

## Dr. Lorenzo Taggi

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### Current Position

- **Weierstrass Institute for Applied Analysis and Stochastics** Berlin, Germany  
*3+3 years WIAS research position* from March 2019

### Education and previous employment

- **University of Bath** Bath, U.K.  
*Postdoctoral Fellow* June 2018 - January 2019
- **Technische Universität Darmstadt** Darmstadt, Germany  
*Research Fellow* June 2015 - June 2018
- **Max Planck Institute for Mathematics in the Sciences** Leipzig, Germany  
*PhD in Mathematics, "summa cum laude"* September 2015  
– Thesis advisor: Artem Sapozhnikov
- **Sapienza Università di Roma** Roma, Italy  
*MSc in Statistical Physics, "110/110 summa cum laude"* 2008 - 2010  
– Erasmus program at University of Amsterdam
- **Sapienza Università di Roma** Roma, Italy  
*BSc in Physics, "110/110 summa cum laude"* 2005 - 2008
- **Liceo Scientifico "Francesco Severi"** Frosinone, Italy  
*High school degree, 100/100* 2000 - 2005

### Preprints and in preparation

1. **Abelian oil and water dynamics does not have an absorbing-state phase transition.**  
Authors: E. Candellero, A. Stauffer and L. Taggi.  
ArXiv: 11901.08425 (2019).  
Submitted to *Trans. Am. Society*.
2. **Uniformly positive correlations in the dimer model and phase transition in lattice permutations on  $\mathbb{Z}^d$ ,  $d \geq 3$ , via reflection positivity.** Author: L. Taggi. ArXiv: :1909.06558 (2019).
3. **Continuity and universal curvature bound for the critical curve of activated random walks via 'essential enhancements'.**  
Author: L. Taggi. In preparation.

## Published and accepted

4. **Site monotonicity and point-wise positivity for the spin  $O(N)$  model and interacting random walks.**  
Authors: B. Lees, and L. Taggi.  
ArXiv: 1902.07252 (2019).  
Accepted on *Comm. Math. Phys.*
5. **Interacting self-avoiding polygons.**  
Authors: V. Betz, H. Schäfer, L. Taggi.  
Accepted on *Annales de l'Institut Henri Poincaré (B): Probability and Statistics*.  
Preprint: arXiv 1805.08517 (2018).
6. **Shifted critical threshold in the loop  $O(n)$  model at arbitrary small  $n$ .**  
Author: L. Taggi.  
Published on *Electronic Communications in Probability*, Vol 23, No 96, Pag 1-9 (2018).
7. **Active phase for activated random walks on  $\mathbb{Z}^d$ ,  $d \geq 3$ , with density less than one and arbitrary sleeping rate.**  
Author: L. Taggi.  
*Annales de l'Institut Henri Poincaré (B): Probability and Statistics*, Vol 55, No 3, Pag 17511764.  
Preprint: arXiv 1712.05292 (2017).
8. **Scaling limit of a self-avoiding walk interacting with spatial random permutations.**  
Authors: V. Betz, L. Taggi.  
Accepted on *Electronic Journal of Probability*.  
Preprint: arXiv 1612.07234 (2016).
9. **Critical density for activated random walks on transitive graphs.**  
Authors: A. Stauffer, L. Taggi.  
Published on *Annals of Probability*, Volume 46, Number 4 (2018), 2190-2220.
10. **Absorbing-state phase transition in biased activated random walk.**  
Author: L. Taggi.  
Published on *Electronic Journal of Probability*, Vol. 21 (2016), No. 13, p. 15.
11. **Convergence time of probabilistic cellular automata on the torus.**  
Author: L. Taggi. Chapter of the book *Probabilistic cellular automata. Theory, Applications and Future Perspectives*, editors: P-Y. Louis, F.R. Nardi. ISBN 978-3-319-65556-7, Springer (2018).
12. **Critical probabilities and convergence time of Percolation probabilistic cellular automata.**  
Author: L. Taggi.  
Published on *Journal of Statistical Physics*, Vol. 159 (2015), No. 4, pp. 853-892.
13. **Dynamical Correlations in the Escape Strategy of Influenza A virus.**  
Authors: L. Taggi, F. Colaiori, V. Loreto, F. Tria.  
Published on *Europhysics Letters*, Vol. 101 (2013), 68003.

## Teaching and supervision

I taught two courses for bachelor and master students in Mathematics