

Michael Borinsky

Curriculum vitae

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📄 <https://michibo.github.io/>

Experience

- 09/2018– present **Nikhef, Amsterdam - Netherlands.**
Postdoc in the Nikhef theory group
- 04/2014– 08/2018 **Humboldt University, Berlin - Germany.**
Research assistant in Dirk Kreimer's group
- 03/2017– 04/2017 **University of Waterloo, Waterloo - Canada.**
Visiting researcher in Karen Yeats group at the Combinatorics and Optimization department.
- 11/2013– 01/2014 **Radboud University, Nijmegen - Netherlands.**
Visiting researcher in Walter van Suijlekom group: BRST symmetries and associated cohomologies in matrix models.
- 06/2012– 09/2012 **CERN, Geneva - Switzerland.**
CERN Summer Student Programme: Working on the ROOT framework
- 10/2007– 10/2008 **Fraunhofer Institute for Integrated Circuits, Erlangen - Germany.**
Undergraduate assistant

Education

- 04/2014– 04/2018 **PhD in mathematical Physics, Humboldt University, Berlin - Germany.**
Supervisor: Dirk Kreimer (grade: summa cum laude)
- 10/2011– 8/2013 **Master of Science in Physics, Humboldt University, Berlin - Germany.**
Major: Theoretical Particle Physics

Scholarships and Awards

- 09/2018 **Award: Springer Theses Award.**
My PhD thesis was published as a hardcover book in the Springer Theses Series.
- 04/2015– 02/2018 **Scholarship: German National Merit Foundation (Studienstiftung).**
Conceptual support for PhD students, additionally to my position at Humboldt University.
- 10/2016– 02/2018 **Membership in International Max Planck Research School.**
Conceptual support for PhD students in theoretical physics and financial support for conference participation.
- 10/2013– 03/2014 **Scholarship: Humboldt Research Track Scholarship.**
Full scholarship covering the complete costs of living.

- 07/2010– **Scholarship: German National Merit Foundation (Studienstiftung).**
09/2013 German scholarship providing conceptual and financial support for undergraduate students.

Teaching

- 10/2016– **Humboldt University, Berlin - Germany.**
04/2017 Research seminar on Eynard-Oratin Topological recursion.
10/2015– **Humboldt University, Berlin - Germany.**
04/2016 Research seminar on Infrared and collinear divergences in perturbative QFT.

Journal Articles

1. Borinsky, M. “Renormalized asymptotic enumeration of Feynman diagrams”. *Annals of Physics* **385**, 95–135 (2017).
2. Borinsky, M. “Generating asymptotics for factorially divergent sequences”. *The Electronic Journal of Combinatorics* **25**, 4–1 (2018).
3. Borinsky, M. “Algebraic Lattices in QFT Renormalization”. *Letters in Mathematical Physics* **106**, 879–911 (2016).
4. Borinsky, M. “Feynman graph generation and calculations in the Hopf algebra of Feynman graphs”. *Computer Physics Communications* **185**, 3317–3330 (2014).

Conference Proceedings

5. Borinsky, M. “Generating asymptotics for factorially divergent sequences”. in *Séminaire Lotharingien de Combinatoire* **78B** (2017), 12pp.
6. Borinsky, M. & Kreimer, D. “Feynman diagrams and their algebraic lattices”. in *Resurgence, Physics and Numbers* (Springer, 2017), 91–107.
7. Borinsky, M. “Computations and generation of elements on the Hopf algebra of Feynman graphs”. in *Journal of Physics: Conference Series* **608** (2015), 012065.

Other

8. Borinsky, M. “Graphs in Perturbation Theory: Algebraic Structure and Asymptotics” (Springer International Publishing, 2019).