

CURRICULUM VITAE of SILVIA CINGOLANI

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Education:

- Degree in Mathematics, University of Bari. Degree thesis: *Teoria di Morse e sistemi dinamici asintoticamente lineari*. Supervisor Prof. Dino Fortunato. Vote: 110/110 *cum laude* (December 14, 1993)
- Winner of C.N.R. (Consiglio Nazionale delle Ricerche) fellowship in Mathematics. Supervisor: Prof. Donato Fortunato (1993–1994).
- Winner of I.N.d.A.M. (Istituto Nazionale di Alta Matematica) fellowship, Rome (1994)
- First place ex-aequo at the selection of Ph.D. scholarship at Scuola Normale of Pisa. Vote: 158/160 (December 1994)
- Ph.D. student in Mathematics at Scuola Normale Superiore of Pisa (1995–1996)
- Ph.D. in Mathematics, Scuola Normale Superiore of Pisa. Ph.D.Thesis: *Variational Methods and Nonlinear Schrödinger Equations*. Supervisor Prof. Antonio Ambrosetti. Vote: 70/70 *cum laude* (November 10, 1998)

Awards:

- Winner of the Prize *Benedetto Sciarra*, Scuola Normale Superiore of Pisa (1996)

Appointments:

- Researcher in Mathematical Analysis, Polytechnic University of Bari (May 8, 1996 – November 30, 2002)
- Associate Professor in Mathematical Analysis, Polytechnic University of Bari (December 1, 2002 – June 11, 2017)
- National Scientific Habilitation to Full Professorship (scientific disciplinary sector: 01/A3 - Mathematical Analysis, Probability and Mathematical Statistics) (December 30, 2013)
- Full Professor in Mathematical Analysis, University of Bari Aldo Moro (June 12, 2017 – present)

Research Interests: Nonlinear Partial Differential Equations, Variational and topological methods in nonlinear analysis, Critical Point theory

Bibliometric Data (updated July, 2023):

She is author of around 75 scientific publications.

2122 citations on Mathscinet by 810 authors (h-index 22)

2090 citations on Scopus (h-index 23)

2002 citations on Web of Science (h-index 21)

2944 citations on Google Scholar (h-index 25)

Editor Activity:

- (2012/2016) Editorial Board Member of
“*Abstract and Applied Analysis*”, Hindawi Publishing Corporation.
- (2018/–) Editorial Board Member of
“*Mediterranean Journal of Mathematics*” (MedJM), Birkhauser Basel
<https://www.springer.com/birkhauser/mathematics/journal/9>
- (2020/–) Editorial Board Member of
“*Advanced Nonlinear Studies*”, De Gruyter
<https://www.degruyter.com/view/j/ans?lang=en>
- (2021/–) Editorial Board Member of
“*Differential Integral Equations*”, Khayyam Publishing, Inc.
<http://www.aftabi.com/DIE/die.html>
- (2022/–) Editorial Board Member of
“*Journal Fixed and Point Theory and Applications*”, Springer
<https://www.springer.com/journal/11784/>

Thesis Advisor:

3 PhD students; 4 Master Degree students; 4 Bachelor Degree students

Invited Speaker at Selected International Workshops:

1997 Title of the seminar: *Positive solutions for a class of equations with discontinuous nonlinearities in unbounded domains*, Workshop “Nonlinear Boundary Value problems”, Torino (September 10–12).

1998 Title of the seminar: *Asymmetric standing waves in symmetric nonlinear optical waveguides*, International Workshop on “Variational Methods and Partial Differential Equations in Mathematical Physics”, Scuola Normale Superiore di Pisa, Pisa (February 17–26).

1999 Title of the seminar: *Metodi variazionali e topologici nello studio delle equazioni di Schrödinger nonlineari agli stati stazionari*, XVI Congresso Unione Matematica Italiana, (invited talk for young researcher), Napoli (September 13–16).

2000 Title of the seminar: *Asymmetric solutions for symmetric problems arising in Nonlinear Optics*, “Third World Congress of Nonlinear Analysts”, Catania (July 19–26).

2001 Title of the seminar: *Critical groups computations on a class of functional defined on Banach Spaces*, International Workshop “Nonlinear Differential equations”, Bergamo (July 9–13).

2002 Title of the seminar: *Morse theory for a class of functionals associated to quasilinear elliptic problems*, International Workshop “Calculus of Variations in Nonlinear Phenomena”, Martina Franca (September 23–27).

2003 Title of the seminar: *Multiple solutions for quasilinear elliptic problems via Morse theory*, “Equadiff 2003”, International Conference on Differential Equations, Hasselt (Belgium) (July 22–26) .

2004 Title of the seminar: *Morse theory and nontrivial solutions for p -laplace equations*, “Variational methods and Nonlinear Schrödinger equations”, Bernouilli Centre, Ecole Polytechnique Federale de Lausanne, Lausanne (Switzerland) (February 9–13).

2006 Title of the seminar: *Quasilinear field equations and Morse theory*, International Workshop “Current Trends in Nonlinear Analysis”. Conference in honor of the 60-th birthday of Prof. Donato Fortunato, Otranto (June 12–16).

2009 Title of the seminar: *Intertwining semiclassical bound states for Nonlinear magnetic Schrödinger equation*, 6th European Conference on Elliptic and Parabolic Problems, Gaeta (May 3–6).

2009 Title of the mini-course: *Morse index estimates and applications to quasilinear elliptic problems* Part I. Part II, The first Bicocca Junior Workshop on Nonlinear PDE’s and Variational Methods, Università di Milano-Bicocca (June 18–19).

2010 *Gender Equality in Science*, Le prospettive del Progetto “STReGA”, Lecce (January 21).

2010 Title of the seminar: *Intertwining semiclassical solutions for the Schrödinger-Newton equations*, International Workshop on “Variational Methods in Nonlinear Differential equations”, Oaxaca (Mexico) (October 17–22).

2011 Title of the seminar: *Intertwining solutions for a magnetic nonlinear Choquard equation*, International Workshop on “Nonlinear Differential Equations”, Pienza (November 7–11).

2012 Title of the seminar: *Multiple solutions to a magnetic nonlinear Choquard equation*, 7th European Conference of Elliptic and Parabolic Problems, Gaeta (May 21–25).

2012 Title of the seminar: *Local Morse theory for quasilinear elliptic problems*, Nonlinear PDE Days: Variational Methods in Mathematical Physics, Karlsruher Institut für Technologie, Karlsruhe (Germany) (July 17–18).

2013 Title of the seminar: *Morse index estimates and uniform Sobolev inequalities for p -Laplace equations*, Variational and Topological Methods in the study of Nonlinear Phenomena, Alghero (June 24–28).

2013 Title of the seminar: *Morse index estimates for p -Laplace equations via uniform Sobolev inequalities*, Variational Methods and Partial Differential Equations, Workshop on the occasion of Michel Willem’s 60th birthday, Louvain-la-Neuve (Belgium) (July 11–12).

2013 Title of the seminar: *Semiclassical bound states for nonlinear Schrödinger equations via the topology of a potential well*, Dispersive PDEs: models and dynamics, Pisa (September 18-20).

2014 Title of the seminar: *Multiple positive solutions of nonlinear Schrödinger equations concentrating at a potential well*, 8th European Conference of Elliptic and Parabolic Problems, Gaeta (May 26–30).

2015 Title of the seminar: *Concentration on circles for magnetic Nonlinear Schrödinger Equations*, Variational and Topological Methods in the study of nonlinear problems, Workshop on the occasion of Charles Stuart's 70th birthday, Besancon (France) (June 29– July 1).

2016 Title of the seminar: *Some results for a planar Choquard type equation*, Achievements and Perspectives in Nonlinear Analysis, on the occasion of Donato Fortunato's 70th birthday, Bari (June, 14–17).

2017 Title of the seminar: *On the Logarithmic Choquard Equation Sharp asymptotics and nondegeneracy of the groundstate of the logarithmic Choquard equation*, Rome CAPUT PDE, Roma (January 23–26).

2017 Title of the seminar: *Sharp asymptotics and nondegeneracy of the groundstate of the logarithmic Choquard equation*, Nonlinear days in Turin, Torino (September 21-22).

2018 Title of the seminar: *Some new results on the nonlinear Choquard equations* Variational Problems arising from Physics and Geometry, on the occasion of the 60th birthday of Thomas Bartsch Rauschholzhausen Castle, Germany (July 16-19).

2018 Title of the seminar: *A new variational approach for the nonlinear Choquard equation*, New Advances in PDE, Workshop on the occasion of Annamaria Micheletti's birthday, Riemann International School of Mathematics, Varese (September 6-7).

2018 Title of the seminar: *A new variational approach for the nonlinear Choquard equation*, Nonlinear Analysis & PDEs, Caserta (September 10-14).

2019 Title of the seminar: *Multiplicity results for nonlocal equations without Nehari constraint*, VI Italian-Japanese Workshop Geometric Properties for Parabolic and Elliptic PDE's, Cortona-Palazzone della Scuola Normale (May 20-24)

2019 Title of the seminar: *Normalized solutions for the planar Schrödinger-Poisson system*, XI Brazilian-Italian Workshop on Nonlinear Differential Equations, Riemann International School of Mathematics, Varese (July 29 – August 2)

2021 Title of the seminar: *Concentration phenomena for a fractional problem without Nehari constraint*, PDE's Italia vs Espana (February 25)

2021 Title of the seminar: *Some nonlocal problems with Logarithmic convolution potentials*, Nonlinear meeting, Manfredonia (November 6)

2022 Title of the seminar: *On a topological construction for a fractional elliptic problem*, Modern Aspects of PDE, Bari (June 23-24)

2023 Title of the seminar: *Nonlocal Interaction Energy Functionals in 2D*, Nonlinear PDEs in Cosenza, Cosenza, Italy (May 16-19)

2023 Title of the seminar *On Some Nonlocal Interaction Energy Functionals*, INdAM - Puglia Summer Trimester 2023 Singularities, Asymptotics, Limiting Models (June 27)

Selected Visits and Seminars:

1997 Universidad de Granada, Departamento de Análisis Matemático, invited by Prof. David Arcoya. Title of the seminar: *Multiple positive solutions for nonlinear Schrödinger equations.*

2000 University of Rome III, Department of Mathematics, invited by Prof. Gianni Mancini. Title of the seminar: *Soluzioni asimmetriche per una classe di problemi ellittici non lineari.*

2001 SISSA (Scuola Internazionale Superiore di Studi Avanzati), Trieste, invited by Prof. Antonio Ambrosetti. Title of the seminar: *Multiple semiclassical stationary states of nonlinear Schrödinger equations with electromagnetic fields.*

2001 Universidad Autonoma de Madrid, invited by Prof. Ireneo Peral. Title of the seminar: *Critical groups computations for a class of functional associated to quasilinear elliptic problems via Morse index.*

2002 University of Pisa, Department of Mathematics, invited by Prof. Antonio Marino. Title of seminar: *Stime di gruppi critici per una classe di funzionali associati a equazioni ellittiche che coinvolgono il p -laplaciano.*

2002 Ecole Polytechnique Federale de Lausanne, invited by Prof. Charles Stuart. Title of the seminar: *Morse theory and critical groups computations for a class of functionals defined in Banach spaces.*

2003 University of Rome "La Sapienza", Department of Mathematics, invited by Prof. Filomena Pacella.

2004 University of Rome "La Sapienza", Department of Mathematical Methods and Models, invited by Prof. Angela Pistoia. Title of the seminar: *Morse index and nontrivial solutions for p -Laplace equations.*

2007 University of Rome "La Sapienza", Department of Mathematical Methods and Models, invited by Prof. Angela Pistoia. Title of the seminar: *Critical groups estimates for a class of functionals defined in Banach spaces.*

2011 University of Milan, Department of Mathematics, invited by Prof. Bernhard Ruf. Title of the seminar: *Some results on a magnetic nonlinear Choquard equation.*

2011 Université de Franche-Comté, Laboratoire de Mathématiques UMR CNRS, Besancon Cedex, France, invited by Prof. Louis Jeanjean. Title of the seminar: *Intertwining standing waves for magnetic nonlinear Choquard equation.*

2012 Karlsruher Institut für Technologie, invited by Prof. Wolfgang Reichel. Title of the seminar: *Morse theory for quasilinear elliptic problems.*

2013 University of Calabria, invited by Prof. A. Canino. Title of the seminar: *Morse index estimates and uniform Sobolev inequalities for p -Laplace equations.*

2014 Université Libre de Bruxelles, invited by Prof. Denis Bonheure. Title of the seminar: *Semiclassical standing waves for Nonlinear Schrödinger Equations via the topology of a potential well.*

2015 Université Libre de Bruxelles, invited by Prof. Denis Bonheure (September 2015).

2016 University of Stockholm, invited by Prof. Andrzej Szulkin (July 2016).

2017 Waseda University of Tokyo, invited by Prof. Kazunaga Tanaka (February 2017).

2018 Université Libre de Bruxelles, invited by Prof. Denis Bonheure (October 2018).

2022 Goethe University of Frankfurt, invited by Prof. Tobias Weth. Title of the seminar *The effect of a potential well's topology on a fractional NLS equation* (September 2022)

2023 On the planar Schrödinger-Newton System, Geometric and Functional Inequalities and Applications, USA (May 8) <https://researchseminars.org/seminar/GeomInequAndPDEs>

Organization of International Conferences:

- Organization Committee Member of the XXVIII Congresso dell' Unione Matematica Italiana, September 24-29 (2007) Bari, Italy
- Scientific Committee Member of the Workshop *Primo Incontro delle Donne del Laplaciano*, June 13-16 (2008), Cortona, Italy
- Organization Committee Member of the International Workshop *Second Meeting of Women of the Laplacian*, June 3-6 (2010), Monopoli (Bari), Italy • Scientific Committee Member of the International Workshop *Critical Point Theory and Nonlinear Differential Problems*, September 02-04 (2015), Canazei (Dolomites), Italy
- Organizer of the Thematic Section “Schrödinger equations”, International Workshop *Workshop in Nonlinear PDEs*, September 07-11 (2015), Université libre de Bruxelles, Bruxelles, Belgium
- Organizer of the Miny-Symposium “PDEs around the world”, International Workshop *European Women in Mathematics General Meeting 2018*, September 03-7 (2018), University of Graz, Austria
- Organizer of the International Workshop *Advances and Challenges in Nonlinear Analysis ... and Beyond! On the occasion of Vieri Benci's 70th birthday*, September 24-27 (2019), University of Bari and Polytechnic University of Bari, Italy
- Organizer of the International Workshop *RoMANs: Research On Mathematical Analysis aNd Semigroups, On the occasion of Silvia Romanelli's 70th birthday*, July 7-8 (2021), University of Bari, Italy
- Organizer of Thematic Session *Variational Equations and Applications to Differential Equations*, 33^o Colóquio Brasileiro de Matemática, IMPA, August 2-5 (2021)
- Organizer of the International Workshop *Geometric PDEs @ Caserta*, September 13-16 (2021), University of Vanvitelli, Caserta, Italy
- Organizer of the International Workshop *Recent Developments in Mathematical Analysis, On the occasion of Francesco Altomare's 70th birthday*, September 23-24 (2021), University of Bari, Italy
- Organizer of *First Adriatic Meeting of Nonlinear Differential Equations*, May 12-14 (2022), Marche Polytechnic University, Ancona, Italy
- Organizer of the International Conference *Qualitative and Quantitative aspects of nonlinear PDEs*, September 5-9 (2022), University of Bari, Bari, Italy
- Organizer of the International Workshop *Nonlinear Analysis in the Court of the General Relativity, On the occasion of Antonio Masiello's 60th birthday*, February 9-10 (2023), Polytechnic University of Bari, Italy

- Organizer (with Manuel Del Pino and Serena Di Pierro) of the section "Singular limits in elliptic and parabolic PDEs", 13th AIMS Conference on Dynamical Systems, June 2023, Wilmington, NC USA

Research Evaluation Activity:

Referee for journals: Acta Mathematica Scientia; Advanced Nonlinear Studies; Advances in Nonlinear Analysis; Annali di Matematica Pura e Applicata; Archiv der Mathematik; Boundary Value Problems; Calculus of Variations and Partial Differential Equations; Canadian J. Mathematics; Communications in Applied Analysis; Communications in Contemporary Mathematics; Communications on Partial Differential Equations; Communications on Pure and Applied Analysis; Complex Variables and Elliptic Equations; Differential and Integral Equations; Electronic Journal of Differential Equations; ESAIM: Control, Optimisation and Calculus of Variations; Funkcialaj Ekvacioj; International Journal of Mathematics and Mathematical Sciences; Israel Journal of Mathematics; Journal of Differential Equations; Journal of Fixed Point Theory and Applications; Journal of Functional Analysis; Journal of London Mathematical Society; Journal of Mathematical Analysis and Applications; Journal of Optimization Theory and Applications; Manuscripta Mathematica; Mathematische Zeitschrift; Mediterranean Journal of Mathematics; Memoirs of the American Mathematical Society; Nonlinear Analysis Theory, Methods and Applications; Nonlinear Differential Equations and Applications NoDea; Nonlinearity; Quarterly of Applied Mathematics; Pacific Journal of Mathematics; Proceeding of the Royal Society of Edinburgh; Rendiconti del Seminario Matematico dell' Università di Padova; SIAM Journal Mathematical Analysis; Topological Methods in Nonlinear Analysis; Zeitschrift für angewandte Mathematik und Physik (ZAMP).

Referee for Mathematical Reviews.

On the behalf of the National Chilean Commission for Scientific and Technological Development (CONICYT) and the Superior Council of the National Fund for Scientific & Technological Development (FONDECYT), referee for a proposal 2012, a proposal 2013 and a proposal 2017

On the behalf of M.I.U.R., referee for a Firb Project 2012.

Grants:

- Co-investigator in PRIN Projects: *Variational Methods and nonlinear differential equations* by MIUR (Ministero Istruzione Università e Ricerca, Italy), P.I.: Prof. A. Ambrosetti (1995/1996, 1997/98).
- Co-investigator of a Project "Azione Integrata Italia-Spagna" (2001).
- Co-investigator in PRIN Projects: *Variational and topological methods in the study of nonlinear phenomena* by MIUR (Ministero Istruzione Università e Ricerca, Italy), P.I.: Prof. V. Benci. (2001/2002, 2003/2004, 2005/2006, 2007/2008, 2009/2010).
- Co-investigator of a Project: "Azione Integrata Italia-Spagna" (2009).
- Principal investigator of Gnampa's Project *Problemi ellittici con termini non locali*, by Istituto Nazionale Alta Matematica, Italy (2011/12).
- Principal investigator of Gnampa's Project *Metodi Variazionali e problemi ellittici non lineari*, by Istituto Nazionale Alta Matematica, Italy (2012/13).

- Principal investigator of Gnampa's Project *Problemi differenziali di tipo ellittico nei fenomeni fisici non lineari*, by Istituto Nazionale Alta Matematica, Italy (2013/14).
- Principal investigator of Gnampa's Project *Aspetti differenziali e geometrici nello studio di problemi ellittici quasilineari*, by Istituto Nazionale Alta Matematica, Italy (2014/15).
- Co-investigator of the European Project MIS F.4508.14 (FNRS) *Spatial patterns in higher order models of phase transitions, Fourth order Nonlinear Schrödinger Equations and Solutions of Maxwell-Born-Infeld equations with sources*. P.I. Prof. Denis Bonheure (<http://www.fnrs.be/index.php>) (2014/2016)
- Principal investigator of Gnampa's Project *Analisi variazionale di modelli fisici non lineari*, by Istituto Nazionale Alta Matematica, Italy (2015/16).
- Principal investigator of Gnampa's Project *Studio variazionale di problemi fisici non lineari*, by Istituto Nazionale Alta Matematica, Italy (2016/17).
- Co-investigator of Gnampa's Project *Metodi variazionali nei problemi fisici non lineari*, by Istituto Nazionale Alta Matematica, Italy (2017/18).
- Co-investigator of PRIN Project *Qualitative and quantitative aspects of nonlinear PDEs* (2019/21) (P.I.: Prof. D. Sciunzi)
- Co-investigator PNRR project (2023-2026): "Machine learning, Quantum Computing and AI platform to design and exploit Digital Twins", Centro Nazionale HPC, Big Data e Quantum Computing, Spoke 5: "Environment and Natural Disasters"
CODE:CN00000013, CUP: H93C22000450007.
- Co-investigator of PNRR project (2023-2026): "National Quantum Science and Technology Institute- NQSTI", Spoke 1: "Foundations and architectures for quantum information processing and communication" A1.1 Quantum nonlinear dynamics
CODE:PE00000023, CUP: H93C22000670006

Service:

- 2022/2026 Master's Degree Program Coordinator; Bachelor's Degree Program Coordinator; Department of Mathematics, University of Bari
- 2021/2025 Member of the Scientific Council of GNAMPA-INdAM (National Group of Mathematical Analysis and Probability - Istituto Nazionale di Alta Matematica, Rome)
- 2019/2022 Vice Director Department of Mathematics - University of Bari
- 2006/2023 Member of the Directing Board of the PhD program in Mathematics. Cycles: XXII, XXIII, XXIV, XXV, XXVI, XXVII, XXVIII, XXIX University of Bari
- 2013/2017 Scientific Coordinator of the INdAM (Istituto Nazionale di Alta Matematica) Research Group of Polytechnic University of Bari
- 2014/2016 Member of the Directing Board of the PhD program in Mechanical Engineering, Polytechnic University of Bari
- 2017/present Member of the Directing Board of the PhD program in Computer Sciences and Mathematics, University of Bari Aldo Moro, Cycles: XXXV, XXXVI, XXXVII, XXXVIII, XXXIX

- Member of the Committee for a position of Researcher, University of Bari (2011)
- Member of the Committee for a position of Full Professor, University of Calabria (2017)
- Member of the Committee for a position of Associate Professor, University of Naples “Federico II” (2018)
- Member of the Committee for a position of RTDB Professor, University of Naples “Federico II” (2019)
- Member of the Committee for a position of Associate Professor, University of Calabria (2019)
- Member of the Committee for a position of Associate Professor, University of Pisa (2020)
- Member of the Committee for a Tenure-Track position, University of Naples “Federico II” (2020)
- Member of the Committee for two RTD-A positions, University of Naples “Federico II” (2021)
- Member of the Committee for a Tenure-Track position, SISSA- Trieste (2021)
- Member of the Committee for the prize “E. Jannelli” for the best PhD thesis on PDEs, A.A. 2020/2021
- Reviewer for an individual assessment (Full Professor)- University of Vienna (2021)
- Member of the Committee for one RTD-B positions, University of Bicocca- Milan (2021)
- Member of the Committee for one RTD-A position, University of Camerino (2021)
- Member of the Committee for Tenue-Track position, University of Salento (2021)
- Member of the Committee for a position of Associate Professor, University of Bari (2021)
- Member of the Committee for Tenue-Track position, University of Modena and Reggio Emilia (2022)
- Member of the Committee for a position of Full professor, Sapienza University of Roma (2022)
- Member of the Committee for a position of Full professor, Polytechnic of Bari (2022)
- Member of the Committee for two positions of RTDB, University of Calabria (2022)
- Reviewer for a Ph.D. thesis, University Milano Bicocca (2022)
- Member of the Committee for two positions of RTDB, University Cattolica del Sacro Cuore, Brescia (2023)
- Member of the Committee of the “Vinti Prize 2023”, awarded by the Italian Mathematical Union.

Teaching Activity:

Mathematical Analysis I, Mathematical Analysis II, Differential Equations: as Assistant Professor for students in Mechanical Engineering, Building Engineering, Electronic Engineering, Management Engineering, Computer Engineering, Civil Engineering at Polytechnic University of Bari (May 1996 – November 2002).

Mathematical Analysis I, Mathematical Analysis II as Professor for students in Computer and Automatic Engineering, Mechanical Engineering, Electric Engineering, Building Engineering, Architectural-Building Engineering, Management Engineering, Medical Systems Engineering, Polytechnic University of Bari (Dicember 2002 – May 2017).

Mathematics for students in Geology (2017/2018; 2018/2019)

Mathematical Analysis II as Professor for students in Materials Science, University of Bari Aldo Moro (2017/2018; 2018/2019; 2019/2020)

Mathematical Analysis I as Tutor for students in Mathematics, University of Bari Aldo Moro (2019/2020)

Nonlinear Analysis as Professor for students in Mathematics, University of Bari Aldo Moro (2018/2019; 2019/2020; 2020/2021; 2021/22; 2022/23)

Mathematical Analysis I-II as Professor for students in Mathematics, University of Bari Aldo Moro (2020/2021; 2021/22; 2022/23)

Membership:

Member of Unione Matematica Italiana

Member of Istituto Nazionale di Alta Matematica

Member of the European Mathematical Society

Member of European Women in Mathematics (<http://www.europeanwomeninmaths.org/>)

Ph.D. Thesis:

S. Cingolani, *Variational Methods and Nonlinear Schrödinger equations*, Ph.D. Thesis, Scuola Normale Superiore of Pisa, 1998.

Published Papers:

1. Silvia CINGOLANI, Lorenzo PISANI, Poincaré-Birkhoff results for Lagrangian systems with subquadratic potential, *Proceedings of the Royal Society of Edinburgh Section A*, vol. 125 (1995), no. 6, 1169-1177
2. Silvia CINGOLANI, Existence and multiplicity results for a semilinear elliptic equation on \mathbb{R}^N , *Communications on Applied Nonlinear Analysis*, vol. 2 (1995), no. 4, 31-42
3. Silvia CINGOLANI, Elvira MIRENGHI, Maria TUCCI, Periodic orbits and subharmonics of dynamical systems on non compact Riemannian manifolds, *Journal of Differential Equations*, vol. 130 (1996), no. 1, 142-161
4. Silvia CINGOLANI, José Luis GÁMEZ, Positive solutions of a semilinear elliptic equation on \mathbb{R}^N with indefinite nonlinearity, *Advances in Differential Equations*, vol. 1 (1996), no. 5, 773-791

5. Antonio AMBROSETTI, Marino BADIALE, Silvia CINGOLANI, Semiclassical states of nonlinear Schrödinger equations with bounded potentials, *Atti della Accademia Nazionale dei Lincei. Classe di Scienze Fisiche, Matematiche e Naturali, Rendiconti Lincei Serie IX Matematica e Applicazioni*, vol. 7 (1996), no.3, 155-160
6. Antonio AMBROSETTI, Marino BADIALE, Silvia CINGOLANI, Semiclassical states of nonlinear Schrödinger equations, *Archive of Rational Mechanics and Analysis*, vol. 140 (1997), no. 3, 285-300
7. Silvia CINGOLANI, Monica LAZZO, Multiple semiclassical standing waves for a class of nonlinear Schrödinger equations, *Topological Methods in Nonlinear Analysis*, vol. 10 (1997), no. 1, 1-13
8. Silvia CINGOLANI, Margherita NOLASCO, Multi-peak periodic semiclassical states for a class of nonlinear Schrödinger equations, *Proceedings of the Royal Society of Edinburgh Section A*, vol. 128 (1998), no. 6, 1249-1260
9. Silvia CINGOLANI, Monica LAZZO, Juan Francisco PADIAL, Multiple radial solutions for a class of elliptic systems with singular nonlinearities, *Annali di Matematica Pura ed Applicata. Series IV*, vol. 175 (1998), 365-373
10. Silvia CINGOLANI, On a perturbed semilinear elliptic equation in \mathbb{R}^N , *Communications in Applied Analysis*, vol. 3 (1999), no. 1, 49-57
11. Silvia CINGOLANI, Monica LAZZO, Multiple periodic solutions for autonomous conservative systems, *Topological Methods in Nonlinear Analysis*, vol. 14 (1999), no. 1, 159-167
12. David ARCOYA, Silvia CINGOLANI, José Luis GÁMEZ, Asymmetric modes in symmetric nonlinear optical waveguides, *SIAM Journal on Mathematical Analysis*, vol. 30 (1999), no. 6, 1391-1400
13. Silvia CINGOLANI, Monica LAZZO, Multiple positive solutions to nonlinear Schrödinger equations with competing potential functions, *Journal of Differential Equations*, vol. 160 (2000), no. 1, 118-138
14. Silvia CINGOLANI, José Luis GÁMEZ, Asymmetric positive solutions for a symmetric nonlinear problem in \mathbb{R}^N , *Calculus of Variations and Partial Differential Equations*, vol. 11 (2000), no. 1, 97-117
15. Silvia CINGOLANI, Monica LAZZO, Discontinuous elliptic problems in \mathbb{R}^N without monotonicity assumptions, *Commentationes Mathematicae Universitatis Carolinae*, vol. 42 (2001), no. 3, 451-458
16. Silvia CINGOLANI, Variational and topological methods in the study of nonlinear Schrödinger equations with stationary states, *Bollettino della Unione Matematica Italiana Serie VIII, Sezione B, Articoli di Ricerca*, vol. 4, (2001), no. 2, 319-343
17. Silvia CINGOLANI, Asymmetric solutions for symmetric problems arising in Nonlinear Optics, *Nonlinear Analysis: Theory, Methods and Applications*, vol. 47 (2001), no. 9, 6053-6063
18. Silvia CINGOLANI, Giuseppina VANNELLA, Some results on critical groups for a class of functionals defined on Sobolev Banach spaces, *Atti della Accademia Nazionale dei Lincei. Classe di Scienze Fisiche, Matematiche e Naturali, Rendiconti Lincei Serie IX Matematica e Applicazioni*, vol. 12 (2001), 199-203
19. Silvia CINGOLANI, Positive solutions to perturbed elliptic problems in \mathbb{R}^N involving critical Sobolev exponent, *Nonlinear Analysis: Theory, Methods and Applications*, vol. 48 (2002), no. 8, 1165-1178

20. Silvia CINGOLANI, Simone SECCHI, Semiclassical limit for nonlinear Schrödinger equations with electromagnetic fields, *Journal of Mathematical Analysis and Applications*, vol. 275 (2002), no. 1, 108-130
21. Silvia CINGOLANI, Giuseppina VANNELLA, Critical groups computations on a class of Sobolev Banach spaces via Morse index, *Annales de l'Institut Henri Poincaré. Analyse Non Linéaire*, vol. 20 (2003), no. 2, 271-292
22. Silvia CINGOLANI, Semiclassical stationary states of nonlinear Schrödinger equations with an external magnetic field, *Journal of Differential Equations*, vol. 188 (2003), no. 1, 52-79
23. Jose CARMONA, Silvia CINGOLANI, Giuseppina VANNELLA, Estimates for critical groups of solutions to quasilinear elliptic systems, *Electronic Journal of Differential Equations* (2003), No. 78, 13 pp.
24. Silvia CINGOLANI, Giuseppina VANNELLA, Morse index computations for a class of functionals defined in Banach spaces, *Nonlinear equations: methods, models and applications (Bergamo 2001)*, pp. 107-116 in "Progress in Nonlinear Differential Equations and Their Applications", vol. 54, Birkhäuser, Basel 2003
25. Silvia CINGOLANI, Angela PISTOIA, Nonexistence of single blow-up solutions for a nonlinear Schrödinger equation involving critical Sobolev exponent, *Zeitschrift für Angewandte Mathematik und Physik (ZAMP)*, vol. 55 (2004), no. 2, 201-215
26. Silvia CINGOLANI, On Morse theory for a class of quasilinear elliptic equations involving p-Laplace operator, EQUADIFF 2003, 534-539, World Scientific Publishing, Hackensack, NJ, 2005
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