

# Blanche Buet

*Maîtresse de Conférence*

LMO - UMR 8628

Université Paris Sud

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## 1. CURRICULUM VITAE

### Personal information

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Born on April 14<sup>th</sup>, 1988 in Charenton-le-Pont (France).

### Jobs

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- Since September 2015: **Maîtresse de conférences** at the *Laboratoire de Mathématiques d'Orsay* (Université Paris-Sud) and member of INRIA DataShape Team since 2020.
- September 2014–August 2015: **ATER** at the *Institut Camille Jordan* (Université Claude Bernard Lyon 1, France).
- September 2011–August 2014: **PhD student** at the *Institut Camille Jordan* (Université Claude Bernard Lyon 1, France).
- September 2007–August 2011: **Élève normalienne** at the *ÉNS Lyon* (Mathematics Department), France.

### Education

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- **2014 : PhD thesis in Mathematics**, *Université Claude Bernard Lyon 1, France*.  
Under the supervision of **Simon Masnou** (Lyon 1) and **Gian Paolo Leonardi** (Modena), at the *Institut Camille Jordan*, defended on December 12th.  
Title: *Surface approximation by discrete varifolds: representation, rectifiability, curvature*.  
Doctoral committee: Guy DAVID (reviewer), Gian Paolo LEONARDI (advisor), Simon MASNOU (advisor), Petru MIRONESCU, Hervé PAJOT, Giandomenico ORLANDI (reviewer), Édouard OUDET (reviewer) and Alain TROUVÉ.
- **2011: Master in mathematics**, *ÉNS Lyon* and *Université Claude Bernard Lyon 1, France*.
- **2010: Agrégation de mathématiques** (Competitive exam for recruiting teachers), *ÉNS Lyon, France*.
- **2008: Bachelor in mathematics**, *ÉNS Lyon, France*.
- **2005: Baccalauréat**, *Pertuis, France*.

### Oral communications in Conferences

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- January 2021: Mathematics and Image Analysis MIA'21, link to video: [http://gdr-mia.math.cnrs.fr/events/fgmia-21/program/talks/B\\_Buet.mp4](http://gdr-mia.math.cnrs.fr/events/fgmia-21/program/talks/B_Buet.mp4)
- March 2020: Workshop *Geometric Curvature Functionals and Optimization* (Göttingen, Germany).
- April 2019: *Geometric Processing*, IPAM program Geometry and Learning from Data in 3D and Beyond (UCLA, USA).
- February 2019: *Variational Methods and Optimization in Imaging*, thematic trimester of IHP: The Mathematics of Imaging (Paris, France).
- July 2018: *Curves and Surfaces* (Arcachon, France).
- June 2018: workshop *Geometric Measure Theory* (Verona, Italy).
- May 2018: *CANUM 2018* (Agde, France).
- September 2016: *Geometric Measure Theory* (Toulouse, France).
- January 2016: *Mathematical Imaging and Surface Processing* (Oberwolfach, Germany).
- June 2015: **Poster prize**, *SMAI 2015* (Les Karellis, France).

- June 2015: *SSVM 2015* (Lège Cap Ferret, France).
- February 2015: *XXV Convegno Nazionale di Calcolo delle Variazioni* (Levico, Italy).
- October 2014: workshop *Shape and Topological Optimization* (Linz, Austria).
- June 2014: **Poster prize**, *Curves and Surfaces 2014* (Paris, France).

I also gave a talk in the *Mathematic Park* seminar aiming at students in the first years of university <http://ihp.fr/fr/seminaire/mathpark-programme1819>.

## Scientific responsibilities

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- Supervision :
  - Supervisor of the Master 2 internship of C. Boricaud.
  - Co-advisor of the PhD thesis of A. Sagueni.
- Member (examinator) of Ph.D. committees of Edoardo CAVALLOTTO (2018), Luca FERRARI (2018), Camille LABOURIE (2020), François GÉNÉRAU (2020) et Raphaël TINARRAGE (2020).
- Coordinator of a JCJC INSMI PEPS project (3000 euros - 2018).
- Member of 7 recruitment committees for “Maître de conférences” (Orsay 2017,2018,2019,2021 - P5 2019 - P6 2020 - Créteil 2021) positions and 1 recruitment committee for “PRAG” position (Orsay 2020).
- Co-organizer of the Harmonic Analysis team seminar (2017–2019)
- Member of laboratory council (since 2020) and gender committee (since 2019).
- Oral examinations for the entrance exam for the École Normale Supérieure de Cachan (2019).

## Periods spent abroad

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- November 2015–December 2015: I spent 2 months at the *Hausdorff Center for Mathematics* in Bonn (Germany) to work with Martin RUMPF.
- September 2013–December 2013: I spent 3 months at the *Maths Department of Modena* (Italy) to work with my advisor Gian Paolo LEONARDI.
- June 2008–July 2008: I spent 6 weeks at the *Poncelet laboratory in Moscow* (Russia) for a Bachelor internship supervised by Victor PRASOLOV.

## 2. PUBLICATIONS

### Journal papers and preprints

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- *Mean Curvature Motion of Point Cloud Varifolds*, BUET Blanche, RUMPF Martin, arxiv: <http://arxiv.org/abs/2010.09419> (2020).
- *Weak and approximate curvatures of a measure: a varifold perspective*, BUET Blanche, LEONARDI Gian Paolo, MASNOU Simon, arxiv: <http://arxiv.org/abs/1904.05930> (2019).
- *A varifold approach to surface approximation*, BUET Blanche, LEONARDI Gian Paolo, MASNOU Simon, *Archive for Rational Mechanics and Analysis*, 226 (2017), p. 639-694.
- *Recovering measures from approximate values on balls*, BUET Blanche, LEONARDI Gian Paolo, *Annales Academiæ Scientiarum Fennicæ*, 41 (2016), p. 947-972.
- *Quantitative conditions of rectifiability for varifolds*, BUET Blanche, *Annales de l’institut Fourier*, 65 no. 6 (2015), p. 2449-2506.

### Proceedings with peer review process

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- *Partial differential equations and variational methods for geometric processing of images*, B. Buet, J-M. Mirebeau, Y. van Gennip, F. Desquilbet, J. Dreo, F. Barbaresco, G.P. Leonardi, S. Masnou, C-B. Schönlieb, The SMAI journal of computational mathematics, Volume S5, [https://smai-jcm.centre-mersenne.org/item/SMAI-JCM\\_2019\\_\\_S5\\_\\_109\\_0/](https://smai-jcm.centre-mersenne.org/item/SMAI-JCM_2019__S5__109_0/) (2019).
- *Discretization and approximation of surfaces using varifolds*, BUET Blanche, LEONARDI Gian Paolo, MASNOU Simon, Geometric Flows, 3(2) (2018).
- *Discrete varifolds and surface approximation*, BUET Blanche, LEONARDI Gian Paolo, MASNOU Simon, Topological Optimization and Optimal Transport in the Applied Sciences, 17:159, Berlin, Boston: De Gruyter, 2017.
- *Discrete varifolds: a unified framework for discrete approximations of surfaces and mean curvature*, BUET Blanche, LEONARDI Gian Paolo, MASNOU Simon, SSVM 2015, LNCS volume 9087 p. 513-524.
- *Varifolds and Generalized curvature*, BUET Blanche, in ESAIM Proceedings, vol.42, December 2013, p. 1-9.

**Ph.D Thesis** *Discrete varifolds and surface approximation: representation, curvature, rectifiability.*, BUET Blanche, December 2014, Université Lyon 1, France. Ph.D advisors LEONARDI Gian Paolo and MASNOU Simon.

I took part in the "Semaine d'Étude Mathématiques et Entreprises" (Maths and Industries Week) 2011 in Lyon and the final report of our group is available here: <http://hal.archives-ouvertes.fr/hal-00780582>.