computation (special volume devoted to

MEGA 2019)

- E. Angelini, L. Chiantini, “On the identifiability of ternary forms”, *Linear Algebra and its Applications* 599 (2020), 36–65, DOI: 10.1016/j.laa.2020.03.042, SCOPUS: s2.0-85082866519, WOS: to be updated, arXiv: 1901.01796v4 [math.AG]
- E. Angelini, L. Chiantini, A. Mazzon, “Identifiability for a class of symmetric tensors”, *Mediterranean Journal of Mathematics* (2019), vol. 16 issue 4 (article 97), DOI:10.1007/s00009-019-1363-5, SCOPUS: s2.0-85067847253, arXiv: 1811.01865v2 [math.AG]
- E. Angelini, L. Chiantini, N. Vannieuwenhoven, “Identifiability beyond Kruskal’s bound for symmetric tensors of degree 4”, *Atti della Accademia Nazionale dei Lincei, Classe di Scienze Fisiche, Matematiche e Naturali, Rendiconti Lincei Matematica e Applicazioni* 29 (3) (2018), 465-485, DOI: 10.4171/RLM/817, SCOPUS: s2.0-85050017766, WOS: 000436095400005, arXiv:1712.04211v1 [math.AG]
- E. Angelini, “Waring decompositions and identifiability via Bertini and Macaulay2 softwares”, *Journal of Symbolic Computation* 91 (2019) 200-212 (special volume devoted to MEGA 2017), DOI: 10.1016/j.jsc.2018.06.021, SCOPUS: s2.0-85048989775, arXiv: 1803.00800v1 [math.AG]
- E. Angelini, C. Bocci, L. Chiantini, “Real identifiability vs complex identifiability”, *Linear and Multilinear Algebra*, volume 66, number 6 (2018), 1257-1267, DOI: 10.1080/03081087.2017.1347137, SCOPUS: s2.0-85021952299, WOS: 000429099000013, arXiv: 1608.07197v3 [math.AG]
- E. Angelini, F. Galuppi, M. Mella, G. Ottaviani, “On the number of simultaneous Waring decompositions for a generic polynomial vector” *Journal of Pure and Applied Algebra* 222 (2018), 950–965, DOI: 10.1016/j.jpaa.2017.05.016, SCOPUS: s2.0-85019627702, WOS: 000417007400012, arXiv: 1601.01869v1 [math.AG]
- E. Angelini, “On complex and real identifiability of tensors”, *Rivista di Matematica dell’Università di Parma*, volume 8, number 2 (2017), 367-377, SCOPUS: s2.0-85041207697, WOS: 000425925500012, arXiv: 1801.08311v1 [math.AG]
- E. Angelini, “Logarithmic bundles of multi-degree arrangements in P^n ”, *Documenta Mathematica* 20 (2015), 507-529, SCOPUS: s2.0-84957963600, WOS: 000366697700009, arXiv: 1410.8770v2 [math.AG]
- E. Angelini, “Logarithmic bundles of hypersurface arrangements in P^n ”, *Collectanea Mathematica*, volume 65, number 3 (2014), 285-302, DOI: 10.1007/s13348-014-0112-0, SCOPUS: s2.0-84905705702, WOS: 000340388400001, arXiv: 1304.5709v3 [math.AG]
- E. Angelini, “The Torelli problem for Logarithmic bundles of hypersurface arrangements in the projective space”, Ph. D. thesis (2013), arXiv:1506.01931v1 [math.AG], disponibile su Biblioteca Digitale Italiana di Matematica al link http://www.bdim.eu/item?id=tesi_2013_AngeliniElena_1
- E. Angelini, “Higher secants of spinor varieties”, *Bollettino U.M.I.* (9) IV (2011), 213-235, SCOPUS: s2.0-84992650871, arXiv:1011.2337v1 [math.AG]
- E. Angelini, “Varietà secanti alle varietà spinoriali”, *Tesi di laurea specialistica* (2009)

PAPERS IN PREPARATION

- E. Angelini, “Decompositions of special symmetric tensors admitting different Hilbert functions” (2020)
- E. Angelini, L. Chiantini, “Geometric description of unidentifiable quartics” (2020)

POSTERS

- E. Angelini, poster “Polinomi e identificabilità”, presented on the occasion of Unifestival, section “Cosa fanno i matematici di Unife”, Ferrara (September 25-27, 2015)
- E. Angelini, poster “The Torelli problem for Logarithmic bundles of hypersurface arrangements in the projective space”
(<http://manifolds.sns.it/2013/posters/512e7821d6b2cposterpisa.pdf>)
presented on the occasion of Workshop “Varietà reali e complesse: geometria, topologia e analisi armonica”, SNS Pisa (February 28 – March 3, 2013)
- E. Angelini, poster “Logarithmic bundles attached to arrangements of conics”, presented on the occasion of “Arrangements in Pyrénées” - School on hyperplane arrangements and related topics, Laboratoire de Mathématiques Appliquées, Université de Pau et des pays de l’Adour, (June 11 – 15, 2012)

REASEARCH PERIODS ABROAD

- March 15 - April 14, 2011
Université de Pau et des pays de l’Adour, Laboratoire de Mathématiques Appliquées CNRS – UMR 5142 IPRA, Avenue de l’Université – 64000 Pau (France), invited by professors Daniele Faenzi and Jean Vallés for research activity in algebraic geometry

INVITED TALKS

- July 11, 2019
“On the identifiability of ternary forms beyond the Kruskal's bound”, talk given in the mini-symposium MS124 “The algebra and geometry of tensors, 1: general tensors” on the occasion of SIAMAG, Bern (Switzerland)
- April 4, 2019
“On the identifiability of symmetric tensors beyond the Kruskal's bound”, Low-rank Optimization and Applications, Max Planck Institute für Mathematik in den Naturwissenschaften, Leipzig (Germany) (slides available at https://www.mis.mpg.de/fileadmin/pdf/slides_lroa2019_4058.pdf)
- September 12, 2018
“Tensor decomposition via Bertini software”, tutorial con problem session, Tensors – Politecnico di Torino (slides available at

<https://areeweb.polito.it/disma-excellence/tensors/Angelini.rar>

- August 14, 2018
“Identifiability of tensors via Bertini and Macaulay2 software”, Summer School on Numerical Computing in Algebraic Geometry, Max Planck Institute für Mathematik in den Naturwissenschaften, Leipzig (Germany)
- May 18, 2018
“Identifiability of tensors via Hilbert function analysis”, Dipartimento di Matematica e Informatica “Ulisse Dini”, Università degli Studi di Firenze (talk given in the cycle of seminars on “Algebraic Geometry and Tensors 2017-2018”)
- June 15, 2017
“Waring decompositions and identifiability via Bertini and Macaulay2 softwares”, 14th International conference on Effective Methods in Algebraic Geometry - MEGA 2017, Castle of Nice University, campus Valrose, Nice (France) (slides available at <https://mega2017.inria.fr/files/2017/06/Angelini.pdf>)
- April 7, 2017
“Real identifiability and complex identifiability”, Dipartimento di Matematica, Università di Bologna, Bologna (Italy) (talk given in the cycle of seminars “Algebraic Geometry and Tensors 2016-2017”, slides available at http://web.math.unifi.it/gruppi/algebraic-geometry/slides_Angelini_07042017.pdf)
- October 7, 2015
“Results of Torelli type for logarithmic bundles of hypersurfaces in P^n ”, Dipartimento di Scienze Matematiche “G. L. Lagrange”, Politecnico di Torino, Torino (Italy)
- September 8, 2015
“The action of the Cremona group on subvarieties of P^n ”, session S18 of Algebraic Geometry on the occasion of the XX Congresso dell’Unione Matematica Italiana, Siena (Italy)
- June 11, 2015
“Torelli type results for logarithmic bundles of arrangements in P^n ”, Special Session 53 Vector Bundles on Projective Varieties on the occasion of the AMS-EMS-SPM International Meeting, Porto (Portugal)
- February 19, 2015
“Scomposizione di forme binarie e utilizzo dei software Bertini e Macaulay2”, Dipartimento di Matematica e Informatica “Ulisse Dini”, Università degli Studi di Firenze, Firenze (Italy) (talk given in the cycle of seminars “Numerical Algebraic Geometry 2014-2015”)
- July 14, 2014
“Logarithmic bundles of multi-degree arrangements in P^n ”, Summer School on “An Interdisciplinary Approach to Tensor Decomposition”, Fondazione Bruno Kessler, Povo, Trento (Italy)
- June 23, 2014
“Logarithmic bundles of multi-degree arrangements in P^n ”, GAeL XXII, SISSA Trieste (Italy)
- June 10, 2014
“Logarithmic bundles of multi-degree arrangements in P^n ”, Dipartimento di

- Matematica e Informatica, Università degli Studi di Ferrara, Ferrara (Italy)
- May 23, 2013
 “Il problema di Torelli per fibrati logaritmici di configurazioni di ipersuperfici nello spazio proiettivo”, Dipartimento di Matematica e Fisica, Università Roma Tre, Roma (Italy)
- April 8, 2013
 “Il problema di Torelli per fibrati logaritmici di configurazioni di ipersuperfici nello spazio proiettivo”, Dipartimento di Matematica “Ulisse Dini”, Università degli Studi di Firenze, Firenze (Italy)
- February 28 – March 3, 2013
 Poster “The Torelli problem for Logarithmic bundles of hypersurface arrangements in the projective space”, Workshop “Varietà reali e complesse: geometria, topologia e analisi armonica”, SNS Pisa (Italy)
- October 18, 2012
 “Fibrati logaritmici e configurazioni di ipersuperfici in $P^n(C)$ ”, Progressi Recenti in Geometria Reale e Complessa, Levico Terme, Trento (Italy)
- June 11 – 15, 2012
 Poster “Logarithmic bundles attached to arrangements of conics”, in occasione di “Arrangements in Pyrénées” - School on hyperplane arrangements and related topics, Laboratoire de Mathématiques Appliquées, Université de Pau et des pays de l’Adour, Pau (France)
- June 5, 2012
 “Il problema di Torelli per fibrati logaritmici di configurazioni di coniche in $P^2(C)$ ”, Dipartimento di Matematica, Università degli Studi di Parma, Parma (Italy)
- May 24, 2012
 “Il problema di Torelli per fibrati logaritmici di configurazioni di coniche in $P^2(C)$ ”, Giornate di Geometria Algebrica ed Argomenti Correlati XI, Centro De Giorgi, Pisa (Italy)
- December 12, 2011
 “Il Problema di Torelli per Fibrati Logaritmici”, Dipartimento di Matematica “Ulisse Dini”, Università degli Studi di Firenze, Firenze (Italy)
- March 22, 2011
 “Higher secants of spinor varieties”, Laboratoire de Mathématiques Appliquées, Université de Pau et des pays de l’Adour, Pau (France)
- April 9, 2010
 “Orbitopi di Carathéodory”, Dipartimento di Matematica “Ulisse Dini”, Università degli Studi di Firenze, Firenze (Italy)

WORKSHOPS AND SCHOOLS

- July 9-13, 2019
 SIAM Conference on Applied Algebraic Geometry, Bern (Switzerland)
- April 1-5, 2019
 Low-rank Optimization and Applications, Max Planck Institute für Mathematik in den Naturwissenschaften, Leipzig (Germany)
- September 10-14, 2018

Tensors, Politecnico di Torino

- August 13-17, 2018
Summer School on Numerical Computing in Algebraic Geometry, Max Planck Institute für Mathematik in den Naturwissenschaften, Leipzig (Germany)
- July 4 - 6, 2017
International workshop on “Quantum Physics and Geometry”, Levico Terme, Trento (Italy)
- June 21 – 23, 2017
“Modern Algebra and Classical Geometry – Together with Edoardo Sernesi”, FBK, Trento (Italy)
- June 12 -16, 2017
“MEGA 2017 – International conference on effective methods in algebraic geometry”, Université Nice Sophia Antipolis, Nice (France)
- May 5, 2017
“A Spring day in Projective Geometry – On the occasion of Luca Chiantini’s 60th birthday”, Dipartimento di Matematica e Informatica “U. Dini”, Università di Firenze, Firenze (Italy)
- April 26 – May 3, 2017
Ph. D. course “Tensor decompositions and their applications” (professor: Nick Vannieuwenhoven) held at Dipartimento di Ingegneria dell’Informazione e Scienze Matematiche, Siena (Italy)
- January 26 – 28, 2017
“Perspectives in Geometry – A conference in memory of Paolo de Bartolomeis”, Dipartimento di Matematica e Informatica “U. Dini”, Università di Firenze, Firenze (Italy)
- September 7 – 9, 2015
XX Congresso dell’Unione Matematica Italiana, Dipartimento di Ingegneria dell’Informazione e Scienze Matematiche, Siena (Italy)
- August 30 – September 4, 2015
“Classification of Projective Varieties”, conference organized by Centro Internazionale per la Ricerca Matematica (CIRM) and held at Bellavista Relax Hotel di Levico Terme, Trento (Italy)
- June 15 – 19, 2015
MEGA 2015 (Effective Methods in Algebraic Geometry), Università di Trento, Trento (Italy)
- June 15 -18, 2015
Conference AGaFe on the occasion of Philippe Ellia’s 60th birthday, Ferrara (Italy)
- June 10 -13, 2015
AMS-EMS-SPM Joint Meetings, Porto (Portugal)
- April 26-18, 2015
“Colloquium GRIFGA 2015”, Palazzo Feltrinelli – Gargnano del Garda, Brescia (Italy)
- July 13- 18, 2014
Summer School on “An Interdisciplinary Approach to Tensor Decomposition”, Fondazione Bruno Kessler, Povo, Trento (Italy)
- June 23 – 27, 2014

- “GAeL XXII”, SISSA Trieste (Italy)
- September 16 – October 4, 2013
“Pragmatic 2013”, research school in Algebraic Geometry and Commutative Algebra, Catania (professors Paolo Cascini, Alessio Corti, Yujiro Kawamata)
 - September 1 – 7, 2013
“Power sum decompositions and apolarity, a geometric approach” - 36th September Algebraic Geometry School (professors Giorgio Ottaviani, Kristian Ranestad, Alessandra Bernardi), school organized by the Institute of Mathematics of University of Warsaw and held in Łukaszów (Poland)
 - February 28 – March 3, 2013
Workshop “Varietà reali e complesse: geometria, topologia e analisi armonica”, SNS Pisa (Italy)
 - October 14 – 19, 2012
“Progressi Recenti in Geometria Reale e Complessa”, workshop organized by Centro Internazionale per la Ricerca Matematica (CIRM) and held at Bellavista Relax Hotel di Levico Terme, Trento (Italy)
 - September 17 – 21, 2012
“School and (Workshop) on Invariant Theory and Projective Geometry” (professors Giorgio Ottaviani, Laurent Manivel), Fondazione Bruno Kessler, Povo, Trento (Italy)
 - July 1 – 14, 2012
Corso Estivo di Matematica “Tensor: Waring Problems and Geometric Complexity Theory” (docenti: prof. Joseph Landsberg, prof. Massimiliano Mella) organized by Scuola Matematica Universitaria - Cortona, Palazzone della Scuola Normale Superiore (Italy)
 - June 11 – 15, 2012
“Arrangements in Pyrénées” - School on hyperplane arrangements and related topics, Laboratoire de Mathématiques Appliquées, Université de Pau et des pays de l’Adour, Pau (France)
 - May 23 – 26, 2012
Giornate di Geometria Algebrica ed Argomenti Correlati XI, Centro De Giorgi, Pisa (Italy)
 - September 12 – 17, 2011
School and Workshop on Tropical and Toric Geometry, Università degli Studi di Trento, Trento (Italy)
 - July 17 – 29, 2011
Summer Graduate Workshop “Toric Varieties in Cortona” (professors David Cox, Hal Schenck), Cortona, Palazzone della Scuola Normale Superiore (Italy)
 - April 7, 2011
“Rencontres Pau – Tarbes - Toulouse de Géométrie Algébrique”, Toulouse (France)
 - September 20 – 21 – 23, 2010
“Configurazioni di iperpiani e fibrati logaritmici”, course given by professor Daniele Faenzi, Dipartimento di Matematica “U. Dini”, Firenze (Italy)
 - August 1 – September 3, 2010
Corso estivo di matematica organized by Scuola Matematica Interuniversitaria

and held at Università di Perugia (prof. Chris Peterson – algebraic geometry; prof. Ernst Heintze – differential geometry)

- June 3 – 5, 2010
“Journées Palloises de Géométrie algébrique”, Laboratoire de Mathématiques Appliquées, Université de Pau et des pays de l’Adour, Pau (France)
- May – June, 2009
“Geometry of varieties in spaces of tensors”, course given by professor Joseph Landsberg (Texas A&M University), Dipartimento di Matematica “U. Dini”, Firenze (Italy)

UPCOMING EVENTS

- June 22-26, 2020 (re-scheduled due to Covid-19 health emergency: June 20-25, 2021)
Participant, as organizer, to the workshop GO60 that will take place in Levico (TN, Italy) on the occasion of Giorgio Ottaviani’s 60th birthday

TEACHING EXPERIENCES

- academic year 2017-2018
Teaching assistant (with participation in the examinations committee) for the course “Algebra Lineare” (MAT/03 – Prof. Luca Chiantini), Laurea Triennale in Ingegneria Informatica e dell’Informazione – Ingegneria Gestionale (Dipartimento di Ingegneria dell’Informazione e Scienze Matematiche, Università degli Studi di Siena)
- academic year 2016-2017
Teaching assistant (with participation in the examinations committee) for the course “Algebra Lineare” (MAT/03 - Prof. Ilaria Cardinali), Laurea Triennale in Ingegneria Informatica e dell’Informazione – Ingegneria Gestionale (Dipartimento di Ingegneria dell’Informazione e Scienze Matematiche, Università degli Studi di Siena)
- academic year 2015-2016 (June, 2016 →)
Teaching assistant (with participation in the examinations committee) for the course “Algebra Lineare” (MAT/03 - Prof. Ilaria Cardinali), Laurea Triennale in Ingegneria Informatica e dell’Informazione – Ingegneria Gestionale (Dipartimento di Ingegneria dell’Informazione e Scienze Matematiche, Università degli Studi di Siena)
- academic year 2015-2016 (September, 2015 – April, 2016)
Teaching assistant the course “Geometria” (MAT/03 – Prof. Rossana Chiavacci), Laurea Triennale in Fisica (Dipartimento di Fisica e Scienze della Terra, Università degli Studi di Ferrara)
- academic year 2014-2015 (October, 2014 – June, 2015)
Teaching assistant the course “Geometria” (MAT/03 – Prof. Rossana Chiavacci), Laurea Triennale in Fisica (Dipartimento di Fisica e Scienze della Terra, Università degli Studi di Ferrara)
- September 28, 2013 – May 31, 2014
Computer Science teacher in high school (classe di concorso A042) at Istituto d’Istruzione Superiore “Giotto Ulivi”, Borgo San Lorenzo (FI)

- April, 2013 – June, 2013
Stage (TFA - classe di concorso A049) at Liceo Scientifico Statale “Guido Castelnuovo”, Firenze (FI), tutor Prof. Franco Fusier
- January 15, 2013 – June 30, 2013
Computer Science teacher in high school (classe di concorso A042) at Istituto d'Istruzione Superiore “Giotto Ulivi”, Borgo San Lorenzo (FI)
- academic year 2012-2013
Teaching assistant for the course “Geometria I” (MAT/03 - professors Graziano Gentili, Marco Maggesi), Laurea Triennale in Matematica (Facoltà di Scienze Matematiche Fisiche e Naturali, Università degli Studi di Firenze)
- March, 2012
Openlab activities at Scuola dell'Infanzia “Azzurra”, Sesto Fiorentino (FI)
- February, 2012
Openlab Activities at Scuola Primaria “Padre Ernesto Balducci”, Sesto Fiorentino (FI) and at Istituto di istruzione statale superiore “Ernesto Balducci”, Pontassieve (FI)
- January, 2012
Openlab Activities at Istituto di istruzione statale superiore “Ernesto Balducci”, Pontassieve (FI)
- November, 2011
Openlab Activities at Scuola Media Statale “Cavalcanti”, Sesto Fiorentino (FI)
- March, 2011
Openlab Activities at Scuola Media Statale “Giovanni della Casa”, Borgo San Lorenzo (FI)
- December, 2010
Tutor activities for 1st year students of Mathematics and Computer Science at Dipartimento di Matematica “Ulisse Dini” as Tutor Junior at Facoltà di Scienze Matematiche Fisiche e Naturali, Università degli Studi di Firenze
- academic year 2010-2011 (October 4, 2010 – December 17, 2010)
Instructor for the course “Matematica integrativa del calcolo differenziale con applicazioni (MAT/05)”, Laurea in Scienze forestali e ambientali (Facoltà di Agraria, Università degli Studi di Firenze)

LANGUAGE SKILLS

ITALIAN	▪ Native speaker
ENGLISH	▪ Excellent
FRENCH	▪ Excellent

COMPUTER SKILLS

- Microsoft Office package (Word, Excel, PowerPoint, Publisher, Access, Outlook, OneNote) and equivalent open-source packages
- Latex, Scientific Work Place
- Bertini, Macaulay2, Magma, Maple, Matlab, Julia
- Geogebra
- HTML programming language

Laura Capuano

Curriculum Vitae

Education

- 2010 – 2014: **PhD in Mathematics**, *Scuola Normale Superiore*, Pisa, 70/70 *cum laude*.
Supervisor: Prof. U. Zannier. Defended on: February 11th 2014.
Thesis: “*Unlikely Intersections and Applications to Diophantine Geometry*”
- 2008 – 2010: **Master degree in Mathematics**, *Università di Pisa*, 110/110 *cum laude*.
- 2005 – 2008: **Bachelor degree in Mathematics**, *Università di Pisa*, 110/110 *cum laude*.

Employment

- From Jul 2019 **Researcher (RTDA)**, Politecnico di Torino, Italy;
- Sep 2018 - Giu 2019 **Stipendiary Lecturer in Pure Mathematics**, Pembroke College, University of Oxford;
- Feb 2017 - Apr 2019 **Postdoctoral Research Assistant in Model Theory, Functional Transcendence, and Diophantine Geometry**, University of Oxford (supported by EPSRC grant “Model theory, functional transcendence and diophantine geometry” (EP/N007956/1));
- Feb 2016 - Jan 2017 **Postdoctoral Research Assistant, Scuola Normale Superiore di Pisa** (INdAM grant “Ing. Giorgio Schirillo”);
- May 2014 - Jan 2016 **Postdoctoral Research Assistant, Scuola Normale Superiore of Pisa** (supported by ERC-Advanced Grant “Diophantine problems” (GA N. 267273)).

Research Interests

My research interests lie at the intersection of Number Theory and Algebraic Geometry, more precisely in the field of Diophantine Geometry. I’m particularly interested in the so called problems of “Unlikely Intersections”, especially in the case of toric varieties, elliptic curves and families of abelian varieties. The general “Zilber-Pink conjecture”, formulated independently by Zilber and Bombieri, Masser and Zannier in the case of tori and by Pink in the most general setting of mixed Shimura Varieties, is widely open in its full generality, and includes several classical Diophantine problems such as the celebrated conjectures of Manin-Mumford, Mordell-Lang and Andr  -Oort. The study of these problems involves several tools coming from different areas, such as classical Diophantine methods (theory of heights, Lehmer conjecture), arithmetic geometry (density of Galois orbits), algebraic geometry (scheme theory, Hodge Theory, Mumford-Tate group) and logic theory (o-minimality). I’m also interested in the study of Diophantine equations, in particular in questions regarding Vojta’s conjectures, and in the arithmetic of continued fractions and their applications in dynamics.

List of publications and preprints

Published or accepted for publication:

1. “*Unlikely Intersections in families of abelian varieties and the polynomial Pell equation*” (with F. Barroero), Proc. of LMS, 120, no. 2, (2020), 192-219;
2. “*On the periodicity of p -adic continued fractions*” (with F. Veneziano e U. Zannier), Math. Comp. 88 (2019), no. 318, 1851-1882;

3. “*Hyperelliptic continued fractions and generalized Jacobians*” (with P. Jossen, C. Karolus, F. Veneziano), Chapter of the volume AMS “Arithmetic and Geometry”: Ten Years in Alpbach (AMS-202), Princeton University Press, 2019;
4. “*Unlikely Intersections in families of abelian varieties and the polynomial Pell equation*”, Oberwolfach Report 22, 2017;
5. “*Unlikely intersections in products of families of elliptic curves and the multiplicative group*” (with F. Barroero), Quart. J. Math. 68, No. 4, 2017, 1117-1138;
6. “*Linear relations on families of powers of elliptic curves*” (with F. Barroero), Algebra & Number Theory 10 (1), 2016, 195-214;
7. “*Rational points on Grassmannians and Unlikely Intersections in tori*” (with D. Masser, J. Pila e U. Zannier), Bull. of London Math. Soc., 48 (1), 2016, 141-154;
8. “*Upper ramification jumps in abelian extensions of exponent p* ” (with I. Del Corso), Riv. Mat. Uni. Par., Vol. 6, 2015, 317-329;
9. Ph.D. thesis “*Unlikely Intersections and Applications to Diophantine Geometry*”, 2014;

Preprints:

10. “*Vojta’s conjecture over function fields for surfaces dominating \mathbb{G}_m^2* ” (with A. Turchet), 2019, submitted, 29 pp, arXiv:1911.07562;
11. “*Linear Feedback Shift Registers and cyclotomic polynomials*” (with A. Di Scala), 2020, submitted.

Articles in preparation

1. “*Betti maps, Pell equations in polynomials and almost Belyi maps*” (with F. Barroero and U. Zannier);
2. “*GCD results on semiabelian varieties and a conjecture of Silverman*” (with F. Barroero and A. Turchet);
3. “*Multiplicative and linear dependence over finite fields and on elliptic curves modulo primes*” (with F. Barroero, L. Mérai, A. Ostafe and M. Sha);
4. “*On the periodicity of Browkin p -adic fraction expansion*” (with N. Murru and L. Terracini);
5. “*Singular intersections for curves over tori*”.

Teaching

Academic Year 2020/2021

Lecturer (Titolare) for the course “*Algebra lineare e geometria per Ingegneri*”, (1st year) Politecnico di Torino;

Academic Year 2019/2020

Exercise classes of the course “*Algebra lineare e geometria per Ingegneri*” (1st year), Politecnico di Torino;

Academic Year 2018/2019

- Michaelmas Term: Tutor for the courses of:
 - “*Galois Theory*” (3rd year), Mathematical Institute, University of Oxford;
 - “*Prelim. Linear Algebra I*” (1st year), Pembroke College, University of Oxford;
 - “*Prelim. Geometry*” (1st year), Pembroke College, University of Oxford;
 - “*Linear Algebra*” (2nd year), Pembroke College, University of Oxford;
- Hilary Term: Tutor for the courses of:
 - “*Commutative Algebra*”, (3rd year), Mathematical Institute, University of Oxford;
 - “*Prelim. Analysis II*” (1st year), Pembroke College, University of Oxford;
 - “*Integration*” (2nd year), Pembroke College, University of Oxford;
- Trinity Term: Tutor for the courses of:

“Group Theory”, (2nd year), Mathematical Institute, University of Oxford;

Academic Year 2017/2018

- Tutor and revision classes for the course of *“Galois Theory”* (3rd year), Mathematical Institute, University of Oxford;

Academic Year 2016/2017

- Exercises class for the course of *“Matematica Generale”* (1st year), Dipartimento di Economia, Università di Pisa;
- Tutor for the course of *“Aritmetica”* (1st year), Dipartimento di Matematica, Università di Pisa;

Academic Year 2015/2016

- Exercises class for the course of *“Matematica Generale”* (1st year), Dipartimento di Economia, Università di Pisa;
- Tutor for the course of *“Matematica discreta e algebra lineare”* (1st year), Dipartimento di Informatica, Università di Pisa;

Accademic Year 2014/2015

- Lectures for the courses of:
 - “Matematica Generale”* (1st year), 28 hours, Dipartimento di Economia, Università di Pisa;
 - “Pell’s equation in integers and in polynomials”* (graduate course), 2 hours, SNS Pisa;
- Exercises class for the course of *“Matematica Generale”* (1st year), Dipartimento di Economia, Università di Pisa;
- Tutor for the courses of:
 - “Complementi di algebra, geometria, analisi complessa”* (2nd year), SNS Pisa;
 - “Algebra II”* (2nd year), Dipartimento di Matematica, Università di Pisa;

Academic Year 2013/2014

- Exercises class for the course of *“Matematica Generale”* (1st year), Dipartimento di Economia, Università di Pisa;
- Tutor for the courses of:
 - “Complementi di algebra, geometria, analisi complessa”* (2nd year), SNS Pisa;
 - “Aritmetica”* (1st year), Dipartimento di Matematica, Università di Pisa;

Academic year 2012/2013

- Exercises class for the course of *“Matematica Generale”* (1st year), Dipartimento di Economia, Università di Pisa;
- Tutor for the courses of:
 - “Complementi di algebra, geometria, analisi complessa”* (2nd year), SNS Pisa;
 - “Algebra I”* (2nd year), Dipartimento di Matematica, Università di Pisa;
 - “Algebra II”* (2nd year), Dipartimento di Matematica, Università di Pisa;

Past and future talks

2021

- May *O-minimality and foliations*, minicourse of 3 hours on o-minimality and arithmetic, Cargese, France;
Jul *Geometry via Arithmetic*, BIRS, Canada.

2020

- Feb 26 *Seminario di Algebra e Geometria*, Università di Roma La Sapienza;
Apr *Diophantische Approximationen*, Oberwolfach, Germany; - cancelled;
May *The sixth mini symposium of the Roman NT association*, Rome, Italy - postponed to 2021;
May *Workshop on recent applications of o-minimality in diophantine geometry and Hodge theory*, Institute for Advanced Studies, Jerusalem, Israel - postponed to 2021;
July *8th European Congress of Mathematics* - speaker in the Number Theory Session, Slovenia - postponed to 2021;
Sept 16 *Arithmetic Dynamics International Online Seminar*.

2019

- Mar 12 *Number Theory Seminar*, University of Manchester, UK;
Apr 9-10 Minicourse on *Unlikely Intersections in families of abelian varieties and applications to the polynomial Pell equation* in the Workshop: *Galois representations, Integral points, Unlikely intersections*, University of Mainz, Germany;
May 17 *9 SEEMOD Workshop Conference*, University of Cambridge, UK;
Sep 3 *XXI Congresso UMI (Number Theory Session)*, Pavia, Italy;
Sep 9 *Topics in Rational and Integral Points*, Basel, Switzerland;
Sep 20 *Workshop on Diophantine Geometry and Special Varieties*, Trento, Italy;
Oct 4 *4th Number Theory Meeting - Torino*, University of Turin, Italy.

2018

- Feb 28 *Unlikely intersections study group*, UCL, UK;
Apr 19 *The fourth mini symposium of the Roman NT association*, Rome, Italy;
May 16 *Heilbronn seminar*, Bristol, UK;
May 24 *Diophantine Geometry*, CIRM, Luminy, France;
Jul 03 *Lancashire Yorkshire Model Theory Seminar*, University of Leeds, UK;
Sep 11 *Approximation diophantienne et transcendence*, CIRM, Luminy, France;
Sep 19 *Joint meeting UMI-SIMAI-PTM (Number Theory Session)*, Wroclaw, Poland;
Sep 19 *Joint meeting UMI-SIMAI-PTM (Arithmetic Algebraic Session)*, Wroclaw, Poland;
Oct 16 *3rd Number Theory Meeting - Torino*, University of Turin, Italy;
Nov 29 *Number Theory Seminar*, University of Oxford;
Dec 7 *Séminaire de Théorie des Nombres de Caen*, France;
Dec 13 *Number Theory Seminar*, TU Graz, Austria.

2017

- Feb 28 *Algebraic Geometry Seminar*, University of Washington, Seattle, USA;
Mar 9 *Advanced Logic Class*, University of Oxford, UK;
Mar 14 *Pure Mathematics Seminar*, Royal Holloway University of London, UK;
Mar 14 *Number theory seminar*, Royal Holloway University of London, UK;
Apr 28 *Algebraic Geometry Seminar*, University of Bayreuth, Germany;
May 3 *Workshop: O-Minimality and its Applications to Number Theory and Analysis*, Oberwolfach, Germany;
Jun 21 *Workshop: O-Minimality and Diophantine Applications*, Fields Institute, Toronto, Canada;
Jul 3 *Diophantine Approximation and Algebraic Curves*, BIRS, Canada;
Sep 12 *Diophantine Problems (DIOP)*, Manchester, UK;

- Oct 4 *Number theory seminar*, Imperial College London, UK;
- Oct 17 *Number theory seminar*, University of Cambridge, UK;
- Nov 2 *Number theory seminar*, Universität Basel, Switzerland;
- Nov 10 *When North meets South*, University of Oxford, UK;
- Nov 15 *Workshop on Arithmetic and Complex Dynamics*, Oaxaca, Mexico;
- Nov 21 *Number Theory Seminar*, University of Washington, Seattle, USA;
- Dec 13 *SEEMOD 5*, Imperial College, London, UK;

2016

- Feb 15 *Computational Aspects of Diophantine Equations*, Salzburg, Austria;
- Jun 23 *Algèbre et Théorie des Nombres, Rencontres Lyon/Ottawa*, Lyon, France;
- Jun 27 *Workshop Arithmetic and Geometry: Ten years in Alpbach*, Alpbach, Austria;
- Nov 28 *Séminaire de théorie des nombres de l'IMJ-PRG, Jussieu*, Paris, France;

2015

- Jun 28 *Summary on ERC scientific activities in Diophantine Geometry at SNS*, Cetraro, Italy;
- Jul 22 *Workshop: O-minimality and Applications*, Konstanz, Germany;
- Sep 22 *Terzo incontro italiano di teoria dei numeri*, Pisa, Italy;
- Dec 3 *Séminaire de Théorie des Nombres de l'Institut Fourier*, Grenoble, France;

2014

- Mar 28 *Séminaire de Théorie des Nombres de Bordeaux*, France;
- Apr 10 *Groupe d'Étude sur les Problèmes Diophantiens*, Jussieu, Paris, France;
- Apr 11 *Séminaire de Théorie des Nombres de Caen*, France;
- Jul 19 *Second ERC Research Period on Diophantine Geometry*, Cetraro, Italy;
- Sep 30 *Functional Transcendence Around Ax-Schanuel*, Oxford, UK;

2013

- May 14 *Zahlentheoretisches Kolloquium*, TU Graz, Austria;
- Dec 4 *Research Seminar during the Period "Heights in Diophantine geometry, group theory and additive combinatorics"*, ESI, Wien, Austria;

Conferences and workshops attended (without giving a talk)

2019

- Jul *The first JNT biennial conference*, Cetraro, Italy.

2018

- Jun *Around Functional Transcendence*, Oxford, UK;
- Jul *Workshop on effectivity and ineffectivity for unlikely intersections*, Manchester, UK;
- Sep *CMI at 20*, Oxford, UK.

2017

- Feb *Workshop on Heights and Applications to Unlikely Intersections*, Fields Institute, Toronto, Canada;
- Jul *Specialization problems in Diophantine Geometry*, Cetraro, Italy;

2016

- Apr *Renormalization in Dynamics*, Pisa, Italy;
- Jun *Celebrating Michel Waldschmidt's 70th birthday*, Leuca, Italy;
- Aug *Workshop on Arithmetic and Geometry*, Cetraro, Italy;
- Sep *O-minimality and Diophantine Geometry: a one day meeting*, Manchester, UK;

2015

- May *Final ERC Research Period on Diophantine Geometry*, Roma, Italy;
- Jul *Future directions in model theory and analytic functions*, Manchester, UK;
- Aug *Arithmetic 2015: Silvermania*, Providence, RI, US;

- Sep *Analytic Number Theory and Diophantine Geometry*, Hannover, Germany;
2014
- Apr *AILA 2014 - XXV incontro dell'Associazione Italiana di Logica e sue Applicazioni*, Pisa, Italy;
2013
- Jun *Arithmetics and Geometry: 25 Years Number Theory Seminar at ETH Zürich*, Zürich, Switzerland;
 Jun *Continued Fractions, Interval Exchanges and Applications to Geometry*, Pisa, Italy;
 Sep *Applications of O-Minimality to Analysis and Number Theory*, Passau, Germany;
 Nov *Heights in Diophantine geometry, group theory and additive combinatorics*, Wien, Austria;
2012
- May *Rational Points & Rational Curves*, Zürich, Switzerland;
 Jun *Canadian Number Theory Association XII Meeting University of Lethbridge*, Canada;
 Jul *Around the Zilber-Pink conjecture*, Paris, France;
 Sep-Oct *ERC Research Period on Diophantine Geometry*, Pisa, Italy;
2011
- Mar *Unlikely Intersections in Algebraic Groups and Shimura Varieties*, Pisa, Italy;
 Sep *Computations with Modular Forms 2011*, Heidelberg, Germany;

Participation to research groups and projects

- Since Feb 2017 *Model theory, functional transcendence and diophantine geometry*, EPSRC grant EP/N007956/1;
- May 2014- Jan 2016 *Integral and Algebraic Points on Varieties, Diophantine Problems on Number Fields and Function Fields*, ERC-Advanced Grant 267273;
- Since 2013 *National Research Group GNSAGA (Gruppo Nazionale per le Strutture Algebriche, Geometriche e le loro Applicazioni)*.

Co-organized meetings

- May 2020 *"CrypTO 2020"*, Politecnico di Torino, Italy; - postponed to 2021
- Mar 2019 *"Arithmetic Geometry session"* of the AMS *"Spring Central and Western Joint Sectional Meeting"*, University of Hawaii, Honolulu, Usa;
- Dec 2018 *SEEMOD Workshop 7*, University of Oxford, UK;
- Jun 2018 *Around functional Transcendence*, Oxford, UK;
- Jul 2017 *Specialization Problems in Diophantine Geometry* (on the occasion of U. Zannier's 60th birthday), Cetraro, Italy;
- May 2015 *Final ERC meeting in Diophantine Geometry*, Rome, Italy;
- Jul 2014 *Second ERC Research Period on Diophantine Geometry*, Cetraro, Italy;

Duties

- Reviewer for Mathematical Reviews;
- Referee for Proc. AMS, Pacific J. Math, Math. Comp., Monatsh. für Math, Math. Ann., Quart. J Math.;
- Advisor (Relatore) for a Bachelor Degree Thesis in Mathematics on *"Continued fractions and applications to cryptography"*, Politecnico di Torino;
- Assessor (Controrelatore) for the Master Thesis dissertation *"On Dynamically Irreducible Sets of Polynomials"*, University of Oxford;
- Organizer of the seminar of PhD students of Algebra and Geometry, Scuola Normale Superiore di Pisa, (2011 - 2014).
- Panel of a competition for a Postdoc position of one year in Number Theory, Politecnico di Torino (2019);

- Organiser of the joint Number Theory seminar of Università di Torino and Politecnico di Torino;
- Panel of the admission exam for the first year student in Mathematics of SNS Pisa (2011-2014);
- Panel of the admission exam for the first year student in Mathematics of Pembroke College, University of Oxford for the a.y. 2019/2020.

Grants and Awards

- Winner of a research visit grant of 5 months, Max Plack Institute, Bonn, Germany, 2015;
- PhD Scholarship (3 years), Scuola Normale Superiore di Pisa (2011-2013);
- Winner of a Fixed-Term Stipendiary Lectureship in Pure Mathematics, Pembroke College, University of Oxford (a.y. 2018/2019);
- LMS Grant for Joint Research Groups in the UK - Scheme 3 (Imperial, Oxford, Queen Mary, Cambridge, East Anglia) – 3000 £ (2018 – 2020);

Other qualifications

- Qualification aux fonctions de maître de conférences, Section 25 - Mathématiques;
- ECDL Certification;
- Latex, C, Matlab, SAGE;

Languages: Italian: mother tongue; English: C1; French: A2.

References

1. **Prof. U. Zannier**, Scuola Normale Superiore – u.zannier@sns.it
2. **Prof. J. Pila**, University of Oxford – Jonathan.Pila@maths.ox.ac.uk
3. **Prof. David Masser**, Universität Basel – david.masser@unibas.ch
4. **Prof. Damian Rössler**, University of Oxford – Damian.Rossler@maths.ox.ac.uk
5. **Prof.ssa A. Marchi**, Università di Pisa – marchiae@ec.unipi.it (teaching)
6. **Dr. Giacomo Micheli**, Swiss NSF, EPFL – giacomo.micheli@maths.ox.ac.uk (teaching)

Michela Ceria

Academic positions

1/05/2018 – now Postdoc at Dept. of Computer Science, Univ. of Milan (IT).

26/04/2017 – 25/04/2018 Postdoc at Dept. of Mathematics, Univ. of Trento (IT).

07/04/2015 – 06/04/2017 Postdoc at Dept. of Engineering and Computer Science, Univ. of Trento (IT).

Awards, Scholarships and grants

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).

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.

Publications

2020 *Toward involutive bases over effective rings*, accepted by the Special issue of Applicable Algebra in Engineering, Communication and Computing, concerning “Algebraic Geometry from an Algorithmic point of View”. With T.Mora

2020 *Sublime Experience: new strategies for measuring the aesthetic impact of the sublime*, Imagine Maths 7: Conference Mathematics and Culture, 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*, accepted by the Special issue of Applicable Algebra in Engineering, Communication and Computing, concerning “Computer Algebra and application to combinatorics, coding theory and cryptography”. Doi: 10.1007/s00200-020-00428-w With B.Barkee, T.Moriarty, A.Visconti.

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

2019 *Zech Tableaux as tools for sparse decoding*. accepted for publications in Rendiconti del Seminario Matematico. With T.Mora, M.Sala.

2019 *Bar Code vs Janet tree*. *Atti della 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

- 2020** *Bits, bytes and friends* (book) With G.Rinaldo, M.Sala

2020 *Constructions of new matroids and designs over $GF(q)$* , with E.Byrne, S.Ionica, R.Jurrius, E.Saçikara

2020 *Bar Code and Janet-like division*

2020 *Why you should not even think to use Ore algebras in Cryptography.*, with, T.Mora, A.Visconti.

2019 *A trojan Diffie–Hellman-like protocol based on proof of gullibility*, with, A.De Piccoli, T.Moriarty and A.Visconti.

2019 *Combinatorial decompositions for monomial ideals*

Available in Arxiv

2019 *Macaulay, Lazard and the Syndrome Variety* arXiv:1910.13189 [math.CO].

In preparation

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

Paper *A performance-based approach to compare the Blockchain consensus procedures: PoW vs PoS vs Pure PoS.* With C.Lepore, A.Visconti, U.Pratap Rao, K.Arindbhai Shah, and L.Zanolini

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 *Towards involutive bases for effective algebras*, probably in cooperation 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> Author: M. CERIA

2012 *JMSConst.lib: a J-marked schemes constructor* Library available from Singular 3-1-6:
<https://www.singular.uni-kl.de/index.php/singular-download.html> Author: M. CERIA

Submitted software

AffMarkedSchemes.lib Prototype library for Singular which performs Affine Marked Schemes computation. *Submitted to Singular Team.* Author: M. CERIA

Organized Conferences

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

Widcom2019 Local Chair and member of the Technical Committee for the conference Widcom2019 – 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 and for research purpose 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*, *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) and *WTSC* (Workshop on Trusted Smart Contracts).

Reviews

Zentralblatt Math 2012-today 5 papers. **Mathematical Reviews 2017-today** 3 papers.

Research groups

European Women in Mathematics (2019-)

UMI National Mathematical Union (2018-)

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

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

References

Prof. T. Mora Univ. of Genoa – 5919@unige.it

Prof. B. Buchberger RISC, Johannes Kepler University – bruno.buchberger@risc.jku.at

Students

Bachelor Thesis co-advisor 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.

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)

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 April 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 December 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 November 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 June 2019 Invited by Univ. of Milano Bicocca. Title: *Efficient computation of squarefree separator polynomials and applications to algebraic statistics*.

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

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

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

Seminar 21 and 23 May 2018 Invited by Univ. of Genoa. Title of the talks: *A crash course in Bitcoin and Blockchain [part 1 and 2]*.

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

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

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

Conference 26–27 October 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 June 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 15–16 Jun.2020 Poster at AICoVE: 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 April 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 February 2019 Tutorial Speaker at *Widecom2019 – Milan, Italy*. Title: *Efficient cryptographic algorithms for securing passwords*.

Summer School August 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 April 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, Messico. 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

Ongoing PhD course for the Dept. of Computer Science, Univ. of Genoa "Blockchain 101", with M. Ribaudo

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.

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 Mother tongue; **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. **E-learning:** Moodle, Sakai, Google Classroom.

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 interfaced with the Department, highlighting 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.

Michele D'Adderio

Contact Information

Université Libre de Bruxelles

Département de Mathématiques

CP 216 Service de Algèbre et Combinatoire

Boulevard du Triomphe, B-1050 Bruxelles, Belgium

Email: mdadderi@ulb.ac.be

Website: <http://homepages.ulb.ac.be/~mdadderi/>

Current position

2015 - Chargé de cours au Département de Mathématiques, Université Libre de Bruxelles, Belgium

Education

2006 - 2010 Ph.D. in Mathematics, University of California, San Diego

Advisor: Efim Zelmanov

2004 - 2006 Laurea Magistrale in Mathematics, Università di Roma *La Sapienza*, summa cum laude

Advisor: Claudio Procesi

2001 - 2004 Laurea in Mathematics, Università di Bologna, summa cum laude

Advisor: Angelo Vistoli

Previous positions

2012 - 2015 Chargé de cours temporaire au Département de Mathématiques, Université Libre de Bruxelles, Belgium

2012 Postdoc at Mathematisches Institut Georg-August-Universität, Göttingen (April-September 2012)

2011 - 2012 Postdoc at Max Planck Institut für Mathematik (October 2011 - March 2012)

2011 Postdoc at Mathematisches Institut Georg-August-Universität, Göttingen (April-September 2011)

2010 - 2011 Postdoc at Max Planck Institut für Mathematik (October 2010 - March 2011)

Research interests

Algebra	Geometric Theory of Algebras, Amenability of Algebras, Representation Theory, Partial Representations, Inverse Semigroups.
Combinatorics	Matroid Theory, Sandpile Model, Symmetric Functions.
Topology	Toric Arrangements.

Publications and preprints

Preprints	Pr1. (with W. Hautekiet, P. Saracco, J. Vercruysse) Partial and global representations of finite groups, preprint: arXiv:2005.09465
	Pr2. (with A. Iraci, A. Vanden Wyngaerd) Theta operators, refined Delta conjectures, and coinvariants, preprint: arXiv:1906.02623
	Pr3. (with S. Checcoli) Perfect powers in Catalan and Narayana numbers, preprint: arXiv:1306.5929
Accepted articles	AA1. (with A. Iraci, A. Vanden Wyngaerd) Decorated Dyck paths, polyominoes, and the Delta conjecture, to appear in <i>Mem. Amer. Math. Soc.</i> , it is a merge of arXiv:1712.08787 and arXiv:1709.08736 (see https://www.ams.org/cgi-bin/mstrack/accepted_papers/memo)
Published articles	PA1. (with F. Caselli, M. Marietti) Weak generalized lifting property, Bruhat intervals and Coxeter matroids, <i>Int. Math. Res. Not. IMRN</i> (2020), https://doi.org/10.1093/imrn/rnaa124

- PA2. (with A. Iraci, A. Vanden Wyngaerd) The generalized Delta conjecture at $t = 0$, *European J. Combin.* **86** (2020), <https://doi.org/10.1016/j.ejc.2020.103088>
- PA3. e -positivity of vertical strip LLT polynomials, *J. Comb. Theory Ser. A* **172** (2020), <https://doi.org/10.1016/j.jcta.2020.105212>
- PA4. (with F. Callegaro, E. Delucchi, L. Migliorini, R. Pagaria) Orlik-Solomon-type presentations for the cohomology algebra of toric arrangements, *Trans. Amer. Math. Soc.* **373**, no. 3, 1909–1940 (2020), <http://doi.org/10.1090/tran/7952>
- PA5. (with A. Iraci) The new dinv is not so new, *Electron. J. Combin.* **26**, no. 3, Paper 3.48, 24 pp. (2019)
- PA6. (with A. Iraci, A. Vanden Wyngaerd) The Delta square conjecture, *Int. Math. Res. Not. IMRN* (2019), <https://doi.org/10.1093/imrn/rnz057>
- PA7. (with F. Cools, D. Jensen, M. Panizzut) Brill-Noether theory of curves on $\mathbb{P}^1 \times \mathbb{P}^1$: tropical and classical approach, *Algebr. Comb.*, **2**, no. 3, 323–341 (2019).
- PA8. (with A. Iraci, A. Vanden Wyngaerd) The Schröder case of the generalized Delta conjecture, *European J. Combin.* **81**, 58–83 (2019)
- PA9. (with Y. Le Borgne) The sandpile model on $\mathcal{K}_{m,n}$ and the rank of its configurations, *Sém. Lothar. Combin.* **77** ([2016–2018]), Art. B77h, 48 pp.
- PA10. (with J.-C. Aval, M. Dukes, Y. Le Borgne) Two operators on sandpile configurations, the sandpile model on the complete bipartite graph, and a Cyclic Lemma, *Adv. in Appl. Math.* **73**, 59–98 (2016)
- PA11. (with J.-C. Aval, M. Dukes, A. Hicks, Y. Le Borgne) Statistics on parallelogram polyominoes and a q, t -analogue of the Narayana numbers, *Journal of Combinatorial Theory series A* **123**, 271–286 (2014)
- PA12. (with A. Garsia) Explicit formulas for a sequence of binary tree polynomials, *Theoretical Computer Science*, **502**, 217–226 (2013)
- PA13. (with L. Moci) Arithmetic matroids, Tutte polynomial and toric arrangements, *Advances in Mathematics* **232**, 335–367 (2013)
- PA14. (with L. Moci) Graph colorings, flows and arithmetic Tutte polynomial, *Journal of Combinatorial Theory series A* **120** (1), 11–27 (2013)
- PA15. (with L. Moci) Ehrhart polynomial and multiplicity Tutte polynomial, *European Journal of Combinatorics* **3** (7), 1479–1483 (2012)
- PA16. (with L. Moci) On a conjecture of Hivert and Thiery about Steenrod operators, *Journal of Algebra* **354** (1), 158–179 (2012)
- PA17. Entropy and Følner function in algebras, *Journal of Algebra* **342** (1), 235–255 (2011)
- PA18. On isoperimetric profiles of algebras, *Journal of Algebra* **322** (2), 177–209 (2009)
- PA19. (with J. Bandlow) A new proof of a theorem of Littlewood, *European J. Combin.* **30** (2), 415–424 (2009)

Books,
Thesis,
Conference
Proceedings

- O1. (with T. Ceccherini-Silberstein) Groups and geometry: lecture notes on Gromov’s theorem on groups of polynomial growth, in preparation
- O2. (with A. Iraci, A. Vanden Wyngaerd) Delta conjectures, *Sém. Lothar. Combin.* **82B**, Art. 65, 12 pp. (2020)
- O3. (with A. Vanden Wyngaerd) Decorated Dyck paths and the Delta conjecture, *Sém. Lothar. Combin.* **80B**, Art. 34, 12 pp. (2018)
- O4. (with J.-C. Aval, M. Dukes, A. Hicks, Y. Le Borgne) A q, t -analogue of Narayana numbers, *25th International Conference on Formal Power Series and Algebraic Combinatorics (FPSAC 2013)*, 623–634 (2013)
- O5. Isoperimetric profile of algebras, *PhD Thesis*, (2010)

Conferences, talks and visits (incomplete)

Talks	<p>T1. Algebra and Geometry Seminar, University of Rome “La Sapienza”, Italy, May 27, 2020.</p> <p>T2. Geometry, Algebra and Combinatorics of Moduli Spaces and Configurations IV, Dobbiaco, February, 2020</p> <p>T3. InterCity seminar of combinatorics, University of Fribourg, Fribourg, December 13, 2019</p> <p>T4. Combinatorics, Algebra and GEometry (CAGE) seminar, University of Pennsylvania, Philadelphia, November 1, 2018</p> <p>T5. 79th Séminaire Lotharingien de Combinatoire, Bertinoro, September 10–13, 2017.</p> <p>T6. Seminar UGent-ULB-VUB, ULB, Bruxelles, November 17, 2016.</p> <p>T7. University of Bremen, Bremen, August 25, 2016.</p> <p>T8. Combinatorics of root systems, University of Pisa, Cortona, April 16–19, 2016.</p> <p>T9. Groups and Geometry Seminar, University of Pisa, Pisa, October 30, 2015.</p> <p>T10. XX Congresso dell’Unione Matematica Italiana, University of Siena, Siena, September 7–12, 2015.</p> <p>T11. Groups and Geometry Seminar, University of Geneva, Geneva, October 7, 2014.</p> <p>T12. Combinatorics seminar, University of Florence, Florence, June 17, 2014.</p> <p>T13. Formal Power Series and Algebraic Combinatorics (FPSAC) 2013, Université Sorbonne Nouvelle Paris 3, France, June 25, 2013. Poster.</p> <p>T14. Algebra and Geometry Seminar, University of Rome “La Sapienza”, Italy, June 5, 2013.</p> <p>T15. Algebra Seminar, Université Catholique de Louvain, Belgium, December 17, 2012.</p> <p>T16. 34th Algebra and Representation Theory in the North (ARTIN), University of Edinburgh, UK, December 1, 2012.</p> <p>T17. Number Theory Seminar, University of Basel, Switzerland, November 21, 2012.</p> <p>T18. Combinatorial Methods in Geometry and Topology, University of Bremen, Germany, September 29, 2012.</p> <p>T19. Formal Power Series and Algebraic Combinatorics (FPSAC) 2012, Nagoya University, Nagoya, Japan, August 2, 2012. Talk.</p> <p>T20. Combinatorics Seminar, Institute Camille Jordan, Lyon, March 6, 2012.</p> <p>T21. Combinatorics Seminar, LaBRI (CNRS), Bordeaux, February 17, 2012.</p> <p>T22. Journées de Combinatoire de Bordeaux, LaBRI (CNRS), Bordeaux, February 2, 2012.</p> <p>T23. Combinatorics seminar, Université Paris-Est, Marne-la-Vallée, December 2, 2011.</p> <p>T24. Combinatorics seminar, University of California San Diego, November 1, 2011.</p> <p>T25. Université du Québec à Montréal, October 25, 2011.</p> <p>T26. 67th Séminaire Lotharingien de Combinatoire, Bertinoro, September 20, 2011.</p> <p>T27. Seminar: Groups and Algebras, University of Göttingen, June 3, 2011.</p> <p>T28. University of Bologna, May 30, 2011.</p> <p>T29. Seminar: Groups and Algebras, University of Göttingen, May 13, 2011.</p> <p>T30. Seminar: Groups and Algebras, University of Göttingen, May 6, 2011.</p> <p>T31. Journées de Combinatoire de Bordeaux 2011, LaBRI, January 26–28, 2011.</p> <p>T32. MPIM Oberseminar, Max Planck Institut für Mathematik, January 13, 2011.</p> <p>T33. Lattice Path Combinatorics and Applications 2010, University of Siena, July 4–7, 2010.</p> <p>T34. CMS Summer Sectional Meeting, University of New Brunswick, Fredericton, June 3–7, 2010.</p> <p>T35. Mathematisches Institut Georg-August-Universität, Göttingen, December 14, 2009.</p> <p>T36. Algebra reading seminar, University of California, San Diego, February 12, 2009.</p>
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- T37. Structural Probability. Erwin Schrödinger International Institute of Mathematical Physics, Vienna, November 7-12, 2008.
- T38. Interactions Between Noncommutative Algebra and Algebraic Geometry. Banff International Research Station, Banff, October 26-31, 2008.
- T39. AMS Sectional Meeting, University of British Columbia, Vancouver, October 4-5, 2008.
- T40. Food For Thought Seminar, University of California, San Diego, April 17, 2008.
- T41. Advancement to Candidacy Talk, University of California, San Diego, September 20, 2007.

Visits,
attended
conferences

- V1. Formal Power Series and Algebraic Combinatorics (FPSAC) 2019, University of Ljubljana, Ljubljana, Slovenia, July 1–5, 2019. Poster.
- V2. New Directions in Algebraic Combinatorics, UCSD, San Diego, US, June 17–20, 2019.
- V3. University of Pennsylvania, October 28 – November 3, 2018. Visit, host: Jim Haglund
- V4. University of Bologna, October 2017. Visit, host: Luca Migliorini
- V5. Combinatorics of Root Systems, Cortona, May 19–22, 2017.
- V6. LaBRI (CNRS), Bordeaux, October. Visit, host: Yvan Le Borgne
- V7. University of California San Diego, San Diego July-August 2014. Visit, host: Efim Zelmanov
- V8. University of Siena, Siena June 2014. Visit, host: Simone Rinaldi
- V9. University of Bologna, Bologna March 2014. Visit, host: Luca Migliorini
- V10. LIAFA, Université Paris 7, Paris January 2014. Visit, host: Enrica Duchi
- V11. Max Planck Institut für Mathematik, Bonn October 2013. Visit, host: Luca Migliorini
- V12. University of Siena, Siena September 2013. Visit, host: Simone Rinaldi
- V13. LaBRI (CNRS), Bordeaux, January-February 2012. Visit, host: Robert Cori
- V14. Journées de Combinatoire de Bordeaux 2011, LaBRI (CNRS), Bordeaux, January 26–28, 2011.
- V15. The Interplay of Algebra and Geometry, Il Palazzone, Cortona, June 14–20, 2009.
- V16. University of California Lie Theory Workshop, University of California, San Diego, February 16–18, 2008.
- V17. AMS-MAA Joint Meeting, San Diego, January 6–8, 2008.
- V18. Dichotomy Amenable/Nonamenable in Combinatorial Group Theory, AIM, Palo Alto, October 8–12, 2007.
- V19. XIII Incontro Italiano di Combinatorica Algebrica, Università di Roma *La Sapienza*, Roma, December 18–20, 2006.

Teaching Experience

I am (or I have been) in charge of the following bachelor and master courses:

Date	Code	Course
2019-2020	MATHF102	<i>Algèbre linéaire et géométrie: aspects théoriques et algorithmiques</i> . Université Libre de Bruxelles (ULB), Belgium. ETCS: 7,5. Hours: 42h. Level: Bachelor.
	MATHF112	<i>Mathématiques</i> . Université Libre de Bruxelles (ULB), Belgium. ETCS: 5. Hours: 30h. Level: Bachelor.
	MATHF3003	<i>Algèbre et géométrie II</i> . Université Libre de Bruxelles (ULB), Belgium. ETCS: 5. Hours: 24h. Level: Bachelor.
	MATHF427	<i>Algèbre combinatoire</i> . Université Libre de Bruxelles (ULB), Belgium. ETCS: 5. Hours: 24h. Level: Master.

- 2013-2019 **MATHF102 Algèbre linéaire et géométrie: aspects théoriques et algorithmiques.** Université Libre de Bruxelles (ULB), Belgium. ETCS: 15. Hours: 84h. Level: Bachelor.
- MATHF427 Algèbre combinatoire.** Université Libre de Bruxelles (ULB), Belgium. ETCS: 5. Hours: 24h. Level: Master.
- 2013-2015 **MATHF305 Travaux de recherche mathématique.** Université Libre de Bruxelles (ULB), Belgium.
2016-2019 ETCS: 5. Hours: 12h. Level: Bachelor.
- 2012-2013 **MATHF102 Algèbre linéaire et géométrie.** Université Libre de Bruxelles (ULB), Belgium. ETCS: 6. Hours: 36h. Level: Bachelor.
- MATHF418 Théorie des groupes.** Université Libre de Bruxelles (ULB), Belgium. ETCS: 5. Hours: 24h. Level: Master.

I have been teaching assistant for the following courses:

- 2011-2012 **Group Rings.** University of Göttingen, Germany. Level: Master.
- Self-similar algebras and combinatorics** (Student seminar: organizer). University of Göttingen, Germany. Level: Master.
- 2010-2011 **Groups and algebras** (Student seminar: organizer). University of Göttingen, Germany. Level: Master.
- 2009-2010 **MATHF187 Introduction to cryptography.** University of California San Diego, USA. Level: Bachelor.
- MATHF103B Modern algebra II.** University of California San Diego, USA. Level: Bachelor.
- MATHF20C Calculus and analytic geometry for science and engineering.** University of California San Diego, USA. Level: Bachelor.
- MATHF148A Combinatorics.** University of California San Diego, USA. Level: Bachelor.
- 2008-2009 **MATHF202C Applied algebra.** University of California San Diego, USA. Level: Master.
- MATHF187 Introduction to cryptography.** University of California San Diego, USA. Level: Bachelor.
- MATHF20C Calculus and analytic geometry for science and engineering.** University of California San Diego, USA. Level: Bachelor.
- MATHF200B Algebra.** University of California San Diego, USA. Level: Master.
- MATHF10A Calculus.** University of California San Diego, USA. Level: Bachelor.
- 2007-2008 **MATHF202C Applied algebra.** University of California San Diego, USA. Level: Master.
- MATHF202C Applied algebra.** University of California San Diego, USA. Level: Master.
- MATHF103A Applied modern algebra.** University of California San Diego, USA. Level: Bachelor.
- MATHF20A Calculus and analytic geometry for science and engineering.** University of California San Diego, USA. Level: Bachelor.
- 2006-2007 **MATHF109 Mathematical reasoning.** University of California San Diego, USA. Level: Bachelor.
- MATHF20F Linear algebra.** University of California San Diego, USA. Level: Bachelor.

Editorial and Organizational Activities

I served as referee for the following journals and conferences:

- | | |
|----------|--|
| Journals | Journal of the European Mathematical Society |
| | Journal of Algebraic Combinatorics |
| | Groups, Geometry and Dynamics |
| | Journal of Combinatorial Theory series A |
| | International Mathematics Research Notices |
| | Journal of Graph Theory |
| | Annals of Combinatorics |
| | Discrete Mathematics |
| | Order |

Conferences FPSAC
SODA

Other activities: I am (or I have been)

Secretary of jury of Bachelor of Mathematics at ULB
Président coordination pédagogique at Mathematics Department of ULB
Member of “Commission Assistants”
Member of hiring committees at Mathematics Department of ULB
Referee for national grants for research
Coordinator of “Guidances mathématiques”
Organizer of “ULB Algebra and Combinatorics seminar”

Grants and Honorary Fellowships

During my studies and my research activities I obtained the following grants and honorary fellowships:

2020-2025	Research grant ARC advanced (one of four Principal Investigators, ~ 660000 EUR), <i>From algebra to combinatorics, and back.</i>
2020-2022	Research grant from Thelam Fund, <i>Theta operators, Delta conjectures, and coinvariants.</i>
2014-2016	Crédit de recherche FNRS J.0127.14, <i>Algebraic Combinatorics and Sandpile model.</i>
2010-2012	European Post-Doctoral Institute Fellowship (offered but declined).
2006-2007	Graduate Research Assistantship, University of California San Diego
2001-2004	Scholarship from Istituto Nazionale Di Alta Matematica.

Supervision Activity

I am or I have been the supervisor the following students:

Type	Date	Names
Doctoral Thesis	2016-	Anna Vanden Wyngaerd (ULB)
	2016-2019	Alessandro Iraci (University of Pisa / ULB)
Mémoires (Master thesis)	2019-2020	Corentin Bodart, Carole Duvivier
	2018-2019	Clara Deldaele
	2017-2018	Metti Kayser
	2015-2016	Noé Berger, Guillaume Konen, Anna Vanden Wyngaerd
Initiation à la recherche	2019-2020	Yasser Chamaoui, Leonel Damdja Mfondja
	2018-2019	Corentin Bodart
	2017-2018	Youssef Ben Abdelkader, Carole Duvivier
	2016-2017	Metti Kayser
	2015-2016	Adrien Vandenschrick, Carole Müller, Nicolas Roobaert

	2014-2015	Julien Remy
Travaux de recherche (Bachelor thesis)	2018-2019	Christoph Broy, Serdar Turkoz, Pacôme Van Overschelde
	2017-2018	Leonel Damdja Mfondja, Remy Hadhri, Jamal Menssouri
	2016-2017	Colin Sterckx, Lancelot Semal, Yasmina El Oudghiri
	2015-2016	Nathan Meynaert, Yan Qian
	2014-2015	Enrico Laddomada, Fränk Plein, Yannick Thiry, Adrien Vandenschrick

I have been referee for the following PhD thesis and mémoires:

PhD thesis	2019	Alessandro Iraci (University of Pisa / ULB)
	2018	Jiawei Hu (ULB), Jordi Vanpoucke (VUB)
	2016	Sonia Riedel (University of Bremen)
Mémoires (Master thesis)	2020	Laura Dumont (ULB)
	2019	Lancelot Semal (ULB)
	2018	Nathan Meynaert (ULB), Corentin Vienne (ULB), Thomas Makkink (ULB)
	2016	Jérôme Heyder (ULB), Eileen Robinson (ULB), Nikolaž Ryschkov (Antwerp)
	2015	Robin Walravens (ULB), Emilie Clette (ULB)
	2014	François Thilmany (ULB)
	2013	Adam Virginie (ULB), Kerg Giancarlo (ULB)

Bruxelles, 11/7/2020

VALERIO DOSE - CURRICULUM VITAE (Jun-2020)

Current Positions

Postdoctoral Researcher - LUISS “Guido Carli” - Department of Economics and Finance

Adjunct Professor - LUISS “Guido Carli” - Department of Economics and Finance

Education

Ph. D. in Mathematics - University of Rome “Tor Vergata” - February 2015

Master in Mathematics - University of Rome “Tor Vergata” - July 2010

Bachelor in Mathematics - University of Rome “Tor Vergata” - July 2008

Qualifications

France: Qualification - Maître de conférences - Section 25 (Mathématiques) - N. 20225346012 - 21/01/2020

Research Activity

15/02/2018-14/02/2021: Postdoctoral Researcher - LUISS “Guido Carli” - Department of Economics and Finance.

01/10/2016-30/09/2017: Postdoctoral Researcher “Ing. Giorgio Schirillo” - INdAM - Istituto Nazionale di Alta Matematica.

01/09/2015-31/08/2016: Postdoctoral Researcher “Ing. Giorgio Schirillo” - INdAM - Istituto Nazionale di Alta Matematica.

10/2013-12/2013: Visiting at Mathematisch Instituut of Universiteit Leiden, The Netherlands.

03/2012-05/2012: Visiting at Universitat Politècnica de Catalunya (UPC), Barcelona, Spain.

11/2010-02/2015: Ph. D. student - Department of Mathematics, University of Rome “Tor Vergata”.

Teaching Activity

09/2018-: Adjunct Professor - LUISS “Guido Carli” - Department of Economics and Finance.

10/2017-09/2018: Adjunct Professor - “Sapienza” University of Rome - Department of Chemistry and Pharmaceutical Technologies.

10/2017-09/2018: Teaching Assistant - University of Rome “Tor Vergata” - Faculty of Engineering.

10/2017-09/2018: Teaching Assistant - LUISS “Guido Carli” - Department of Business and Management.

10/2014-01/2015: Teaching Assistant - University of Rome “Tor Vergata” - Faculty of Engineering.

10/2014-01/2015: Teaching Assistant - “Sapienza” University of Rome - Faculty of Engineering.

Publications and Preprints

- V. Dose, G. Lido, P. Mercuri. **Automorphisms of Cartan modular curves of prime and composite level.** *preprint*. arXiv:2005.09009.
- R. Cominetti, V. Dose, M. Scarsini. **The Price of Anarchy in Routing Games as a Function of the Demand.** *Accepted in WINE 2019 (LNCS 11920)*. Springer. arXiv: 1907.10101.
- R. Cominetti, V. Dose, M. Scarsini. **Optimal Traffic Conditions in Two-Link Parallel Networks with Polynomial Costs.** *preprint*.
- V. Dose, P. Mercuri, C. Stirpe. **Modular Curves with many Rational Points.** *preprint*. arXiv: 1603.07489.
- V. Dose, P. Mercuri, C. Stirpe. **Double Covers of Cartan Modular Curves.** *J. Number Theory*. **195** (2019), 96-114.
- V. Dose. **On the automorphisms of the non-split Cartan modular curves of prime level.** *Nagoya Math. J.* **224** (2016), no. 1, 74-92.
- V. Dose, N. Green, M. Griffin, T. Mao, L. Rolén, J. Willis. **Singular moduli for a distinguished non-holomorphic modular function.** *Proc. Amer. Math. Soc.* **143** (2015), no.3, 965-972.
- V. Dose, J. Fernández, J. González, R. Schoof. **The automorphism group of the non-split Cartan modular curve of level 11.** *J. of Algebra*. **417** (2014), 95-102.
- V. Dose (written by M. Anwar). **Automorphisms of non-split Cartan modular curves.** *Proceedings of the Roman Number Theory Association*. 1 (2016), no. 1, 17-21. IF PRESS. ISBN: 978-88-6788-077-5
- C. Mauduit (written by V. Dose). **Automata and Number Theory.** *Proceedings of the Roman Number Theory Association*. 1 (2016), no. 1, 17-21. IF PRESS. ISBN: 978-88-6788-077-5

Participations in Congresses and Presentations

- 02/2020: 4th AIROYoung Workshop - Free University of Bolzano, Italy - talk
- 12/2019: WINE 2019: The 15th Conference on Web and Internet Economics - Columbia University, New York, USA - talk
- 09/2019: MAPLE2019 - Markets, Algorithms, Prediction, and Learning - Politecnico di Milano, Italy - talk
- 07/2019: Twenty Years of the Price of Anarchy - TUC, Chania, Crete, Greece - poster
- 05/2019: The 1st EUROYoung Workshop - IMUS, Sevilla, Spain - talk
- 12/2018: WINE 2018: The 14th Conference on Web and Internet Economics - University of Oxford, UK - poster
- 06/2017: Thematic Program in Kähler Geometry - University of Notre Dame, Indiana, USA
- 02/2017: MAGIC Seminar. Imperial College, London, UK - talk
- 05/2016: Giornate di Geometria Algebrica ed Argomenti Correlati XIII - Università di Catania, Italy - talk
- 09-10/2015: Modular Forms and Curves of Low Genus: Computational Aspects ICERM, Brown University, RI, USA
- 09/2015: Third Italian Number Theory Meeting - Centro di Ricerca Matematica "Ennio de Giorgi", Scuola Normale Superiore, Pisa, Italy - talk
- 05/2015: The first mini-symposium of the Roman Number Theory Association. Università Europea di Roma, Italy - talk
- 03/2015: Arizona Winter School 2015: Arithmetic and Higher-dimensional Varieties - University of Arizona, Tucson, USA
- 03/2013: Arizona Winter School 2013: Modular forms and modular curves - University of Arizona, Tucson, USA
- 06/2012: Contemporary methods for solving Diophantine equations - Banff International Research Station, Banff, Canada
- 07/2011: ACAGM Summer School - Katholieke Universiteit, Leuven, Belgium
- 06-07/2011: "Birch and Swinnerton-Dyer conjecture" summer school - Porto Conte Ricerche, Alghero, Italy

Andrea Ferraguti

Curriculum Vitae

Situazione corrente

mag 2020 – **Assegnista di ricerca**, *Università degli Studi di Torino, Torino, Italia.*

Impieghi precedenti

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

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

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

Educazione

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

set 2009 – **Laurea Magistrale in Matematica**, 110/110 *cum Laude*, *Università degli Studi di*
lug 2011 *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 – **Laurea Triennale in Matematica**, 110/110 *cum Laude*, *Università degli Studi di*
lug 2009 *Milano, Milano, Italia.*

Interessi di ricerca

Arithmetic dynamics, arboreal Galois representations, global fields, elliptic curves, L -functions.

Pubblicazioni

- (9) A. Ferraguti e G. Micheli, “An equivariant isomorphism theorem for mod \mathfrak{p} reductions of arboreal Galois representations”, *Trans. Amer. Math. Soc.* (in corso di pubblicazione), 2020.
- (8) A. Ferraguti e G. Micheli, “Complete classification of permutation 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.

Codice ORCID e link alle pubblicazioni

ORCID <https://orcid.org/0000-0003-1323-8221>.

Indicatori bibliometrici Scopus (ultimi 5 anni)

Pubblicazioni
totali

Citazioni
totali

h-index

Articoli sottomessi per la pubblicazione

- (3) A. Ferraguti e C. Pagano, “Constraining images of quadratic arboreal representations”, 2020. Versione ArXiv: <https://arxiv.org/abs/2004.02847>.
- (2) A. Ferraguti e G. Micheli, “Exceptional scatteredness in prime degree”, 2020. Versione ArXiv: <https://arxiv.org/abs/2002.00500>.
- (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>.

Research grants

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

Esperienza d’insegnamento

- 2018 Supervisore per il corso “Number Fields”, University of Cambridge (Trinity College, Peterhouse College).
- 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 – 2015 Titolare del corso “Algebraic curves over finite fields” (MAT 544), 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

- 2012-2015 In carica per l’amministrazione degli assistenti di insegnamento all’Università di Zurigo.

Seminari su invito

- 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”, finanziata dalla *Fondazione Cariplo*.

Ordini professionali

- 2016 – pres. Reviewer per l’American Mathematical Society.
- 2017 – pres. Abilitazione al ruolo di Maître de conférences
- 2019 – pres. Membro dell’Unione Matematica Italiana

Lingue straniere

Inglese	C2
Francese	B2
Spagnolo	B1

Conoscenze informatiche

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

Referenze

Prof. Joseph Ayoub, Institut für Mathematik, Universität Zürich, Winterthurerstrasse 190, CH-8057 Zurigo, Svizzera, joseph.ayoub@math.uzh.ch

Prof. Peter Bruin, Mathematisch Instituut, Universiteit Leiden, Niels Bohrweg 1, 2333 CA Leiden, Olanda, P.J.Bruin@math.leidenuniv.nl

Prof. Joachim Rosenthal, Institute of Mathematics, Universität Zürich, Winterthurerstrasse 190, 8057 Zurigo, Svizzera, rosenthal@math.uzh.ch

Prof. Rafe Jones, Carleton College, Department of Mathematics, Northfield, MN 55057, USA, rfjones@carleton.edu

Annamaria IEZZI

Curriculum Vitae et Studiorum

Interessi di ricerca

Geometria algebrica su campi finiti (curve algebriche, numero di punti razionali, campi di funzioni, varietà abeliane etc.), teoria dei numeri pura e computazionale, crittografia (isogeny-based cryptography, post-quantum cryptography), teoria dei codici (codici algebrico geometrici).

Posizioni accademiche

- 08/17 – oggi **Postdoc** - *Department of Mathematics & Statistics, University of South Florida, Tampa*.
Mentor: Prof. Jean-François Biasse.
- 09/15 – 08/17 **ATER 100%** (Attachée Temporaire d'Enseignement et de Recherche - contratto a tempo determinato di insegnamento e di ricerca) - *Institut de Mathématiques de Marseille (I2M), Aix-Marseille Université, Marseille*.
- 10/13 – 09/15 **Monitorat** (contratto di insegnamento durante il dottorato) - *Institut de Mathématiques de Marseille (I2M), Aix-Marseille Université, Marseille*.

Istruzione e formazione

- 02/2017 **Abilitazione nazionale francese** a Maître de Conférences nella sezione CNU 25 (Matematica).
- 11/12 – 07/16 **Dottorato in Matematica**, Aix-Marseille Université (*borsa di studio del LabEx Archimède*).
Titolo della tesi: *Nombre de points rationnels des courbes singulières sur les corps finis. (Numero di punti razionali delle curve singolari su campi finiti)*
Direttore: Prof. Yves Aubry.
- 09/10 – 07/12 **Laurea Magistrale in Matematica**, Università degli studi Roma Tre, Roma.
Titolo della tesi: *Domini Almost Dedekind*
Relatrice: Prof.ssa Stefania Gabelli
Voto: 110/110 e lode.
- 09/11 – 01/12 **Erasmus di 5 mesi**, Université d'Aix-Marseille II, Marseille, nel Master 2 *Mathématiques Discrètes et Fondements de l'Informatique*.
- 09/07 – 07/10 **Laurea Triennale in Matematica**, Università degli studi Roma Tre, Roma.
Voto: 110/110 e lode.
- 07/07 **Maturità**, Liceo Scientifico Statale A. Einstein, Teramo.
Voto: 100/100.

Premi e riconoscimenti accademici

- 2016 **Premio d'Alembert 2016** per la diffusione matematica conferito dalla Société Mathématique de France all'associazione Pi day, di cui sono membro fondatore.
- 2012 Borsa di studio triennale erogata dal Labex Archimède per effettuare una tesi di dottorato presso il dipartimento di matematica di Aix-Marseille Université.
- 2011 Borsa di studio di 500 € della provincia di Roma per partecipare alla scuola d'eccellenza Piccola Astre (selezionata tra i 40 studenti di laurea specialistica più meritevoli di Roma Tre).
- 2007 Borsa di studio triennale di 1500 € erogata dall'Università degli Studi Roma Tre per immatricolati al Corso di Laurea in Matematica (Prima classificata ex æquo alla gara di immatricolazione).

Pubblicazioni

Ricerca

- [5] X.-d. Hou, [A. Iezzi](#) - *An application of the Hasse-Weil bound to rational functions over finite fields*, Acta Arith. 195, no. 2, 207-216 (2020) <https://doi.org/10.4064/aa190701-5-12>.
- [4] J.-F. Biasse, [A. Iezzi](#), M. Jacobson Jr. - *A note on the security of CSIDH*, Progress in Cryptology - INDOCRYPT 2018, Proceedings, Security and Cryptology, vol. 11356, Springer, pp. 153-168, (2018), https://doi.org/10.1007/978-3-030-05378-9_9.
- [3] Y. Aubry, [A. Iezzi](#) - *Optimal and maximal singular curves*, Contemporary Mathematics, 686, Amer. Math. Soc., pp. 31-43, (2017), <https://doi.org/10.1090/conm/686>.
- [2] [A. Iezzi](#) - *Nombre de points rationnels des courbes singulières sur les corps finis*, Tesi di dottorato.
- [1] Y. Aubry, [A. Iezzi](#) - *On the maximal number of points on singular curves over finite fields*, Mosc. Math. J. 15 (2015), no. 4 pp. 615-627, <https://doi.org/10.17323/1609-4514-2015-15-4-615-627>.

Submitted

- [6] L. Amorós, [A. Iezzi](#), K. Lauter, C. Martindale, J. Sotáková - *Explicit connections between supersingular isogeny graphs and Bruhat-Tits trees*.

Divulgazione

- [7] E. Berardini, J. Cohen, G. Geoffroy, [A. Iezzi](#): *Pi Day: An International Festival of Mathematics*. EMS Newsl. 3 (2018), 36-37, <https://doi.org/10.4171/NEWS/107/8>.

Presentazioni

Presentazioni di ricerca - Conferenze internazionali

- 12/06/2019 *An application of the Hasse-Weil bound to rational functions over finite fields*, Arithmetic, Geometry, Cryptography and Coding Theory (AGCT), CIRM, Marsiglia.
- 07/06/2019 *An application of the Hasse-Weil bound to rational functions over finite fields*, Finite Fields and their Applications (Fq14), Vancouver, Canada.
- 11/12/2018 *A note on the security of CSIDH*, Indocrypt 2018, New Delhi, India.
- 18/05/2015 *Towards maximal singular curves over finite fields*, Arithmetic, Geometry, Cryptography and Coding Theory (AGCT), CIRM, Marsiglia.
- 11/06/2014 *Singular curves over finite fields with many rational points*, Yet Another Conference on Cryptography (YACC), Isola di Porquerolles, Francia.
- 12/05/2014 *Singular curves over finite fields with many rational points*, Antalya Algebra Days XVI, Antalya, Turchia.

Presentazioni di ricerca - Seminari e incontri

- 10/01/2020 *A quantum attack to the isogeny problem in the "commutative case"*, Centrum Wiskunde & Informatica (CWI), Amsterdam.
- 10/11/2019 *Singular curves over finite fields with many rational points*, Fall Western Sectional Meeting, Special Session on Arithmetic Geometry in Finite Characteristic, University of California, Riverside.
- 09/02/2019 *Isogeny-based cryptography, a quantum-safe alternative*, Florida Women In Mathematics Day, Florida Atlantic University.
- 08/01/2019 *Un échange de clés dans le monde des calculateurs quantiques (Uno scambio di chiavi nel mondo dei computer quantici)*, workshop ANR Manta, Parigi, Francia.
- 19/11/2018 *On the security of a recent isogeny-based cryptosystem*, Seminario di Matematica Discreta, Department of Mathematics & Statistics, University of South Florida.
- 05/03/2018 *A singular trip through the world of algebraic curves over finite fields*, Seminario di Matematica Discreta, Department of Mathematics & Statistics, University of South Florida.
- 20/11/2016 *Curve su campi finiti a singolarità prescritte*, Seminario di Algebra Commutativa, Dipartimento di Matematica e Fisica, Università degli studi di Roma Tre.

- 05/11/2015 *Courbes optimales et maximales (Curve ottimali e massimali)*, Seminario di Aritmetica e Teoria dell'Informazione, I2M, Université d'Aix-Marseille.
- 17/02/2015 *Sur le nombre maximum de points rationnels d'une courbe singulière sur un corps fini (Sul numero massimo di punti razionali di una curva singolare su un campo finito)*, Seminario Algebrico dell'IMATH, Université de Toulon.
- 29/01/2015 *Sur le nombre maximum de points rationnels d'une courbe singulière sur un corps fini (Sul numero massimo di punti razionali di una curva singolare su un campo finito)*, Seminario di Aritmetica e Teoria dell'Informazione, I2M, Université d'Aix-Marseille.
- 14/05/2013 *Courbes avec un nombre fixé de points rationnels (Curve con un numero prestabilito di punti razionali)*, Seminario Algebrico dell'IMATH, Université de Toulon.

Presentazioni di divulgazione

- 02/03/2020 *Guess who, if I can lie*, University of Tampa.
- 01/08/2019 *From a liar Guess who to error-correcting codes*, Young Cryptographers Cybercamp 2019, Florida Atlantic University, Boca Raton.
- 19/04/2019 *Guess who, if I can lie*, Math Club, University of South Florida, Tampa.
- 22/01/2016 *Allô Papa Tango Charlie, théorie des codes correcteurs (Allô Papa Tango Charlie, teoria dei codici correttori)*, per una classe di liceo, Marsiglia.
- 06/06/2014 *Les nombres premiers ne sont pas si aléatoires (I numeri primi non sono così aleatori)*, Journée d'étude sur le Hasard (Giornata di studio sul tema del caso), Fort St Jean, Marsiglia.
- 25/03/2014 *L'hypothèse de Riemann dans le paysage des courbes sur les corps finis (L'ipotesi di Riemann nel paesaggio delle curve su campi finiti)*, Seminario dei dottorandi, Marsiglia.
- 14/03/2014 *Pi... comme pizza (Pi greco... come pizza)*, Pi day 2014, Marsiglia.

Partecipazione a conferenze, scuole, workshops e giornate tematiche

- 07/2020 Conferenza: *Algorithmic Number Theory Symposium, ANTS-XIV*, (online).
- 06/2020 Scuola satellite di *Algorithmic Number Theory Symposium, ANTS-XIV*, (online).
- 05/2020 Conferenza: *Eurocrypt 2020* (online).
- 11/2019 Conferenza: *Fall Western Sectional Meeting*, University of California, Riverside - Stati Uniti
- 08/2019 Workshop: *Women In Numbers Europe 3*, Rennes - Francia
- 06/2019 Conferenza: *Arithmetic, Geometry, Cryptography and Coding Theory 16 (AGCT)*, CIRM, Marsiglia - Francia
- 06/2019 Conferenza: *Finite Fields and their Applications (Fq14)*, Vancouver - Canada.
- 02/2019 Giornata: *Florida Women In Mathematics Day*, Florida Atlantic University, Boca Raton - Stati Uniti
- 01/2019 Workshop: *Ritiro ANR Manta*, Dourdan - Francia
- 12/2018 Conferenza: *Indocrypt 2018*, New Delhi, India.
- 7/2018 Conferenza: *Algorithmic Number Theory Symposium, ANTS-XIV*, University of Madison, United States.
- 06/2017 Conferenza: *Arithmetics, Geometry, Cryptography and Coding Theory 15 (AGCT)*, CIRM, Marsiglia - Francia
- 6/2017 Conferenza: *Finite Fields and their Applications (Fq13)*, Gaeta, Italia.
- 11/2016 Workshop: *Surfaces algébriques*, nell'ambito dell'ANR Manta, X, Parigi - Francia
- 06/2016 Conferenza: *Premier congrès de la Société Mathématique de France*, Tours - Francia
- 05/2016 Scuola: *École de printemps en codage et cryptographie*, La Chapelle Gauthier (Seine-et-Marne) - Francia
- 04/2016 Workshop: *Ritiro ANR Manta*, Lacapelle-Biron - Francia
- 10/2015 Conferenza: *Journées Codage et Cryptographie (JC2)*, La Londe-les-Maures, Francia
- 05/2015 Conferenza: *Arithmetics, Geometry, Cryptography and Coding Theory 14 (AGCT)*, CIRM, Marsiglia - Francia

- 04/2015 Giornata: *Crypto quantique et codes quantiques*, Université de Toulon - Francia
- 06/2014 Conferenza: *Yet Another Conference on Cryptography (YACC)*, Isola di Porquerolles -Francia.
- 05/2014 Conferenza: *Antalya Algebra Days XVI*, Antalya - Turchia.
- 02/2014 Workshop: *Frobenius Distribution on Curves*, CIRM, Marsiglia - Francia
- 02/2014 Scuola: *Frobenius Distribution on Curves*, CIRM, Marsiglia - Francia
- 06/2013 Scuola: *Number Theory for Cryptography*, University of Warwick - Regno Unito
- 06/2013 Conferenza: *Arithmetic, Geometry, Cryptography and Coding Theory 13 (AGCT)*, CIRM, Marsiglia - Francia

Partecipazione a progetti di ricerca

- 2016-2020 ANR-15-CE39-0013 Manta: *Algebraic Geometry and Coding Theory Curves, surfaces, codes and cryptography*. Coordinatore: Prof. Daniel Augot.

Fondi

Fondi per l'organizzazione di eventi di divulgazione

- 95 000 € da 30 sponsor per organizzare la *Tournée de π* (marzo 2017) a Parigi, Lione e Marsiglia.
- 26 500 € da 15 sponsor per organizzare il *Pi day 2016* a Marsiglia.
- 14 200 € by 12 sponsor per organizzare il *Pi day 2015* a Marsiglia.

Travel grants

- \$750 dall'Association for Women in Mathematics (AWM) per partecipare al workshop *Women in Numbers Europe 3* (WINE 3).
- \$366 per partecipare a 14th International Conference on *Finite Fields and their Applications* (Fq14).
- \$979 per partecipare a 13th *Algorithmic Number Theory Conference* (ANTS XIII).

Attività d'insegnamento

UNIVERSITY OF SOUTH FLORIDA - STATI UNITI

Corsi di Master:

- *MAT 5932 - Applied Cryptography* (Corso online - 2° semestre 2019/2020).
- *Algebraic curves over finite fields* (1° semestre 2018/2019).

Corsi di Laurea Triennale:

- *MGF 3301 - Bridge to Abstract Mathematics* (2° semestre 2019/2020).
- *MAC 2311 - Calculus 1* (1° semestre 2018/2019, 2° semestre 2017/2018, 1° semestre 2017/2018).

AIX-MARSEILLE UNIVERSITÉ - FRANCIA

Corsi di Laurea Triennale:

- *Algèbre Linéaire* (2° semestre 2016/2017, 2, semestre 2015/2016).
- *Géométrie et Arithmétique* (1° semestre 2016/2017, 1° semestre 2015/2016).
- *Precorsi di matematica* (1° semestre 2016/2017, 1° semestre 2015/2016, 1° semestre 2014/2015).
- Esercitazioni: *Géométrie et Arithmétique* (1° semestre 2014/2015), *Introduction à l'analyse* (1° semestre 2014/2015), *Algèbre Linéaire* (2° semestre 2013/2014).

Altre attività didattiche:

- *Stages Hippocampe* (stage di ricerca di tre giorni per classi di scuole medie e superiori):
 - Responsabile: *Allô Papa Tango Charlie, théorie des codes correcteurs* (Teoria dei codici correttori).
 - Tutrice: *The Mathematics of Sudoku*.
 - Tutrice: *Théorie des noeuds* (Teoria dei nodi).
 - Tutrice: *Les Mathématiques des jeux : comment gagner presque sûrement* (La matematica del gioco: come vincere quasi sicuramente).

UNIVERSITÀ DEGLI STUDI DI ROMA 3 - ITALIA

Tutrice per corsi di laurea triennale e magistrale :

- *Topologia generale ed elementi di topologia algebrica* (2° semestre 2010/2011).
- *Geometria euclidea e proiettiva* (1° semestre 2010/2011, 1° semestre 2009/2010).
- *Teoria delle equazioni e teoria di Galois* (2° semestre 2009/2010).

Attività di divulgazione matematica

Membro fondatore dell'**associazione Pi day** per la promozione e la divulgazione della matematica al grande pubblico. Per l'originalità delle sue attività l'associazione ha ricevuto il **premio d'Alembert 2016**, attribuito una volta ogni due anni dalla Société Mathématique de France.

Organizzazione di eventi di divulgazione

PI DAY

03/14,16,19/17 Direttrice generale della **Tournée de π** - 3.14 Parigi (Théâtre des Variétés), 3.16 Marsiglia (Le Silo), 3.19 Lione (Le Transbordeur) - 2000 persone.

- *From Marseille to Vegas* (musical a tema matematico con attori e musicisti professionisti);
- Tre talk da 15 minuti per il grande pubblico (diversi in ogni città);
- Concorso di torte (pies) con premi (solo a Lione);
- Stand e animazioni.

Videos: <http://bit.ly/pi-day2017>

14/03/2016 Co-organizzatrice del **Pi day 2016** - Théâtre National de la Criée, Marsiglia - 700 persone.

- *Les π travaux d'Archimède* (musical a tema matematico con cantanti e musicisti professionisti);
- Tre talk da 15 minuti per il grande pubblico;
- Concorso di torte (pies) con premi;
- Stand e animazioni.

Videos: <http://bit.ly/pi-day2016>

14/03/2015 Co-organizzatrice del **Pi day 2015** - MuCEM, Marseille - 500 persone.

- Concerto di un'orchestra di fiati;
- Tre talk da 30 minuti per il grande pubblico;
- Concorso di torte (pies) con premi;
- Pomeriggio di stand e animazioni.

Contributo personale all'organizzazione di *Tournée de π* , *Pi day 2016* and *Pi day 2015*:

- membro del comitato scientifico e artistico (contenuto e programmazione dell'evento, selezione degli argomenti e degli oratori, ricerca di collaborazioni per stand e animazioni);
 - coordinazione di tutti gli aspetti finanziari del progetto, dalla ricerca dei fondi (fino a 95 000 € da 30 sponsor nel 2017) alla distribuzione del denaro;
 - direzione della strategia di comunicazione dell'evento: sito web, radio, giornali, social networks, liste di diffusione, locandine, distribuzione di volantini, programmi, gadget, etc...;
 - reclutamento di volontari, coordinazione di diverse squadre locali (fino a un totale di 20 persone), delegazione di compiti, team building;
 - nei giorni dell'evento: direzione della squadra di volontari e supervisione generale;
- e molto altro.

TREIZE MINUTES JEUNES CHERCHEURS (Tredici minuti giovani ricercatori)

Serata di conferenze pluridisciplinari tenute da giovani ricercatori, organizzata da un gruppo di dottorandi dell'Université d'Aix-Marseille.

Videos: <https://treize.lis-lab.fr/?cat=3>

26/04/2017 Co-organizzatrice di **Treize Minutes Jeunes Chercheurs 2017** - Alcazar, Marsiglia - 300 persone.

10/05/2016 Co-organizzatrice di **Treize Minutes Jeunes Chercheurs 2016** - Alcazar, Marsiglia - 300 persone.

Contributo personale all'organizzazione di *Treize Minutes Jeunes Chercheurs*:

- membro del comitato scientifico (selezione degli argomenti e degli oratori, preparazione degli oratori);
- aiuto nella ricerca dei fondi;
- aiuto nella comunicazione dell'evento;
- presentatrice dell'edizione 2017.

MAY 12

12/05/2020 Organizzatrice di **May 12**, un evento online con 5 interventi da parte di studentesse e giovani ricercatrici in matematica, seguito dalla proiezione del film *Secrets of the Surface, the Mathematical Vision of Maryam Mirzakhani* - **Online** - 100 persone.

Videos: https://youtu.be/gh_L6H_xP78

Stand, esposizioni e altre attività di divulgazione

- 2019-2020 Coordinatrice delle attività relative alla teoria dei codici e crittografia per *CodebreakHERS*, uno stage estivo annuale per ragazze sulla sicurezza informatica a University of South Florida.
- 02/2019 Carrer panelist al Florida Women in Mathematics Day, Florida Atlantic University.
- 10/2016 Animatrice per lo stand *Tous les chemins mènent à Rome-Dragon (T3)*, *Fête de la Science 2016*, Vieille Charité, Marsiglia.
- 05/2016 Animatrice per l'esposizione *Imaginary*, Salon Culture et Jeux Mathématiques, place Saint-Sulpice, Parigi.
- 02/2016 Partecipazione alla scrittura della pièce teatrale *Les π travaux d'Archimède (Le π fatiche di Archimede)*, rappresentata in occasione del *Pi day 2016* al Théâtre National de la Criée a Marsiglia.
- 10/2015 Creazione e animazione dello stand *Le charabia du numérique : mégapixels, gigaoctets, cryptage... et autres gros mots !*, *Fête de la Science 2015*, Villa Méditerranée, Marsiglia.

- 22/03/2015 Animatrice per l'esposizione *Imaginary*, Vieux Port, Marsiglia.
- 14/03/2015 Creazione e animazione dello stand *Les Mathématiques nous transportent en... cuisine !*, Pi day 2015, MuCEM, Marsiglia.

Responsabilità amministrative

- 11/16 – 1/18 Segretaria dell'associazione *Pi day*.
- 03/14 – 08/17 Membro nominato del consiglio di laboratorio dell'Institut de Mathématiques de Marseille (collegio degli insegnanti ricercatori non permanenti).
- 11/15 – 11/16 Tesoriere dell'associazione *Pi day*.

Altro

- Referee per la rivista *Finite Fields and Their Applications*, *Journal of Number Theory*, per la conferenza *NutMiC2019* e reviewer per *Mathematical Reviews*.
- Organizzatrice della giornata di presentazione della *Scuola dottorale di Matematica e Informatica* di Aix-Marseille Université per gli anni accademici 2014/2015 e 2015/2016.

Lingue

- Italiano (madrelingua), francese (eccellente - C2), inglese (eccellente - C2), spagnolo (ottimo - C1), portoghese (intermedio - B1).
- 2012-2017 Creatrice e coordinatrice (e animatrice per la lingua italiana) del progetto *Café des Langues Luminy*, vincitore nel 2016 del premio Trophée Phocéén Étudiant della città di Marsiglia: gruppi quotidiani di conversazione in lingua straniera per studenti e impiegati di Aix-Marseille Université.

Competenze informatiche

- Calcolo simbolico Sage, Magma, Wolfram Mathematica
- ProgrammazioneLinguaggio C, Python
- Altro html, css

NIELS KOWALZIG
Curriculum vitae

— ai fini della pubblicazione —

Luogo: Roma
Data: 12-07-2020

CARRIERA SCIENTIFICA

– Gen 2019	Ricercatore del tipo A all’ <i>Dipartimento di Matematica ed Applicazioni, Università di Napoli Federico II</i>
Dic 2018–Nov 2018	Assegno di ricerca al <i>Dipartimento di Matematica GUIDO CASTELNUOVO, Università di Roma La Sapienza</i>
Ott 2018–Mag 2018	Assegno di ricerca all’ <i>Dipartimento di Matematica ed Applicazioni, Università di Napoli Federico II</i>
Lug 2017–Mar 2017	Tutore (esercitatore) di Geometria I, <i>Dipartimento di Matematica GUIDO CASTELNUOVO, Università di Roma La Sapienza</i>
Feb 2017–Set 2015	Assegno di ricerca al <i>Dipartimento di Matematica GUIDO CASTELNUOVO, Università di Roma La Sapienza</i>
Lug 2015–Ago 2014	Assegno di ricerca all’ <i>Dipartimento di Matematica ed Applicazioni, Università di Napoli Federico II</i> , nell’ambito del programma <i>STAR 2013</i>
Giu 2014–Giu 2012	<i>INdAM-Cofund Marie Curie fellow</i> all’ <i>Istituto Nazionale di Alta Matematica, Roma</i> , con sede all’ <i>Università di Roma Tor Vergata</i>
Dic 2011	<i>Visiting Research Associate</i> al <i>Department of Mathematics, University of Glasgow</i>
Mag 2011–Feb 2011	Borsista nel <i>Granada Excellence Network of Innovation Laboratories (GENIL)</i> , <i>Universidad de Granada</i>
Dic 2010–Set 2010	Borsista all’ <i>Institut des Hautes Études Scientifiques (IHÉS)</i> , Bures-sur-Yvette, Francia
Ago 2010–Mag 2009	Ricercatore ospite all’ <i>Istituto di Matematica Korteweg-de Vries</i> presso l’ <i>Universiteit van Amsterdam</i>
Giu 2009	Dottorato di Ricerca in matematica, presentando una tesi intitolata <i>Hopf Algebroids and Their Cyclic Theory</i>
Apr 2009–Mag 2008	Dottorando al <i>Dipartimento di Matematica dell’Universiteit Utrecht</i> , sotto l’egida del Prof. Dr. I. Moerdijk nonché Dr. M. Crainic. Progetto di ricerca su <i>Bicrossed product bialgebroids and generalised Connes-Moscovici algebras</i>
Gen 2008–Apr 2007	Dottorando all’ <i>Istituto di Matematica Korteweg-de Vries</i> presso l’ <i>Universiteit van Amsterdam</i>
Apr 2007–Gen 2007	Borsa <i>CNRS Marie Curie</i> per <i>Groupoids and Stacks in Physics and Geometry</i> , trimestre all’ <i>Institut Henri Poincaré</i> , Parigi
Ott 2006	Membro del <i>cluster</i> nazionale di ricerca olandese <i>Geometry and Quantum Theory (GQT)</i>
Dic 2006–Ago 2004	Dottorando all’ <i>Istituto di Matematica Korteweg-de Vries</i> presso l’ <i>Universiteit van Amsterdam</i>
Lug 2004–Mag 2004	Borsista <i>CNRS predoc</i> per <i>K-Theory and Noncommutative Geometry</i> , trimestre all’ <i>Institut Henri Poincaré</i> , Parigi
Apr 2008–Ott 2003	Dottorando all’ <i>Istituto di Matematica Korteweg-de Vries</i> presso l’ <i>Universiteit van Amsterdam</i> , sotto l’egida del Prof. Dr. N. P. Landsman (<i>NWO-EW</i> progetto pioniere <i>Quantizzazione, Geometria Noncommutativa, e Simmetria</i>). Progetto di ricerca su <i>Algebroidi di Hopf e la loro (Co)omologia</i>

STUDI DI LAUREA

- Dic 2001 Laurea (vecchio ordinamento) in fisica (*cum laude*, corrispondente a *110 e lode*)
- Set 2001–Ago 2000 Tesi di Laurea in fisica matematica su aspetti di *quantizzazione per deformazione e riduzione algebrica*, sotto l’egida del Prof. Dr. K.-E. Hellwig, Istituto di Fisica Teorica presso la *Technische Universität Berlin* e Dr. M. Pflaum, Istituto di Matematica presso la *Humboldt-Universität zu Berlin*
- Mar 2000–Apr 1996 Frequentato lezioni, esercitazioni, tutoraggi nonché esami in algebra, geometria differenziale e simplettica, fisica matematica, analisi funzionale, analisi complessa, meccanica quantistica e teoria di quantizzazione, equazioni differenziali alle derivate parziali, relatività generale, astrofisica (cosmologia), fisica teorica e sperimentale, programmazione informatica in C

CONFERIMENTI

- Mar 2018 Conferita l’Abilitazione Scientifica Nazionale per la seconda fascia nel settore concorsuale 01/A2 - Geometria e Algebra;
- Feb 2016 Conferita la *Qualification aux fonctions de Professeur des Universités* in Francia (corrispondente all’Abilitazione Scientifica per *tutte* le fasce in Italia);
- Giu 2014 Conferita una borsa *INDAM-Cofund Marie Curie*;
- Feb 2012 Conferita la *Qualification aux fonctions de Maître de Conférences* in Francia.

VISITING GRANTS POSTDOTTORALI

- Ott 2020 *Visiting Grant* all’*Institut de Mathématiques, Université Pierre et Marie Curie*, Parigi
- Mag 2018 *Visiting Grant* all’*Institut de Mathématiques, Université Pierre et Marie Curie*, Parigi
- Apr 2018 *Visting Grant* all’*Institut für Geometrie* presso la *Technische Universität* di Dresda
- Giu 2017 *Visting Grant* al Dipartimento di Matematica, Politecnico di Torino
- Gen 2017 *Visiting Grant* all’*Institut de Mathématiques, Université Pierre et Marie Curie*, Parigi
- Ott 2016 *Visiting Grant* all’Istituto di Matematica dell’Accademia Nazionale delle Scienze (IMPAN), Varsavia
- Ott 2015 *Visiting Grant* al Dipartimento di Scienze Matematiche presso l’Università di Copenaghen
- Feb 2014 *Visiting Grant* al *Mathematisches Forschungsinstitut (MFO)*, Oberwolfach, Germania
- Gen 2014 *Visiting Grant* all’Istituto di Matematica dell’Accademia Nazionale delle Scienze (IMPAN), Varsavia
- Set 2012 *Visiting grant* al Dipartimento di Matematica, Università di Glasgow
- Lug 2011 *Visiting grant* al Dipartimento di Matematica, Università di Glasgow
- Lug 2010 *Visiting grant* al Dipartimento di Matematica, Università di Glasgow
- Ott 2009 *Visiting grant* al Dipartimento di Matematica, Università di Glasgow

PUBBLICAZIONI SCELTE AI FINI DELLA SELEZIONE

- (1) *Cyclic Gerstenhaber-Schack cohomology*, (con D. Fiorenza), accettato il 08-06-2020 per pubblicazione in *J. of Noncommutative Geometry*; vedasi https://www.ems-ph.org/journals/subm-info.php?subm_nr=20190214132923-UQFQ.
- (2) *Higher brackets on cyclic and negative cyclic (co)homology*, (con D. Fiorenza), accettato il 30-10-2018 per pubblicazione in *Int. Math. Res. Not.*; disponibile su doi:10.1093/imrn/rny241.
- (3) *When Ext is a Batalin-Vilkovisky algebra*, pubblicato in *J. of Noncommutative Geometry* **12** (2018), no. 3, 1081–1131; disponibile su doi:10.4171/JNCG/298.
- (4) *Morita theory for Hopf algebroids, principal bibundles, and weak equivalences*, (con L. El Kaoutit), pubblicato in *Documenta Math.* **22** (2017), 551–609; disponibile su <https://www.math.uni-bielefeld.de/documenta/vol-22/vol-22-eng.html>
- (5) *Duality features of left Hopf algebroids*, (con S. Chemla e F. Gavarini), pubblicato in *Algebr. Represent. Theory* **19** (2016), no. 4, 913–941; disponibile su doi:10.1007/s10468-016-9604-9.
- (6) *Cyclic homology arising from adjunctions*, (con U. Krähmer e P. Slevin), pubblicato in *Theor. and Appl. of Categories* **30** (2015), 1067–1095; disponibile su <http://www.tac.mta.ca/tac/index.html#vol30>.
- (7) *Gerstenhaber and Batalin-Vilkovisky structures on modules over operads*, pubblicato in *Int. Math. Res. Not.* **2015** (2015), no. 22, 11694–11744; disponibile su doi:10.1093/imrn/rnv034.
- (8) *Batalin-Vilkovisky algebra structures on (Co) Tor and Poisson bialgebroids*, pubblicato in *J. Pure Appl. Algebr.* **219** (2015), 3781–3822; disponibile su doi:10.1016/j.jpaa.2014.12.022.
- (9) *Batalin-Vilkovisky structures on Ext and Tor*, (con U. Krähmer), pubblicato in *J. Reine Angew. Math.* **697** (2014), 159–219; disponibile su doi:10.1515/crelle-2012-0086.
- (10) *Morita base change in Hopf-cyclic (co)homology*, (con L. El Kaoutit), pubblicato in *Lett. Math. Phys.* **103** (2013), no. 6, 665–699; disponibile su doi:10.1007/s11005-012-0600-7.
- (11) *Cyclic structures in algebraic (co)homology theories*, (con U. Krähmer), pubblicato in *Homology, Homotopy and Applications* **13** (2011), no. 1, 297–318; disponibile su doi:10.4310/HHA.2011.v13.n1.a11.
- (12) *The cyclic theory of Hopf algebroids*, (con H. Posthuma), pubblicato in *J. of Noncommutative Geometry* **5** (2011), no. 3, 423–476; disponibile su doi:10.4171/JNCG/82.

TESI DI DOTTORATO

- (13) *Hopf algebroids and their cyclic theory*, Tesi di Dottorato, *Universiteit Utrecht* (2009), 200pp., ISBN 978-90-3935-099-7; disponibile su <http://igitur-archive.library.uu.nl/dissertations/2009-0702-200408/UUindex.html>.

PUBBLICAZIONI non SCELTE AI FINI DELLA SELEZIONE

- (14) *A noncommutative calculus on the cyclic dual of Ext*, preprint 2019, arXiv:1912.08145;
(15) *Duality and products in algebraic (co)homology theories*, (con U. Krähmer), pubblicato in *Journal of Algebra* **323** (2010), 2063–2081; disponibile su doi:10.1016/j.jalgebra.2009.12.026.
(16) *Phase space reduction of star products on cotangent bundles*, (con N. Neumaier e M. Pflaum), pubblicato in *Ann. Henri Poincaré* **6** (2005), 485–552; pubblicato il 06-06-2005, Berlin-New York; disponibile su doi:10.1007/s00023-005-0215-y.
(17) *Noncommutative Differential Calculi*, pubblicato in *Oberwolfach Rep.* **11** (2014), no. 1, 613–615; disponibile su doi:10.4171/OWR/2014/11.

CITAZIONI ED INDICE DI CITAZIONI

	<i>MathSciNet</i>	<i>WoS</i>	<i>Scopus</i>	<i>Google Scholar</i>
Numero totale di citazioni	71	68	68	165
H-indice	4	4	4	7

ATTIVITÀ DA REVIEWER

- Dal 2020: *Reviewer* per *Arkiv för Matematik*.
- Dal 2019: *Reviewer* per *Journal of Noncommutative Geometry* nonché *Annali della SNS di Pisa*.
- Dal 2017: *Reviewer* per *Letters in Mathematical Physics* nonché *Journal of Pure and Applied Algebra*
- Dal 2014: *Reviewer* per *Journal of Algebra*, *Journal of Algebra and Its Applications*, nonché *Symmetry, Integrability and Geometry: Methods and Applications (SIGMA)*
- Dal 2013: *Reviewer* per *Communications in Algebra*

ATTIVITÀ DIDATTICHE

- Anno accademico 2019/2020, secondo semestre: lezione (48 ore) di Geometria & Algebra per studenti di ingegneria del primo anno. Facoltà di Ingegneria dell'Università di Napoli Federico II.
- Anno accademico 2019/2020, primo semestre: lezione (48 ore) di Geometria per studenti di architettura del primo anno. Facoltà di Architettura dell'Università di Napoli Federico II.
- Anno accademico 2018/2019, secondo semestre: lezione (48 ore) di Geometria & Algebra per studenti di ingegneria del primo anno. Facoltà di Ingegneria dell'Università di Napoli Federico II.
- Anno accademico 2016/2017, secondo semestre: tutoraggio di Geometria I per studenti di matematica del primo anno. Dip. Matematica dell'Università di Roma La Sapienza.
- Anno accademico 2016/2017, primo semestre: tutoraggio di Algebra Lineare per studenti di matematica del primo anno. Dip. Matematica dell'Università di Roma La Sapienza.
- Anno accademico 2015/2016: esercitazioni di Geometria I per studenti di matematica del secondo anno. Dip. Matematica dell'Università di Roma La Sapienza.
- Cinque anni di continua esperienza didattica (2004–2009), esercitazioni di due (a volte quattro) ore settimanali per Algebra Lineare, Analisi (Vettoriale) nonché Calcolo Infinitesimale principalmente per studenti del primo e secondo anno di matematica, fisica, informatica e chimica. Dip. Matematica delle Università di Amsterdam e di Utrecht.

CONFERENZE E SEMINARI RECENTI

- Conferenza su invito al convegno internazionale *Quantum days in Bologna*, Dip. di Matematica, *Università di Bologna*, Giu 2019;
- Seminario al *Seminario di Geometria*, Dip. di Matematica, *Università di Napoli Federico II*, Apr 2019;
- Seminario su invito al *Seminario di Geometria*, Dip. di Matematica, *Università di Potsdam*, Gen 2019;
- Seminario su invito al *Algebra and Representation Theory Seminar*, Dip. di Matematica, *Università di Roma Tor Vergata*, Nov 2018;
- Conferenza su invito al convegno internazionale *Poisson Geometry and Higher Structures*, INdAM Roma, Set 2018;
- Seminario su invito al *Seminario di Geometria*, Dip. di Matematica, *Università di Potsdam*, Mag 2018;
- Seminario su invito al *Séminaire de Géométrie et Quantification*, Institut Henri Poincaré, Paris, Mag 2018;
- Seminario su invito al *Seminario di Geometria*, Dip. di Matematica, *Technische Universität Dresden*, Apr 2018;
- Conferenza su invito al workshop *From Poisson to Quantum Geometry*, *Università degli Studi di Perugia*, Mar 2018;
- Seminario su invito al *Seminario di Algebra & Geometria*, Dip. di Matematica, *Politecnico di Torino*, Giu 2017;
- Conferenza al convegno *Incontro di Combinatoria dei sistemi di radici*, Palazzone della *Scuola Normale Superiore di Pisa*, Cortona, Mag 2017;
- Lezione su invito al corso di dottorato *Geometria noncommutativa*, Dip. di Matematica, *Università di Napoli Federico II*, Apr 2017;
- Seminario su invito al *Séminaire de Géométrie et Quantification*, Institut Henri Poincaré, Paris, Gen 2017;

- Seminario al *Seminario di Algebra & Geometria*, Dip. di Matematica, Università di Roma La Sapienza, Nov 2016;
- Conferenza su invito al convegno internazionale *Cyclic Homology*, nell'ambito di *Noncommutative geometry: the next generation (Simons Semester)* al Centro Banach, Istituto di Matematica dell'Accademia Nazionale Polacca delle Scienze (IMPAN), Varsavia, Ott 2016;
- Conferenza su invito al convegno internazionale *Noncommutative Geometry and Higher Structures*, Università degli Studi di Perugia, Lug 2016;
- Conferenza su invito al convegno internazionale *Brauer groups, Hopf algebras, and monoidal categories. In honour of Stef Caenepeel on the occasion of his 60th birthday*, Università degli Studi di Torino, Mag 2016;
- Conferenza su invito al convegno internazionale *Hopf Algebras and Related Topics*, Università degli Studi di Torino, Gen 2016;
- Conferenza su invito al masterclass internazionale *Algebraic structures of Hochschild complexes*, Università di Copenhagen, Ott 2015;
- Conferenza su invito al convegno internazionale *Noncommutative Geometry and Higher Structures*, Università di Roma La Sapienza, Set 2015;
- Sette seminari al seminario del gruppo di lettura *Operads e Formalità*, Dip. di Matematica, Università di Napoli Federico II, Set 2014–Giu 2015;
- Quattro seminari al seminario del gruppo di lettura *Coomologia Hopf-Ciclica*, Dip. di Matematica, Università di Roma La Sapienza, Ott 2014–Feb 2015;
- Seminario al *Seminario di Algebra & Geometria*, Dip. di Matematica, Università degli Studi di Torino, Mag 2014;
- Seminario al *Seminario di Algebra*, Dip. di Matematica, Università degli Studi di Ferrara, Apr 2014;
- Quattro seminari al seminario del gruppo di lettura *Coomologia Ciclica e Teoria dell'Indice per Foliazioni*, Dip. di Matematica, Università di Roma La Sapienza, Ott 2013–Mag 2014;
- Seminario al *Seminario di Algebra & Geometria*, Dip. di Matematica, Università di Roma La Sapienza, Apr 2014;
- Conferenza su invito al workshop internazionale *Batalin-Vilkovisky Algebras, Operads, and Hopf Algebroids*, Mathematisches Forschungsinstitut Oberwolfach, Feb 2014;
- Seminario su invito al *Noncommutative Geometry Seminar*, Istituto di Matematica dell'Accademia Nazionale Polacca delle Scienze (IMPAN), Varsavia, Gen 2014.

INIZIATIVE DI GRUPPI DI LAVORO RECENTI

- (Co)organizzazione del seminario del gruppo di lettura *Operads e Formalità*, insieme a Maurizio Brunetti, Francesco D'Andrea, and Davide Franco; Dip. di Matematica, Università di Napoli Federico II, Set 2014–Giu 2015;
- (Co)organizzazione del seminario del gruppo di lettura *Coomologia Hopf-Ciclica*, insieme a Paolo Piazza ed Indrava Roy; Dip. di Matematica, Università di Roma La Sapienza, Ott 2014–Feb 2015;
- (Co)organizzazione del seminario del gruppo di lettura *Coomologia Ciclica e Teoria dell'Indice per Foliazioni*, insieme a Paolo Piazza, Sara Azzali, ed Indrava Roy; Dip. di Matematica, Università di Roma La Sapienza, Ott 2013–Mag 2014.

ATTIVITÀ EDUCATIVE RECENTI

- | | |
|-------------------|---|
| Ott 2016–Nov 2016 | Partecipazione al corso di dottorato <i>Equazioni Differenziali e Gruppi Quantistici</i> , tenuto da V. Toledano Laredo, Dipartimento di Matematica, Università di Roma La Sapienza; |
| Gen 2016–Mag 2016 | Partecipazione al gruppo di lettura <i>Coomologia di Algebre Commutative, il Complesso Cotangente e Deformazioni</i> sotto l'egida di M. Manetti, Dipartimento di Matematica, Università di Roma La Sapienza; |
| Feb 2016–Mag 2016 | Partecipazione al corso di dottorato <i>Quiver Grassmanniane</i> , tenuto da G. Cerulli Irelli, Dipartimento di Matematica, Università di Roma La Sapienza. |

INTERESSI DI RICERCA

Omologia ciclica, algebroidi di Hopf, operads, gruppi quantistici, (étale) gruppoidi di Lie, algebre di Lie-Rinehart, strutture superiori di Gerstenhaber e Batalin-Vilkovisky, formalità; algebra omologica, geometria noncommutativa; geometria di Poisson, teoria delle deformazioni.

LINGUE PARLATE

Tedesco (lingua madre), inglese ed italiano (ottima conoscenza, sia scritto sia parlato), francese ed olandese (buono), russo e spagnolo (conoscenza di base), *Großes Latinum* (nove anni di latino).

ULTERIORI INTERESSI

Interessi vividi per architettura, urbanistica, belle arti, viaggi, storia.

Antonio Macchia

Research Interests

Commutative Algebra, Discrete Geometry, Algebraic, Geometric and Topological Combinatorics, Poset Topology

Professional Experience

- Dec 2018 – to date **Post-doctoral researcher**, *Discrete Geometry Group, Freie Universität Berlin*, Germany, funded by the *Einstein Foundation Berlin* under the Einstein Visiting Fellowship of Prof. Francisco Santos (grant EVF-2015-230).
- Aug 2018 **Data Science Training Fellowship**, *Science to Data Science*, London, UK.
intensive training programme, working with the start-up *Shoppa Ltd*: development of a data analysis pipeline and a model framework to predict attention span of customers in a store; proof-of-concept for content optimization using image tagging
- Dec 2016 – Nov 2017 **Post-doctoral researcher**, *Dipartimento di Matematica, Università degli Studi di Bari*, Italy, granted by *INdAM (Istituto Nazionale di Alta Matematica)*, mentor Prof. Margherita Barile.
- Jan 2016 – Nov 2016 **Post-doctoral researcher**, *Centre for Mathematics, Universidade de Coimbra*, Portugal, mentor Prof. Jorge Sentieiro Neves.
- Sep 2014 – Nov 2014 **Visiting researcher**, *Universität Duisburg-Essen*, Germany, guest of Prof. Jürgen Herzog.
- Mar 2014 – Sep 2015 **Post-doctoral researcher**, *Philipps-Universität Marburg*, Germany, funded by a *Postgraduate Scholarship for abroad studies* of *Università degli Studi di Bari* and a *DAAD Research Grant for post-docs* (Deutscher Akademischer Austauschdienst), mentor Prof. Volkmär Welker.

Education

- Jan 2011 – 15 May 2014 **PhD in Mathematics**, *Università degli Studi di Bari*, Italy.
with a thesis in Commutative Algebra entitled *The Arithmetical Rank of Edge Ideals*, advisor Prof. Margherita Barile
- Sep 2008 – 7 Oct 2010 **Master's Degree in Mathematics**, *Università degli Studi di Bari*, Italy.
with a thesis in Commutative Algebra entitled *Edge Ideals of Cohen-Macaulay Bipartite Graphs*, advisor Prof. Margherita Barile, final grade 110/110 cum laude
- Sep 2005 – 11 Dec 2008 **Bachelor's Degree in Mathematics**, *Università degli Studi di Bari*, Italy.
with a thesis in Noncommutative Algebra entitled *Lie Solvable and Lie Nilpotent Group Rings*, advisor Prof. Onofrio Mario Di Vincenzo, final grade 110/110

Teaching Experience

- Oct 2019 – Feb 2020 **Lecturer for a Seminar course in Discrete Geometry for Master's students**, *Freie Universität Berlin*, Germany, 32 hours.
- Dec 2017 – Jul 2018 **Didactics training, Percorso Formativo 24 CFU**, *Università degli Studi di Bari*.
Eight courses with final exams on pedagogy, psychology and didactics of Mathematics in high school
- 2010 – 2013 **Teaching Assistant for the course in Algebra and Geometry**, *Politecnico di Bari*, Italy.
Nov 2010 - Feb 2011, Dec 2011 - Mar 2011, Dec 2012 - Mar 2013, 20 hours for each course
- Jan 2012 – Mar 2012 **Teacher for a Course in preparation to Mathematics Games**, *Liceo Scientifico "Leonardo da Vinci", Noci*, Italy, 30 hours.
- Feb 2011 – May 2011 **Teacher for a Course in Geometry with Interacting Geometry Software**, *Liceo Scientifico "Galileo Galilei", Bitonto*, Italy, 30 hours.

Invited Talks (selected)

- 12 Feb 2020 Discrete Mathematics Seminar, TU Berlin, Germany
- 11 Sep 2019 Algebraic Combinatorics in Genova, Genova, Italy
- 9 Jul 2019 SIAM Conference on Applied Algebraic Geometry, Bern, Switzerland
- 19 Jun 2019 Summer School on Geometric and Algebraic Combinatorics, Paris, France
- 18 May 2019 Algebra Seminar, Universität Osnabrück, Germany

- 26 Jan 2018 Barcelona Algebraic Geometry Seminar, Universitat de Barcelona, Spain
- 12 Sep 2017 79th Séminaire Lotharingien de Combinatoire, Bertinoro, Italy
- 25 Mar 2017 Colloqui Matematici, Università degli Studi di Bari, Italy
- 25 Nov 2016 Research Seminar Program, UC|UP Joint PhD Program in Mathematics, Porto, Portugal
- 14 Jul 2016 The 6th Combinatorics Day, Almada, Portugal
- 22 Jan 2016 Ecole Normale Supérieure de Lyon, LIP, Lyon, France
- 18 Jan 2016 Colloquium, Universidade de Coimbra, Portugal
- 10 Oct 2015 Combinatorial and Experimental Methods in Commutative Algebra and Related Fields, Osnabrück, Germany
- 1 Sept 2015 Algebra and Combinatorics Seminar, Université Libre de Bruxelles, Belgium
- 11 Jun 2015 AMS-EMS-SPM Joint Meeting 2015, Porto, Portugal
- 8 Apr 2015 Colloqui Matematici, Università degli Studi di Bari, Italy
- 6 May 2014 Discrete Mathematics Seminar, Philipps-Universität Marburg, Germany
- 9 – 13 Sep 2013 Combinatorial Methods in Topology and Algebra (*poster*), Cortona, Italy
- 27 Jun 2013 EACA's Second International School on Computer Algebra and Applications, Valladolid, Spain
- 6 Jun 2013 Canadian Mathematical Society Summer Meeting 2013, Halifax, Nova Scotia, Canada
- 22 Feb 2013 Etna Triangulations and Algebra Meeting, Catania, Italy
- 6 Nov 2012 Graduate Students Seminar, MSRI, Berkeley, California, USA

Workshops and schools (selected)

- 2 – 4 Dec 2019 Co-organizer of the Einstein Workshop on Polytopes and Algebraic Geometry, Berlin, Germany
- 19 – 20 Sep 2019 Einstein Workshop on Real Applied Algebraic Geometry, Berlin, Germany
- 11 – 13 Sep 2019 Algebraic Combinatorics in Genova, Genova, Italy
- 9 – 13 Jul 2019 SIAM Conference on Applied Algebraic Geometry, Bern, Switzerland
- 17 – 28 Jun 2019 Summer School on Geometric and Algebraic Combinatorics, Paris, France
- 29 Oct – 2 Nov 2018 Einstein Workshops on Geometric, Topological and Algebraic Combinatorics, Berlin, Germany
- 10-13 Sep 2017 79th Séminaire Lotharingien de Combinatoire, Bertinoro, Italy
- 14 Jul 2016 The 6th Combinatorics Day, Almada, Portugal
- 13 – 24 Jun 2016 Quinto Encuentro Colombiano de Combinatoria – ECCO 2016, Medellín, Colombia
- 30 May – 3 Jun 2016 Homological and Computational Methods in Commutative Algebra, Cortona, Italy
- 6 – 10 Oct 2015 Combinatorial and Experimental Methods in Comm. Algebra and Related Fields, Osnabrück, Germany
- 10 – 13 Jun 2015 AMS-EMS-SPM Joint Meeting 2015, Porto, Portugal
- 23 – 26 Mar 2015 Third ERC SDModels Workshop – Discrete Models in Geometry and Topology, Berlin, Germany
- 8 – 12 Sep 2014 Meeting On Combinatorial Commutative Algebra, INdAM Conference, Levico Terme, Italy
- 23 Jun – 11 Jul 2014 Pragmatic summer school 2014, Local cohomology and syzygies of affine algebras, Università di Catania, Italy
- 9 – 13 Sep 2013 Combinatorial Methods in Topology and Algebra, INdAM Conference, Cortona, Italy
- 24 – 28 Jun 2013 EACA's Second International School on Computer Algebra and Applications, Valladolid, Spain
- 1 – 7 Jun 2013 International Workshop in Combinatorial Algebra and Special Session on Commutative Algebra and Combinatorics of the CMS Summer Meeting 2013, Halifax, Nova Scotia - Canada
- 20 – 24 Feb 2013 Etna Triangulations and Algebra Meeting, Catania, Italy
- 22 Aug – 16 Nov 2012 *Commutative Algebra and Cluster Algebras Research Program*, Mathematical Sciences Research Institute (MSRI), Berkeley, California, USA
- 18 Jul – 1 Aug 2012 Summer school Discrete Morse Theory and Commutative Algebra, Institut Mittag-Leffler, Stockholm, Sweden
- 17 – 29 Oct 2011 International School on Computational Commutative Algebra and Algebraic Geometry, Messina, Italy

Technical skills

Programming	C++ , Python (numpy, pandas, scikit-learn, matplotlib, seaborn)
Scientific	Macaulay2 , Sage , CoCoA , Maple , Matlab
Development	SlackIdeals package for the computer algebra software system Macaulay2 , available at https://bitbucket.org/macchia/slackideals/src/master/SlackIdeals.m2
OS	Microsoft Windows, Linux/Unix
Typography	Office , L^AT_EX

Languages

Italian (native), **English** (advanced C1), **Spanish** (beginner A2), **German** (beginner A2)

Responsabilities, Memberships and Awards

- Member of the working team in the grant application by Francisco Santos of a project for the period 2020-2023 within the “*Plan Estatal de Investigación Científica y Técnica y de Innovación 2017-2020*”, application reference PID2019-106188GB-I00.
- Co-organizer of the *Einstein Workshop on Polytopes and Algebraic Geometry*, 2-4 December 2019, Berlin, Germany.
- Jury member in the PhD defense of Giulia Codenotti, former member of the Discrete Geometry Group at Freie Universität Berlin, 17 January 2020.
- Reviewer for the journals: Electronic Journal of Combinatorics, Journal of Combinatorial Theory Series A, Journal of Pure and Applied Algebra, International Journal of Algebra and Computation. Reviewer for MathSciNet in 2017.
- Co-organizer of the *Discrete Geometry Seminar*, Freie Universität Berlin, Dec 2018 - Today.
- Member of the Italian *National Group for Algebraic and Geometric Structures, and their Applications* (GNSAGA - INDAM) 2013-2020.
- Eligibility for the Contest for 40 scholarships for degree courses in Mathematics 2005-2006, organized by the *Istituto Nazionale di Alta Matematica “Francesco Severi” (INdAM)*.
- Third prize in the contest *Scrivere la Scienza*, sponsored by *Grinzane Cavour*, in September 2005, with a paper on prime numbers.
- Participant in the *2017 European Researchers’ Night* in Bari (Italy) with an exhibit on *Flexagons*.
- Interest in the dissemination and popularization of Science and, in particular, of Mathematics.

Ivan Martino | Curriculum Vitæ

Dipartimento di Matematica – Royal Institute of Technology (KTH)
Stoccolma, Svezia

Esperienze lavorative

Ricercatore <i>Dipartimento di Matematica, Royal Institute of Technology (KTH)</i>	Svezia <i>Dal Feb 2019</i>
Wallenberg Post-doctoral Fellow <i>Dipartimento di Matematica, Northeastern University</i>	USA <i>Gen 2017 – Feb 2019</i>
Zelevinsky Research Instructor <i>Dipartimento di Matematica, Northeastern University</i>	USA <i>Set 2016 – Gen 2017</i>
Swiss National Science Foundation (SNSF) Post-doc <i>Dipartimento di Matematica, University of Fribourg</i>	Svizzera <i>Set 2014 – Aug 2016</i>
Dottorato di Ricerca <i>Dipartimento di Matematica, Stockholm University</i> Relatori: Prof. Torsten Ekedahl ed Prof. Anders Björner.	Svezia <i>Set 2009 – Aug 2014</i>

Formazione

Dottorato in Matematica <i>Stockholm University</i>	Svezia <i>28 Mag 2014</i>
Diploma di Eccellenza <i>Scuola Superiore di Catania, Summa cum Laude</i>	Italia <i>Dic 2010</i>
Laurea Specialistica in Matematica <i>Università di Catania, Summa cum laude</i>	Italia <i>Lug 2009</i>
Diploma Triennale di Eccellenza <i>Scuola Superiore di Catania, Summa cum laude</i>	Italia <i>Mag 2010</i>
Laurea Triennale in Matematica <i>Università di Catania, Summa cum laude</i>	Italia <i>Lug 2007</i>

Premi di Ricerca

Borsa di ricerca Wallenberg <i>Premio di ricerca bandito dalla 'Knut och Alice Wallenbergs Stiftelse'</i>	Svezia <i>Mag 2015</i>
Premio Christer Lech 2013 <i>Premio di ricerca bandito dalla 'Donazione Christer Lech'</i>	Svezia <i>Ott 2013</i>
Premio Angelo Marcello Anile 2009 <i>Premio per la migliore laurea specialistica bandito dalla Assoc. Angelo Marcello Anile</i>	Italia <i>Set 2009</i>

1. Attività Scientifica

Borse di Ricerca (in ordine di importanza)

Wallenberg Post-doctoral Fellowship <i>Knut och Alice Wallenbergs Stiftelse</i> Ammontare della borsa: circa 150.000 Euro.	Svezia Mag 2015
SNSF Post-doc fellowship <i>Swiss National Science Foundation</i> Ammontare della borsa: circa 150.000 Euro.	Svizzera Set 2014
Alumni Scuola Superiore di Catania <i>Contributo per l'organizzazione della conferenza ET'NA 2017</i>	Italia Mag 2017
Stiftelsen GS Magnusons fond <i>Kungliga Vetenskapsakademien (KVA), contributo per viaggi di ricerca</i>	Svezia 2009 – 2014
Mats Essens minnesfond <i>Svenska matematikersamfundet, contributo per viaggi di ricerca</i>	Svezia 2013
Knut och Alice Wallenbergs Stiftelsen resefond <i>Svenska matematikersamfundet, contributo per viaggi di ricerca</i>	Svezia 2012
ERSU <i>Ente Regionale per il diritto allo Studio Universitario, contributo per viaggi di ricerca</i>	Italia 2007

Borse di Studio

Scuola Superiore di Catania <i>Borsa di Studio per gli studi triennali e specialistici</i>	Italia 2004 – 2009
INdAM, Istituto Nazionale di Alta Matematica 'F. Severi' (rifiutata) <i>Borsa di Studio per studi triennali</i>	Italia Set 2004

Cinque rilevanti pubblicazioni scientifiche

- I. Martino, F. Scavia, *Motivic classes of classifying stacks of some semi-direct products*, J. Algebra **544** (2020), 62–74. [MR 4023875](#);
- V. Lanza, I. Martino, *On the codimension of Noether–Lefschetz loci for toric threefolds*, Communications in Contemporary Mathematics, 1950037 (2019). [doi:10.1142/S0219199719500378](#);
- O. Greco, I. Martino, *Cohen-macaulay property and linearity of pinched veronese rings*, J. Commut. Algebra (2019), Advance publication. [euclid:1552464033](#);
- I. Martino, *The Ekedahl invariants for finite groups*, J. Pure Appl. Algebra **220** (2016), no. 4, 1294–1309. [MR 3423448](#);
- O. Greco, I. Martino, *Syzygies of the Veronese modules*, Comm. Algebra **44** (2016), no. 9, 3890–3906. [MR 3503390](#);

Soggiorni di ricerca

Centro di Ricerca Matematica Ennio De Giorgi <i>In corrispondenza al programma semestrale 'Perspectives in Lie Theory'</i>	Italia Gen 19 – Feb 28, 2015
Scuola Normale Superiore <i>Collaborazione di ricerca con il gruppo di Geometria Algebrica</i>	Italia Set 2012 – Gen 2013

Organizzazione di Eventi Scientifici di Ricerca

Algebra meets Combinatorics in Neuchâtel

Svizzera

Con Elisa Gorla (University of Neuchâtel)

15 – 17 Lug 2019

Workshop a seguire la conferenza SIAM a Berna. Evento supportato da *Conférence Universitaire de Suisse Occidentale (CUSO)*.

New developments in matroid theory

Svizzera

Con Alex Fink (Queen Mary University) ed Luca Moci (Università di Bologna)

9 – 13 Lug 2019

Mini simposio della conferenza SIAM - Conference on Applied Algebraic Geometry a Berna (Svizzera).

Independent Research Experience for Undergraduates – Scuola Estiva

USA

Con Emanuele Macrí (Northeastern University)

Estate 2018

Organizzazione della Scuola Estiva per studenti triennali.

Topics in Toric Geometry – Conferenza

USA

Con Emanuele Ventura (Texas A&M University)

21 – 22 Apr 2018

Sessione Speciale della Società Matematica Americana (AMS) organizzata alla Northeastern University (Boston, USA).

Lectures Series in Mathematics – Aaron Lauda

USA

Con Emanuele Macrí (Northeastern University) ed Ivan Losev (Yale)

21 – 23 Feb 2018

Serie di lezioni avanzate tenutesi alla Northeastern University (USA).

Matroids in Boston 2017 – Settimana Tematica

USA

Settimana tematica sulla Teoria dei Matroidi tenutasi alla Northeastern U.

11 – 15 Set 2017

ET'nA 2017 – Conferenza e Scuola Estiva

Italia

Con Alex Suciu (Northeastern University)

31 Mag 31 – 4 Giu 2017

ET'nA 2017, Encounter in Topology 'n Algebra, è stata una conferenza, workshop e Scuola Estiva tenutasi alla Scuola superiore di Catania (Italia) e conclusasi con un Networking Day per giovani ricercatori.

Comb., at the crossroads of Algebra, Geom., and Top. – Conferenza

USA

Con Alex Suciu (Northeastern University)

23 – 25 Set 2016

Il Workshop è avvenuto alla Northeastern University (Boston, USA), seguito da una Sessione Speciale della Società Matematica Americana (AMS), avvenuta al Bowdoin College (Brunswick, USA).

Topological Methods - Semestre tematico

Svizzera

Con Emanuele Delucchi (University of Fribourg)

Primavera 2015

Semestre tematico su Metodi Topologici tenutosi alla University of Fribourg e finanziato dalla Swiss National Science Foundation.

ETAM 2013

Italia

Organizzatore di supporto di Etna Triangulations & Algebra Meeting

20 – 24 Feb 2013

After Pragmatic 2011 - Mini Conference

Svezia

Organizzatore di After Pragmatic

12 Dic 2011

Questa mini-conferenza è stata organizzata successivamente alla PRAGMATIC 2011 guidata da Prof. Mats Boij ed Prof. Ralf Fröberg. La fortunosa coincidenza che entrambi i professori lavorassero nella città di Stoccolma ha dato l'opportunità di esporre i lavori di ricerca ai propri mentori qualche mese dopo la fine della scuola estiva. La *After Pragmatic* si è ripetuta in altre occasioni da quel momento in poi.

Produzione Scientifica

Tutta la mia produzione scientifica é disponibile gratuitamente su [arXiv.org](https://arxiv.org) e sul mio [profilo di Google scholar](#). Le seguenti informazioni sono state aggiornate il 9 Giugno 2020. In ogni articolo, gli autori sono sempre elenecati in ordine alfabetico.

In preparazione, una versione preliminare del manoscritto disponibile su richiesta.

23. R. Singh, I. Martino, *Groups generated in complex codimension two*;
22. A. Fink, I. Martino, *Shellability for toric arrangements*;
21. A. Borz , I. Martino, *On the relizability of matroids over discrete valuation rings*;

Sottomessi per pubblicazione scientifica.....

20. I. Martino, *Probabilistic values for simplicial complexes*, [arXiv:2001.05820](#);
19. I. Martino, *Efficiency Axioms for simplicial complexes*, [arXiv:2001.00779](#);
18. I. Martino, *Cooperative games on simplicial complexes*, [arXiv:2001.00366](#);
17. A. Borz , I. Martino, *Set of independencies and Tutte polynomial of matroids over a domain*, [arXiv:1909.00332](#);

In stampa o articoli pubblicati.....

16. I. Martino, F. Scavia, *Motivic classes of classifying stacks of some semi-direct products*, J. Algebra **544** (2020), 62–74. [MR 4023875](#);
15. V. Lanza, I. Martino, *On the codimension of Noether-Lefschetz loci for toric threefolds*, Commun. Contemp. Mathematics, (2019) 1950037. [doi:10.1142/S0219199719500378](#);
14. O. Greco, I. Martino, *Cohen-macaulay property and linearity of pinched veronese rings*, J. Commut. Algebra (2019), Advance publication. [euclid:1552464033](#);
13. I. Martino, R. Singh, *Finite groups generated in low real codimension*, Linear Algebra Appl. **570** (2019), 245–281. [MR 3914915](#);
12. I. Martino, *Face module for realizable \mathbb{Z} -matroids*, Contrib. Discrete Math. **13** (2018), no. 2, 74–87. [MR 3897225](#);
11. I. Martino, *Introduction to the Ekedahl invariants*, Math. Scand. **120** (2017), no. 2, 211–224. [MR 3657413](#);
10. I. Martino, *The Ekedahl invariants for finite groups*, J. Pure Appl. Algebra **220** (2016), no. 4, 1294–1309. [MR 3423448](#);
9. O. Greco, I. Martino, *Syzygies of the Veronese modules*, Comm. Algebra **44** (2016), no. 9, 3890–3906. [MR 3503390](#);
8. I. Martino, *Vertex collapsing and cut ideals*, Serdica Math. J. **41** (2015), no. 2-3, 229–242. [MR 3363603](#);

7. I. Martino, L. Martino, *On the variety of linear recurrences and numerical semigroups*, Semigroup Forum **88** (2014), no. 3, 569–574. [MR 3212606](#);
6. I. Martino, G. Nicosia, *Global optimization for algebraic geometry – computing runge-kutta methods*, Learning and Intelligent Optimization (Berlin, Heidelberg) (Youssef Hamadi and Marc Schoenauer, eds.), Springer Berlin Heidelberg, 2012, pp. 449–454, [doi:DOI: 10.1007/978-3-642-34413-8_43](#);
5. N. Kumar, I. Martino, *An algebraic proof for the identities for degree of syzygies in numerical semigroup*, Matematiche (Catania) **67** (2012), no. 1, 81–89. [MR 2927821](#);
4. N. Kumar, I. Martino, *Regular sequences of power sums and complete symmetric polynomials*, Matematiche (Catania) **67** (2012), no. 1, 103–117. [MR 2927823](#);

Altri lavori accademici.....

3. I. Martino, *Ekedahl Invariants, Veronese Modules and Linear Recurrence Varieties*, Doctoral Thesis – Stockholm University, (2014);
2. I. Martino, *The Ekedahl Invariants for finite groups*, Licentiate Thesis – Stockholm University, (2013);
1. I. Martino, *Signal functions on Semigroups*, Diploma Thesis – Catania Institute of Advanced Study, (2010).

Incarichi di Ricerca

RTG: Algebraic Geometry and Representation Theory

USA

Active Member per la borsa RTG

Set 2017 – Gen 2019

Membro del gruppo di ricerca RTG: Algebraic Geometry and Representation Theory finanziata dal National Science Foundation (NSF).

Esperto Scientifico per la Scuola Superiore di Catania

Italia

Commissione scientifica della Scuola Superiore di Catania

Nov 2016

Membro della commissione scientifica per la migliore tesi di diploma della Scuola Superiore di Catania.

SM'ART - Seminar on Matroids in Algebra, Repr. theory and Topology

Svizzera

Lezione su Teoria dei Matroidi ed Algebra Commutativa

24 – 29 Gen 2016

Borel Seminar 2016, Les Diablerets, Switzerland.

Incarichi Accademici

Pick My Brain – Seminario di ricerca

USA

Organizzatore del seminario di ricerca Pick My Brain

Set 2017 – Gen 2019

Altri organizzatori: Pablo Soberón e Robin Walters.

Supervisore (Faculty advisor) del Math Club della Northeastern U.

USA

Il Math Club è un laboratorio matematico per gli studenti STEM

Set 2017 – Set 2018

Geometry, Algebra, Singularities, Comb. – Seminario di Ricerca

USA

Organizzatore del seminario di ricerca (GASC)

Set 2016 – Gen 2019

Altri organizzatori: Chris Beasley, Ana-Maria Castravet, Tony Iarrobino, Egon Schulte and Alex Suciu.

Membro della Commissione sulla Diversità	USA
<i>Membro della CsD del Dipartimento di Matematica della Northeastern U.</i>	<i>Set 2016 – Gen 2019</i>
Supporto alla Commissione sulla Diversità	USA
<i>Supporto alla CsD della Facoltà di Scienze della Northeastern University.</i>	<i>Set 2016 – Gen 2019</i>
Mentore Scientifico	Italia
<i>Mentore scientifico per gli studenti della SSC.</i>	<i>Da Set 2015</i>
KAPPA 2013 - Competizione Matematica	Svezia
<i>Co-organizzazione della competizione matematica – Kappa 2013.</i>	<i>2012 – 2013</i>
Swedish International Development Cooperation Agency project	Svezia
<i>Supervisione di tesi specialistiche in Matematica for SIDA</i>	<i>Set 2012 – Ago 2014</i>
<i>SIDA, la National University of Rwanda (NUR) e la Stockholm University offrono la supervisione agli studenti della NUR per progetti di ricerca di studi specialistici in Matematica.</i>	

Lavoro come referee scientifico

Referee per le seguenti riviste: *Advances in Mathematics*, *Journal of Combinatorial Theory (Series A)*, *Journal of Number Theory*, *Discrete Applied Mathematics*, *Rendiconti del Circolo Matematico di Palermo*, *Journal of Difference Equations and Applications*, *Symmetry*, *Journal on the Theory of Ordered Sets and its Applications (Order)*, and *Journal of Integer Sequences*.

Breve selezione dei miei seminari di ricerca

2020: Mittag-Leffler Institute; **2019:** Stockholm U (Problem-Solving), KTH (Combinatorics), Uppsala U (Geometry); **2018:** Northeastern U (*Geometry, Physics and Representation Theory*), Maurice Auslander Conference, Florida State U; **2017:** Brown U (Algebra and Algebraic Geometry); **2016:** U de Neuchâtel (Colloquium), Borel Seminar (Matroids in Algebra, Repr. Th. and Top.); **2015:** Fribourg (Oberseminar Geometrie), UCLA, Caltech, U of British Columbia, UC Berkeley, San Francisco State U, U of Miami, Yale; **2014:** Fribourg (Oberseminar Geometrie), IHP (Séminaire Autour des Cycles Algébriques); **2013:** Aalto U (Combinatoric), Christer Lech Lectures; **2012:** MSRI, Vila Real (Iberian Meeting on Numerical Semigroups); **2011:** After Pragmatic Mini-Conference, Linköping (Swedish Mathematical Society), Raleigh (SIAM).

Lista completa dei miei seminari di ricerca

2020

Feb 18: Mittag-Leffler (Algebraic and Enumerative Combinatorics), Mittag-Leffler, Svezia;

Feb 4: Quasi-seminar (Geometry and Topology), Stockholm University, Svezia;

2019

Mar 18: Problem Solving Seminar (Commutative Algebra), Stockholm University, Svezia;

Mar 6: Combinatorics Seminar, KTH, Stockholm, Svezia;

Mar 5: Algebra and Geometry Seminar, University of Uppsala, Uppsala, Svezia;

2018

Sep 20: Geometry, Physics, and Repr.Theory Seminar, Northeastern University, Boston, USA;

Giu 6: SIAM Conference on Discrete Mathematics, University of Colorado, Denver, USA;

Apr 25: Maurice Auslander Conference, Woods Hole, Massachusetts, USA;

Mar 26: Northeastern University, Boston, Massachusetts, USA;

Feb 24: Florida State University, Tallahassee, Florida, USA;

2017

Dic 21: Algebra and Geometry seminar, University of Catania, Italia;

Sep 25: Pre - Talk at GASC seminar, Northeastern University, Boston, USA;

Sep 12: Pick My Brain Seminar, Northeastern University, Boston, USA;

Mar 20: Brown University Algebra and Algebraic Geometry Seminar, Providence, USA;

Mar 1: Graduate Student Seminar of Northeastern University, Boston, USA;

Feb 16: Florida State University, Tallahassee, Florida, USA;

2016

Mag 3: Colloquium, Université de Neuchâtel, Svizzera;

Gen 24: Sem. on Mat. in Algebra, Repr. Theory and Topology, Borel Seminar, Svizzera;

2015

Nov 18: Oberseminar Geometrie, Fribourg, Svizzera;

Ott 23: UCLA, Los Angeles, California, USA;

Ott 22: Caltech, Pasadena, California, USA;

Ott 19: University of British Columbia, Vancouver, Canada, USA;

Ott 16: UC Berkeley, California, USA;

Ott 14: San Francisco State University, California, USA;

Ott 12: University of Miami, Florida, USA;

Ott 8: Yale, New Haven, Connecticut, USA;

Ott 7: Northeastern University, Boston, Massachusetts, USA;

Sep 9: Algebraic Geometry Seminar, Stockholm University, Sweden, USA;

Apr 19: AMS Special Session on Algebro-Geometric Methods in Graph Theory, LV, USA;

Mar 20: Topological Methods Thematic semester, Fribourg, Svizzera;

Feb 11: Algebraic topology, geometric and combinatorial group theory, Pisa, Italia;

Gen 19: Lie Theory and Representation Theory, Pisa, Italia;

2014

Dic 17: Oberseminar Geometrie, Fribourg, Svizzera;

Dic 10: Séminaire Autour des Cycles Algébriques, Paris, Francia;

Dic 2: Arrangements of Hyperplanes, Bremen, Germania;

Sep 8: International meeting on numerical semigroups, Cortona, Italia;

2013

Ott 30: Combinatoric Seminar, Helsinki, Finlandia;

Ott 7: Christer Lech Lectures, Stockholm, Svezia;

Ott 1: Algebraic Geometry Seminar, Uppsala, Svezia;

Giu 10: Advances in Group Theory and Applications 2013, Lecce, Italia;

Mag 27: Syzygies in Berlin, Berlin, Germania;

Feb 20: ETAM, Etna Triangulations & Algebra Meeting, Catania, Italia;

2012

- Dic 18:** MSRI-program in Commutative Algebra, San Francisco, California, USA;
Lug 18: Workshop: Iberian Meeting on Numerical Semigroups, Vila Real, Portogallo;
Gen 16: Learning and Intelligent Optimization Conference, LION 6, Paris, Francia;

2011

- Dic 12:** After Pragmatic Mini-Conference, Stockholm, Svezia;
Nov 18: Swedish Mathematical Society, Linköping, Svezia;
Ott 6: SIAM Conference on Applied Algebraic Geometry, Raleigh, North Carolina, USA.

Partecipazione a convegni e conferenze internazionali

- 2020** Gen 13 – Apr 30, **Algebraic and Enumerative Combinatorics**, Mittag–Leffler Institute, Djursholm, Svezia;
- 2019** Lug 15–17, **Algebra meets combinatorics in Neuchatel**, University of Neuchatel, Svizzera;
Lug 9–13, **SIAM - Conference on Applied Algebraic Geometry**, University of Bern, Svizzera;
- 2018** Giu 18-22, **Combinatorial Algebraic Geometry Retrospective Workshop**, Fields Institute (Toronto), Canada; Giu 4-8, **SIAM Conference on Discrete Mathematics**, University of Colorado Denver, Denver, Colorado, USA; Apr 25-30, **Maurice Auslander Conference**, Woods Hole, Massachusetts, USA;
- 2017** Ott 13-15, **Algebraic Geometry Northeastern Series**, Northeastern University, MA, USA; Set 11 - 15, **Matroids in Boston**, Northeastern University, USA; July 10-14, **Lefschetz Properties in Algebra, Geometry and Combinatorics**, Institute Mittag-Leffler, Stockholm, Sweden; Mag 31 - June 4, **ET'nA 2017 - Encounter in Topology 'n Algebra**, Scuola Superiore di Catania, Catania, Italy; Mag 1-5, **A View Towards Algebraic Geometry**, in honor of David Eisenbud's birthday, Martha's Vineyard, MA;
- 2016** June 6-8, **TOGA**, Topology and Geometry of Arrangements, University of Fribourg, Switzerland; Mag 3, **Colloquium**, Université de Neuchâtel, Switzerland; January 24-29, Seminar on Matroids in Algebra, Representation theory and Topology, **Borel Seminar**, Les Diablerets, Switzerland;
- 2015** October 17, **Bay Area Discrete Math Day**, San Francisco, California, USA; April 18-19, **AMS Western Sectional Meeting: Special Session on Algebro-Geometric Methods in Graph Theory**, Las Vegas, California, USA; March 25-27, **Let's Matroid!**, Neuchâtel, Switzerland; March-June, **Topological Methods Thematic semester**, Fribourg, Switzerland; February 11-28, **Perspectives in Lie Theory, Algebraic topology, geometric and combinatorial group theory**, Pisa, Italy; January 19-30, **Perspectives in Lie Theory, Lie Theory and Representation Theory**, Pisa, Italy;
- 2014** Dicembre 17, **Oberseminar Geometrie**, Fribourg, Switzerland; Dicembre 10, **Séminaire Autour des Cycles Algébriques**, Paris, France; Dicembre 1-3, **Arrangements of Hyperplanes**, Bremen, Germany Ottobre 23, **The Rolf Schock Prizes**, Stockholm, Sweden; Settembre 8-13, **International meeting on numerical semigroups**, Cortona, Italy; July 7-18, **Graduate Workshop on Moduli of Curves**, Simons Center, New York, USA;
- 2013** Settembre 9-13, **COMETA 2013**, Combinatorial Methods in Topology and Algebra, Cortona, Italy; June 24 - 28, **FPSAC '13**, the 25th International Conference on Formal Power Series and Algebraic Combinatorics, Paris, France; June 17 - 21, The 11th Nordic Combinatorial

Conference (**NORCOM**), Stockholm, Sweden; June 10 - 14, **Advances in Group Theory and Applications** 2013, Lecce, Italy; June 3 - 7, **Facets of Geometry**, Stockholm, Sweden; Mag 27 - 31, **Szygies in Berlin**, Berlin, Germany; February 20-24, **ETAM**, Etna Triangulations & Algebra Meeting, Catania, Sicily;

2012 December, **MSRI** - program in Commutative Algebra, San Francisco, California, USA; Setember 17 - 19, 15 years of **Pragmatic**, Conference on Algebraic Geometry and Commutative Algebra, Catania, Italy; July 18 - 20, Workshop: **Iberian meeting on numerical semigroups**, Vila Real, Portugal; Mag 23 - 25, **Giornate di Geometria Algebrica** ed Argomenti Correlati XI, Pisa, Italy; January 16-20, Learning and Intelligent Optimization Conference, **LION 6**, Paris, France;

2011 November 18 - 19, **Svenska matematikersamfundet's meeting**, Swedish Mathematical Society's meeting, Linköping, Sweden; Ottobre 6 - 9, **SIAM** Conference on Applied Algebraic Geometry, Raleigh, North Carolina, USA; June 20-July 9, Summer School: **Pragmatic 2011**, Catania, Italy;

2007-2010 February 3-5, 2010, Workshop: **Iberian meeting on numerical semigroups**, Granada, Spain; August 2018, Summer school: Scuola Matematica Universitaria, **SMI**; March 17-19, 2008, Workshop: **Iberian meeting on Numerical Semigroups**, Porto, Portugal; 31 August - 4 Set 2007, **SECEVITA**, Summer school in Evolutive Computation and Artificial Life, Italy.

Lettere di raccomandazione relative alla mia attività di ricerca

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2. Attività di Supervisione

Durante il 2012, ho partecipato al programma di sviluppo per la matematica *Swedish International Development Cooperation Agency (SIDA)*. Come risultato di questo sforzo, ho avuto la fortuna e l'onore di essere relatore di tesi specialistica per tre studenti della National University of Rwanda: Manishimwe Alexis, Janvier Ndahimana Rukundo ed Jean Harerimana.

Sono stato relatore per la tesi triennale di Niklas Hedberg (Stockholm University), Jai Aslam (Northeastern University), Zheyang Yu (Northeastern university) ed ho supervisionato la tesi di diploma specialistico di Alessio Borzì (Warwick) per la Scuola Superiore di Catania.

Nell'estate del 2018, ho organizzato una scuola estiva di ricerca finanziata dall'SNF: per questo motivo sono stato supervisore di altri 9 studenti.

Diploma Thesis – Alessio Borzì	KTH
<i>Thesis title: 'Independencies and Tutte for D-matroids'</i>	<i>Giu 2019</i>
Experiential Educational Direct Study – Zheyang Yu	Northeastern University
<i>Thesis title: 'Introduction to Matroid Theory'</i>	<i>Dic 2018</i>
REU Student – Alon Duvall	Northeastern University
<i>Together with Brian Hepler</i>	<i>Set 2018</i>
REU Student – Timothy Jackman	Northeastern University
<i>Together with Whitney Drazen</i>	<i>Set 2018</i>
REU Student – Walker Miller-Breetz	Northeastern University
<i>Together with Rahul Singh</i>	<i>Set 2018</i>
REU Student – Benjamin Bonenfant	Northeastern University
<i>Together with Reuven Hodges</i>	<i>Set 2018</i>
REU Student – Christina Nguyen	Northeastern University
<i>Together with Whitney Drazen</i>	<i>Set 2018</i>
REU Student – Zheyang Yu	Northeastern University
<i>Together with Celine Bonandrini</i>	<i>Set 2018</i>
REU Student – Kevin Su	Northeastern University
<i>Together with Jonier Antunes</i>	<i>July 2018</i>
REU Student – Noah Lichtblau	Northeastern University
<i>Together with Mikhail Mironov</i>	<i>July 2018</i>
REU Student – Felipe Castellano-Macias	Northeastern University
<i>Together with Alex Sorokin</i>	<i>Giu 2018</i>
BSc thesis advisor of Jai Aslam	Northeastern University
<i>Thesis title: 'Group actions on Knots'</i>	<i>Mag 2017</i>
MSc thesis advisor of Jean Harerimana	Stockholm University
<i>Thesis title: 'Some math. models for Pop. Growth and Crowd Motion'</i>	<i>Giu 2016</i>
BSc thesis advisor of Niklas Hedberg	Stockholm University
<i>Thesis title: 'Derivation of Runge-Kutta order conditions'</i>	<i>Nov 2013</i>
MSc thesis advisor of Manishimwe Alexis	Stockholm University
<i>Thesis title: 'Hausdorff's measure and the Isoperimetric problem'</i>	<i>Ott 2013</i>
MSc thesis advisor of Janvier Ndahimana Rukundo	Stockholm University
<i>Thesis title: 'Genetic Algorithms and their applications'</i>	<i>Ott 2013</i>

3. Attività Didattica

Portfolio Didattico

Al KTH – Kungliga Tekniska Högskolan.....

Docente: Matematica Discreta – SF1610 TCOMK (Triennale)

Svezia

Circa sei ore a settimana

Primavera 2020

Corso triennale per gli studenti di Scienze.

Docente: Matematica Discreta – SF1610 TCOMK (Triennale)

Svezia

Circa sei ore a settimana

Primavera 2019

Corso triennale per gli studenti di Scienze.

Relatore of Alessio Borzì

Svezia

Tesi di Diploma Master

Primavera 2019

Parte della tesi é visibile su [arXiv:1909.00332](https://arxiv.org/abs/1909.00332).

Alla Northeastern University.....

Relatore of Zheyang Yu

USA

Progetto di ricerca

Autunno 2018

Breve introduzione alla Ricerca, experiential Ed Directed Study - MATH 4996 (Livello Specialistico).

Docente: Introduzione al ragionamento matematico – MATH 1365

USA

Circa tre ore a settimana e correzione settimanale degli esercizi assegnati.

Autunno 2018

Introduction to mathematical reasoning, corso triennale per studenti di scienze.

Supervisore: Research Experience for Undergraduates

USA

Supervisore della scuola estiva "Research Projects for undergraduates"

Estate 2018

Studenti: Walker Miller-Breetz, Benjamin Bonenfant, Zheyang Yu, Kevin Su, Christina Nguyen, Noah Lichtblau, Felipe Castellano-Macias, Alon Duvall, Timothy Jackman.

Supervisore ed Organizzatore: Faculty Advisor per il Math Club

USA

Math Club

Autunno 2017

Questo 'Club' è un luogo dove studenti interessati si riuniscono ed esplorano argomenti di matematica al di fuori del tradizionale ambiente accademico. Vista l'incredibile potenzialità, appena nominato, ho trasformato questo Club in un laboratorio matematico, dove i partecipanti potessero essere sì esposti a nuovi argomenti, ma anche supportati da me e da alcuni selezionati membri del dipartimento di matematica.

Relatore of Jai Aslam

USA

Jr/Sr Honors Project – MATH 4970-38489

Primavera 2017

Progetto di tesi.

Relatore: Ricerca per studenti triennali – Math 4020 Undergr. research

USA

Relatore per il corso Ricerca Matematica per studenti triennali

Autunno 2016

Relatore per il requisito fondamentale (Mathematics Capstone course) di *Ricerca Matematica per studenti triennali*.

Docente: Introduzione al ragionamento matematico – MATH 1365

USA

Circa tre ore a settimana e correzione settimanale degli esercizi assegnati.

Autunno 2016

Introduction to mathematical reasoning, corso triennale per studenti di scienze.

Alla University of Fribourg.....

Algebra e Geometria II – Algebra and Geometry II

Svizzera

Esercitatore, Corso triennale, Due lezioni per settimana e correzioni settimanali

Primavera 2016

Docente, Lezione di Teoria dei Matroidi e di Algebra Comm. **Svizzera**
SM'ART - Borel Seminar 2016 24 – 29 Gen 2016
 Seminar on Matroids in Algebra, Repr. theory and Topology, Les Diablerets

Algebra e Geometria I – Algebra and Geometry I **Svizzera**
Esercitatore, Corso triennale, Due lezioni per settimana e correzioni settimanali Autunno 2015

Docente: The cohomology of toric varieties using shellability **Svizzera**
Docente, Sviluppo del corso e del materiale didattico Primavera 2015
 Corso di dottorato in connessione con il semestre tematico organizzato.

Docente: Resolution of singularities **Svizzera**
Docente, Sviluppo del corso e del materiale didattico Primavera 2015
 Corso di dottorato in connessione con il semestre tematico organizzato.

Docente: Introduction to toric varieties **Svizzera**
Docente, Sviluppo del corso e del materiale didattico Primavera 2015
 Corso di dottorato in connessione con il semestre tematico organizzato.

Combinatorial methods in topology **Svizzera**
Esercitatore Primavera 2015
 Corso di dottorato e di laurea specialistica, Due lezioni per settimana e correzioni settimanali.

Metodi Matematici per l'Informatica – Math. methods in C.S. (MMI) **Svizzera**
Esercitatore Autunno 2014
 Corso di laurea specialistica per informatica, corso triennale per matematici, Due lezioni per settimana e correzioni settimanali.

Alla Stockholm University.....

Docente: Seminari Avanzati - Extraseminars **Svezia**
Docente, Sviluppo del corso e del materiale didattico Mar – Mag 2014
 Corso di laurea triennale per la classe di scienze, Due lezioni per settimana e correzioni settimanali.

Docente: Seminari Avanzati - Extraseminars **Svezia**
Docente, Sviluppo del corso e del materiale didattico Gen – Mag 2014
 Corso di laurea triennale per la classe di scienze, Due lezioni per settimana e correzioni settimanali.

Docente: Seminari Avanzati - Extraseminars **Svezia**
Docente, Sviluppo del corso e del materiale didattico Ott – Dic 2014
 Corso di laurea triennale per la classe di scienze, Due lezioni per settimana e correzioni settimanali.

Organizzatore: Kappa competition 2013 **Svezia**
Mathematical Competition, 75 hours 2013 – 2014

Matematica I – Matematik I **Svezia**
Esercitatore, Corso triennale per la classe di Scienze, Una lezione a settimana Gen – Mag 2013
 Con correzioni settimanali.

Docente: Seminari Avanzati - Extraseminars **Svezia**
Docente, Sviluppo del corso e del materiale didattico Gen – Mag 2013
 Corso di laurea triennale per la classe di scienze, Due lezioni per settimana e correzioni settimanali.

Docente: Seminari Avanzati - Extraseminars **Svezia**
Docente, Sviluppo del corso e del materiale didattico Mar – Mag 2012
 Corso di laurea triennale per la classe di scienze, Due lezioni per settimana e correzioni settimanali.

Docente: Seminari Avanzati - Extraseminars **Svezia**
Docente, Sviluppo del corso e del materiale didattico Gen – Mag 2012

Corso di laurea triennale per la classe di scienze, Due lezioni per settimana e correzioni settimanali.

Matematica I – Matematik I

Svezia

Tutor, Corso triennale per la classe di Scienze, circa due ore a settimana

Gen – Mag 2012

Matematica I – Matematik I

Svezia

Esercitatore, Corso triennale per la classe di Scienze, Una lezione a settimana
Con correzioni settimanali.

Set – Dic 2011

Matematica I – Matematik I

Svezia

Tutor, Corso triennale per la classe di Scienze, circa due ore a settimana

Ott – Dic 2011

Docente: Seminari Avanzati - Extraseminars

Svezia

Docente, Sviluppo del corso e del materiale didattico

Ott – Dic 2011

Corso di laurea triennale per la classe di scienze, Due lezioni per settimana e correzioni settimanali.

Matematica I – Matematik I

Svezia

Tutor, Corso triennale per la classe di Scienze, circa due ore a settimana

Gen – Mag 2011

Matematica I – Matematik I

Svezia

Tutor, Corso triennale per la classe di Scienze, circa due ore a settimana

Ott – Dic 2010

Docente: Optimization

Svezia

Docente, corso specialistico, 8 hours

Ott – Dic 2010

Docente: Seminari Avanzati - Extraseminars

Svezia

Docente, Sviluppo del corso e del materiale didattico

Ott – Dic 2010

Corso di laurea triennale per la classe di scienze, Due lezioni per settimana e correzioni settimanali.

All'Università di Catania

Geometria

Italia

Esercitatore, Corso triennale, 150 hours

2008 – 2009

Sviluppo di corsi e materiale didattico innovativo

Seminari Avanzati – Extraseminars. Questo è stato un corso sperimentale nello stile dei *Math Circle* iniziato nell'autunno del 2010, e supportato dal Prof. Boris Shapiro, e continuato fino alla primavera del 2014.

Ho sviluppato delle lezioni supplementari settimanali rivolte agli studenti del primo anno della classe di scienze della Stockholm University. Le lezioni seguivano i gusti e le tendenze degli studenti cercando di coinvolgerli e stimolarli. *L'esperienza è stata un successo.* Io ho selezionato un numero cospicuo di argomenti dall'Algebra alla Topologia, fino alla Geometria Algebrica.

Math Club. Durante l'autunno del 2017 sono stato nominato titolare e supervisore (**Faculty Advisor**) del Math Club della Northeastern University. Questo 'Club' è un luogo dove studenti interessati si riuniscono ed esplorano argomenti di matematica al di fuori del tradizionale ambiente accademico. Vista l'incredibile potenzialità, appena nominato, ho trasformato questo Club in un laboratorio matematico, dove i partecipanti potessero essere sì esposti a nuovi argomenti, ma anche supportati da me e da alcuni selezionati membri del dipartimento di matematica. Questa è stata di sicuro l'esperienza più innovativa della mia didattica.

Corsi per dottorandi. Il primo tentativo di ristrutturare materiale di ricerca in forma di un breve corso avanzato è avvenuto con i tre mini corsi per dottorandi organizzati all'università di Friburgo durante la primavera del 2015.

Ricerca per giovani studenti. L'esperienza più divertente é stata essere supervisore (*Math Department consultant*) di Jai Aslam per il corso 'Ricerca per studenti' (*Math 4020 Undergraduate research*). Sono stato cosí coinvolto in questo ruolo, che, appena avuta la possibilit , ho spinto per l'organizzazione una *Research Experiences for Undergraduates (REU)*

Dettagli dell'esperienza didattica (dalla pi  recente)

- Al KTH, ricopro il ruolo di Ricercatore ed ho un incarico didattico per anno. Sono anche stato supervisore di Alessio Borz  per la Tesi di Diploma specialistica della Scuole Superiore di Catania.
- Alla Northeastern University, la mia posizione combinava due borse di ricerca la *Zelevinsky Research Instructorship* (con obblighi didattici, tre corsi per anno) e la *Wallenberg Post-doctoral fellowship* (senza obblighi didattici). Sono stato docente di un corso triennale, *Introduction to Mathematical Reasoning* e successivamente il mio tempo   stato completamente dedicato alla ricerca scientifica ed al supporto della ricerca del dipartimento. Infatti, sono stato incluso come supervisore (*Math Department consultant*) nel corso avanzato *Math 4020 Undergraduate research* e sono diventato supervisore ed titolare (*Faculty Advisor*) del Math Club della Northeastern University.
- La mia borsa di ricerca finanziata dalla *Swiss National Science Foundation* non aveva obblighi didattici. Nonostante ci  ho offerto il mio aiuto come Esercitatore per un corso a semestre durante la mia permanenza a Fribourg (Svizzera). Ho insegnato *Mathematical methods in computer science* (Corso di laurea specialistica per informatica, corso triennale per matematici), *Combinatorial methods in topology* (corso specialistico), *Algebra and Geometry I* (corso triennale) and *Algebra and Geometry II* (corso triennale).

Durante la Primavera del 2015, ho organizzato, preparato e sono stato docente di tre minicorsi di dottorato in connessione con il semestre tematico *Thematic Semester in Topological Methods* organizzato dal mio gruppo di ricerca A:C&T (Arrangement, Combinatorics and Topology).

- In Svezia, durante il mio dottorato di ricerca, il mio carico di insegnamento corrispondeva a circa tre corsi per anno.
 - Sono stato principalmente docente del corso 'Seminari Avanzati' – *Extraseminars*.
 - Sono anche stato docente, esercitatore e tutor per Matematica I – *Matematik I*: il primo corso di matematica per ogni studente della classe di Scienze alla Stockholm University che include nozioni di base di Algebra, Analisi ed Algebra lineare.)
 - Sono stato docente per il corso specialistico di Ottimizzazione.
 -   importante anche menzionare che ho partecipato nell'organizzazione della competizione matematica *Kappa 2013*.
- In Italia, durante i miei studi specialistici sono stato Esercitatore della Prof. Raciti per il corso di Geometria.

Lettere di referenza riguardo alla mia attivit  didattica

Armin Halilovic

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✉ emanuele.macri@u-psud.fr

☎ (33)-169-157-561

4. Divulgazione e Pedagogia

Educazione Pedagogica Universitaria

Teacher training program (2017-2018). Prof. Sandy Blank ed Prof. Lee Lee-Peng sono incaricati di gestire il programma di educazione per gli insegnanti alla Northeastern University. L'audience di questo programma sono i dottoranti dell'università che per la prima volta svolgono il lavoro di assistenti all'insegnamento. Io ero parte della 'commissione pedagogica'.

Esperienza di divulgazione scientifica.

π -day. Sono stato invitato per un seminario di divulgazione il 14 Marzo 2019 al " π -day" organizzato dal Vetenskapsens Hus, dalla Stockholm University, dal KTH, e dal Stockholm Matematik Centrum. Il mio talk dal titolo *Carta forbice pietra Spock lucertola* focalizzava l'attenzione di studenti delle elementari e medie sulla proprietà commutativa ed associativa.

Divulgazione matematica. Questa è la lista dei miei seminari di divulgazione matematica con audience studenti della classe di scienze:

- 12 Apr 2018, Independence day: Matroids, Boston, MA, USA;
- 2 Nov 2017, Groups, Boston, MA, USA;
- 19 Ott 2017, Semigroups, Boston, MA, USA;
- 5 Ott 2017, Determinant, Boston, MA, USA;
- 21 Set 2017, Counting lattice points, Boston, MA, USA;
- 7 Set 2017, The coin problem, Boston, MA, USA;
- 11 Apr 2017, La bellezza delle carte (in italian) - Italian Club, Boston, MA, USA;
- 2 Mar 2017, The Game SET, Boston, MA, USA.

Luca Schaffler, Curriculum Vitae

University of Massachusetts Amherst
Lederle Graduate Research Tower
Department of Mathematics & Statistics
Amherst, MA 01003

Office: Lederle Graduate Research Tower, 1335G
Email: schaffler@math.umass.edu
Web: <http://people.math.umass.edu/~schaffler/>

Research Interests

Algebraic geometry. Compactifications of moduli spaces of algebraic surfaces, $K3$ surfaces and Enriques surfaces, compactifications of moduli spaces of hyperplane arrangements and point arrangements, effective cycles on moduli spaces, classical algebraic geometry. Commutative algebra, singularities, lattice theory.

Positions Held after PhD

- Marshall H. Stone Visiting Assistant Professor, University of Massachusetts Amherst
Dates: September 1, 2017 – August 31, 2020
Research mentor: Prof. Jenia Tevelev
- Research Assistant, University of Georgia
Dates: May 1, 2017 – July 31, 2017
Research mentor: Prof. Valery Alexeev

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
Date of thesis defense: April 25, 2017
- 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

Last update: July 11, 2020.

Publications and Preprints

- *Geometric interpretation of toroidal compactifications of moduli of points in the line and cubic surfaces* (with P. Gallardo and M. Kerr), (2020). Submitted. arXiv:2006.01314
- *Point configurations, phylogenetic trees, and dissimilarity vectors* (with A. Caminata, N. Giansiracusa, and H.-B. Moon), (2020). Submitted. arXiv:2005.02629
- *Decomposition of Lagrangian Classes on K_3 Surfaces* (with K.-W. Lai and Y.-S. Lin), (2020). Submitted. arXiv:2001.00202
- *A Pascal's theorem for rational normal curves* (with A. Caminata), (2019). Submitted. arXiv:1903.00460
- *KSBA compactification of the moduli space of K_3 surfaces with purely non-symplectic automorphism of order four* (with H.-B. Moon), (2018). Submitted. arXiv:1809.05182
- *Equations for point configurations to lie on a rational normal curve* (with A. Caminata, N. Giansiracusa, and H.-B. Moon). Adv. Math. 340 (2018), 653–683.
- *K_3 surfaces with \mathbb{Z}_2^2 symplectic action*. Rocky Mountain J. Math. 48 (2018), no. 7, 2347–2383.
- *The KSBA compactification of the moduli space of $D_{1,6}$ -polarized Enriques surfaces*, (2016). Submitted. arXiv:1608.02564
- *On the cone of effective 2-cycles on $\overline{M}_{0,7}$* . Eur. J. Math. 1 (2015), no. 4, 669–694.

In Preparation

- *Compactifications of moduli of points and lines in \mathbb{P}^2* (with J. Tevelev). Available upon request.

Awards and Honors

- 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.
- William Armor Wills Memorial Scholarship Award, University of Georgia, Department of Mathematics, April 2016.
- Outstanding Teaching Assistant Award, University of Georgia, March 2016.
- 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.

External Talks

- Rutgers University, Algebra Seminar, online, April 29, 2020.
- KTH, Fika webinar, online, April 23, 2020.
- Texas A&M University, Hodge Theory, Arithmetic and Moduli II, College Station, February 8, 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.
- PIMS Symposium on Hodge Theory, Arithmetic and Moduli, University of British Columbia, Vancouver, May 15, 2019.
- BATMOBYLE, Amherst College, Amherst, May 2, 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 2018.
- Stony Brook University, Algebraic Geometry Seminar, October 4, 2017.
- Hodge Theory, Moduli and Representation Theory, Stony Brook University, August 17, 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.
- Workshop on Algebraic Varieties, Hodge Theory and Motives, Fields Institute, Toronto, March 12, 2017.
- Duke University, Algebraic Geometry Seminar, Durham, February 17, 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.
- Leibniz Universität Hannover, Research Seminar Algebraic Geometry, Hannover, Germany, December 2016.
- American Institute of Mathematics, Workshop on Positivity of Cycles, San Jose, August 4, 2016.
- University of Catania, "Giornate di Geometria Algebrica ed Argomenti Correlati XIII", Catania, Italy, May 25, 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.

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, K_3 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 K_3 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 at the University of Georgia

- Graduate Student Summer Conference, July 26, 2017. Title: *Hyperbolic spaces and reflections.*
- FIRST Seminar, February 27, 2016. Title: *Looijenga semitoric compactifications.*
- FIRST Seminar, October 3, 2016. Title: *Singular K_3 surfaces.*
- Graduate Students Seminar, September 20, 2016. Title: *The arithmetic of Enriques surfaces.*
- Mock AMS Conference, July 27, 2016. Title: *Polyhedral subdivisions of the unit cube.*
- Algebraic Geometry Seminar, May 11, 2016. Title: *The KSBA compactification of the moduli space of $D_{1,6}$ -polarized Enriques surfaces.*
- Graduate Students Seminar, October 27, 2015. Title: *Fiber polytopes.*
- Mock AMS Conference, July 29, 2015. Title: *The secondary polytope.*
- Tuesday Algebraic Geometry Student Seminar, April 21, 2015. Title: *Introduction to Enriques surfaces and their moduli.*
- Algebraic Geometry Seminar, November 19, 2014. Title: *On the cone of effective 2-cycles on $\overline{M}_{0,7}$.*
- VIGRE group talk, Spring 2014. Title: *Witten conjecture.*

- VIGRE group talk, Fall 2013. Title: *Algebraic geometry and analytic geometry*.
- VIGRE group talk, Fall 2013. Title: *Riemann surfaces*.
- Mock AMS Conference, July 31, 2013. Title: *Moduli spaces and the Hilbert scheme*.
- VIGRE group talk, Spring 2013. Title: *Blow up of affine schemes, fat points and universal property of the blow up*.
- VIGRE group talk, Spring 2013. Title: *Blowing up subvarieties*.

Poster Presentations

- 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: *K_3 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 $\overline{M}_{0,7}$* .

Conferences/Workshops Attended

- Hodge Theory, Arithmetic and Moduli, 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.

Teaching Experience

- University of Massachusetts Amherst
 - Instructor of record
 - 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
 - I taught four classes of the graduate level class Introduction to Algebraic Geometry, MATH 8300, Fall 2016
 - Instructor of record
 - Calculus I for Science and Engineering, MATH 2250, Spring 2015
 - Precalculus, MATH 1113, Fall 2014
 - Recitation instructor
 - 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

Mentoring Experience

- REU at the 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](https://arxiv.org/abs/1711.06286)

Outreach

- Undergraduate Math Club Talk, University of Massachusetts Amherst, "*Precalculus of lines and conics in the projective plane*", October 2018.
- 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.
- Reviewer for *AMS Mathematical Reviews* (2019 – Present).

Programming Languages/Mathematics Software

C, Python/Mathematica, Porta, LRS, Macaulay2

Languages

- Italian, native language
- English, second language
- French, reading proficiency

Luogo e data:

Aprilia, 11/07/2020

Nome: Paolo Sentinelli

Nato a Omissis il Omissis

1998 - 2003: Liceo Classico "Claudio Eliano" di Palestrina.

2003 - 2006: Laurea triennale in Fisica, Università di Roma "Tor Vergata". Tesi: *Sistemi di equazioni di reazione-diffusione e instabilità di Turing*. Relatore: Livio Triolo. (110/110)

2006 - 2009: Laurea specialistica in Fisica, Università di Roma "Tor Vergata". Tesi: *Fluttuazioni di temperatura della radiazione cosmica di fondo in universi anisotropi*. Relatori: Amedeo Balbi e Marco Bruni (110 e lode).

2009 - 2011: Laurea magistrale in Matematica, Università di Roma "Tor Vergata". Tesi: *Il teorema della sfera differenziabile e il flusso di Ricci*. Relatore: Carlo Sinestrari. (110 e lode)

2011 - 2015: Dottorato in Matematica, Università di Roma "Tor Vergata". Tesi: *P-kernels in Coxeter groups*. Relatore: Francesco Brenti.

2015 - 2016: Assegno di ricerca presso l'Università di Bologna, progetto FIRB-RBFR12RA9W-002 "Perspectives in Lie theory" (referente: Fabrizio Caselli).

2016 - 2018: Post-dottorato presso la Universidad de Chile, progetto FONDECYT 3160010 (referente: Nicolás Libedinsky).

Abilitazioni:

2019 - Abilitazione all'attività di *Professor Lector*, Catalogna.

Insegnamento:

2012 - 2013 (un semestre): esercitazioni di Calcolo 1 per Scienze dei Materiali dell'Università di Roma "Tor Vergata" (docente del corso: Riccardo Molle).

2014 - 2015 (un semestre): esercitazioni di Analisi Matematica 1 per Ingegneria Aerospaziale, Ingegneria Chimica e Ingegneria Meccanica dell'Università di Roma "La Sapienza" (docenti dei corsi rispettivamente: Maria Rosaria Lancia, Maria Agostina Vivaldi, Fabio Scarabotti).

2014 - 2015 (un semestre): esercitazioni di Istituzioni di Matematiche 2 per Architettura dell'Università di Roma 3 (docente del corso: Laura Tedeschini Lalli).

2017 (un semestre, 35 ore): Algebre di Lie, corso elettivo di postgrado presso il Departamento de Matemáticas della Universidad de Chile.

2018 (un semestre, 27 ore): Rappresentazioni dei gruppi simmetrici, corso elettivo di postgrado presso il Departamento de Matemáticas della Universidad de Chile.

2019 - 2020: Codocenza di Geometria (30 ore), Ingegneria Chimica, "Sapienza" Università di Roma (docente: Giovanni Cerulli Irelli).

Codocenza di Geometria (30 ore), Ingegneria Ambientale e Ingegneria Civile, "Sapienza" Università di Roma (docente: Giovanni Cerulli Irelli).

Docenza di Istituzioni di Matematica I (100 ore), Scienze dell'Architettura, "Sapienza" Università di Roma.

Presentazioni:

"Kazhdan-Lusztig-Stanley functions in Coxeter groups", Ottobre 2013, Dipartimento di Matematica, Università di Genova.

"Isomorphisms of Hecke modules and Kazhdan-Lusztig polynomials", 72nd Séminaire Lotharingien de Combinatoire, Marzo 2014, Institut Camille Jordan, Université Lyon 1, Francia.

"Complements of Coxeter groups quotients", 73rd Séminaire Lotharingien de Combinatoire, Settembre 2014, Strobl, Austria.

"Módulos de Temperley-Lieb parabólicos y polinomios", XXIX Jornada de Matemática de la Zona Sur, Aprile 2016, Santa Cruz, Cile.

"The generalized lifting property of Bruhat intervals", XXI Coloquio Latinoamericano de Álgebra, Luglio 2016, Buenos Aires, Argentina.

"The generalized lifting property of Bruhat intervals", Colloquio dell'Istituto di matematica della Universidad de Valparaíso, Settembre 2016, Valparaiso, Cile.

"La propiedad de levantamiento generalizada de los intervalos de Bruhat", Colloquio dell'Istituto di matematica della Universidad de Talca, Settembre 2016, Talca, Cile.

"Módulos de Temperley-Lieb parabólicos y polinomios", Coloquio Quantum 2017, Marzo 2017, Talca, Cile.

"Parabolic R-polynomials and parabolic Kazhdan-Lusztig polynomials for quasi-minuscule quotients", XXX Jornada de Matemática de la Zona Sur, Aprile 2017, Concepción, Cile.

"Parabolic R-polynomials and parabolic Kazhdan-Lusztig polynomials for quasi-minuscule quotients", XXII Coloquio Latinoamericano de Álgebra, Agosto 2017, Quito, Ecuador.

"Funciones de Möbius en grupos de Coxeter", Seminario Cruz del Sur del Departamento de Matemática, Universidad de La Frontera, Ottobre 2017, Temuco, Cile.

"Representations of right-angled Coxeter and Artin groups", LXXXVI incontro annuale della Sociedad de Matemática de Chile, Novembre 2017, Talca, Cile.

"Un resultado sobre los grupos de Artin de ángulo recto", XXXI Jornada de Matemática de la Zona Sur, Aprile 2018, Valdivia, Cile.

"L'idempotente di Jones-Wenzl di un'algebra di Temperley-Lieb generalizzata", seminario del Dipartimento di Matematica della Università di Roma "Tor Vergata", Febbraio 2019, Roma, Italia.

"On a class of representations of right-angled Coxeter groups", seminario del Dipartimento SBAI, Università La Sapienza, Maggio 2019, Roma, Italia.

“Parabolically induced functions and equidistributed pairs”, National University of Ireland, Giugno 2019, Galway, Ireland.

“Un risultato concernente i gruppi di Artin ad angoli retti”, XXI congresso dell'Unione Matematica Italiana, sezione di Combinatoria.

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 MAT/02 – 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*, Capitolo 5 (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* (to appear).
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* (to appear).
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*, Capitolo 17 (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*, Capitolo 17 (2020).
24. *Topological properties of subsets of the Zariski space*, ALaNT 5 Proceedings (to appear).
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 (to appear).
27. *An ultrapower analogue of the Kronecker function ring* (con Alan Loper), Fundamenta Mathematicae (to appear).
28. *The Zariski-Riemann space of valuation domains associated to pseudo-convergent sequences* (con Giulio Peruginelli), Transactions of the American Mathematical Society (to appear).
29. *Decomposition and classifications of length functions*, Forum Mathematicum (to appear).
30. *Wilf’s conjecture for numerical semigroups with large second generator*, Journal of Algebra and Its Applications (to appear).

Preprint:

1. *Extending valuations to the field of rational functions using pseudo-monotone sequences* (con Giulio Peruginelli) (arXiv: 1905.02481).
2. *Suprema in spectral spaces and the constructible closure* (con Carmelo Finocchiaro) (arXiv: 1906.07053).
3. *Multiplicative closure operations on ring extensions* (arXiv: 1910.13869).
4. *The Golomb space is topologically rigid* (con Taras Banakh e Sławomir Turek) (arXiv: 1912.01994).
5. *Radicals of principal ideals and the class group of a Dedekind domain* (arXiv: 2002.07556).
6. *Multiplicative properties of integer valued polynomials over split-quaternions* (con Antonio Cigliola e Francesca Tartarone).

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

SEMINARI

Università degli Studi “Roma Tre”, 6 maggio 2013
Operazioni star su semigruppri 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:

Communications in Algebra, International Electronic Journal of Algebra, Journal of Algebra and Its Applications, Journal of Commutative Algebra, Matematicki Vesnik, Rocky Mountain Journal of Mathematics, Rendiconti del Circolo Matematico di Palermo, Portugaliae Mathematica, Journal of Pure and Applied Algebra, Topology and its Applications.

Reviewer per Mathematical Reviews.

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

- 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

Esercitazioni

- 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 Sernesi
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

Curriculum Vitae Stella Salvatore

Ultimo aggiornamento: 6 giugno 2020

Informazioni Generali:

Nato :

Posizione attuale : RDT-a, Dipartimento di Matematica "G. Castelnuovo", Università di Roma "La Sapienza"

1/

Precedenti posizioni e Visite di ricerca:

- 13 marzo 2019 – 31 dicembre 2019: Lecturer in Mathematics, Department of Mathematics, University of Leicester, UK
- 1 giugno 2017 – 12 marzo 2019: Postdoc, Department of Mathematics & Department of Computer Science, University of Haifa, Haifa, Mount Carmel 31905, Israel
- 1 giugno 2015 – 31 maggio 2017: INdAM - Marie Curie cofund fellow, Dipartimento di Matematica "G. Castelnuovo", Università degli studi di Roma "Sapienza"
- 12 ottobre 2015 – 18 dicembre 2015: Grey College Math Fellow, Department of Mathematical Sciences, Durham University
- 16 agosto 2013 – 31 maggio 2015: Post Doctoral Research Scholar, North Carolina State University
- 20 agosto 2012 – 20 dicembre 2012: Program Associate, Cluster Algebras Program, MSRI, Berkeley
- 1 settembre 2008 – 3 maggio 2013: Research/Teaching Assistant, Northeastern University, Boston

Studi:

- Abilitazione Scientifica Nazionale: professore di seconda fascia, SC 01/A2 Geometria e Algebra, 18/09/2018
- Qualifié aux fonctions de maître de conférences, 25-Mathématiques, No. 17225302330, 02/02/2017
- 2008 – 2013: Ph.D. in Mathematics, Northeastern University, Boston
Relatore: Prof. Andrei Zelevinsky
Tesi (5 aprile 2013): "Discrete structures in finite type Cluster Algebras"
- 2006 – 2008: Laurea Specialistica in Matematica, Università degli studi di Roma "Sapienza", con lode
- 2003 – 2006: Laurea Triennale in Matematica, Università degli studi di Roma "Sapienza", con lode
- 1998 – 2003: Maturità Scientifica, Liceo "A. Righi", Roma, 100/100

Premi:

- 2011: Ling Ma fellowship, Northeastern University, Boston
- 2008 – 2013: Excellence Fellowship, Northeastern University, Boston
- 1999, 2003, 2009: Premio di studio della BCC di Formello
- 1998 – 2009: Borsa di studio ANDSAI

Grants:

- 2020 - 2024: Agence nationale de la recherche, Appel à projets générique 2019 – ANR PRC 2019 – Progetto di ricerca "Clusters, Homological Algebra, Representations and Mirror Symmetry" – PI: Yann Palu
- agosto 2018: Principal Investigator – Progetto di ricerca "Kac-Moody groups and cluster algebras" – INdAM starting grant – (1 postdoc to be hired for 1 year and research funds; renounced)
- giugno 2015 – maggio 2017: INdAM - Marie Curie cofund fellowship – (research funds)

Pubblicazioni:

- (14) [Con N. Reading] "The action of a Coxeter element on an affine root system", Proceedings of the AMS Vol. 148, Issue 7 (2020), pp. 2783-2798, [arXiv:1808.05090](https://arxiv.org/abs/1808.05090); <https://doi.org/10.1090/proc/14769>
- (10) [Con N. Reading] "An affine almost positive roots model", Journal of Combinatorial Algebra Vol 4 (2020) no. 1 pp. 1–59, [arXiv:1707.00340](https://arxiv.org/abs/1707.00340); <https://doi.org/10.4171/jca/37>
- (12) [Con D. Rupel] "Some consequences of categorification", SIGMA 16 (2020), 007, 8 pages; [arXiv:1712.08478](https://arxiv.org/abs/1712.08478); <https://doi.org/10.3842/SIGMA.2020.007>
- (13) [Con D. Rupel, H. Williams] "Affine cluster monomials are generalized minors", Compositio Mathematica

- Vol. 155, Issue 7 July 2019 , pp. 1301-1326; [arXiv:1712.09143](https://arxiv.org/abs/1712.09143); <http://dx.doi.org/10.1112/S0010437X19007292>
- (11) [Con V. Pilaud, P.-G. Plamondon] “A τ -tilting approach to dissections of polygons”, SIGMA 14 (2018), 045, 8 pages; [arXiv:1710.02119](https://arxiv.org/abs/1710.02119); <https://doi.org/10.3842/SIGMA.2018.045>
 - (8) [Con D. Rupel, H. Williams] “On generalized minors and quiver representations”, International Mathematics Research Notices, rny053, (2018), [arXiv:1606.03440](https://arxiv.org/abs/1606.03440); <https://doi.org/10.1093/imrn/rny053>
 - (9) [Con C. Hohlweg, V. Pilaud] “Polytopal realizations of finite type g-vector fans”, Advances in Mathematics, Vol. 328, (2018), 713-749, [arXiv:1703.09551](https://arxiv.org/abs/1703.09551); <https://doi.org/10.1016/j.aim.2018.01.019>
 - (4) [Con N. Reading] “Initial-seed recursions and dualities for d-vectors”, Pacific Journal of Mathematics, Vol. 293 (2018), No. 1, 179–206, [arXiv:1409.4723](https://arxiv.org/abs/1409.4723); <https://doi.org/10.2140/pjm.2018.293.179>
 - (6) [Con L. Demonet, P. Plamondon, D. Rupel, P. Tumarkin] “ SL_2 -tilings do not exist in higher dimensions (mostly)”, Séminaire Lotharingien de Combinatoire, B76d (2018), 6 pp; [arXiv:1604.02491](https://arxiv.org/abs/1604.02491); <https://www.mat.univie.ac.at/~slc/wpapers/s76stella.html>
 - (5) [Con M. Cheung, M. Gross, G. Muller, G. Musiker, D. Rupel, H. Williams] “The greedy basis equals the theta basis”, Journal of Combinatorial Theory, Series A, Volume 145, January 2017, Pages 150–171; [arXiv:1508.01404](https://arxiv.org/abs/1508.01404); <http://dx.doi.org/10.1016/j.jcta.2016.08.004>
 - (7) [Con P. Tumarkin] “Exchange relations for finite type cluster algebras with acyclic initial seed and principal coefficients”, SIGMA 12 (2016), 067, 9 pages; [arXiv:1604.06286](https://arxiv.org/abs/1604.06286); <http://dx.doi.org/10.3842/SIGMA.2016.067>
 - (3) [Con T. Nakanishi] “Wonder of sine-Gordon Y-systems”, Transactions of the AMS, 368 (2016), 6835-6886; [arXiv:1212.6853](https://arxiv.org/abs/1212.6853); <http://dx.doi.org/10.1090/tran/6505>
 - (2) [Con T. Nakanishi] “Diagrammatic description of c-vectors and d-vectors of cluster algebras of finite type”, Electronic journal of Combinatorics Volume 21, Issue 1 (2014) P1.3; [arXiv:1210.6299](https://arxiv.org/abs/1210.6299); <http://www.combinatorics.org/ojs/index.php/eljc/article/view/v21i1p3>
 - (1) “Polyhedral models for generalized associahedra via Coxeter elements”, Journal of Algebraic Combinatorics 38 (2013), no. 1, 121–158; [arXiv:1111.1657](https://arxiv.org/abs/1111.1657); <http://dx.doi.org/10.1007%2Fs10801-012-0396-7>

Preprints:

- (15) [Con A. Chandler, R. Sazdanovic, M. Yip] “On the Strength of Chromatic Symmetric Homology for graphs”, [arXiv:1911.13297](https://arxiv.org/abs/1911.13297)

Insegnamento:

- *Primavera 2020*: “Gruppi di Coxeter - Percorso di Eccellenza - Matematica”, Università “La Sapienza”
- *Primavera 2020*: “Istituzioni di Matematica II - Chimica”, Università “La Sapienza”
- *2019 – 2020*: “MMath Project”, University of Leicester
- *Autunno 2019*: “Investigations in Maths”, University of Leicester
- *Primavera 2015*: “Introduction to cluster algebras” (Corso di dottorato), North Carolina State University
- *Autunno 2014*: Due sezioni di “Calculus 1”, North Carolina State University
- *Primavera 2014*: “Linear Algebra”, North Carolina State University
- *Autunno 2013*: Due sezioni di “Calculus 1”, North Carolina State University
- *Primavera 2011*: “Discrete mathematics”, Northeastern University
- *Autunno 2010*: “Calculus 2”, Northeastern University
- *Primavera 2009*: “Calculus for business and economics”, Northeastern University
- *Autunno 2008*: “Recitation for Calculus 3”, Northeastern University

Organizzatore di:

- *Autunno 2019*: Pure Math Seminar, University of Leicester
- *dicembre 2018*: Conference “Cluster structures in geometry, physics, combinatorics and representation theory”, Notre Dame University Global Gateway, Jerusalem
- *ottobre 2016*: Workshop “Lie theory and cluster algebras”, Notre Dame University Global Gateway, Rome
- *giugno 2015*: Workshop “Sage Days 64.5”, IMA, Twin Cities, Minnesota
- *2014 – 2015*: “Algebra and Combinatorics seminar”, North Carolina State University
- *Primavera 2013*: “Brandeis-Northeastern joint seminar on cluster algebras”, Boston
- *Autunno 2011*: “MIT-Northeastern University joint seminar on cluster algebras” Boston

Referee per:

- Journal of Algebra
- Transactions of the AMS
- Memoirs of the AMS
- International Mathematics Research Notices (IMRN)
- Mathematische Zeitschrift
- Pacific Journal of Mathematics
- Symmetry, Integrability and Geometry: Methods and Applications (SIGMA)
- Formal Power Series and Algebraic Combinatorics (FPSAC)
- Journal of Combinatorial Theory, Series A
- Journal of Algebraic Combinatorics
- Algebras and Representation Theory
- Bulletin of the London Mathematical Society
- Canadian Journal of Mathematics
- Canadian Mathematical Bulletin
- SageMath

Principali seminari e conferenze su invito:

- *giugno 2020*: Seminario ARTS, Università di Roma “Tor Vergata”
- *settembre 2019*: Congresso UMI: sezione di Combinatoria
- *settembre 2019*: Congresso UMI: sezione di Teoria di Lie
- *giugno 2019*: Conference: Cluster Algebras, RIMS, Kyoto
- *maggio 2019*: Conference: Representation Theory and Homological Mirror Symmetry, Leicester University
- *luglio 2018*: Conference: FPSAC
- *febbraio 2018*: Colloque tournant du GDR Théorie de Lie 2018
- *novembre 2017*: Conference: Two Cluster Days in Paris, IHP
- *ottobre 2017*: Plateau Saclay Combinatorics Seminar, École Polytechnique
- *giugno 2017*: Workshop: Algebraic and Geometric Combinatorics of Reflection Groups, Montreal
- *maggio 2017*: Workshop: Quinto incontro di combinatoria dei sistemi di radici, Cortona
- *aprile 2017*: Oberseminar, Universität Köln
- *gennaio 2017*: Algebra Seminar, University of Haifa
- *novembre 2016*: Algèbre et Géométrie seminar, LMNO, Université de Caen
- *novembre 2016*: Séminaire Quantique, IRMA, Strasbourg
- *novembre 2016*: Oberseminar Darstellungstheorie, Universität Bonn
- *giugno 2016*: Yau Mathematical Sciences Center, Tsinghua University, Beijing
- *aprile 2016*: Séminaire Philippe Flajolet, IHP
- *aprile 2016*: Séminaire Lotharingien de Combinatoire 76
- *dicembre 2015*: Algebraic combinatoric session, CMS winter meeting, Montreal
- *ottobre 2015*: Colloquium, Department of Mathematics, Durham university
- *gennaio 2015*: MRC special section, AMS Joint Meeting, San Antonio
- *dicembre 2014*: Séminaire du LaCIM, UQAM, Montreal
- *novembre 2014*: Workshop on Cluster algebras and Representation theory, KIAS, Seoul
- *ottobre 2014*: Applied Algebra Seminar, Toronto
- *ottobre 2014*: Generalized Catalan Algebraic Combinatorics, AMS sectional meeting, Halifax
- *settembre 2014*: Seminario di algebra e geometria, Università di Roma “Sapienza”
- *maggio 2014*: Workshop on Hall and cluster algebras, CRM (Montreal)
- *maggio 2013*: 6th Southeastern Lie Theory Workshop
- *aprile 2013*: Maurice Auslander International Conference
- *aprile 2013*: AMS Sectional Meeting, Special Session on Cluster Algebras and Related Combinatorics

Curriculum Vitae

Dati personali

Nome Francesco Strazzanti
Email
Sito web

Esperienze di ricerca postdottorali

1/05/2020 - 30/04/2021 (**Posizione attuale**) Assegno di ricerca, Dipartimento di Matematica, Alma Mater Studiorum Università di Bologna.

1/04/2019 - 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.

2/01/2017 - 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. M. D'Anna, F. Strazzanti, *Almost canonical ideals and GAS numerical semigroups*, arXiv:2003.13061.
14. F. Strazzanti, S. Zarzuela Armengou, *The Hilbert-Kunz function of some quadratic quotients of the Rees algebra*, arXiv:2002.00282.
15. A. Moscariello, F. Strazzanti, *Nearly Gorenstein vs almost Gorenstein affine monomial curves*, arXiv:2003.05391.
16. M. D'Anna, F. Strazzanti, *When is $\mathfrak{m} : \mathfrak{m}$ an almost Gorenstein ring?*, arXiv:2004.02252.
17. A. Caminata, F. Strazzanti, *Nearly Gorenstein quotient singularities*, arXiv:2006.03457.

Seminari su invito

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 researcher 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), 4-8 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), 8-9 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

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>.

Partecipazione a progetti conclusi

Progetto di ateneo dell'Università degli Studi di Catania: *Proprietà algebriche locali e globali di anelli associati a curve e ipersuperfici*.

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>

MIUR-DAAD Joint Mobility Program 2016: *Combinatorial and Computational Methods in Commutative Algebra*, project nr. 57267452.

Prin 2010-11: *Geometria delle varietà algebriche*.

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 *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

Corso di dottorato dal titolo *Semigrupperi 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, Dipartimento de Álgebra, Universidad de Sevilla, anno 2017, 15 lezioni da 90 minuti.

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, a.a. 2015/2016, Università di Pisa.

Corso di recupero per gli studenti del primo anno (20 ore) e didattica integrativa, Corso di Laurea in Matematica, a.a. 2014/2015, Università di Pisa.

Corso di recupero per OFA (20 ore) e didattica integrativa, Corso di Laurea in Matematica, a.a. 2013/2014, Università di Pisa.

Attività di tutorato nell'ambito del Corso di Laurea in Matematica (80 ore), a.a. 2011/2012, Università degli Studi di Catania.

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 Zentralblatt Math.

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).

Ultimo aggiornamento: 8 Luglio 2020

Amos Turchet

EMPLOYMENT

- 2019 – Junior Visitor, Scuola Normal Superiore di Pisa
- 2016 – 2019 Acting Assistant Professor, University of Washington
- 2014 – 2016 Postdoctoral Researcher, Chalmers University of Technology

VISITING APPOINTMENTS

- 2013 Academic guest, Rational Points, Rational Curves and Entire Holomorphic Curves on Algebraic Varieties, Centre de recherches mathématiques, Montréal
- 2012 – 2013 Visiting Researcher, Brown University,
Advisors: Prof.s Dan Abramovich and Joseph Silverman

EDUCATION

- 2014 Ph.D. Mathematics, Università degli studi di Udine (advisor: Pietro Corvaja)
- 2010 M.S. Mathematics, Università degli studi di Udine, cum laude
- 2007 B.S. Mathematics, Università degli studi di Udine, cum laude
- 2007 Classical Guitar Diploma, Conservatorio A. Boito di Parma, 10/10

RESEARCH INTERESTS

Arithmetic and Algebraic Geometry, Number Theory

AWARDS AND GRANTS

- 2019 Qualification for Maître de conférences
- 2018 Nominee, University of Washington Postdoc Mentoring Award
- 2017 Grant for “Where Geometry meets Number Theory, a conference for 60th birthday of P. Salberger” : 110.000 SEK (Gothenburg Center for Advanced Studies GoCAS) and 93.000 SEK (Swedish Research Council)
- 2016 Grant for “Number Theory Days 5” : 25.000 SEK (GoCAS)
- 2015 Grant for “Number Theory Days 3” : 35.000 SEK (GoCAS)
- 2014 Knut and Alice Wallenberg Foundation Travel grant
- 2011 – 2014 MIUR Ph.D. Scholarship
- 2003 – 2008 Scholarship for Academic Merit, Magnano in Riviera, UD

PUBLICATIONS

IN JOURNALS AND VOLUMES

1. Hyperbolicity And Uniformity Of Varieties Of Log General Type. (with K. Ascher and K. DeVleming.) – to appear in *International Mathematics Research Notices*.
2. The Erdős–Ulam problem, Lang’s Conjecture, and uniformity. (with K. Ascher and L. Braune) – *Bulletin of the London Mathematical Society*.
published online: <https://doi.org/10.1112/blms.12381>
3. Fibered Threefolds and Lang-Vojta’s Conjecture over Function Fields.
Transactions of the American Mathematical Society **369** (2017), no.12, 8537-8558
doi: 10.1090/tran/6968
4. A fibered power theorem for pairs of log general type. (with K. Ascher.) *Algebra and Number Theory* **10** (2016), no. 7, 1581–1600. doi: 10.2140/ant.2016.10.1581
5. Invitation to Integral and Rational points on curves and surfaces. (with P. Das.) *Rational Points, Rational Curves, and Entire Holomorphic Curves on Projective Varieties*, Contemporary Mathematics, vol. 654, Amer. Math. Soc., Providence, RI, 2015, pp. 53-73. doi: 10.1090/conm/654/13215

SUBMITTED FOR PUBLICATION

6. Lang-Vojta Conjecture over function fields for surfaces dominating \mathbb{G}_m^2 .
(with L. Capuano.) – submitted.
7. Nonspecial varieties and Generalized Lang-Vojta conjectures.
(with E. Rousseau and J.T.-Y. Wang) – submitted.

IN PREPARATION

8. Geometric Lang-Vojta Conjecture in \mathbb{P}^2 .
(with K. Ascher and M. Talpo.) – in preparation.
9. GCD results on semiabelian varieties and a Conjecture of Silverman
(with F. Barroero and L. Capuano) – in preparation.

OTHER PUBLICATIONS

10. Hyperbolicity of Varieties of log general type: arithmetic and geometry.
(notes for the course given with K. Ascher) – 2019
11. Geometric Lang-Vojta Conjecture in the projective plane. Ph.D. Thesis, 2014;

LECTURE SERIES

- 2019 School (and Workshop) on Diophantine geometry and special varieties
Trento, September 2019, Supporting lecturer
- 2018 Geometry and arithmetic of orbifolds, Montréal December 2018
Title: *Arithmetic and Geometry of log pairs* (w. Kenny Ascher - 4 lectures)

SEMINARS AND CONFERENCES AS SPEAKER

- 2019 Summer program on complex geometry and several complex variables, Shanghai Center for Mathematical Sciences
 Université Paris-Sud, Audition pour MDC
 Diophantine Approximation and Value Distribution Theory at the interface of Arithmetic and Complex Hyperbolic Geometry. UQAM, Montréal
 Hawaii Number Theory 2019 conference (HINT 2019)
 Arithmetic Geometry Session
 Greater Vancouver Number Theory Day, UBC, Vancouver
- 2018 Canadian Math Society Winter Meeting, Vancouver
 Recent Advances in Arithmetic and Hyperbolic Geometry
 University of Oxford, Arithmetic Geometry Seminar
 Spring Eastern Sectional AMS Meeting, Portland University
 Special Session on Algebraic Geometry and its Connections
 University of Oxford, Algebraic Geometry Seminar
- 2017 Banff International Research Station, Diophantine Approximation and Algebraic Curves
 UBC, Algebraic Geometry Seminar
- 2016 University of Oregon, Number Theory Seminar
 University of Washington, Number Theory Seminar
 University of Washington, Algebra and Algebraic Geometry Seminar
 KTH, Seminar Algebra and Geometry
 Aix Marseille Université, Séminaire Géométrie, Dynamique et Topologie
 Universität Bayreuth, Algebraic Geometry Seminar
 Johannes Gutenberg University Mainz, SFB-Kolloquium
- 2015 Terzo Incontro Italiano di Teoria dei Numeri, Centro de Giorgi Pisa
 Quantitative arithmetic geometry, Mittag-Leffler Institute
 \mathbb{N}^3 -days 2, University of Copenhagen
 Chalmers University of Technology, Algebraic Geometry Seminar
- 2014 Universität Basel, Seminar Algebra and Geometry
 Banff International Research Station, Vojta's Conjectures
 Chalmers University of Technology, Number Theory Seminar
 Intercity workshop in Arakelov Theory, "Sapienza" Università di Roma
 On Lang and Vojta's conjectures, CIRM Marseille
- 2013 TULSF VIII (A meeting in Algebraic Geometry), Ljubljana University
 Brown University, Junior Arithmetic and Algebraic Geometry Seminars
- 2012 Moduli of Curves and Gromov-Witten Theory, Institut Fourier

SELECTED CONFERENCES AS A PARTICIPANT

- 2019 Topics in Rational and Integral Points, Universität Basel
 Birational Geometry and Hodge Theory – Entire Curves, Rational Curves and Foliation, CIRM Marseille

- 2018 International summer school on Arithmetic geometry, Università degli Studi di Salerno
Workshop on effectivity and ineffectivity for unlikely intersections, University of Manchester
- 2017 Western Algebraic Geometry Symposium, Fall 2017, UCLA
Specialization problems in Diophantine Geometry, Cetraro
Western Algebraic Geometry Symposium, Spring 2017, UBC
Banff International Research Station, Newton-Okunkov Bodies, Test Configurations, and Diophantine Geometry
- 2016 \mathbb{N}^3 -days 4, University of Copenhagen
- 2015 Banff International Research Station, Distribution of Rational and Holomorphic Curves in Algebraic Varieties
2015 Summer Research Institute on Algebraic Geometry, University of Utah
Final ERC meeting in Diophantine Geometry, Accademia dei Lincei
- 2014 \mathbb{N}^3 -days 1, University of Copenhagen
Second ERC Research Period on Diophantine Geometry, Cetraro
Géométrie Algébrique en Liberté, SISSA
- 2011 School and Conference on Modular Forms and Mock Modular Forms and their applications in Arithmetic, Geometry and Physics, ICTP

TEACHING

UNIVERSITY OF WASHINGTON, Professor

- 2019 Winter Math 340 G: Abstract Linear Algebra
- 2018 Fall Math 308 C: Matrix Algebra (Linear Algebra)
Math 308 D: Matrix Algebra (Linear Algebra)
Spring Math 308 B: Matrix Algebra (Linear Algebra)
Winter Math 582 G: Diophantine Geometry of Curves (Graduate Course)
Math 308 D: Matrix Algebra (Linear Algebra)
- 2017 Fall Math 402: Introduction to Modern Algebra I (Group Theory)
Spring Math 308 G: Matrix Algebra (Linear Algebra)
Winter Math 308 A: Matrix Algebra (Linear Algebra)
Math 308 D: Matrix Algebra (Linear Algebra)
- 2016 Fall Math 308 G: Matrix Algebra (Linear Algebra)

UNIVERSITY OF WASHINGTON, Reading courses

- 2018 Arithmetic of Elliptic Curves (1 graduate student)
Uniformity of Rational points (4 undergraduate students)
- 2017 Diophantine Equations (4 undergraduate students)
Primality Tests and Elliptic Curves (4 undergraduate students)
Primality Tests and the AKS Theorem (4 undergraduate students)

CHALMERS UNIVERSITY OF TECHNOLOGY, Professor

2015 Scheme Theory (Graduate Course)

CHALMERS UNIVERSITY OF TECHNOLOGY, Teaching assistant

2015 MVE085: Multivariable Calculus

MVE016: Calculus II

2014 MVE085: Multivariable Calculus

UNIVERSITÀ DEGLI STUDI DI UDINE, Teaching assistant

2013 – 2014 Matematica Discreta per Informatica (Combinatorics, arithmetic and linear algebra)

2012 – 2013 Matematica Discreta per Informatica

2011 – 2012 Matematica Discreta per Informatica

Matematica per Architettura (Multivariable calculus and linear algebra)

2010 – 2011 Matematica per Architettura

CONFERENCE ORGANIZATION**ORGANIZER**

2019 AMS Joint Central and Western Sectional Meeting:

Special session on “Arithmetic Geometry and its connections”

Co-organizer: L. Capuano

2017 Where Geometry meets Number Theory, a conference for 60th birthday of P. Salberger

Co-organizer: J. Brandes, T. Browning, O. Marmon

2016 \mathbb{N}^3 -days 5 at Chalmers University

Co-organizers: J. Brandes, D. Eriksson, P. Salberger, M. Westerholt-Raum

2015 \mathbb{N}^3 -days 3 at Chalmers University

Co-organizer: D. Eriksson, P. Salberger, M. Westerholt-Raum

2011 9th Metaheuristics International Conference (Local Organizer)

ADVISING**THESIS SUPERVISED**

2018 Blanca Viña Patiño, University of Washington - Master Thesis (expected June 2018)

2016 Stepan Maximov, Trang Nguyen, Robin Sorsa Sigurdson, Olivia Stalin

Chalmers University of Technology - Undergraduate thesis:

“Primality Tests and the AKS primality test”

RESEARCH PROJECTS FOR UNDERGRADUATES

2018 Washington Experimental Mathematical Lab: Uniformity of Diophantine Equations

2017 Washington Experimental Mathematical Lab: Elliptic Curves and Primality Tests

Washington Experimental Mathematical Lab: The AKS Primality Test

OUTREACH

- 2018 Lecturer, Math Day - University of Washington
- 2017 Lecturer, Math Day - University of Washington

SERVICE

DEPARTMENTAL SERVICE

- 2018 Leading Acting Assistant Professor (guidance for new postdocs)
- 2014 – 2016 Chalmers University of Technology: Organizer of the Algebraic Geometry and Number Theory Seminar

COMMUNITY SERVICE

- Referee for Journal of Pure and Applied Algebra, Mathematica Scandinava
- Reviewer for Zentralblatt MATH
- Member of the American Mathematical Society

CURRICULUM VITAE DI DANIELE VALERI

Posizione attuale

Lecturer in Matematica all'Università di Glasgow.

Posizioni precedenti

- Ottobre 2017-Agosto 2018 Assistant Professor presso lo Yau Mathematical Sciences Center (YMSC), Tsinghua University, Pechino.
- Ottobre 2014-Settembre 2017 Assegnista di ricerca presso lo Yau Mathematical Sciences Center (YMSC), Tsinghua University, Pechino.
- Ottobre 2012-Settembre 2014 Assegnista di ricerca presso la Scuola Internazionale Superiore di Studi Avanzati (SISSA), Trieste.

Visite accademiche

- Giugno 2019 In visita presso l'IHES, Bures-sur-Yvette.
- Dicembre 2017-Febbraio 2018 In visita presso l'Università di Roma La Sapienza.
- Giugno-Luglio 2017 In visita presso l'IHES, Bures-sur-Yvette.
- Dicembre 2016-Febbraio 2017 In visita presso l'Università di Roma La Sapienza.
- Luglio 2016 In visita presso la SISSA, Trieste.
- Maggio 2016 Visiting scholar presso University of Sydney, Australia.
- Dicembre 2015-Febbraio 2016 In visita presso l'Università di Roma La Sapienza.
- Aprile-Maggio 2014 In visita presso il Mathematisches Forschungsinstitut Oberwolfach.
- Ottobre 2012 In visita presso l'IHES, Bures-sur-Yvette.
- Autunno 2011 Visiting student presso il Massachusetts Institute of Technology (MIT), Cambridge (MA).
- Primavera 2011 Visiting student presso il Massachusetts Institute of Technology (MIT), Cambridge (MA).
- Primavera 2010 Visiting student presso il Massachusetts Institute of Technology (MIT), Cambridge (MA).

Titoli di studio

- Marzo 2012 Dottorato di ricerca in matematica.
Sapienza Università di Roma.
Titolo della tesi: Classical \mathcal{W} -algebras. Relatore: prof. Alberto De Sole.
- Luglio 2008 Laurea specialistica in matematica, votazione 110/110 con lode.
Sapienza Università di Roma.
Titolo della tesi: "Estensioni ciclotomiche: parità del numero di classe".
Relatore: prof.ssa Marialuisa J. de Resmini.
- Luglio 2006 Laurea triennale in matematica, votazione 110/110 con lode.
Università degli studi di Roma "La Sapienza".
Titolo della tesi: Sui T-gruppi. Relatore: prof.ssa Marialuisa J. de Resmini.

Abilitazioni

Abilitazione Scientifica Nazionale a Professore Associato - Settore concorsuale 01/A2 Geometria e Algebra, dal 31/07/2017 al 31/07/2023.

Abilitazione Scientifica Nazionale a Professore Associato - Settore concorsuale 01/A4 Fisica Matematica dal 13/07/2018 al 13/07/2024.

Pubblicazioni e preprints

- De Sole A., Jibladze M., Kac V.G., Valeri D., *Integrability of classical affine W -algebras*, [arXiv:2007.01244 \[math-ph\]](#).
- Valeri D., *W -algebras via Lax type operators*, [arXiv:2001.05751 \[math-ph\]](#).
- Carpentier S., De Sole A., Kac V.G., Valeri D., van de Leur J., *p -reduced multicomponent KP hierarchy and classical W -algebras $\mathcal{W}(\mathfrak{gl}_N, p)$* , [arXiv:1909.03301 \[math-ph\]](#).
- De Sole A., Fedele L., Valeri D., *Generators of the quantum finite W -algebras in type A*, accettato in Journal of Algebra and Its Applications, <https://doi.org/10.1142/S0219498820501753>.
- De Sole A., Kac V.G., Valeri D., Wakimoto M., *Poisson λ -brackets for differential-difference equations*, Int. Math. Res. Not. **2020** (2020), n.13, 4144-4190.
- De Sole A., Kac V.G., Valeri D., Wakimoto M., *Local and non-local multiplicative Poisson vertex algebras and differential-difference equations*, Comm. Math. Phys. **370** (2019), no. 3, 1019-1068.
- Genovese G., Lucà R., Valeri D., *Invariant measures for the periodic derivative nonlinear Schrödinger equation*, Math. Ann. **374** (2019), no. 3-4, 1075-1138.
- De Sole A., Kac V.G., Valeri D., *A Lax type operator for quantum finite W -algebras*, Sel. Math. New Ser. **24** (2018), no. 5, 4617-4657.
- Casati M., Valeri D., *MasterPVA and WALg: Mathematica packages for Poisson vertex algebras and classical affine W -algebras*, Boll. Unione Mat. Ital. **11** (2018), no. 4, 503-531.
- De Sole A., Kac V.G., Valeri D., *Classical affine W -algebras and the associated integrable Hamiltonian hierarchies for classical Lie algebras*, Comm. Math. Phys. **360** (2018), no. 3, 851-918.
- De Sole A., Kac V.G., Valeri D., *Finite W -algebras for \mathfrak{gl}_N* , Adv. Math. **327** (2018), 173-224.
- Masoero D., Raimondo A., Valeri D., *Bethe Ansatz and the Spectral Theory of affine Lie algebra-valued connections II. The non simply-laced case*, Comm. Math. Phys. **349** (2017), n. 3, 1063-1105.
- De Sole A., Kac V.G., Valeri D., *Classical affine W -algebras for \mathfrak{gl}_N and associated integrable Hamiltonian hierarchies*, Comm. Math. Phys. **348** (2016), n. 1, 265-319.
- De Sole A., Kac V.G., Valeri D., *A new scheme of integrability for (bi)Hamiltonian PDE*, Comm. Math. Phys. **347** (2016), n. 2, 449-488.
- De Sole A., Kac V.G., Valeri D., *Structure of classical (finite and affine) W -algebras*, J. Eur. Math. Soc. **18** (2016), n. 9, 1873-1908.
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- De Sole A., Kac V.G., Valeri D., *Double Poisson vertex algebras and non-commutative Hamiltonian equations*, Adv. Math. **281** (2015), 1025-1099.
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- De Sole A., Kac V.G., Valeri D., *Dirac reduction for Poisson vertex algebras*, Comm. Math. Phys. **331** (2014), n. 3, 1155-1190.
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Math. Phys. **333** (2015), n. 3, 1617-1619.

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De Sole A., Kac V.G., Valeri D., *Classical \mathcal{W} -algebras and generalized Drinfeld-Sokolov bi-Hamiltonian systems within the theory of Poisson vertex algebras*, Comm. Math. Phys. **323** (2013), n. 2, 663-711.

Attività didattica

Primavera 2020 *4H: Mathematical Physics*, University of Glasgow.

Autunno 2019 *Mathematics 2A: Multivariable Calculus*, University of Glasgow.

Primavera 2019 *4H: Mathematical Physics*, University of Glasgow.

Autunno 2018 *Mathematics 2A: Multivariable Calculus*, University of Glasgow.

Primavera 2018 *Linear algebra 2*, Tsinghua University.

Primavera 2017 *Infinite dimensional Lie algebras*, corso per il dottorato, YMSC.

Primavera 2016 *An introduction to vertex algebras*, corso per il dottorato, YMSC.

Autunno 2013 *Poisson vertex algebras and applications to integrable systems*, corso per il dottorato in Geometria e Fisica Matematica, SISSA.

Autunno 2010 Tutoraggio per il corso *Calcolo 1* del prof. Alessandro Figà Talamanca, Dipartimento di Ingegneria Elettronica, Università di Roma 3.

Primavera 2009 Tutoraggio per il corso *Analisi 1* del prof. Alessandro Figà Talamanca, Dipartimento di Matematica, Sapienza Università di Roma.

Attività di supervisione

Preparazione degli studenti di Tsinghua University partecipanti allo "S. T. Yau College Mathematics Contest" (luglio 2018) nella sezione di "Algebra, Number theory and Combinatorics".

Supervisore della "Junior Thesis" di Meng Fei Xia (discussa il 10 giugno 2018) all'interno del progetto "Tsinghua University Talent Training Program".

Borse di studio e finanziamenti

"Research Fund for International Young Scientists" per il periodo 01/01/2016-31/12/2016 finanziato dalla National Natural Science Foundation of China (NSFC) per il progetto " \mathcal{W} -algebras and applications" (Grant No. 11550110178).

Finanziamento di un anno (2014-2015) da parte dell'INdAM all'interno del "Progetto Giovani" per il progetto "ODE/IM Correspondence" in collaborazione con D. Masoero (Universidade de Lisboa) e A. Raimondo (Milano Bicocca).

Borsa di studio "Research in pairs" presso il Mathematisches Forschungsinstitut Oberwolfach per il progetto "Invariant measures for 1d DNLS" in collaborazione con G. Genovese (Zurich Universitat) e R. Lucà (ICMAT).

Seminari

Virtual Seminar Series - Integrable Systems (hosted by ICMS), 1 luglio 2020: *Deformations of \mathcal{W} -algebras and differential-difference equations*.

University of Glasgow, Integrability, algebra and geometry, 13 dicembre 2019: *Newbie approach to classical R -matrices*.

University of York, Mathematical Physics Seminar, 17 ottobre 2019: *Classical \mathcal{W} -algebras and reductions of KP hierarchy*.

Euler Institute, Saint Petersburg, Workshop on Classical and Quantum Integrable Systems, 24 luglio 2019, *Lax type operators for \mathcal{W} -algebras*.

CRM Montréal, XIth International Symposium: Quantum Theory and Symmetries (Integrability Session), 5 luglio 2019: *Differential-difference equations and deformations of W -algebras*.

CRM Montréal, XIth International Symposium: Quantum Theory and Symmetries, 5 luglio 2019: *Algebraic structures arising from physics*.

Leeds University, Brackets, Reduction and Integrability, 18 maggio 2019: *Differential-difference equations and deformations of W -algebras*.

University of Kent, One day workshop on W -algebras, 30 Aprile 2019: *Differential-difference equations and deformations of W -algebras*.

University of Birmingham, Geometry and Mathematical Physics Seminar, 27 Marzo 2019: *Algebraic structures arising from physics*.

ICMS Edinburgh, EMPG Seminar, 20 Marzo 2019: *Differential-difference equations and deformations of W -algebras*.

Loughborough University, Integrable Day 2018, 30 Novembre 2018: *Lambda-brackets for differential-difference equations*.

University of Glasgow, ISMP Seminar, 9 ottobre 2018: *Algebraic structures arising from physics*.

SISSA, 3 maggio 2018: *Algebraic structures arising from physics*.

University of Edinburgh, MAXIMALS Seminar, 13 febbraio 2018: *Algebraic structures arising from physics*.

SISSA, Seminar in Integrable Systems, 12 luglio 2017: *Classical affine W -algebras associated to classical Lie algebras*.

Korea Institute for Advanced Studies (KIAS), Seoul, 17 aprile 2017: *ODE/IM correspondence for simple Lie algebras*.

Sun Yat-Sen University, Guangzhou, 24 marzo 2017: *W -algebras in type A* .

Università di Milano-Bicocca, 24 gennaio 2017: *Generalized Drinfeld-Sokolov hierarchies in type A* .

Sapienza Università di Roma, Seminario di Algebra e Geometria, 18 gennaio 2017: *Algebraic aspects of the ODE/IM correspondence*.

University of Melbourne, W -algebras Workshop, 28 novembre 2016: *Introduction to vertex algebras*.

YMSC, The 2nd YMSC Post-doc Workshop, 22 ottobre 2016: *ODE/IM correspondence and beyond*.

SISSA, Seminar on W -algebras and Integrable Systems, 29 luglio 2016: *Adler type pseudodifferential operators and generalized Drinfeld-Sokolov hierarchies in type A* .

SISSA, Seminar on W -algebras and Integrable Systems, 15 luglio 2016: *Classical \mathcal{W} -algebras*.

University of Sydney, Algebra Seminar, 6 maggio 2016: *Classical \mathcal{W} -algebras for \mathfrak{gl}_N and associated integrable hierarchies*.

Sapienza Università di Roma, Algebraic Geometry and Representation Theory in Rome, 22 dicembre, 2015: *Adler type pseudodifferential operators and integrable systems*.

YMSC, The YMSC Post-doc Workshop, 7 novembre 2015, *Adler type pseudodifferential operators and integrable systems*.

YMSC, Geometry and Physics Seminar (GPS), 27 ottobre 2015: *Classical \mathcal{W} -algebras and generalized Drinfeld-Sokolov hierarchies*.

Centro di Ricerca Matematica E. De Giorgi, Pisa, Perspectives in Lie theory: Vertex algebras, \mathcal{W} -algebras, and applications, 12 dicembre 2014: *Classical \mathcal{W} -algebras and generalized Drinfeld-Sokolov hierarchies*.

Università di Milano-Bicocca, Workshop on Geometric and Analytic Aspects of Integrable and nearly-Integrable Hamiltonian Systems, 19 giugno 2014: *Structure of classical (finite and affine) \mathcal{W} -algebras*.

SISSA, Integrable Systems and Mathematical Physics seminar, 2 aprile 2014: *Structure of classical \mathcal{W} -algebras*.

ETH, Talks in Mathematical Physics, 12 dicembre 2013: *Classical \mathcal{W} -algebras and applications*.

SISSA, Seminar in Integrable Systems, 10 aprile 2013: *Classical \mathcal{W} -algebras within the theory of Poisson vertex algebras II*.

SISSA, Seminar in Integrable Systems, 16 gennaio 2013: *Classical \mathcal{W} -algebras within the theory of Poisson vertex algebras*.

INDAM, Lie superalgebras conference, 11 dicembre 2012: *Classical \mathcal{W} -algebras within the theory of Poisson vertex algebras*.

Sapienza Università di Roma, Seminario di Algebra e Geometria, 18 gennaio 2012: *Classical \mathcal{W} -algebras*.

Sapienza Università di Roma, Seminario dottorandi, 8 e 15 giugno 2011: *Algebre di vertice di Poisson e equazioni Hamiltoniane*.

Northeastern University, Graduate student seminar, 16 marzo 2011: *Poisson vertex algebras and Drinfeld-Sokolov Hamiltonian reduction*.

Attività organizzative e di referaggio

Organizzatore della conferenza *Integrability, algebra and geometry*, University of Glasgow, 13 dicembre 2019.

Organizzatore del *56th ARTIN Meeting: Algebra and Representation Theory in the North*, University of Edinburgh, 28-29 novembre 2019.

Organizzatore della conferenza *Integrable systems, special functions and combinatorics*, Sabhal Mòr Ostaig, Gaelic College, Isle of Skye, 23-28 giugno 2019.

Organizzatore del seminario ISMP (Sistemi Integrabili e Fisica Matematica) all'Università di Glasgow per gli anni accademici 2018-2019 e 2019-2020.

Referee e membro della commissione per la discussione della tesi di dottorato di Laura Fedele (con N. Cantarini e A. D'Andrea) all'Università di Roma La Sapienza, gennaio 2018.

Organizzatore del convegno *Hamiltonian PDES, Frobenius manifolds and Deligne-Mumford moduli spaces*, SISSA, Trieste, 16-20 settembre 2013.

Organizzatore del convegno *MJR: a conference in honour of Marialuisa J. de Resmini*, Sapienza Università di Roma, 24-25 settembre 2009.

Attività di refereggio scientifico per le riviste: *Communications in Mathematical Physics*, *International Journal of Mathematics*, *IMRN*, *Journal of Algebra*, *Journal of Mathematical Physics*, *Journal of Non-commutative Geometry*, *Journal of Pure and Applied Algebra*, *Letters in Mathematical Physics*, *Science China Mathematics*.