

Curriculum Vitae

Susanna Terracini

Born on [REDACTED] (UK), married, one child,

Citizenship: Italian

Affiliation: Università di Torino, Italy, Dipartimento di Matematica "G. Peano"

Webpage, complete CV and list of papers: <https://sites.google.com/site/susannaterracini>

Education

1990 Ph.D. in Functional Analysis, S.I.S.S.A. Trieste, advisor Prof. I. Ekeland

1988 Master degree in Functional Analysis, S.I.S.S.A. Trieste, advisor Prof. S. Solimini

1986 Degree in Mathematics, University of Torino, advisor Prof. F. Skof,

Current and past positions

2012-now Full professor, Department of Mathematics "G. Peano", University of Torino

2015 (November) - 2020 (January), Member of the Executive Board of ANVUR (the National Agency for Evaluation of University and Research)

2002-2012 Full professor, Department of Mathematics and Applications, University of Milano-Bicocca

1992-2002 Associate professor, Department of Mathematics, Politecnico of Milano

1990-1992 Ricercatore (Tenured Assistant Professor) in Mathematical Analysis, Politecnico of Milano

Main awards and grants

2003 Calogero Vinti prize for Mathematics, 2002, (Unione Matematica Italiana)

2007 Bruno Finzi prize for Rational Mechanics, 2007, (Istituto Lombardo di scienze e lettere)

2011-13 Principal Investigator of the Research Project of National Interest Critical Point Theory and Perturbative Methods for Nonlinear Differential Equations in the PRIN program funded by the Italian Ministry for Education, University, and Research (€120K for 30 participants in four local units for 2 years). Also leader of the Milano-Bicocca research unit.

2014-16 Principal Investigator of the Research Project of National Interest Variational and perturbative aspects of nonlinear differential problems in the PRIN program funded by the Italian Ministry for Education, University, and Research (€340K for 58 participants in eight local units for 3 years). Also leader of the Turin University research unit.

2014-19 Principal Investigator of the ERC Advanced Grant COMPAT- Complex Patterns for Strongly Interacting Dynamical Systems, funded by the European Commission (€1400K for 5 years).

2019- now Principal Investigator of the research project "Sistemi dinamici non lineari", funded by the University of Turin (€550K). The research team consists of 3 full and associate professors, 2 tenure-track associate professor, 3 post-docs and 1 PhD students.

2021 2020 *Juliusz Schauder Medal*, for outstanding contributions to nonlinear analysis, awarded by the Juliusz P. Schauder Center for Nonlinear Studies (Toruń, Poland).

Main teaching activities

Undergraduate: Calculus and Real Analysis at all levels, Complex Variable, Measure Theory, Spectral Theory, Differential Equations, Functional Analysis applied to Material Sciences

Graduate: Variational Methods, Nonlinear Analysis, Sobolev Spaces, Optimal Control Theory, Geometric Methods in PDEs, Ginzburg-Landau vortices

Invited speakers at Congresses/Workshops/Schools (selected, plenary or keynote)

- *The Fourteenth Rivière-Fabes Symposium on Analysis and PDE*, Minneapolis, April 15-17, 2011;
- *XIX Congresso dell'Unione Matematica Italiana*, Bologna, September 12-17 2011;
- *The 9th AIMS Conference on Dynamical Systems, Differential Equations and Applications*, Orlando, Florida, USA July 1-5, 2012;
- *International Conference on Variational Methods (ICVAM-3)*, Chern Institute of Mathematics, Nankai University, May 21-25, 2012;
- *Mathematical Paradigms of Climate Science*, Istituto Nazionale di Alta Matematica Roma, June 14-28 2013;
- *International conference on Recent developments of nonlinear PDEs*, Australian National University, Canberra, November 25-29, 2013;
- *Shape optimization and spectral geometry*, ICMS, Edinburgh, 29 June 3 July 2015;
- *Symplectic Techniques in Topology and Dynamics*, Cologne, August 24-28 2015;
- *The First Joint IMU-INDAM Conference in Analysis*, Tel Aviv (Israel) May 29 - June 1, 2017;

- *CELMEC VII, The Seventh International Meeting on Celestial Mechanics*, San Martino al Cimino (VT), September 3-9, 2017;
- *Joint UMI-SIMAI-PTM meeting*, Wroclaw, Poland, September 16-20 2018;
- *International Conference on Elliptic and Parabolic Problems*, May 20-24 2019, Gaeta (Italy);
- *ÖMG Conference 2019* (General conference of the Austrian Mathematical Society), University of Applied Sciences Vorarlberg, Dornbirn, September 16-20, 2019;
- *Barcelona Mathematical Days* (General Conference of the Catalan Mathematical Society), October 23-24 2020.
- *One World PDE Seminar* (online), opening seminar, March 31 2020;
- *Juliusz Schauder Medal Awarding Ceremony*, June 5th 2021, The Juliusz P. Schauder Center for Nonlinear Studies, Torun`;
- *Science Nature PDE Webinar*, October 26th 2020;
- *One World Dynamics Seminar*, February 12, 2021.

Short courses: CIMPA Research School: *Hamiltonian and Lagrangian Dynamics*, Salto, Uruguay, March 10-19, 2015, *Focus Program on Nonlocal Partial Differential Equations*, Fields Institute, Toronto, May 24-27 2016, *Scuola Estiva GNFM*, Ravello, September 5-10 2016, *Recent Trends on Nonlinear PDEs of Elliptic and Parabolic Type*, 5-16 November 2018, MATRIX, Creswick (Australia). *HIT online summer school on Nonlinear Differential Equations and Applications* Harbin Institute of Technology July 2020.

Selected invited talks

- Evans Lecture, MSRI Berkeley, April 25, 2011;
- Colloquia Patavina, Padova, December 13 2011;
- PDE seminar, Universidad Autonoma de Madrid, February 2012;
- Séminaires d'analyse et EDP, Université Libre de Bruxelles, November 2012 ;
- Università di Udine, Colloquium, November 8, 2016;
- Colloquium del Dipartimento di Matematica, Università di Roma Tor Vergata, March 7 2017;
- Hausdorff Kolloquium, Hausdorff Center for Mathematics, Bonn, January 24, 2018;
- The University of Texas at Austin, Analysis Seminar, November 15, 2018.
- One World PDE Seminar, March 31, 2020
- Science Nature PDE Seminar, October 26, 2020
- Indian Women and Mathematics Visitor Program, October 31, 2020

Organization of Scientific Meetings (selected)

Program and Scientific Committee of: *XX Convegno dell'Unione Matematica Italiana*, September 6-11, 2015, Siena, *VII Symposium on Nonlinear Analysis*, Torun, Poland, September 14-18, 2015, *Jornadas d'interacció entre sistemes dinàmics i equacions en derivades parcials*, Barcelona, July 11 - 15, 2016, *ICM 2018 Satellite conference on Nonlinear Partial Differential Equation*, Fortaleza, Brazil, 23-27 July 2018.

Scientific and Organizing committee of: *New perspectives on the N-body problem*, BIRS Banff (Canada), January 13-18 2013, *PDEs at the Grand Paradis*, *International Conference on Variational Methods and non linear PDEs*, Cogne, June 20-24, 2016, *Intensive Week of PDEs@Cogne*, Cogne (Italy), June 2-7, 2019, *New trends in Celestial Mechanics*, Cogne (Italy), June, 24-28, 2019

Main Academic and Scientific Responsibilities

2002- 2012: member of the committee of the PhD school in Pure and Applied Mathematics, Univeristy of Milano-Bicocca

2002- 2012: vice-chairman of the Department of Mathematics, University of Milano-Bicocca.

2015-now: Member of the scientific committee of the Fondation des Sciences Mathématiques de Paris

2015-2019: Member of the Executive Board of ANVUR (Agenzia Nazionale per la Valutazione dell'Università e la Ricerca)

2017-2019: Member of the executive board of the Società Italiana Meccanica Celeste e Astrodinamica (SIMCA)

2017-2020: Member of the steering committee of the Newton Institute (Cambridge)

2018-now: Member of the Scientific Council of the French CNRS

2020-now: Member of the Scientific Council of the Società Italiana Meccanica Celeste e Astrodinamica (SIMCA)

2021-now member of the Board of Directors of INDAM (Istituto Nazionale di Alta Matematica "F. Severi")

2021-now Chairman of the Department of Mathematics "G. Peano", University of Turin

Editorial and Evaluation Activities

Editor-in-chief of NOD EA: *Nonlinear Differential Equations and Applications*. Associate editor of the *Journal of the European Mathematical Society*, *Calculus of Variations and PDE*, *Celestial Mechanics and Dynamical Astronomy*, *Nonlinearity*, *Acta Applicandæ Mathematicæ*, *Discrete and Continuous Dynamical Systems - B*, *ESAIM-COCV*, *Functiones et Approximatio*, *Portugalica Mathematica*.

Jury member of the Doctoral thesis of Andrea Venturelli (2004, University of Paris VII), jury member of the Agregação (professorship habilitation) of Miguel Ramos (2003, Universidade de Lisboa), jury member (ex-amineur) of the Habilitation à Diriger des Recherches (professorship habilitation) of Jacques Féjoz (2011, University of Paris VII) and of Jimmy Lamboley (2016, University of Paris Dauphine).

Member of the AÉRES evaluation panel of the Mathematics Departments of Universities of Marne-la-Vallée- Créteil (2009), member of the evaluation panel of the Mathematics and Information Technology of the University of Uppsala (Sweden), 2011.

Membership of scientific societies

Member of EMS (European Mathematical Society), UMI (Unione Matematica Italiana), SIMCA (Soc. It. di Meccanica Celeste e Astrodinamica), EWM (European Women in Mathematics)

Publication breakdown

124 publications on peer-reviewed journals, 3 books as editor, 1 article to appear, 4 submitted Scopus: 2814 citations, h-index 26

Google Scholar: 4672 citations, h-index 35, i10-index 93

Supervision of graduate students and postdoctoral fellows

- 18 PhD students already graduated
- 2 PhD currently working on their PhD projects
- 15 Postdoctoral fellows mentored

Former PhD students (selected)

1994-98, Filippo Gazzola (now full professor, Politecnico di Milano), *Orbite periodiche in sistemi di moti periodici in catene di infinite particelle*. co-advised with G. Prouse

1995-99, Monica Conti (now full professor, Politecnico di Milano), *Existence, non existence and multiplicity methods for elliptic systems*.

1996-00, Gianmaria Verzini (now associate professor, Politecnico di Milano), *Oscillating solutions to differential equations via the Nehari method*.

2002-04, Vivina Barutello (now associate professor, Università di Torino), *On the n-body problem*.

2005-09, Benedetta Noris, (now Maître de Conférences, Université de Amiens), *On nonlinear Schrödinger systems with strong competition*.

2006-10, Hugo Tavares, (now associate professor, Universidade de Lisboa), *Nonlinear elliptic systems with a variational structure: existence, asymptotics and other qualitative properties*. (jointly with Miguel Ramos, Universidade de Lisboa)

2010-13, Alessandro Zilio, (now Maître de Conférences, Université Paris Diderot) *On monotonicity formulae, fractional operators and strong competition*, co-advised with Gianmaria Verzini

2010-13, Nicola Soave (now tenure-track associate professor, Politecnico di Milano), *Variational and Geometric Methods for Nonlinear Differential Equations*, co-advised with Alberto Farina (Univ. Picardie)

2011-15, Manon Nys, *Schrödinger equations with an external magnetic field: spectral problems & semiclassical states*, co-advised with Denis Bonheure (Université Libre, Bruxelles)

2014-2018, Alessandro Audrito, *Nonlinear and nonlocal diffusion equations. Qualitative theory and asymptotic behaviour*, co-advised with Juan-Luis Vázquez

2014-2018, Giorgio Tortone, *On the nodal set of degenerate-singular and nonlocal equations*,

2014-2018, Stefano Vita, *Strong Competition Systems Ruled by Anomalous Diffusions*.