Isabella Ianni

(updated October 2024)

PERSONAL INFORMATION		
	name and surname	Isabella Ianni
	nationality	Italian
	date of birth	January 29, 1982
	place of birth	Frosinone, Italy
	gender	female
	status	single

CONTACT

Dipartimento di Scienze di Base e Applicate per l'Ingegneria (SBAI)
Sapienza Università di Roma
Via Antonio Scarpa, 10
building A, room 21
00161 Roma - Italy

e-mail: isabella.ianni@uniroma1.it
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CURRENT POSITION

November 2019 - present: **Associate Professor** (*Professore Associato*)
in Mathematical Analysis
Sapienza Università di Roma, Roma, Italy
Department of Basic and Applied Sciences for Engineering.

PREVIOUS POSITIONS

December 2010 - October 2019: **Tenured Assistant Professor** (*Ricercatore Universitario T.I.*)
in Mathematical Analysis
Università degli Studi della Campania *Luigi Vanvitelli*, Caserta, Italy
Mathematics and Physics Department.

October 2009 - December 2010: **post-doc** (*Wissenschaftlich Mitarbeit*)
Johann Wolfgang Goethe Universität, Frankfurt-am-Main, Germany.
Supervisor: Prof. Tobias Weth.

EDUCATION

October 2009 - **Ph.D. Degree in Mathematical Analysis**
SISSA - International School for Advanced Studies, Trieste, Italy.
Thesis: *Existence and stability of standing waves for the Schrödinger-Poisson-Slater system*.
Advisor: Prof. Antonio Ambrosetti.

October 2006 - gain admittance (and fellowship) to the Ph.D. program at *SISSA - International School for Advanced Studies*, Trieste, Italy.

September 2006 - **Master Degree in Mathematics** (*Laurea Specialistica in Matematica*)
Università *La Sapienza*, Roma, Italy (evaluation 110/110 summa cum laude).
Thesis: *Simmetria di soluzioni di equazioni ellittiche semilineari*.
Advisor: Prof. Filomena Pacella.

September 2004 - **Bachelor Degree in Mathematics** (*Laurea Triennale in Matematica*)
Università *La Sapienza*, Roma, Italy (evaluation 110/110 summa cum laude).
Thesis: *Il problema di Dirichlet per equazioni ellittiche lineari in $\mathbb{R}^N$*.
Advisor: Prof. Luigi Orsina.

Appointments	May 2019: national Italian **habilitation** to **Full Professor** in *Mathematical Analysis, Probability and Mathematical Statistics*

Research Interests

nonlinear elliptic PDEs (Lane-Emden eqs, Schrödinger-Poisson eqs, singular Liouville eqs on a surface)
nonlinear evolution PDEs (parabolic eqs and Schrödinger type eqs)
existence and qualitative properties of solutions
semiclassical limit, concentration phenomena, asymptotic analysis
variational and topological methods in nonlinear analysis
perturbative methods in critical point theory

Publications

[31] L. Battaglia, I. Ianni and A. Pistoia, *New solutions for the Lane-Emden problem on planar domains*, preprint.

[30] A. Dieb, I. Ianni and A. Saldaña, *Uniqueness and nondegeneracy of least-energy solutions to fractional Dirichlet problems*, to appear on Calc. Var. PDEs

[29] I. Ianni, P. Luo and, S. Yan, *Morse index, topological degree and local uniqueness of multi-spikes solutions to the Lane-Emden problem in dimension two*, preprint

[28] F. De Marchis, H. Fourti and, I. Ianni, *Sharp boundary concentration for a two-dimensional nonlinear Neumann problem*, Nonlinearity 37 (10) (2024)

[27] A. Dieb, I. Ianni and A. Saldaña, *Uniqueness and nondegeneracy for Dirichlet fractional problems in bounded domains via asymptotic methods*, Nonlin. Anal. 236 (2023)

[26] M. Grossi, I. Ianni, P. Luo and, S. Yan, *Non-degeneracy and local uniqueness of positive solutions to the Lane-Emden problem in dimension two*, Journal de Mathématiques Pures et Appliquées 157 (2022) 145–210.

[25] A.L. Amadori, F. De Marchis, I. Ianni, *Morse index computation for radial solutions of the Hénon problem in the disk*, Nonlinear Analysis 215 (2022).

[24] I. Ianni and A. Saldaña, *Sharp asymptotic behavior of radial solutions of some planar semilinear elliptic problems*, Journal of Differential Equations 304 (2021) 102–164.

[23] F. Gladiali and I. Ianni, *Quasi-radial nodal solutions for the Lane-Emden problem in the ball*, Nonlinear Differ. Equ. Appl. 27, 13 (2020). https://doi.org/10.1007/s00030-020-0616-0

[22] F. De Marchis, M. Grossi, I. Ianni and F. Pacella, *Morse index and uniqueness of positive solutions of the Lane-Emden problem in planar domains*, Journal de Mathématiques Pures et Appliquées 128 (2019) 339–378.

[21] F. De Marchis, M. Grossi, I. Ianni and F. Pacella, L^∞-*norm and energy quantization for planar the Lane-Emden problem with large exponent*, Archiv der Mathematik 111 (4) (2018) 421–429.

[20] T. D'Aprile, F. De Marchis and I. Ianni, *Prescribed Gauss curvature problem on singular surfaces*, Calc. Var. PDE 57 (2018).

[19] F. De Marchis, I. Ianni and F. Pacella, *Asymptotic analysis of the Lane-Emden problem in dimension two*, contribution in the volume *Partial Differential Equations arising from Physics and Geometry*, London Mathematical Society Lecture Note Series (No. 450, pp. 215–252), Cambridge University Press (2019).

[18] F. De Marchis, I. Ianni and F. Pacella, *A Morse index formula for radial solutions of Lane-Emden problems*, Advances in Mathematics, 322 (2017) 682–737.

[17] I. Ianni, S. Le Coz and J. Royer, *On the Cauchy problem and the black solitons of a singularly perturbed Gross-Pitaevskii equation*, SIAM Journal on Mathematical Analysis 49 (2) (2017) 1060–1099.

[16] F. De Marchis, I. Ianni and F. Pacella, *Asymptotic profile of positive solutions of Lane-Emden problems in dimension two*, Journal of Fixed Point Theory and Applications 19 (1) (2017) 889–916.

[15] F. De Marchis, I. Ianni and F. Pacella, *Exact Morse index computation for nodal radial solutions of Lane-Emden problems*, Mathematische Annalen 367 (1) (2017) 185–227.

[14] F. De Marchis, I. Ianni and F. Pacella, *Morse index and sign-changing bubble towers for Lane-Emden problems*, AMPA 195 (2) (2016) 357–369.

[13] I. Ianni, M. Musso and A. Pistoia, *Blow-up for sign-changing solutions of the critical heat equation in domains with a small hole*, Communications in Contemporary Mathematics 18 (1) (2016).

[12] I. Ianni and G. Vaira, *Non-radial sign-changing solution for the Schrödinger-Poisson problem in the semiclassical limit*, NoDEA 22 (4) (2015) 741–776.

[11] F. De Marchis, I. Ianni and F. Pacella, *Asymptotic analysis and sign changing bubble towers for Lane-Emden problems*, Journal of the European Mathematical Society 17 (8) (2015) 2037–2068.

[10] F. De Marchis and I. Ianni, *Blow up of solutions of semilinear heat equations in non-radially symmetric domains of $\mathbb{R}^2$*, Discrete and Continuous Dynamical System-A - 35 (3) (2015) 891–907.

[9] I. Ianni and S. Le Coz, *Multi-speeds solitary wave solutions for nonlinear Schrödinger systems*, J. London Math. Soc. 89 (2) (2014) 623–639.

[8] I. Ianni, *Sign changing radial solutions for the Schrödinger-Poisson-Slater problem*, Topological Methods in Nonlinear Analysis 41 (2) (2013) 365–385.

[7] F. De Marchis, I. Ianni and F. Pacella, *Sign changing solutions of Lane Emden problems with interior nodal line and semilinear heat equations*, Journal of Differential Equations 254 (2013) 3596–3614.

[6] I. Ianni, *Local and global solutions for some parabolic nonlocal problem*, Nonlinear Analysis 75 (2012) 4904–4913.

[5] I. Ianni and D. Ruiz, *Ground and bound states for a static Schrödinger-Poisson-Slater problem*, Communications in Contemporary Mathematics 14 (1) (2012).

[4] I. Ianni and S. Le Coz, *Orbital stability of standing waves of semiclassical nonlinear Schrödinger-Poisson equation*, Adv. in Differential Equations 14 (7-8) (2009) 717–748.

[3] I. Ianni, *Solutions of the Schrödinger-Poisson problem concentrating on spheres, part II: existence*, M^3AS 19 (6) (2009) 877–910.

[2] I. Ianni and G. Vaira, *Solutions of the Schrödinger-Poisson problem concentrating on spheres, part I: necessary conditions*, M^3AS 19 (5) (2009) 707–720.

[1] I. Ianni and G. Vaira, *On concentration of positive bound states for the Schrödinger-Poisson problem with potentials*, Adv. Nonlinear Studies 8 (2008) 573–595.

RESEARCH PROJECTS (AS PI)	- Ricerca di Ateneo 2020 - Progetto Medio (11.000€) *Existence and qualitative properties for solutions of parameter depending semilinear elliptic PDEs via asymptotic analysis* - PRIN 2017 (103.500€)- *Qualitative and quantitative aspects of nonlinear PDEs* until May 18, 2020 scientific coordinator for the research unit of the Università degli Studi della Campania "Luigi Vanvitelli", Caserta (Italy) (main PI: Berardino Sciunzi) - FFABR 2018 (3.000€)- Fondo per il Finanziamento delle Attività Base di Ricerca - INDAM-GNAMPA Project 2017 (2.400€)- *Esistenza e proprietà qualitative di soluzioni per problemi ellittici nonlineari.*

VISITING		
	February 2 – March 15 2024	ICTP Trieste (Italy) (Research in Pairs)
	January 2024	PUC Rio de Janeiro (Brasil)
	July 2023	KIT Karlsruhe (Germany)
	August 2022	Instituto de Matemáticas, UNAM (Mexico)
	July 19 – 22 2017	Università di Sassari (Italy)
	March 15 – 17 2017	Università di Sassari (Italy)
	February 27 – March 2 2017	Universität Basel (Switzerland)
	May 30 – June 1 2016	Università di Sassari (Italy)
	April 7 – 30 2015	ETH Zürich (Switzerland)
	March 11 – 22 2014	Facultad de Matemáticas, Pontificia Universidad Católica de Chile (Chile)
	March 6 – 27 2013	Institut de Mathématiques de Toulouse - Université Paul Sabatier, Toulouse (France) - invited professor
	October 29 – November 1 2012	Dipartimento di Informatica, Università di Verona (Italy)
	September 02 – 10 2012	CMAF Centro de Matemática e Aplicações Fundamentais - Universidade de Lisboa (Portugal) - in the context of the ERASMUS mobilty project
	November 28 – December 04 2011	Institut de Mathématiques de Toulouse-Université Paul Sabatier, Toulouse (France)
	October 1 2009 – December 30 2010	Institut für Mathematik, "Johann Wolfgang Goethe" Universität, Frankfurt-am-Main (Germany) - Wissenschaftlich Mitarbeit (post-doc)
	November 16 – December 19 2008	Departamento de Análisis Matemático, Universidad de Granada (Spain)
	April 15 – 22 2008	Departamento de Análisis Matemático, Universidad de Granada (Spain)
	October 2006 – October 2009	SISSA, Trieste (Italy) - PhD program

INVITED TALKS		
	December 2024	The 14th AIMS Conference 2024, Abu Dhabi (United Arab Emirates) Special Session 2: Recent advances in nonlinear Schrodinger systems Special Session 121: Recent developments on nonlinear geometric PDEs
	September 2024	Research Seminar (online), Instituto de Matemáticas, UNAM (Mexico)
	September 2024	Conference Nonlinearity,Complexity and foundations in Mathematics, Centro Ennio De Giorgi Pisa (Italy)
	February 2024	Research seminar, SISSA Trieste (Italy)
	January 2024	Conference Regularity and geometric aspects of nonlinear PDEs, Università di Pisa (Italy)
	January 2024	Research seminar, UFRJ Rio de Janeiro (Brasil)
	November 2023	Research seminar (online), University of Leeds (UK)
	October 2023	Research seminar, Università di Firenze (Italy)

October 2023	Chiacchierate Nonlineari, Alghero (Italy)
September 2023	Congresso UMI, Pisa (Italy)
	Session 2: Equazioni differenziali alle derivate parziali
July 2023	Research seminar, KIT Karlsruhe (Germany)
June 2023	Conference in Conformal Geometry, Granada (Spain)
November 2022	Workhop Geometric Analysis and PDEs in Sorrento (Italy)
September 2022	Qualitative and quantitative aspects of Nonlinear PDEs, Bari (Italy)
August 2022	Research Seminar, Instituto de Matemáticas, UNAM (Mexico)
June 2022	Workshop on Nonlinear Analysis and Applications, Monastir (Tunisia)
September 2021	Geometric PDEs @Caserta, Università *Vanvitelli*, Caserta (Italy)
May 2021	Rio de Janeiro Webinars on Analysis and PDEs
May 2021	ONLINE conference Variational and PDE problems in Geometric Analysis, III. Online edition.
March 2021	Research Seminar, Dipartimento di Matematica, Università La Sapienza, Roma (Italy)
May 2020	BIRS-CMO workshop Geometric and Analytical Aspects of Nonlinear Elliptic Equations and Related Evolution Problems, Casa Matematica Oaxaca (Mexico) *CANCELLED due to COVID pandemic*
January 2020	Nonlinear Meeting in Milan 2020, Dpt. of Mathematics of Politecnico di Milano
September 2019	"Nonlinear Days in Alghero", Alghero (Italy)
May 2019	'International Conference on Elliptic and Parabolic Problems", Gaeta (Italy)
	Session: Variational Problems and Nonlinear PDEs
	Session: Semilinear and Quasilinear PDEs
February 2019	RISM workshop on "Advances and Challenges in Nonlinear Elliptic System", RISM Varese (Italy)
November 2018	"Recent Trends on Nonlinear PDEs of Elliptic and Parabolic Type", MATRIX Center-Melbourne (Australia)
November 2018	"MATRIX Satellite Conference", University of Sydney, Sydney (Australia)
July 2018	"Variational Problems arising from Physics and Geometry", Rauischholzhausen Castle, Ebsdorfergrund (Germany)
July 2018	"12th AIMS Conference on Dynamical Systems, Differential Equations and Applications", Taipei (Taiwan)
	Session 71: *Qualitative properties of solutions to local and nonlocal problems*
	Session 80: *Modern topics in nonlinear PDEs and applications*
February 2018	"Variational Methods in Analysis, Geometry and Physics", Scuola Normale Superiore, Pisa (Italy)
June 2017	Workshop "Emerging issues in nonlinear elliptic equations: singularities, singular perturbations and non local problems", Bedlewo (Poland)
May 2017	"International Conference on Elliptic and Parabolic Problems", Gaeta (Italy)
March 2017	Research Seminar, Universität Basel (Switzerland)
January 2017	Workshop "Roma Caput PDE", Rome (Italy)
September 2016	BIRS-CMO Workshop "Asymptotic Patterns in Variational Problems: PDE and Geometric Aspects", Oaxaca (Mexico)
September 2016	Workshop "Donne e ricerca in Matematica: il contributo della SISSA", SISSA Trieste (Italy)
June 2016	Workshop "Pde's at the Grand Paradis. International conference on Variational Methods and Nonlinear PDE's. On the occasion of Filomena Pacella's 60th birthday", Cogne (Italy)
May 2016	"9th European Conference on Elliptic and Parabolic Problems", Gaeta (Italy)
	Session: *Some aspects of nonlinear elliptic equations*
	Session: *Variational models and transportation problems*
November 2015	"2nd Conference on Recent Trends in Nonlinear Phenomena", Napoli (Italy)
September 2015	"Workshop in Nonlinear PDEs", Brussels (Belgium)
June 2015	Workshop "Espalia. Three days in PDEs and calculus of variations between Italy and Spain", Rome (Italy)
April 2015	Research Seminar, ETH Zürich (Switzerland)
March 2015	International conference on "Nonlinear elliptic PDEs at the End of the World", Punta Arenas (Chile)

December 2014	"Workshop in honor of Antonio Ambrosetti on the occasion of his 70th birthday", Venezia (Italy)	
July 2014	The 10th AIMS Conference on Dynamical Systems, Differential Equations and Applications, Madrid (Spain)	
	Session: Recent trends in nonlinear Schrodinger systems	
September 2013	"International Workshop on Variational Problems and PDE's", Sao Paulo (Brazil)	
May 2013	Research Seminar, Dipartimento di Matematica, Università di Parma (Italy)	
April 2013	Research Seminar, Dipartimento di Matematica, Università di Tor Vergata, Roma (Italy)	
November 2012	Workshop "Singular limit problems in nonlinear PDEs", CIRM Luminy (France)	
September 2012	Research Seminar, CMAF - Universidade de Lisboa (Portugal)	
November 2011	Research Seminar, Institut de Mathématiques de Toulouse - Université Paul Sabatier, Toulouse (France)	
October 2011	Research Seminar, Dipartimento di Matematica, Università La Sapienza, Roma (Italy)	
January 2011	Joint meeting of the research projects "Variational and perturbative methods for nonlinear differential equations", Venezia (Italy)	
March 2010	Research Seminar, Dipartimento di Matematica, Università di Tor Vergata, Roma (Italy)	
May 2009	Research Seminar, Institut für Mathematik, Johann Wolfgang Goethe-Universität, Frankfurt-am-Main (Germany)	
December 2008	Research Seminar, Departamento de Análisis Matemático, Universidad de Granada (Spain)	
April 2008	Research Seminar, Departamento de Análisis Matemático, Universidad de Granada (Spain)	

OTHER TALKS

September 2015	XX Congresso UMI, Siena (Italy)
	Session: "Analisi nonlineare e sistemi hamiltoniani"
January 2014	Workshop "Variational Methods in Elliptic Equations and Systems, dedicated to the memory of Miguel Ramos", CMAF - Universidade de Lisboa, Lisbon (Portugal)
May 2012	"Workshop on Nonlinear Partial Differential Equations on the occasion of the sixtieth birthday of Patrizia Pucci", Perugia (Italy)
January 2012	"School and Workshop on Cocompact Imbeddings, Profile Decompositions and their Applications to PDE", TATA Institute-TIFR Centre for Applicable Mathematics, Bangalore (India)
May 2008	Research Seminar, SISSA, Trieste (Italy)

POSTER SESSIONS

June 2016	"EWM-EMS Summer School on *Geometric and Physical aspects of Trudinger-Moser type inequalities*", Institut Mittag-Leffler, Djursholm (Sweden)

FELLOWSHIPS

- LLP/ERASMUS professors **mobility fellowship** 2011/2012,
Seconda Università degli Studi di Napoli.

- **Best student fellowship** of the Mathematics Department,
Università *Sapienza* di Roma in the academic years 2002-2003, 2003-2004 and 2004-2005.

- **PHD fellowship** at *SISSA - International School for Advanced Studies*,
Trieste, Italy from 2006 to 2009.

Events (as Organizer)	June 12 – 14, 2024	workshop "A glimpse on PDEs", Caserta (Italy)
	April 7 – 12, 2024	workshop "Highlights in Nonlinear PDEs", Gaeta (Italy)
	September 10 – 14, 2018	workshop *Nonlinear Analysis and PDEs* , Caserta (Italy)
	July 5 – 9, 2018	"12th AIMS Conference on Dynamical Systems, Differential Equations and Applications". Session: SS93 "Recent trends in nonlinear PDEs", Taipei (Taiwan)
	September 19 – 21, 2016	workshop *Geometric properties of solutions to elliptic and parabolic problems,*, Cagliari (Italy)
	February 2 – 6, 2015	*Congreso de la RSME. Session: "Nonlinear Analysis and Elliptic PDEs"*, Granada (Spain)

Editorial Activity

Since January 2024: in the editorial board of the Journal of Fixed Point Theory and Applications.

Referee Activity

AMPA, Annali di Pisa, Archiv der Mathematik, Bull. London Math. Soc., Calc. Var. PDE, Comm. Cont. Math., Comm. Pure Appl. Anal., DCDS, Elec. Res. Arch., ESAIM:COCVar, J. of Dynam. and Diff. Eq., JDE, JFA, JMAA, JMP, Math. Meth. Appl. Sc., Math. Z., Medit. J. of Math., Milan J., NODEA, Nonlin. Anal., Nonlin. Anal. B: Real World Appl., Nonlinearity, Taiwanese J. of Math., Zeitschrift fuer Angewandte Mathematik und Physik

Teaching	2024/2025	*Analisi Matematica I* (90h, Ing. Chimica)
		Metodi Matematici per l'Ingegneria (30h/60, Ing.Meccanica)
	2023/2024	*Analisi Matematica I* (90h, Ing. Chimica)
		Metodi Matematici per l'Ingegneria (30h/60, Ing.Meccanica)
	2022/2023	*Analisi Matematica I* (90h, Ing. Chimica)
		Metodi Matematici per l'Ingegneria (30h/60, Ing.Meccanica)
	2021/2022	*Analisi Matematica* (120h, Ing.Gestionale)
	2020/2021	*Analisi Matematica* (120h, Ing.Gestionale)
	2019/2020	*Analisi Matematica II* (90h, Ing.Chimica)
		Analisi Matematica (40h, Ing. Gestionale)
	2018/2019	*Analisi Matematica 3* (68h, Matematica)
		Equazioni differenziali (with G. Vaira) (32h, Matematica)
		Matematica (with G. di Blasio) (16h, Scienze Ambientali)
	2017/2018	*Analisi Matematica 3* (68h, Matematica)
		Analisi Matematica (24h, Scienze e Tecniche dell'Edilizia)
	2016/2017	*Analisi Matematica 3* (68h, Matematica)
	2015/2016	*Analisi Matematica 3* (68h, Matematica)
		Istituzioni di Matematiche (40h, Farmacia)
	2014/2015	*Analisi Matematica 2 (with A. Ferone)* (72h, Matematica & Fisica)
	2013/2014	*Analisi Matematica 3* (64h, Matematica)
	2012/2013	*Analisi Matematica 3* (64h, Matematica)
		Introduction to the Schrödinger-Maxwell problem, minicourse, CMAF-University of Lisbon (Portugal)
	2011/2012	*Matematica 2* (Scienze Ambientali)
	2010/2011	Teaching assistant for *Analisi Matematica I* (Matematica)
		Teaching assistant for *Differential Equations*, Goethe-Universität, Frankfurt-am-Main (Germany)
	2009/2010	Teaching assistant for *Theorie kritischer Punkte für Variationsprobleme*, Goethe-Universität, Frankfurt-am-Main (Germany)
	April 2009	*Differential equations (MTH-DE) (with S. Zagatti and S. Le Coz)*, Post-graduate Diploma Course in Mathematics, ICTP, Trieste (Italy)
	October 2007	Teaching assistant for *Ordinary Differential Equations*, Post-graduate Course, ICTP, Trieste (Italy)

STUDENTS	Elena De Angelis (Bachelor in Math, 2015; Master in Math. 2019)
	Rosa Cerullo (Bachelor in Math, 2015; Master in Math. 2019)
	Francesco Calcagno (Bachelor in Math, 2019)
	Roberta Martino (Bachelor in Math, 2018)
	Domenico Turino (Bachelor in Math, 2018)
	Antonella Letizia (Bachelor in Math, 2017)
	Francesco Pagliuca (Bachelor in Math, 2017)
	Giuseppina Tessitore (Bachelor in Math, 2016)

ACADEMIC DUTIES

-since October 16th 2023, member of the **Commissione Spazi** of the *Dipartimento di Scienze di Base e Applicate per l'Ingegneria*, Sapienza Università (D.D.n. 75/2O23)

- since October 6th 2022 to October 16th 2023, member of the **Commissione Ricerca** of the *Dipartimento di Scienze di Base e Applicate per l'Ingegneria*, Sapienza Università

- In 2018 and 2019, member of the **Academic Board for the PhD program** in *Matematica, Fisica e Applicazioni per l'Ingegneria* at the Università degli Studi della Campania *Luigi Vanvitelli*

- Since 2016 to 2019 member of the **ERASMUS Committee** of the Mathematics and Physics Department of the Università degli Studi della Campania *Luigi Vanvitelli.*

- Since 2013 to 2019 member of the **Research Committee** of the Mathematics and Physics Department at the Università degli Studi della Campania *Luigi Vanvitelli.*