

Gianpaolo Piscitelli

Born in Maddaloni (CE), 29/03/1989
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POSITIONS

Dic 17 - Dic 18 **Research post-doctoral** position at Universidade de Lisboa, Portugal, within the scope of the project **Extremal spectral quantities and related problems**.

EDUCATION

- Mar 14 - Jul 17 **Ph.D. in Mathematical and Computer Sciences** (MIUR grant), Università degli Studi di Napoli Federico II, Via Cintia, 80126 Napoli.
- Title of the thesis: **Optimization problems for nonlinear eigenvalues**, advisor: **prof. Vincenzo Ferone**, date of defense: 24/10/2017.
 - Courses: *Continuum Mechanics*, Antonio Romano; *Advances in Algebra*, Francesco De Giovanni; *Lectures on Advances in Analysis*, Daniel Spector; *The Mathematics of Topological Insulators in Naples*, Gian Michele Graf & Gianluca Panati; *Classical and Porous medium diffusion models*, Juan Louis Vázquez Suárez; *Differential geometry - a noncommutative approach*, Walter D. van Suijlekom; *Game Theory and Analysis of Competitive Dynamics for Industrial Systems*, Lina Mallozzi, *Strichartz estimates and applications to dispersive PDEs*, Nabil Boussaïd, *The Main Curvature Flow*, Carlo Maria Mantegazza, *The De Giorgi-Nash-Moser theory*, Chiara Leone.
- Mar 15 - Jul 15 **National Italian license as certified teacher in high schools in Mathematics, Physics and Applied Mathematics**, Università degli Studi di Napoli Federico II, Via Cintia, 80126 Napoli.
- Title of the thesis: **Learning Activities on quantum mechanics**, advisor: **prof. Italo Testa**, graduation grade: 100/100, date of defense: 24/07/2015.
 - Didactics and Special Pedagogy, Learning Methods Pedagogy, Planning and Evaluation of educational actions, Didactics of Mathematics, Didactics of Physics, Informatics didactics Technologies.
- Nov 10 – Jul 13 **Master's degree in Mathematics**, Università degli Studi di Napoli Federico II, Via Cintia, 80126 Napoli.
- Title of the thesis: **On the regularity of solution of second order elliptic equations**, advisor **prof. Anna Verde**, graduation grade: 110/110 cum laude, date of defense 24/07/2013.
 - Foundation and advanced techniques in Mathematical Analysis, Calculus of Variations, Partial Differential Equations, Mathematical Physics, Numerical Analysis, Financial Mathematics, Geometry, Physics
- Nov 07 – Nov 10 **Bachelor's degree in Mathematics** (ADISU grant), Università degli Studi di Napoli Federico II, Via Cintia, 80126 Napoli.
- Title of the thesis: **On heat equation: existence, uniqueness and regularity theorems**, advisor: **prof. Carlo Nitsch**, graduation grade: 110/110 cum laude, date of defense: 25/11/2010.
 - Fundamentals of Mathematical Analysis, Mathematical Physics, Numerical Analysis, Probability and Statistics, Physics, Geometry, Algebra, Mathematical Logic

PRIZE AND AWARD

I authorize the treatment of my data according to the local Law

Dic 17 Winner of a **Research post-doctoral** position at Università degli Studi di Napoli Federico II, Italy, within the scope of project SANGUINE CUP.

VISITING RESEARCH PERIOD

Mar-Apr 17 University of Cologne (Germany), invited by Prof. B. Kawohl. **Cologne (Germany)**

TALKS, SEMINARS, POSTERS

- Poster **Some estimates for higher eigenvalues of nonlinear operators**, *C.I.M.E. course "Geometry of PDE's and related problems"*, Cetraro (CS), 19-23/06/2017.
- Junior Seminar **Risultati di simmetria e di asimmetria per alcune classi di problemi agli autovalori non lineari**, *Incontri di Matematica per giovani ricercatori*, Università degli studi di Napoli Federico II, 02/05/17.
- Seminar **On a saturation phenomenon for a nonlinear nonlocal eigenvalue problem**, University of Cologne (Germany), 13/03/17.
- Poster **On a saturation phenomenon for a nonlinear nonlocal eigenvalue problem**, *Partial Differential Equations and Related Topics*, Alghero (SS), 12-16/09/2016.
- Poster **On a saturation phenomenon for a nonlinear nonlocal eigenvalue problem**, *New Trends in Calculus of Variations*, Accademia dei Lincei, Roma, 27/05/2016.
- Poster **On a saturation phenomenon for a nonlinear nonlocal eigenvalue problem**, *Geometric aspects of PDE's and functional inequalities*, Cortona (Ar), 28-30/04/2016.

SCHOOLS

C.I.M.E. course "Geometry of PDE's and related problems", Cetraro (CS), 19-23/06/2017.

Attended courses: Xavier Cabré, *Stable solutions to some elliptic problems: minimal cones, the Allen-Cahn equation, and blow-up solutions*; Antoine Henrot, *Isoperimetric inequalities for eigenvalues of the Laplacian*; Daniel Peralta-Salas, *Topological aspects of critical points and level sets in elliptic PDE*; Wolfgang Reichel, *Symmetry properties for solutions of higher-order elliptic boundary value problems*; Henrick Shahgholian, *Recent trends in Free Boundary Regularity*.

School and Workshop "PDEs and Applications", Napoli, 8-12/02/2016.

Attended course: Giuseppe Buttazzo, *Optimization problems in mass transport theory*; Giuseppe Mingione, *A primer on nonlinear Calderon-Zygmund theory*; Enzo Orsingher, *Fractional calculus and some applications to stochastic processes*.

Mini-courses in Mathematical Analysis 2015, Padova, 22-26/06/2015.

Attended courses: Martin Costabel, *On the inf-sup constant of the divergence*; Yehuda Pinchover, *On optimal Hardy inequalities for second-order elliptic operators*; Paolo Salani, *Geometric properties of elliptic and parabolic PDE's*; Joan Verdera, *The vorticity and aggregation equations, and singular integrals*.

Scuola Matematica Interuniversitaria, Cortona (AR), 28/07 – 14/08/2014.

Attended course: Alberto Farina e Ovidiu Savin, *Regularity Techniques and Geometrical Aspects in Nonlinear PDE*.

ERC School "Geometric Functional Inequalities and Shape Optimization", Napoli, 9-13/09/2013.

Attended courses: Dorin Bucur, *Shape Optimization and Isoperimetric inequalities*; Francesco Maggi, *The rigidity problem for symmetrization inequalities*; Massimiliano Morini, *An isoperimetric problem with long-range interactions*.

CONFERENCES AND WORKSHOP

MiniWorkshop **Calculus of Variations and Partial Differential Equations**, Napoli, 14-15/09/2017.

Recent Advances in PDEs, Napoli, 12-14/07/2017.

International Conference on Elliptic and Parabolic Problems, Gaeta (LT), 22-26/05/2017.

PDE's and Nonlinear elasticity, Napoli, 16-17/05/2017.

A day in Nonlinear Analysis, Napoli, 02/03/2017.

Partial Differential Equations and Related Topics, Alghero (SS), 12-16/09/2016.

New Trends in Calculus of Variations, Accademia dei Lincei, Roma, 27/05/2016.

9th European Conference on Elliptic and Parabolic Problems, Gaeta (LT), 23-27/05/2016.

Geometric aspects of PDE's and functional inequalities, Cortona (Ar), 28-30/04/2016.

Proprietà analitico geometriche di soluzioni di EDP, Napoli, 25-27/01/2016.

Workshop Progetti di ricerca DMA 2015, Napoli, 22/12/2015.

2nd Conference on Recent Trends in Nonlinear Phenomena, Napoli, 04-06/11/2015.

Methods of Real Analysis and Partial Differential Equations, Napoli, 03/11/2015.

Giornata del dottorato di ricerca, Napoli, 19/05/2015.

Topics in Elliptic and Parabolic PDEs, Napoli, 11-12/09/2014.

Advances in Pure and Applied Mathematics, Napoli, 18/06/2014.

TEACHING ACTIVITIES

- A.A. 2017/18 Teaching course (72 hours), **Analisi Matematica I**, Aerospace Engineering Bachelor's degree, Università degli studi di Napoli Federico II.
- A.A. 2016/17 Teaching assistantship (6 hours), **Introduzione all'Analisi Matematica**, Piano Nazionale Lauree Scientifiche, Università degli Studi di Napoli Federico II, course held by **prof. Guido Trombetti**.
- Tutoring activities (50 hours), **Analisi Matematica I**, Mathematics Bachelor's degree, Università degli Studi di Napoli Federico II, courses held by **prof. Cristina Trombetti** e **prof. Angelo Alvino**.
- Teaching assistantship (20 hours), **Metodi Matematici per l'Ingegneria**, Informatics Engineering Bachelor's degree, Università degli Studi di Napoli Federico II, course held by **prof. Carlo Nitsch**.
- A.A. 2015/16 Teaching assistantship (20 hours), **Introduzione all'Analisi Matematica**, Piano Nazionale Lauree Scientifiche, Università degli Studi di Napoli Federico II, course held by **prof. Guido Trombetti**.
- Tutoring activities (40 hours), **Analisi Matematica II**, Mathematics Bachelor's degree, Università degli Studi di Napoli Federico II, course held by **prof. Nicola Fusco**.
- Tutoring activities (10 hours), **Analisi Matematica I**, Mathematics Bachelor's degree, Università degli Studi di Napoli Federico II, courses held by **prof. Cristina Trombetti** e **prof. Angelo Alvino**.
- Teaching assistantship (20 hours), **Metodi Matematici per l'Ingegneria**, Informatics Engineering Bachelor's degree, Università degli Studi di Napoli Federico II, course held by **prof. Carlo Nitsch**.
- A.A. 2014/15 Teaching assistantship (20 hours), **Metodi Matematici per l'Ingegneria**, Informatics Engineering Bachelor's degree, Università degli Studi di Napoli Federico II, course held by **prof. Vincenzo Ferone**.

SCIENTIFIC INTERESTS

- Analytic and geometric properties of spectrum of nonlinear elliptic operators;
- Variational problems and shape optimization;
- Symmetrization for elliptic equations.

PUBLICATIONS

- Peer-reviewed paper F. Della Pietra, N. Gavitone, G. Piscitelli, **A sharp weighted anisotropic Poincaré inequality for convex domains**, *C. R. Acad. Sci. Paris, Ser. I* 355 (2017): 748–752.
- Peer-reviewed paper F. Della Pietra, G. Piscitelli, **On a saturation phenomenon for a nonlinear nonlocal eigenvalue problem**, *Nonlinear Differ. Equ. Appl.* (2016) 23 pp. 1-18.

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| Peer-reviewed paper | G. Piscitelli, A nonlocal anisotropic eigenvalue problem , <i>Diff. Int. Eq.</i> 29 11-12 (2016): 1001–1020. |
| Peer-reviewed paper | G. Piscitelli, Convex symmetrization for anisotropic elliptic equation with a lower order term , <i>Rend. Acc. Sc. fis. mat. Napoli Vol. LXXXI</i> 2 (2014): 249-264. |
| Preprint | F. Della Pietra, N. Gavitone, G. Piscitelli, On the second eigenvalue of some nonlinear anisotropic elliptic operators , <i>preprint</i> . https://arxiv.org/pdf/1704.00508.pdf |
| Preprint | G. Piscitelli, The anisotropic ∞-Laplacian eigenvalue problem with Neumann boundary conditions , <i>preprint</i> https://arxiv.org/abs/1707.00352 . |
| PhD Thesis | G. Piscitelli, Optimization problems for nonlinear eigenvalues . |

OTHER ACADEMIC ACTIVITIES

Participant to the research project **GNAMPA 2017 “Equazioni alle derivate parziali e disuguaglianze geometriche: aspetti qualitativi e quantitativi”**, scientific coordinator prof. Giulio Ciraolo (Università degli Studi di Palermo), from 14/03/2017 to 13/3/2018.

Delegate of doctoral student at Dipartimento di Matematica e Applicazioni “R. Caccioppoli”, from 18/05/2016 to 03/07/2017.

Member of Unione Matematica Italiana (**UMI**) from 01/01/2016 to present.

Support activities for preparation of deliverables and for writing research project report, with the following fund: L.R. 5/2002 annualità 2007 **“Disuguaglianze isoperimetriche e stabilità”**– CUP E67E15000020005 principal investigator prof. C. Nitsch (Università degli studi di Napoli Federico II), from 1 to 30/12/2015.

Member of Gruppo Nazionale per l'Analisi Matematica, la Probabilità e le loro Applicazioni (GNAMPA), Sezione Equazioni differenziali e sistemi dinamici, dell'Istituto Nazionale di Alta Matematica "Francesco Severi" (**INDAM**) - Piazzale Aldo Moro, 5 - Roma, from 01/01/2015 to present.

Participant to the Research Project **FIRB 2013 “Geometrical and qualitative aspects of PDEs”**, national coordinator prof. Elvise Berchio (Politecnico di Torino), from 01/04/2014 to present.

Participant to the research project **PRIN 2012 “Equazioni alle derivate parziali di tipo ellittico e parabolico: aspetti geometrici, disuguaglianze collegate e applicazioni”**, scientific coordinator prof. Andrea Cianchi (Università degli Studi di Firenze), scientific responsible prof. Vincenzo Ferone (Università degli Studi di NAPOLI Federico II), from 08/03/2014 to 07/03/2017.

LANGUAGE & IT SKILLS

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| Italian: | Native speaker |
| Inglese: | Good – Level B1+ (Cambridge Preliminary English Test, Nov. 15) |
| Francese: | Basic – Level A1 |
| Microsoft Office: | Very good knowledge of Word, Excel, Power Point (ECDL, Dic. 05) |
| Programming languages | Matlab, Mathematica, C++, Tex |

Italian Car Driving Licence: Level B.

San Felice a Cancellio (CE), 14/12/2017

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