

CURRICULUM VITAE

Fatma Gamze DÜZGÜN

24 ottobre 1983

Dipartimento di Matematica e Informatica, Università di Cagliari
Via Ospedale 72, 09124 Cagliari, Italia

e-mail: fatmagamze.duzgun@unica.it
gamzeduz@gmail.com

Formazione

PostDoc, Università di Firenze, Italia, feb 2014 – feb 2015

Dottorato di Ricerca (PhD) in Matematica, Hacettepe University, Turchia, 2014

Laurea Magistrale (M.Sc) in Matematica, Hacettepe University, Turchia, 2008

Laurea Triennale (B.Sc) in Matematica, Hacettepe University, Turchia, 2005

Tesi

Tesi di Dottorato:

“Investigation of Class of Nonlinear Diffusion Equations” (2014, Supervisor Prof. Kamal Soltanov, Faculty of Science, Department of Mathematics, Hacettepe University).

Tesi di Laurea Magistrale:

“Investigation of the 3. Type Boundary Value Problem of an Emden-Fowler Type Equation” (2008, Supervisor Prof. Kamal Soltanov, Faculty of Science, Department of Mathematics, Hacettepe University).

Interessi di Ricerca

Equazioni differenziali non lineari (tipo parabolico ed ellittico),
problemi di diffusione non lineari,
equazioni ellittiche frazionarie,
equazioni anisotrope,
modelli di Keller-Segel / chemotassi,
esistenza, unicità e comportamento delle soluzioni,
regolarità di Hölder delle soluzioni,
stime di Harnack.

Lingue Straniere

Inglese (avanzato)
Italiano (avanzato)
Francese (intermedio)
Spagnolo (intermedio)
Greco (principiante)

Esperienza Professionale

RTT (Ricercatrice a tempo determinato tenure track)

Dipartimento di Matematica e Informatica, Università di Cagliari
ottobre 2024 - presente

Professoressa Associata di Analisi e Teoria delle Funzioni

Dipartimento di Matematica, Hacettepe University, Beytepe-Ankara, Turchia
novembre 2018 - 2024

Vice Direttrice del Dipartimento di Matematica

Hacettepe University
2018 - 2021

Coordinatrice Erasmus del Dipartimento

Hacettepe University
2018 - 2024

Visiting Academic

Dipartimento di Matematica "Ulisse Dini", Università di Firenze
(collaborazione con Prof. Vincenzo Vespri)
14.01.2018 - 17.06.2018

Ricercatrice (Postdoc con borsa di studio)

Università di Firenze, Italia
01.03.2014 - 28.02.2015

Visiting Academic

Dipartimento di Matematica "Ulisse Dini", Università di Firenze
(collaborazione con Prof. Vincenzo Vespri)
01.11.2012 - 01.05.2013

Assistente di Ricerca

Dipartimento di Matematica, Hacettepe University, Ankara, Turchia
2005 - 2018

Pubblicazioni

- Duzgun F. G., Marras M., Vernier-Piro S., "A class of fourth-order parabolic systems with time dependent coefficients with blow-up solutions", Discrete and Continuous Dynamical Systems -Series S (2026)
- Cassanello F. M., Duzgun F. G., Iannizzotto A., "Hölder regularity for the fractional p-Laplacian, revisited", Advances in Calculus of Variations (2025)

- Duzgun F. G., Iannizzotto A., Vespri V., “A clustering theorem in fractional Sobolev spaces”, *Annales Fennici Mathematici* (2025)
- Chiyo Y., Duzgun F. G., Frassu S., Viglialoro G., “Boundedness Through Nonlocal Dampening Effects in a Fully Parabolic Chemotaxis Model with Sub and Superquadratic Growth”, *Applied Mathematics and Optimization* (Feb 2024).
- Duzgun F. G., Mosconi S., Vespri V., “Harnack and Pointwise Estimates for Degenerate or Singular Parabolic Equations”, Chapter In book: *Contemporary Research in Elliptic PDEs and Related Topics*, 301-368 (July 2019).
- Duzgun F. G., Mosconi S., Vespri V., “Anisotropic Sobolev embeddings and the speed of propagation for parabolic equations”, *Journal of Evolution Equations*, (September 2019).
- Duzgun F. G., Iannizzotto A., “Three nontrivial solutions for nonlinear fractional Laplacian equations”, *Advances in Nonlinear Analysis*, (May 2018).
- Chiti F., Fantacci R., Duzgun F. G., Vespri V., “A game theory inspired channel allocation policy for multi-radio Ad Hoc Communications” *Wireless Communications and Mobile Computing* (2016)
- Duzgun F. G., Gianazza U., Vespri V., “1-Dimensional Harnack Estimates”, *Discrete and Continuous Dynamical Systems - Series S* 9(3) (2016)
- Duzgun F. G., Soltanov K., “Existence, Uniqueness and Behaviour of Solution for Nonlinear Diffusion type Equation with Third Type Boundary Value”, *EMS Rendiconti Lincei Matematicae Applicazioni* (2015)
- Duzgun F. G., Fornaro S., Vespri V., “Interior Harnack Estimates: The State-of-the-Art for Quasilinear Singular Parabolic Equations” *Milan Journal of Mathematics* (2015).
- Fino A., Duzgun F. G., Vespri V., “Conservation of the Mass for Solutions to a Class of Singular Parabolic Equations”, *Kodai Mathematical Journal* (2014).
- Duzgun F. G., Soltanov K., “Some Mixed Problems for Semilinear Parabolic Type Equation”, *Journal of Applied Analysis and Computation* (2014).
- Duzgun F. G., Marcellini P., Vespri V., “Space Expansion for a Solution of an Anisotropic p -Laplacian Equation by Using a Parabolic Approach”, *Riv. Mat. Univ. Parma*, Vol 5 (2014).
- Duzgun F. G., Marcellini P., Vespri V., “An Alternative Approach to the Holder Continuity of Solutions to some Elliptic Equations”, *Nonlinear Analysis: Theory, Methods & Applications* (2014).
- Duzgun F. G., Soltanov K., “On Some Emden-Fowler Type Equations”, *AIP Conf. Proc.*, 1168,377 (2009)

Progetti

- Progetto di Ricerca GNAMPA
"Classificazione delle soluzioni di equazioni evolutive nonlocali"
(2025, CUP E53C25002010001)
- "Partial differential equations and their role in understanding natural phenomena"
finanziato da Fondazione Banco di Sardegna
(2023, CUP F23C25000080007)
- Progetto di ricerca nel Dipartimento di Matematica, Università di Firenze, "Regularity Results for a Larger Class of Anisotropic Operators", 2018
- Progetto PostDoc nel Dipartimento di Ingegneria dell'Informazione, Università di Firenze
"Sistemi wireless di nuova generazione per comunicazioni mobili professionali per la piattaforma WILIFE", 2014–2015
- Progetto TUBİTAK – NASU, "Solvability of nonlinear dynamical systems of mathematical physics, Exact integrability, and Analytic properties of solution manifolds"
borsa di ricerca, 2011–2014

Conferenze e Attività Accademiche

- Erasmus+ Blended Intensive Program titled "Theoretical and numerical analysis of differential equations and their applications", Dept. of Mathematics and Informatics, Cagliari University, Italy, July 2025 (Lecturer of the course & Local organizer at the University of Cagliari)
- Erasmus+ Teaching Mobility, Dept. of Mathematics and Mathematical Statistics, Umeå University, Sweden, May 2023
- Workshop in Mathematical Modelling and Analysis, Umeå University, Sweden, 2023 (invited speaker)
- Seminar in the Dept. of Mathematics and Mathematical Statistics, Umeå University, Sweden, 2023
- IV Workshop on Trends in Nonlinear Analysis, Cagliari, Italy, 2022 (invited speaker)
- The 26th International Conference on Difference Equations and Applications (ICDEA 2021), online conference, 26-31 July 2021 (speaker)
- Seminario di Calcolo delle Variazioni ed Equazioni alle Derivate Parziali, Dept. of Mathematics, University of Florence, Italy, Sept 2019.
- TURKEY-ITALY Colloquium on Applied Analysis and Differential Equations (TICAD 2019), Hacettepe University, Ankara, Turkey, 10-11 July 2019 (organizer)
- European Women in Mathematics General Meeting 2018, Celebrating 30 years of EWM, Graz, Austria, September 2018 (speaker: PDEs around the world-representation of Asia).

- General Analysis Seminars, Dept. of Mathematics, University of Padova, Italy, April 2018.
- Academic visitor in Math. Dept. "Ulisse Dini" of Florence University (collaboration with Prof.Dr. Vincenzo Vespri), 14.01.2018-17.06.2018.
- III Workshop on Trends in Nonlinear Analysis, Cagliari, Italy, 2017
- The 11th ISAAC Congress, Vaxjo, Sweden, 2017 (speaker).
- Harnack's Inequalities and Nonlinear Operators, Cortona, Italy, 2017 (speaker).
- Research Meeting on Non-Local Operators, Cagliari, Italy, 2016 (invited speaker).
- The 11th AIMS Conference on Dynamical Systems, Differential Equations and Applications, Orlando, USA, 2016 (speaker)
- XL Summer School on Mathematical Physics, Ravello, Italy, 2015 (speaker)
- Workshop in Nonlinear PDEs, Brussels, Belgium, 2015 (speaker)
- Post Doc. in Department of Information Engineering, Florence University, Italy (01.03.2014-28.02.2015)
- CICAM 7- Seventh China-Italy Colloquium on Applied Mathematics, Palermo, Italy, 8-11 September 2014 (speaker).
- CIME-Centro Internazionale Matematico Estiva/ Vector Valued Partial Differential Equations and Applications, Cetraro, Italy, July 2013.
- Academic Visitor in Dept. of Math. "Ulisse Dini" of University of Florence (working with Prof.Dr. Vincenzo Vespri), 01.11.2012-01.05.2013.
- The International Society for Analysis, its Applications and Computation (ISAAC), Moscow, Russia, 2011 (speaker).
- 6th Ankara Mathematics Days, Hacettepe University, Ankara, Turkey, 2011.
- Mathematical Analysis, Differential Equations and Their Applications, Bulgaria, 2010 (speaker).
- 7th International Conference of Numerical Analysis and Applied Mathematics, Crete, Greece, 2009 (speaker).
- XXI. National Mathematics Symposium, Koç University, Istanbul, Türkiye, 2008.
- XX. National Mathematics Symposium, Erzurum, Türkiye, 2007 (speaker).
- XIX. National Mathematics Symposium, Kütahya, Türkiye, 2006.