Curriculum Vitae

- **Personal Information**

Full Name: Alfonso Sorrentino.

Citizenship: Italian.

Researcher unique identifier (ORCID): 0000-0002-5680-2999.

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Address: Dipartimento di Matematica,
Università degli Studi di Roma "Tor Vergata"
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- **Research Interests**

Hamiltonian and Lagrangian systems: Aubry-Mather-Mañé theory, KAM theory, weak KAM theory, Integrable systems, geodesic flows, Stability and Instability.
Twist maps and symplectic maps: low-dimensional (topological) dynamics, Aubry-Mather theory.
Billiards: dynamics, integrability, spectral properties, rigidity phenomena.
Dissipative systems: conformally symplectic Aubry-Mather theory.
Hamilton-Jacobi equation: Homogenization, Symplectic Homogenization, Hamilton-Jacobi on networks and ramified spaces.
Symplectic and contact geometry/topology: general theory, Hofer and Viterbo geometries, applications to dynamics.

- **Education**

2004 - 2008: Ph.D. in Mathematics, Princeton University (USA).
Thesis Title: *On the structure of action-minimizing sets for Lagrangian systems.*
Advisor: Prof. John N. Mather.
Degree Committee: John N. Mather (President), Elon Lindenstrauss,Yakov Sinai and Bo′az Klartag.

2003 - 2004: M.A. in Mathematics, Princeton University (USA).
Exam Committee: John Mather (President), Alice Chang and János Kollár.

1998 - 2003: Laurea degree in Mathematics, Università degli Studi "Roma Tre".
Thesis Title: *On smooth quasi-periodic solutions of Hamiltonian Systems.*
Supervisor: Prof. Luigi Chierchia. Evaluation: 110/110 cum laude.

- **Academic Positions**

2021 - present: Full Professor in Mathematical Analysis (01/A3, MAT/05) at Dipartimento di Matematica, Università degli Studi di Roma "Tor Vergata", Rome (Italy).

2014 - 2021: Associate Professor in Mathematical Analysis (01/A3, MAT/05) at Dipartimento di Matematica, Università degli Studi di Roma "Tor Vergata", Rome (Italy).

2012 - 2014: Researcher in Mathematical Analysis MAT/05 (tenured position) at Dipartimento di Matematica e Fisica, Università degli Studi "Roma Tre", Rome (Italy).

2009 - 2012: *Herchel-Smith Research Fellow* in Pure Mathematics at Department of Pure Mathematics and Mathematical Statistics, University of Cambridge (UK).

2009 - 2012: *Newton Trust fellow* at Pembroke College, University of Cambridge (UK).

2008 - 2009: Junior Research Fellow at *Fondation des Sciences Mathématiques de Paris*/Host Department: CEREMADE, Université Paris-Dauphine (France).

- **Academic Qualifications**

2018: Italian National Scientific Qualification (ASN) to function as Full Professor:

Sector 01/A3, Mathematical Analysis, Probability and Mathematical Statistics;
Sector 01/A2, Algebra and Geometry.

2013: Italian National Scientific Qualification (ASN) to function as Associate Professor:
Sector 01/A2, Algebra and Geometry.

2009: French Qualification of *Conseil national des universités* (CNU) to function as maître de conférences in Mathematics (Sector 25).

2004: Teaching trainining certificate, McGraw Center for Education, Princeton University (USA).

- **Scientific Awards and Prizes**

2023: *Frontiers of Science Award* (joint with Vadim Kaloshin), given at the International Congress of Basic Sciences, Beijing July 2023.

2020: *International Consortium of Chinese Mathematicians (ICCM 2020) Best Paper Award (Gold Medal)*, for the paper: G. Huang, V. Kaloshin, A. Sorrentino, *Geom. and Funct. Analysis (GAFA)*, 28 (2): 334-392, 2018.

2020: *Barcelona Dynamical System Prize 2019*, Societat Catalana de Matemàtiques (Catalunya, Spain), for the paper: V. Kaloshin, A. Sorrentino, *Annals of Mathematics*, 188 (1), 2018.
International prize, awarded every two years, to the authors of an outstanding paper or research work in the area of Dynamical Systems.

2018: *Guido Fubini Prize for Mathematics 2018*, Accademia delle Scienze di Torino (Italy).
Biennal prize awarded to an Italian mathematician, younger than 40 years old (ex-aequo with Giovanni Catino).

- **Fellowships and Scholarships**

Spring 2025: Université Paris-Dauphine (Paris) Visiting professorship, April-May 2025 (1 month).

Fall 2023: Simons Center for Geometry and Physics, Stony Brook (US): visiting professor and lead organizer for the program "*Mathematical billiards: at the crossroads of dynamics, geometry, analysis, and mathematical physics*", October 9-December 15, 2023.

Spring 2021: Sorbonne Université (Paris) Visiting professorship, June 2021 (1 month).

Spring 2021: Senior research fellowship, Institute Henri Poincaré, Paris. Scientific program: *Symplectic topology, contact topology and interactions* (2 months, reduced because of Covid-19 pandemic).

Spring 2020: Senior research fellowship, Institute for Pure and Applied Mathematics (IPAM), UCLA, Los Angeles (USA). Scientific program: *High Dimensional Hamilton-Jacobi PDEs.* (Cancelled because of Covid-19 pandemic).

Fall 2018: Research membership, MSRI Berkeley (USA). Scientific program: *Hamiltonian systems, from topology to applications through analysis.*

2012 - 2014: *Marie Curie INdAM cofund fellowship*, ranked 1st (ex-aequo) with full score. Declined: incompatibility with the appointment as tenured Researcher at University of Roma Tre.

2009 - 2012: *Herchel-Smith Research Fellowship*, Department of Pure Mathematics and Mathematical Statistics, University of Cambridge (UK).

2009 - 2012: *Newton Trust Fellowship* of Pembroke College, University of Cambrige (UK).

2008 - 2009: Junior Research Fellowship, *Fondation des Sciences Mathématiques de Paris* (France).

2004 - 2008: Full tuition and scholarship, Princeton University (USA).

2003 - 2004: *Frelinghuysen scholarship*, Princeton University (USA).

- **Grants and Funding**

Coordinator (PI):

2024-2026: University of Rome Tor Vergata: "Stability in analysis and dynamics" (Grant: 10.960 Euros).

2023-2025: National PI for the PRIN 2022 (Italian Project of National Relevance): "Stability in Hamiltonian dynamics and beyond" (Grant: 294.481 Euros).

2023: Scientific coordinator of *Workshop INdAM 2023*: "Symplectic Dynamics", Rome, May 2023 (Grant: 15.000 Euros).

2019 - 2021: University of Rome Tor Vergata: *Beyond Borders*. Project title: "The Hamilton–Jacobi Equation: at the crossroads of Analysis, Dynamics and Geometry" (10.000 Euros, 18 months).

2018 - 2019: University of Rome Tor Vergata: *Mission Sustainability 2017*. Project title: "Order and chaos in modern dynamical systems" (1.500 Euros, 18 months).

2019: Scientific coordinator of *Incontro INdAM 2018*: "Interactions of Symplectic topology and Dynamics", Cortona, June 2019 (Grant: 15.000 Euros).

2015: Scientific coordinator of *Incontro INdAM 2015*: "The Hamilton-Jacobi equation: at the crossroads of PDE, Dynamical Systems and Geometry", Cortona, June 2015 (Grant: 15.000 Euros).

2013 - 2014: GNAMPA (Italian National Group of Mathematical Analysis, Probability and Applications) research project: "Symplectic, variational and viscosity techniques for the study of Homogenization of Hamilton-Jacobi" (4.000 Euros, 1 year).

2012 - 2014: *Marie Curie INdAM cofund fellowship*, ranked 1st (ex-aequo) with full score (Declined: incompatibility with the appointment as tenured Researcher at University of Roma Tre).

2009 - 2012: *Herchel-Smith Research Grant*, University of Cambridge (30.000 GBP, 3 years).

Participant:

2023-2025: PRIN PNRR 2022 (Italian Project of National Relevance): "Some mathematical approaches to climate change and its impacts". PI: Piermarco Cannarsa (University of Rome Tor Vergata).

2023 - 2028: *MIUR Department of Excellence*, National award to the Department of Mathematics of Univ. Rome Tor Vergata for the excellence of its research activity (8.675.000 Euros, 5 years). PI: Filippo Bracci (Univ. Rome Tor Vergata, Italy).

2022 - 2023: GNAMPA (Italian National Group of Mathematical Analysis, Probability and Applications) research project: "Symbolic dynamics and periodic solutions for singular problems in celestial mechanics" (3.500 Euros, 1 year). PI: Giacomo Canneori (Univ. Torino, Italy).

2021 - 2023: University of Rome Tor Vergata: Project title: " Control, diffusion and transport problems in PDEs and applications" (13.900 Euros, 24 months). PI: Alessio Porrentta (Univ. Rome Tor Vergata, Italy).

2021 - 2025: French ANR CoSyDy: "Conformally Symplectic Dynamics beyond symplectic dynamics". PI: Marie-Claude Arnaud (Univ. Paris). External foreign member.

2020 - 2021: GNAMPA (Italian National Group of Mathematical Analysis, Probability and Applications) research project: "Spectral and Dynamical Properties of Hamiltonian Systems" (2.700 Euros, 1 year). PI: Jessica Massetti (Univ. Roma Tre, Italy).

2019 - 2023: H2020-MSCA-ITN-2018 (Marie Sklodowska-Curie Actions). Project title: "Stardust Reloaded" (3.867.285 Euros, 4 years). PI: Massimiliano Vasile (Strathclyde Univ., UK).

2019 - 2023: PRIN 2017 (Italian Project of National Relevance): "Regular and stochastic behaviour in dynamical systems" (527.740 Euros, 3 years). PI: Carlangelo Liverani (Univ. Rome Tor Vergata, Italy).

2019 - 2020: GNAMPA (Italian National Group of Mathematical Analysis, Probability and Applications) research project: "Hamilton- Jacobi equation and Mean field games on networks" (3.000 Euros, 1 year). PI: Antonio Siconolfi (Sapienza Univ of Rome, Italy).

2018 - 2023: *MIUR Department of Excellence*, National award to the Department of Mathematics of Univ. Rome Tor Vergata for the excellence of its research activity (8.675.000 Euros, 5 years). PI: Alessandra Celletti (Univ. Rome Tor Vergata, Italy).

2018 - 2019: University of Rome Tor Vergata: *Mission sustainability 2017*. Project title: "Dynamic Optimization in Multi-Agents phenomena" (12.000 Euros, 18 months). PI: Alessio Porrentta (Univ. Rome Tor Vergata, Italy).

2018 - 2019: GNAMPA (Italian National Group of Mathematical Analysis, Probability and Applications) research project: "Critical constants and asymptotic problems for fully nonlinear differential equations" (5.500 Euros, 1 year). PI: Fabiana Leoni (Sapienza Univ of Rome, Italy).

2016 - 2017: University of Rome Tor Vergata: *Consolidate the Foundations 2015*. Project title: "Irreversibility in Dynamic Optimization" (11.750 Euros, 18 months). PI: Piermarco Cannarsa (Univ. Rome Tor Vergata, Italy).

2016 - 2017: GNAMPA (Italian National Group of Mathematical Analysis, Probability and Applications) research project: "Asymptotic phenomena and homogenization" (4.000 Euros, 1 year). PI: Andrea Davini (Sapienza Univ of Rome, Italy).

2014 - 2017: PRIN 2012 (Italian Project of National Relevance): "Variational and perturbative aspects in nonlinear differential problems" (340.947 Euros, 3 years). PI: Susanna Terracini (Univ. Torino, Italy).

2010 - 2013: PRIN 2009 (Italian Project of National Relevance): "Critical point theory and perturbative methods for nonlinear differential equations" (121.587 Euros, 3 years). PI: Susanna Terracini (Univ. Torino, Italy).

2009 - 2012: French ANR Project (ANR-07-BLAN-3-0361): "Hamilton-Jacobi et théorie KAM faible: à l'interface des EDP, systèmes dynamiques lagrangiens et symboliques" (310.000 Euros, 4 years). PI: Philippe Thieullen (Univ. Bordeaux, France).

- **Publications**

Peer-reviewed articles:

- Corentin Fierobe, Vadim Kaloshin, Alfonso Sorrentino. *Lecture Notes on Birkhoff Billiards: Dynamics, Integrability and Spectral Rigidity.* Modern Aspect of dynamical systems (Cetraro, Italy 2021). **Lecture Notes in Mathematics** Vol. 2347, pp: 1– 58, Springer, 2024.
- Antonio Siconolfi and Alfonso Sorrentino. *Aubry-Mather theory on graphs.* **Nonlinearity** 36 (11): 5819–5859, 2023.
- Marie-Claude Arnaud, Jessica E. Massetti and Alfonso Sorrentino. *On the fragility of periodic tori for families of symplectic twist maps*, **Advances in Mathematics** 429: 109175, 2023.
- Vadim Kaloshin and Alfonso Sorrentino. *Inverse problems and rigidity questions in billiard dynamics.* **Ergodic Theory Dynam. Systems**, Vol. 42, Issue 3: Anatole Katok Memorial Issue (Part 2: Special Issue of Ergodic Theory and Dynamical Systems): 1023 – 1056, 2022.
- Stefano Galatolo and Alfonso Sorrentino. *Quantitative statistical stability and linear response for irrational rotations and diffeomorphisms of the circle.* **Discrete and Contin. Dyn. Syst. - A**, 42 (2): 815–839 2022.
- Carlo Carminati, Stefano Marmi, David Sauzin and Alfonso Sorrentino. *On the regularity of Mather's β-function for standard-like twist maps.* **Advances in Mathematics** 377: 107460, 2021.
- Alfonso Sorrentino. *On John Mather's seminal contributions in Hamiltonian dynamics.* **Methods and Applications of Analysis** (Special Issue in memory of John N. Mather), 26 (1): 37–64, 2019.
- Alfonso Sorrentino and Alexander P. Veselov. *Markov numbers, Mather's beta function and stable norm.* **Nonlinearity**, 32 (6): 2147–2156, 2019.
- Vadim Kaloshin and Alfonso Sorrentino. *On the integrability of Birkhoff billiards.* **Philosophical Transactions of the Royal Society A**,Volume 376, Issue 2131, 2018.
- Vadim Kaloshin and Alfonso Sorrentino. *On the local Birkhoff conjecture for convex billiards.* **Annals of Mathematics**, 188 (1): 315–380, 2018.
- Guan Huang, Vadim Kaloshin and Alfonso Sorrentino. *Nearly circular domains which are integrable close to the boundary are ellipses.* **Geom. and Funct. Analysis (GAFA)**, 28 (2): 334–392, 2018.
- Guan Huang, Vadim Kaloshin and Alfonso Sorrentino. *On Marked Length Spetrum of Generic Strictly Convex Billiard Tables.* **Duke Math. Journal**, 167 (1): 175 – 209, 2018.
- Antonio Siconolfi and Alfonso Sorrentino. *Global results for Eikonal Hamilton-Jacobi equations on networks.* **Analysis & PDE**, 11 (1): 171–211, 2018.
- Stefano Marò and Alfonso Sorrentino. *Aubry-Mather theory for conformally symplectic systems.* **Comm. Math. Phys.**, 354 (2): 775–808, 2017.
- Marco Mazzuccheli and Alfonso Sorrentino. *Remarks on the symplectic invariance of Aubry-Mather sets.* **C. R. Acad. Sci. Paris, Ser. I** 354: 419-423, 2016.
- Alfonso Sorrentino. *Lecture notes on Mather's theory for Lagrangian systems.* **Publicationes Matemática del Uruguay**,16: 169–192, 2016.
- Alfonso Sorrentino. *Action-minimizing methods in Hamiltonian dynamics: an introduction to Aubry-Mather theory.* Monograph in the Series: **Mathematical Lecture Notes** Vol. 50, **Princeton University Press** (Editors: Phillip A. Griffiths, John N. Mather, and Elias M. Stein), 2015.

- Alfonso Sorrentino. *Computing Mather's β-function for Birkhoff billiards.* **Discrete and Contin. Dyn. Syst. - A**, 35 (10): 5055 – 5082, 2015.
- Gabriel P. Paternain and Alfonso Sorrentino. *Symplectic and contact properties of Mañé's critical value on the universal cover.* **Nonlinear Differential Equations Appl. (NoDEA)** 21(5): 679–708, 2014.
- Alfonso Sorrentino. *A variational approach to the study of the existence of invariant Lagrangian graphs.* **Boll. Unione Mat. Italiana Serie IX**, Vol VI (2): 405 – 440, 2013.
- Leo T. Butler and Alfonso Sorrentino. *Weak Liouville-Arnol'd theorems and their implications.* **Comm. Math. Phys.** 315 (1): 109 – 133, 2012.
- Daniel Massart and Alfonso Sorrentino. *Differentiability of Mather's average action and integrability on closed surfaces.* **Nonlinearity** 24 (6): 1777 – 1793, 2011.
- Alfonso Sorrentino. *On the integrability of Tonelli Hamiltonians.* **Trans. Amer. Math. Soc.** 363 (10): 5071 - 5089, 2011.
- Alfonso Sorrentino and Claude Viterbo. *Action minimizing properties and distances on the group of Hamiltonian diffeomorphisms.* **Geom. & Topol.** 14 (4): 2383 - 2403, 2010.
- Albert Fathi, Alessandro Giuliani and Alfonso Sorrentino. *Uniqueness of invariant Lagrangian graphs in a homology or a cohomology class.* **Ann. Sc. Norm. Super. Pisa Cl. Sci. (5)**, Vol. VIII (4): 659 - 680, 2009.
- Alfonso Sorrentino. *On the structure of action-minimizing sets for Lagrangian systems.* **Princeton Ph.D. thesis Series**, Princeton University, 157 pp. ISBN: 978-0549-52575-2, ProQuest LLC, 2008.
- Alfonso Sorrentino. *On the total disconnectedness of the quotient Aubry set.* **Ergodic Theory Dynam. Systems** 28 (1): 267 - 290, 2008.

Pre-publications:

- Alfonso Sorrentino, Lin Wang. *On the destruction of invariant Lagrangian graphs for conformal symplectic twist maps.* ArXiv: 2504.06773, 2025
- Marco Pozza, Antonio Siconolfi, Alfonso Sorrentino. *Homogenization of Hamilton–Jacobi equations on network.* ArXiv: 2411.03803, 2024
- Corentin Fierobe, Alfonso Sorrentino, Amir Vig. *Deformational spectral rigidity of axially-symmetric symplectic billiards.* ArXiv: 2410.13777, 2024.
- Rafael O. Ruggiero, Alfonso Sorrentino. *On the set of asymptotic homologies of orbits on invariant Lagrangian graphs.* ArXiv: 2409.16010, 2024
- Corentin Fierobe, Alfonso Sorrentino. *On the existence of periodic invariant curves for analytic families of twist maps and billiards.* ArXiv: 2407.17090, 2024.
- Alfonso Sorrentino. *Homogenization of the Hamilton-Jacobi equation*, Preprint 2015 (revised 2019). ArXiv: 1904.01359.

Other Publications:

- Alfonso Sorrentino, Sergei Tabachnikov. *Mathematical Billiards and Related Topics.* Simons Center for Geometry and Physics (SCGP) News, Vol. XXII, Fall/Winter 2024, pp: 12-156, 2024.
- Alfonso Sorrentino. *On the fragility of periodic tori for families of symplectic twist maps.* **Oberwolfach report**, European Mathematical Society Publishing: 20 (3): 1696–1699, 2023.
- Alfonso Sorrentino. *On the integrability of Birkhoff billiards.* **Oberwolfach report**, European Mathematical Society Publishing: 16 (3): 1861 – 1863, 2019.
- Alfonso Sorrentino. *I matematici giocano... a biliardo*". **Matematica, Cultura e Società**, Rivista dell'Unione Matematica Italiana, Serie I, vol. 4, N.2, August 2019.

- **Editorial Activity**

  2023-24: Editor with Claudio Bonanno and Corinna Ulcigrai of the volume: *Modern Aspect of dynamical systems (Cetraro, Italy 2021)*, published in the Series: Lecture Notes in Mathematics (Vol. 2347), pp. xi + 221, Springer, 2024.

  Since 2021: Member of the editorial board of *NoDEA: Nonlinear differential equations and applications*, Springer.

Since 2020: Member of the editorial board of *Nonlinear Analysis*, Elsevier.

Since 2019: Member of the editorial board of *PCI GeoDynPhy* (Geometry, Dynamical systems and Mathematical Physics), an international editorial initiative in the framework of the "Peer Community In" project.

- **Journal refereeing:** Referee for many international journals, including:

  Annals of Math. Studies, Journal of the Amer. Math. Soc. (JAMS), Inventiones Mathematicae, Duke Math. Journal, Publ. Math. I.H.E.S., Journal of European Math. Soc. (JEMS), Forum of Mathematics Pi & Sigma, Advances in Mathematics, Communications on Pure and Applied mathematics, Geometric and Functional Analysis, Memoirs AMS, Annales Henri Poincaré, Communications in Mathematical Physics, Cambridge Mathematical Journal, Ergodic theory and Dynamical Systems, Journal in Modern Dynamics, Journal of Symplectic geometry, Israel Journal of Mathematics, Bulletin of the London Mathematical Society, International Mathematics Research Notices, Transactions AMS, Discrete and Continuous Dynamical Systems A & B, Math. Research Letters, Canadian Journal of Mathematics, Journal de l'École Polytechnique - Mathématiques, Rivista iberoamericana, Acta Mathematica Sinica English series, Journal of Topology and Analysis, Proceeding of AMS, Proceeding London Mathematical Society, Mathematical Proceedings of the Cambridge Philosophical Society, Nonlinearity, Journal of Differential Equations, Journal of Mathematical Physics, Journal of Statistical Physics, Journal of Nonlinear Sciences, Journal of Geometric Mechanics, Chaos, Solitons & Fractals, Inverse Problems and Imaging, Mathematical Physics Electronic Journal, Rendiconti del Circolo Matematico di Palermo, Experimental Mathematics, Geometria Dedicata, Regular chaotic dynamics, Annali Matematica Pura e Applicata, Science China Mathematics, Journal of dynamics and control systems,

  Reviewer for Math Reviews (MathSciNet) (since 2011).

- **Evaluator and Grant Assessment:**
  - Member of the Italian National *Groups of evaluation experts* (GEV) in Mathematics (Area 01) for the Italian Evaluation of Research Quality 2015-2019 (VQR). Coordinator of the sub-committee (sub-GEV) *Mathematical Analysis, Probability and Statistics.* (2020-2022).
  - Evaluator of post-doctoral positions at Centre de Recerca Matemàtica (Spain), 2021 and 2022.
  - Evaluator of grant proposals for the Natural Sciences and Engineering Research Council of Canada (NSERC), 2012, 2018 and 2021.
  - Evaluator of grant proposals for the German Israeli Foundation for Scientific Research and Development, 2018.
  - Evaluator of grant proposals for the Chilean: Fondo Nacional de Desarrollo Científico y Tecnológico (FONDECYT), 2021.
  - Evaluator of grant proposals for various Italian Universities.
  - Referee for MIUR (Italian Ministry of Education, University and Research).

- **Supervision of Students**

  Master students:

  - Simone Marrocco, University of Rome Tor Vergata (May 2022). Thesis: *Co-dimension 1 Aubry-Mather theory.* Co-advised with Riccardo Molle (Grade: 110/110 cum laude).
  - Federico Fiorini, University of Rome Tor Vargata (May 2022). Thesis: *Sulla costruzione di soluzioni KAM deboli per l'equazione di Hamilton-Jacobi nel caso di varietà non compatte* (Grade: 108/110).
  - Giorgia Testolina, University of Padua (Febryary 2021). Thesis: *Birkhoff and Symplectic Billiards: an overview.* Co-advised with Olga Bernardi (Grade: 109/110).
  - Donato Scarcella, University Roma Tre (January 2018). Thesis: *On the dynamics of mathematical billiards.* 110/110 cum laude.
  - Sara D'Ettorre, University Roma Tre (July 2016). Thesis: *The study of Aubry-Mather sets: two different approaches.* 110/110 cum laude.

  Post-doc:

- Marco Pozza (2022-24).
- Corentin Fierobe (2024-26).
- Veronica Danesi (2024-26).

- **Ph.D. Thesis defense committees:**
  - Irene De Blasi (Univ. of Torino, Italy), November 2022.
  - Corentin Fierobe (ENS, Lyon, France), May 2021.
  - Gian Marco Canneori (Università e Politecnico di Torino, Italy), April 2021.
  - Andrew Clarke (Imperial College, London, UK), March 2020.
  - Nguyen Ngoc Quoc Thuong (La Sapienza, Università di Roma), July 2015.
  - Anna Tamarit Sariol (Universitat Politècnica de Catalunya, Barcelona), June 2015.

- **Invited Talks (Conferences, Seminars, Schools, etc...)**

Future Scheduled talks

- Workshop: "Billiards & Quantitative Symplectic Geometry", Univ. Heilberg (Germany), July 2025.
- Oberwolfach workshop: "Dynamische Systeme", Oberwolfach (Germany), July 2025.
- INdAM meeting: "Old and New Trends in Mathematical Collaboration between Brazil and Italy", Rome, June 2025.
- Conference: "Recent progress in Hamilton-Jacobi equations and related topics", Nanjing (China), June 2025.
- Joint mini-School between Scuola Normale Superiore di Pisa and Scuola Galileana di Padova, Pisa, May 2025.
- Dynamical Systems Seminar, Nanjing University, China, April 2025.
- Dynamical Systems Seminar, Soochow University, Suzhou, China, March 2025.
- Workshop: "Hamiltonian Dynamics at Maryland", Brin Mathematics Research Center, Univ. of Maryland, US, February 2025.
- Banff Workshop: Perspective on Markof numbers, Banff, Canada, January 2025.

2024

- Workshop: "Rigidity phenomena in dynamics and spectral theory", Univ. Zurich, September 2024.
- "IX International congress on geometry, dynamics, integrable systems", June 2024.
- Department colloquium, University of Texas at Dallas, April 2024.
- Tè di matematica, University Roma Tre, March 2024.
- Workshop: "CAST 2024: Contact And Symplectic Topology", Ruhr Universität Bochum, February 2024.

2023

- Symplectic geometry seminar, IAS Princeton, November 2023.
- International congress of basic sciences (Frontiers of science award's plenary talk), Beijing, July 2023.
- Oberwolfach workshop: "Dynamische Systeme", Oberwolfach (Germany), July 2023.
- Workshop: Highlights in Nonlinear Analysis (in honour of Susanna Terracini's 60th birthday), Cetraro, June 2023.
- Department Colloquium, COMSATS University, Lahore Campus, Pakistan. March 2023.
- Kyiv Mathematical Colloquium, Kyiv Mathematical Society (Ukraine). Online, March 2023.
- Workshop: First order problems on networks and applications, in memory of Maurizio Falcone, Univ. Roma La Sapienza, Jan. 2023.

2022

- University of Nice, Geometry, Analysis and Dynamics seminar, November 2022.
- Jornada de Sistemes Dinamics de Catalunya, October 2022.
- Global and local aspects in dynamical systems: From Exponentially small phenomena to Instability" (GLADS21), Barcelona, July 2022.
- Workshop: "Finite dimensional integrable systems in geometry and mathematical physics" (FDIS2020), Tel Aviv University (Israel), June 2022.
- CALCVAR2021: Conference in honour of Andrea Braides on the occasion of his 60th birthday, Carthage (Tunisia), May 2022.
- ETH and Univ. Zürich, Dynamical system seminar, May 2022.
- University of Turin, Analysis seminar, April 2022.
- IST-Austria, Dynamical system seminar, March 2022.
- Dynamical system seminar, Jiao Tong and Fudan Universities, Shanghai, China, January 2022

2021

- Geometry and Dynamics Seminar at Heidelberg University, November 2021.
- Workshop: "Differential geometry, billiards, and geometric optics", CIRM Luminy, Marseille (France), October 2021.
- Sydney Dynamical systems seminar (online), September 2021.
- X Meeting on Dynamical Systems in Lisbon – Billiards session (online), July 2021.
- RIMS Symposium Kyoto "Recent developments in Dynamical Systems and their applications" (online), June 2021.
- On-line Conference: "Hamiltonian Dynamical Systems" (in honour of J-P Marco's 60th birthday), June 2021.
- IHP Symplectic seminar, Paris, June 2021.
- University of Western Australia Analysis Seminar (online), May 2021.
- Nanjing and Tsinghua Universities Seminar (online), January 2021.
- On-line seminar: Geometry, Dynamics and Mechanics Seminar, January 2021.

2020

- On-line Science dissemination and popularization seminar, Salone dello studente, November 2020.
- On-line seminar: One world PDE seminar, October 2020.
- On-line seminar: "Geometry, topology and their applications", Novosibirk State University, May 2020.
- Ilyashenko's dynamical systems seminar, High School of Economics, Moscow, March 2020.
- Conference: "Dynamics in Siberia", Sobolev Institute of Mathematics, Novosibirsk (Russia), February 2020.
- Conference: "Mathematical Spring - 2020", HSE-Nizhny Novgorod (Russia), February 2020.
- Ph.D. Course, Steklov Institute, Moscow (Russia), February-March 2020.
- Workshop: "Regular and stochastic behaviour in dynamical systems", Univ. Rome Tor Vergata, February 2020.
- Workshop: "Nonlinear meeting 2020 in Milan", Politecnico di Milano, January 2020.

2019

- "Conference of the Euro-Maghreb international research network in Mathematics and applications", Real Academy of Science, Madrid (Spain), November 2019.
- School: "V Brazilian School on Dynamical Systems", Belo Horizonte (Brazil), October 2019.
- Conference: "New trends in Hamilton-Jacobi: PDE,Control,Dynamical Systems and Geometry", Fudan University, Shanghai (China), July 2019.
- Conference: "C^0 aspects of symplectic geometry and Hamiltonian dynamics", Haifa (Israel), May 2019.
- Oberwolfach workshop: "Dynamische Systeme", Oberwolfach (Germany), July 2019.

– Department Colloquium at University of Nice, February 2019.

2018

– Colloquium classe di scienze, Scuola Normale Superiore di Pisa, December 2018.
– Seminario di Analisi, Università degli Studi di Torino, October 2018.
– Memorial Conference in honor of John N. Mather, Princeton University, October 2018.
– Workshop:"Hamiltonian systems, from topology to applications through analysis", MSRI Berkeley (USA), August 2018.
– Workshop: "An analyst, a geometer and a probabilist walk into a bar", Cardiff (UK), June 2018.
– Conference: "Perspectives in Hamiltonian Systems", Venice (Italy), June 2018.
– Geometrie Analyse et Dynamique Seminar, Université de Nice-Sophia Antipolis, April 2018.
– Analysis seminar, University of Zürich (Switzerland), March 2018.
– Geometry, Groups, and Dynamics Seminar, ENS Lyon (France), January 2018.
– Seminaire de Geometrie Hamiltonienne, Paris Jussieu (France), January 2018.

2017

– Conference: "International conference on Singularity Theory (in honor of John Mather)", Tsinghua Sanya International Mathematics Forum (TSIMF), Sanya (China), December 2017.
– Geometry Seminar, ICMAT (Madrid, Spain), November 2017.
– Seminario di sistemi dinamici ed olomorfi, Scuola Normale di Pisa and Centro De Giorgi, Pisa (Italy), November 2017.
– "Conference on Hamiltonian Dynamics (in memory of John Mather)", Congressi Stefano Franscini, Ascona, Switzerland, November 2017.
– Department Colloquium, University of Hokkaido (Japan), October 2017.
– Workshop: "International Workshop on Nonlinear Analysis and Applications", Lahore, Pakistan, September 2017.
– Conference: "SIAM meeting on control and its applications", Pittsburgh (USA), July 2017.
– Geometry & Dynamics Seminar, University of Tel Aviv (Israel), April 2017.
– ITS-ETH Dynamical system seminar, ETH Zürich (Switzerland), April 2017.
– "Workshop on Mathematical Physics & Dynamical Systems", UT Dortmund (Germany), March 2017.
– "ETH Winter School on Conservative Dynamics", Engerlberg (Switzerland), February 2017.

2016

– Workshop: "Chaotic Phenomena in Mathematical Models", SNS Pisa and Centro de Giorgi (Italy), September 2016.
– "Workshop on Hamilton-Jacobi equation", Fudan University, Shanghai (China), July 2016.
– Analysis Seminar, Università La Sapienza, Rome (Italy), May 2016.
– Dynamical System Seminar, Universitat Politècnica de Catalunya, May 2016.

2015

– "SIAM Conference on Analysis of PDE 2015" (Special Session: "Analysis of Hamilton-Jacobi Equation: Optimization, Dynamics and Control"), Scottsdale (Arizona, USA), December 2015.
– BKM Seminar (Bochum-Köln-Münster seminar on symplectic and contact geometry), University of Bochum (Germany), November 2015.
– Mathematical Physics seminar, Università di Pisa, November 2015.
– Conference: "XX Congresso UMI" (Session on Nonlinear Analysis and Dynamical Systems), Siena (Italy), September 2015.
– Conference: "Global dynamics in Hamiltonian systems (in honor of Amadeu Delshams' 60th birthday)", Santuari de Núria, Girona (Spain), June 2015.
– Department Colloquium, CIMAT (Mexico), April 2015.

– Analysis Seminar, Università degli Studi di Roma "Tor Vergata" (Italy), March 2015.
– School: "CIMPA Research School in Hamiltonian and Lagrangian Dynamics", Salto (Uruguay), March 2015.
– "Workshop on Hamiltonian Dynamical Systems", Fudan University, Shanghai (China), January 2015.

2014

– Colloquium at Nanjing University (China), December 2014.
– Workshop: "Journées dynamiques", Université d'Avignon (France), June 2014.
– Conference: "Beyond Hamilton-Jacobi in Avignon", Université d'Avignon (France), April 2014.
– Workshop: "Symplectic and Contact Dynamics", University of Tel Aviv (Israel), March 2014.
– Dynamical System Seminar, Scuola Normale Superiore di Pisa (Italy), February 2014.

2013

– Analysis Seminar, Università La Sapienza, Rome (Italy), October 2013.
– Holomorphic Dynamics Seminar, Centro de Giorgi & SNS Pisa, Pisa (Italy), October 2013.
– "Workshop of young Italian dynamicists", Corinaldo (Italy), June 2013.
– Analysis and Dynamics Seminar, Université de Nantes, France, April 2013.
– "Workshop on the N-body problem", BIRS Banff (Canada), January 2013.

2012

– Dynamical Systems Seminar, Università Roma "Tor Vergata" (Italy), November 2012.
– "Conference on Periodic Orbits in Contact and Riemannian Geometry", Touquet-Paris-Plage (France), September 2012.
– Conference: "Montevideo dynamical systems conference 2012", Montevideo (Uruguay), August 2012.
– Conference: "Recent Progress in Lagrangian & Hamiltonian Dynamics, A conference in honor of John Mather's 70th Birthday", ENS Lyon, Lyon (France), June 2012.
– Differential geometry Seminar, University of Cambridge (UK), May 2012.
– Dynamical Systems and Ergodic Theory Seminar, University of Bristol (UK), May 2012.

2011

– Dynamical Systems and Ergodic Theory Seminar, Warwick University (UK), November 2011.
– Workshop: "Second meeting of the Young Italian Hyperbolicians", Università di Pisa, Pisa (Italy), September 2011.
– Conference: "XIX Congresso dell'Unione Matematica Italiana', Bologna (Italy), September 2011. Plenary Speaker in the session: Nonlinear analysis and Dynamical Systems.
– "Conference on Hamiltonian Dynamics 2011", Nanjing University, Nanjing (China), August 2011.
– "Workshop on conservative dynamics and symplectic geometry", IMPA, Rio de Janeiro (Brazil), August 2011.
– "Workshop on instabilities in Hamiltonian systems", Field Institute, Toronto (Canada), June 2011.
– Séminaire de Géométrie hamiltonienne, Institut de Mathématiques de Jussieu, Paris (France), May 2011.
– Pure Mathematics Colloquium, University of Durham, Durham (UK), May 2011.

2010

– Dynamics and geometry seminar, Penn State University, State College (Pennsylvania, USA), October 2010.
– "Workshop on dynamical systems and related topics", Penn State University, State College (Pennsylvania, USA), October 2010.
– Workshop: "Rencontre KAM faible", Calvi (France), October 2010.
– Differential geometry seminar, University of Cambridge, Cambridge (UK), March 2010.

2009

– Conference: "Paulette Libermann, héritage et descendance", Institut Henri Poincaré, Paris (France), December 2009.
– Séminaire de géométrie et dynamiques , UMPA, École normale supérieure de Lyon, Lyon (France), November 2009.
– Séminaire de systèmes dynamiques et géométrie, Université d'Avignon, Avignon (France), May 2009.
– Analysis Seminar, Università degli Studi di Napoli "Federico II", Naples (Italy), April 2009.
– Mathematical Physics Seminar, University of Helsinki, Helsinki (Finland), March 2009.
– Conference: "Nice weak KAM methods in Nice", Université de Nice-Sophia Antipolis, Nice (France), February 2009.
– Séminaire de Analyse-Probabilités, CEREMADE, Univ. Paris-Dauphine (France), January 2009.

2008

– Séminaire de topologie symplectique, École Polytechnique, Palaiseau (France), November 2008.
– Workshop: "Rencontre de KAM faible", Université de Bordeaux, Bordeaux (France), October 2008.
– Seminari de sistemes dinamics, Centre de Recerca Matemàtica, Barcelona (Spain), October 2008.
– Analysis Seminar, Università degli Studi "Roma Tre", Rome (Italy), June 2008.
– Dynamics Seminar, University of Toronto, Toronto (Canada), January 2008.

2007

– Ergodic Theory and Statistical Mechanics Seminar, Princeton University (USA), September 2007.
– "Workshop on Symplectic topology and area-preserving dynamics", Snowbird (USA), June 2007.
– Analysis, Geometry, and Dynamical Systems Seminar, Instituto Superior Técnico, Lisbon (Portugal), June 2007.

2006

– "Workshop and School on Conservative dynamics", San José (Uruguay), December 2006.
– Conference: "AIMS's Sixth international Conference on dynamical systems", Université de Poitiers (France), June 2006.

2005

– "PASI 2005 Conference on Differential equations and nonlinear analysis", Universidad de Chile, Santiago (Chile), January 2005.

- **Academic and Scientific Visits**

2025: Ceremade, Université Paris-Dauphine, Paris (France). Professeur invité (April-May 2025, 1 month).

2025: Nanjing University, Nanjing (China). Visiting professor (March-April 2025, 1 month).

2023: Lead Organizer of the research program at Simons center for geometry and Physics, Univ. Stony Brook: "Mathematical billiards: at the crossroads of dynamics, geometry, analysis, and mathematical physics" (October-December 2023, 2 months).

2023: Visiting professor for the ICTP-International Mathematics Master (IMM), COMSATS University, Lahore Campus, Pakistan (2 weeks).

2021: Invited Professor at Institut Henri Poincaré (Paris, France) & UniversitParis Sorbonne, for the trimester program: "Symplectic Topology, Contact Topology and interactions" (2 months).

2020: IPAM-UCLA, Los Angeles (USA). Senior research fellow for the thematic program: "High Dimensional Hamilton-Jacobi PDEs" (3 months). [Cancelled because of Covid-19 pandemic]

2020: Steklov Institute and HSE, Moscow (Russia). Invited by Alexey Glutsyuk and Dimitry Treschev (3 weeks).

2018: MSRI, Berkeley (USA). Research member for the thematic program: "Hamiltonian systems, from topology to applications through analysis" (4 months).

2018: ENS Lyon (France). Invited by Marco Mazzucchelli (1 week).

2017: Hokkaido University (Japan). Invited by Hideo Kubo (1 week).

2017: ETH Zürich and Forschungsinstitut für Mathematik. Invited by Vadim Kaloshin (2 weeks).

2017: University of Tel Aviv (Israel). Invited by Yaron Ostrover (1 week).

2016: Universitat Politècnica de Catalunya, Barcelona (Spain). Invited by Pau Martin and Rafael Ramirez-Ros (1 week).

2015: University of Maryland, College Park (Maryland, USA). Invited by Vadim Kaloshin (2 weeks).

2015: CIMAT, Guanajuato (Mexico). Invited by Gonzalo Contreras (1week).

2014: University of Nanjing (China). Invited by Chong-Qing Cheng and Wei Cheng (2 weeks).

2014: University of Maryland, College Park (Maryland, USA). Invited by Vadim Kaloshin (2 weeks).

2013: Université de Nantes (France). Invited by Georgi Popov (1 week).

2010: Penn State University, State College (USA). Invited by Vadim Kaloshin (2 weeks).

2009: Università degli Studi di Napoli Federico II, Naples (Italy). Thematic program: "New connections between dynamical systems and Hamiltonian PDEs" (2 weeks).

2009: University of Helsinki, Helsinki (Finland). Invited by Emiliano De Simone (1 week).

2008: Centre de Recerca Matemàtica, Barcelona (Spain). Research Program: "Stability and Instability in Mechanical Systems" (1 month).

2007: Instituto Superior Técnico, Lisbon (Portugal). Invited by Diogo Gomes (1 week).

2005: Institut Henri Poincaré, Paris (France). Thematic Trimester: "Time at work" (1 month).

- **Teaching Activities**

  Undergraduate courses

2024-25 *Measure Theory* (Mathematics degree), Univ. Rome Tor Vergata.

Calculus (Global governance degree), Univ. Rome Tor Vergata.

2023-24 *Harmonic Analysis* (Mathematics degree), Univ. Rome Tor Vergata.

Analysis IV (Mathematics degree), Univ. Rome Tor Vergata.

Mathematical methods for engineers (Medical Eng. degree), Univ. Rome Tor Vergata.

2022-23 *Harmonic Analysis* (Mathematics degree), Univ. Rome Tor Vergata.

Analysis III (Mathematics degree), Univ. Rome Tor Vergata.

Analysis I (Science and Technology for media degree), Univ. Rome Tor Vergata (exercise class).

Calculus (Global Governance degree), Univ. Rome Tor Vergata (20 hours).

2021-22 *Harmonic Analysis* (Mathematics degree), Univ. Rome Tor Vergata.

Analysis III (Mathematics degree), Univ. Rome Tor Vergata.

Analysis IV (Mathematics degree), Univ. Rome Tor Vergata (exercise classes).

2020-21 *Harmonic Analysis* (Mathematics degree), Univ. Rome Tor Vergata.

Analysis III (Mathematics degree), Univ. Rome Tor Vergata.

Pre-course in Mathematics (Freshman enrolled in a program at the Faculty of Science), Univ. Rome Tor Vergata.

2019-20 *Harmonic Analysis* (Mathematics degree), Univ. Rome Tor Vergata.

Analysis III (Mathematics degree), Univ. Rome Tor Vergata.

2018-19 *Fourier Analysis* (Mathematics degree and Science and Technology for media degree), Univ. Rome Tor Vergata.

Mathematical methods for engineers (Medical Eng. degree), Univ. Rome Tor Vergata.

2017-18 *Fourier Analysis* (Mathematics degree and Science and Technology for media degree), Univ. Rome Tor Vergata.

Mathematical methods for engineers (Medical Engineering degree), Univ. Rome Tor Vergata.

2016-17 *Analysis II* (Physics degree), Univ. Rome Tor Vergata.

Analysis II (Engineering degree), Univ. Rome Tor Vergata.

2015-16 *Analysis I* (Engineering degree), Univ. Rome Tor Vergata.

2014-15 *Analysis I* (Engineering degree), Univ. Rome Tor Vergata.
Exercise classes for *Fourier Analysis* (Mathematics degree), Univ. Rome Tor Vergata.
Introduction to Elliptic PDEs (Mathematics degree), Univ. Roma Tre.

2013-14 *Real Analysis: measure theory and functional analysis* (Mathematics degree), Univ. Roma Tre.
Exercise classes for *Analysis I* (Mathematics degree), Univ. Roma Tre.

2012-13 Exercise classes for *Complex Analysis* (Mathematics degree), Univ. Roma Tre.
Exercise classes for *Analysis I* (Mathematics degree), Univ. Roma Tre.

2011-12 *Hamiltonian dynamical systems* (Part III course, Master level), Univ. Cambridge (UK).
Supervisor at Pembroke College (Cambridge) for: *Analysis I-II*, *Groups* and *Commutative Algebra*.

2010-11 Supervisor at Pembroke College (Cambridge) for: *Analysis I-II*, *Groups* and *Commutative Algebra*.

2009-10 Supervisor at Pembroke College (Cambridge) for: *Analysis I-II*, *Groups* and *Commutative Algebra*.

2007-08 Lecturer for *Calculus II*, Princeton University (USA).
Teaching assistant for *Analysis in a single variable*, Princeton University (USA).

2006-07 Lecturer for *Advanced Linear Algebra*, Princeton University (USA).
Teaching assistant for *Analysis in a single variable*, Princeton University (USA).

2005-06 Teaching assistant for *Linear algebra and Calculus for economists*, Princeton University (USA).
Teaching assistant for *Advanced multivariable calculus*, Princeton University (USA).
Teaching assistant for *Classical mechanics and chaos*, Princeton University (USA).

2004-05 Teaching assistant for *Complex analysis with applications*, Princeton University (USA).
Teaching assistant for *Advanced multivariable calculus*, Princeton University (USA).

2002-03 Tutor for: *Anaysis III-IV* and *Complex Analysis* (Mathematics degree), Univ. Roma Tre.

2001-02 Tutor for: *Anaysis III-IV* and *Complex Analysis* (Mathematics degree), Univ. Roma Tre.

Postgraduate and Advanced Teaching:

2025 Joint mini-School between Scuola Normale Superiore di Pisa and Scuola Galileana di Padova, Pisa, May 2025.

2025 Master/Ph.D course at Nanjing University (China) on "Dynamics of Symplectic Twist Maps and Hamiltonian Systems" (1 month).

2024 Invited Lecturer at the School on "Rigidity phenomena in dynamics and spectral theory". Mini-course: On the rigidity of Birkhoff billiards and symplectic twist maps (4 hours), Zurich, September 2024.

2023 Invited Lecturer at the Hokkaido-Pisa-Rome-Torino summer school. Mini-course on "Variational methods in dynamical systems" (6 hours), Torino, September 2023.

2023 Invited Lecturer at the ICTP-International Mathematics Master in Lahore, Pakistan. Master course in Functional Analysis (about 30 hours).

2022 Mini-course on Aubry Mather theory at SISSA, Trieste (6 hours).

2021 Invited Lecturer at the ICTP-International Mathematics Master in Lahore, Pakistan. Master course in Functional Analysis (about 30 hours).

2020 Ph.D. Course on Aubry-Mather theory at Steklov Institute and HSE Moscow, Russia (3 weeks).
Winter School: "Mathematical Spring - 2020", HSE-Nizhny Novgorod (Russia), February 2020 (2 hours).

2019 *V Brazilian School on Dynamical Systems*, Belo Horizonte, Brazil. Mini-course (4 hours).

2019 Ph.D. Course on Aubry-Mather theory at University of Turin, Italy (8 hours).

2018 Mini-course on Mathematical billiards, MSRI Berkeley, USA.

2017 Ph.D. course on weak KAM and Aubry-Mather theory at University of Padova, Italy (10 hours).
ETH-School on Conservative Dynamics, Engelberg, Switzerland. Course on Billiards (8 hours).

2016 Ph.D. course on weak KAM and Aubry-Mather theory at Univ. Rome Tor Vergata (24 hours).

2015 *CIMPA Research School in Hamiltonian and Lagrangian Dynamics*, Salto, Uruguay (10 hours).

2014 Mini-course on Aubry-Mather theory at Scuola Normale Superiore di Pisa (4 hours).

2013 Mini-course on Action-minimizing methods in Hamiltonian dynamics at Univ. Nantes (4 hours).

2012 *Conference on Periodic Orbits in Contact and Riemannian Geometry*, Touquet-Paris-Plage (France), Mini-course (3 hours).

Part III - Ph.D. course on Hamiltonian dynamical systems at Univ. of Cambridge, UK (24 hourse).

2011 Summer school on *Closed orbits and variational methods*, Univ. Neuchâtel, Switzerland (10 hours).

2010 School: *Jornades d'introducció als sistemes dinámics i a les EDP's*, UPC Barcelona, Spain (10 hours).

2009 Mini-course on Aubry-Mather theory at University of Cambridge, UK (6 hours).

Ph.D. course on weak KAM and Aubry-Mather theory at Univ. Naples (10 hours).

2008 Mini-course on Aubry-Mather theory at CRM Barcelona, Spain (3 hours).

Teaching Material:

- Lecture notes for my Ph.D course: "*Action-minimizing methods in Hamiltonian dynamics: an introduction to Aubry-Mather theory*", published in the series Mathematical Lecture Notes, Vol. 50, Princeton University Press (Editors: Phillip A. Griffiths, John N. Mather, Elias M. Stein), 2015.
- Lecture notes for the undergraduate course "*Advanced Linear Algebra with appplications*". https://www.mat.uniroma2.it/~sorrenti/MAT204Fall06.html
- Collection of solved exercises (Real and Complex Analysis) (in italian). https://www.mat.uniroma2.it/~sorrenti/Teaching_files/raccoltanew.pdf
- Web-pages of my courses: https://www.mat.uniroma2.it/~sorrenti/Didattica.html

- **Scientific and Organizing Committees:**

Conferences, Workshops and Schools:

Upcoming events:

· Conference: "Stability in Hamiltonian Dynamics and Beyond", University of Padua, January 2026. Scientific Committee.

· Conference: "Conformal Dynamics and Geometry in Bordeaux", Bordeaux, August 2025. Scientific Committee.

2024

· Workshop: *DinAmicI in Rio, Dynamics, Applications, Interactions*, IMPA, Rio de Janeiro (Brazil), September 2024. Organizing committee.

· Meeting: *Women and Space*, Accademia Nazionale di Lincei, Rome (Italy), May 2024. Scientific and Organizing committees.

2023

· Research program and Workshop at Simons Center for Geometry and Physics, Stony Brook Univ., Oct-Dec 2023. Organizer and scientific committee.

· 2023 Euro-Maghreb conference in Levico (Italy), October 2023. Scientific committee.

· School on conformal symplectic dynamics and related fields, CIRM Marseille (France), May 2023. Scientific committee.

· Colloquium: *MW12 - A celebration of Women in Mathematics*, Univ. Rome Tor Vergata, May 2023. Organizing and scientific committees.

· INdAM Workshop *Symplectic Dynamics*, Univ. Rome La Sapienza, May 2023. Organizing and scientific committees.

2022

· Workshop: "DinAmicI VII: Workshop of the Italian Dynamicists", Riemann International School of Mathematics (RISM), Villa Toeplitz, Varese (Italy), June 2022. Organizing and scientific committees. M. Lenci.

· Conference: *Weak KAM Jubileum*, Univ. d'Avignon, France, June 2022. Organizing and scientific committees.

· Colloquium: *MW12 - A celebration of Women in Mathematics*, Univ. Rome Tor Vergata, May 2022. Organizing and scientific committees.

2021

· Mini-Workshop: *Quarta giornata DinAmica (IV DAI DAY)*, University of Parma, December 2021. Organizing and scientific committees.

· CIME School *Modern aspects of dynamical systems*, Cetraro, Aug. 2021. Organizing and scientific committees.

· Colloquium: *MW12 - A celebration of Women in Mathematics*, Univ. Rome Tor Vergata, May 2021. Organizing and scientific committees.

2020

· Mini-Workshop: *Terza giornata DinAmica (III DAI DAY)*, University of Lecce, December 2020. Organizing and scientific committees.

· Colloquium: *MW12 - A celebration of Women in Mathematics*, Univ. Rome Tor Vergata, June 2020. Organizing and scientific committees.

· Workshop: *Regular and stochastic behaviour in dynamical systems*, Univ. Rome Tor Vergata, Feb. 2020. Organizing and scientific committees.

2019

· Session on "ODE and Dynamical Systems" at *XXI Congresso UMI* (Italian Math. Union), Pavia, Sept. 2019. Organizer.

· Incontro INdAM 2018: *Interactions of Symplectic topology and Dynamics*, Cortona June 2019. Scientific coordinator and organizer.

· Workshop: "DinAmicI VI: Workshop of the Italian Dynamicists", Centro de Giorgi, Pisa, June 2019. Organizing and scientific committees.

· Colloquium: *One day tribute to Maryam Mirzakhani*, Accademia dei Lincei, Roma, June 2019. Organizing and scientific committees.

· Workshop: *Mathematical Models and Methods in Earth and Space Sciences*, Univ. Rome Tor Vergata, March 2019. Organizing and scientific committees.

· Workshop: *Dynamical Systems: from geometry to mechanics*, Univ. Rome Tor Vergata, February 2019. Organizing and scientific committees.

2018

· Mini-Workshop: *Seconda giornata DinAmica (II DAI DAY)*, Accademia dei Lincei, Roma, December 2018. Organizing and scientific committees.

· Memorial Conference in honour of John N. Mather, Princeton University, October 2018. Organizing and scientific committees.

· Summer school Hokkaido-Pisa-Rome 2018, Pisa (Italy), August/September 2018. Organizer.

· Workshop: *Weak KAM in Rio 2018* (ICM2018's satellite conference), UFJ Rio de Janeiro, Brazil. August 2018. Member of the scientific committee.

· *Padua's winter school on Hamiltonian dynamics and symplectic topology*, Padova (Italy), February 2018. Member of the scientific committee.

2017

· Workshop in honour of Luigi Chierchia's 60th Birthday, Patù (Italy), October 2017. Member of the scientific committee.

· *Workshop on Hamiltonian Systems*, ETH-Congressi Stefano Franscini, Ascona (Switzerland), November 2017. Organizing and scientific committees.

· INdAM Workshop: *Modern trend in the modern theory of dynamical systems*, Rome (Italy) June 2017. Organizer.

· *ETH-ITS Winter school on Conservative Dynamics*, Engerlberg (Switzerland), February 2017. Organizing and scientific committees.

2016

· *Giornata DinAmica* (*Dynamics DAY*) at Gran Sasso Science Institute (Italy), November 2016. Organizing and scientific committees.

2015

· Session on "Analysis of Hamilton-Jacobi Equation: Optimization, Dynamics and Control" at *SIAM Conference on PDE 2015*, Scottsdale (USA), December 2015. Organizer.

· Incontro INdAM 2015: *The Hamilton-Jacobi equation: at the crossroads of PDE, Dynamical Systems and Geometry*, Cortona June 2015. Scientific coordinator and organizer.

2012

· Conference in honour of John Mather's 70th Birthday: *Recent progress in Hamiltonian & Lagrangian dynamics*, ENS Lyon (France), June 2012. Organizer.

2010 - 2015

· Member of the Scientific Committee for the annual Conference/Summer school "*Jornades d'introducció als sistemes dinámics i a les EDP's*" held at Universitat Politècnica de Catalunya (UPC), Barcelona (Spain). From 2010 to 2015.

Seminars and Colloquia:

- **2020 - 2022**: Organizer of the on-line seminar *DinAmicI Seminar* (DAI Seminar).
- **2018**: Organizer of the weekly Hamiltonian Seminar at MSRI (Berkeley), Fall 2018.
- **2016 - present**: Organizer of the *Differential Equation Seminar* held weekly at Univ. Rome Tor Vergata.
- **2012 - 2014**: Organizer of the weekly *Analysis and Dynamical systems Seminar*, Univ. Roma Tre.
- **2013 - 2014**: Organizer of the monthly *Mathematical Colloquia*, Univ. Roma Tre.
- **2012 - 2014**: Organizer of the monthly *Tè di Matematica* (Divulgative seminars), Univ. Roma Tre.

- **Institutional Committees:**
  - **2023 -** : Member of the scientific advisory board of Department of Excellence grant, Univ. Rome Tor Vergata.
  - **2022 -** : Member of the scientific board of the Foundation CIME (Centro Italiano Matematica Estiva).
  - **2022 -** : Member of the scientific board of the Rome Centre on Mathematics for Modelling and Data Sciences (RoMaDS), Univ. Rome Tor Vergata.
  - **2022**: Member of the Department commission for the revision of the degree in Mathematics (Commissione riordino).
  - **2021 -** : Member of the board (Giunta) of the Faculty of Science, University of Rome Tor Vergata.
  - **2020 - 2022**: Member of the Italian National *Groups of evaluation experts* (GEV) in Mathematics (Area 01) for the Italian Evaluation of Research Quality 2015-2019 (VQR). Coordinator of the subcommittee (sub-GEV) *Mathematical Analysis, Probability and Statistics*.
  - **2020 - present**: Member of *Commissione interdipartimentale per la Ricerca e la Formazione Permanente nell'Insegnamento delle Discipline Scientifiche*, University of Rome Tor Vergata.

- **2020 - present**: Member of the *Scientific Committee (Research)*, Department of Mathematics, University of Rome Tor Vergata.
- **2022 - present**: Member of the *Ph.D. Scientific board*, Ph.D. in Mathematics, Univ. Roma Tor Vergata.
- **2012 - 2022**: Member of the *Ph.D. Scientific board*, Ph.D. in Mathematics, Univ. Roma Tre.
- **2015 - 2018**: (Elected) Member of the Department board (Giunta), University of Rome Tor Vergata.
- **2012 - 2014**: Member of the *Teaching Committee*, Dept of Mathematics, Univ. Roma Tre.
- **2010 - 2012**: Member of the *International Program Committee* of Pembroke College, University of Cambridge, UK.

- **Selection and hiring Committees:**
  - **2024**: Evaluating committee for the hiring of a Tenure track researcher in Mathematical Analysis, University of Messina, February-May 2024.
  - **2023-24**: Evaluating committee for the hiring of a full professor in Mathematical Analysis, University of Rome Tor Vergata, December 2023 - January 2024.
  - **2023**: Selection committee for four 2-year post-doc positions in Mathematics, Univ. Rome Tor Vergata.
  - **2022-23**: Evaluator of post-doctoral positions at Centre de Recerca Matemàtica (Spain).
  - **2022**: Evaluating committee for the promotion from RtdB (tenure track researcher) to associate professor, December 2022.
  - **2022**: Selection committee for 1-year post-doc position, Univ. Rome Tor Vergata. Project title: *Dynamics of space debris within different orbital elements regions.*
  - **2022**: Selection committee for 1-year post-doc position, Univ. Rome Tor Vergata. Project title: *Analisi di sistemi Hamiltoniani soggetti a perturbazioni dissipative e stocastiche.*
  - **2022**: Selection committee for 1-year post-doc position, Univ. Rome Tor Vergata. Project title: *Aspetti numerici nei sistemi a molti gradi di libertà.*
  - **2022**: Selection committee for 1-year post-doc position, Univ. Rome Tor Vergata. Project title: *Metodi variazionali e PDE per lo MAT/05 1 12 studio di sistemi Hamiltoniani e dell'equazione di Hamilton-Jacobi.*
  - **2021**: Selection committee for 1-year post-doc position, Univ. Rome Tor Vergata. Project title: *Variational and PDE methods for the study of Hamiltonian systems and the Hamilton-Jacobi equation.*
  - **2021-22**: Evaluator of post-doctoral positions at Centre de Recerca Matemàtica (Spain).
  - **2021**: Selection committee for INdAM-GNAMPA 1-year post-doc position.
  - **2021**: Interviews for Princeton Alumni Association for undergraduate admission (class 2025).
  - **2020**: Hiring committee for a 2-year post-doc position, Univ. Rome Tor Vergata. Project title: *Regular and stochastic behaviour in dynamical systems.*
  - **2019**: Hiring committee for a 1-year post-doc position, Univ. Rome Tor Vergata. Project title: *Queeing systems with late arrivals.*
  - **2019**: Admission committee for the Ph.D. in Mathematics (XXXV ciclo) at Univ. Rome Tor Vergata.
  - **2019**: Hiring committee for H2020-MSCA- ITN project *Stardust-R*, Univ. Rome Tor Vergata.
  - **2015**: Prize selection committee for the award of *Premio Cuozzo*, Univ. Rome Tor Vergata.
  - **2011**: Undergraduate Admission interview panel (Pure Mathematics) for University of Cambridge/Pembroke College.
  - **2010**: Undergraduate Admission interview panel (Pure Mathematics) for University of Cambridge/Pembroke College.

- **Scientific Memberships:**
  - **2022 -** : Member of the scientific board of the Foundation CIME (Centro Italiano Matematica Estiva).

- **2022 -** : Member of the scientific board of the Rome Centre on Mathematics for Modelling and Data Sciences (RoMaDS), Univ. Rome Tor Vergata.
- Member of the executive committee of the Italian Mathematical Union (UMI) group *DinAmicI*). From 2020 to present.
- Member of the scientific board of the Italian network of Dynamicists (*DinAmicI*). From 2012 to present.
- Member of UMI (Unione Matematica Italiana), since 2015.
- Member of INdAM-GNAMPA (National Group of Mathematical Analysis, Probability and Applications). From 2011 to present.
- Member of MaddMaths!. From 2024 to present.
- Member of AMS (American Mathematical Society). From 2003 to 2008.
- Member of MAA (Mathematical Association of America). From 2003 to 2008.

- **Various:**

  Computer skills: Programming Languages (C, LaTeX, HTML), Mathematical Software (Mathematica, MATLAB).

  Languages: Italian (native), English (C2), French (B2), German (A2).