

Francesco Petitta

Personal data:

- Francesco Petitta, born in Rome, Italy, on May 16, 1976.
- Addresses: Dipartimento di Scienze di Base e Applicate per l'Ingegneria, Via Antonio Scarpa 16, 00161, Rome, Italy.
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Education and Current Position

- Abilitazione Scientifica Nazionale (ASN 2016) a Professore Universitario di I Fascia (Professore Ordinario – Full Professor), Settore Concorsuale 01/A3 - Analisi Matematica, Probabilità e Statistica Matematica.
- From February 2017, Professore Associato di Analisi Matematica (SSD MAT/05) at Sapienza, University of Rome.
- From December 2014, Ricercatore Universitario Confermato at University of Rome, Sapienza, Sector: Mathematical Analysis (Mat/05).
- Abilitazione Scientifica Nazionale 2012 (ASN 2012) of Associate Professor, Sector 01/A3 - Mathematical Analysis, Probability and Statistics.
- From December 2011, Ricercatore at University of Rome, Sapienza, Sector: Mathematical Analysis (Mat/05).
- May 2009–November 2011: Investigador *Juan de la Cierva* at Departamento de Análisis Matemático, Universitat de Valencia, Spain.
- January 2008–April 2009. Post doctoral fellow at Center of Mathematics for Applications (C.M.A), University of Oslo, Norway.
- September 2007–December 2007: Contracto de Investigación (Post doctoral fellow), Departamento de Análisis Matemático, Granada Spain.
- April 2006–July 2007: Postdoc position, Department of Mathematics "G. Castelnuovo", University La Sapienza, Rome.
- January 12th, 2006: *Ph. D. in Mathematics* (Dottorato di Ricerca in Matematica), University La Sapienza, Rome. Title of thesis: *Nonlinear parabolic equations with general measure data* Supervisor: Prof. Luigi Orsina.
- October 2001 – September 2005: Doctoral fellow in *Mathematics*, (XVII Ciclo), University La Sapienza, Rome.
- March 13th, 2001: *Laurea degree in Mathematics*, University La Sapienza, Rome. Title of thesis: *Soluzioni rinormalizzate per equazioni ellittiche con dati misura*. Advisor: Prof. L. Orsina.

Teaching

- 2019/2020, *Equazioni alle Derivate Parziali*, Corso di Eccellenza per la Laurea Magistrale in Ingegneria Aerospaziale, Sapienza Università di Roma.

- 2019/2020, *Analisi Matematica 2*, Corso di laurea Ingegneria Elettrotecnica, Sapienza Università di Roma.
- 2019/2020, *Istituzioni di Matematica 2*, Corso di laurea Magistrale in Architettura, Facoltà di Architettura, Sapienza Università di Roma.
- 2018/19, *Lectures on Fractional Calculus and Singular Equations*, Ph.D. Course for the Ph.D. "Program Mathematical models for engineering, electromagnetics and nanosciences", Sapienza Università di Roma.
- 2018/2019, *Equazioni alle Derivate Parziali*, Corso di Eccellenza per la Laurea Magistrale in Ingegneria Aerospaziale, Sapienza Università di Roma.
- 2018/2019, *Analisi Matematica 2*, Corso di laurea Ingegneria Elettrotecnica, Sapienza Università di Roma.
- 2018/2019, *Istituzioni di Matematica 2*, Corso di laurea Magistrale in Architettura, Facoltà di Architettura, Sapienza Università di Roma.
- 2017/2018, *Analisi Matematica 2*, Corso di laurea Ingegneria Elettrotecnica, Sapienza Università di Roma.
- 2017/2018, *Istituzioni di Matematica 2*, Corso di laurea Magistrale in Architettura, Facoltà di Architettura, Sapienza Università di Roma.
- 2016/2017, *Istituzioni di Matematica 2*, Corso di laurea Magistrale in Architettura, Facoltà di Architettura, Sapienza Università di Roma.
- 2015/2016, *Istituzioni di Matematica 2*, Corso di laurea Magistrale in Architettura, Facoltà di Architettura, Sapienza Università di Roma.
- 2014/2015, *Istituzioni di Matematica 2*, Corso di laurea Magistrale in Architettura, Facoltà di Architettura, Sapienza Università di Roma.
- 2013/2014, *Istituzioni di Matematica 2*, Facoltà di Architettura, Sapienza Università di Roma.
- 2012/2013, *Istituzioni di Matematica 1*, Facoltà di Architettura, Sapienza Università di Roma.
- 2011/2012, *Matematica 2*, Facoltà di Architettura, Sapienza Università di Roma, (Assistant Professor).
- 2010/2011 *Mathematics* (Matemáticas), Faculty of Pharmacy, Universitat de Valencia, Spain.
- 2010/2011 *Complex Analysis* (Variable Compleja), Recitation Classes, Faculty of Mathematics, Universitat de Valencia, Spain,
- 2009/2010 *Mathematics* (Matemáticas), Faculty of Chemistry, Universitat de Valencia, Spain.
- 2009/2010 (Fall) *Complements of Functional Analysis* (Prácticas de Análisis Funcional), Department of Mathematics, Universitat de Valencia, Spain.
- October-December 2007, *A weak theory for parabolic equations with singular data*. Post-graduate course, Universidad de Granada, Spain.
- October 2006–January 2007, *Calculus I* (Mathematics, University La Sapienza, Rome), Assistant Professor.
- September–January 2006, *Calculus I* (Clinical engineering, University La Sapienza, Rome), Assistant Professor.
- October–December 2004, *Calculus I* (Aeronautic engineering, University La Sapienza, Rome), Assistant Professor.

- September–December 2004, *Calculus I* (Clinical engineering, University La Sapienza, Rome), Assistant Professor.
- January–March 2004, *Differential calculus III* (Mechanical engineering, University La Sapienza, Rome), Assistant Professor.
- October 2003–January 2004, *Differential calculus I–II* (Mechanical engineering, University La Sapienza, Rome), Assistant Professor.

Advising Activity

- Francescantonio Oliva, Adviser for the Ph.D. Thesis in "Mathematical Models for Engineering, Electromagnetics and Nanosciences" (Curriculum in Mathematics for Engineering) at Sapienza Università di Roma, Dipartimento S.B.A.I. Title: "Existence and uniqueness results for some singular elliptic problems with irregular data". Defense date: February 8, 2017.
- Linda De Cave, Co-Advising for the Ph.D. Thesis in "Mathematical Models for Engineering, Electromagnetics and Nanosciences" at Sapienza Università di Roma, Dipartimento S.B.A.I. (Principal Advisor: Prof. Luigi Orsina).
- Riccardo Durastanti, tutoring for the Ph.D. Thesis in "Mathematical Models for Engineering, Electromagnetics and Nanosciences" at Sapienza Università di Roma, Dipartimento S.B.A.I. defended in fall 2019 (Principal Advisor: Prof. Luigi Orsina).
- Francescantonio Oliva, Adviser for the Master Degree in Mathematics (Laurea Magistrale in Matematica), Sapienza Università di Roma, defended on March 26, 2013. Title: "Existence methods for semilinear elliptic equations with an absorption term and measure data"

Memberships and grants

- Coordinator of the Sapienza research project 2019 "Processi di diffusione degeneri, singolari e frazionari" (€13500 + €23787,00).
- Coordinator of a GNAMPA – INdAM Visiting Professor Grant 2019 (€2000). Hosted Professor: François Murat
- Member of the Sapienza research project 2018, "Singular, Fractional, and Degenerate PDEs" (PI: Lorenzo Giacomelli).
- Coordinator of a GNAMPA – INdAM Visiting Professor Grant 2017 (2000 Euros). Hosted Professor: Maria Medina de la Torre.
- Member of the GNAMPA – INdAM Project 2017 "Modelli Singolari e Degeneri di Diffusione Non Lineare" (Duration: 12 Months, PI: Virginia De Cicco).
- Member of the Sapienza research project 2016, "Modelli singolari e degeneri di diffusione non lineare" (PI: Virginia De Cicco).
- Coordinator of the GNAMPA – INdAM Project 2016 "Modelli di Diffusione Non Lineare Singolari" (Duration: 12 Months).
- Member of the Spanish PNPGC project, reference MTM2015-70227-P, entitled "Ecuaciones en derivadas parciales no lineales" (Responsible Member: Prof. José M. Mazon Ruiz)
- Coordinator of the Sapienza research project 2014 "Processi di diffusione anomali, degeneri e singolari".
- GNAMPA Project 2014 "Equazioni Differenziali Ellittiche e Paraboliche Non Lineari", Vice Coordinator, Responsible Member: Lucio Boccardo (Duration: 12 Months).

- Coordinator of the GNAMPA Project 2013 “Modelli Singolari e Degeneri di Diffusione Non Lineari” (Duration: 12 Months).
- Winner as proposing member of a GNAMPA Visiting Professor Grant 2013 (1.200 Euros). Hosted Professor: Vernescu Bogdan.
- Member of PRIN Project 2010-11, Calcolo Delle Variazioni, Coordinatore Nazionale: Gianni Dal Maso (Duration: 36 months).
- March 2013 - March 2015, Member of the “Seminars Board” at Sapienza Università di Roma, Dipartimento S.B.A.I.
- From May 2012, Member of the Board of the Ph.D. program “Mathematics for Engineering, Electromagnetism and Nanosciences ” at Sapienza Università di Roma, Dipartimento S.B.A.I.
- Member of the Sapienza Research Project 2011: ”Processi di diffusione in materiali compositi e strutture irregolari” (Principal Investigator: Prof. ssa D. Giachetti).
- Member of the Sapienza Research Project (Progetti di Ateneo / Ateneo Confederato) 2003-2010, Equazioni differenziali ellittiche e paraboliche non lineari, Università La Sapienza, Roma, Italy (Responsible Member: Prof. Lucio Boccardo)
- May 2009 – November 2011: Member of the PNPGC project, reference MTM2008-03176, Valencia, Spain (Responsible Member: Prof. José M. Mazon Ruiz)
- 2008: Grant *Juan de la Cierva*. Ministerio de Ciencia y Innovación, Valencia, Spain.
- Cofin PRIN 2008, Equazioni e sistemi di tipo ellittico: stime a priori, esistenza, regolarità, Coordinatore Nazionale: Paolo Marcellini (Duration: 24 months).
- Since October 2007, Grupo S.I.C.A de Analisis No Lineal y Ecuaciones Diferenciales, Granada, Spain (Responsible Member: Prof. David A. Arcoya)
- Cofin PRIN 2006, Equazioni e sistemi ellittici e parabolici: stime a priori, esistenza e regolarità, Coordinatore Nazionale: Lucio Boccardo (Duration: 24 months).
- Since October 2001, GNAMPA, Gruppo Nazionale di Analisi Matematica, Probabilità e Applicazioni.

Scientific and Administrative activities

- Scientific and Organizing Committee member of the Workshop “Analisi Matematica allo SBAI”, Rome, Italy, 2018
- April 2017, Member of the Selection Committee for the Post-doc Fellowship “Modelli singolari e degeneri di diffusione non lineare” (Categoria: B, tipo II) at Sapienza Università di Roma, Dipartimento S.B.A.I.
- Scientific and Organizing Committee member of the international congress ESPALIA 2015, Rome, Italy (June 17–19, 2015)
- October 2014, Member of the Selection Committee for the Ph.D. program “Mathematics for Engineering, Electromagnetism and Nanosciences ” (XXX Ciclo) at Sapienza Università di Roma, Dipartimento S.B.A.I.
- September 2014, Member of the Selection Committee for the Post-doc Fellowship “Fenomeni asintotici in problemi ellittici non lineari” at Sapienza Università di Roma, Dipartimento S.B.A.I.
- Organizer of the international congress Nonlinear Partial Differential Equations On the occasion of J. Mazón’s 60th birthday. Burjassot, Valencia, Spain (July 1–5, 2013)

- From May 2012, Member of the Board of the Ph.D. program “Mathematics for Engineering, Electromagnetism and Nanosciences ” at Sapienza Università di Roma, Dipartimento S.B.A.I.
- Referee (Revisore) for the italian *Futuro in Ricerca project* (FIRB) 2013.
- Referee (Revisore) for the italian *PRIN projects* 2012.
- *Referee* for several international journals as *Journal of Functional Analysis*, *Journal of Evolution Equations*, *Annali di Matematica Pura e Applicata*, *Nonlinear Analysis*, *Advances in Calculus of Variations*, *Advances in Nonlinear Analysis*, *Proc. Royal Society of Edinburgh*, *NoDEA*, *Journal of Mathematical Analysis and Applications*, *Communications in Pure and Applied Analysis*, *Asymptotic Analysis*, ...
- Reviewer for the *A.M.S. Mathematical Reviews*, since December 2006.

Given Talks

at International Congresses or Workshops

- October 29–31, 2018, “Workshop on New Developments in PDEs and Related Topics”, University of Naples Federico II, (scheduled)
- September 17–21, 2018, *On some general elliptic problems with two kinds of singularities*, “Methods of Real Analysis and Theory of Elliptic System”, INdAM conference, Rome, Italy.
- June 21, 2017, *The Dirichlet problem for some singular elliptic equations involving the 1-laplace operator*, Emerging issues in nonlinear elliptic equations: singularities, singular perturbations and non local problems, Bedlewo, Poland.
- May 22, 2017 *The Dirichlet problem for some elliptic equations with nonlinear singularities*, International Conference on Elliptic and Parabolic Problems, Gaeta, Italy.
- October 22, 2015, *Some remarks on Singular elliptic problems*, Workshop “Partial Differential Equations in Valencia”, Burjassot, Valencia, Spain.
- May 27, 2014, *Maximal solutions for singular elliptic and parabolic problems*, 8th European Conference on Elliptic and Parabolic Problems, Gaeta, Italy.
- October, 17-18, 2013, Workshop on nonlinear equations, Universidad Carlos III, Madrid, Spain
- June 4-6, 2012, *Some singular quasilinear equations with gradient terms*, Workshop “Quasilinear equations and singular problems” (Front and InteRfaces in Sciences and Technology), Tours, France.
- May 21–25, 2012, *Some singular quasilinear equations with gradient terms*, 7th European Conference on Elliptic and Parabolic Problems, Gaeta, Italy.
- February 6, 2012: *Misure diffuse ed equazioni paraboliche non lineari*, XVIII Convegno Nazionale di Calcolo delle Variazioni, Levico Terme, Trento, Italy.
- September 6, 2011, *Nonlinear parabolic equations with absorption terms and measure data*, XXII Congreso de Ecuaciones Diferenciales y Aplicaciones - XII Congreso de Matemática Aplicada, Palma de Mallorca, Spain.
- May 20, 2011, *Ecuaciones parabólicas no lineales con terminos de absorción y dato medida*, Segundas Jornadas de Análisis Matemático en Alicante (π jama), Spain.
- June 19, 2008, *Existence and nonexistence results for singular quasilinear elliptic equations*, Workshop on Elliptic and Parabolic Equations and Systems, Naples, Italy.

- February 12, 2008: *Approssimazione di misure diffuse per la capacità parabolica*, XVIII Convegno Nazionale di Calcolo delle Variazioni, Levico Terme, Trento, Italy.
- September 17, 2007: *Some remarks on nonlinear parabolic equations with general measure data*, Primer Encuentro de la Red de Ecuaciones Parabólicas y Elípticas No Lineales, San José - Níjar, Almería, Spain.

Invited Talks at Universities and Research Centers

- January 16, 2017: *Alcuni problemi ellittici singolari*. Dipartimento di Scienze di Base ed Applicate per L'Ingegneria, Sapienza - Università di Roma, Italy.
- May 15, 2014, *Large solutions for singular elliptic and parabolic problems*, Seminario P(n), Dipartimento di Matematica "G. Castelnuovo", Sapienza - Università di Roma, Italy.
- February 27, 2012: *Misure diffuse ed equazioni paraboliche non lineari*, "Seminario di Analisi Matematica". Dipartimento di Matematica "G. Castelnuovo", Sapienza - Università di Roma, Italy.
- November 10, 2011, *Unas cuentas parabólicas singulares*, Departamento de Análisis Matemático, Universitat de Valencia, Spain.
- October 13, 2011, *Equazioni paraboliche con termini di assorbimento e dati misura*, Dipartimento Di Scienze di Base per L'Ingegneria, Sapienza Università di Roma, Italy.
- February 23, 2011: *A New/Old approach to nonlinear parabolic equations with measure data*, Departamento de Análisis Matemático, Granada, Spain.
- March 19, 2009: *Existence and nonexistence results for singular quasilinear elliptic equations*, PDE Seminar, University of Oslo, Norway
- September 17, 2008: *Some remarks on parabolic capacity with applications to nonlinear evolution equations with measure data*, Departamento de Matemática, Universidade de Coimbra, Portugal.
- June 5, 2008: *Some remarks on an extension problem related to Fractional Laplacian*, PDE Seminar, University of Oslo, Norway
- May 22, 2008: *Large time behavior for evolution equations: a general approach*, C.M.A. Seminar, University of Oslo, Norway
- December 18, 2007: *Medidas difusas y capacidad parabólica* (Diffuse measures and Parabolic Capacity), Departamento de Análisis Matemático, Universitat de Valencia, Spain.
- December 11, 2007: *Large time behavior for linear parabolic equations with singular data*, Departamento de Análisis Matemático, Granada, Spain.
- May 12, 2006: *Nonlinear parabolic problems: capacity and measures*, Department of mathematics, University Autonoma of Madrid, Spain.

Other Talks

- January 12, 2006: *Nonlinear parabolic equations with measure data*, Dipartimento di Matematica "G. Castelnuovo", Rome, Italy.
- August 13, 2004: *Weak minima for functionals with measures*, Cortona 2004, il Palazzone, organizers: SMI-SNS di Pisa, UNESCO, Italy

Visiting positions at Departments and Research Centers

Visiting Positions

- July 1–6, 2019: Visiting at Department of Mathematics, University of Valencia, Spain. Hosted by Prof. Sergio Segura de León.
- July 14–20, 2014: Visiting at Department of Mathematics, University of Valencia, Spain. Hosted by Prof. Salvador Moll.
- October 15–20, 2013, Visiting at Department of Mathematics, University Carlos III de Madrid, Spain. Hosted by Dr. Tommaso Leonori.
- June 10–15, 2012: Visiting at Department of Mathematics, University of Valencia, Spain. Hosted by Prof. Sergio Segura de León.
- February 20–28, 2011: Visiting at Departamento de Análisis Matemático, Granada, Spain. Hosted by Prof. David Arcoya.
- July 4–11, 2010: Visiting at Departamento de Matemática CMUC, Universidade de Coimbra, Portugal. Hosted by Prof. José Miguel Urbano.
- November 22–29, 2009: Visiting at Departamento de Análisis Matemático, Granada, Spain. Hosted by Prof. David Arcoya.
- September 14–20, 2008: Visiting at Departamento de Matemática CMUC, Universidade de Coimbra, Portugal. Hosted by Prof. José Miguel Urbano.
- April 6–18, 2008: Visiting at Departamento de Análisis Matemático, Granada, Spain. Hosted by Prof. David Arcoya.
- December 14–21, 2007: Visiting at Department of Mathematics, University of Valencia, Spain. Hosted by Prof. José M. Mazón Ruiz.
- July 2007: Visiting at Departamento de Álgebra y Análisis Matemático, Almería, Spain. Hosted by Prof. José Carmona Tapia.
- May 2006: Visiting at Department of Mathematics of University Autonoma, Madrid, Spain. Hosted by Prof. Irene Alonso Peral.