

# Curriculum Vitae et Studiorum

MARIA INFUSINO

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## Part I

### General Information

#### 1 Personal information

**Name and surname:** Maria Infusino

**Nationality:** Italian

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#### 2 Education and academic achievements

- 5/06/2023–*Italian Habilitation for Associate Professor* in “Mathematical Analysis, Probability and Mathematical Statistics” (Abilitazione Scientifica Nazionale a professore di II fascia nel settore 01/A3-MAT/06).
- 8/07/2020 – *Habilitation in Mathematics* from University of Konstanz, Germany.
- 18/02/2011 – *PhD in Mathematics* from University of Calabria, Italy.  
Evaluation degree: Excellent (highest possible award).  
PhD thesis: “Uniform distribution of sequences of points and partitions”.  
Supervisor: Prof Aljosa Volčič. PhD duration: 3 years.
- 02/10/2007 – *Master degree in Mathematics* from University of Calabria, Italy.  
Evaluation degree: 110 out of 110 cum laude.  
Master thesis: “Uniformly distributed sequences on fractal sets”.  
Supervisor: Prof Aljosa Volčič. Master course duration: 2 years.
- 05/10/2005–*Bachelor degree in Mathematics* from University of Calabria, Italy.  
Evaluation degree: 110 out of 110 cum laude.  
Bachelor thesis: “Newton-Kantorovich method for non-linear operators in Banach spaces”.  
Supervisor: Prof Espedito De Pascale. Bachelor course duration: 3 years.
- 07/2002 – *Scientific Matura* (pre-university qualification) from “Liceo Scientifico Pitagora”, Rende, Italy. Evaluation degree: 100 out of 100. High-school course duration: 5 years.

#### 3 Employment history

- since 31/10/2023: *Associate Professor in Probability and Mathematical Statistics* (MAT/06) at University of Cagliari, Italy.
- 31/10/2020–30/10/2023: *Assistant Professor in Probability and Mathematical Statistics* (Ricerca-tore T.D. di tipo B in MAT/06) at University of Cagliari, Italy.
- 16/10/2014–30/10/2020: *Academic assistant (akademische Mitarbeiterin)* at University of Konstanz, Germany.

- 05/11/2012–15/10/2014: *Marie Curie Fellow of INdAM* (Italian National institute of Higher Maths) working on my own project: “Realizability and quantum representability problem”:  
-at University of Reading, UK, from 05/11/2012 to 04/05/2014  
-at La Sapienza, University of Rome I, Italy, from 05/05/2014 to 15/10/2014.
- 01/08/2012–04/11/2012: *Research assistant at University of Reading, UK.*
- 21/06/2011–31/07/2012: *Postdoctoral Research fellow at University of Reading* working as associated postdoctoral researcher in the EPSRC (Engineering and Physical Sciences Research Council) project “Truncated moment problems in statistical physics and quantum chemistry”.

## Part II

# Research

## 4 Main research interests

Probability and measure theory, infinite dimensional analysis, real algebraic geometry, and their applications to mathematical physics. In particular:

- Moment problem and its applications.
- Realizability problem for correlation functions (infinite dimensional moment problem)
- Uniform distribution theory:
  - Uniformly distributed sequences of points and partitions on fractal sets.
  - Kakutani’s sequences of partitions in  $[0, 1]$  and their generalizations.

## 5 Publications and preprints

### Peer-reviewed publications

- I. M. Infusino, S. Kuhlmann, T. Kuna, P. Michalski, *Moment problem for algebras generated by a nuclear space*, **Advances in Mathematics**, 448, Art.109677, 2024.
- II. R. E. Curto, M. Infusino, *The realizability problem as a special case of the infinite-dimensional truncated moment problem*, **Proceedings of American Mathematical Society** 152: 2145–2155, 2024.
- III. M. Infusino, S. Kuhlmann, T. Kuna, P. Michalski, *An intrinsic characterization of moment functionals in the compact case*, **International Mathematics Research Notices**, Volume 2023, Issue 3: 2281–2303, February 2023.
- IV. R. E. Curto, M. Ghasemi, M. Infusino, S. Kuhlmann, *The truncated moment problems for unital commutative  $\mathbb{R}$ -algebras*, to appear in **Journal of Operator Theory** 90 (2): 49 pp., 2023.
- V. M. Infusino, S. Kuhlmann, T. Kuna, P. Michalski, *Projective limit techniques for the infinite dimensional moment problem*, **Integral Equations and Operator Theory** 94 (2): Art.12, 44 pp., 2022.
- VI. M. Infusino, T. Kuna, *The full moment problem on subsets of probabilities and point configurations*, **Journal of Mathematical Analysis and Applications** 483 (1): 123551, 2020.
- VII. M. Ghasemi, M. Infusino, S. Kuhlmann, M. Marshall, *Moment problem for symmetric algebras of locally convex spaces*, **Integral Equations and Operator Theory** 90 (3): Art.29, 19 pp., 2018.
- VIII. M. Infusino, S. Kuhlmann, M. Marshall, *On the determinacy of the moment problem for symmetric algebras of a locally convex space*, in *Operator Theory in Different Settings and Related Applications*, **Operator Theory Advances Applications** 262: 243–250, Springer, 2018.
- IX. M. Infusino, S. Kuhlmann, *Infinite dimensional moment problem: Open questions and applications*, in *Ordered Algebraic Structures and Related Topics*, **Contemporary Mathematics** 697: 187–201, Amer. Math. Soc., Providence, RI, 2017.

- X. M. Infusino, T. Kuna, J. L. Lebowitz, E. R. Speer, *The truncated moment problem on  $\mathbb{N}_0$* , **Journal of Mathematical Analysis and Applications** 452 (1): 443–468, 2017.
- XI. E. Caglioti, M. Infusino, T. Kuna, *Translation invariant realizability problem on the  $d$ -dimensional lattice: an explicit construction*, **Electronic Communications in Probability** 21(45): 1–9, 2016.
- XII. M. Infusino, *Quasi-analyticity and determinacy of the full moment problem from finite to infinite dimensions*, in *Stochastic and Infinite Dimensional Analysis*, **Trends in Mathematics**, Chap. 9: 161–194, Birkhäuser, 2016.
- XIII. M. Infusino, T. Kuna, A. Rota, *The full infinite dimensional moment problem on semialgebraic sets of generalized functions*, **Journal of Functional Analysis** 267 (5): 1382–1418, 2014.
- XIV. M. Drmota, M. Infusino, *On the discrepancy of some generalized Kakutani’s sequences of partitions*, **Uniform Distribution Theory** 7 (1): 75–104, 2012.
- XV. M. Infusino, A. Volčič, *Uniform distribution on fractals*, **Uniform Distribution Theory** 4 (2): 47–58, 2009.

## Preprints

- XVI. D. Henrion, M. Infusino, S. Kuhlmann, V. Vinnikov, *Infinite-dimensional moment-SOS hierarchy for nonlinear partial differential equations*, arXiv: 2305.18768, submitted.

## Extended Abstracts

- XVII. M. Infusino, *The moment problem on infinite dimensional basic semi-algebraic sets*, in *Real algebraic geometry with a view toward systems control and free positivity*, Oberwolfach Rep. 11 (2): 1019–1022, EMS, 2014.
- XVIII. D. Henrion, M. Infusino, S. Kuhlmann, V. Vinnikov, *Real algebraic geometry with a view toward moment problems and optimization*. Oberwolfach Reports 14 (1): 771–775, EMS, 2017.

# 6 Research income

## 6.1 Research grants

**Principal Investigator** for the following:

- *Progetto GNAMPA 2024* (3000€) awarded by the INdAM group GNAMPA to support the project: “Moment Problem techniques for particle systems and packing graph” in collaboration with Alessandra Bianchi, Tobias Kuna, Dimitrios Tsagkarogiannis during 2024.
- *Visiting Professor/Scientist Programme 2022* awarded by University of Cagliari to support a research visit by R. Curto (University of Iowa, USA) in March 2023 to collaborate with me on: “Truncated moment problems for random measures”.
- *Co-funding for Eliteprogramme for Postdoctoral researchers 2017* (12000€) awarded by Konstanz University to complement the support to my project: “Crossroads between finite and infinite dimensional truncated moment problems” from January 2018 to December 2022.
- *Eliteprogramme for Postdoctoral researchers 2017* (114000€) awarded by the Baden-Württemberg Foundation to support my project: “Crossroads between finite and infinite dimensional truncated moment problems” from January 2018 to September 2020 (prolonged till December 2021).
- *Young Scholar Fund 2018* (7500€) awarded by University of Konstanz within the Excellence Initiative to support my project: “Moment techniques for point configuration spaces” during 2018.
- *Zukunftskolleg Mentorship 2016* (5000€) awarded by the Zukunftskolleg of Konstanz University to support my project “Moment problems with a view towards applications in statistical physics”.
- *Zukunftskolleg Mentorship 2015* (5000€) awarded by the Zukunftskolleg of Konstanz University to support my project: “Infinite dimensional moment problems on locally convex spaces” (returned).

- *Young Scholar Fund 2015* (5000€) awarded by University of Konstanz within the Excellence Initiative to support my project: “Infinite dimensional moment problem and applications”.
- *3 month-Postdoctoral Fellowship* to carry my own research project at the Centro de Matemática e Aplicações Fundamentais of Lisbon University in 2014 (returned).
- *LMS Research in Pairs grant* (1300€) awarded by the London Mathematical Society to support my collaboration with J.B. Lasserre (LAAS-CNRS, France) at University of Reading in 2014 (returned).
- *INdAM-COFUND Marie Curie Actions outgoing fellowship* (70800€), 11/2012–10/2014. My proposal on “Realizability and quantum representability problem” scored 4.925 out of 5 points (the second highest score) and was awarded one of the 5 fellowships offered in the call.

**Participant** in the following:

- *Metric Algebras and their applications in Probability and Statistics* awarded by Fondazione di Sardegna from January 2024 to January 2026.
- *Innovative Training Network POEMA (Polynomial Optimization, Efficiency through Moments and Algebra)* awarded by European Commission Marie Skłodowska-Curie for the period 2019-2022.

**Co-Principal Investigator** for the following:

- *Oberwolfach Research Fellowship*, 03/2023, awarded by Mathematisches Forschungsinstitut Oberwolfach (MFO) for a one-week collaborative research stay with Didier Henrion (LAAS-CNRS, France), Salma Kuhlmann (University of Konstanz, Germany), Victor Vinnikov (Ben Gurion University of the Negev, Israel) on “Infinite-dimensional moment problem-sum of squares approach to PDEs”.
- *Andrejewski Stiftung-conference grant* (7500€) to support the organization of an interdisciplinary meeting at University of Konstanz in the series “Andrejewski-Tage 2016” together with Sergio Albeverio (Hausdorff Center of Mathematics) and Salma Kuhlmann (University of Konstanz).
- *Young Researchers Project Fund* (2650€), 10/2010–10/2011, awarded by Italian Ministry of Education to support the joint project “Probabilistic and geometric aspects of Steiner symmetrizations” together with Marina Di Costa and Aljosa Volčič (University of Calabria, Italy).

## 6.2 Scholarships

- *Doctoral fellowship* from the Italian Ministry of Education supporting my Phd studies, 2007-2010.
- *Scholarship from “Fondazione Calabria Scienze Oggi”* supporting a supplementary scientific training during my bachelor and master studies, 10/2002 –09/2007. I was one of the first five students (selected out of all the freshers of the Faculty of Sciences at University of Calabria enrolled in 2002) awarded with this fellowship since its establishment.

## 6.3 Travel grants

- Travel and accommodation grant for the participation in the “*Panorama of Mathematics*”, Hausdorff Center for Mathematics, Bonn, Germany, (20–23/10/2015).
- *DAAD (German Academic Exchange Service) – Travel Grant* for the participation in the “Ordered Algebraic Structures and Related Topics”, CIRM, Marseille, France, (12–16/10/2015).
- Travel and accommodation grant for the participation in the “*Program on inverse moment problems: the crossroads of Analysis, Algebra, Discrete Geometry and Combinatorics*”, Institute for Mathematical Sciences, Singapore, (6-19/01/2014).
- Travel grant for the participation in “*Young women in Discrete Mathematics*”, Research Institute for Discrete Mathematics, Bonn, Germany (7-9/06/2013).
- Travel grant for the participation in the “*Courses for Phd students: Random trees and coalescents*” at CIRM, Marseille, France (20-25/09/2010).

## 7 National and international research stays

- *Università degli Studi di Padova, Italy* – May 2024 (collaboration with A. Bianchi, T. Kuna, D. Tsagkarogiannis on the subject: “Moment problem techniques for particle systems and packing graphs”).
- *Mathematisches Forschungsinstitut Oberwolfach (MFO)*– March 2023 (collaboration with D. Henrion, S. Kuhlmann, V. Vinnikov on “Infinite-dimensional moment problem-sum of squares approach to PDEs”).
- *Università degli Studi dell’Aquila, Italy* – November 2022 (collaboration with T. Kuna on the subject: “Moment problem on nuclear spaces”).
- *University of Konstanz, Germany* – November 2021 (collaboration with S. Kuhlmann and P. Michalski on the subject: “Infinite dimensional moment problems”).
- *Institut Henri-Poincaré, France* –October 2019 March 2018; (collaboration with D. Henrion, S. Kuhlmann, V. Vinnikov on the subject: “Connections between real algebraic geometry, infinite dimensional moment problems and optimization”).
- *University of Reading, UK* – Sept. 2019; Jan. 2019; March 2018; Dec. 2016; Feb. 2016; Nov. 2015 (collaboration with T. Kuna on the subject: “Realizability problem on configuration spaces”).
- *Newcastle University, UK* – January 2019, October 2016; (collaboration with M. Dritschel and D. Kimsey on the subject: “Moment problems and interpolation”).
- *Rutgers University, USA* – September-October 2018; September 2016; March-April 2015; March 2014; April 2013; April-May 2012 (collaboration with J. Lebowitz and E. R. Speer on the subject: “Connections between realizability problem and classical moment theory”).
- *Czech Technical University, Czech Republic* – September 2018; (collaboration with D. Henrion, on the subject: “New approaches for non-linear PDEs via moment problems”).
- *École normale supérieure, France* – October 2017; (collaboration with D. Henrion, S. Kuhlmann, V. Vinnikov on the subject: “Connections between real algebraic geometry, infinite dimensional moment problems and optimization”).
- *University of Saskatchewan, Canada* – August 2016 (collaboration with M. Ghasemi on the subject: “Generalized truncated moment problems”).
- *University of Cologne, Germany* – June 2016 (collaboration with F. Vallentin and D. de Laat on the subject: “Realizability problems in discrete geometry and optimization”).
- *CCM of University of Madeira, Portugal* – August 2014 (collaboration with J. L. da Silva on the subject: “Moments and particle systems dynamics”).
- *Roma La Sapienza, Italy* – July 2013; December 2013 (collaboration with E. Caglioti on the subject: “Realizability problem on the lattice”).
- *TU-Wien, Austria* – April-June 2010; Oct.-Nov.2009; March 2009 (collaboration with M. Drmota on the subject: “Discrepancy of some generalized Kakutani’s sequences of partitions”).

## 8 Invited/Contributed talks

### 8.1 Invited talks at conferences

1. 10-14/06/2024– Special session “Statistical Mechanics and applications” at 4th Italian Meeting on Probability and Mathematical Statistics, Sapienza University building of San Pietro in Vincoli, Rome, Italy. Talk: “The realizability problem as infinite dimensional moment problem”.
2. 13-17/11/2023– “POP23 - Future Trends in Polynomial Optimization”, LAAS-CNRS Toulouse, France. Talk: “Infinite-dimensional moment-SOS hierarchy for nonlinear PDEs”.
3. 4-9/09/2023 –Special session “Probabilità e Statistica” in “XXII Congress of Italian Mathematical Society (UMI)” Pisa, Italy. Talk: “Un nuovo approccio al problema dei momenti infinito-dimensionale” (A new approach to the infinite-dimensional moment problem”).

4. 21-26/05/2023 – “*Joint Spectra and related Topics in Complex Dynamics and Representation Theory*”, Banff International Research Station for Mathematical Innovation and Discovery, Banff, Alberta, Canada. Talk: “The truncated moment problem on unital commutative real algebras”.
5. 12-18/03/2023 – “*Real Algebraic Geometry with a view toward Koopman Operator Methods*” Mathematisches Forschungsinstitut Oberwolfach, Germany. Talk: “An intrinsic characterization of moment functionals in the compact case”.
6. 06-10/09/2022 – Special session “Truncated and full moment problems, and applications” in “*IWOTA–International Workshop on Operator Theory and its Applications*”, Krakow, Poland. Talk: “The truncated moment problem on unital commutative real algebras”.
7. 20/10/2020; 26-27/11/2020; 11/12/2020 – “*POEMA (Polynomial Optimization, Efficiency through Moments and Algebra) 2nd Online-Workshop*”. Talk: “Projective limit techniques for the infinite dimensional moment problem”.
8. 27–29/01/2020 – “*Geometry and Algebra in Stochastic Dynamics*”, Università degli Studi di Milano, Italy. Talk: “From finite to infinite dimensional moment problems”.
9. 26–31/05/2019 – “*Geometry of Real Polynomials, Convexity and Optimizations*”, Banff International Research Station for Mathematical Innovation and Discovery, Banff, Alberta, Canada. Talk: “From finite to infinite dimensional moment problems”.
10. 25/02–1/03/2019 – “*Workshop on Local Statistics of Point Sequences*”, Johannes Kepler University Linz, Austria. Talk: “The realizability problem for point processes: explicit constructions on the lattice”.
11. 11–15/02/2019 – “*Operator Theoretic Methods in Dynamic Data Analysis and Control*”, Institute of Pure and Applied Mathematics (IPAM), University of California at Los Angeles, USA. Talk: “The realizability problem for point processes: explicit constructions on the lattice”.
12. 23-27/07/2018 – Special session “Free analysis and real algebraic geometry” in the workshop “*IWOTA–International Workshop on Operator Theory and its Applications*”, East China Normal University, Shanghai, China. Talk: “Projective limit techniques for the infinite dimensional moment problem”.
13. 16-20/07/2018 – Special session “Positivity, Factorizations, and State Space Realizations for Scalar and Matrix Variables” in the workshop “*23rd International Symposium on Mathematical Theory of Networks and Systems–MTNS*”, Hong Kong University of Science and Technology, Hong Kong. Talk: “The realizability problem for point processes: an explicit construction on the  $d$ -dim. lattice”.
14. 5–7/07/2017 – “*Mathematical approaches to complex systems: Statistical mechanics and partial differential equations*”–Part II University of Lisbon, Portugal. Talk: “The realizability problem for point processes.”
15. 3–5/07/2017 – “*Mathematical approaches to complex systems: Statistical mechanics and partial differential equations*”–Part I Arrabida, Portugal. Talk: “The infinite dimensional moment problem as a new approach to realizability.”
16. 30–31/08/2016 – “*XIX Colloquiumfest*” dedicated to Murray Marshall, University of Saskatchewan, Saskatoon, Canada. Talk: “Moment problems on symmetric algebras of locally convex real spaces”.
17. 22–23/02/2016 – Workshop on “Moment Problems” of the *Joint LMS Research Group: Mathematical modeling of random multicomponent systems*, University of Reading, UK. Talk: “The full moment problem on configuration spaces”.
18. 12–16/10/2015 – “*Ordered Algebraic Structures and Related Topics*”, CIRM, Marseille, France. Talk: “Moment problem for symmetric algebras of locally convex spaces”.
19. 4/08/2014 – “*XLII Madeira Math Encounter*”, CCM of University of Madeira, Portugal. Talk: “The moment problem on infinite dimensional basic semi-algebraic sets”.
20. 14-18/07/2014 – Special session “Linear operator theory, function theory, and linear systems” in the workshop “*IWOTA–International Workshop on Operator Theory and its Applications*”, VU-University, Amsterdam, Netherlands. Talk: “The infinite moment problem on semi-algebraic sets”.

21. 6-12/04/2014 – “*Real algebraic Geometry with a view toward systems control and free positivity*”, Mathematisches Forschungsinstitut Oberwolfach, Germany. Talk: “The moment problem on infinite dimensional basic semi-algebraic sets”.
22. 7-16/01/2014 – “*Polyhedra, Lattices, Algebra, and Moments*”, Institute of Mathematical Science, Singapore. Talk: “The realizability problem as an infinite dimensional moment problem”.
23. 24-28/06/2013 – “*Stochastic and Infinite Dimensional Analysis*”, ZIF, Bielefeld, Germany. Talk: “The full infinite dimensional moment problem for semi-algebraic sets of generalized functions”.

## 8.2 Invited research seminars

1. 6/12/2023 – “*Konstanz Women in Mathematics-Lecture Series*”, University of Konstanz, Germany. Talk: “The truncated moment problem on unital commutative real algebras”.
2. 22/11/2022 – *Seminar in Probability*, University of L’Aquila, Italy. Talk: “The moment problem beyond finite dimensions”.
3. 11/06/2021 – “*Oberseminar Reelle Geometrie und Algebra*”, University of Konstanz, Germany. Talk: “The truncated moment problem on unital commutative real algebras”.
4. 11/09/2020 – *Seminar in Probability*, University of Pavia, Italy. Talk: “An overview of my research: from uniform distribution theory to moment problems”.
5. 12/05/2020 – *Seminar in Probability*, University of L’Aquila, Italy. Talk: “Uno sguardo sulla mia ricerca: dall’uniforme distribuzione al problema dei momenti”
6. 9/12/2019 – *Mathematical Seminars at University of Cagliari*, Italy. Talk: “Il problema dei momenti: oltre la dimension finita”.
7. 2/12/2019 – *Probability Seminars at LMU Munich*, Germany. Talk: “Projective limit techniques for the infinite dimensional moment problem”.
8. 29/01/2019 – *Functional Analysis seminars at Newcastle University*, UK. Talk: “Projective limit techniques for the infinite dimensional moment problem”.
9. 16/01/2018 – *AG Stochastische Geometrie at Karlsruhe Institute of Technology*, Germany. Talk: “The infinite dimensional moment problem as an approach to realizability”.
10. 25/07/2017 – *Seminars of the Collaborative Research Centre 1060: The Mathematics of Emergent Effects*, Rheinische Friedrich-Wilhelms-Universität Bonn, Germany. Talk: “The infinite dimensional moment problem as a new approach to realizability”.
11. 13/12/2016 – *Analysis seminars at the University of Reading*, UK. Talk: “Quasi-analyticity and determinacy of the moment problem”.
12. 11/10/2016 – *Analysis seminars at Newcastle University*, UK. Talk: “Moment problems for symmetric algebras of locally convex real spaces”.
13. 15/06/2016 – “*Oberseminar Optimierung, Geometrie und diskrete Mathematik*”, Universität zu Köln, Germany. Talk: “The infinite dim. moment problem for symmetric algebras of lc real spaces”.
14. 3–4/06/2016 – “*Women in Probability*”, TU München, Germany. Talk: “The realizability problem for point processes”.
15. 27/11/2015 – *Analysis seminars at the University of Reading*, UK. Talk: “Moment problem for symmetric algebras of locally convex spaces”.
16. 07/11/2014 – “*Oberseminar Reelle Geometrie und Algebra*”, University of Konstanz, Germany. Talk: “New directions in the infinite dimensional moment problem”.
17. 13/11/2013 – “*Konstanz Women in Mathematics*”, University of Konstanz, Germany. Talk: “A journey through the moment theory on semi-algebraic sets”.
18. 19/10/2012 – *Analysis day at the University of Reading*, UK. Talk: “Realizability problem for moment measures”.
19. 09/12/2011 – *Analysis seminars at the University of Reading*, UK. Talk: “Uniform distribution of sequences of points and partitions”.
20. 31/10/2009 – *AG Diskrete Mathematik at TU Wien*. Talk: “Uniform distribution on fractals”.

### 8.3 Contributed talks at conferences

1. 8-12/09/2024 – “*ODS 2024: International Conference on Optimization and Decision Science*”, Badesi, Italy. Talk: “Infinite-dimensional moment-SOS hierarchy for nonlinear PDEs”.
2. 7/09/2018 – “*Minisymposium: Real Algebraic Geometry in Action at the General Meeting of European Women in Mathematics*”, University of Graz, Austria. Talk: “Projective limit techniques for the infinite dimensional moment problem”.
3. 11-15/09/2017 – “*19th ÖMG Congress and Annual DMV Meeting*”, Paris-Lodron University of Salzburg, Austria. Talk: “Moment problems on symmetric algebras of locally convex spaces”.
4. 21-25/08/2017 – “*SOS: Sum of Squares, Real Algebraic Geometry and its Applications*”, University of Innsbruck, Austria. Talk: “The truncated discrete moment problem on the real line”.
5. 9-10/06/2017 – “*European Women in Mathematics - German Chapter*”, University of Bielefeld, Germany. Talk: “The realizability problem for point processes”.
6. 18-22/07/2016 – “*International Workshop on Operator Theory and its Applications*”, St. Louis, USA. Talk: “The infinite dim. moment problem for symmetric algebras of locally convex spaces”.
7. 21-25/09/2015 – “*Annual meeting of the German Mathematical Society (DMV-2015)*”, Hamburg, Germany. Talk: “The moment problem on infinite dimensional basic semi-algebraic sets”.
8. 24-25/09/2015 – “*Minisymposium at DMV-2015: Moment Problem and Applications in Memoriam Murray Angus Marshall 24.3.1940–1.5.2015*”, Hamburg, Germany. Talk: “A continuous moment problem for locally convex spaces”.
9. 19/06/2015 – “*Konstanz: Women in Maths-II*”, Konstanz, Germany. Talk: “A journey through the moment theory: the question of determinacy”.
10. 1-2/05/2015 – “*European Women in Mathematics - German Chapter*”, Castle Rauischholzhausen, Marburg, Germany. Talk: “New directions in the infinite dimensional moment problem”.
11. 17-19/07/2013 – “*Polynomial Optimisation - Workshop*”, INI, Cambridge, UK. Talk: “Concrete conditions for realizability of moment functions via quadratic modules”.
12. 7-9/06/2013 – “*Young women in Discrete Mathematics*”, Research Institute for Discrete Mathematics, Bonn, Germany. Talk: “On the discrepancy of some sequences of partitions”.
13. 6-8/05/2012 – “*107th Statistical Mechanics Conference*”, Rutgers University, New Brunswick, USA. Talk: “Uniform distribution on fractals”.
14. 12-17/09/2011 – “*XIX Conference of Italian Mathematical Society (UMI)*”, University of Bologna, Italy. Talk: “Discrepancy of generalized Kakutani’s sequences”.
15. 4-15/04/2011 – “*Spring School in Discrete Probability, Ergodic Theory and Combinatorics*”, TU-Graz, Austria. Talk: “Discrepancy of Kakutani’s sequences”.
16. 5-9/07/2010 – “*II International Conference on Uniform Distribution Theory*”, Strobl, Austria. Talk: “Uniform distribution on fractals and Khodak’s algorithm”.

### 8.4 Poster presentations at conferences

1. 1-8/07/2012 – “*6th European Congress of Mathematics*”, Jagiellonian University, Krakow, Poland. Poster: “On the discrepancy of some generalized Kakutani’s sequences of partitions”.

## 9 Participation in other conferences, workshops and schools

- 28/07/2024-2/08/2024 – “*Polynomial Optimization for Nonlinear Dynamics: Theory, Algorithms, and Applications*”, Mathematical Research Institute, Oberwolfach, Germany.
- 10-14/07/2023 – SIAM Conference on Applied Algebraic Geometry (AG23) at Eindhoven University of Technology, Netherlands.
- 12-16/09/2022 – MTNS 2022 (25th International Symposium on Mathematical Theory of Networks and Systems), University of Bayreuth, Germany.
- 07-11/02/2022 – “*POEMA (Polynomial Optimization, Efficiency through Moments and Algebra) 4th Online-Workshop*”.

- 21-22/10/2021–*Incontro online sulla Didattica della Probabilità e Statistica nei corsi di laurea degli Atenei Italiani*, UMI-PRISMA group, Italy.
- 22-25/02/2021–“*VII International Conference on Uniform Distribution Theory*”, Linz, Austria.
- 29/01/2021; 05,17/02/2021–“*POEMA (Polynomial Optimization, Efficiency through Moments and Algebra) 3rd Online-Workshop*”.
- 27/05/2020–16/09/2020–“*POEMA (Polynomial Optimization, Efficiency through Moments and Algebra) Online Learning Weeks*”.
- 01–06/02/2020–“*Real Algebraic Geometry with a View Toward Hyperbolic Programming and Free Probability*”, Mathematical Research Institute, Oberwolfach, Germany.
- 15–17/01/2020–“*POEMA (Polynomial Optimization, Efficiency through Moments and Algebra) 1st Workshop*”, Università degli Studi di Firenze, Italy.
- 8/07/2019–“*Bruce Reznick 66 fest*”, University of Bern, Switzerland.
- 31/03–5/04/2019–“*Multivariable Spectral Theory and Representation Theory*”, Banff International Research Station for Mathematical Innovation and Discovery, Banff, Alberta, Canada.
- 26/11–2/12/2017–“*Reflection Positivity*”, Mathematisches Forschungsinstitut Oberwolfach, DE.
- 20–23/10/2015 –“*Panorama of Mathematics*”, Hausdorff Center for Mathematics, Bonn, Germany.
- 4–5/12/2014 –“*Geometrietag 2014*”, TU-Dresden, Dresden, Germany.
- 11/06/2014 –“*INdAM’s day*”, SISSA, Trieste, Italy.
- 14–18/10/2013 –“*Uniform distribution and quasi-Monte Carlo methods*”, RICAM, Linz, Austria.
- 15–17/07/2013 – “*Summer school in Polynomial Optimisation*”, INI, Cambridge, UK.
- 21–25/05/2012 – “*Stochastic Dynamics in Action*”, ZIF, Bielefeld, Germany.
- 25–30/06/2012 – “*III International Conference on Uniform Distribution Theory*”, Congress Center of the Slovak Academy of Sciences, Smolenice, Slovakia.
- 15–22/07/2011– “*Stochastic and Real World Models*”, University of Bielefeld, Germany.
- 04–15/04/2011– “*Spring School in Discrete Probability, Ergodic theory and Combinatorics*”, Graz University of Technology, Austria.
- 18/02/2011– “*Minicolloquium on Convex Geometry*”, University of Calabria, Italy.
- 20–25/09/2010 – “*Courses for Phd students: Random trees and coalescents*”, CIRM, France.
- 13–17/07/2009 – “*Conference on Convex and Discrete Geometry*”, TU-Wien, Austria.
- 27/07/2008 to 29/08/2008 – “*Interuniversity Mathematical School*” (S.M.I.), Perugia, Italy.

## 10 Prizes and awards

- 25/05/2021–*JMAA Ames Award 2020*– Prize for the best article in pure mathematics published in *Journal of Mathematical Analysis and Applications* in the period 2018–2020 (2500 \$).
- 08/07/2012 – Prize for “*The best research poster*” (11 posters awarded out of 180 presented) at the 6th European Congress of Mathematics (6ECM), Jagiellonian University, Kraków, Poland.
- 19/07/2008 – Award for “*The best graduate in 2007*” from the Faculty of Mathematics, Physics and Natural Sciences of University of Calabria, Italy.

## Part III

# Teaching

## 11 Teaching activity

- 1) **SS 2024 – Lecturer, Elements of Probability and Statistics, University of Cagliari, IT** (course in Italian for master students in Mathematics).

- 2) **SS 2022, SS 2023, SS 2024 – Lecturer, Probability, University of Cagliari, IT**  
(course in Italian for bachelor students in Mathematics).
- 3) **WS 2021/2022 – Lecturer, Positive polynomials and moment problems, University of Konstanz, DE** (course in English for master students in Mathematics).
- 4) **SS 2021 – Lecturer, Topological vector spaces, University of Cagliari, IT, and University of Konstanz, DE** (online-course in English for bachelor and master students in Mathematics).
- 5) **SS 2021 – Lecturer, Statistical Modeling: introduction to stochastic processes., University of Cagliari, IT** (course in Italian for master students in Applied Mathematics).
- 6) **SS 2020 – Lecturer, Topological algebras, University of Konstanz, DE**  
(online-course in English for master students in Mathematics).
- 7) **SS 2020 – TA, Final student seminars in algebra, University of Konstanz, DE**  
(seminar series in English for bachelor and master students presenting the contents of their final thesis in Mathematics).
- 8) **WS 2019/2020 – Lecturer, Topological Vector Spaces II, University of Konstanz, DE**  
(course in English for master and Phd students in Mathematics).  
Evaluation on a 5-point grading scale ranging from 1 (excellent, sehr gut) to 5 (insufficient, nicht ausreichend):  
Teaching-Learning Index (LLI, i.e. Lehr-Lern-Index) = 1.45; Overall satisfaction (Gesamtzufriedenheit)=1.83.  
The average LLI in Mathematics in the previous four semesters was 2.05.
- 9) **SS2019 – Lecturer, Positive polynomials and moment problems, University of Konstanz, DE** (course in English for master and Phd students in Mathematics).  
Evaluation on a 5-point grading scale ranging from 1 (excellent, sehr gut) to 5 (insufficient, nicht ausreichend):  
Teaching-Learning Index (LLI, i.e. Lehr-Lern-Index) = 1.47; Overall satisfaction (Gesamtzufriedenheit)=1.2.  
The average LLI in Mathematics in the previous four semesters was 1.96.
- 10) **SS 2019 – TA, Master Seminars on real algebraic geometry, University of Konstanz, DE**  
(seminar series in English for master students in Mathematics)<sup>1</sup>.
- 11) **WS 2018/2019 – Lecturer, Topological vector spaces, University of Konstanz, DE**  
(course in English for master and Phd students in Mathematics).  
Evaluation on a 5-point grading scale ranging from 1 (excellent, sehr gut) to 5 (insufficient, nicht ausreichend):  
Teaching-Learning Index (LLI, i.e. Lehr-Lern-Index) = 1.51; Overall satisfaction (Gesamtzufriedenheit)=1.14.  
The average LLI in Mathematics in the previous four semesters was 1.94.
- 12) **SS 2018 – Lecturer, Topological algebras, University of Konstanz, DE**  
(course in English for bachelor and master students in Mathematics).  
Evaluation on a 5-point grading scale ranging from 1 (excellent, sehr gut) to 5 (insufficient, nicht ausreichend):  
Teaching-Learning Index (LLI, i.e. Lehr-Lern-Index) = 1.41; Overall satisfaction (Gesamtzufriedenheit)=1.0.  
The average LLI in Mathematics in the previous four semesters was 2.00.
- 13) **WS 2017/2018 – Lecturer, Topological vector spaces II, University of Konstanz, DE**  
(course in English for master and Phd students in Mathematics).  
Evaluation on a 5-point grading scale ranging from 1 (excellent, sehr gut) to 5 (insufficient, nicht ausreichend):  
Teaching-Learning Index (LLI, i.e. Lehr-Lern-Index) = 1.45; Overall satisfaction (Gesamtzufriedenheit)=1.2.  
The average LLI in Mathematics in the previous four semesters was 2.01.
- 14) **SS 2017 – Lecturer, Topological vector spaces, University of Konstanz, DE**  
(course in English for bachelor and master students in Mathematics).  
Evaluation on a 5-point grading scale ranging from 1 (excellent, sehr gut) to 5 (insufficient, nicht ausreichend):  
Teaching-Learning Index (LLI, i.e. Lehr-Lern-Index) = 1.19; Overall satisfaction (Gesamtzufriedenheit)=1.0.  
The average LLI in Mathematics in the previous four semesters was 2.03.

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<sup>1</sup>I was coordinating the seminar series, offering a list of topics to be developed in more details by each of the students under my supervision.

- 15) **WS 2016/2017 – TA, Bachelor Seminars on linear algebra, University of Konstanz, DE**  
 (seminar series in German for bachelor students in Mathematics)<sup>1</sup>.  
 Evaluation on a 5-point grading scale ranging from 1 (excellent, sehr gut) to 5 (insufficient, nicht ausreichend):  
 Teaching-Learning Index (LLI, i.e. Lehr-Lern-Index) = 1.87; Overall satisfaction (Gesamtzufriedenheit)=1.78.  
 The average LLI in Mathematics in the previous four semesters was 2.05.
- 16) **SS 2016 – Lecturer, Topological vector spaces II, University of Konstanz, DE**  
 (course in English for master and Phd students in Mathematics).  
 Evaluation on a 5-point grading scale ranging from 1 (excellent, sehr gut) to 5 (insufficient, nicht ausreichend):  
 Teaching-Learning Index (LLI, i.e. Lehr-Lern-Index) = 1.59; Overall satisfaction (Gesamtzufriedenheit)=1.2.  
 The average LLI in Mathematics in the previous four semesters was 2.1.
- 17) **WS 2015/2016 – Lecturer, Topological vector spaces I, University of Konstanz, DE**  
 (course in English for master and Phd students in Mathematics).
- 18) **SS 2015 – TA, Master Seminars on real algebraic geometry, University of Konstanz, DE**  
 (seminar series in English for master students in Mathematics)<sup>1</sup>.
- 19) **WS 2014/2015 – TA, Real algebraic geometry, University of Konstanz**  
 (preparation of the weekly assignments and coordination of the exercise groups related to the course  
 in English for master students in Mathematics)
- 20) **SS 2014 – Lecturer, Mathematical basics for Architecture, La Sapienza University, IT**  
 (intensive course in Italian for bachelor students in Architecture).
- 21) **WS 2013/2014 – Co-lecturer, Functional analysis I, University of Reading, UK**  
 (course in English for bachelor students in Mathematics).
- 22) **SS 2013 – TA, Foundations of mathematics, University of Reading, UK**  
 (exercise class in English for bachelor students in Mathematics).
- 23) **WS 2011/2012 to WS 2013/2014 – TA, Real analysis, University of Reading, UK**  
 (exercise class in English for bachelor students in Mathematics).
- 24) **SS 2009 – TA, Linear algebra, University of Calabria, IT**  
 (exercise class in Italian for bachelor students in Mathematics, Physics, and Chemistry).
- 25) **WS 2008/2009 – Co-lecturer, Biostatistics II, University of Calabria, IT**  
 (course and exercises in Italian for bachelor students in Biology).
- 26) **WS 2005/2006 to WS 2008/2009 – Tutor, Geometry and linear algebra, University of Calabria, IT** (exercise in Italian for undergraduates in Mathematics, Physics, and Chemistry).

## 12 Supervision activity

### PhD Thesis supervision

- Patrick Michalski (PhD student in Mathematics at University of Konstanz): *A systematic approach to infinite dimensional moment problems*; April 2018–December 2021, joint supervision with Salma Kuhlmann.
- Aldo Rota (Phd student in Mathematics, University of Reading, UK): *Moment problem for point random fields and its applications*; April 2010–February 2014, joint supervision with Tobias Kuna.

### Master Thesis supervision

- Matteo Bechere (Master student in Mathematics at University of Cagliari): *The moment problem in the compact case: localization of the support*, January 2024–July 2024.
- Sarah Tanja Hess (Master student in Mathematics at University of Konstanz): *Examination of the connection between the Horn Problem and the Lax Conjecture*, January 2020–September 2020, joint supervision with Salma Kuhlmann.

- Patrick Michalski (Master student in Mathematics at University of Konstanz): *On Schmüdgen’s fiber theorems for moment problems*; December 2016–October 2017, joint supervision with Salma Kuhlmann.
- Siqi Yao (Master student in Mathematics in the dual-degree program between University of Konstanz and Shanghai Jiao Tong University): *Positive polynomials and sum of squares in formal power series rings*; April 2015–March 2016, joint supervision with Salma Kuhlmann.

#### **Bachelor Thesis supervision**

- Hasina Uddin (Bachelor student in Mathematics, University of Reading, UK): *Approximation of irrational numbers via continued fractions*; October 2013–March 2014.
- Harry Eaton (Bachelor student in Mathematics, University of Reading, UK): *Archimedes’ cattle problem and Pell’s equation*, October 2013–March 2014.
- Colm Teeluck (Bachelor student in Mathematics, University of Reading, UK): *Continued fractions and Farey diagram*; October 2013–March 2014.

## **Part IV**

# **Administrative roles and Outreach activities**

## **13 Academic service roles**

- Since October 2024, I am vicepresident of the Faculty of Science of University of Cagliari.
- Since September 2024, I am member of the study advisory and outreach committee for the Department of Mathematics and Computer Science of University of Cagliari (Commissione Orientamento del dipartimento di Matematica e Informatica).
- Since September 2024, I am member of the committee coordinating seminars and visiting researchers in the Department of Mathematics and Computer Science of University of Cagliari (Commissione Seminari e Visitatori del dipartimento di Matematica e Informatica).
- Since July 2024, I am the representative of the study advisory and outreach committee for Mathematics at the University of Cagliari (Commissione Orientamento del corso di studi in Matematica) of which I have been member since June 2021.
- External member of the PhD committee for the candidate Corbinian Schlosser at Université Toulouse III, France, defense on 26/04/2023.
- External member of the PhD committee for the candidate Patrick Michalski at University of Konstanz, Germany, defense on 11/11/2021.
- From June 2021 to July 2024, I was member of the hiring committee for the assignment of vacant courses in Mathematics at the University of Cagliari (Commissione per le assegnazioni di insegnamenti vacanti relativi al SSD MAT).
- Since 2014, I have been member of hiring committees in Mathematics at University of Konstanz both as a field expert and as a representative for the Equal Opportunity Council.
- From 2011 to 2014 I regularly contributed to the *selection of prospective students* applying for a bachelor in Mathematics at University of Reading.

## **14 Organization of scientific meetings**

#### **Member of the organizing committee of:**

- 19-23/08/2024 – Special session at MTNS 2024 (26th International Symposium on Mathematical Theory of Networks and Systems), University of Cambridge, UK: “Moment Problems, Convex Algebraic Geometry, and Semidefinite Relaxations” together with Didier Henrion, Salma Kuhlmann and Victor Vinnikov.

- 12–16/08/2024–Special session at IWOTA-2024, University of Kent, UK: “*Finite and infinite dimensional moment problems*” together with Salma Kuhlmann (University of Konstanz).
- 10-14/07/2023 –Special session at SIAM Conference on Applied Algebraic Geometry (AG23) at Eindhoven University of Technology, Netherlands: “Moment Problems, Convex Algebraic Geometry, and Semidefinite Relaxations” with Didier Henrion, Salma Kuhlmann and Victor Vinnikov.
- 12-16/09/2022 – Special session at MTNS 2022 (25th International Symposium on Mathematical Theory of Networks and Systems), University of Bayreuth, Germany: “Moment Problems, Convex Algebraic Geometry, and Semidefinite Relaxations” together with Didier Henrion, Salma Kuhlmann and Victor Vinnikov.
- 13-16/06/2022– Special session at 3rd Italian Meeting on Probability and Mathematical Statistics, University of Bologna, Italy: “Recent perspective on moment problems” together with Tobias Kuna.
- 25–26/07/2019–Special session at IWOTA-2019, Instituto Superior Técnico, University of Lisbon, Portugal: “*Truncated moment problems*” together with Salma Kuhlmann (University of Konstanz).
- 6-7/12/2018–“*KWIM-Festtage*”: *Closing conference of the project Konstanz Women In Mathematics* at the University of Konstanz, Germany together with Salma Kuhlmann.
- 3–7/09/2018–Minisymposium “*Real algebraic geometry in action*” at the European Women in Mathematics General Meeting 2018, Graz, Austria together with Salma Kuhlmann.
- 3-4/05/2018–“*Conference of the German Chapter of European Women in Mathematics 2018*”, Heidelberg, Germany, together with Michael Winckler (Interdisziplinäres Zentrum für Wissenschaftliches Rechnen, Heidelberg), Federica Fanoni and Anna Wienhard (Mathematisches Institut, Heidelberg).
- 5–11/03/2017–Workshop at the Mathematisches Forschungsinstitut Oberwolfach: “*Real Algebraic Geometry with a view toward Moment Problems and Optimization*” together with Didier Henrion (LAAS-CNRS Toulouse, France), Salma Kuhlmann (University of Konstanz, Germany) and Victor Vinnikov (Ben Gurion University of the Negev, Israel).
- 18–22/07/2016–Special session at IWOTA-2016, Washington University, St. Louis: “*Finite and infinite dimensional moment problems*” together with Salma Kuhlmann (University of Konstanz, Germany) and Tobias Kuna (University of Reading, UK).
- 7–9/04/2016– Meeting in the series Andrejewski-Tage 2016 at University of Konstanz: “*Moment problems in theoretical physics*” together with Sergio Albeverio (Hausdorff Center of Mathematics, Bonn, Germany) and Salma Kuhlmann (University of Konstanz, Germany).
- 24–25/09/2015–Minisymposium at DMV-2015, Hamburg: “*Moment Problem and Applications in Memoriam Murray Angus Marshall 24.3.1940–1.5.2015*” together with Salma Kuhlmann (University of Konstanz, Germany) and Tobias Kuna (University of Reading, UK).

**Member of the programme committee of:**

- 22–25/02/2021–“*VII International Conference on Uniform Distribution Theory*”, Linz, Austria.

## 15 Outreach activities and equality initiatives

- Co-organizer of the following activities in SHARPER 2024: European Researchers Night: “*Matepratica*” and “*Giovani-In-Forma*”, September 27, 2024, at EXMA, Cagliari, Italy.
- Lecturer of the integrative course “*Quando l’intuito si sbaglia: paradossi probabilistici*” (When the intuition is wrong: probabilistic paradoxes) at Liceo Scientifico e Linguistico Enrico Fermi, Nuoro, Italy, April 22th, 2024.
- Co-organizer of the mathematical activities within the *Giornate dell’Orientamento*, February 27-29, 2024 at University of Cagliari, Italy.
- Co-organizer of *Mathematics-Masterclass in occasion of the International Day of Women in Science 2024*, February 9, 2024, at University of Cagliari, Italy.

- Co-organizer of the following activities in SHARPER 2023: European Researchers Night: “Matematica mai così vicina”, “Mathematical Beauty”, and “La scienza in casa”, September 29, 2023, at Giardini pubblici, Cagliari, Italy.
- Co-organizer of *Mathematics-Masterclass in occasion of the International Day of Women in Science 2023*, February 10, 2023, at University of Cagliari, Italy.
- Co-organizer of the following activities in SHARPER 2022: European Researchers Night: “I colori nella matematica”, “Mathematics in Actions”, and Adventure Night, September 30, 2022, at Orto Botanico, Cagliari, Italy.
- Invited speaker in the course “La matematica nascosta nella vita di tutti i giorni.” at the University College Sant’Efisio, Cagliari, Italy. Talk: “Quando l’intuito si sbaglia: paradossi probabilistici” (When the intuition is wrong: probabilistic paradoxes), April 11th, 2022.
- Speaker in the online-monographic course “Math Tasting at UniCa” within the outreach project UNICA ORIENTA POR FSE 2014-2020 dedicated to the high-school students in Cagliari, Italy. Talk: “Quando l’intuito si sbaglia: paradossi probabilistici” (When the intuition is wrong: probabilistic paradoxes), December 10th, 2021.
- Co-organizer of *Mathematics-Masterclass in occasion of the International Day of Women in Science 2022*, February 11, 2022, at University of Cagliari, Italy.
- Co-organizer of the following activities in SHARPER 2021: European Researchers Night: “Quizzone: Chi vuol esser matematico?” and “Mathematics in Actions”, September 24, 2021, at Orto Botanico, Cagliari, Italy.
- Co-organizer of *Mathematics-Masterclass in occasion of the International Day of Women in Science 2021*, February 11, 2021, at University of Cagliari, Italy.
- Invited speaker at the *Herbsttagung Arbeitskreis Frauen und Mathematik*, October 25-26, 2019, at University of Würzburg, Germany. Talk: “Gender Gap in Mathematics: still a problem for German research, but...”.
- Coordinator of the project “Konstanz Women in Mathematics: paths in studies and career” at University of Konstanz, Germany from January 2016 to December 2018, which aimed to promote female mathematicians at all levels through several activities among which a lecture series giving more visibility to women in mathematics and their scientific achievements.
- Organizer of the informative event *Studying abroad with ALGANT* at University of Konstanz on June 26th, 2018. The event was aimed to present to the bachelor students in Mathematics at Konstanz the two-year master programme in pure mathematics offered by the ALGANT (ALgebra, Geometry And Number Theory) consortium consisting of 10 universities in and beyond Europe.
- Co-organizer of the opening of the exhibition *Women of Mathematics throughout Europe. A gallery of portraits* at University of Konstanz on October 19th, 2017. The event was supported by the Equal Opportunity Council and included public talks for a large audience (even non-academic) on the history and the challenges of women in mathematics.
- Co-organizer of a *focus group discussion at the University of Bielefeld* about: “Women in Mathematics in Germany: challenges and opportunities” on June 9th, 2017 in occasion of the European Women in Mathematics German Chapter Conference.
- Co-organizer of a *fishbowl discussion at the Mathematisches Forschungsinstitut Oberwolfach* about: “Real nonnegative representations for women in mathematics” on March 8th 2017.
- Invited speaker at the *Panel discussion at IWOTA 2016* entitled “Women in Mathematics”, on July 19th 2016 at Washington University in St. Louis, USA. Talk: “Women in Mathematics in Germany”.
- Active participation in the network *Women in Academia* at University of Reading in 2012–2014.
- Active participation in the *Night of Researchers* at La Sapienza University in Rome in Italy on September 24th, 2014.

- I contributed to the *Athena SWAN Action Program* of the School of Mathematical and Physical Sciences at University of Reading from 2012 to 2014 as representative for the math department in the Athena Swan Research Staff Focus Group.

## 16 Memberships

- Member of German Mathematical Society (DMV) from January 2019 to December 2020.
- Member of European Women in Mathematics (EWM) since 2014.
- Member of Italian Mathematical Society (UMI) since 2009.
- Member of the Italian National Group of Mathematical Analysis, Probability and their Applications (GNAMPA) since 2009.
- Member of the UMI group “Probability In Statistics, Mathematics and Applications” (PRISMA) since 2021.

## 17 Reviewing activity

Peer-reviewer for the following scientific journals:

- International Mathematics Research Notices
- Proceedings of the American Mathematical Society
- Journal of Mathematical Analysis and Applications
- Mathematical Programming
- Linear Algebra and Applications
- Mathematics of Operations Research
- SIAM Journal on Optimization (SIOPT)
- SIAM Journal on Applied Algebra and Geometry

Reviewer for MathSciNet and for Zentralblatt Open for the following scientific classes (MSC 2020):

- 44A60 (Moment problems)
- 46G12 (Measures and integration on abstract linear spaces)
- 28C05 (Integration theory via linear functionals, Radon measures, Daniell integrals, representing set functions and measures)
- 28C15 (Set functions and measures on topological spaces)
- 11K06 (General theory of distribution modulo 1)
- 11K38 (Irregularities of distribution, discrepancy).

## Part V

# Additional skills and training

## 18 Languages

Italian (mother tongue), English (Level C1), German (Level B2), Spanish (Level A2)

## 19 Computer skills

Word, Excel, Power Point, Latex, Cabri, Maple, MatLab, C++

## 20 Additional professional training

Events organized by the of University of Cagliari which I attended:

- *Continue Discentia: initial training path in the didactical area and quality assurance* (03-10/2022). The course consisted in of 13 modules for a total of 23 hours aimed to introduce the newly appointed researchers to the national and local university teaching systems and related evaluation procedures to ensure a high-quality didactical offer.

The Baden Württemberg Stiftung organizes regular meetings for the fellows of the Eliteprogramm to encourage the interdisciplinary exchange and offer additional training to the fellows. Among those, I attended:

- *Online-Networking meeting of the Eliteprogramme fellows* (29/01/2021).
- *Networking meeting of the Eliteprogramme fellows* (4-5/11/2019) at the Heidelberg Academy of Sciences, Germany.
- *Networking meeting of the Eliteprogramme fellows* (4-5/07/2018) at the Baden-Württemberg Stiftung headquarter in Stuttgart, Germany.
- *Networking meeting of the Eliteprogramme fellows* (28-29/11/2017) at the Heidelberg Academy of Sciences, Germany.

Events organized by the Academic Staff Development of University of Konstanz which I attended:

- *Compact course about appointment procedures in Germany* (1/02/2018). The course provided an introduction to the appointment procedure for a professorship within the German system.
- *Women in the EU-Research* (12/05/2017). The course offered an overview about the structure and the goals of the research framework Horizon 2020 as well as the different ERC programs, showing the success factors for female scientists.

Special training sessions for INdAM-COFUND Marie Curie fellows offered by the Italian National Institute of High Mathematics (INdAM) at La Sapienza University of Rome, Italy:

- *Java and JavaScript: similarities and differences*, (22-23/07/2014) by A. Mancini. This course offered a comparison between the different nature of the two languages and a discussion about their respective advantages in being efficient and maintainable.
- *Computer-assisted theorem proving*, (22-23/07/2014) by M. Maggesi. This course provided me with an introduction to mechanized mathematics and an overview of the most recent research results in this area, illustrating some live examples through a practical tutorial.
- *An overview of high level paradigms and programming languages* (22-23/07/2014) by G. Ciolli. This was a transversal course in between several computer languages aimed to illustrate certain aspects of computer programming which are useful to a professional mathematician.
- *Research projects: applying for funding* (21/07/2014) by F. Bracci, C. Stoppato, G. Ciolli. This seminar offered a practical training for the preparation of applications aimed to get funding for research projects through the discussion of examples of successful applications.

Training programs offered by the Center for Staff Training and Development at University of Reading:

- *Grade 6 workshop: Understanding and encouraging academic promotion to Grade 7* (12/12/2012).
- *Research Staff Conference 2012: Research Staff and Research Leaders - Resolving Diverging Interests* (28/11/2012). This conference aimed to support the career development of Research Staff and focused on the relationship between Principal Investigators and Research Staff.
- *Data Protection Act and Freedom of Information training module* (18/11/2012).
- *Pronunciation skills for academic staff* (15/11/2012), which was extremely useful to improve my lecturing and presenting in English. The facilitator was a professional voice coach who gave us the opportunity for individual assessment and guidance.

- *Developing your presentation skills* (22/03/2012), which offered a training about how to give conference presentations, seminars or to lecture more effectively.
- *Introduction to write successful proposals* (7/03/2012). This session provided me with the key information I would need to be able to write a research proposal. It covered the structure, content and presentation of research proposals, impact plan requirements and how grants are assessed.
- *Small group teaching* (20/02/2012), which explored the value of small group sessions in student learning and the role of research staff when acting as session leaders. It covered topics such as techniques to encourage interaction, questioning and listening skills, dealing with group dynamics.