

ELENCO PUBBLICAZIONI

Per alcuni lavori collettivi sono allegate le certificazioni dei co-autori indicanti il contributo individuale di Giacomo di Tollo. Per i lavori collettivi in cui esse sono mancanti, il contributo è da intendere paritario con i co-autori rispetto a tutti i criteri individuati.

1. Antonella Basso, Giacomo di Tollo: Prediction of UK research excellence framework assessment by the departmental h-index. *European Journal of Operational Research*, in press.
2. Marco Corazza, Giacomo di Tollo, Giovanni Fasano, Raffaele Pesenti: A novel hybrid-PSO optimizer for costly portfolio selection problems. *Annals of Operations Research*, in press.
3. Marco Corazza, Davide De March, Giacomo di Tollo: Design of adaptive Elman networks for credit risk assessment. *Quantitative Finance*, Vol. 21 (2), pp. 323-340 (2021)
4. Joseph Andria, Giacomo di Tollo, Raffaele Pesenti: Fuzzy Multi-Criteria Decision Making: An entropy-based approach to assess tourism sustainability. *Tourism Economics*, Vol. 27(1), pp. 168-186 (2021).
5. Joseph Andria, Giacomo di Tollo, Raffaele Pesenti: Detection of Local Tourism Systems by Threshold Acceptance. *Computational Management Science*, Vol 12 (4), pp. 559-575 (2015).
6. Giacomo di Tollo, Stoyan Tanev, Giacomo Liotta, Davide De March: Using online textual data, principal component analysis and artificial neural networks to study business and innovation practices in technology-driven firms. *Computers in Industry*, Vol 74, pp. 16-28 (2015).
7. Giacomo di Tollo, Frederic Lardeux; Frederic Saubion, Jorge Maturana. An experimental study of adaptive control for evolutionary algorithms. *Applied Soft Computing*, Vol. 35, pp. 359-372 (2015).
8. Giacomo di Tollo, Stoyan Tanev, Davide de March, Zheng Ma. Neural Networks to model the innovativeness perception of co-creative firms. *Expert Systems with Applications*, Vol. 39, pp. 12719-12726 (2012).
9. Luca Di Gaspero, Giacomo di Tollo, Andrea Roli, Andrea Schaerf. Hybrid Metaheuristics for Constrained Portfolio Selection Problems. *Quantitative Finance*, Vol 11 (10), pp. 1473-1487 (2011).
10. Manfred Gilli, Enrico Schumann, Giacomo di Tollo, Gerda Cabej. Constructing 130 / 30 Portfolios with the Omega ratio. *Journal of Asset Management*, vol 12 (2), pp. 94-108 (2011).
11. Giacomo di Tollo, Andrea Roli. Metaheuristics for the portfolio Selection Problem. *International Journal of Operations Research*, Vol. 5 (1), pp. 13-35 (2008).
12. Eliana Angelini, Giacomo di Tollo, Andrea Roli. A neural network approach for credit risk evaluation. *Quarterly Review of Economics and Finance*, vol.48 (4), pp. 733-755 (2008).

ELENCO PUBBLICAZIONI

DARIA GHILLI

- 1) *Periodic homogenization for weakly elliptic HJB, with critical fractional diffusion*, A. Ciomaga, D. Ghilli, E. Topp, Preprint 2021, accepted in Communications in Partial Differential Equations,
arxiv: <https://arxiv.org/abs/2002.09252>.
- 2) *Existence and non existence for time-dependent mean field games with strong aggregation*, M. Cirant, D. Ghilli, Preprint 2021, accepted in Mathematische Annalen.
arxiv: <https://arxiv.org/abs/2011.00798>.
- 3) *Inverse problem in breaking line identification by shape optimization*, D. Ghilli, V. Kovtunenکو, K. Kunisch, Journal of Inverse and Ill-Posed Problems 28(1), 2019.
DOI:10.1515/jiip-2019-0047
- 4) *On a monotone scheme for nonconvex nonsmooth optimization with applications to fracture mechanics*, D. Ghilli, K. Kunisch, JOTA, Vol. 183, Issue 2, 609-641, 2019.
DOI 10.1007/s10957-019-01545-4.
- 5) *Junction conditions for finite horizon optimal control problems on multi-domains with continuous and discontinuous solutions*, D. Ghilli, Z. Rao, H. Zidani, ESAIM:COCV, 2018.
DOI 10.1051/cocv/2018072.
- 6) *On the monotone and primal dual active set schemes for ℓ^p -type problems, $p \in (0, 1]$* , D. Ghilli, K. Kunisch, Computational Optimization and Applications 72 (1), 45-85, 2018.
- 7) *Viscosity methods for large deviations estimates of multiscale stochastic processes*, D. Ghilli, ESAIM:COCV 24 (2), 605-637, 2018.
DOI 10.1051/cocv/2017051.
- 8) *On Neumann problems for nonlocal Hamilton-Jacobi equations with dominating gradient terms*, D. Ghilli, Calculus of Variations and Partial Differential Equations 56:139, 2017.
DOI 10.1007/s00526-017-1225-6.
- 9) *Quantitative Borell-Brascamp-Lieb inequalities for compactly supported power concave functions (and some applications)*, D. Ghilli, P. Salani, Journal of Convex Analysis 24 (3), 857-888, 2017.
- 10) *Large deviations for some fast stochastic volatility models by viscosity methods*, M. Bardi, A. Cesaroni, D. Ghilli, DCDS-A, 35 (9), 2015.
DOI:10.3934/dcds.2015.35.3965.
- 11) *Stability of isoperimetric type inequalities for some Monge-Ampère functionals*, D. Ghilli, P. Salani, Annali di Matematica pura ed applicata, Vol. 193, Issue 3, 643-661, 2014.
DOI 10.1007/s10231-012-0295-5.
- 12) *A monotone scheme for sparsity optimization in ℓ^p with $p \in (0, 1]$* , D. Ghilli, K. Kunisch, IFAC 2017 Proceeding.

Elenco delle pubblicazioni presentate

- 1) Deelstra, G., Devolder P. and Melis R. (2021) Optimal annuitisation in a deterministic financial environment, *Decisions in Economics and Finance* 44: 161-175, DOI: 10.1007/s10203-020-00316-5.
- 2) Melis R., Trudda A. (2020) Critical issues of public pension system: the Italian case. In Peris-Ortiz, M, Domínguez Fabián, I., Alvarez-Garcia, J. and Devolder, P. (Eds), *Economic Challenges of Pension Systems – A Sustainability and International Management Perspective*, Springer International, ISBN: 978-3-030-37911-7: 427-438. https://doi.org/10.1007/978-3-030-37912-4_19.
- 3) Melis R., Trudda A. (2018) Public pension system sustainability. In Chybalski, F. and Marcinkiewicz, E. (Eds.), *Contemporary problems of intergenerational relations and pension systems: a theoretical and empirical perspective*. Proceedings of PenCon 2018 Pensions Conference, 19-20 April 2018 Lodz, Poland, Lodz: Lodz University of Technology. ISBN: 978-83-7283-900-8.
- 4) Cadoni M., Melis R., Trudda A. (2017) Pension funds rules: paradoxes in risk control, *Finance Research Letters* 22: 20-29, ISSN: 1544-6123, doi: 10.1016/j.frl.2017.05.003.
- 5) Cadoni M., Melis R., Trudda A (2015) Financial crisis: a new measure for risk of pension fund portfolios, *Plos One* 10 (6), 10.1371/journal.pone.0129471, ISSN: 1932-6203.
- 6) Devolder P., Melis R. (2015) Optimal mix between pay-as-you-go and funding for pension liabilities in a stochastic framework, *Astin Bulletin* 45 (3): 551-575, DOI: 10.1017/asb.2015.14, ISSN: 0515-036.
- 7) Melis R. and Trudda A. (2012) Solvency indicators for partially unfunded pension funds, *Investment Management and Financial Innovations* 9 (4): 71-77, ISSN: 1810-4967.
- 8) Melis R., Trudda A. (2012) Financial and demographic risk impact on private PAYG pension system: the Italian case. *Actual Problems of Economics*, 133, n.7, 2012: 427-439, ISSN: 1993-6788.
- 9) Melis R., Trudda A. (2012) Financial and demographic risks in PAYG pension funds, *Economics Bulletin* 32 (2): 1320-1329, ISSN: 1545-2921.
- 10) Melis R. and Trudda A. (2012) Financial and Demographic Risk Impact in Pay-As-You-Go Pension Funds, in *Mathematical and Statistical Methods for Actuarial Sciences and Finance MAF 2010*, C. Perna and M. Sibillo Eds, Springer, pp 305-313, ISBN: 978-88-470-2341-3, DOI: 10.1007/978-88-470-2342-0_36.
- 11) Melis R., Trudda A. (2010) Demographic risk indicators in pay-as-you-go pension funds, *Problems and Perspectives in Management* 8 (4): 117-126, ISSN: 1727-7051.
- 12) Melis R., I fondi pensione Pay-As-You-Go: rischio demografico e solvibilità, Tesi di dottorato, Università degli Studi di Napoli Federico II, Dicembre 2008.
- 13) Melis R., Trudda A. (2009) Demographic Risk in Pay-As-You-Go Pension Funds, in *New Frontiers in Insurance and Bank Risk Management*, Mc Graw-Hill Italia, isbn 978-88-386-6061-0, 85-95.

Tortoli, 26/07/2021

ELENCO PUBBLICAZIONI TORRICELLI

1. P.Carr and L.Torricelli “*Additive logistic processes in option pricing*” forthcoming in Finance and Stochastics, 2021
2. L. Torricelli: “*Trade duration risk in subdiffusive financial models*”, Physica A, 541, 2020.
3. C. Fries and L. Torricelli: “*An analytical pricing framework for financial assets with trading suspensions*” 2018. SIFIN, 11(2), 566-592, 2020.
4. A. Jacquier and L.Torricelli: “*Anomalous diffusions in option prices: connecting trade duration and the volatility term structure*”. SIFIN, 11(4), 1137–1167, 2020.
5. L.Torricelli. “*The effect of an instantaneous dependency rate on the social equitability of PAYG public pension schemes*”. Journal of Pensions Economics and Finance, 1-20, 2020.
6. L. Torricelli: “*Volatility targeting using delayed diffusions*”. Applied Mathematical Finance, 25(3), 213-246, 2018.
7. L. Torricelli: “*Valuation of asset and volatility derivatives using decoupled time-changed Lévy processes*”, 2016. Review of Derivatives Research, 19.
8. L. Torricelli: “*Pricing joint claims on an asset and its realized variance in stochastic volatility models*”, 2013, IJTAF, 16.
9. G. Di Graziano and L. Torricelli: “*Target Volatility option pricing*”, 2012, IJTAF, 15. Reprinted in *Finance at Fields*, 207–224, 2012
10. L. Torricelli: *Modeling of volatility-linked financial products*, PhD Thesis, March 2016

Elenco Pubblicazioni

Pubblicazioni su rivista

1. F. Benedetto, L. Mastroeni, P. Vellucci, Modeling the flow of information between financial time-series by an entropy-based approach. *Ann Oper Res* 299, 1235–1252 (2021).
2. F. Benedetto, L. Mastroeni, P. Vellucci, Extraction of Information Content Exchange in Financial Markets by an Entropy Analysis. *Transactions on Management Information Systems*, 12 (2021), 1-16
3. L. Mastroeni, A. Mazzocchi, G. Quaresima, P. Vellucci, Decoupling and recoupling in the crude oil price benchmarks: An investigation of similarity patterns, *Energy Economics*, 94 (2021): 105036.
4. C. Condemni, L. Mastroeni, P. Vellucci. "The Selection of Predictive Variables in Aggregate Hydroelectric Generation Models." *Journal of Energy Markets* 14.1 (2021).
5. F. Benedetto, L. Mastroeni, G. Quaresima, P. Vellucci, Does OVX affect WTI and Brent oil spot variance? Evidence from an entropy analysis, *Energy Economics*, 89 (2020), 104815.
6. A.M. Bersani, A. Borri, A. Milanese, G. Tomassetti, and P. Vellucci. Uniform Asymptotic Expansions beyond the tQSSA for the Goldbeter-Koshland Switch. *SIAM J. Appl. Math.*, 80(3) (2020), 1123–1152.
7. L. Mastroeni, P. Vellucci, M. Naldi. A reappraisal of the chaotic paradigm for energy commodity prices, *Energy Economics*, 82 (2019), 167-178.
8. L. Mastroeni, P. Vellucci, M. Naldi, Agent-Based Models for Opinion Formation: A Bibliographic Survey, *IEEE Access* 7 (2019), 58836-58848.
9. L. Mastroeni, P. Vellucci, M. Naldi. Co-existence of stochastic and chaotic behaviour in the copper price time series, *Resources Policy* 58 (2018), 295-302.
10. L. De Carli, P. Vellucci. Stability results for Gabor frames and the p-order hold models. *Linear Algebra and its Applications*, 536 (2018), 186-200.
11. L. Pareschi, P. Vellucci, M. Zanella. Kinetic models of collective decision-making in the presence of equality bias. *Physica A: Statistical Mechanics and its Application*, 467 (2017), 201-217.

Capitoli di libro

12. Mastroeni L, Vellucci P. Chaos versus stochastic paradigm in energy markets. In *Handbook of Energy Finance*. World Scientific; 2020. p. 765–86.

Tesi di dottorato

13. P. Vellucci. Basis expansions in applied mathematics.

Roma, 23 luglio 2021

Trento, 23/7/2021

Elenco delle pubblicazioni scientifiche presentate per la selezione

1. V. Benci, A.M. Micheletti e D. Visetti, *An eigenvalue problem for a quasi-linear elliptic field equation on \mathbf{R}^n* , Topological Methods in Nonlinear Analysis **17** (2001), 191–211.
Publisher: Nicolaus Copernicus University, Juliusz P. Schauder Centre for Nonlinear Studies, Torun, Poland.
2. V. Benci, A.M. Micheletti e D. Visetti, *An eigenvalue problem for a quasi-linear elliptic field equation*, Journal of Differential Equations **184** (2) (2002), 299–320.
DOI: 10.1006/jdeq.2001.4155
Elsevier
3. A.M. Micheletti e D. Visetti, *Solitary waves solutions of a nonlinear Schrödinger equation*, “Nonlinear equations: Methods, Models and Applications” in: Progress in Nonlinear Differential Equations and Their Applications, Eds.: D. Lupo, C.D. Pagani and B. Ruf, **54**, Birkhauser Verlag (2003), 217–224.
DOI: 10.1007/978-3-0348-8087-9-16
Springer
4. D. Visetti, *Multiplicity of symmetric solutions for a nonlinear eigenvalue problem in \mathbf{R}^n* , Electronic Journal of Differential Equations, **2005** n. 5 (2005), 1–20.
<https://ejde.math.txstate.edu/Volumes/2005/05/abstr.html>
5. A.M. Micheletti, A. Pistoia e D. Visetti, *On the number of blowing-up solutions to a nonlinear elliptic equation with critical growth*, Rocky Mountain Journal of Mathematics **37** n. 1 (2007), 291–325.
DOI: 10.1216/rmjm/1181069333
Rocky Mountain Mathematics Consortium, Arizona State University
6. A. Pokrovskii, O. Rasskazov e D. Visetti, *Homoclinic trajectories and chaotic behaviour in a piecewise linear oscillator*, Discrete and Continuous Dynamical Systems, Series B, **8** (2007), 943–970.
American Institute of Mathematical Sciences
7. D. Visetti, *Multiplicity of solutions of a zero mass nonlinear equation on a Riemannian manifold*, Journal of Differential Equations **245** n. 9 (2008), 2397–2439.
DOI: 10.1016/j.jde.2008.03.002
Elsevier

8. S. Cingolani, G. Vannella e D. Visetti, *Morse index estimates for quasilinear equations on Riemannian manifolds*, Advances in Differential Equations **16** n. 11-12 (2011), 1001–1020.
Publisher: Khayyam Publishing, Inc. USA
9. D. Breda, D. Visetti, *Existence, multiplicity and stability of endemic states for an age-structured S–I epidemic model*, Mathematical Biosciences **235** n. 1 (2012), 19–31.
DOI: 10.1016/j.mbs.2011.10.004
Elsevier
10. S. Cingolani, G. Vannella e D. Visetti, *Multiplicity and nondegeneracy of positive solutions to quasilinear equations on compact Riemannian manifolds*, Communications in Contemporary Mathematics **17** n. 2 (2015).
DOI: 10.1142/S0219199714500291
World Scientific
11. A.H. Hamel, D. Visetti, *The value functions approach and Hopf-Lax formula for multiobjective costs via set optimization*, Journal of Mathematical Analysis and Applications **483** n. 1 (2020).
DOI: 10.1016/j.jmaa.2019.123605
Elsevier
12. A.H. Hamel, F. Heyde, D. Visetti, *The inf-translation for solving set minimization problems*, accepted for publication in Journal of Nonlinear and Convex Analysis (2021).
13. Tesi di dottorato.

PUBLICATIONS:

6. Zormpas, D., and Ruble R., 2021 The dynamics of preemptive and follower investments with overlapping ownership. *Journal of Economic Dynamics and Control*, Volume 129, 104175 (<https://doi.org/10.1016/j.jedc.2021.104175>)
5. Buso, M., Moretto, M., and Zormpas, D., 2021. Excess returns in Public-Private Partnerships: Do governments pay too much? *Economic Modelling*, Volume 102, 105586 (<https://doi.org/10.1016/j.econmod.2021.105586>)
4. Fontini, F., Vargiolu, T. and Zormpas D., 2021 Investing in electricity production under a reliability options scheme. *Journal of Economic Dynamics and Control*, Volume 126, 104004 (<https://doi.org/10.1016/j.jedc.2020.104004>)
3. Zormpas, D., 2021 Jointly Held Investment Options and Vertical Relationships. *Review of Industrial Organization* 58, 513–530 (<https://doi.org/10.1007/s11151-020-09784-w>)
2. Zormpas, D., and Agliardi R., 2021 The effect of vertical relationships on investment timing. *International Game Theory Review*, 2150005 (<https://doi.org/10.1142/S0219198921500055>)
1. Zormpas, D., 2020. Investments under vertical relations and agency conflicts: a real options approach, *International Review of Economics & Finance*, Volume 70, pp. 273-287 (<https://doi.org/10.1016/j.iref.2020.06.017>)

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1 Education, Training and Positions

- **2019 – up to now** Faculté des Sciences, de la Technologie et de la Communication, Université du Luxembourg, Esch-sur-Alzette, Luxembourg; Student Project Reviewer (vacataire).
- **2018 – up to now** Dipartimento di Economia, Università Ca' Foscari, Venezia (I); Research Fellow (Ric. T.D. (A)).
- **2017– 2018** Dipartimento di Management, Università Ca' Foscari, Venezia (I); Post-Doc Position.
- **2015 – 2017** Dipartimento di Economia, Università Ca' Foscari, Venezia (I); Post-Doc Position.
- **2014 – 2015** Dipartimento di Management, Università Ca' Foscari, Venezia (I): Post-Doc Position.
- **2013 – 2014** LAGIS - Ecole Centrale de Lille, Lille (F): ATER.
- **2012 – 2013** LISIC - Université du Littoral et Cote d'Opale, Calais (F): ATER.
- **2010 – 2012** LERIA - Université d'Angers en Pays-de-Loire (F): Post-Doc Position; Chargé de cours; ATER.
- **2009 – 2010** Dipartimento di Scienze, Università degli studi *G. D'Annunzio*, Chieti-Pescara (I): Assegno di Ricerca (Post-Doc Position).
- **2005 – 2008** Dipartimento di Scienze, Università degli studi *G. D'Annunzio*, Chieti-Pescara (I): PhD student in Computer Science Economics (with stipendium). **Doctor Europaeus**. Thesis title: Portfolio selection Problem by Metaheuristics.
- **2003–2005** Corso di Laurea Specialistica in Economia Informatica, Università degli studi *G. D'Annunzio*, Chieti-Pescara (I). Dottore Magistrale in Economia Informatica (final mark: 110/110 cum laude). Thesis title: Neural Net and Credit Risk: state-of-the art and experimental analysis.
- **2000–2003** Corso di Laurea in Economia Informatica, Università degli studi *G. D'Annunzio*, Chieti-Pescara (I). Dottore in Economia Informatica (final mark: 110/110 cum laude). Thesis title: P and NP classes.
- **1995–2000** ITC *L.Einaudi* – Ortona (Chieti), Accountant (final mark: 100/100).
- **2001** Diplomato in pianoforte (final mark: 9/10).

2 Languages

MOTHER TONGUE:
ITALIAN

OTHER LANGUAGES:
ENGLISH

Reading skills: Excellent

Writing skills: Excellent

Verbal skills: Excellent

FRENCH

Reading skills: Excellent

Writing skills: Excellent

Verbal skills: Excellent

GERMAN

Reading skills: B1.2

Writing skills: B1.2

Verbal skills: B1.2

3 Technical Skills and Competences

Knowledge and working skills about Windows, MacOS and Linux (including main applications) platforms.

Computer Languages Knowledge: Assembly, C/C++, Java, MATLAB, Comet, Perl, Pascal, Bash-Scripting, PHP, HTML, JSON, Python.

DataBase Languages Knowledge: MySQL, PHP, ASP, Oracle, RubyOnRail. Expert on Database Knowledge management and Data Analysis.

4 Research Interests

- Portfolio selection problem by metaheuristics;
- Credit risk assessment by neural networks;
- Port logistics;
- Research evaluation by quantitative methods;
- Autonomous evolutionary computation;
- Innovation;
- Responsible Research and Innovation;
- Experimental analysis of algorithms;
- Quantitative finance;

- Financial optimization;
- Touristic districts by metaheuristics.

5 Teaching portfolio

5.1 Teaching Philosophy

As a teacher, an important role is to provide students with *tools* that they will be using to understand and develop many aspects of their life, and this relates not only to professional related aspects: science and technology are part of human being, and they are of great help to support decision-making also in every-day tasks. In this framework, I always structure my lectures in order to make students to understand the different choices availables, if any. This represents a hard task, because choices are generally not clear a-priori, and students have to find or formulate them also accordingly to their past experiences.

The aforecited *tools* are not ready to use as they are: they are to be learnt by students. And this represents a continuous challenge for me as a teacher, whose another important role is to be *facilitator of learning*, and each course requires a different effort to fulfil duties coming from this role. I like to think that the classroom represents a vertical aggregate, in which the different horizontal experiences (trajectories) represented by students' experiences gather together. Topics dealt with may have or not a influence on these trajectories, but for sure they will make these trajectory to touch themselves, and to understand whether they go in the same direction. This thought is related to the more and more heterogeneous composition of the attendance, not only due to the multi-cultural evolution of society, but also to the fact that many courses are offered to an attendance coming from different Master programs. For this reason I always consider time for discussions, and I urge students to come to the desk, in order to evaluate the effect of this heterogeneity on themselves.

Of course, my teaching encompasses aspects that may be considered by some student as *technical*, as something unchangeable over time. This is not true: the development of a given topic is always influenced by the needs of some portion of society itself, that changes over time. I think this consideration is helpful to trigger the interest of many, hence I always give some *horizontal* content to my lectures, by introducing historical examples, together with current and purportedly future applications.

5.2 Formal education in teaching methods and pedagogical practice

During my Master studies I have attended *Communication and Presentation* and *Sociology of Communication* courses (2004-2005), that contained modules about how to develop and convey efficiently a teaching topic.

During my PhD studies I have attended the *COMISEF* courses and workshops (2007-2010, see Sect. 8), whose goal has been to provide us with the necessary skills to perform teaching and make research at University level, up to the PhD curriculum.

After obtaining the PhD I have passed the exam and obtained the *Qualification* (2011) in France, which declared me apt to teach and research in the French University system.

5.3 Teaching experience

5.3.1 Academic Year 2020-2021: Dipartimento di Economia, Università Ca' Foscari, Venezia, Italia

- Mathematics
- Financial Decisions in the Public Sector

5.3.2 Academic Year 2019-2020: Dipartimento di Economia, Università Ca' Foscari, Venezia, Italia

- Mathematics
- Advanced Insurance and Actuarial Methods
- Financial Decisions in the Public Sector

5.3.3 Academic Year 2018-2019: Dipartimento di Economia, Università Ca' Foscari, Venezia, Italia

- Mathematics
- Advanced Insurance and Actuarial Methods
- Financial Decisions in the Public Sector

5.3.4 Academic Year 2017-2018: Dipartimento di Economia, Università Ca' Foscari, Venezia, Italia

- Mathematics
- Maths for Economics

5.3.5 Academic Year 2016-2017: Dipartimento di Economia, Università Ca' Foscari, Venezia, Italia

- Mathematics
- Maths for Economics

5.3.6 Academic Year 2015-2016: Dipartimento di Economia, Università Ca' Foscari, Venezia, Italia

- Mathematics
- Maths for Economics

5.3.7 Academic Year 2013-2014: Ecole Centrale Lille, Lille, France

- Operations Research
- C Programming
- Networks (pratic module (TP))
- Advanced Data Structures and Algorithmics (pratic module (TP))
- Advanced Algorithmics and complexity (pratic module (TP))
- Middleware-Client-Server

- Web development (pratic module (TP))
- Static and Dynamic Web development (pratic module (TP))
- Advanced Web development (pratic module (TP))

5.3.8 Academic Year 2012-2013: University of Littoral et Cote D'Opale, Calais , France

- C Programming (pratic module (TP))
- C++ Programming (pratic module (TP))
- Networks (pratic module (TP))
- Introduction to Operational Systems (pratic module (TP))
- Operational Systems (pratic module (TP))
- Advances on Database Management (pratic module (TP))
- BashScripting (pratic module (TP))
- Advances on BashScripting (pratic module (TP))
- Web Technologies (pratic module (TP))

5.3.9 Academic Year 2011-2012: University of Angers en Pays-de-Loire, France

- Programming Language C (recovery module)
- Programming Language C (pratic module (TP))
- Introduction to Programming (TP)
- Advances on Introduction to Programming (TP)
- Operational Systems (TP)
- Networks (TP)
- Object Oriented Programming (TP)

5.3.10 Academic Year 2010-2011: University of Angers en Pays-de-Loire, France

- 6h lectures *Introduction to Computational Finance*. PhD School
- *Encadrement* of 9 stages (8 Bachelor Student, 1 Master Student).

5.3.11 Academic Year 2009-2010: University of Southern Denmark, Odense (DK)

Computational Methods for Portfolio Optimization and Credit Risk (6ECTS).

5.3.12 Academic Year 2009-2010: Facoltà di Economia - Università G. D'Annunzio, Chieti - Pescara (I)

Search methodologies module (1CFU).

5.3.13 Academic Year 2009-2010: Facoltà di Economia, Università G. D'Annunzio, Chieti - Pescara (I)

Artificial Intelligence and Complex Systems (6CFU).

5.3.14 Academic Year 2008-2009: Facoltà di Economia - Università G. D'Annunzio, Chieti - Pescara (I)

Law-Database module (1CFU).

5.4 Project collaborations

- **2014-2021** During my service at *Ca' Foscari University* in Venezia (I) I belong to the *Maths* work package, whose project is devoted to teaching aspects related to Maths and its applications to Economics and Finance. I am also part of *PRIMA* (Progetto Innovativo Matematica), a work package devoted to provide an unified framework to teach Maths in the different curricula.
- **2010-2014** Great part of my duties during my services in French universities has been devoted to teaching projects: in France each teaching unit is partitioned in *Main lectures*, TD (*travaux dirigés*: lectures with practical-oriented content) and TP (*travaux pratiques*: exercises performed by students supervised by the lecturer). Each part is (can be) assigned to a different lecturer, and lecturer participating to the same unit form a commission whose aim is to determine the teaching project, content, modality of assessment, and to follow all those aspects.
- **2008-2010** As a member of the *Dipartimento di Scienze* Assembly I have been part of the *Computer Science* work package, whose task has been to determine the teaching loading of Computer Science topics.

5.5 Tests and exams

As for modality of tests and exams, during my teaching duties I have used the following:

- Submission of required assignments: Student projects, used for the *Artificial Intelligence and Complex Systems* in Pescara, *stages* in Angers, *Computational Methods for Portfolio Optimization and Credit Risk* in Odense, and many courses in Calais and Lille. After identifying the topic to be dealt with, projects have been aimed to apply a given methodology to a concrete case stemming from industry or social sciences.
- Submission of required assignments: Software development. Differently from *Student Project*, this modality does not take into account research-related aspects: the main goal is to show that the student is able to use a language/methodology he has learnt. For this reason, they have been mainly used for early-stage students (BSc level).

- Written exams. 2 to 4 hours, consisting of several points to be developed: both theoretical questions (e.g., to rank computer memories w.r.t. their speed) or practical developments (e.g., to solve an optimisation problem with the simplex algorithm) have been used.

All of the aforecited methods have been graded by internal censorship. Academic grading used: Danish (7-grade scale), French (20-grade scale) and Italian (30-grade scale). Reexams only made in Italian Universities. In some courses obligatory assignments have been required before the exam (pass/fail, evaluation by the teacher).

5.6 Teaching methods

As for the temporal partition, during my teaching activity I have experienced the following two approaches:

1. A clear separation amongst theoretical and practical aspects, in the French system (main lectures, TP and TD).
2. An integrated conception of teaching, in which the responsible of the unit cares of both theoretical and practical aspects.

As for teaching units with *traditional* curriculum and modality of assessment, I prefer the approach 2), in which it is easier to follow a conceptual schema without caring of external constraints due to scheduling, time-tabling and administrative procedures for hiring, which may arise when using the approach 1). This does not hold for *stages* (internships), in which a clear separation is possible without causing interruptions of the teaching conceptual flow, and in which a clear separation between the academic supervision (theoretical) and the firm supervision (practical) is necessary in order to understand differences in goals and methodologies between industry and faculties.

6 Seminars

- January 13th, 2020, **Computational Methods for Economics and Finance**. Molde University College, Molde (N)
- May 31st, 2019, **Departmental h-index and REF research assessment**. Business School, University of Edinburgh, Edinburgh (UK)
- December 1, 2016, **Research evaluation by Generalised Linear Methods**. Lunch seminar series. Graduate School of Economics, Faculty of Economics, Kyoto University, Kyoto (J)
- December 6, 2016, **Particle Swarm Optimization for Portfolio Selection**. Applied Micro Seminar. Graduate School of Economics, Faculty of Economics, Kyoto University, Kyoto (J)
- October 12, 2016, **Generalised linear models to predict the result of research evaluation**. Dipartimento di Economia, Università Ca' Foscari, Venezia (I)
- April 29, 2016, **An application of PSO to Portfolio Selection Problems**. Business School, University of Edinburgh, Edinburgh (UK)
- June 29, 2015, **Particle Swarm Optimisation for Portfolio Selection**. CENS, Tallinn University of Technology, Tallinn (EE)
- May 07, 2015, **Coherence and Dissonance: How music can stem from a formal model**. The Aesthetics of Music and Sound, University of Southern Denmark, Odense (DK)
- December 18, 2014, **Some advances in Particle Swarm Optimization and their applications to Portfolio Selection**. RoDeO on the Road, Università di Padova, Padova (I)
- September 24, 2014, **An Evaluation of Adaptive Control for Evolutionary Algorithms**. Dipartimento di Management, Università Ca' Foscari, Venezia (I)
- Maj 8, 2014, **Organizing the Half Tones and Working with Dissonance**. University of Southern Denmark, Odense (DK)
- October 23, 2013, **Adaptive Operator Selection for SAT**. Laboratoire d'Automatique, Génie Informatique et Signal, Ecole Centrale de Lille, Lille, France.
- Maj 2, 2013, **An application of Cycles to Twelve-Tones Structures**. University of Southern Denmark, Odense (DK)
- February 21, 2013, **Adaptive Operator Selection for GA**. Institute of Control and Computation Engineering, Warsaw University of Technology, Warsaw, Poland.
- January 24, 2013, **On-line tuned Genetic Algorithms**. Laboratoire d'Informatique Signal et Image de la Cote d'Opale, Calais, France.
- January 22, 2013, **Optimisation by Threshold Accepting**. Institute of Control and Computation Engineering, Warsaw University of Technology, Warsaw, Poland.
- March 05, 2010, **Neural Networks for Credit Risk Assessment**. Institute of Control and Computation Engineering, Warsaw University of Technology, Warsaw (PL)

- January 26, 2010, **Portfolio Selection by Metaheuristics**. Dipartimento di Scienze Economiche e Statistiche, Università degli Studi di Salerno, Fisciano (I)
- Maj 07, 2009, **Portfolio Optimization by Metaheuristics**. DISI - Dipartimento di Ingegneria e Scienza dell'Informazione, Università degli Studi di Trento, Trento (I)
- March 10, 2009, **Portfolio Optimization by Hybrid Metaheuristics**. Institute of Control and Computation Engineering, Warsaw University of Technology, Warsaw (PL)
- February 01, 2008, **Portfolio Selection by metaheuristics**. IRIDIA-ULB, Bruxelles (Belgium)
- April-July 2007, **Periodic seminars about Portfolio Selection by Metaheuristics**. Econometric Department, Geneva University, Geneva (CH)
- July 24, 2006, **Portfolio Optimization by metaheuristics**. Luxembourg University, Luxembourg (Luxembourg)
- April 13, 2006, **Neural Nets and Credit Risk**. Facoltà di Economia - Università *G. D'Annunzio* Chieti - Pescara (I)

7 International scientific partnerships

August 2020— **SmartCulTour** (Smart Cultural Tourism as a Driver of Sustainable Development of European Regions): H2020 funded project from the European Union's Horizon 2020 research and innovation programme under grant agreement No 870708: participation in project meetings and recruitment procedures; development of the following project tasks:

- development of algorithms for web scraping from tourist search engines;
- construction of databases on administrative and non-administrative data;
- design of models for analysing tourist clusters on regional scale;
- design of forecasting models with neural networks, tourism destination scale.

Maggio 2021: Invited professor — Université d'Artois, Béthune (F).

People: Adnen El-Amraoui.

December 2017: Visiting Researcher — Universidad Argentina de la Empresa, Buenos Aires (AR/RA)

People: Rodrigo Jose Mendez

Topic: Port Logistics

December 2016: Visiting Researcher — Graduate School of Economics, Faculty of Economics, Kyoto University, Kyoto (J)

People: Saori Chiba

Topic: Research evaluation by game theory

June 2015: Visiting Researcher — Institute of Cybernetics, Tallin University of Technology (EE)

People: Jaan Kalda, Robert Kitt

Topic: Financial time series

Maj-June 2014: Visiting Researcher — Institute of Cybernetics, Tallin University of Technology (EE)

People: Jaan Kalda, Robert Kitt

Topic: Financial time series

June-July 2013: Visiting Researcher — ESSEC, Tunis (Tunisia)

People: Dr. Wassim Ayadi, Mohammed Kassis Slim

Topic: Adaptive algorithms

January-February 2013: Visiting Researcher — Warsaw University of Technology (P), Institute of Control and Computation Engineering

People: Prof. Wlodek Ogryczak, Jaroslaw Hurkala.

Topic: Portfolio Selection by linear models.

April-June 2010: Guest Researcher — University of Southern Denmark, Odense (DK)

People: Prof. Stoyan Tanev, Dott. Marco Chiarandini.

Topics: Assessing relationships between innovation and co-creation by neural networks; Interactive Multi-Objective Portfolio Selection.

July 2007- July 2010: Team member of COMISEF European Training and Research Network coordinated by Prof. Peter Winker (D), in the *University of Geneva* work package.

People: Prof. Peter Winker, Prof. Manfred Gilli.

Topic: Portfolio Selection by local search.

June-July 2009: Visiting Researcher – Molde University College, Molde (N)

People: Prof. Arne Lokketangen.

Topic: Distance measures for Portfolio Selection.

February-March 2009: Visiting Researcher – Warsaw University of Technology (P), Institute of Control and Computation Engineering

People: Prof. Wlodek Ogryczak, Dr. Adam Krzemienowski.

Topic: Portfolio Selection by linear models.

January-June 2008: Visiting PhD student – IRIDIA, Université Libre de Bruxelles, Bruxelles (B)

People: Dr. Thomas Stuetzle, Dr. Mauro Birattari, Prasanna Balaprakash, Carlo Pinciroli, Eliseo Ferrante, Marco Antonio Montes de Oca.

Topics: Multiobjective Portfolio Selection, Statistical Dominance over Mean-Variance Portfolios, Index Tracking by Estimated Local Search, Social Learning Strategies.

September-December 2007: Visiting PhD student – CCFEA, Essex University, Colchester (UK)

People: Dr. Dietmar Maringer.

Topic: Index Tracking by metaheuristics.

April-July 2007: Visiting PhD student – Econometric Department, Geneva University, Geneva (CH)

People: Prof. Manfred Gilli, Enrico Schumann, Evis Kellezi.

Topic: Portfolio Selection with short positions.

8 Courses and Schools

- **Specific training directed to the protection of health and safety of workers employed in office activities - LOW risk class** Università Ca' Foscari, Venezia (I), 2021.
- **General training for workers on occupational safety and health** Università Ca' Foscari, Venezia (I), 2021.
- **COMISEF-Tutorial on Applied Finance and Financial Econometrics** Tutorials about: multiplicative error models, liquidity (risk) premia, credit portfolio management, CDO pricing, copulae methods in finance, estimating and modelling quadratic (co-)variations (Humboldt University, Berlin(D), 12-14 November 2009) .
- **COMISEF-Tutorial on Statistical Model Selection** Tutorials about: computational strategies for subset model selection and last trimmed squares, robust strategies, Bayesian model selection, heuristics for model selection (Grand Resort Hotel, Limassol, Cyprus, 26-28 October 2009) .
- **COMISEF-Tutorial on Convergence Analysis** Tutorials about: statistical approaches, neural networks, extreme values theory, robust optimisation (Castle Rauishholzhausen (D), 15-19 October 2008) .

- **COMISEF-Tutorial on Heuristic Optimization** Tutorials about: heuristic optimization paradigm, local search methods, population based methods, Monte Carlo methods (Sils- Maria (CH), 24-29 October 2007).
- **CCFEA 2007 Summer School** New Trends in Computational Finance and Economics (Centre for Computational Finance and Economic Agents, Essex University (UK), 3 - 7 September 2007).
- **COMISEF-Tutorial on Complimentary Skills I** Tutorials about Scientific Writing, using Latex and Bibtex, Introduction to Matlab & Octave, Structure and Activities of the RTN COMISEF (Castle Rauishholzhausen (D), 16-20 July 2007).
- **CP Doctoral Program** Twelfth International Conference on Principles and Practice of Constraint Programming (Nantes (F) 24-29 September 2006).
- **Introduction to constraint programming** Course held by Andrea Roli (Università *G. D'Annunzio*, Chieti-Pescara (I), march-april 2006).

9 Awards and Grants

9.1 Awards

- Certificate of outstanding contribution in reviewing, awarded January 2016 in recognition of the contributions made to the quality of the Journal. Applied Soft Computing Journal, Elsevier, Amsterdam, The Netherlands.
- Certificate of reviewing, awarded January 2016 in recognition of the review made for the Journal. Applied Soft Computing Journal, Elsevier, Amsterdam, The Netherlands.
- *Most Innovative Technology* award at the *Robot Film Festival* (New York, 2012) for the movie *Swarmanoid*.
- *AAAI Best Video* for the movie *Swarmanoid* (2011).

9.2 Grants

- Università Ca' Foscari and Universidad Argentina de la Empresa (RA): Overseas Mobility Grant, 2016 (Università Ca' Foscari, Venezia, Italy). Value: 1000 EUR
- MIUR: Prin Project 2015XAPRKF –Smart PORT Terminals - SPORT : Fellow member
- Università Ca' Foscari and Kyoto University (J): Overseas Mobility Grant 5 weeks visiting research grant, 2016 (Università Ca' Foscari, Venezia, Italy). Value: 900 EUR
- TALLINN UNIVERSITY OF TECHNOLOGY (EE): 1 month visiting research scholarship, 2014 (Ministero degli Esteri, Roma, Italy). Value: 300 EUR
- ESSEC, TUNIS (TN): 1 month visiting research scholarship, 2013 (Ministero degli Esteri, Roma, Italy). Value: 250 TLN

- WARSAW UNIVERSITY OF TECHNOLOGY, INSTITUTE OF CONTROL AND COMPUTATION ENGINEERING, WARSAW (PL): 2 months visiting research scholarship, 2013(Polish Institute, Roma (I)). Value:600 EUR
- BASEL UNIVERSITY, BASEL (CH): 9 months guest research scholarship, 2010 (Basel University (Basel, Switzerland)). Value:13500 CHF (NOT USED)
- UNIVERSITY OF SOUTHERN DENMARK, ODENSE (DK): 9 months guest research scholarship, 2010 (Cirius (Danmark)). Value:15000 DKK
- MOLDE UNIVERSITY COLLEGE, MOLDE (N): 2 months visiting research scholarship, 2009 (Norwegian Research Council (N)). Value:31000 NOK
- WARSAW UNIVERSITY OF TECHNOLOGY, INSTITUTE OF CONTROL AND COMPUTATION ENGINEERING: 2 months visiting research scholarship, 2009 (Polish Institute, Roma (I)). Value:600 EUR .
- CP-IA-OR: Financial support (Bruxelles (B) 23-26 Maj 2007). Value: 350 EUR
- POR Abruzzo2000-2006 C3/IC4E: 12 months-Regional grants for Research and Training in Scientific Areas. (Regione Abruzzo, 2007) . Value: 10000 EUR
- CP Doctoral Program: Financial support (Nantes (F) 24-29 September 2006).
- 6 months Erasmus Scholarship: Università *G. D'Annunzio* (Chieti, I) – Fachhochschule fur Wirtschaft (Ludwigshafen am Rhein, D). 2004

10 Presentations

- Gender analysis and attention to gender: An experimental framework. Held at Machine Learning for Finance – Online workshop, 18 December 2020 - Remote Conference.
- Neural networks to determine the relationships between business innovation and gender aspects. Held at eMAF2020 (Mathematical and Statistical Methods for Actuarial Sciences and Finance) 18, 22 and 25 September, 2020 – Remote Conference.
- An automated approach to store and retrieve port regulations. Presentato presso *International Conference on Optimization and Decision Science*, Taormina, Italy, September 10th–13th, 2018.
- A generalised linear model approach to predict the result of research evaluation. Held at MAF 2016, Paris (F), 31 March 2016.
- Hybrid Metaheuristic for Portfolio Selection: Comparison with an exact solver and search space analysis. Held at 8th Workshop on Computational Optimization (WCO'15). Lodz, Poland, 13 - 16 September 2015.
- Clustering local tourism systems by Threshold Acceptance. Held at EvoSTAR 2015, Copenhagen, april 2015.
- Reti Neurali e Rischio di Credito. Held at Giornata di Studio in memoria del Prof. Massimo Salzano (Università di Salerno, Salerno (I), 30 October 2008).
- Index Tracking by estimation-based local search. Held at Workshop on Computational and Financial Econometric 2008 (Neuchatel (CH), 21 june 2008).
- Solving Portfolio selection problems through hybrid techniques. Held at 4th International Conference on Computational Management Science (Geneva (CH), 20 April 2007).
- A Hybrid Solver for Constrained Portfolio Selection Problems. Held together with Luca Di Gaspero at Learning at Intelligent OptimizatioN 2007 (Andalo (I), 14 February 2007).
- The Portfolio Selection Problem: Opportunities for constrained-based metaheuristics. Held at Doctoral Program – Twelfth International Conference on Principles and Practice of Constraint Programming (Nantes (F), 25 September 2006).
- Credit Risk: A neural net approach. Held at AIXIA-RCRA (Gruppo di lavoro in Rappresentazione della conoscenza e ragionamento automatico - Associazione Italiana per l'Intelligenza Artificiale) (Udine (I), 23.06.2006).

11 Publications

11.1 Submitted Works

1. Antonella Basso, Giacomo di Tollo: Dynamics of the departmental h-index and prediction of the REF research assessment. Submitted to *European Journal of Operational Research*.
2. Giacomo di Tollo, Jaan Kalda, Joseph Andria: The predictive power of power-laws: an empirical time-arrow based investigation. Submitted to *Applied Mathematical Finance*.
3. Giacomo di Tollo, Stoyan Tanev, Joseph Andria: Determining the relationships between innovation communication practices and gender aspects: a neural network approach. Submitted to *Knowledge and Information Systems*.

11.2 Journal Papers

- Marco Corazza, Giacomo di Tollo, Giovanni Fasano, Raffaele Pesenti: A novel hybrid-PSO optimizer for costly portfolio selection problems. *Annals of Operations Research*, in press.
1. Marco Corazza, Davide De March, Giacomo di Tollo: Design of adaptive Elman networks for credit risk assessment. *Quantitative Finance*, Vol. 21 (2), pp. 323-340 (2021)
 2. Joseph Andria, Giacomo di Tollo, Raffaele Pesenti: Fuzzy Multi-Criteria Decision Making: An entropy-based approach to assess tourism sustainability. *Tourism Economics*, Vol. 27(1), pp. 168-186 (2021).
 3. Joseph Andria, Giacomo di Tollo, Raffaele Pesenti: A heuristic fuzzy algorithm for assessing and managing tourism sustainability. *Soft Computing*, Vol. 24, pp. 4027-4040 (2020).
 4. Raffaele Pesenti, Paola Pellegrini; Giacomo di Tollo: Scheduling ships movements within a canal harbor. *Soft Computing*, Vol. 23, pp. 2923-2936 (2019).
 5. Joseph Andria, Giacomo di Tollo, Raffaele Pesenti: Detection of Local Tourism Systems by Threshold Acceptance. *Computational Management Science*, Vol 12 (4), pp. 559-575 (2015).
 6. Giacomo di Tollo, Stoyan Tanev, Giacomo Liotta, Davide De March: Using online textual data, principal component analysis and artificial neural networks to study business and innovation practices in technology-driven firms. *Computers in Industry*, Vol 74, pp. 16-28 (2015).
 7. Giacomo di Tollo, Frederic Lardeux; Frederic Saubion, Jorge Maturana. An experimental study of adaptive control for evolutionary algorithms. *Applied Soft Computing*, Vol. 35, pp. 359-372 (2015).
 8. Giacomo di Tollo, Thomas Stuetzle, Mauro Birattari. A metaheuristic multi-criteria optimisation approach to portfolio selection. *Journal of Applied Operational Research* Vol. 6 (4), pp. 222-242 (2014).
 9. Giacomo di Tollo, Stoyan Tanev, Davide de March, Zheng Ma. Neural Networks to model the innovativeness perception of co-creative firms. *Expert Systems with Applications*, Vol. 39, pp. 12719-12726 (2012).

10. Luca Di Gaspero, Giacomo di Tollo, Andrea Roli, Andrea Schaerf. Hybrid Metaheuristics for Constrained Portfolio Selection Problems. *Quantitative Finance*, Vol 11 (10), pp. 1473-1487 (2011).
11. Manfred Gilli, Enrico Schumann, Giacomo di Tollo, Gerda Cabej. Constructing 130 / 30 Portfolios with the Omega ratio. *Journal of Asset Management*, vol 12 (2), pp. 94-108 (2011).
12. Giacomo di Tollo, Andrea Roli. Metaheuristics for the portfolio Selection Problem. *International Journal of Operations Research*, Vol. 5 (1), pp. 13-35 (2008).
13. Eliana Angelini, Giacomo di Tollo, Andrea Roli. A neural network approach for credit risk evaluation. *Quarterly Review of Economics and Finance*, vol.48 (4), pp. 733-755 (2008).

11.3 Book Chapters

1. Joseph Andria, Giacomo di Tollo, Raffaele Pesenti. A fuzzy evaluation of tourism sustainability. In *Business and Consumer Analytics: New Ideas*, Springer, pp. 911-932 (2019).
2. Joseph Andria, Giacomo di Tollo, Arne Lokketangen. Distance measures for Portfolio Selection. In *Financial Decision Aid using Multiple Criteria Models*, Springer Verlag, pp. 113 - 129 (2017).
3. Giacomo di Tollo, Andrea Roli. Local Search Algorithms for Portfolio Selection: Search Space and Correlation Analysis. In *Recent Advances in Computational Optimization*, Studies in Computational Intelligence, vol. 655. Springer International Publishing Switzerland, pp. 21-38 (2016).
4. Giacomo di Tollo, Stoyan Tanev, Davide De March, Zengh Ma. Determining innovativeness by neural networks: a concrete case study. In *Complexity in Economics: Cutting Edge Research – Chaos Theory: What Perspectives for the Economics*, edited by Marisa Faggini and Anna Parziale. New Economic Windows, Springer Verlag. pp. 49-62 (2014).
5. Joseph Andria, Giacomo di Tollo. Selezione di portafoglio e metaeuristiche. In *Annali della Facoltà di Economia, Università di Palermo*, pp. 147-157 (2013) (in Italian).
6. Giacomo di Tollo, Marianna Lyra. Elman Nets for Credit Risk Assessment. In *Decision Theory and Choices: a Complexity approach*, edited by Marisa Faggini and Concetto Paolo Vinci. New Economics Windows, Springer Verlag. pp. 147-167 (2010).
7. Giacomo di Tollo, Dietmar Maringer. Metaheuristics for the index tracking problem. In *Metaheuristics in the Service Industry*, edited by Martin Josef Geiger, Walter Habenicht, Marc Sevaux, Kenneth Sorensen. Lecture Notes in Economics and Mathematical Systems, Springer Verlag. pp. 127-154 (2009).

11.4 Conference Papers

1. Marco Corazza, Giacomo di Tollo, Giovanni Fasano, Raffaele Pesenti: A PSO-based framework for nonsmooth portfolio selection problems, in *Neural Advances in Processing Nonlinear Dynamic Signals*, Cham, Springer International Publishing, vol. 102, pp. 265-275.

2. Antonella Basso, Giacomo di Tollo: A generalised linear model approach to predict the result of research evaluation, in Marco Corazza, Florence Legros, Cira Perna, Marilena Sibillo editors: *Mathematical and Statistical Methods for Actuarial Sciences and Finance, MAF 2016*, Springer Verlag Heidelberg.
3. Giacomo di Tollo: Hybrid Metaheuristic for Portfolio Selection: Comparison with an exact solver and search space analysis. *Proceedings of 8th Workshop on Computational Optimization (WCO'15). Federated Conference on Computer Science and Information Systems (FedCSIS)*, pag 579-588. Lodz, Poland, 13 - 16 September 2015. Published by IEEE. Book Series: ACSIS-Annals of Computer Science and Information Systems; Volume: 5
4. Joseph Andria, Giacomo di Tollo. Clustering local tourism systems by Threshold Acceptance. *Applications of Evolutionary Computation: Proceedings of the 18th European Conference EvoApplications 2015*, pp. 629-640. Copenhagen, Denmark, April 8-10, 2015. Published by Springer International Publishing Switzerland (Lecture Notes in Computer Science, 9028).
5. Davide de March, Giacomo di Tollo, Stoyan Tanev, Zheng Ma. Using online innovation metrics to cluster co-creative firms by SOMs. *Proceedings of the XXIII ISPIM Conference - Action for Innovation: Innovating from Experience*, pag 1-10. Barcelona, 17-20 June 2012. Published by The International Society for Professional Innovation Management, Manchester.
6. Giacomo di Tollo, Stoyan Tanev, Davide de March, Zheng Ma. Modelling the innovation related outcomes of co-creation practices in technology- driven firm. *Proceedings of Business Complexity and Global Leader Conference*, Boston, October 18-19 2011.
7. Giacomo di Tollo, Frederic Lardeux Jorge Maturana, Frederic Saubion. From Adaptive to More Dynamic Control in Evolutionary Algorithms. *Evolutionary Computation in Combinatorial Optimization: Proceedings of the 11th European Conference, EvoCOP 2011*, pag 130-141. Torino, Italy, April 27-29, 2011. Published by Springer-Verlag Berlin Heidelberg.
8. Luca Di Gaspero, Giacomo di Tollo, Andrea Roli, Andrea Schaerf. Local Search for Constrained Financial Portfolio Selection Problems with Short Sellings. *Learning and Intelligent Optimization: Selected Papers from the 5th International Conference, LION 5*, pp. 450-452. Rome, Italy, 17-21 January 2011. Published by Springer-Verlag Berlin Heidelberg (Lecture Notes in Computer Science).
9. Stoyan Tanev, Giacomo di Tollo. A neural network approach for the evaluation of the innovation outcomes of value co-creation practices in technology-driven firms, *Proceedings of the EBRF 2010 Conference*, Sept. 15-17, 2010, Nokia, Finland.
10. Luca Di Gaspero, Giacomo di Tollo, Andrea Roli, Andrea Schaerf. Hybrid Metaheuristics for Portfolio Selection Problems. *Proceedings of MIC2007 (Montreal (CA), 25-29.06.2007)*.
11. Giacomo di Tollo. The Portfolio Selection Problem: Opportunities for constrained-based metaheuristics. *Proceedings of CP2006 Doctoral Program, Nantes (FR), 24-29.09.2006*.
12. Luca Di Gaspero, Giacomo di Tollo, Andrea Roli, Andrea Schaerf. Solving Portfolio selection problems through hybrid techniques. *Proceedings of CMS2007*.

13. Luca Di Gaspero, Giacomo di Tollo, Andrea Roli, Andrea Schaerf. Hybrid Local Search for Constrained Financial Portfolio Selection Problems. Proceedings of CPAIOR2007, LNCS, Springer.

11.5 Conference Short Papers

1. Giacomo di Tollo, Joseph Andria and Stoyan Tanev. Neural Networks to determine the relationships between business innovation and gender aspects. Abstract at eMAF2020, September 18, 22 and 25, 2020 - On the web.
2. Joseph Andria, G. di Tollo. An empirical investigation of heavy tails in emerging markets and robust estimation of the Pareto tail index. Abstract at eMAF2020, September 18, 22 and 25, 2020 - On the web.
3. Matteo Petris, Raffaele Pesenti, Giacomo di Tollo, Paola Pellegrini. Integrating ship movement scheduling and tug assignment within a canal harbor. Abstract at ODS2019 - International Conference on Optimization and Decision Science - XLIX AIRO Meeting (2019).
4. Raffaele Pesenti, Giacomo di Tollo, Paola Pellegrini. An automated approach to store and retrieve port regulations. Abstract at International Conference on Optimization and Decision Science, Taormina, Italy, September 10th–13th, 2018.
5. Raffaele Pesenti, Giacomo di Tollo, Paola Pellegrini. Scheduling ships and tugs within a harbour: the Port of Venice. Abstract at International Conference on Optimization and Decision Science, Sorrento, Italy, September 4th–7th, 2017.
6. Marco Corazza, Giacomo di Tollo, Giovanni Fasano and Raffaele Pesenti. A PSO-based framework for nonsmooth portfolio selection problems. Extended Abstract at 27th Italian Workshop on Neural Networks, Vietri sul Mare, June 14–16, 2017.
7. Antonella Basso, Giacomo di Tollo. Modelling and predicting the result of research evaluation with a generalised linear model approach. Extended Abstract at 40th AMASES Meeting, Catania (I), 15-17 September 2016.
8. Mohamed Slim Kassis, Giacomo Di Tollo, Hend Bouziri. A genetic algorithm for the project portfolio using a SAT formulation. International Conference on Decision Aid Sciences and Applications. July 18th–20th, 2016. Hammamet (Tunisia).
9. Antonella Basso, Giacomo di Tollo. A generalised linear model approach to predict the result of research evaluation. Abstract at MAF2016, April 30th-may 1st, Paris (F)
10. Mohamed Slim Kassis, Giacomo Di Tollo, Hend Bouziri. A performance study of crossover operators for the SAT problem. Fifth International Conference on Metaheuristics and Nature Inspired Computing, META'2014, October 27th-31st, 2014, Marrakech (Morocco).
11. Giacomo di Tollo, Frederic Lardeux Jorge Maturana, Frederic Saubion An Evaluation of Adaptive Control for Evolutionary Algorithms. 10th International Conference on Artificial Evolution (EA2011), Angers (F), October 22-24, 2011 (Poster Paper).

11.6 Workshop Papers

1. G. di Tollo, S. Tanev, Examining the articulation of innovativeness in co- creative firms: a neural network approach, Saratov Fall Meeting - Management of High Technologies Commercialization VII, Oct. 5-8, 2010, Saratov, Russia, Proceedings of the SPIE.
2. Manfred Gilli, Giacomo di Tollo, Enrico Schumann, Gerda Cabej, Evis Kellezi. Implementing Realistic Long/Short Portfolios: Optimisation Methods and Out-of-Sample Performance. 14th International Conference on Computing in Economics and Finance, Paris (F), 26-28 June 2008.
3. Giacomo di Tollo, Prasanna Balaprakash. Index Tracking by estimation- based local search. Workshop on Computational and Financial Econometric 2008, Neuchatel (CH), 19-21.06.2008.
4. Luca Di Gaspero, Giacomo di Tollo, Andrea Roli, Andrea Schaerf. A Hybrid Solver for Constrained Portfolio Selection Problems. Proceedings of LION 2007, Andalo (I), 12-19.02.2007.
5. Giacomo di Tollo. Credit risk: a neural net approach. Electronic Proceedings of RCRA 2006, Udine (I), 23.06.2006

11.7 Technical Reports

1. Marco Corazza, Giacomo di Tollo, Giovanni Fasano, Raffaele Pesenti: A novel initialization of Particle Swarm Optimization for costly portfolio applications. Dipartimento di Management, Università Ca' Foscari, Venezia (I), Working Paper 15-4.
2. Manfred Gilli, Enrico Schumann, Gerda Cabej, Giacomo di Tollo. Constructing Long/Short Portfolios with the Omega Ratio. Swiss Finance Institute Research Paper No. 08 - 34
3. Giacomo di Tollo, Pamela Peretti, Mauro Birattari, Eliseo Ferrante, Thomas Stuetzle: Statistical Dominance Over Pareto Optimal Mean-Variance Portfolios. Technical Report R-2010-001, Dipartimento di Scienze, Università *G. D'Annunzio* Chieti-Pescara (I).
4. Giacomo di Tollo, Andrea Roli. Metaheuristics for the Portfolio Selection Problem. Technical Report R-2006-005, Dipartimento di Scienze, Università *G. D'Annunzio* Chieti-Pescara (I).
5. Giacomo di Tollo. Portfolio Selection Problem by Metaheuristics: An Annotated Bibliography. Technical Report R-2006-002, Dipartimento di Scienze, Università *G. D'Annunzio* Chieti-Pescara (I).
6. Giacomo di Tollo. Reti neurali e rischio di credito: stato dell arte e analisi sperimentale. Technical Report R-2005-003, Dipartimento di Scienze, Università *G. D'Annunzio* Chieti-Pescara (I). (Master thesis, in italian)

12 Administrative duties

- Business responsible of 1 intership in the framework of the *VERA* Academy (University of Venice, 2021)
- Academic responsible of 1 Erasmus mobility undergraduate internship abroad (Thierry Delperdange Coaching (Belgium/Luxembourg) and University of Venice, 2021)
- Academic responsible of 2 internships in Turkey (2019) and Belgium (2021);
- Member of the evaluating committee for 7 post-doc positions in the framework of the European Commission funded project *Smartcultour* (2020-2021);
- Member of the evaluating committee for junior teaching assistant positions for the lectureship in Mathematics, Dipartimento di Economia, Ca' Foscari University, Venezia (I) (2018-2021);

13 Other scientific activities

13.1 Organization

13.1.1 Conferences

- Chair of the session *Machine Learning and Related Methods*, eMAF, remote, September 18-25, 2020
- Chair of the session *Bank system and evaluation*, MAF, Paris (F), March 30-April 1, 2016
- Chair of the session *Application of Heuristics*, 6th International Conference on Computational Management Science, Geneva (CH), Maj 1-4, 2009
- Local organization of 6th International Conference on Computational Management Science, Geneva (CH), Maj 1-4, 2009
- Local organization of 4th International Conference on Computational Management Science, Geneva (CH), April 20-22, 2007

13.1.2 Seminars

Local organization of the following seminar:

- Nuovi e vecchi problemi e metodi: Reti Neurali, Fitness Landscape - Eventi estremi e co-evoluzione by Prof. Massimo Salzano (Salerno University, I)
Science Department, Università *G. D'Annunzio*, Pescara (I), February 26, 2007

13.2 Reviewing Activity

13.2.1 EUROPEAN COMMISSION

- Expert Member: Horizon 2020 Advisory Group on RRI, call for proposals *H2020-SwafS-2020-1* (Science with and for Society, 2020).

- Expert Member: Horizon 2020 Advisory Group on RRI, call for proposals *H2020-SwafS-2019-1* (Science with and for Society, 2019).
- Expert Member: Horizon 2020 Advisory Group on RRI, call for proposals *H2020-SwafS-2018-1* and *H2020-SwafS-2018-2-two-stage* (Science with and for Society, 2018).

13.2.2 International Journals

- Applied Soft Computing;
- Asia-Pacific Journal of Operational Research;
- Computers & Operations Research;
- IEEE Transactions on Cybernetics;
- IEEE Transactions on Neural Networks;
- IEEE Transactions on Neural Networks and Learning Systems;
- International Journal of Information Technology & Decision Making;
- International Journal of Intelligent Systems;
- Journal of Mathematical Modelling and Algorithms;
- Journal of Nonlinear Analysis;
- Journal of Review on Global Economics;
- Knowledge and Information Systems;
- Knowledge Based Systems;
- Quantitative Finance.

13.2.3 International Conferences

- Sixth International Conference on Ant Colony Optimization and Swarm Intelligence (September 22-24, 2008 Bruxelles (B))
- VLDB 2010, 36th International Conference on Very Large Data Bases (13-17 Sept 2010, Singapore)
- Electrical Material and Electrical Engineering (CEMEE) 2015

13.3 International Research Projects

- Fonds Wetenschappelijk Onderzoek - Vlaanderen, FWO, Belgium.

13.4 Supervised PhD Students

- Mohamed Slim Kassis, ESSEC, Tunis(TN) (2012–)

13.5 Supervised Master Thesis

- An analysis of tourism and reputation via web-scraping (Tania Rossi, Commercio Estero, Università Ca' Foscari, Venezia (I), 2020-2021).
- An adaptive genetic algorithm for portfolio selection (Gianni Filograsso, Economia e Finanza, Università Ca' Foscari, 2020-2021).
- Gender aspects and innovation: an empirical approach (Sara Ghilardi, Commercio Estero, Università Ca' Foscari, 2020-2021).
- Previdenza obbligatoria e fondi pensione: evoluzione normativa, confronto ed analisi empirica del sistema pensionistico italiano (Federico Cardillo, Governance delle organizzazioni pubbliche, Università Ca' Foscari, 2019-2020). Final mark: Maximum (110/110) cum laude.
- Selezione di Portafoglio e Metaeuristiche: Stato dell'arte e analisi sperimentale (Sonia di Sario, Economia Informatica Specialistica, Università G. D'Annunzio, 2009-2010). Final mark: Maximum (110/110) cum laude.

13.6 Supervised Bachelor Thesis

- AIP Language Institute: il marketing e l'amministrazione di una scuola di lingue spagnola (Marianna Dalla Pace, Corso di Laurea in Commercio Estero, Università Ca' Foscari, 2020-2021). To be discussed.
- Il marketing nella traduzione. (Alessio Arancio, Corso di Laurea in Commercio Estero, Università Ca' Foscari, 2020-2021). To be discussed.
- Gestione delle risorse umane e processi di igienizzazione industriale: un caso di studio su Ica System S.r.L. (Riccardo Sartor, Corso di Laurea in Commercio Estero, Università Ca' Foscari, 2019-2020). Final mark: 96 / 110.
- Il Tirocinio post-Lockdown: Entrare nel mondo del lavoro in un modo inconsueto (Matteo Rizzi, Corso di Laurea in Economia e Commercio, Università Ca' Foscari, 2019-2020). Final mark: 88 / 110.

13.7 Membership in PhD jury

- Mnouchi Abir, University of Manouba (TN), 08 February 2021. Thesis Title: Bi-clustering to understand the innovation paths in tourism sector.
- Jin Zhang, Essex University, CCFEA, 23 August 2010. Thesis Title: Asset Allocation by Heuristic Search

13.8 Other Duties

- Representative of PhD students at the *Dipartimento di Scienze* Assembly (Chieti, I, 2006-2009)
- Responsible of the Technical Reports storage and maintainance at the *Dipartimento di Scienze* Assembly (Chieti, I, 2006-2010)

14 Referees

For any further information please contact:

- **Nicolas Guelfi, Full Professor, director of the Bachelor in Computer Science**
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- **Frederic Saubion, Full Professor (Directeur adjoint pour la recherche de la Faculté des Sciences de Angers)**
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Daria Ghilli

Posizione attuale

Novembre 2020-Ottobre 2023: Assegno di ricerca in LUISS, Università di Roma (Italia).

Progetto: PRIN 2017 "The Time-Space Evolution of Economic Activities: Mathematical Models and Empirical Applications".

Supervisore: Prof. Fausto Gozzi.

Postdoc

Luglio 2019-Ottobre 2020: Assegno di ricerca al Dipartimento di Matematica Tullio Levi-Civita, Università di Padova (Italia).

Progetto: Nonlinear partial differential equations: asymptotic problems and mean-field games.

PostDoc

Marzo 2016-Maggio 2019: Post-doc all'Istituto di Matematica e Calcolo Scientifico, Università di Graz, (Austria).

Progetto: ERC Advanced Grant Project OCLOC- from Open to Closed Loop Optimal Control.

Supervisore: Prof. Karl Kunisch.

Qualificazione francese

2017: Qualification aux fonctions de maître de conférences. Section 25: Mathématiques and Section 26: Mathématiques appliquées et applications des mathématiques.

Dottorato

Gennaio 2013-Febbraio 2016: Dipartimento di Matematica "Tullio Levi-Civita" Università di Padova (Italia).

24/02/2016: Difesa della tesi, menzione "eccellente".

Supervisore: Prof. Martino Bardi.

Tesi: *Some results in nonlinear PDEs: large deviations problems, nonlocal operators, and stability results for some isoperimetric problems.*

Il manoscritto è reperibile alla pagina: paduaresearch.cab.unipd.it/9141/1/thesis.pdf.

Laurea magistrale

Ottobre 2010-Luglio 2012: Dipartimento di Matematica "Ulisse Dini", Università di Firenze (Italia).

13 Luglio 2012: Difesa della tesi, cum laude, Dipartimento di Matematica "Ulisse Dini" Università di Firenze (Italia).

Supervisore: Prof. Paolo Salani.

Tesi: *Stability results of isoperimetric inequalities for some Monge-Ampère functionals.*

Attività di ricerca

- Nelle tesi di laurea triennale e magistrale ho lavorato in calcolo delle variazioni e proprietà geometriche (soprattutto convessità) delle soluzioni di equazioni ellittiche e paraboliche. In quest'ambito di ricerca i miei interessi specifici sono **disuguaglianze isoperimetriche e di tipo Brunn-Minkowski per funzionali variazionali** e risultati quantitativi (vedi gli articoli [9] e [11]).
- Durante il dottorato ho lavorato in equazioni alle derivate parziali non lineari, specificamente equazioni di Hamilton-Jacobi (HJ) e soluzioni di viscosità. In questo ambito, i miei interessi di ricerca sono:
 - **Omogeneizzazione per equazioni nonlineari HJ e applicazioni in matematica finanziaria.** In collaborazione con M. Bardi e A. Cesaroni (Università di Padova), mi sono occupata di grandi deviazioni per modelli multiscala a volatilità stocastica rapida e ulteriori applicazioni in matematica finanziaria per il prezzaggio di opzioni (out-of-the-money, vicine a maturità) e stime della volatilità implicita (vedi gli articoli [7] e [10]). Il tasso di convergenza e ulteriori stime per il prezzo delle suddette opzioni e formule per la volatilità implicita sono oggetto di un lavoro in corso, in collaborazione con P. Mannucci, C. Marchi (Università di Padova) e N. Tchou (Università di Rennes) (vedi work in progress [2]).
 - **Equazioni alle derivate parziali integrali di tipo HJ relative a processi di Lévy.** In particolare, la buona definizione di problemi al bordo di tipo Neumann e comportamento in tempi lunghi del problema evolutivo associato (vedi l'articolo [8]). In collaborazione con Adina Ciomaga, (LJLL, Paris) e Erwin Topp (Università di Santiago, Cile), mi sono occupata di regolarità per equazioni HJ nonlocali con applicazioni in omogeneizzazione (vedi l'articolo [1]).
 - **Problemi di controllo ottimo a dimensione finita con dinamica e costo discontinui**, con costo finale sia continuo che discontinuo (vedi l'articolo [5]).
- Nell'ambito del progetto ERC, in collaborazione con il prof. K Kunisch e il prof. V. Kovtunenکو (Università di Graz, Austria), ho sviluppato le seguenti linee di ricerca:
 - **ottimizzazione non convessa non regolare**, aspetti numerici e analitici, con applicazioni in controllo ottimo di EDP, ricostruzione di immagini e meccanica delle fratture (vedi gli articoli [4], [6], il Proceeding [1], Preprint [3]).
 - **problemi inversi in meccanica delle fratture** per l'identificazione della frattura con tecniche di ottimizzazione di forma (vedi l'articolo [3]).
- Nell'articolo [2], in collaborazione con Marco Cirant (Università di Padova), ho lavorato su **mean field games (MFG)** di tipo evolutivo, che descrivono fenomeni di aggregazione. Rispetto al setting classico (caso competitivo), nel caso aggregativo sono stati osservati fenomeni differenti, come non esistenza, non unicità, soluzioni periodiche, instabilità nell'orizzonte lungo. I nostri risultati sono non esistenza nell'orizzonte temporale lungo quando l'aggregazione è forte e esistenza per ogni tempo quando l'aggregazione è debole.
- Interessi nell'ambito del progetto Prin 2017 in LUISS: controllo ottimo stocastico (processi continui e discontinui) in dimensione infinita, **equazioni di Hamilton-Jacobi-Bellmann in dimensione infinita** (caso locale e non locale, rispettivamente), **modelli mean field games in geografia economica** per l'evoluzione spazio-tempo delle attività economiche e la micro-fondazione dell'allocatione dei fattori spaziali (work in progress [4]), modelli di economia in età pandemica per studiare come il COVID 19 (i.e. il lockdown di uno dei settori dell'economia) possa aver alterato le nostre abitudini e la domanda di alcuni beni anche dopo la riapertura, vedi

il preprint [5].

Periodi di ricerca all'estero

- **Novembre 2014-Giugno 2015:** Laboratoire de mathématiques and physique theorique, Université Francois-Rabelais de Tours, Tours (Francia).
Supervisore: prof. Guy Barles.
Argomenti di ricerca:
 - Equazioni alle derivate parziali con termini integrali relativi a processi di Lévy. Problemi al bordo di tipo Neumann per equazioni di Hamilton-Jacobi nonlocali di tipo Lévy: principi di confronto, esistenza e unicità e comportamento in tempi lunghi per il problema evolutivo (vedi l'articolo [8]).
- **Stage di 5 mesi (Novembre 2015-Marzo 2016):** ENSTA ParisTech, Palaiseau, Paris (Francia).
Supervisore: prof. Hasnaa Zidani.
Argomenti di ricerca:
 - Problemi di controllo ottimo a orizzonte finito in multi-domini con soluzioni continue e discontinue. Caratterizzazione delle condizioni di giunzione sulle interfacce come equazioni di Hamilton-Jacobi-Bellman, principi di confronto e risultati di stabilità (vedi l'articolo [5]).
- **Periodo di visita di ricerca di 2 settimane (20/04/2018-04/05/2018):** Università di Santiago, Cile, collaborazione con Erwin Topp sull'articolo [1].

Pubblicazioni

- 1 Periodic homogenization for weakly elliptic Hamilton-Jacobi-Bellman equations with critical fractional diffusion, A. Ciomaga, D. Ghilli, E. Topp, Preprint 2021, accepted in Communications in Partial Differential Equations.
arxiv: <https://arxiv.org/abs/2002.09252>.
- 2 Existence and non existence for time-dependent mean field games with strong aggregation, M. Cirant, D. Ghilli, Preprint 2021, accepted in Mathematische Annalen.
arxiv: <https://arxiv.org/abs/2011.00798>
- 3 *Inverse problem in breaking line identification by shape optimization*, D. Ghilli, V. Kovtunenkov, K. Kunisch, Journal of Inverse and Ill-Posed Problems 28(1) 2019, DOI:10.1515/jiip-2019-0047.
- 4 *On a monotone scheme for nonconvex nonsmooth optimization with applications to fracture mechanics*, D. Ghilli, K. Kunisch, JOTA, Vol. 183, Issue 2, 609-641, 2019, DOI 10.1007/s10957-019-01545-4.
- 5 *Junction conditions for finite horizon optimal control problems on multi-domains with continuous and discontinuous solutions*, D. Ghilli, Z. Rao, H. Zidani, ESAIM:COCV, 2018, DOI 10.1051/cocv/2018072.
- 6 *On the monotone and primal dual active set schemes for ℓ^p -type problems, $p \in (0, 1]$* , D. Ghilli, K. Kunisch, Computational Optimization and Applications 72 (1), 45-85, 2018.
- 7 *Viscosity methods for large deviations estimates of multiscale stochastic processes*, D. Ghilli, ESAIM:COCV 24 (2), 605-637, 2018, DOI 10.1051/cocv/2017051.
- 8 *On Neumann problems for nonlocal Hamilton-Jacobi equations with dominating gradient terms*, D. Ghilli, Calculus of Variations and Partial Differential Equations 56:139, 2017, DOI 10.1007/s00526-017-1225-6.

- 9 *Quantitative Borell-Brascamp-Lieb inequalities for compactly supported power concave functions (and some applications)*, D. Ghilli, P. Salani, Journal of Convex Analysis 24 (3), 857-888, 2017.
- 10 *Large deviations for some fast stochastic volatility models by viscosity methods*, M. Bardi, A. Cesaroni, D. Ghilli, DCDS-A, 35 (9), 2015, DOI:10.3934/dcds.2015.35.3965.
- 11 *Stability of isoperimetric type inequalities for some Monge-Ampère functionals*, D. Ghilli, P. Salani, Annali di Matematica pura ed applicata, Vol. 193, Issue 3, 643-661, 2014, DOI 10.1007/s10231-012-0295-5.

Preprints e works in progress

- 1 *Semiconcavity estimates for Hamilton-Jacobi equations with applications to asymptotics for small nonlinear price impact*, M. Cirant, D. Ghilli, work in progress.
- 2 *Rate of convergence for non periodic singular perturbation problems and applications in option pricing*, D. Ghilli, P. Mannucci, C. Marchi, N. Tchou, work in progress.
- 3 *Nonconvex flexible sparsity regularization: theory and monotonone numerical schemes*, D. Ghilli, D. Lorenz, E. Resmerita, preprint 2021 (submitted to Optimization).
- 4 *Time-space evolution of economic activities: a mean field game model*, D. Ghilli, C. Ricci, G. Zanco, work in progress 2021.
- 5 *The effects of lockdown in a pandemic economy: stochastic optimal control approach*, M. Bambi, D. Ghilli, F. Gozzi, M. Leocata, preprint 2021 (submitted to JET).

Proceedings

- 1 *A monotone scheme for sparsity optimization in ℓ^p with $p \in (0, 1]$* , D. Ghilli, K. Kunisch, IFAC 2017 Proceeding.

Attività di referaggio per giornali internazionali

Ho svolto attività di referaggio per i seguenti giornali internazionali:

- Communications on Pure and Applied Analysis
- SICON
- NODEA
- Journal of Statistical Software
- SINUM
- EJOR

Organizzazione di conferenze e mini symposia in conferenze

- "Mean field games and related topic 5 ", Levico Terme, Settembre 2019.
- Nonsmooth PDE-constrained optimization: problems and methods, "EWM General Meeting", Karl-Franzens Università di Graz, Graz (Austria), 3-7 Settembre 2018.

Seminari su invito (45-60 minuti)

- *Homogenization for nonlocal Hamilton-Jacobi-Bellman equations* Università di Padova (Italia), Aprile 2020.
- *On Neumann problems for nonlocal Hamilton-Jacobi equations related to jump processes, some recent results*, Università Paris-Dauphine (Francia), Autunno 2018.
- *On Neumann problems for nonlocal Hamilton-Jacobi equations related to jump processes, some recent results*, Università di Padova (Italia), Gennatio 2017.

- *On Neumann problems for nonlocal Hamilton-Jacobi equations related to jump processes, some recent results*, Johann Radon Institute RICAM (Linz), Giugno 2016.
- *Large deviations for fast stochastic volatility models by viscosity methods*, Séminaire de Probabilité-Statistique-Contrôle, ENSTA ParisTech (Francia), Gennaio 2016.
- *Hamilton-Jacobi equations and optimal control: some recent results*, Institute of Mathematics and Scientific Computing (Graz, Austria), Ottobre 2015.
- *On Neumann problems for nonlocal Hamilton-Jacobi equations with dominating gradient terms*, Séminaire d'Analyse, Université de Rouen, Insa, (Francia), Giugno 2015.
- *Large deviations for fast stochastic volatility models by viscosity methods*, Séminaire d'Analyse Numerique, Université de Rennes 1, Insa, (Francia), Marzo 2015.
- *Large deviations for fast stochastic volatility models by viscosity methods*, Séminaire PDE, Laboratoire de mathématiques and physique theorique, Université Francois-Rabelais de Tours (Francia), Ottobre 2014.

Seminari su invito (in conferenze)

- *Mean Field Games models arising in geographical economics*, Large-Scale Scientific Computations, Giugno 2021, Bulgaria
- *Non existence for evolutive focusing mean field games*, 8th European Congress of Mathematics 2020, Giugno 2021, Slovenia.
- *Future: Inverse problem in crack identification by shape optimization*, 10th International Conference "Inverse problems: modeling and simulation", Malta, Maggio 2022.
- *Inverse problem in crack identification by shape optimization*, "ICCOPT 2019", Berlino (Germania), Agosto 2019.
- *Theory and numerical practice for optimization problems involving ℓ^p -functionals, with $p \in (0, 1]$* , "GAMM 2019", Vienna (Austria), Febbraio 2019, (20 minuti).
- *Theory and numerical practice for optimization problems involving ℓ^p -functionals, with $p \in (0, 1]$* , "ORCOS: VC2018", Vienna (Austria), Luglio 2018 (25 minuti).
- *Theory and numerical practice for optimization problems involving ℓ^p -functionals, with $p \in (0, 1]$* , "PGMO days 2017", Paris (Francia), Novembre 2017, (25 minuti).
- *On monotone and primal-dual active set schemes for ℓ^p -type problems, with $p \in (0, 1]$* "IFAC 2017", Luglio 2017 (30 minuti).
- *Large deviations for fast stochastic volatility models by viscosity methods*, "Nonlinear PDEs: optimal control, asymptotic problems and mean field games", Padova (Italia), Febbraio 2016 (30 minuti).

Ulteriori comunicazioni (in conferenze)

- *Theory and numerical practice for optimization problems involving ℓ^p -functionals, with $p \in (0, 1]$* , "GAMM 2018", Monaco (Germania), Marzo 2018 (20 minuti).
- *On monotone and primal dual active set schemes for ℓ^p -type problems, with $p \in (0, 1]$* , "Optimization of Infinite Dimensional Non-Smooth Distributed Parameter Systems", Darmstadt (Germania), Ottobre 2017 (40 minuti).
- *On monotone and primal-dual active set schemes for ℓ^p -type problems, with $p \in (0, 1]$* International workshop "Optimal control of Dynamical Systems ", Mariatrost (Graz, Austria), Maggio 2017.
- *On nonlocal Hamilton-Jacobi equations related to jump processes, some recent results*, Workshop on Numerical Methods for Hamilton-Jacobi equations in optimal control and related fields, Linz (Austria), Novembre 2016.

- *A monotone scheme for sparsity optimization in ℓ^p with $p \in (0, 1]$* , “Imaging with Modulated/Incomplete Data 2016”, Graz (Austria), Settembre 2016.
- *On Neumann problems for nonlocal Hamilton-Jacobi equations related to jump processes*, “Analysis and Applications of Stochastic systems”, IMPA, Rio de Janeiro (Brasil), Marzo/aprile 2016.
- *Large deviations for fast stochastic volatility models by viscosity methods*, Workshop “Optimal Control of Partial and Ordinary Differential Equations”, École Polytechnique Palaiseau, Paris (Francia), Novembre 2015.
- *On Neumann problems for nonlocal Hamilton-Jacobi equations with dominating gradient terms*, “Partial differential equations, optimal design and numerics”, Centro de Ciencia de Benasque Pedro Pasqual, Benasque (Spagna), Agosto 2015.
- *Large deviations for fast stochastic volatility models by viscosity methods*, “New perspectives in optimal control and games”, Rome (Italy), Novembre 2014.
- *Large deviations for fast stochastic volatility models by viscosity methods*, “Recent advances in mathematical finance”, Padova (Italia), Settembre 2014.
- *Large deviations for fast stochastic volatility models by viscosity methods*, “Young researchers meeting in probability”, WIAS-TU Berlin and Unipotsdam (Germania), Ottobre 2014.
- *Stability results for Urysohn inequalities involving elliptic operators*, “Joint research program on nonlinear PDE’s of University of Florence and Tohoku University”, Florence (Italia), Marzo 2014.
- *Stability of isoperimetric inequalities for some Monge-Ampère functionals*, Conference “Convex geometry”, Centro Internacional de Encuentros Matematicos, Castro Urdiales (Spagna), Settembre 2013.
- *Stability of isoperimetric inequalities for some Monge-Ampère functionals*, “Workshop for Young researchers in mathematics”, University Ovidius Costanta (Romania), Maggio 2012.

Altre conferenze e scuole estive

- Workshop online “IMSI Summer Short Program: Introduction to Mean Field Games and Applications”, IMSI (Chicago), Giugno 2021.
- Workshop online “MFG and Applications”, IPAM (Los Angeles), Maggio 2020.
- Workshop online “Mean Field Games in Economics”, LUISS, Settembre 2020.
- “Mean Field Games and Related Topics-5”, Levico Terme (Trento, Italia), Settembre 2019.
- CIME summer school “Mean Field games”, Cetraro (Italy), Giugno 2019.
- Summer school ALOP: Optimization in Machine Learning and Data Science, Trier (Germania), Agosto 2017.
- Fifth meeting of the ANR HJNet, Tours (Francia), Gennaio 2016.
- Mean-Field games and related topics 3, Paris (Francia), Giugno 2015.
- CIME summer course “Partial differential equations and geometric measure theory”, Cetraro (Italia), Giugno 2014.
- EMS summer school “Workshop on interaction between dynamical system and partial differential equations JISD2014”, Barcelona (Spagna), Giugno 2014.
- Mean-Field games and related topics 2, Padua (Italia), Settembre 2013.
- Control day and tutorials “Numerical analysis of optimal control problems”, Padua (Italia) Settembre 2013.
- Scuola matematica interuniversitaria “Trends in Nonlinear and parabolic elliptic equations, Cortona (Italia), Luglio 2012.
- Frontiers of Mathematics and applications III, Universidad internacional Menendes Pelayo, Santander (Spagna), Agosto 2012.

Insegnamento

- Tutorship internazionale in Analisi, Algebra e Geometria, semestre invernale 2020/2021, Università di Padova, Dipartimento di ingegneria ambientale. Responsabile del corso: prof. Chiara D'Alpaos.
- Supporto per le esercitazioni del corso "Mathematical Methods for Economics and Finance", semestre invernale 2020/2021, LUISS (Università di Roma). Responsabile del corso: prof. Fausto Gozzi. Lingua: English.
- Esercitazioni per il corso "Istituzioni di Analisi" (Analisi), semestre invernale 2019/2020, Università di Padova. Totale di ore: 16. Lingua: Italian.
- Esercitazioni per il corso "Partial Differential Equations", semestre invernale 2018/2019, Università di Graz (Austria). Totale di ore: 13. Lingua: English.
- Esercitazioni per il corso "Computational Mathematic 2", semestre invernale 2017/2018, Università di Graz (Austria). Totale di ora: 14. Lingua: English.
- Esercitazioni per il corso "Introduction to complex analysis", semestre invernale 2016/2017, Università di Graz (Austria). Totale di ore: 14. Lingua: English.

Abilità informatiche

Buona conoscenza di Matlab. Conoscenza elementare di C e Mathematica.

Lingue

- Italiano: lingua madre
- Inglese: fluente: C1 (IELTS, grade:7.5)
- Francese: fluente: C1
- Tedesco: intermedio: B2
- Spagnolo: elementare

Referenze

- Prof. Martino Bardi, Dipartimento di Matematica "Tullio Levi-Civita", Università di Padova (Padova, Italia).
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- Prof. Fausto Gozzi, LUISS, Università di Roma (Roma, Italia).
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- Prof. Guy Barles, Laboratoire de mathématiques et physique théorique, Università di Tours (Tours, Francia).
Email: barles@lmpt.univ-tours.fr
- Prof. Hasnaa Zidani, ENSTA ParisTech, Palaiseau (Paris, France).
Email: hasnaa.zidani@ensta.fr
- Prof. Karl Kunisch, Institute of Mathematics and Scientific Computing, Università di Graz (Graz, Austria).
Email: karl.kunisch@uni-graz.at
- Prof. Paolo Salani, Dipartimento di Matematica "Ulisse Dini", Università di Firenze (Firenze, Italia).
Email: paolo.salani@unifi.it

Interessi personali

- Sport:
 - Tennis. Sto ancora imparando e sono molto appassionata.
 - Trekking. La meta preferita sono le Dolomiti, ma ho adorato le montagne più selvagge austriache e le colline con vigne a sud di Graz.
 - Danza. Ho danzato per otto anni (danza jazz e danza classica).
- Leggere: libri, giornali.
- Imparare nuove lingue.

La sottoscritta Daria Ghilli, nata a Firenze (FI) il giorno 16/01/1988 e residente a Firenze (FI) in via Antonio Meucci 42, 50134 Firenze, dichiara che quanto affermato nel CV corrisponde a verità ai sensi degli articoli 46 e 47 del D.P.R. 445/2000.

Curriculum vitae

ROBERTA MELIS

Luglio 2021

Posizione attuale

01/2020- in corso Ricercatore a tempo determinato ai sensi dell'art. 24, comma 3, lettera b della legge 240/2010 in Metodi matematici dell'economia e delle scienze attuariali e finanziarie SC 13/D4, SSD SECS-S/06, Universitas Mercatorum, Università Telematica delle Camere di Commercio Italiane, Piazza Mattei 10, 00186 Roma.

02/2010- in corso Ricercatore associato CRENoS, Centro di Ricerche Economiche Nord Sud, Università degli Studi di Cagliari e di Sassari.

Istruzione e formazione

01/2006-02/2009 Dottorato di ricerca in Matematica per l'analisi economica e la finanza, conseguito il 25 Febbraio 2009 presso l'Università degli Studi di Napoli Federico II—Dipartimento di Matematica e Statistica, Scuola di dottorato in scienze economiche e statistiche.

Titolo della tesi: "I fondi pensione Pay-as-you-go: Rischio demografico e solvibilità."

Relatore: Prof. Alessandro Trudda.

2006-2007 Frequenza in qualità di uditore dell'XI Master in Economia e Finanza MEF, Università degli Studi di Napoli Federico II—Dipartimento di Economia.

1998-2004 Laurea in Economia e commercio (110/110), Università degli Studi di Sassari.

Tesi in matematica finanziaria dal titolo: "Pricing delle opzioni con barriera"- Relatore Prof. A. Trudda.

1991-1996 Maturità classica - Liceo Classico Mameli Tortoli (60/60).

Esperienze di ricerca

Dal 08/11/2018 al 08/07/2019 postdoc presso l'Université Catholique de Louvain, Institut de Statistique, Biostatistique et Sciences Actuarielles ISBA. Progetto PDR / FNRS in collaborazione con Université Libre de Bruxelles "Risk Management and Pricing in Finance and Insurance", supervisor Prof. Pierre Devolder e Prof. Griselda Deelstra.

15/03/2017 – 14/03/2018 Assegnista di ricerca ai sensi dell'art. 22, comma 2 della legge 240/2010 nel SSD SECS-S/06 Metodi matematici dell'economia e delle scienze attuariali e finanziarie, Università degli Studi di Sassari, Dipartimento di Scienze Economiche e Aziendali.

Progetto "Opzioni ambientali e innovazione tecnologica in una regione turistica", responsabile scientifico Prof. Paolo Russo.

28/07/2016-27/10/2016 Borsista Università degli Studi di Sassari, Dipartimento di Scienze Economiche e Aziendali.

Progetto "Capitale sociale e divari economici regionali", responsabile scientifico Prof. Angelo Antoci.

15/05/2013-14/05/2016 Ricercatore a tempo determinato ai sensi dell'art. 24, comma 3, lettera b della legge 240/2010 in Metodi matematici dell'economia e delle scienze attuariali e finanziarie SC 13/D4, SSD SECS-S/06, Universitas Mercatorum, Università Telematica delle Camere di Commercio Italiane, Facoltà di Economia, via Appia Pignatelli 62, 00178 Roma.

13/01/2012-15/05/2013 Assegnista di ricerca ai sensi dell'art. 51, comma 6 della legge 449/1997 nel SSD SECS-S/06 Metodi matematici dell'economia e delle scienze attuariali e finanziarie, Università degli Studi di Sassari, Dipartimento di Scienze Economiche e Aziendali. Responsabile scientifico Prof. Angelo Antoci.

15/01/2010-14/01/2012 Titolare di borsa di ricerca per giovani ricercatori della Regione Autonoma della Sardegna (L.R. 7/2007). Università degli Studi di Sassari, Dipartimento di Economia, Impresa e Regolamentazione DEIR.

Titolo della ricerca: “Valutazione e monitoraggio della solvibilità dei fondi pensione attraverso l'analisi dei rischi demografici e finanziari, nelle politiche di Asset Liability Management. Responsabile scientifico Prof. Alessandro Trudda.

Valutazione primo anno e finale progetto da parte di referee esterni: “Ottimo”.

Esperienze di ricerca all'estero

11/2018-07/2019 Postdoc presso l'Université Catholique de Louvain, Institut de Statistique, Biostatistique et Sciences Actuarielles ISBA.

07/2018 Visiting professor su invito del Prof. Pierre Devolder, Université Catholique de Louvain, Institut de Statistique, Biostatistique et Sciences Actuarielles ISBA.

10/2016 Visiting professor su invito del Prof. Pierre Devolder, Université Catholique de Louvain, Institut de Statistique, Biostatistique et Sciences Actuarielles ISBA.

02/2015-03/2015 Visiting researcher su invito del Prof. Pierre Devolder, Université Catholique de Louvain, Institut de Statistique, Biostatistique et Sciences Actuarielles ISBA.

05/2012 Visiting researcher su invito del Prof. Pierre Devolder, Catholique de Louvain, Institut de Statistique, Biostatistique et Sciences Actuarielles ISBA. Réfèrent : Prof. Pierre Devolder.

03/2011-05/2011 Visiting researcher su invito del Prof. Pierre Devolder, Université Catholique de Louvain, Institut de Statistique, Biostatistique et Sciences Actuarielles ISBA.

Attività didattica

AA 2020/21, Universitas Mercatorum, Università Telematica delle Camere di Commercio Italiane.

R.t.d. b Titolare dei corsi di Metodologie statistiche per l'analisi e la gestione del rischio (9CFU), Corso di laurea magistrale in Ingegneria Gestionale, Metodi quantitativi e applicazioni per i big data (8 CFU) e Metodi quantitativi per il marketing (8 CFU) Corso di laurea in Gestione d'Impresa.

AA 2019/20, Universitas Mercatorum, Università Telematica delle Camere di Commercio Italiane.

R.t.d. b Titolare dei corsi di Metodi quantitativi e applicazioni per i big data (8 CFU) e Metodi quantitativi per il marketing (8 CFU) Corso di laurea in Gestione d'Impresa.

AA 2018/19 Università degli Studi di Sassari, Dipartimento di Scienze Economiche e Aziendali DISEA.

Docente a contratto (art. 23 L 240/2010). Titolare del corso di Risk Management – (6 CFU), Corso di laurea magistrale in Economia Aziendale e Scienze Economiche.

AA 2016/17, AA 2017/18 Università degli Studi di Sassari, Dipartimento di Scienze Economiche e Aziendali DISEA.

Docente a contratto (art. 23 L 240/2010). Titolare del corso di Risk Management – Modulo B (3 CFU), Corso di laurea magistrale in Economia Aziendale e Scienze Economiche.

AA 2013/14, 2014/2015, 2015/2016 Universitas Mercatorum, Università Telematica delle Camere di Commercio Italiane.

R.t.d. b Titolare del corso di Metodi Matematici (8 CFU) e supplente del corso di Matematica per le Decisioni Aziendali (4CFU), Corso di laurea in Gestione d'Impresa.

AA 2012/13 Facoltà di Economia, Libera Università di Bolzano, Piazza Università 1, Bolzano.

Docente a contratto (art. 23 L 240/2010) Titolare del corso di Matematica per le Applicazioni Economiche (6CFU), Corso di Laurea in Management del Turismo, dello Sport e degli Eventi, sede di Brunico.

AA 2012/13 Università degli Studi di Sassari, Dipartimento di Scienze Economiche e Aziendali.

Esercitazioni di Matematica per l'Economia e Matematica Generale, corso di Laurea in Economia e Management.

AA 2011/12 Università degli Studi di Sassari, Dipartimento di Scienze Economiche e Aziendali.

Esercitazioni di Matematica per l'Economia e Matematica Generale, corso di Laurea in Economia e Management e Metodi Matematici, corso di laurea in Scienze Economiche

AA 2010/11 Università degli Studi di Sassari, Facoltà di Economia.

Docente a contratto per attività didattiche integrative ai corsi di Matematica Generale (Corso A e B), Matematica per l'Economia, Corso di laurea in Economia e Management e Metodi Matematici, Laurea Magistrale in Scienze Economiche.

AA 2009/10 Università degli Studi di Sassari, Facoltà di Economia.

Docente a contratto per attività didattiche integrative ai corsi di Matematica Generale (Corso A e B), Corso di laurea in Economia e Management e Metodi Matematici, Laurea Magistrale in Scienze Economiche.
Esercitazioni di Scelte di Portafoglio e Matematica Attuariale (LM Scienze Economiche).

AA 2008/09 Università degli Studi di Sassari, Facoltà di Economia.

Docente a contratto per attività didattiche integrative al corso di Matematica Finanziaria. Esercitazioni di Matematica Attuariale.

AA 2007/08 Università degli Studi di Sassari, Facoltà di Economia.

Esercitazioni di Matematica Attuariale. Ricevimento studenti, assistenza esami di Matematica Finanziaria.

AA 2005/06 Università degli Studi di Sassari, Facoltà di Economia.

Docente a contratto per il corso di recupero di matematica finanziaria.

Cultore della materia, docente a contratto per attività didattiche integrative al corso di Matematica Finanziaria.

Esercitazioni di Metodi Matematici per l'Economia.

Referee per le riviste scientifiche

Plos One, Finance Research Letters, European Journal of Finance, Journal of Pension Economics and Finance Sustainability, Decisions in Economics and Finance, Applied Economics, Economics Bulletin, Entropy, Journal of Global Economics Management and Business Research, Arabian Journal of Business and Management Review, Journal of Risk and Financial Management.

Conoscenze linguistiche

Ottima conoscenza della lingua inglese (lettura, scrittura, espressione orale).

Conoscenza elementare della lingua francese (lettura, scrittura, espressione orale).

Pubblicazioni

- 1) Deelstra, G., Devolder P. and Melis R. (2021) Optimal annuitisation in a deterministic financial environment, *Decisions in Economics and Finance*, 44: 161-175, DOI: 10.1007/s10203-020-00316-5.
- 2) Melis R., Trudda A. (2020) Critical issues of public pension system: the Italian case. In Peris-Ortiz, M, Domínguez Fabián, I., Alvarez-García, J. and Devolder, P. (Eds), *Economic Challenges of Pension Systems – A Sustainability and International Management Perspective*, Springer International, ISBN: 978-3-030-37911-7: 427-438. https://doi.org/10.1007/978-3-030-37912-4_19.
- 3) Melis R., Trudda A. (2018) Public pension system sustainability. In Chybalski, F. and Marcinkiewicz, E. (Eds.), *Contemporary problems of intergenerational relations and pension systems: a theoretical and empirical perspective*. Proceedings of PenCon 2018 Pensions Conference, 19-20 April 2018 Lodz, Poland, Lodz: Lodz University of Technology. ISBN: 978-83-7283-900-8.
- 4) Cadoni M., Melis R., Trudda A. (2017) Pension funds rules: paradoxes in risk control, *Finance Research Letters* 22: 20-29, ISSN: 1544-6123, doi: 10.1016/j.frl.2017.05.003.
- 5) Cadoni M., Melis R., Trudda A (2015) Financial crisis: a new measure for risk of pension fund portfolios, *Plos One* 10 (6), 10.1371/journal.pone.0129471, ISSN: 1932-6203.
- 6) Devolder P., Melis R. (2015) Optimal mix between pay-as-you-go and funding for pension liabilities in a stochastic framework, *Astin Bulletin* 45 (3): 551-575, DOI: 10.1017/asb.2015.14, ISSN: 0515-036.
- 7) Melis R., Trudda A. (2014) Mixed pension systems sustainability, *Contributi di Ricerca CRENoS*, 14/13, ISBN: 978-88-84-67-905-5.
- 8) Melis R. and Trudda A. (2012) Solvency indicators for partially unfunded pension funds, *Investment Management and Financial Innovations* 9 (4): 71-77, ISSN: 1810-4967.
- 9) Melis R., Trudda A. (2012) Financial and demographic risk impact on private PAYG pension system: the Italian case. *Actual Problems of Economics*, 133, n.7, 2012: 427-439, ISSN: 1993-6788.
- 10) Melis R., Trudda A. (2012) Financial and demographic risks in PAYG pension funds, *Economics Bulletin* 32 (2): 1320-1329, ISSN: 1545-2921.
- 11) Cadoni M., Melis R., Trudda A. (2012) Financial Crisis: a new measure for risk of pension funds assets, *Contributi di Ricerca CRENoS*, 12/31, ISBN: 978-88-84-67-780-8.

- 12) Melis R. and Trudda A. (2012) Financial and Demographic Risk Impact in Pay-As-You-Go Pension Funds, in *Mathematical and Statistical Methods for Actuarial Sciences and Finance MAF 2010*, C. Perna and M. Sibillo Eds, Springer, pp 305-313, ISBN: 978-88-470-2341-3, DOI: 10.1007/978-88-470-2342-0_36.
- 13) Melis R., Trudda A. (2010) Demographic risk indicators in pay-as-you-go pension funds, *Problems and Perspectives in Management* 8 (4): 117-126, ISSN: 1727-7051.
- 14) Melis R., Trudda A. (2010) Demographic Risk in Pay-As-You-Go Pension Funds: a solvency index, in *Atti del XVI Convegno di Teoria del Rischio*, Loffredo Editore, Napoli, ISBN: 978-88-7564-419-2, 165-186.
- 15) Melis R., Trudda A. (2009) Demographic Risk in Pay-As-You-Go Pension Funds, in *New Frontiers in Insurance and Bank Risk Management*, Mc Graw-Hill Italia, isbn 978-88-386-6061-0, 85-95.

Tesi di dottorato:

- 16) Melis R., I fondi pensione Pay-As-You-Go: rischio demografico e solvibilità, Tesi di dottorato, Università degli Studi di Napoli Federico II, Dicembre 2008.

Working papers:

- 17) Melis R. and Trudda A. (2020) Introducing a funding component in a PAYG pension system: a cost-benefit analysis. Submitted to an international journal.
- 18) Melis R. (2018) A theoretical model for tourism stakeholders' preferences, working paper.

Presentazione a convegni

- 1) "Optimal successive annuitisations after retirement", AFIR ERM Colloquium 2019, Firenze, 21-24 Maggio 2019.
- 2) "Optimal successive annuitisations after retirement", Workshop "Fair Valuation in Insurance, 21-22 Marzo 2019 (su invito), Université Libre de Bruxelles, Bruxelles.
- 3) "On the sustainability of mixed pension systems", 4th European Actuarial Journal Conference, 10-11 Settembre 2018, Leuven, Belgio.
- 4) "Public Pension system sustainability", PenCon 2018 Pensions Conference, 19-20 April 2018 Lodz, Polonia, Lodz University of Technology.
- 5) "Funded and PAYG mixed pension systems' sustainability: an analysis of the long term equilibrium", XLI Convegno A.M.A.S.E.S., Cagliari, 14-16 Settembre 2017.
- 6) "Funded and PAYG mixed systems sustainability: stochastic risk indicators analysis", MAF 2014 Mathematical and Statistical Methods for Actuarial Sciences and Finance, Vietri sul mare 22-24 Aprile 2014.
- 7) "Risk indicators for pay-as-you-go pension funds", XVII Meeting on Risk Theory, Campobasso, 7 Settembre 2010.
- 8) "Risk indicators for unfunded pension funds", XXXIV Convegno A.M.A.S.E.S (Associazione di Matematica applicata alle Scienze Economiche e Sociali), Macerata, 1-4 Settembre 2010.
- 9) "Solvency index for pay-as-you-go pension funds", X International Conference SIMAI 2010, Cagliari 21-25 Giugno 2010.
- 10) "Financial and Demographic Risks Impact in Pay-As-You-Go Pension Funds", International Conference MAF 2010 Mathematical and Statistical Methods for Actuarial Sciences and Finance, Ravello 7-9 Aprile 2010.
- 11) "Demographic Risks in Pay-As-You-Go Pension Funds: a solvency index"- XVI XVII Meeting on Risk Theory – Campobasso, 18 Settembre 2009.
- 12) "Some Remarks on Demographic Risks in Pay-As-You-Go Pension Funds"- XXXIII Convegno A.M.A.S.E.S., Parma, 1-4 Settembre 2009.
- 13) "Demographic Risk in Pay-As-You-Go Pension Funds", X Italian-Spanish Congress of Financial and Actuarial Mathematics"- Cagliari, 23-25 Giugno 2008.

Organizzazione convegni

- 1) Membro del comitato organizzatore del XLI Convegno A.M.A.S.E.S, Cagliari, 14-16 Settembre 2017.

Partecipazione a progetti di ricerca

11/2018-8/2019. Componente del progetto PDR / FNRS Université Catholique de Louvain e Université Libre de Bruxelles "Risk Management and Pricing in Finance and Insurance", titolari Prof. Pierre Devolder and Prof. Griselda Deelstra.

01/06/2013-30/11/2015 Titolare Dott. Alessandro Trudda, Università di Sassari.

" Asset allocation degli enti previdenziali: monitoraggio della sostenibilità di lungo periodo ".

Progetto di ricerca Fondazione Banco di Sardegna.

06/2015-08/2015 Componente del progetto “Valutazione del Fondo Perequativo”, Universitas Mercatorum e Unioncamere.

11/2014-3/2015 Componente del progetto “Valutazione del Fondo Perequativo”, Universitas Mercatorum e Unioncamere.

15/01/2010-14/01/2012 Titolare Dott.ssa Roberta Melis

"Valutazione e monitoraggio della solvibilità dei fondi pensione attraverso l'analisi dei rischi demografici e finanziari, nelle politiche di Asset Liability Management".

Progetto finanziato dalla Regione Autonoma Sardegna, Borse di ricerca giovani ricercatori (L.R. 7/2007).

01/06/2010-30/11/2011 Titolare Prof. Angelo Antoci, Università di Sassari.

"Strumenti finanziari innovativi per sostenere politiche di protezione ambientale".

Progetto di ricerca Fondazione Banco di Sardegna.

01/06/2009-30/11/2010 Titolare Dott. Alessandro Trudda, Università di Sassari.

"Fondi pensione: valutazione e controllo dei rischi demografici e finanziari nelle politiche di asset-liability management".

Progetto di ricerca Fondazione Banco di Sardegna.

Associazioni scientifiche

Socio AMASES, Associazione di Matematica Applicata alle Scienze Economiche e Sociali, dal 2009.

Ricercatore associato CRENoS, Centro di Ricerche Economiche Nord Sud, Università di Cagliari e Sassari, dal 2010.

La sottoscritta Roberta Melis dichiara che tutti i fatti riportati nel presente curriculum corrispondono a verità ai sensi e per gli effetti degli artt. 46 e 47 del D.P.R. 445/2000.

La sottoscritta dichiara di essere a conoscenza delle sanzioni penali cui incorre in caso di dichiarazione mendace o contenente dati non più rispondenti a verità, come previsto dall'art. 76 del D.P.R. 28.12.2000, n. 445.

La sottoscritta dichiara di essere a conoscenza dell'art. 75 del D.P.R. 28.12.2000, n. 445, relativo alla decadenza dai benefici eventualmente conseguenti al provvedimento emanato, qualora l'Amministrazione, a seguito di controllo, riscontri la non veridicità del contenuto della suddetta dichiarazione.

Si allega a tale scopo copia del documento di identità in corso di validità.

Tortolì, 26/07/2021

Roberta Melis

CURRICULUM VITAE

Lorenzo Torricelli

UNIVERSITÀ DEGLI STUDI DI PARMA (current, from 01/06/2019)

Assistant Professor (RtDa), area SECS-S/06. Department of Economics and Management

Undergraduate Teaching:

- Introduction to Calculus (2019/2020, 2020/2021)

Postgraduate Teaching:

- Laboratory of Quantitative Finance (2019/2020)

Other roles

- Erasmus reference person for Portugal, Spain, and Netherlands
- TOLC/CISIA committee

LUDWIG MAXIMILIANS UNVISERSITÄT MÜNCHEN (from 01/04/2016 to 01/04/2019).

Post-Doc. Department of Mathematics, Financial Mathematics workgroup

Postgraduate Teaching:

- Computational finance and its implementation in Octave/MATLAB with applications to equity modelling (course) (2016/2017, 2017/2018)
- Introduction to Object-Oriented Programming in Java (course) (2016-2017, 2017/2018, 2018/2019)
- Numerical Methods for Financial Mathematics (exercise classes) (2016-2017, 2017/2018, 2018/2019)
- Applied Mathematical Finance and its Object-Oriented Implementation (exercise classes) (2016-2017, 2017/2018)

Supervised Msc Theses:

- “*Variance and Volatility swap Modelling using a class of 3/2 models*”
- “*Simulation of Lévy processes for financial modelling*”
- “*Pricing interest rate derivatives in a multi-curves framework*”

Other Duties

- Assistant to the LMU Laboratory for Quantitative Risk Control (QuantLab)
- Workgroup webpages maintenance

RESEARCH

Publications and submitted

1. L. Torricelli, L. Barabesi and A. Cerioli. “*Tempered positive Linnik processes and their representations*”. Submitted to Bernoulli. Available at ArXiv: 2105.00988
2. P. Carr and L. Torricelli “*Additive logistic processes in option pricing*”, forthcoming in Stochastics and Finance. Available at SSRN, article ID 3647466

3. L. Torricelli. “*The effect of an instantaneous dependency rate on the social equitability of PAYG public pension schemes*”. Journal of Pensions Economics and Finance, 1-20, 2020.
4. A. Jacquier and L. Torricelli: “*Anomalous diffusions in option prices: connecting trade duration and the volatility term structure*”. SIFIN, 11(4), 1137–1167, 2020.
5. C. Fries and L. Torricelli: “*An analytical pricing framework for financial assets with trading suspensions*” 2018. SIFIN, 11(2), 566-592, 2020.
6. L. Torricelli: “*Trade duration risk in subdiffusive financial models*”, Physica A, 541, 2020.
7. L. Torricelli: “*Volatility targeting using delayed diffusions*”. Applied Mathematical Finance, 25(3), 213-246, 2018.
8. L. Torricelli: “*Valuation of asset and volatility derivatives using decoupled time-changed Lévy processes*”, 2016. Review of Derivatives Research, 19.
9. L. Torricelli: “*Pricing joint claims on an asset and its realized variance in stochastic volatility models*”, 2013, IJTAF, 16.
10. G. Di Graziano and L. Torricelli: “*Target Volatility option pricing*”, 2012, IJTAF, 15. Reprinted in Finance at Fields, 207–224, 2012

Forthcoming and in preparation

1. P. Carr and L. Torricelli “*Convex duality and financial valuation*” forthcoming.
2. L. Torricelli et. al.: “*Complications in intensity-based credit migration bond models of HJM type*”, ongoing.
3. L. Torricelli: “*Models for circuit breakers*” ongoing.

Presentations

- “*Additive logistic processes in option pricing*”. Invited speaker at Cornell-Citi Financial Data Science Seminars, Cornell University, April 2021.
Available at <https://www.youtube.com/watch?v=cdhl3Np7xbk&t=9s>
- “*Logistic processes and the simplest option pricing formula*”, XXI QFW, Università Parthenope, Naples, January 2020
- “*Anomalous diffusions in option prices: connecting trade duration and the volatility term structure*”. AMASES annual meeting, Perugia 2019.
- “*Stochastic clock methods for trade duration in option pricing*” University of Verona, May 2019
- “*Anomalous diffusions in equity pricing and the volatility term structure*”. XX QFW, ETH Zurich, January 2019.
- “*An analytical pricing framework for asset with trading suspensions*”, AMASES annual meeting, Naples 2018
- “*Inverse Lévy subordination for option pricing*”. University of Padua, March 2018
- “*Volatility Targeting using delayed diffusions*”. XIX Workshop in Quantitative Finance, Rome, January 2018
- “*A review on volatility targeting and some new results*”. Oberseminar Finanz und Versicherungsmathematik LMU and TUM, December 2016.
- “*Financial products depending jointly on an asset and its volatility: case studies and a theoretical view*”. University of Florence, June 2013.
- “*Valuation of asset and volatility-dependent derivatives using decoupled time-changed Lévy processes*”. XIV Workshop in Quantitative Finance, Rimini, January 2013.
- “*Target Volatility Option and claims on an asset and its realized volatility*” internal quantitative finance seminar at Banco Santander London , January 2011.

EDUCATION

UCL London /King's College London 2010/2016

PhD in Mathematics. Supervisor Prof. William T. Shaw.

Thesis “*Modeling of volatility-linked financial products*”.

Imperial College London 2008/2009

Msc in Mathematics and Finance achieved with Distinction. Supervisor Prof. L.P. Hughston

Final Dissertation: “*Target Volatility Option Pricing.*”

Università degli Studi Roma Tre 2005/2008

Laurea Magistrale in Matematica. Final grade: 110/110. Supervisor Prof. E. Sernesi

Thesis: “*Serre Duality for Complex Analytic Manifolds and Projective n -Spaces.*”

Università degli Studi Roma Tre 2001/2005

Laurea Triennale in Matematica. Final grade: 107/110. Supervisor Prof. L. Caporaso

Thesis: “*Moltiplicità di intersezione su superfici proiettive nonsingolari e risoluzione di applicazioni razionali in scoppiamenti*”

OTHER WORKING EXPERIENCE

COVIP-Italian Pension Regulator 2012/2016

Financial and Data analyst

Main duties:

- Financial analysis of the portfolios of pension funds;
- Design and implementation of a risk-based regulatory rating system for the financial and operational risk management;
- Implementation and validation of the EIOPA stress tests for assessing IORPs financial resiliency;

EIOPA 2013/2015

COVIP member of the Quantitative Impact Study and Solvency EIOPA working groups for the review of the EU IORP directive.

Mathematics and Physics private tuition 2001/2013

Private tutoring, high school and undergraduate

PROGRAMMING SKILLS

- **Java:** Intermediate
- **Matlab:** Good
- **C/C++:** Intermediate
- **R:** Basic
- **Mathematica:** Basic

SCHOLARSHIPS/GRANTS

- “*Carlo Finzi*” Italian Parliament Scholarship award won several times.
- “*Lighthill*” and “*Corte*” UCL scholarships awarded in 2012 and 2013
- “*Förderverein*” grant for 2017 ARPM Bootcamp attendance

LANGUAGE ABILITIES/OTHER INFORMATION

- **Italian:** Native language
- **English:** Fluent.
- **Spanish:** Functional knowledge
- **German:** Some knowledge
- **French:** Some knowledge
- Very good technical and non-technical writing skills (both Italian and English)
- FIDE-rated chess player (1668); instruments: guitar; sports: basketball, squash, football

**FORMATO EUROPEO
PER IL CURRICULUM
VITAE**



INFORMAZIONI PERSONALI

Nome

PIERLUIGI VELLUCCI

E-mail

Nazionalità

Data di nascita

**ATTIVITÀ DI RICERCA E
PROFESSIONALE**

Da Luglio 2019

RICERCATORE UNIVERSITARIO DI TIPO A NEL SECS-S/06. UNIVERSITÀ DEGLI STUDI ROMA TRE, DIPARTIMENTO DI ECONOMIA. TEMATICA PRINCIPALE DI RICERCA: STUDIO DI SISTEMI COMPLESSI, IN PARTICOLARE METODOLOGIE DI TIPO PREDITTIVO E DI TEORIA DEI SEGNALI, CON RIFERIMENTO A METODI PER LO STUDIO DELLE SERIE STORICHE DEI MERCATI FINANZIARI E DEI MERCATI DELLE COMMODITIES ENERGETICHE. UTILIZZO DELLE METODOLOGIE E DEGLI STRUMENTI DA APPLICARE ALLO STUDIO DI SISTEMI COMPLESSI IN AMBITO ECONOMICO, COSTITUITI DA UN ELEVATO NUMERO DI AGENTI INTERCONNESSI E INTERATTIVI (AGENT-BASED MODELS).

Novembre 2016 -Ottobre 2018

ASSEGNIISTA POST-DOC. UNIVERSITÀ DEGLI STUDI ROMA TRE, DIPARTIMENTO DI ECONOMIA. TEMATICA PRINCIPALE DI RICERCA: APPLICAZIONE DI METODI MATEMATICI USUALMENTE UTILIZZATI NELL'AMBITO DELLO STUDIO DEI SISTEMI CAOTICI ALLA PREDICIBILITÀ DELLE SERIE STORICHE DEI MERCATI FINANZIARI ED, IN PARTICOLARE, DEI MERCATI DELL'ENERGIA.

Da 2020

MEMBRO DELL'EDITORIAL BOARD DELLA RIVISTA "SN BUSINESS & ECONOMICS"

Da 2018

REFeree PER CHAOS, SOLITONS & FRACTALS; IEEE ACCESS; COMPTES RENDUS MATHEMATIQUE, AMERICAN CONTROL CONFERENCE, MATHEMATICS, ENTROPY, DECISIONS IN ECONOMICS AND FINANCE, SYMMETRY

2020

MEMBRO DEL COMITATO ORGANIZZATORE "ENERGY FINANCE ITALIA Edn. 5" ROMA TRE UNIVERSITY, DEPARTMENT OF ECONOMICS

Da 2019

SOCIO A.M.A.S.E.S. (ASSOCIAZIONE PER LA MATEMATICA APPLICATA ALLE SCIENZE ECONOMICHE E SOCIALI)

2016

MEMBRO DEL "TECHNICAL PROGRAM COMMITTEE" PER LA XII INTERNATIONAL CONFERENCE ON AUTONOMIC AND AUTONOMOUS SYSTEMS, ICAS 2016, LISBONA (PORTOGALLO).

Da 2016

REVIEWER PER MATHEMATICAL REVIEWS.

Da 2015

REVIEWER PER "ZbMATH" (ZENTRALBLATT MATH) – SPRINGER.

PROGETTI DI RICERCA

(COME COORDINATORE SCIENTIFICO)

2015

VINCITORE DEL FINANZIAMENTO "RICERCA SCIENTIFICA - FINANZIAMENTI AVVIO ALLA RICERCA - ANNO 2015" CON PROGETTO DAL TITOLO "ORTHOGONAL SYSTEMS". SUPERVISORE: PROF. ALBERTO MARIA BERSANI (SAPIENZA UNIVERSITÀ DI ROMA).

PROGETTI DI RICERCA
(COME COMPONENTE)

2021

VINCITORE DEL BANDO "REQUEST FOR PROPOSALS: FACEBOOK URLS DATASET" CON PROGETTO DAL TITOLO "DEMOCRACY IN THE AGE OF DATA: A FACEBOOK STUDY". COORDINATORE: PROF. FABIO CAMILLI (SAPIENZA UNIVERSITÀ DI ROMA).

ESPERIENZE DIDATTICHE

DA 19/09/2018	DOCENTE PER IL CORSO DI MATEMATICA GENERALE II CANALE (M-Z). FACOLTÀ DI ECONOMIA, ROMA TRE (ROMA).
2018/2019 (SECONDO SEMESTRE)	TEACHING ASSISTANT TO SUPPORT THE COURSE OF MATHEMATICS II (IN LINGUA INGLESE).
2017/2018 (SECONDO SEMESTRE)	CONTRATTO DI SUPPORTO ALLA DIDATTICA PER IL CORSO DI MATEMATICA PER LE APPLICAZIONI ECONOMICHE. FACOLTÀ DI ECONOMIA, ROMA TRE (ROMA).
2016/2017 (SECONDO SEMESTRE)	CONTRATTO DI SUPPORTO ALLA DIDATTICA PER IL CORSO DI MATEMATICA PER L'ECONOMIA. FACOLTÀ DI ECONOMIA, ROMA TRE (ROMA).
2016/2017 (SECONDO SEMESTRE)	CO-DOCENTE DEL CORSO DI ANALISI 2 PER UN TOTALE DI 3 CREDITI (LEZIONI FRONTALI IN AULA, RICEVIMENTO STUDENTI, ASSISTENZA AGLI ESAMI). INGEGNERIA CIVILE, ROMA LA SAPIENZA (ROMA).
2016/2017 (PRIMO SEMESTRE)	CONTRATTO DI SUPPORTO ALLA DIDATTICA PER IL CORSO DI MATEMATICA GENERALE IV CANALE. FACOLTÀ DI ECONOMIA, ROMA TRE (ROMA).
2016/2017 (PRIMO SEMESTRE)	CO-DOCENTE DEL CORSO DI ANALISI 1 PER UN TOTALE DI 3 CREDITI (LEZIONI FRONTALI IN AULA, RICEVIMENTO STUDENTI, ASSISTENZA AGLI ESAMI). INGEGNERIA CIVILE, ROMA LA SAPIENZA (ROMA).
12/09/16-23/09/2016	DOCENTE PER CORSI DI RECUPERO E SOSTEGNO IN MATEMATICA. FACOLTÀ DI INGEGNERIA DELL'INFORMAZIONE, INFORMATICA, STATISTICA, ROMA LA SAPIENZA (SEDE DI LATINA).
12/09/16-23/09/2016	DOCENTE PER RECUPERO E SOSTEGNO NELLE MATERIE DELL'AREA MATEMATICA MEDIANTE LO SVOLGIMENTO DI ATTIVITÀ DIDATTICA FRONTALE. FACOLTÀ DI INGEGNERIA CIVILE E INDUSTRIALE, ROMA LA SAPIENZA (SEDE DI LATINA).
2015/2016 (SECONDO SEMESTRE)	CO-DOCENTE DEL CORSO DI ANALISI 2 PER UN TOTALE DI 3 CREDITI (LEZIONI FRONTALI IN AULA, RICEVIMENTO STUDENTI, ASSISTENZA AGLI ESAMI). INGEGNERIA MECCANICA, ROMA LA SAPIENZA (ROMA).
2015/2016 (PRIMO SEMESTRE)	TUTOR CON COMPITI DI SUPPORTO ALLE ATTIVITÀ DIDATTICHE DEI CORSI DI ANALISI (LEZIONI FRONTALI IN AULA, RICEVIMENTO STUDENTI, ASSISTENZA AGLI ESAMI). FACOLTÀ DI INGEGNERIA CIVILE INDUSTRIALE, ROMA LA SAPIENZA (ROMA).
2015/2016 (PRIMO SEMESTRE)	TUTOR CON COMPITI DI SUPPORTO ALLE ATTIVITÀ DIDATTICHE DEI CORSI DI ANALISI E GEOMETRIA (LEZIONI FRONTALI IN AULA, RICEVIMENTO STUDENTI, ASSISTENZA AGLI ESAMI). FACOLTÀ DI INGEGNERIA DELL'INFORMAZIONE, INFORMATICA, STATISTICA, ROMA LA SAPIENZA (SEDE DI LATINA).
11/09/15-22/09/2015	DOCENTE PER CORSI DI RECUPERO E SOSTEGNO IN MATEMATICA. FACOLTÀ DI INGEGNERIA DELL'INFORMAZIONE, INFORMATICA, STATISTICA, ROMA LA SAPIENZA (SEDE DI LATINA).
11/09/15-22/09/2015	DOCENTE PER RECUPERO E SOSTEGNO NELLE MATERIE DELL'AREA MATEMATICA MEDIANTE LO SVOLGIMENTO DI ATTIVITÀ DIDATTICA FRONTALE. FACOLTÀ DI INGEGNERIA CIVILE E INDUSTRIALE, ROMA LA SAPIENZA (SEDE DI LATINA).
2014/2015 (SECONDO SEMESTRE)	TUTOR CON COMPITI DI SUPPORTO ALLE ATTIVITÀ DIDATTICHE DEI CORSI DI ANALISI E GEOMETRIA (LEZIONI FRONTALI IN AULA, RICEVIMENTO STUDENTI, ASSISTENZA AGLI ESAMI). FACOLTÀ DI INGEGNERIA, ROMA LA SAPIENZA (SEDE DI LATINA).
2014/2015 (PRIMO SEMESTRE)	TUTOR CON COMPITI DI SUPPORTO ALLE ATTIVITÀ DIDATTICHE DEI CORSI DI ANALISI E GEOMETRIA (LEZIONI FRONTALI IN AULA, RICEVIMENTO STUDENTI, ASSISTENZA AGLI ESAMI). FACOLTÀ DI INGEGNERIA (SEDE DI LATINA).
2014/2015 (PRIMO SEMESTRE)	TUTOR CON COMPITI DI SUPPORTO ALLE ATTIVITÀ DIDATTICHE DEI CORSI DI ANALISI (LEZIONI FRONTALI IN AULA, RICEVIMENTO STUDENTI, ASSISTENZA AGLI ESAMI). FACOLTÀ DI INGEGNERIA DELL'INFORMAZIONE, INFORMATICA, STATISTICA, ROMA LA SAPIENZA (ROMA).
2014/2015 (PRIMO SEMESTRE)	CO-DOCENTE DEL CORSO DI ANALISI 1 PER UN TOTALE DI 3 CREDITI (LEZIONI FRONTALI IN AULA, RICEVIMENTO STUDENTI, ASSISTENZA AGLI ESAMI). INGEGNERIA MECCANICA, ROMA LA SAPIENZA (ROMA).

2013/2014 (PRIMO SEMESTRE)	TUTOR CON COMPITI DI SUPPORTO ALLE ATTIVITÀ DIDATTICHE DEL CORSO DI GEOMETRIA (LEZIONI FRONTALI IN AULA, RICEVIMENTO STUDENTI, ASSISTENZA AGLI ESAMI). FACOLTÀ DI INGEGNERIA, ROMA LA SAPIENZA (SEDE DI LATINA).
2013/2014 (PRIMO SEMESTRE)	TUTOR CON COMPITI DI SUPPORTO ALLE ATTIVITÀ DIDATTICHE DEL CORSO DI ANALISI 1 (LEZIONI FRONTALI IN AULA, RICEVIMENTO STUDENTI, ASSISTENZA AGLI ESAMI). INGEGNERIA ELETTRONICA, ROMA LA SAPIENZA (ROMA).
2010-2013	TUTOR CON COMPITI DI SUPPORTO ALLE ATTIVITÀ DIDATTICHE DEI CORSI DI ANALISI E GEOMETRIA (LEZIONI FRONTALI IN AULA, RICEVIMENTO STUDENTI, ASSISTENZA AGLI ESAMI). FACOLTÀ DI INGEGNERIA, ROMA LA SAPIENZA (SEDE DI LATINA).

ALTRE ESPERIENZE

20/06/2013 – 10/02/2015	AMMINISTRATORE COMUNALE PRESSO IL COMUNE DI PRIVERNO (LT), COME ASSESSORE CON DELEGHE AL BILANCIO, AI TRIBUTI, ALLE SOCIETÀ PARTECIPATE, AL PATRIMONIO E ALL'INNOVAZIONE.
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ISTRUZIONE E FORMAZIONE

2013-2016	DOTTORATO DI RICERCA IN MODELLI MATEMATICI PER L'INGEGNERIA, ELETTROMAGNETISMO E NANOSCIENZE (VINCITORE CON BORSA). SAPIENZA UNIVERSITÀ DI ROMA. TITOLO DELLA TESI: BASIS EXPANSIONS IN APPLIED MATHEMATICS. PRINCIPALI TEMATICHE: POLINOMI ORTOGONALI, BASI DI RIESZ, FRAMES CON APPLICAZIONI ALLA TEORIA DEI SEGNALE. ESPANSIONI IN BASE NON-INTERA CON APPLICAZIONE AI MANIPOLATORI IPER-RIDONDANTI STUDIATI IN ROBOTICA. TEORIA DEI NUMERI: RADICI INFINITAMENTE ANNIDATE, FORMULE DI PI GRECO, CODICI BINARI.
2009-2013	SAPIENZA UNIVERSITÀ DI ROMA, LAUREA SPECIALISTICA IN INGEGNERIA ELETTRONICA – ROBOTICA. TESI IN CIRCUITI INTELLIGENTI DAL TITOLO "TEORIA DELLA BIFORCAZIONE MULTIPLA CON APPLICAZIONE ALLA BIOINFORMATICA". VOTO: 110 E LODE.

ESPERIENZE FORMATIVE

02/09/2019 – 06/09/2019	DATA SCIENCE SUMMER SCHOOL 2019 (PISA, ITALY).
20/10/2014 – 24/10/2014	CIRM, JEAN MORLET CHAIR. DOCTORAL SCHOOL COURSE: COMPUTATIONAL HARMONIC ANALYSIS - WITH APPLICATIONS TO SIGNAL AND IMAGE PROCESSING (MARSEILLE, FRANCE).

PUBBLICAZIONI SU RIVISTA

1. P. Vellucci. A critique of financial neoliberalism: a perspective combining multidisciplinary methods and commodity markets. SN Bus Econ 1, 50 (2021).
2. F. Benedetto, L. Mastroeni, P. Vellucci, Modeling the flow of information between financial time-series by an entropy-based approach. Ann Oper Res 299, 1235–1252 (2021).
3. F. Benedetto, L. Mastroeni, P. Vellucci, Extraction of Information Content Exchange in Financial Markets by an Entropy Analysis. Transactions on Management Information Systems, 12 (2021), 1-16
4. L. Mastroeni, A. Mazzocchi, G. Quaresima, P. Vellucci, Decoupling and recoupling in the crude oil price benchmarks: An investigation of similarity patterns, Energy Economics, 94 (2021): 105036.
5. C. Condemi, L. Mastroeni, P. Vellucci. "The Selection of Predictive Variables in Aggregate Hydroelectric Generation Models." Journal of Energy Markets 14.1 (2021).
6. F. Benedetto, L. Mastroeni, G. Quaresima, P. Vellucci, Does OVX affect WTI and Brent oil spot variance? Evidence from an entropy analysis, Energy Economics, 89 (2020), 104815.
7. A.M. Bersani, A. Borri, A. Milanesi, G. Tomassetti, and P. Vellucci. Uniform Asymptotic Expansions beyond the tQSSA for the Goldbeter-Koshland Switch. SIAM J. Appl. Math., 80(3) (2020), 1123–1152.

8. L. Mastroeni, P. Vellucci, M. Naldi. A reappraisal of the chaotic paradigm for energy commodity prices, *Energy Economics*, 82 (2019), 167-178.
9. P. Vellucci, A. M. Bersani. π -Formulas and Gray code, *Ricerche di Matematica* 68 (2) (2019), 551-569 (preprint arXiv).
10. P. Vellucci, Explicit Bounds of Complex Exponential Frames on Complex Field, *Acta Mathematica Hungarica*, 159(2) (2019), 503-510.
11. A.M. Bersani, A. Borri, A. Milanesi, G. Tomassetti, P. Vellucci, A Study Case for the Analysis of Asymptotic Expansions beyond the tQSSA for Inhibitory Mechanisms in Enzyme Kinetics. *Communications in Applied and Industrial Mathematics* 10 (2019), 162-181 (Open Access).
12. L. Mastroeni, P. Vellucci, M. Naldi, Agent-Based Models for Opinion Formation: A Bibliographic Survey, *IEEE Access* 7 (2019), 58836-58848. (Open Access).
13. L. Mastroeni, P. Vellucci, M. Naldi. Co-existence of stochastic and chaotic behaviour in the copper price time series, *Resources Policy* 58 (2018), 295-302.
14. L. De Carli, P. Vellucci. Stability results for Gabor frames and the p-order hold models. *Linear Algebra and its Applications*, 536 (2018), 186-200. (Preprint arXiv, extended version).
15. P. Vellucci, M. Zanella. Microscopic modeling and analysis of collective decision-making: equality bias leads suboptimal solutions. *Annali dell'Università di Ferrara – Sezione VII Scienze Matematiche* (2018) 64: 185-207. (Preprint arXiv).
16. P. Vellucci, A. M. Bersani. Ordering of nested square roots of 2 according to Gray code. *Ramanujan Journal*, 45 (2018), 197-210. (Preprint arXiv).
17. L. Pareschi, P. Vellucci, M. Zanella. Kinetic models of collective decision-making in the presence of equality bias. *Physica A: Statistical Mechanics and its Application*, 467 (2017), 201-217. (Preprint ArXiv).
18. A.M. Bersani, A. Borri, A. Milanesi, P. Vellucci. Tihonov theory and center manifolds for inhibitory mechanisms in enzyme kinetics. *Communications in Applied and Industrial Mathematics*, 8 (2017), 81-102. (Open access).
19. A.C. Lai, P. Loreti, P. Vellucci. A Fibonacci control system with application to hyper-redundant manipulators. *Math Control Signal.*, 28 (2016), 1-32. (Preprint arXiv).
20. P. Vellucci, A. M. Bersani. The class of Lucas-Lehmer polynomials. *Rend. Mat. Appl.*, 37 (2016), 43-62. (Open access).
21. P. Vellucci, A. M. Bersani. Orthogonal polynomials and Riesz bases applied to the solution of Love's equation. *Mathematics and Mechanics of Complex Systems*, 4 (2016). 55-66.
22. P. Vellucci. A simple pointview for Kadec-1/4 theorem in the complex case. *Ricerche di Matematica*, 64 (2015), 87-92. (Open access).
23. G. Riccardi, P. Vellucci, E. De Bernardis. Asymptotic expansions of the complete elliptic integrals about unitary modulus. *Communications in Applied and Industrial Mathematics*, 5 (2015), 1-12. (Open access).

CAPITOLI DI LIBRO

1. Mastroeni L, Vellucci P. Chaos versus stochastic paradigm in energy markets. In *Handbook of Energy Finance*. World Scientific; 2020. p. 765–86.
2. A.M. Bersani, A. Borri, A. Milanesi, G. Tomassetti, P. Vellucci, Singular Perturbation Techniques and Asymptotic Expansions for Some Complex Enzyme Reactions. In *Nonlinear Dynamics of Structures, Systems and Devices* (pp. 43-53), 2020, Springer, Cham.
3. L. Mastroeni, M. Naldi, P. Vellucci, Opinion dynamics in multi-agent systems under proportional updating and any-to-any influence, *Advances in Optimization and Decision Science for Society, Services and Enterprises*. Springer, Cham, 2019. 279-290.
4. L. De Carli, P. Vellucci, p-Riesz bases in quasi shift invariant spaces, *Contemporary Mathematics Volume 706*, 2018, Pages 201-213. (Preprint arXiv).
5. P. Loreti, S.S. Ahrabi, P. Vellucci. Mathematical Model for the Output Signal's Energy of an Ideal DAC in the Presence of Clock Jitter. In: Madani K., Peaucelle D., Gusikhin O. (eds) *Informatics in Control, Automation and Robotics. Lecture Notes in Electrical Engineering*, 430 (2018). Springer, Cham.

ATTI DI CONVEGNO

1. L. Mastroeni, M. Naldi, P. Vellucci, Calibration of an agent-based model for opinion formation through a retweet social network (in press).
2. L. Mastroeni, M. Naldi, P. Vellucci, An agent-based model on scale-free networks for personal finance decisions, in: *Proceedings of the 20th Workshop "from Objects to Agents" (WOA) 2019*, 77-83.
3. L. Mastroeni, P. Vellucci and M. Naldi, Individual Competence Evolution Under Equality Bias, 2017 European Modelling Symposium (EMS), Manchester, 2018, 123-128.
4. A.C. Lai, P. Loreti, P. Vellucci. A Continuous Fibonacci Model for Robotic Octopus Arm. 2017 European Modelling Symposium (EMS), 2017, 99-103.
5. P. Loreti, P. Vellucci. A Mathematical Model for Signal's Energy at the Output of an Ideal DAC. *Proceedings of 13-th International Conference on Informatics in Control, Automation and Robotics*, 2016, 347-352. (Preprint arXiv).

6. A. Avantiaggiati, P. Loreti, P. Vellucci. An explicit bound for stability of Sinc Bases. Proceedings of 12-th International Conference on Informatics in Control, Automation and Robotics, 2015, 473-480.
7. A.C. Lai, P. Loreti, P. Vellucci. A model for robotic hand based on Fibonacci sequence. Proceedings of 11-th International Conference on Informatics in Control, Automation and Robotics, 2014, 577-587.

COMUNICAZIONI A CONVEGNI E CONGRESSI

1. Agent-based model calibration using retweet social network. Paper presentato a: 31st European Conference on Operational Research, University of West Attica, Athens. Luglio 2021.
2. Calibration of an agent-based model for opinion formation through a retweet social network. Paper presentato a: 21th workshop "from objects to agents", online virtual conference. Settembre 2020.
3. Is financialization of energy commodities still going on? Evidence from an entropy-based approach. Paper presentato a: 4th AIEE Symposium on Current and Future Challenges to Energy Security, LUMSA University, Roma, Dicembre 2019.
4. Influence and Manipulation in Personal Finance Decisions. Paper presentato a: 43rd Annual Meeting of the Italian Association for Mathematics Applied to Economic and Social Sciences (AMASES), Department of Economics, University of Perugia, Perugia. Settembre 2019.
5. An Agent-based Model on scale-free networks for Personal Finance Decisions. Paper presentato a: 20th workshop "from objects to agents", Centro Sant'Elisabetta, University of Parma, Parma. Giugno 2019.
6. Replication in Energy Markets: Use and Misuse of Chaos Tools. Paper presentato a: Giornate della Ricerca, Dipartimento di Economia, Roma Tre, Roma. Maggio 2019.
7. Do oil and agricultural commodity prices co-move? Paper presentato a: Giornate della Ricerca, Dipartimento di Economia, Roma Tre, Roma. Maggio 2019.
8. Agent-based models for personal finance decisions. Paper presentato a: European Conference on Operational Research, Universitat de València and Universitat Politècnica de València. Luglio 2018.
9. Stochastic and chaotic behaviour in the energy commodity prices. Paper presentato a: Commodity and Energy Markets Annual Meeting 2018, Sapienza Università di Roma. Giugno 2018.
10. Co-existence of stochastic and chaotic behaviour in the energy commodity prices. Paper presentato a: 6th ISEFI-2018, Hôtel Provinces Opéra, Paris. Maggio 2018.
11. The nature of energy commodity price time series: stochastic, chaotic, or both? Paper presentato a: Energy Finance Italia III, Aurum, Pescara, Italy. Febbraio 2018.
12. An agent-based model for personal finance decisions. Paper presentato a: XIX workshop on quantitative finance 2018, Dipartimento di studi aziendali, Roma Tre, Roma. Gennaio 2018.
13. Collective influence in decisions in personal finance: an agent-based model. Paper presentato a: Conference on Computational Management Science (CMS), Department of Management, Economics and Quantitative Methods, Bergamo, Italy. Maggio-Giugno 2017.
14. "Chaos" in financial and commodity markets: a controversial matter. Paper presentato a: Energy Finance Italia II, Palazzo Bo', Padova, Italy. Dicembre 2016.
15. Tihonov approach for multidimensional systems in bio-informatics. Paper presentato a: XIII congresso SIMAI, Politecnico di Milano, Milano, Italy. Settembre 2016.
16. A Mathematical Model for Signal's Energy at the Output of an Ideal DAC. Paper presentato a: 13-th International Conference on Informatics in Control, Automation and Robotics, Lisbon, Portugal. Luglio 2016.
17. Nested square roots of 2 and Gray code. Paper presentato a: Computationally Assisted Mathematical Discovery and Experimental Mathematics, London, Ontario, Canada. Maggio 2016.
18. An explicit bound for stability of Sinc Bases. Paper presentato a: 12-th International Conference on Informatics in Control, Automation and Robotics, Colmar, Alsace, France. Luglio 2015.
19. Time Scale Separation, Normal Modes and Quasi-Steady State Approximations in Enzyme Kinetics. Paper presentato a: XII congresso SIMAI, Hotel Villa Diodoro, Taormina (ME), Italy. Luglio 2014.

WORKING PAPERS

- | | |
|-------------|---|
| 2017 | <ul style="list-style-type: none"> • L. Mastroeni, P. Vellucci, "Chaos" in energy and commodity markets: a controversial matter, working paper n. 218, 2017. Department of Economics, Roma Tre University, issn 2279-6916. |
| 2016 | <ul style="list-style-type: none"> • L. Mastroeni, P. Vellucci, "Butterfly effect" vs chaos in energy futures markets, working paper n. 209, 2016. Department of Economics, Roma Tre University, issn 2279-6916. |

**CAPACITÀ E COMPETENZE
PERSONALI.**

MADRELINGUA

Italiano

ALTRE LINGUA

Inglese (B1)

- Reading
- Listening
- Writing
- Speaking

Very good.
Good.
Very good.
Good.

**CAPACITÀ E COMPETENZE
INFORMATICHE.**

SISTEMI OPERATIVI: WINDOWS.

PROGRAMMAZIONE E AMBIENTI DI SVILUPPO: MATLAB, R, MATHEMATICA, PYTHON.

SCRITTURA SCIENTIFICA: LATEX, MICROSOFT EQUATION EDITOR

Daniela Visetti

CURRICULUM VITAE

Prima dell'università

Liceo Classico, Maturità classica 1991 Torino, votazione 60/60.

Laurea in Matematica

Tesi di laurea di ricerca "Lie groups and Lax equations", relatore Prof. S. Benenti, Università di Torino, Laurea in Matematica (vecchio ordinamento), votazione 110/110 cum laude, 8/7/1996
Università di Torino.

Dottorato in Matematica

Tesi di dottorato "An eigenvalue problem for a quasilinear elliptic field equation"; relatori Prof. V. Benci e Prof. A.M. Micheletti, Università di Pisa; dottorato discusso il 15/6/2001, Università di Pisa.

Posizione attuale

Ricercatore a tempo determinato (RTD A), Libera Università di Bolzano-Bozen, dal 01/03/2020, ssd SECS-S/06.

Lingue

- Italiano: madre lingua.
- Inglese: eccellente, studiato in Italia, a Londra e a Cork (Irlanda); certificazione *IELTS* (C1) 2017.
- Francese: buono (B2), studiato in Italia, in Francia ed in Svizzera.
- Tedesco: certificazione B1 2020, Libera Università di Bolzano; corso B2.

Posizioni accademiche precedenti

- Ottobre 2001-Settembre 2003 Assegno di ricerca, Department of Applied Mathematics, Faculty of Engineering, University of Pisa, Italy.
- Ottobre 2004-Settembre 2005 Lecturer, University College Cork (Ireland).
- Maggio 2007-Maggio 2008 Post-Doc, Department of Mathematics, Faculty of Sciences, University of Trento, Italy.
- Dicembre 2008-Giugno 2009 Post-Doc, Department of Mathematics, Faculty of Sciences, University of Trento, Italy.
- Novembre 2009-Settembre 2010 Assegno di Ricerca, Department of Mathematics, Faculty of Sciences, University of Trento, Italy.
- Novembre 2010-Gennaio 2011 Post-Doc, Department of Mathematics, Faculty of Sciences, University of Trento, Italy.
- Marzo 2017-Febbraio 2020 RTD A, Free University of Bolzano-Bozen, ssd SECS-S/06.

Borse prima del dottorato

- Agosto 1995 corso estivo di Differential Geometry and Differential Equations of Mathematical Physics, Università di Perugia, INdAM.
- Luglio-Ottobre 1996 borsa di studio C.N.R.

Pubblicazioni

1. V. Benci, A.M. Micheletti and D. Visetti, *An eigenvalue problem for a quasilinear elliptic field equation on R^n* , Topological Methods in Nonlinear Analysis v. 17 (2001), 191-211, ISSN: 1230-3429.
2. D. Visetti, *An eigenvalue problem for a quasilinear elliptic field equation*, Proceedings of the Third World Congress of Nonlinear Analysis in: Nonlinear Analysis v. 47 n. 9 (2001), 5991-5997, ISSN: 0362-546X, doi: 10.1016/S0362-546X(01)00695-2.
3. V. Benci, A.M. Micheletti and D. Visetti, *An eigenvalue problem for a quasilinear elliptic field equation*, Journal of Differential Equations v. 184 (2) (2002), 299-320, ISSN: 0022-0396, doi: 10.1006/jdeq.2001.4155.
4. A.M. Micheletti and D. Visetti, *Solitary waves solutions of a nonlinear Schrödinger equation*, "Nonlinear equations: Methods, Models and Applications" in: Progress in Nonlinear Differential Equations and Their Applications, Eds.: D. Lupo, C.D. Pagani and B. Ruf, v. 54, Birkhauser Verlag (2003), 217-224, ISBN: 3-7643-0398-0, ISSN: 1421-1750, doi: 10.1007/978-3-0348-8087-9_16.
5. D. Visetti, *Multiplicity of symmetric solutions for a nonlinear eigenvalue problem in R^n* , Electronic Journal of Differential Equations v. 2005 n. 5 (2005), 1-20, ISSN: 1072-6691.
6. A.M. Micheletti, A. Pistoia and D. Visetti, *On the number of blowing-up solutions to a nonlinear elliptic equation with critical growth*, Rocky Mountain Journal of Mathematics v. 37 n. 1 (2007), 291-325, ISSN: 0035-7596, doi: 10.1216/rmjm/1181069333.
7. A. Pokrovskii, O. Rasskazov and D. Visetti, *Homoclinic trajectories and chaotic behaviour in a piecewise linear oscillator*, Discrete and Continuous Dynamical Systems, Series B, v. 8 (2007), 943-970, ISSN: 1531-3492, doi: 10.3934/dcdsb.2007.8.943.
8. D. Visetti, *Multiplicity of solutions of a zero mass nonlinear equation on a Riemannian manifold*, Journal of Differential Equations v. 245 n. 9 (2008), 2397-2439, ISSN: 0022-0396, doi: 10.1016/j.jde.2008.03.002.
9. S. Cingolani, G. Vannella and D. Visetti, *Morse index estimates for quasilinear equations on Riemannian manifolds*, Advances in Differential Equations v. 16 n. 11-12 (2011), 1001-1020, ISSN: 1079-9389.
10. D. Breda, D. Visetti, *Existence, multiplicity and stability of endemic states for an age-structured S-I epidemic model*, Mathematical Biosciences v. 235 n. 1 (2012), 19-31, ISSN: 0025-5564.
11. S. Cingolani, G. Vannella and D. Visetti, *Multiplicity and nondegeneracy of positive solutions to quasilinear equations on compact Riemannian manifolds*, Communications in Contemporary Mathematics v. 17 n. 2 (2015), ISSN: 0219-1997, doi: 10.1142/S0219199714500291.
12. A.H. Hamel, D. Visetti, *The value functions approach and Hopf-Lax formula for multiobjective costs via set optimization*, Journal of Mathematical Analysis and Applications v. 483 n. 1 (2020), ISSN: 0022-247X, doi: 10.1016/j.jmaa.2019.123605.
13. A.H. Hamel, F. Heyde, D. Visetti, *The inf-translation for solving set minimization problems*, accepted for publication in Journal of Nonlinear and Convex Analysis.

Preprint

1. F. Heyde, D. Visetti, *Euler-Lagrange equations for multiobjective Lagrangian functions via set optimization*, <http://arxiv.org/abs/1911.11754> (2019).
2. D. Visetti, *The Hopf-Lax formula for multiobjective costs with non-constant discount via set optimization*, <http://arxiv.org/abs/2105.02157> (2021), submitted.

Attività di referee

- Journal of Applied Analysis

Esperienze di insegnamento universitario

1. Novembre 1996, Università di Torino, Faculty of Sciences, teaching assistant, courses of Rational Mechanics and Principles of Mathematical Physics, B.Sc. in Mathematics (Prof. M. Ferraris).
2. A.a. 2000/2001, University of Pisa, Faculty of Engineering, teaching assistant, course of Mathematical Methods (Prof. V. Benci), B.Sc. in Information technology Engineering.
3. A.a. 2000/2001, University of Pisa, Faculty of Engineering, teaching assistant, course of Geometry (Dr. P. Conti), B.Sc. in Mechanical Engineering.
4. A.a. 2001/2002, University of Pisa, Faculty of Engineering, teaching assistant, courses of Analysis I and Analysis II (Prof. C. Saccon), B.Sc. in Aeronautical Engineering.
5. A.a. 2002/2003, University of Pisa, Faculty of Engineering, teaching assistant, course of Analysis II (Prof. A.M. Micheletti), B.Sc. in Aeronautical Engineering.
6. A.a. 2004/2005, University College Cork, Ireland, lecturer of Multivariable calculus.
7. A.a. 2008/2009, University of Trento, Faculty of Sciences, teaching assistant, course of Complements of mathematical analysis (Prof. M. Iannelli), B.Sc. (laurea specialistica) in Physics, Biomedical technologies and in Mathematics.
8. A.a. 2008/2009, University of Trento, Faculty of Sciences, teaching assistant, course of Geometry I and II (Prof. G. Vigna Suria), B.Sc. in Mathematics and Physics.
9. A.a. 2010/2011, University of Trento, Faculty of Engineering, teaching assistant, course of Analysis I (Prof. M. Sabatini).
10. A.a. 2011/2012, University of Trento, Faculty of Engineering, teaching assistant, course of Analysis I (Prof. R. Brunetti), course of Analysis II (Prof. M. Sabatini), tutorial course of Analysis I.
11. A.a. 2011/2012, Free University of Bolzano, Faculty of Computer Science, teaching assistant, course of Analysis, Italian language (Prof. R. Marques Pereira).
12. A.a. 2012/2013 2013/2014 2014/2015, Free University of Bolzano, Faculty of Computer Science, teaching assistant, course of Analysis, English language (Prof. F. Bagagiolo).
13. A.a. 2014/2015, University of Trento, Department of Engineering and Computer Science, didactic coordination between the courses "Applied Cryptography" and "Applications for Security and Privacy".
14. A.a. 2014/2015, 2015/2016 and 2016/2017, University of Trento, teaching assistant, course of Analysis 1 (for Mathematics e Physics) (prof. R. Serapioni).
15. A.a. 2015/2016 and 2016/2017, University of Trento, Faculty of Engineering, teaching assistant, course of Analysis I (prof. F. Bagagiolo).
16. A.a. da 2013/2014 fino ad ora, Free University of Bolzano, Faculty of Economics, teaching assistant, course of Mathematics for economists, English language (Prof. A.H. Hamel).
17. A.a. 2019/2020, Free University of Bolzano, Faculty of Computer Science, teaching assistant course Introduction to Analysis and Optimization Techniques.
18. A.a. 2020/2021, Free University of Bolzano, Faculty of Economics, Preparatory course of Mathematics.
19. A.a. 2021/2022, Free University of Bolzano, Faculty of Economics, Preparatory course of Mathematics.
20. A.a. 2021/2022, Free University of Bolzano, Faculty of Computer Science, lecturer course Introduction to Analysis and Optimization Techniques.

Esperienze di insegnamento scolastico

Dal 3/11/2011 al 7/12/2011, Istituto Tambosi, Trento.

Dal 9/3/2012 al 14/6/2013 sostituzione per maternità, Istituto Sacro Cuore, Trento.

Organizzazione di Scuole e Workshops

- International School “Nonlinear Analysis and Applications to Physical Sciences”, 2-7 Maggio 2002, San Mommè (PT).
- Meeting of the National Group of Research “Metodi variazionali e topologici nello studio di fenomeni non lineari”, 8-9 Maggio 2002, San Mommè (PT) Italy.
- Organizzazione della “Summer School & Colloquium: Set Optimization for Applications”, International Summer School & Colloquium alla Libera Università di Bozen-Bolzano, Campus Bruneck, dal 21/06/2017 al 01/07/2017.
- Organizzazione workshop del cluster Quantitative Methods and Economic Modeling, Free University of Bozen-Bolzano, Bolzano 17-18 Giugno 2021.
- Organizzazione del workshop “Set Optimization and Dynamic Systems”, Brunico, Free University of Bozen-Bolzano, che si terrà in Settembre 2021.
- Da Dicembre 2020 organizzatrice dei seminari del cluster Quantitative Methods and Economic Modeling, Free University of Bozen-Bolzano.

Conferenze e seminari

1. 29/6/2000, invited talk, University of Turin, Italy.
2. 19-26/7/2000, invited contribution, Third World Congress of Nonlinear Analysis, held in Catania, Italy.
3. 9-11/4/2001, invited contribution at the Workshop “Giornate di lavoro relative al programma di ricerca Metodi variazionali e topologici nello studio di fenomeni non lineari”, held in San Mommè (PT), Italy.
4. 30/1/2003, invited talk, Colloquium series, at University College Cork, Ireland.
5. 28/3/2006, invited talk, University of Pisa, Italy, “Traiettorie omocline e comportamento caotico in un oscillatore lineare a tratti”.
6. 29/5/2007, invited talk, University of Trento, Italy, “Solitary waves with topological charge for a nonlinear Schrödinger equation”.
7. 31/8/2007, invited talk, University of Aalborg, Denmark, “Derrick's conjecture and topological solitary waves”.
8. 26/6/2008, invited talk, University of Turin, Italy, “Un modello di epidemia S-I con struttura d'età: esistenza, unicità e molteplicità di equilibri endemici”.
9. 29/6 - 4/7/2008, invited contribution “Existence, uniqueness and multiplicity of endemic states for an age-structured S-I epidemic model” at the European Conference on Mathematical and Theoretical Biology, Edinburgh, United Kingdom.
10. 16/10/2008, invited talk, University of Trento, Italy, “Modelli di epidemie con struttura di età e mortalità indotta dall'infezione”.
11. 17/12/2008, invited contribution “An age-structured epidemic model with extra-mortality due to the disease” at the “Workshop on Analysis and Numerics of Population dynamics and Epidemics models”, held at University of Udine, Italy, 15-17 december 2008.
12. 27/1/2009, invited talk, University of Bari, Italy, “Molteplicità di soluzioni per un'equazione non lineare a massa nulla su una varietà riemanniana”.
13. 10/3/2009, invited talk, University of Trento, Italy, “Traiettorie omocline e comportamento caotico in un oscillatore lineare a tratti con possibili applicazioni a un modello epidemico”.

14. 21/06 - 01/07/2017 “Summer School & Colloquium: Set Optimization for Applications”, International Summer School & Colloquium at Free University of Bolzano, Campus Brunico.
15. 12-13/10/2017 ”Workshop on Political Economy”, Brunico.
16. 5/3/2018 workshop on “Set Optimization and Applications”, Brunico.
17. 24/1/2019 invited talk, University of Pisa, Italy, “Generalized solutions of Hamilton-Jacobi equation for multiobjective cost via set optimization”.
18. 11-15/2/2019 conference “Set Optimization for Applications”, Jena, Germany, invited talk 12/2/2019 “Generalized solutions of Hamilton-Jacobi equation for multiobjective cost via set optimization”.
19. 21-22/11/2019 conference “Set Optimization and Statistics”, Bruneck, invited talk 22/11/2019 “The Value Functions Approach and Hopf-Lax Formula for Multiobjective Costs via Set Optimization”.
20. 21/1/2020 invited talk, University of Trento, “Set optimization approach for a multi-objective Lagrangian: value function, Hopf-Lax formula and Hamilton-Jacobi equation”.
21. 22/06/2020 online workshop “Modellistica e Covid-19”, organized by Department of Mathematics, University of Trento and Istituto per le Applicazioni del Calcolo del Consiglio Nazionale delle Ricerche.
22. 17-17/6/2021 Workshop “Quantitative Methods and Economic Modeling 2021”, talk 18/6/2021 “Minimization of a Discounted Multi-Objective Loss Function and the Corresponding Hamilton-Jacobi- Bellman Equation”.
23. 11-14/7/2021 31st European Conference on Operational Research, Athens, talk 13/7/2021 “Euler-Lagrange equations: the multiobjective case through a set-valued approach”.
24. 15-19/9/2021 Mathematical Methods in Economy and Industry 2021, Smolenice Castle, Slovakia, accepted talk “Optimization of the current value of a multi-objective loss function and a set-valued Hamilton-Jacobi-Bellman equation”.

Visiting researcher

- Gennaio 2009, University of Bari, Italy.
- Novembre 2019, University of Freiberg, Germany.

Partecipazioni a commissioni accademiche

- Commissione di laurea, Bachelor Program Tourism, Sport and Event Management: 6/10/2017 and 8/9/2017.
- Dal 21/4/2017 membro della commissione permanente per il ranking di lecturing and teaching assistants, mathematica and statistica.
- Dal 16/3/2018 al 6/2020 rappresentante degli rtd al Consiglio di Facoltà.
- Luglio 2018 membro della commissione per le ammissioni degli studenti 2018/19.
- Maggio 2019 membro della commissione per le ammissioni degli studenti 2019/20.
- Anno accademico 2020/2021 tutor di alcuni studenti del corso di laurea Management del Turismo, dello Sport e degli Eventi, Brunico, Libera Università di Bolzano.

Professional Scientific Editor

1. “Lezioni di Geometria”: vol.1 “Algebra lineare” e vol.2 “Geometria analitica”, scritti da Prof. S. Greco and Prof. P. Valabrega respectively, Libreria Editrice Universitaria Levrotto & Bella.
2. 1997-2001, “Rendiconti del Seminario Matematico di Torino”, Libreria Editrice Universitaria Levrotto & Bella.
3. 1999-2000, “Corso di Matematica” (secondary school mathematics book), scritto da Prof. M. Ciolli e Prof. L. Michelassi, Casa Editrice Principato.

4. 2002, proceedings del workshop “Determinism, Holism and Complexity”, Arcidosso (GR), 3-8 Settembre 2001, Kluwer Academic Press.

Progetti finanziati

1. Partecipazione al PRIN 2001 “Metodi variazionali e topologici nello studio di fenomeni non lineari”, Coordinatore Scientifico: Vieri Benci, dal 1/1/2001 al 31/12/2002.
2. Partecipazione al PRIN 2003 “Fenomeni di concentrazione e di dinamica caotica”, Coordinatore Scientifico: Vieri Benci, dal 1/1/2003 al 31/12/2004.
3. Partecipazione al PRIN anno 2007 “Teoria Matematica delle Popolazioni: metodi, modelli, confronto con i dati”, Coordinatore Scientifico Mimmo Iannelli, University of Trento, dal 23/10/2007 al 22/10/2008.
4. Principal investigator del progetto “Verification Techniques for Multicriteria Variational Problems”, durata 32 mesi, finanziato da Free University of Bolzano, dal 13/6/2017 al 13/2/2020.
5. Principal investigator del progetto “Optimal Control Problems with Set-valued Objective Function”, durata 28 mesi, finanziato da Free University of Bolzano, dal 26/10/2020.

DIMITRIOS ZORMPAS

Curriculum Vitae

(July 2021)

CONTACT DETAILS:

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E-mail: dimitrios.zormpas@cyu.fr

ACADEMIC INTERESTS:

Investment Theory, Environmental and Resource Economics, Energy Economics, Real Options

EMPLOYMENT:

(03/2021-present) Junior fellow, Institute of Advanced Studies, CY Cergy Paris University, France.

(03/2020-02/2021) Postdoctoral research fellow, Department of Economics and Management, University of Brescia, Italy.

(03/2019-02/2020) Postdoctoral research fellow, Department of Mathematics, University of Bologna, Italy.

(03/2018-02/2019) Postdoctoral research fellow, Department of Mathematics and Interdepartmental Centre Giorgio Levi Cases, University of Padova, Italy.

EDUCATION:

(2014-2018) PhD in Real Estate Appraisal and Land Economics (cum laude), Doctoral Course in Management Engineering and Real Estate Economics, University of Padova, Italy. Supervisor: Michele Moretto.

(2013-2014) European Master in Agricultural, Food and Environmental Policy Analysis (AFEPA), Catholic University of Louvain, Belgium.

(2009-2011) Master in Economics, University of Macedonia, Greece.

(2004-2008) Ptychion in Economics, University of Macedonia, Greece.

VISITS:

(03/2021-present) Visiting postdoctoral research fellow, ESSEC Business School, France.

(9/2019-12/2019) Visiting Scholar (Marco Polo fellow) at the Emlyon Business School, Lyon, France.

(9/2017-10/2017) Visiting Scholar at the Centre for Environmental and Resource Economics (CERE), Umeå University and the Swedish University of Agricultural Sciences in Umeå, Sweden.

(2/2016-4/2016) Visiting Scholar at the Department of Economics of the Swedish University of Agricultural Sciences in Uppsala, Sweden.

(9/2013-7/2014) Exchange master student at the Swedish University of Agricultural Sciences and Uppsala University in Uppsala, Sweden.

PUBLICATIONS:

6. Zormpas, D., and Ruble R., 2021 The dynamics of preemptive and follower investments with overlapping ownership. *Journal of Economic Dynamics and Control*, Volume 129, 104175 (<https://doi.org/10.1016/j.jedc.2021.104175>)
5. Buso, M., Moretto, M., and Zormpas, D., 2021. Excess returns in Public-Private Partnerships: Do governments pay too much? *Economic Modelling*, Volume 102, 105586 (<https://doi.org/10.1016/j.econmod.2021.105586>)
4. Fontini, F., Vargiolu, T. and Zormpas D., 2021 Investing in electricity production under a reliability options scheme. *Journal of Economic Dynamics and Control*, Volume 126, 104004 (<https://doi.org/10.1016/j.jedc.2020.104004>)
3. Zormpas, D., 2021 Jointly Held Investment Options and Vertical Relationships. *Review of Industrial Organization* 58, 513–530 (<https://doi.org/10.1007/s11151-020-09784-w>)
2. Zormpas, D., and Agliardi R., 2021 The effect of vertical relationships on investment timing. *International Game Theory Review*, 2150005 (<https://doi.org/10.1142/S0219198921500055>)
1. Zormpas, D., 2020. Investments under vertical relations and agency conflicts: a real options approach, *International Review of Economics & Finance*, Volume 70, pp. 273-287 (<https://doi.org/10.1016/j.iref.2020.06.017>)

WORKING PAPERS:

- Di Corato, L., and Zormpas, D., 2018. Investment in farming under uncertainty and decoupled support: a real options approach (revise and resubmit in the *European Review of Agricultural Economics*)
- Zormpas, D. and Oggioni, G., 2020 Investing in flexible combined heat and power generation

WORK IN PROGRESS:

- Ruble R., and Zormpas, D., 2020 Trojan horsepower: Using strategic promises to clinch entry races in innovative industries
- Ruble R., and Zormpas, D., 2020 Agency, investment, and overlapping ownership

AWARDS:

Best student paper award at the 21st Annual International Conference on Real Options, Suffolk University, Boston, USA, June 28-July 1, 2017 for the paper “Jointly held investment options and vertical relationships”.

CONFERENCES-MEETINGS-SCHOOLS-WORKSHOPS:

- (2021): CEMA 2020-2021 (Madrid, Spain).
- (2019): 4th EFI Workshop (Milan, Italy), Workshop of the DSEA (Padova, Italy), AMEF 2019 (University of Macedonia, Thessaloniki, Greece), Workshop on Investments, Energy, and Green Economy (Brescia, Italy), 10th IRMBAM (Nice, France), EARIE 2019 (Barcelona, Spain), JEI 2019 (Madrid, Spain), Annual Meeting of the ASSET (Athens, Greece).
- (2018): 22nd Annual International Conference on Real Options (Düsseldorf, Germany), RES Symposium of Junior Researchers (Brighton, UK), 6th International PhD Meeting in Economics (University of Macedonia, Thessaloniki, Greece), 42nd AMASES conference (Naples, Italy), Annual Meeting of the ASSET (Florence, Italy), EJM 2018 (Naples, Italy).
- (2017): 21st Annual International Conference on Real Options (Boston, USA), XV EAEE Congress (Parma, Italy), 5th International PhD Meeting in Economics (University of Macedonia, Thessaloniki, Greece), 24th Ulvön Conference on Environmental Economics (Ulvön, Sweden).
- (2016): Annual Meeting of the ASSET (Thessaloniki, Greece).
- (2014): AFEPA Summer School, University of Bonn (Bonn, Germany).

SEMINAR PRESENTATIONS:

- (2021): University of Ioannina (webinar), Aston University (webinar), University of Crete (webinar),

ESSEC Business School (webinar), ThEMA (Théorie Economique, Modélisation et Applications) (webinar).

(2020): Technis webinar (<https://technisnet.org/index.html>), University of Aegean (three webinars at the Dep. of Statistics and Actuarial-Financial Mathematics, Samos, Greece), University of Brescia (webinar).

(2018): Emlyon Business School (Lyon, France), University of Padova (Dep. of Mathematics and Dep. of Economics and Management, Padova, Italy).

(2017): CERE (Umeå, Sweden), University of Brescia (Brescia, Italy), University of Macedonia (Thessaloniki, Greece).

(2012): BiGSEM, University of Bielefeld (Bielefeld, Germany).

GRANTS-SCHOLARSHIPS:

(2020-2021) University of Brescia: Research funds for the project: "Models and methods of non-linear optimization for the circular economy and energy systems"

(09/2019-12/2019) University of Bologna: "Marco Polo" grant for a three-month research visit at Emlyon Business School (Lyon, France).

(2019-2020) University of Bologna: Research funds for the project: "Semi-analytical methods for free boundary problems with two risk factors and applications to real options"

(2018-2019) Interdepartmental Centre Giorgio Levi Cases for Energy Economics and Technology: Research funds for the project: "Capacity markets and the pricing of Reliability Options"

(2014-2017) University of Padova: Scholarship for PhD students

(2013-2014) European Committee: Erasmus Mundus scholarship for European students

OTHER RESEARCH ACTIVITIES:

(2017-2019) member of the research group "Public procurement contracts and public-private partnerships for the sustainable maintenance of natural resources: incentives, risk transfer and real options", project code BIRD173594, financed by the University of Padova, scientific coordinator: Michele Moretto.

(2017-2019) member of the research group "The Real Option Approach to Evaluate Renewable Energies", project code DOR1745299/17, University of Padova, scientific coordinator: Michele Moretto.

TEACHING:

(2018-2019) *Mathematics for Economics*, graduate level, tutor (20h), Department of Economics and Management, University of Padova.

(2017-2018) *Mathematics for Financial Risk and Derivatives*, graduate level, tutor (25h), Department of Economics and Management, University of Padova.

LANGUAGES AND COMPUTING SKILLS:

Greek: Native, English: Fluent, Italian: Intermediate, Spanish: Basic, French: Basic
Office, Scientific WorkPlace

21-7-2021