Short Curriculum Vitae
FABIANA LEONI

POSITION

- Associate Professor in Mathematical Analysis (MAT 05), since Novembre, 1st 2019, Dipartimento di Matematica, Sapienza Università di Roma

- Abilitazione Scientifica Nazionale as Full Professor achieved in January 2020

PREVIOUS POSITIONS

- November 2000/November 2019: Researcher in Mathematical Analysis, Dipartimento di Matematica, Sapienza Università di Roma

- March 2001/June 2001: core participant of the IPAM Program "Geometrically based motions", Institute of Pure and Applied Mathematics, Univesity of California in Los Angeles, USA

- March 2000/November 2000: post-doc grant at Dipartimento di Matematica, Sapienza Università di Roma

- November 1998/June 1999: TMR grant at Laboratoire de Matematiques et Physique Theorique, Université de Tours, France

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ABROAD VISITING PERIODS:

- Institute of Pure and Applied Mathematics, University of California in Los Angeles (2002)

- Department of Mathematics, University of Texas at Austin (2002)

- Department of Mathematics, Kobe University (2004)

- Department of Mathematics, Fukuoka University (2007)

- Department of Mathematics, ETH Zurich (2014,2022)

- Department of Mathematics, CY Cergy Paris Université (2017, 2018, 2019, 2022)

PI OF THE RESEARCH PROJECTS:

- Progetto INDAM - GNAMPA 2016 "Analysis and developments for fully nonlinear equations via the Maximum Principle"

- Progetto INDAM - GNAMPA 2018 "Costanti critiche e problemi asintotici per equazioni completamente non lineari"

- Progetto Ateneo Sapienza 2020 "Nonlinear PDEs: from uniformly elliptic to strongly degenerate cases"

- Progetto INDAM - GNAMPA 2023 "Equazioni completamente non lineari locali e non locali"

CO-ORGANIZER OF THE INTERNATIONAL CONFERENCES:

- Special Session "At the edge of ellipticity", in 13th AIMS Conference on Dynamical Systems, Differential Equations and Applications, Wilmington, NC USA, June 1st 2023

- Workshop "Mostly Maximum Principle – 4th Edition", INDAM Meeting in Cortona (Ar), May 30th-June 3rd 2022

- Workshop "Something about Nonlinear Problems", Bologna, 13-14/6/2019

- Workhop "From Optimal Control to Maximum Principle", Agropoli (Sa), 12–14/9/2018

- Workshop "Viscosity and variational solutions of nonlinear PDE's", Bologna, Dipartimento di Matematica, 27/3/2018

- Minisymposyum "Fully nonlinear elliptic equations and viscosity solutions", in International Conference on Elliptic and Parabolic Problems, Serapo, Gaeta, 22/5/2017

- Special Session "Elliptic PDEs", in 1st Joint Meeting Brazil-Italy in Mathematics, IMPA,Rio de Janeiro, 29/8/2016–2/9/2016

- International Workshop "Mostly Maximum Principle-Third Edition", Agropoli (Sa), 16–18/9/2015

- Special Session "Viscosity, Nonlinearity and Maximum Principle", in 10th AIMS Conference on Dynamical Systems, Differential Equations and Applications, Instituto de Ciencias Matḿaticas, UAM, Madrid, 4–11/7/2014

- International Workshop "Mostly Maximum Principle - Second Edition", Sapienza Università di Roma, 12–14/9/2012

- International Conference "Nonlinear PDEs–dedicated to Italo Capuzzo Dolcetta", Sapienza Università di Roma, 1–2/9/2008

- Workshop "Viscosity, metric and control theoretic methods in nonlinear PDEs", Serapo (Gaeta), 27/9/2004–1/10/2004

SPEAKER AT THE INTERNATIONAL CONFERENCES:

"Nonlinear Partial Differential Equations, International Conference in memory of S.N. Kruzhkov" (Besancon, 1999) "Phase Transitions and Interface in Evolution Equations: analysis, control and approximation" (Santa Margherita Ligure, 2000) "Viscosity Solutions and Applications" (Bressanone, 2000) "Viscosity Solutions and their applications" (Mallorca, 2001) "Geometrically based motions" (Lake Arrowhead, 2001 and 2002) "Viscosity methods in PDEs" (Vancouver, 2001) XVII Congress of Unione Matematica Italiana (Milano, 2003) "Equazioni alle derivate parziali: comportamento asintotico, soluzioni stazionarie e regolarita'"(Torino, 2003) "Viscosity solutions theory in differential equations and its developments" (Kyoto, 2004) "Level-set methods, Hamilton-Jacobi equations and applications" (Venezia, 2004) "Viscosity, metric and control theoretic methods in nonlinear PDEs" (Serapo, 2004) "Qualitative methods for Hamilton-Jacobi equations and applications" (Torino, 2006) "New trends in viscosity solutions and nonlinear PDE" (Lisboa, 2006) "International conference for the 25th anniversary of viscosity solutions"(Tokyo, 2007) "Viscosity, metric and control theoretic methods in nonlinear PDEs"(Roma 2008) "GNAMPA School Differential Equations and Dynamical Systems" (Serapo, 2012) "Mostly Maximum Principle" (Roma, 2012) 10th AIMS Conference on Dynamical Systems, Differential Equations and Applications (Madrid, 2014) 7th International Conference on Differential and Functional Differential Equations (Moscow, 2014) "Nonlinear elliptic PDEs at the end of the world" (Punta Arenas, Chile, 2015) "First Joint Meeting Brazil-Italy in Mathematics"– Special Session "Elliptic PDEs" (Rio de Janeiro, Brazil, 2016) "2nd Italian-Chilean Workshop in PDE's (Roma, 2018) "Nonlinear PDE's in Porquerolles–ERC Project ReaDi" (Porquerolles, France, 2018) "Partial Differential Equations in Analysis and Mathematical Physics (PDEAMP)"(Cagliari, Italy, 2019), "Three Nonlinear Days in Coimbra", a CAMGS–CMUC Workshop in Nonlinear Analysis (Coimbra, Portugal, 2022), "The Hamilton-Jacobi equation in nonlinear PDEs, dynamics and optimal control"– A celebration of Antonio Siconolfi's 70th birthday (Roma, Italy, 2022), "Nonlinear partial differential equations: theory, numerics and applications"– in memory of Maurizio Falcone (Roma, Italy, 2023), "The 13th AIMS Conference on Dynamical Systems, Differential Equations and Applications" (Wilmington, NC USA, 2023)

LIST OF PUBLICATIONS SINCE 2018

1. F. Leoni, New concentration phenomena for radial sign-changing solutions of fully nonlinear elliptic equations, *Bruno Pini Mathematical Analysis Seminar* 13:1, 9–25 (2023)

2. I. Birindelli, F. Demengel, F. Leoni, Mixed boundary value problems for fully nonlinear degenerate or singular equations, *Nonlinear Analysis, Theory, Methods and Applications* 223, 113006 (2022)

3. I. Capuzzo Dolcetta, F. Leoni, A. Vitolo, Generalized Keller–Osserman conditions for fully nonlinear degenerate elliptic equations, *Journal of Mathematical Sciences (US)* 260(4), 469–479 (2022)

4. I. Birindelli, F. Demengel, F. Leoni, Boundary asymptotics of the ergodic functions associated with fully nonlinear operators through a Liouville type theorem, *Discrete Contin. Dyn. Syst.* 41, no. 7, 3021–3029 (2021)

5. G. Galise, A. Iacopetti, F. Leoni, F. Pacella, New concentration phenomena for a class of radial fully nonlinear equations, *Ann. Inst. H. Poincaré Anal. Non Linéaire* 37, no. 5, 1109–1141 (2020)

6. G. Galise, A. Iacopetti, F. Leoni, Liouville-type results in exterior domains for radial solutions of fully nonlinear equations, *J. Differential Equations* 269, no. 6, 5034–5061(2020)

7. F. Leoni, Radial solutions of Lane-Emden-Fowler equations with Pucci's extremal operators (Soluzioni radiali di equazioni tipo Lane-Emden-Fowler per gli operatori estremali di Pucci), *Bruno Pini Mathematical Analysis Seminar* 10 (1), 1–13 (2019)

8. I. Birindelli, F. Demengel, F. Leoni, $\mathcal{C}^{1,\gamma}$ regularity for singular or degenerate fully nonlinear operators and applications, *NoDEA Nonlinear Differential Equations Appl.* 26, no. 5, Art. 40, 13 pp. (2019)

9. I. Birindelli, F. Demengel, F. Leoni, Dirichlet problems for fully nonlinear equations with "subquadratic" hamiltonians, *Springer INDAM Series* 33, 107–127 (2019)

10. I. Birindelli, F. Demengel, F. Leoni, Ergodic pairs for singular or degenerate fully nonlinear operators, *ESAIM Control Optim. Calc. Var.* 25, Art. 75, 28 pp.(2019)

11. I. Birindelli, G. Galise, F. Leoni, F. Pacella, Concentration and energy invariance for a class of fully nonlinear elliptic equations, *Calc. Var. Partial Differential Equations* 57 , no. 6, Art. 158, 22 pp. (2018)

12. I. Capuzzo Dolcetta, F. Leoni, A. Vitolo, On some degenerate elliptic equations arising in geometric problems, *Journal of Mathematical Sciences (US)* 233(4), 446–461 (2018)