

# Thomas Kipf

PhD candidate, University of Amsterdam  
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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 in the Amsterdam Machine Learning Lab (AMLab), supervised by Prof. Max Welling
- **University of Erlangen-Nürnberg** 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-Nürnberg** 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* June 28-July 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 . . . . . 2013-2016  
Member of the Elitenetzwerk Bayern (Elite Network of Bavaria) . . . . . 2012-2016  
Deutschlandstipendium (Germany Scholarship) (7 200€) . . . . . 2011-2013

## Miscellaneous

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