

Thomas Kipf

PhD candidate, University of Amsterdam
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April 8, 2016

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Education

- **University of Amsterdam** Amsterdam, The Netherlands
PhD candidate (current) Apr 2016 - until now
 - PhD candidate in Deep Learning for Network Analysis at the Amsterdam Machine Learning Lab (AMLab), supervised by Prof. Max Welling
- **University of Erlangen-Nuremberg** Erlangen, Germany
M.Sc. hons. Physics Apr 2014 - Mar 2016
 - Graduated with distinction and an overall grade of 1.04
 - Elite graduate program ‘Physics Advanced’, supported by the Elite Network of Bavaria
 - Thesis on Recurrent Neural Networks for 3D Agglomeration at the Department of Connectomics (Max Planck Insitute for Brain Research, Frankfurt)
- **University of Erlangen-Nuremberg** Erlangen, Germany
B.Sc. Physics Apr 2011 - Mar 2014
 - Graduated with distinction and an overall grade of 1.07
 - Thesis on Quantum State Reconstruction
 - Guest semester at University of Regensburg in spring/summer 2013
 - Minors in Computational Physics and Complex Systems

Research Experience

- **Max Planck Institute for Brain Research** Frankfurt, Germany
Researcher in Connectomics Department under Dr. Moritz Helmstaedter Feb 2015 - Mar 2016
 - Connectomic data analysis using Deep Learning-related methods
- **Visiting Researcher (Oklahoma State University)** Stillwater, OK
Researcher in Theoretical Quantum Optics Group under Prof. Girish S. Agarwal Spring 2014
 - Developed an analytical model for collective effects in optically driven nano-oscillators
- **Zentrum für Medizinische Physik und Technik (ZMPT)** Erlangen, Germany
Research project in Biophysics Group under Dr. Claus Metzner Spring 2013
 - Developed a physical model and wrote a numerical simulation in C++ to study the shear-response of collagen fibers
- **Erlangen Centre for Astroparticle Physics (ECAP)** Erlangen, Germany
Research project in Medical Physics group under Prof. Gisela Anton Summer 2012
 - Experimental study of energy dependence in X-ray phase-contrast imaging

Publications

1. T. Kipf and G. S. Agarwal, *Superradiance and collective gain in multimode optomechanics*, Physical Review A 90, 053808 (Nov 2014).

Participation in Workshops and Conferences

- **Neuroscience 2015** Chicago, IL
Yearly neuroscience conference Oct 17-21, 2015
- **65th Lindau Nobel Laureate Meeting (Interdisciplinary)** Lindau, Germany
Participation as a Young Scientist Jun 28-Jul 3, 2015
- **Modern Issues in Foundations of Physics** London, UK
Workshop at Imperial College London Sep 26-28, 2014

Awards, Grants & Honours

Elite Network of Bavaria sponsorship for 65th Lindau Nobel Laureate Meeting (5 000€) . . . 2015
Full scholarship by the German National Academic Foundation (25 500€) . . Apr 2013 - Mar 2016
Member of the Elitenetzwerk Bayern (Elite Network of Bavaria) Apr 2012 - Mar 2016
Deutschlandstipendium (Germany Scholarship) (7 200€) Apr 2011 - Mar 2013

Miscellaneous

- **Programming skills:** MATLAB (proficient), Python (experienced), C++ (some experience)
- **Research interests:** Neural networks, (large-scale) inference, self-organization, and learning in biological systems