

# Filomena De Filippis



## Education

- 2015 – 2018 **Bachelor Degree in Mathematics:** University of Padua  
Thesis title: *Il Principio Variazionale di Ekeland e Applicazioni*
- 2018 – 2020 **Master Degree in Mathematics:** University of Padua  
Thesis title: *Necessary Conditions for Minimizers for One-dimensional and Multidimensional Integral Functionals*
- 2020 – present **Ph.D. in Mathematics:** University of L' Aquila

## Teaching

- September 2021 – January 2022 **Tutor** of the course of Mathematical Analysis for the degree in informatics
- September 2022 – January 2023 **Tutor** of the course of Mathematical Analysis for the degree in informatics

## Research Publications

### Journal Articles

- F. De Filippis, F. Leonetti: No Lavrentiev gap for some double phase integrals, *Adv. Calc. Var.* (2022)
- F. De Filippis, F. Leonetti, P. Marcellini, E. Mascolo: The Sobolev class where a weak solution is a local minimizer, *Atti Accad. Naz. Lincei Rend. Lincei Mat. Appl.* (to appear)
- F. De Filippis, F. Leonetti, G. Treu: Non occurrence of Lavrentiev Gap for a class of functionals with non standard growth, *submitted*
- M. Borowski, I. Chlebicka, F. De Filippis, B. Miasojedow: Absence and presence of Lavrentiev's phenomenon for double phase functionals upon every choice of exponents, *arXiv:2303.05877*

## Conferences, Workshop and Seminars

### Presentations in International Conferences

- May 2022 "No Lavrentiev Gap for Some Double Phase Integrals", French-German-Portuguese conference on optimization, Porto
- June 2022 "No Lavrentiev Gap for Some Double Phase Integrals", Advances in Calculus of Variations, on the occasion of the 65th birthday of Frank Duzaar, Naples
- September 2023 "Absence of Lavrentiev Phenomenon for non-autonomous functionals", XXII Congresso dell'Unione Matematica Italiana, Pisa

### Seminars

- November 2022 "Absence of Lavrentiev Phenomenon for Densities with  $(p, q)$ -growth", University of Warsaw
- March 2023 "Regularity in the Calculus of Variations: Lavrentiev Phenomenon", University of L' Aquila
- July 2023 "Non occurrence of Lavrentiev Phenomenon for functionals with non standard growth", University of Coimbra

## Conferences, Workshop and Seminars (continued)

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### Attendance at Conferences and Workshop (sometimes with Poster)

- September 2022 ✈ Nonuniformly elliptic problems, Institute of Mathematics of the Polish Academy of Sciences, Warsaw
- February 2023 ✈ Geometric and functional inequalities, function spaces and PDEs, conference dedicated to the 60th birthday of Andrea Cianchi, Prague  
**Poster presentation:** *"Non Occurrence of Lavrentiev Gap for Functionals with Non-standard Growth"*
- ✈ Regularity Aspects in Nonlinear PDEs, Naples
- May 2023 ✈ International Conference on Elliptic and Parabolic Problems, Naples  
**Poster presentation:** *"Absence and presence of Lavrentiev's phenomenon for double phase functionals upon every choice of exponents"*
- June 2023 ✈ International Conference on Partial Differential Equations and Applications in honor of the 70th birthday of Pierangelo Marcati, L'Aquila

## Visiting Research

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- 17–24 October 2022 🌐 University of Padua
- 13–19 November 2022 🌐 University of Warsaw
- 09–12 July 2023 🌐 University of Coimbra

## Language Skills

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- ★ **Italian** native ~ **English** fluent ~ **Polish** basic

L' Aquila, 18/09/2023