# Daniel Suess

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dsuess.me

## Education

Aug 2015 – **Doctoral candidate**, *University of Cologne*, Germany.
- Adviser: Prof. Dr. David Gross

2014 – 2015 **Doctoral candidate**, *University of Freiburg*, Germany.
- Adviser: J.-Prof. Dr. David Gross

2010 – 2013 **Diploma in Theoretical Physics**, *Technische Universität Dresden*, Germany.
- Final grade: 1.0 (passed with distinction)
- Thesis title: *Hierarchy of Quantum Trajectories applied to Photosynthetic Complexes*
- Adviser: Prof. Dr. Walter T. Strunz

2008 – 2010 **Intermediate Diploma**, *Technische Universität Dresden*, Germany.
- Grade: 1.1

## Experience

Apr – Jul 2014 **Researcher in the group of A. Eisfeld**, *Max Planck Institute for the Physics of Complex Systems*, Dresden, Germany.
- Topic: Simulation of open quantum systems in bosonic and fermionic environments

### International

Jan – Mar 2014 **Visiting researcher in the group of H. Wiseman**, *Griffith University*, Brisbane, Australia.
- Topic: Stochastic simulation of open quantum systems and quantum feedback.

2004 – 2005 **Student exchange**, *Reeltown Highschool*, USA.

### Teaching

2016 **Teaching Assistant**, *Institute of Theoretical Physics, University of Cologne*, Germany.
- Pre-study course: "Mathematical Methods for Physicists: Analysis"

2015 – 2016 **Teaching Assistant**, *Institute of Theoretical Physics, University of Cologne*, Germany.
- 1st semester course: "Mathematical Methods"

2014 – 2015 **Tutor**, *Institute of Theoretical Physics, University of Freiburg*, Germany.
- 1st and 2nd semester course: "Classical Mechanics"

2010 – 2013 **Tutor**, *Institute for Analysis, TU Dresden*, Germany.
- 3rd and 4th semester courses "Mathematics for Physicists"
- Subjects taught: ordinary and partial differential equations, theory of distributions, functional analysis, and complex analysis

2009 – 2010 **Tutor**, *Institute for Analysis, TU Dresden*, Germany.
- 1st semester course "Mathematics for Civil Engineering, Water Management, and Waste Management"

## Scholarships

2014 **PROMOS**, DAAD (German Academic Exchange Service).
Partial scholarship to promote visit to Griffith University.

## Conference Presentations

April 2016 **Spring Meeting of the Rhineland Quantum Information Network**, *University of Cologne*, Germany.
Talk: *Optimal error regions for quantum state estimation*.

Mar 2016 **DPG Spring Meeting**, *Leibniz Universität Hannover*, Germany.
Talk: *Characterising linear optical circuits using phaseless estimation techniques*.

Jan 2016 **Quantum Information Processing**, *Banff Centre*, Canada.
Poster: *Characterising linear optical circuits using phaseless estimation techniques*.

Dez 2015 **2. International Matheon Conference on Compressed Sensing and its Applications**, *TU Berlin*, Germany.
Poster: *Characterising linear optical circuits using phaseless estimation techniques*.

Mar 2013 **DPG Spring Meeting**, *Leibniz Universität Hannover*, Germany.
Poster: *Energy transfer dynamics in structured environments*.

## Languages

Self-assessment European level CEFR (C2 maximum evaluation)

German Mother Tongue

English Fluent (C2)

French Beginner (A1)

## Computer Skills

Programming
- Extensive working knowledge in *Python*, *Fortran*, and *C++*.
- Familiarity with *R*, *Haskell*, *Bash*, *HTML*, *CSS*, *JavaScript*, *SQL*, *PHP*, etc.
- Practical experience with development tools (e.g. *git*, *make*, *scons*).
- Working knowledge in high performance computing techniques (especially shared and distributed parallel computing).

Presentation
- Proficiency in LaTeX and in the creation of scientific plots.

Experience
- Working knowledge of Linux (extensive), OS X (extensive) and Windows (good).
- Administrator of the group's computers at TU Dresden, University of Freiburg, and University of Cologne
- IT consulting for the group at University of Cologne

## Publications

- D. Suess, W. T. Strunz, A. Eisfeld: *Hierarchical equations for open system dynamics in fermionic and bosonic environments*, J. Stat. Phys. 159, Issue 6, pp 1048–1423 (2015) (arXiv:1410.0304)
- G. Ritschel, D. Suess W. T. Strunz, A. Eisfeld: *Non-Markovian Quantum State Diffusion for*

*temperature-dependent linear spectra of light harvesting aggregates*, J. Chem. Phys. 142, 034115 (2015) (arXiv:1409.1091)

- D. Suess, A. Eisfeld, W. T. Strunz: *Hierarchy of stochastic pure states for open quantum system dynamics* Phys. Rev. Lett. 113, 150403 (2014) (arXiv:1402.4647)