

UNIVERSITÀ DEGLI STUDI DI MILANO

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# Sebastiano Don

## *Curriculum Vitae*

Mattilanniemi, P.O. Box 35 (MaD)

FI-40014, Finland

✉ [sedon@jyu.fi](mailto:sedon@jyu.fi)

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### Personal Details

Name Sebastiano  
Surname Don  
Birth Gavardo (Italy), January 5, 1991

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### Education

October 2015- **PhD in Mathematics.**  
January 2019 Università degli Studi di Padova, dipartimento di Matematica Tullio-Levi Civita, Italy  
Thesis: *Functions of bounded variation in Carnot-Carathéodory spaces*  
Advisor: Prof. Davide Vittone

September 2013 - **Master Degree in Mathematics, 110/110 cum laude.**  
July 2015 Università Cattolica del Sacro Cuore, Brescia, Italy  
Thesis: *Morse Theory for functionals defined on BV*  
Advisor: Prof. Marco Degiovanni

September 2010 - **Bachelor Degree in Mathematics, 110/110 cum laude.**  
September 2013 Università Cattolica del Sacro Cuore, Brescia, Italy  
Thesis: *Ekeland's Variational Principle*  
Advisor: Prof. Marco Degiovanni

September 2005 - **High School Diploma (Liceo Scientifico).**  
June 2010 Liceo Scientifico Enrico Fermi, Salò, Italy

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### Current Position

October 2018 - **Post-doc researcher, Department of Mathematics and Statistics, Jyväskylä, Finland.**  
September 2020 *The research done mostly concerns with Geometric Measure Theory and Calculus of Variations in the setting of Sub-Riemannian Geometry.*

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### Scientific interests

- Sub-Riemannian Geometry;
- Geometric Measure Theory;
- Calculus of Variations;
- Morse Theory.

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### Scholarships and Prizes

Oct. 2015 - Ph.D. scholarship of the University of Padova for the duration of the Ph.D. program  
Sept. 2018 (three years).  
2013 Winner of *Istituto Toniolo's* scholarship.  
2010-2012 Winner of INdAM scholarship for students in Mathematics.

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## Teaching Activity

- Oct. 2017 - **Teaching Assistant**, *Analisi Matematica I (Calculus I)* for Bachelor's Degree in Physics  
Jan. 2018 and Astronomical Sciences at Università degli Studi di Padova (40 hours).
- Oct. 2016 - **Teaching Assistant**, *Analisi Matematica I (Calculus I)* for Bachelor's Degree in Physics  
Jan. 2017 and Astronomical Sciences at Università degli Studi di Padova (28 hours).
- Jan. 2020 - **Teaching Assistant**, *Differential Geometry* for Master Degree in Mathematics, Depart-  
Mar. 2020 ment of Mathematics and Statistics of Jyväskylä, Finland.

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## Scientific Visits

- 01.03.2017- Department of Mathematics and statistics, Jyväskylä, Finland. Supervisor for the visiting  
31.05.2017 period: Prof. Enrico Le Donne.

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## Invited Talks

- 15.02.2018 **Some properties of BV functions in Carnot-Carathéodory spaces**, during the  
workshop *XXVIII Convegno Nazionale di Calcolo delle Variazioni*, Levico Terme, Italy,  
12.02.2018-16.02.2018.
- 22.02.2018 **Some properties of BV functions in Carnot-Carathéodory spaces**, during the  
workshop *Sub-Riemannian Geometry and Beyond*, Jyväskylä, 19.02.2018-23.02.2018.
- 12.06.2018 **Some properties of BV functions in Carnot-Carathéodory spaces**, during the  
workshop *Geometric Measure Theory in Verona*, Verona, Italy, 11.06.2018-15.06.2018
- 22.11.2018 **Some properties of BV functions in Carnot-Carathéodory spaces**, University  
of New South Wales, Sydney, Australia.
- 18.07.2019 **Some properties of BV functions in Carnot-Carathéodory spaces**, Dipartimento  
di Matematica e Fisica Ennio de Giorgi, Università del Salento, Lecce, Italy.
- 16.10.2019 **A rectifiability result for sets of finite perimeter in Carnot groups**, Diparti-  
mento di Matematica, Università di Pisa, Italy.
- 17.10.2019 **Fine properties of BV functions in Carnot-Carathéodory spaces**, Scuola Nor-  
male Superiore, Pisa, Italy.
- 24.10.2019 **Functions of bounded variation in sub-Riemannian manifolds**, Dipartimento di  
Matematica e Fisica, Università Cattolica del Sacro Cuore, Brescia, Italy.
- 18.12.2019 **A rectifiability result for sets of finite perimeter in Carnot groups**, Diparti-  
mento di Matematica Tullio Levi-Civita, Università degli Studi di Padova, Italy.
- 04.02.2020 **A rectifiability result for sets of finite perimeter in Carnot groups**, during the  
workshop *XXX Convegno Nazionale di Calcolo delle Variazioni*, Levico Terme, Italy.

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## Publications and preprints

- [1] Don, Sebastiano; Massaccesi, Annalisa; Vittone, Davide. *Rank-one theorem and subgraphs of BV functions in Carnot groups*. J. Funct. Anal. 276 (2019), no. 3, 687-715.
- [2] Don, Sebastiano; Vittone, Davide. *A compactness result for BV functions in metric spaces*. Ann. Acad. Sci. Fenn. Math. 44 (2019), no. 1, 329-339.
- [3] Don, Sebastiano; Vittone, Davide. *Fine properties of functions with bounded variation in Carnot-Carathéodory spaces*. J. Math. Anal. Appl. 479 (2019), no. 1, 482-530.
- [4] Don, Sebastiano; Le Donne, Enrico; Moisala, Terhi; Vittone, Davide. *A rectifiability result for finite-perimeter sets in Carnot groups*, preprint 2019, <https://arxiv.org/abs/1912.00493>.

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## Works in preparation

- Carbotti, Alessandro; Don, Sebastiano; Pallara, Diego; Pinamonti, Andrea. *Local minimizers and  $\Gamma$ -convergence for a class of non-local perimeters in Carnot groups*, in preparation.
- Degiovanni, Marco; Don, Sebastiano. *On the existence of nontrivial critical points for functionals involving an area type term*, in preparation.

- Don, Sebastiano; Magnani, Valentino. *The area formula for hypersurfaces in equiregular weighted sub-Riemannian manifolds*, in preparation.
- Antonelli, Gioacchino; Di Donato, Daniela; Don, Sebastiano; *Uniformly intrinsic differentiable graphs in Carnot groups*, in preparation.

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## Linguistic skills

Italian Mother Tongue  
 English Intermediate: C1 examination *Scientific English* 06.07.2011

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## Professional Memberships

2016-2018 Member of *Gruppo Nazionale per l'Analisi Matematica, la Probabilità e le loro Applicazioni* (GNAMPA) of Istituto Nazionale di Alta Matematica “Francesco Severi”.

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## Scientific Programming

C, Python.

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## Other information

Referee of a paper for the journal *Analysis & PDE*

Jyväskylä (Finland), March 3, 2020