PERSONAL INFORMATION

Konstantinos Bessas

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🌐 konstantinos-bessas.github.io

Date of birth 9 March 1994 | Nationality Italian

ACADEMIC POSITIONS

Mar 2023 – Present

Postdoctoral Researcher (Assegnista di Ricerca) in Mathematics
Università di Pavia, Pavia (Italy)
Mentor: Professor Maria Giovanna Mora

EDUCATION AND TRAINING

Nov 2019 – May 2023

PhD in Mathematics
ISCED 8

Università di Pisa, Pisa (Italy)
Supervisor: Professor Matteo Novaga
Thesis title: "Nonlocal Models in Calculus of Variations"
PhD thesis defended on 02/05/2023

Dec 2016 – Apr 2019

Master of Science in Mathematics
ISCED 7

Università degli Studi di Parma, Parma (Italy)
Thesis supervisors: Professor Jan Kristensen, Professor Massimiliano Morini
Thesis title: "Oscillations and concentrations in sequences of gradients"
Grade: 110/110 cum laude

Sep 2013 – Dec 2016

Bachelor of Science in Mathematics
ISCED 6

Università degli Studi di Parma, Parma (Italy)
Thesis supervisor: Professor Massimiliano Morini
Thesis title: "The Mumford-Shah functional in one space dimension"
Grade: 110/110 cum laude

Sep 2008 – Jun 2013

School-leaving certificate
ISCED 3

Liceo Scientifico Giacomo Ulivi, Parma (Italy)
Grade: 100/100 cum laude

RESEARCH INTERESTS

– Calculus of Variations
– Nonlocal Interaction Problems
– Isoperimetric Problems
– Geometric PDEs
– Image Processing

SCHOLARSHIPS

Nov 2019 – Jan 2023 PhD scholarship at the Department of Mathematics of the University of Pisa

2013 – 2016 Winner of an INdAM scholarship covering the studies towards the Bachelor's degree (Borsa di studio INdAM per l'iscrizione a corsi di Laurea in matematica)

GRANTS

Mar 2024 – Feb 2027 Young researchers grant 2023, 2023-0873, awarded by Fondazione Cariplo (200.000 €). Single PI.

VISITS (FUNDED)

May 2022 – Jun 2022	Department for Applied Mathematics (University of Freiburg)
	(Scientific collaboration with Professor Patrick Dondl)
May 2018 – Jun 2018	Mathematical Institute (University of Oxford)
	(Work under the supervision of Professor Jan Kristensen on my master thesis)
Aug 2014	INdAM scholarship holders meeting (Università di Perugia)

INVITED TALKS

29/05/2024 *On the Shape of Small Liquid Drops Minimizing Nonlocal Energies*
Shape Optimization, Geometric Inequalities and Related Topics – II Edition
University of Salento

23/05/2024 *On the Shape of Small Liquid Drops Minimizing Nonlocal Energies*
International Conference on Elliptic and Parabolic Problems: GAETA 2024
Minisymposium MS-10: Regularity theory for variational problems
Hotel Serapo, Gaeta (Latina)

21/05/2024 *On the Shape of Small Liquid Drops Minimizing Nonlocal Energies*
Lions-Magenes days 2024
University of Pavia

20/10/2023 *On the Shape of Small Liquid Drops Minimizing Nonlocal Energies*
SHSU Analysis Seminar
Sam Houston State University, (online)

04/07/2023 *Long-range interactions in configurations of liquid droplets at equilibrium*
Seminari MAP: Metodi per l'Analisi e la Probabilità
University of Pisa

03/04/2023 *Nonlocal total variation denoising model with weighted L^1 fidelity*
Seminari di Matematica Applicata
University of Pavia

27/03/2023 *Nonlocal total variation denoising model with weighted L^1 fidelity*
Seminario di Analisi
University of Naples Federico II

25/11/2022 *Fractional total variation denoising model with L^1 fidelity*
Weekend di lavoro su Calcolo delle Variazioni
Grand Hotel Tettuccio, Montecatini Terme (Pistoia)

02/06/2022 *Fractional total variation denoising model with L^1 fidelity*
Oberseminar
University of Freiburg

CONTRIBUTED TALKS

24/01/2024	*Dealing with a nonlocal world from a variational perspective* **Incontro Annuale dei Ricercatori in Matematica UNIPV** University of Pavia
19/09/2023	*Non-local BV functions and a denoising model with L^1 fidelity* **Shape Optimization, Isoperimetric and Functional Inequalities** Bellavista Relax Hotel, Levico Terme (Trento)

POSTERS

11/07/2023	*Fractional total variation denoising model with L^1 fidelity* **Hausdorff School: "Analysis of PDEs: Variational and Geometric Perspectives"** Hausdorff Center for Mathematics, Bonn
04/10/2022	*Fractional total variation denoising model with L^1 fidelity* **Nonlocality: Analysis, Numerics and Applications** Lorentz Center, Leiden

TEACHING

Sep 2021 – May 2022	Teaching assistant for the course "Analisi Matematica 1" (Calculus 1) (Università di Pisa, Bachelor's degree in Mathematics)
Sep 2020 – Jun 2021	Teaching assistant for the course "Analisi matematica 2" (Calculus 2) (Università di Pisa, Bachelor's degree in Mathematics)

ORGANIZATION

(24 - 25) 01/2024	Co-organizer of the workshop "Incontro Annuale dei Ricercatori in Matematica UNIPV" (in collaboration with Andrea Bondesan, Carlo Marcati, Silvia Paparini and Michele Schiavina)
Nov 2021 – Jan 2023	Co-organizer of the seminar series "Seminari MAP: Metodi per l'Analisi e la Probabilità" (in collaboration with Daniele Barbera, Luca Briani and Luciano Sciaraffia)
Mar 2021 – Nov 2021	Co-organizer of the seminar series "Seminari MAP: Metodi per l'Analisi e la Probabilità" (in collaboration with Luca Briani and Vincenzo Scattaglia)

SCIENTIFIC PROJECTS

Mar 2024 - Feb 2027	Single PI of the Fondazione Cariplo Project *Nonlocality in image denoising and other variational problems* (Young researchers grant 2023, 2023-0873)
2024	Participation to the INdAM GNAMPA Project *Proprietà geometriche e regolarità in problemi variazionali locali e non locali*
Oct 2023 - Feb 2024	Participation to the PRIN 2022 Project *Variational methods for stationary and evolution problems with singularities and interfaces*
2023	Participation to the INdAM GNAMPA Project *Variational problems for non-local functionals and operators*
Mar 2023 - Sep 2023	Participation to the PRIN 2017 Project *Variational methods for stationary and evolution problems with singularities and interfaces*
2022	Participation to the INdAM GNAMPA Project *Nonlocal phenomena in local problems*
2020	Participation to the INdAM GNAMPA Project *Minimal clusters and minimal partitions*

CONFERENCES, WORKSHOPS, SCHOOLS

(27 - 29) 05/2024	Shape Optimization, Geometric Inequalities and Related Topics – II Edition University of Salento

(22 - 24) 05/2024	International Conference on Elliptic and Parabolic Problems: GAETA 2024
	Hotel Serapo, Gaeta (Latina)
21/05/2024	Lions-Magenes days 2024
	University of Pavia
(12 - 16) 02/2024	XXXIII Convegno Nazionale di Calcolo delle Variazioni
	Hotel Mediterraneo, Riccione
(24 - 25) 01/2024	Incontro Annuale dei Ricercatori in Matematica UNIPV
	University of Pavia
06/12/2023	Incontri di Analisi Matematica tra Firenze, Pisa e Siena
	University of Florence
21/11/2023	Boundary value problems and applications – The legacy of Enrico Magenes
	University of Pavia
26/10/2023	XI Giornata MI-PV
	Department of Mathematics, Politecnico di Milano
(18 - 22) 09/2023	Shape Optimization, Isoperimetric and Functional Inequalities
	Bellavista Relax Hotel, Levico Terme (Trento)
(17 - 21) 07/2023	Nonlinear PDEs: Recent Trends in the Analysis of Continuum Mechanics
	Hausdorff Center for Mathematics, Bonn
(10 - 14) 07/2023	Hausdorff School: "Analysis of PDEs: Variational and Geometric Perspectives"
	Hausdorff Center for Mathematics, Bonn
(12 - 16) 06/2023	Calculus of Variations & Geometric Measure Theory
	Aula Magna - Polo Fibonacci (University of Pisa)
(29/05 - 02/06) 2023	Geometric Measure Theory
	La Casa della Gioventù universitaria, Bressanone (Bolzano)
(25 - 27) 11/2022	Weekend di lavoro su Calcolo delle Variazioni
	Grand Hotel Tettuccio, Montecatini Terme (Pistoia)
(4 - 7) 10/2022	Nonlocality: Analysis, Numerics and Applications
	Lorentz Center, Leiden
(5 - 9) 09/2022	Anisotropic isoperimetric problems & related topics
	Best Western Globus Hotel, Rome
(20 - 24) 06/2022	Isoperimetric Problems
	Department of Mathematics (University of Pisa)
(23 - 25) 05/2022	Workshop on Nonlinear Bending
	Department for Applied Mathematics (University of Freiburg)
(9 - 13) 05/2022	XXXI Convegno Nazionale di Calcolo delle Variazioni
	Bellavista Relax Hotel, Levico Terme (Trento)
(21 - 25) 02/2022	Free Boundary Problems and related Evolution Equations
	ESI Vienna (Online)
(8 - 9) 11/2021	Ricordando Luciano Modica
	Department of Mathematics (University of Pisa)
(13 - 14) 10/2021	A Pisan workshop in Geometric Analysis
	Centro di Ricerca Matematica Ennio De Giorgi (Pisa)
(6 - 10) 09/2021	Variational methods and applications
	Centro di Ricerca Matematica Ennio De Giorgi (Pisa)
(21 - 25) 06/2021	Calculus of Variations and PDEs: recent developments and future directions
	FIM - Institute for Mathematical Research (Online)
(22 - 26) 02/2021	Winterschool on Analysis and Applied Mathematics
	University of Münster (Online)

(15 - 17) 12/2021	Online workshop in Geometric Analysis
	University of Pisa & Scuola Normale Superiore di Pisa (Online)
30/10/2020	Incontri di Analisi Matematica tra Firenze, Pisa e Siena
	University of Siena (Online)
(3 - 7) 02/2020	XXX Convegno Nazionale di Calcolo delle Variazioni
	Bellavista Relax Hotel, Levico Terme (Trento)
(25 - 28) 11/2019	Recent trends in Geometric analysis and applications
	Centro di Ricerca Matematica Ennio De Giorgi (Pisa)
22/11/2019	Incontri di Analisi Matematica tra Firenze, Pisa e Siena
	Department of Mathematics (University of Pisa)
(18 - 19) 06/2018	Women in PDEs
	Mathematical Institute (University of Oxford)

PERSONAL SKILLS

Mother tongue   Italian

Other languages

UNDERSTANDING		SPEAKING		WRITING
Listening	Reading	Spoken interaction	Spoken production	
B2	B2	B2	B2	B2
First Certificate in English (FCE) B2				

English

Levels: A1 and A2: Basic user – B1 and B2: Independent user – C1 and C2: Proficient user
Common European Framework of Reference for Languages

PUBLISHED PAPERS

2023 [2] **K. Bessas**, M. Novaga, and F. Onoue. **2023**. "On the shape of small liquid drops minimizing nonlocal energies". *ESAIM Control Optim. Calc. Var.* 29, Paper No. 86, 26. DOI: 10.1051/cocv/2023080.

2022 [1] **K. Bessas**. **2022**. "Fractional total variation denoising model with L^1 fidelity". *Nonlinear Anal.* 222, Paper No. 112926. DOI: 10.1016/j.na.2022.112926.

ACCEPTED PAPERS

2023 [A1] **K. Bessas** and G. Stefani. **2023**. *Non-local BV functions and a denoising model with L^1 fidelity*. To appear on *Advances in Calculus of Variations*. arXiv: 2210.11958 [math.FA].

PHD THESIS

2023 [T1] **K. Bessas**. **2023**. "Nonlocal Models in Calculus of Variations". PhD thesis. Università di Pisa. URL: https://etd.adm.unipi.it/t/etd-04232023-211355/.

REFERENCES

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Università di Parma

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