Curriculum Vitae

Personal information

Surname(s) / First name(s)	**Felli Veronica**
Address(es)	Department of Materials Science, University of Milano – Bicocca, Via Cozzi 55, 20125, Milano
Telephone(s)	+39 (0)2 6448 5741
Fax(es)	+39 (0)2 6448 5705
Email(s)	veronica.felli@unimib.it
Nationality(-ies)	Italian
Date of birth	Luino (VA), April 10 1976

Education

Ph.D	Ph.D degree on "Functional Analysis and Applications" at Scuola Internazionale Superiore di Studi Avanzati (S.I.S.S.A.), Trieste, Italy. Title of the thesis: "Elliptic Variational Problems with Critical Exponent". Supervisor: Prof. Antonio Ambrosetti.
Laurea	University Degree (Laurea) in Mathematics at the University of Pavia, 07/01/1999. Title of the thesis: "Convergenza al modello classico di un problema di campo di fase conservativo con memoria", Supervisor Prof. Gianni Gilardi.

Academic Positions

Data	October 2019 -
Position	Full Professor in Mathematical Analysis
Institution	University of Milano – Bicocca
Data	March 2012 - September 2019
Position	Associate Professor in Mathematical Analysis
Institution	University of Milano – Bicocca
Date	April 2006 - February 2012
Position	researcher in Mathematical Analysis at University of Milano – Bicocca
Institution	University of Milano – Bicocca, Facoltà di Scienze Statistiche
Date	December 2003 - March 2006
Position	Post-doc fellow
Institution	Dipartimento di Matematica e Applicazioni, University of Milano – Bicocca
Title of the project	"Existence and uniqueness problems for differential equations. Qualitative properties". Supervisor: Prof. S. Terracini.

Research seminars and conferences

Invited talks

Critical elliptic equations of Caffarelli-Kohn-Nirenberg type, "Workshop and Conference on Recent Trends in Nonlinear Variational Problems", International Center for Theoretical Physics (I.C.T.P.), Trieste, May 9 2003.

On Schrödinger operators with multipolar inverse-square potentials, "Joint Meeting of UMI-SIMAI / SMAI-SMF *Mathematics and its Applications*", special session "Geometric Analysis" Torino, July 4 2006.

On Schrödinger equations with inverse-square singular potentials, " Recent Trends in Nonlinear Partial Differential Equations: a celebration of the 60th birthday of Prof. Ireneo Peral", Salamanca (Spain), February 15 2007.

On Schrödinger equations with multisingular inverse-square anisotropic potentials, "7th AIMS International Conference on Dynamical Systems, Differential equations and Applications", special session "Localized Behavior of Elliptic Equations and Systems", University of Texas at Arlington, 20 maggio 2008.

Coexistence and segregation for strongly competing species in special domains, "Primo incontro delle donne del laplaciano", Cortona, June 12 2008.

On the behavior of solutions to Schrödinger equations near an isolated singularity of the electromagnetic potential, " Trent'anni di Analisi Matematica alla SISSA: il contributo degli ex allievi", S.I.S.S.A., Trieste, November 27 2008.

On the behavior of solutions to Schrödinger equations near an isolated singularity of the electromagnetic potential, "6th European Conference on Elliptic and Parabolic Problems", mini-symposium "Concentration phenomena in nonlinear elliptic problems", Gaeta, 25 maggio 2009.

Monotonicity methods for asymptotics of solutions to Schrödinger equations near isolated singularities of the electromagnetic potential, "Lack of Compactness in Nonlinear Problems: Prospects and Applications", CIRM, Luminy, October 5 2009.

Local asymptotics at singularities for many-particle Schrödinger operators, " Differential and topological problems in modern theoretical physics", SISSA, Trieste, April 28 2010.

On the behavior at collisions of solutions to Schrödinger equations with many-particle and cylindrical potentials, "Giornata Nonlineare", Torino, February 11 2011.

Monotonicity methods for asymptotics of solutions to elliptic and parabolic equations near singularities of the potential, WIMCS-LMS Workshop on "Calculus of Variations and Nonlinear PDE", Swansea University, May 20 2011.

Singularity of eigenfunctions at the junction of shrinking tubes, "9th AIMS International Conference on Dynamical Systems, Differential equations and Applications", special session "Self-organized Behavior of Nonlinear Elliptic Equations and Pattern Formation of Strongly Interacting Systems", Orlando, 3 luglio 2012.

Asymptotic behavior of eigenfunctions at the junction of shrinking tubes, "Singular limit problems in nonlinear PDEs", CIRM, Luminy, November 29 2012.

Unique continuation property and local asymptotics of solutions to fractional elliptic equations, "Giornate Non Lineari", Torino, July 17 2013.

On the sharp effect of attaching a thin handle on the spectral rate of convergence, "International Workshop on Variational Problems and PDE's", São Paulo, September 2 2013.

On the sharp effect of attaching a thin handle on the spectral rate of convergence, "8th European Conference on Elliptic and Parabolic Problems", mini-symposium "Recent trends in nonlinear analysis and its applications", Gaeta, May 26 2014.

Invited talks	*Unique continuation properties and essential self-adjointness for relativistic Schrödinger operators with singular potentials*, "First Joint International Meeting RSME-SCM-SEMA-SIMAI-UMI", special session "Nonlinear Stationary and Evolution Partial Differential Equations and Their Applications", Bilbao, July 3 2014.
	On the sharp effect of attaching a thin handle on the spectral rate of convergence, "10th AIMS International Conference on Dynamical Systems, Differential equations and Applications", special session "Recent Trends in Nonlinear Schrödinger Systems" Madrid, July 9 2014.
	Unique continuation properties and local asymptotics of solutions to fractional elliptic equations, "10th AIMS International Conference on Dynamical Systems, Differential equations and Applications", special session "Nonlocal Fractional Problems and Related Topics", Madrid, July 9 2014.
	Unique continuation properties and essential self-adjointness for relativistic Schrödinger operators with singular potentials, "Besançon colloquium on dispersive PDE's and related problems", Besançon, January 25 2015.
	Sharp asymptotic estimates for eigenvalues of Aharonov-Bohm operators with varying poles, "Workshop in Nonlinear PDEs", session "Schrödinger equations", Bruxelles, September 10 2015.
	Sharp interior and boundary behavior of eigenvalues for Aharonov-Bohm operators with moving poles, "Women and Research in Mathematics: the contribution of SISSA", Sissa, Trieste, September 9 2016.
	Spectral stability under removal of small capacity sets and applications to Aharonov-Bohm operators, "Roma Caput PDE", Roma, January 24 2017.
	Unique continuation properties and essential self-adjointness for relativistic Schrödinger operators with singular potentials, in mini-symposium "Nonlocal fractional problems and related topics", "International Conference on Elliptic and Parabolic Problems", Gaeta, May 23 2017.
	On spectral stability of Aharonov-Bohm operators with moving poles, "Nonlinear Days in Turin", Politecnico di Torino, September 22 2017.
	On Aharonov-Bohm operators with moving poles, "Young PDE's @ Roma", Roma, February 21 2018.
	On Aharonov-Bohm operators with two colliding poles, "Eigenvalues and inequalities", Institut Mittag-Leffler, Djursholm, May 18 2018.
	Unique continuation and classification of blow-up profiles for fractional elliptic equations, "Nonlocal interactions in Partial Differential Equations and Geometry", Institut Mittag-Leffler, Djursholm, May 24 2018.
	On spectral stability of Aharonov-Bohm operators with moving poles, "Joint meeting of UMI-SIMAI-PTM", special session "Variational problems and nonlinear PDEs", Wrocław, September 19 2018.
	On eigenvalues of the fractional Laplacian under removal of small capacity sets, "An Afternoon in Nonlinear Differential Equations", Politecnico di Milano, February 18 2019.
	Unique continuation principles for higher order fractional equations, mini-symposium "Variational Problems and Nonlinear PDEs", "International Conference on Elliptic and Parabolic Problems", Gaeta, May 21 2019.
	Unique continuation principles for higher order fractional equations, "Partial Differential Equations in Analysis and Mathematical Physics", special session SS1 "Local and Non-Local elliptic equations and Applications", Santa Margherita di Pula, May 31 2019.
	Unique continuation principles for higher order fractional equations, "ICIAM 2019", special session "Recent developments in the analysis of nonlocal operators", Valencia, July 17 2019.
	Eigenvalue estimates for some singularly perturbed problems, "ICIAM 2019", special session "PDEs on mathematical Physics and Biology", Valencia, July 18 2019.

Invited talks	*On eigenvalues of the fractional Laplacian under removal of small capacity sets*, "Workshop on Spectral Geometry and Analysis of Differential Operators", Padova, September 9 2019.
	On spectral stability of Aharonov-Bohm operators with moving poles, "Winter workshop on elliptic and parabolic equations", Madrid, December 16 2019.
Short communications	*Compactness and existence results for degenerate critical elliptic equations*, "Nonlinear Partial Differential Equations and connected Geometrical Problems", Grado, September 4 2003.
	Risultati di compattezza ed esistenza per equazioni ellittiche degeneri con esponente critico, *XVII Congresso dell'UMI*, Milano, September 10 2003.
	Elliptic equations with multi-polar inverse-square potentials and critical nonlinearity, "Spring School on variational problems in nonlinear analysis", S.I.S.S.A., Trieste, May 10 2005.
	Operatori ed equazioni di Schrödinger con potenziali multi-polari di tipo Hardy, Convegno Nazionale "Metodi e Problemi Matematici in Meccanica Quantistica", Modena, October 5 2006.
	On Schrödinger operators and equations with inverse-square anisotropic potentials, "Existence and stability properties of solitary and standing waves in nonlinear differential equations and related spectral problems", Pisa, September 25 2007.
	On Schrödinger equations with multisingular inverse-square anisotropic potentials, "Spring School in Nonlinear Partial Differential Equation", Université catholique de Louvain, May 27 2008.
	Monotonicity methods for asymptotics of solutions to elliptic and parabolic equations near singularities of the potential, "Variational and perturbative methods for nonlinear differential equations", Venice, January 21 2011.
	Metodi di monotonia per la classificazione dell'andamento asintotico locale di soluzioni di equazioni ellittiche e paraboliche, XIX Congresso dell'Unione Matematica Italiana, Bologna, September 16 2011.
	Unique continuation properties and essential self-adjointness for relativistic Schrödinger operators with singular potentials, "School on Nonlinear Elliptic Problems", Milano – Bicocca, January 21 2014.
	On eigenvalues of Aharonov-Bohm operators with varying poles: sharp boundary asymptotic, "Convegno GNAMPA 2016", Montecatini Terme, June 23 2016.
	On spectral stability of Aharonov-Bohm operators with moving poles, "Variational methods, with applications to problems in mathematical physics and geometry", Venezia, November 30 2019.

Research seminars	*Critical Elliptic Equations of Caffarelli-Kohn-Nirenberg type*, Mathematisches Institut, University of Bonn, May 2 2002.
	Existence of H-bubbles, Scuola Internazionale Superiore di Studi Avanzati di Trieste (S.I.S.S.A.), Trieste, February 5 2003.
	Equazioni ellittiche degeneri con esponente critico, Dipartimento di Metodi e Modelli Matematici, University of "La Sapienza", June 11 2003.
	Risultati di compattezza ed esistenza per equazioni ellittiche degeneri con esponente critico legate alla disuguaglianza di Caffarelli-Kohn-Nirenberg, I.M.A.T.I., Pavia, December 2 2003.
	Equazioni ellittiche degeneri con potenziale di Hardy e nonlinearità critica, Dipartimento di Matematica e Applicazioni, University of Milano – Bicocca, January 8 2004.
	On some equations arising in Nonlinear Optics, Scuola Internazionale Superiore di Studi Avanzati di Trieste (S.I.S.S.A.), Trieste, 16 novembre 2004.
	Su un'equazione ellittica con due nonlinearità di tipo esponenziale, Department of Mathematics, University of Milano, December 2 2004.
	Operatori ed equazioni di Schrödinger con potenziali multi-polari di tipo Hardy, Department of Mathematics, University of Milano – Bicocca, February 21 2006.
	On Schrödinger operators with multipolar inverse-square potentials, Department of Mathematics, University Autónoma of Madrid, March 10 2006.
	On the behavior of solutions to Schrödinger equations near an isolated singularity of the electromagnetic potential, "3 City Seminar", Mathematisches Institut, University of Tuebingen, June 23 2009.
	Equazioni ellittiche e paraboliche con potenziali singolari, "Seminario del Dottorato di Ricerca in Matematica Pura e Applicata", University of Milano – Bicocca, February 17 2011.
	Metodi di monotonia per la classificazione dell'andamento asintotico locale di soluzioni di equazioni ellittiche e paraboliche, University of Pisa, June 6 2011.
	Monotonicity methods for asymptotics of solutions to elliptic and parabolic equations near singularities of the potential, ICMAT - Instituto de Ciencias Matemáticas, Madrid, June 29 2011.
	Singularity of eigenfunctions at the junction of shrinking tubes, ICMAT - Instituto de Ciencias Matemáticas, Madrid, March 6 2012.
	Metodi di monotonia per equazioni ellittiche semilineari in domini angolosi, Department of Mathematics, University of Roma La Sapienza, December 20 2012.
	Asymptotic behavior of eigenvalues and eigenfunctions in dumbbell domains with shrinking tubes, Department of Mathematics, University of Milano, April 9 2013.
	Sharp asymptotic estimates for eigenvalues of Aharonov-Bohm operators with varying poles, Department of Mathematics, University Autónoma of Madrid, May 28 2015.
	Spectral stability under removal of small capacity sets and applications to Aharonov-Bohm operators, PDE DAY IN UNIMELB, University of Melbourne, February 20 2017.
	Spectral stability under removal of small capacity sets and applications to Aharonov-Bohm operators, Mathematisches Institut, University of Giessen, July 13 2017.
	On Aharonov-Bohm operators with moving poles, Dipartimento di Matematica, Università di Pisa, November 7 2017.
	On eigenvalues of the fractional Laplacian under removal of small capacity sets, Spring PDEs Day, Universidad Autónoma de Madrid, June 6 2019.
Online seminars	*Eigenvalues of the Laplacian with moving mixed boundary conditions*, "PDE's: Italia vs España", online seminar, November 19 2020.

Research visits abroad

Date	February 3 2002 – March 6 2002
Istitution	Département de Mathématiques, Università di Cergy-Pontoise (France)
Date	April 29 – May 5 2002
Istitution	Mathematisches Institut, Rheinische Friedrich-Wilhelms-Universität, Bonn (Germany)
Date	17 – 30 November 2002
Istitution	Departamento de Matemáticas, Universidad Autónoma, Madrid (Spain)
Date	15 – 18 October 2003
Istitution	Departamento de Matemáticas, Universidad Autónoma, Madrid (Spain)
Date	6 – 17 March 2006
Istitution	Departamento de Matemáticas, Universidad Autónoma, Madrid (Spain)
Date	22 June – 3 July 2009
Istitution	Mathematisches Institut, University of Tuebingen, Tuebingen (Germany)
Date	June 27 – July 1 2011
Istitution	ICMAT - Instituto de Ciencias Matemáticas, Madrid (Spain)
Date	5 – 9 March 2012
Istitution	ICMAT - Instituto de Ciencias Matemáticas, Madrid (Spain)
Date	25 – 29 May 2015
Istituto	Departamento de Matemáticas, Universidad Autónoma di Madrid, Madrid (Spain)
Date	17 – 22 April 2016
Istituto	Departamento de Matemáticas, Universidad Autónoma di Madrid, Madrid (Spain)
Date	16 – 26 February 2017
Istituto	School of Mathematics and Statistics, Faculty of Science, University of Melbourne, Melbourne (Australia)
Date	27 – 31 March 2017
Istituto	Departamento de Matemáticas, Universidad Autónoma di Madrid, Madrid (Spain)
Date	12 luglio – 14 July 2017
Istituto	Mathematisches Institut, University of Giessen, Giessen (Germany)
Date	3 giugno – 7 June 2019
Istituto	Departamento de Matemáticas, Universidad Autónoma di Madrid, Madrid (Spagna)

Teaching

Master theses supervised	2012: Alice Ambrosio, "Singular Harmonic Maps in General Relativity", University of Milano – Bicocca (supervision jointly with S. Terracini).
	2015: Ilenia Lovato, "Un modello matematico del comportamento criminale: esistenza e unicità della soluzione e risultati di biforcazione globale", University of Milano – Bicocca.
	2016: Cristiana De Filippis, "Asymptotic Behaviour of Solutions to Semilinear Schrödinger Equations near an isolated singularity of the Electromagnetic Potential", University of Milano – Bicocca.
	2018: Michele Gorini, "On eigenvalues of Aharonov-Bohm operators", University of Milano – Bicocca.
Bachelor thesis supervised	2013: Ilenia Lovato, "Analisi di un'equazione di reazione-diffusione per la dinamica di popolazioni soggette a cambiamenti climatici", University of Milano – Bicocca.

	2017: Stefano Ciaci, "Teoria delle biforcazioni", University of Milano – Bicocca.
	2018: Daniela Longo, "Principi del massimo per equazioni differenziali ordinarie e applicazioni", University of Milano – Bicocca.
Ph.D. Courses	2016 and 2018: "Variational methods for semilinear elliptic equations", PhD school in Mathematics, University of Pavia, Milano – Bicocca and INdAM.
Undergraduate courses	2006/2007 and 2007/2008: "Matematica IIIs", Laurea Specialistica in Biostatistica e Statistica Sperimentale, University of Milano – Bicocca.
	2006/2007: "Istituzioni di Matematiche", Laurea Triennale in Scienze Biologiche, University of Milano – Bicocca.
	2008/2009, 2009/2010, 2011/2012, and 2012/2013: "Precorso di Matematica", Facoltà di Scienze Matematiche Fisiche e Naturali, University of Milano – Bicocca.
	2008/2009, 2009/2010, 2010/2011, and 2011/2012: "Matematica Applicata M - modulo Modelli Matematici", Laurea Magistrale in Biostatistica e Statistica Sperimentale, University of Milano – Bicocca.
	2010/2011 and 2011/2012: "Matematica Applicata M - modulo Calcolo delle Probabilità", Laurea Magistrale in Biostatistica e Statistica Sperimentale, University of Milano – Bicocca.
	From 2012/2013 to 2019/2020: "Matematica III", Laurea in Scienza dei Materiali, University of Milano – Bicocca.
	2012/2013: corso di "Matematica Generale M", Laurea Magistrale in Biostatistica e Statistica Sperimentale, University of Milano – Bicocca.
	2012/2013: "Algebra Lineare", Laurea in Scienze Statistiche ed Economiche and Laurea in Statistica e Gestione delle Informazioni, University of Milano – Bicocca..
	2012/2013: "Analisi Non Lineare", Laurea Magistrale in Matematica, University of Milano – Bicocca.
	2012/2013: "Didattica della Matematica 1 con Laboratorio: Pratica dell'insegnamento della Matematica", Tirocinio Formativo Attivo (TFA), University of Milano – Bicocca.
	2013/2014: "Precorso di Matematica", Scuola di Scienze, University of Milano – Bicocca.
	2013/2014 and 2014/2015: "Analisi Matematica II", Laurea in Matematica e Fisica, University of Milano – Bicocca.
	2015/2016 and 2016/2017: "Analisi Matematica II", Laurea in Matematica, University of Milano – Bicocca.
	2015/2016 and 2016/2017: "Analisi Reale ed Equazioni Differenziali", Laurea Magistrale in Matematica, University of Milano – Bicocca.
	2017/2018, 2018/2019, 2019/2020, and 2020/2021: "Analisi Matematica I", Laurea in Matematica e Fisica, University of Milano – Bicocca.
	2017/2018: "Istituzioni di Matematica II", Laurea in Ottica e Optometria, University of Milano – Bicocca.
	2018/2019, 2019/2020, and 2020/2021: "Analisi Superiore", Laurea magistrale in Matematica, University of Milano – Bicocca.

Tutorials for undergraduate courses	2003/2004 and 2004/2005: "Matematica 2", Laurea in Scienza dei Materiali, University of Milano – Bicocca.
	2003/2004 and 2004/2005: "Equazioni Differenziali Ordinarie", Laurea in Ingegneria Informatica, Politecnico of Milano.
	2004/2005: "Matematica 1", Laurea in Scienza dei Materiali, University of Milano – Bicocca.
	2004/2005: "Istituzioni di Matematica", Laurea in Scienze e Tecnologie Chimiche, University of Milano – Bicocca.
	2005/2006: "Analisi Funzionale", Laurea Specialistica in Matematica, University of Milano – Bicocca.
	2006/2007: "Algebra Lineare", Facoltà di Scienze Statistiche, University of Milano – Bicocca.
	2007/2008: "Matematica I", Facoltà di Scienze Statistiche, University of Milano – Bicocca.
	2007/2008: "Analisi funzionale applicata ai materiali", Laurea Specialistica in Scienza dei Materiali, University of Milano – Bicocca.
	2008/2009 and 2009/2010: "Analisi Matematica I", Facoltà di Scienze Statistiche, University of Milano – Bicocca.
	2008/2009 and 2009/2010: "Analisi funzionale", Laurea Magistrale in Scienza dei Materiali, University of Milano – Bicocca.
	2008/2009, 2009/2010, and 2010/2011: "Complementi di Analisi Funzionale Applicata", Laurea Magistrale in Scienza dei Materiali, University of Milano – Bicocca.
	2011/2012: "Analisi Nonlineare", Laurea Magistrale in Matematica, University of Milano – Bicocca.
	2018/2019: "Calcolo delle Variazioni", Laurea Magistrale in Matematica, University of Milano – Bicocca.

Referee Activity

Referee for the journals: *Acta Mathematica Scientia, Advanced Nonlinear Studies, Advances in Mathematical Sciences and Applications, Advances in Mathematics, Annali di Matematica Pura e Applicata, Applied Mathematical Letters, Calculus and Variations and Partial Differential Equations, Computers and Mathematics with Applications, Discrete & Continuous Dynamical Systems - Series A, Inventiones mathematicae, Israel Journal of Mathematics, Journal of Mathematical Analysis and Applications, Journal of Differential Equations, Journal of Functional Analysis, London Mathematical Society, Mathematische Annalen, Mathematische Nachrichten, Nonlinear Analysis, NoDEA - Nonlinear Differential Equations and Applications, Pacific Journal of Mathematics, Georgian Mathematical Journal, Potential Analysis, Royal Society of Edinburgh Proceedings A.*

Reviewer for *Mathematical Reviews* since 2002.

In 2008, referee for "2008 Initiation into Research Funding Competition" of "National Fund for Scientific and Technological Development (FONDECYT)", Chile.

In 2009, referee for "2010 Regular Research Funding Competition" of "National Fund for Scientific and Technological Development (FONDECYT)", Chile.

In 2014, referee for the funding competition *Sonata*, "National Science Centre" (Narodowe Centrum Nauki - NCN), Poland.

In 2016, referee for the funding competition *POLONEZ*, "National Science Centre" (Narodowe Centrum Nauki - NCN), Poland.

In 2018, referee for the funding competition *Sonata BIS*, "National Science Centre" (Narodowe Centrum Nauki - NCN), Poland.

In 2020, referee for the funding competition *OPUS-19*, "National Science Centre" (Narodowe Centrum Nauki - NCN), Poland.

Organization of conferences

"The First Bicocca Junior Workshop on Nonlinear PDEs and Variational Methods", Dipartimento di Matematica e Applicazioni, University of Milano – Bicocca, June 18–19 2009.

"IperMiB2013: 15th Italian Meeting on Hyperbolic Equations", University of Milano – Bicocca, September 11-13 2013.

Winter school/workshop "Spectral theory and shape optimization problems for elliptic PDEs", University of Milano – Bicocca, February 9-13 2015.

Member of the scientific committee of the conference "Bruxelles-Torino talks in PDE's", University of Torino, May 2-5 2016.

Editorial activity

Guest editor of the special issue "Qualitative Analysis and Spectral Theory for Partial Differential Equations", for the journal "Mathematics in Engeneering".

Member of the scientific committee for the proceedings of the conference "Dalle gender alle diversity quotas" (2020, University of di Milano - Bicocca).

Academic Services

2013–2018: member of the committee of the PhD school in Pure and Applied Mathematics, University of Milano – Bicocca.

From 2015: member of the committee of the PhD school in Mathematics, University of Pavia, Milano – Bicocca and INdAM.

2015-2016: member of the *Group of Experts of Evaluation - GEV 1 (Mathematics and Computer Sciences)*, Italian National Agency for the Evaluation of Universities and Research Institutes (ANVUR).

From June 2018 to May 2021: member of the Scientific Committee of the Italian Mathematical Union *(Unione Matematica Italiana)*.

From 2020, country coordinator for Italy of "EWM: European Women in Mathematics".

Research Activity

Research interests

Existence, multiplicity, and qualitative properties of solutions to semilinear elliptic equations and systems arising from quantum physics, Riemannian geometry, and population dynamics. Unique continuation principles for elliptic and parabolic equations. Time decay estimates for Schrödinger equations with singular potentials. Spectral analysis in varying domains (asymptotics of eigenvalues and eigenfunctions).

Supervision of Ph.D. students

Roberto Ognibene, PhD school in Mathematics, University of Pavia, Milano – Bicocca and INdAM, from November 2017.

Alessandra De Luca, PhD school in Mathematics, University of Pavia, Milano – Bicocca and INdAM, from December 2018.

Giovanni Siclari, PhD school in Mathematics, University of Pavia, Milano – Bicocca and INdAM, from November 2020.

Scientific responsibilities

Coordinator of the 2010 GNAMPA–research project "*Equazioni differenziali con potenziali singolari: il problema degli N-corpi classico e quantistico*", funded by I.N.D.A.M. (Istituto nazionale di Alta Matematica).

Coordinator of the 2012 GNAMPA–research project "*Equazioni alle derivate parziali con singolarità: esistenza ed analisi qualitativa delle soluzion*", funded by I.N.D.A.M. (Istituto nazionale di Alta Matematica).

From 2012 to 2015 coordinator of the research project "*Calcolo delle Variazioni ed Equazioni Differenziali*", funded by University of Milano – Bicocca.

2012-2014: supervisor for the post doc research activity of Dr. L. Abatangelo, research project: "*Calcolo delle Variazioni, Metodi Variazionali ed Equazioni differenziali ordinarie e alle derivate parziali*".

From 2015 to 2019 supervisor for the post doc research activity of Dr. L. Abatangelo, research project: "*Spectral theory per elliptic PDEs*".

Coordinator of the 2015 GNAMPA–research project "*Schrödinger operators with singular electromagnetic potentials: spectral stability and decay estimates*", funded by I.N.D.A.M. (Istituto nazionale di Alta Matematica).

From 2017 to 2020, coordinator of the local unit at the University of Milano – Bicocca of the MIUR 2015 PRIN-project "*Variational methods, with applications to problems in mathematical physics and geometry*" (national coordinator: Prof. Andrea Malchiodi, Scuola Normale Superiore di PISA).

Scientific responsibilities	From 2018 to 2019 coordinator of the research project "*Equazioni alle derivate parziali di tipo ellittico: stime asintotiche e stabilità spettrale per problemi singolarmente perturbati*", funded by University of Milano – Bicocca.

From 2019 supervisor for the post doc research activity of Dr. S. Vita, research project: "*Anomalous diffusion in elliptic PDEs*". |
| Participation in research projects | From 2000 to 2008 participation in the MIUR project "*Metodi Variazionali ed Equazioni Differenziali Nonlineari*", principal investigator Prof. A. Ambrosetti.

Since 2000, member of Gruppo Nazionale per l'Analisi Matematica, la Probabilità e loro Applicazioni (GNAMPA), Istituto Nazionale di Alta Matematica (INDAM).

Participation in the 2007 GNAMPA–research project "*Esistenza e stabilità di onde solitarie per equazioni differenziali nonlineari*", principal investigator Prof. S. Terracini.

Participation in the 2008 GNAMPA–research project "*Esistenza e stabilità di onde solitarie per equazioni differenziali nonlineari*", principal investigator Dr. N. Visciglia.

Participation in the 2009 GNAMPA–research project "*Esistenza e stabilità di onde solitarie per equazioni differenziali nonlineari*", principal investigator Dr. S. Cuccagna.

From 2011 to 2013 participation to the MIUR PRIN-project "*Critical Point Theory and Perturbative Methods for Nonlinear Differential Equations*", principal investigator Prof. S. Terracini.

From 2013 to 2017 participation in the MIUR PRIN-project "*Variational and perturbative aspects of nonlinear differential problems*", principal investigator Prof. S. Terracini.

From 2013 participation in the ERC Advanced Grants 2013 project "*Complex Patterns for Strongly Interacting Dynamical Systems*", principal investigator Prof. S. Terracini.

Participation in the 2014 GNAMPA–research project "*Stabilità spettrale e analisi asintotica per problemi singolarmente perturbati*", principal investigator Dr. L. Abatangelo.

Participation in the 2017 GNAMPA–research project "*Stabilità e analisi spettrale per problemi alle derivate parziali*", principal investigator Dr. M. Strani.

Participation in the 2018 GNAMPA–research project "*Formula di monotonia e applicazioni: problemi frazionari e stabilità spettrale rispetto a perturbazioni del dominio*", principal investigator Prof. Alberto Ferrero.

Participation (as Italian Partner) in the research project PICS 2018 "*Valeurs propres d'un opérateur Aharonov-Bohm avec pôle variable*", principal investigator Dr. B. Noris - Université de Picardie Jules Verne, Amiens. |

Publications

Articoli su rivista	**1.** Veronica Felli.
Asymptotic justification of the conserved phase-field model with memory.
Z. Anal. Anwendungen, 19(4):953–976, 2000.

2. Veronica Felli.
Existence of conformal metrics on $\mathbb{S}^n$ with prescribed fourth-order invariant.
Adv. Differential Equations, 7(1):47–76, 2002.

3. Veronica Felli and Matthias Schneider.
Perturbation results of critical elliptic equations of Caffarelli-Kohn-Nirenberg type.
J. Differential Equations, 191(1):121–142, 2003.

4. Veronica Felli and Mohameden Ould Ahmedou.
Compactness results in conformal deformations of Riemannian metrics on manifolds with boundaries.
Math. Z., 244(1):175–210, 2003. |

5. Veronica Felli and Matthias Schneider.
A note on regularity of solutions to degenerate elliptic equations of Caffarelli-Kohn-Nirenberg type.
Adv. Nonlinear Stud., 3(4):431–443, 2003.

6. Boumediene Abdellaoui, Veronica Felli, and Ireneo Peral.
Existence and multiplicity for perturbations of an equation involving a Hardy inequality and the critical Sobolev exponent in the whole of $\mathbb{R}^N$.
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