

Miguel del Álamo

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Address:

Institut für Mathematische Stochastik,
Goldschmidtstrasse 7
37077 Göttingen
Germany

Place and date of birth:

Soria (Spain)
November 15th, 1992

Education

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| 2016–2019 | Georg-August-Universität Göttingen , PhD in Mathematics
<i>Multiscale total variation estimators for regression and inverse problems</i>
Grade: Summa cum laude |
| 2014–2016 | Georg-August-Universität Göttingen , M.Sc. in Mathematics
Spezialization in Analysis, Geometry and Topology
Master's thesis: <i>Absorption of oscillations for semilinear wave equations</i>
Grade: 1,0 with distinction |
| 2013–2014 | Georg-August-Universität Göttingen , B.Sc. in Mathematics
Bachelor's thesis: <i>The KdV equation and the Inverse Scattering Method</i>
Grade: 1,7 |
| 2010–2013 | Universitat Autònoma de Barcelona , Double Major in Physics and Mathematics |

Professional Experience

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| 2019–today | Institut für Mathematische Stochastik , Göttingen (Germany)
Postdoctoral position with Prof. Axel Munk. |
| 2016–2019 | Institut für Mathematische Stochastik , Göttingen (Germany)
PhD student with Prof. Axel Munk. |
| 2014–2016 | Institut für Mathematische Stochastik , Göttingen (Germany)
Work with Prof. Axel Munk and PD Timo Aspelmeier as research assistant for the development of statistical models for fluorescence microscopy. |
| Summer 2011 | Massachusetts Institute for Technology , Cambridge (USA)
Summer internship at Jarillo-Herrero group on Quantum Nanoelectronics.
Work with the graphene superconductivity group in graphene fabrication. |
| 2011–2012 | Institut Català de Nanotecnología , Bellaterra (Spain)
Bachtold group on Quantum Nanoelectronics. Work on carbon nanotube fabrication and research. |

Teaching experience

SoSe 2018	Oberseminar Mathematical Statistics, University of Göttingen: Coorganization of seminar on "Computational lower bounds in statistics".
SoSe 2018	Mathematical Statistics II, University of Göttingen: Teaching assistant.
SoSe 2017	Mathematical Statistics IV, University of Göttingen: Teaching assistant.
WiSe 2016/17	Mathematical Statistics III, University of Göttingen: Teaching assistant.

Mentored students

2019–today	<i>Implementation of multiscale estimators in inverse problems.</i> Student assistance by Zhi Liu, University of Göttingen.
2018–today	<i>Random forests for classification: theoretical analysis and simulations.</i> Bachelor's thesis by Leo Claus Weber, University of Göttingen.
2017–2018	<i>Estimation in Semiparametric Mixture Models - from Algorithms to Asymptotics.</i> Master's thesis by Markus Pohlmann, University of Göttingen.

Invited talks

2018	IFIP TC 7 Conference on System Modelling and Optimization, July 23-27, 2018 in Essen (Germany)
2018	Workshop: Statistics of geometric features and new data types, March 19-23, 2018 in Cambridge (UK)
2017	Conference: 2017 Joint Mathematics Meetings, January 4-7, 2017 in Atlanta (USA)

Referee service

I have served as referee for the following journals

- The Annals of Statistics
- Bernoulli Journal

Publications

- 2019 | M. del Álamo. *Multiscale Total Variation Estimators for Regression and Inverse Problems*. PhD thesis, Georg-August-Universität Göttingen, 2019, <https://hdl.handle.net/21.11130/00-1735-0000-0003-C148-2>
- 2019 | M. del Álamo and A. Munk. Total variation multiscale estimators for linear inverse problems. *Submitted. arXiv preprint arXiv:1905.08515*, 2019
- 2019 | L. Frahm, K. Keller-Findeisen, P. Alt, S. Schnorrenberg, M. del Alamo Ruiz, T. Aspelmeier, A. Munk, S. Jakobs, and S. Hell. The molecular contribution function in resoltft nanoscopy. *To appear in Optics Express*, 2019
- 2019 | M. del Álamo, H. Li, and A. Munk. Frame-constrained total variation regularization for white noise regression. *Submitted. arXiv preprint arXiv:1807.02038*, 2018
- 2012 | A. Eichler, M. del Álamo Ruiz, J.A. Plaza, and A. Bachtold. Strong coupling between mechanical modes in a nanotube resonator. *Physical review letters*, 109(2):025503, 2012