

DAVID SCHNÖRR



PERSONAL DATA

NAME David Schnörr
DATE OF BIRTH 26.08.1986 in Heidelberg (Germany)
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EDUCATION

JUNE 2006 **Abitur**, Carl-Benz Gymnasium Ladenburg (Grade: 1.0¹)
2006 - 2012 **German Diploma in Physics**, Heidelberg University,
Final Mark: First
2012 - 2013 **Master Thesis**: “Error Estimates for a Functional Renormalization
Group Approach to the BCS-BEC Crossover”
Advisor: Christof Wetterich, Inst. of Theoretical Physics, Heidelberg
University
2009 - 2010 **International Diploma**, Imperial College London
2013 - 2016 **PhD**, University of Edinburgh.
Supervisors: Ramon Grima and Guido Sanguinetti
APRIL 19, 2016 **Doctoral Thesis** (defense): “Approximation methods and inference
for stochastic biochemical kinetics”, Institute of Quantitative Biology,
Biochemistry and Biotechnology, University of Edinburgh

AWARDS

JUNE 2006 Ferry-Porsche-Award for Mathematics and Physics
Book Award of the Deutsche Physikalische Gesellschaft (DPG)
2009 – 2012 Scholar of the Studienstiftung des Deutschen Volkes (German National
Academic Foundation)
2013 – 2016 Scholar of the Biotechnology and Biological Sciences Research Council

TEACHING

2008 – 2009 Tutorial on Theoretical Physics I (Heidelberg)
2010 – 2011 Tutorial on Theoretical Physics II (Heidelberg)
2012 Tutorial I on Mathematics for Natural Scientists (Heidelberg)
2012 Tutorial II on Mathematics for Natural Scientists (Heidelberg)
2014 Tutorial I on Mathematics and Physics for Biologists (Edinburgh)
2014 Tutorial II on Mathematics and Physics for Biologists (Edinburgh)
2015 Tutorial on Mathematics and Physics for Biologists (Edinburgh)

REVIEWER FOR

- The Journal of Chemical Physics
- PLOS One
- Journal of Statistical Mechanics: Theory and Experiment

¹Range: 1.0 (best), 1.3, 1.7, ..., 4.0 (worst).

TALKS

- **(invited)** “Using ideas from statistics for analysing (spatio-temporal) stochastic processes”, Industrial and Applied Mathematics Seminar, April 27, 2017, University of Oxford, UK.
- **(invited)** “Cox process representation and inference for stochastic reaction-diffusion processes”, Biomathematical Seminar, October 4, 2016, Imperial College London, UK.
- “Cox process representation and inference for stochastic reaction-diffusion processes”, 10th European Conference on Mathematical & Theoretical Biology and SMB Annual Meeting, July 15, 2016, Nottingham, UK.
- **(invited)** “Cox process representation and inference for stochastic reaction-diffusion processes”, Stochastic Dynamical Systems in Biology: Numerical Methods and Applications, June 8, 2016, Newton Institute, University of Cambridge, UK.
- “Breakdown of the chemical Langevin equation and moment closure approximations for stochastic chemical kinetics”, Mathematical Trends in Reaction Network Theory, July 2, 2015, University of Copenhagen, Denmark.

PUBLICATIONS

- **D. Schnoerr**, G. Sanguinetti, and R. Grima. “Approximation and inference methods for stochastic biochemical kinetics - a tutorial review.” *Journal of Physics A: Mathematical and Theoretical*, 50 (2017): 093001.
- B. Cseke², **D. Schnoerr**², M. Opper, and G. Sanguinetti. “Expectation propagation for continuous time stochastic processes.” *Journal of Physics A: Mathematical and Theoretical* 49 (2016): 494002.
- **D. Schnoerr**, R. Grima, and G. Sanguinetti. “Cox process representation and inference for stochastic reaction-diffusion processes.” *Nature Communications* 7 (2016): 11729.
- **D. Schnoerr**, G. Sanguinetti, and R. Grima. “The complex chemical Langevin equation.” *The Journal of Chemical Physics* 141.2 (2014): 024103.
- **D. Schnoerr**, G. Sanguinetti, and R. Grima. “Comparison of different moment-closure approximations for stochastic chemical kinetics.” *The Journal of Chemical Physics* 143.18 (2015): 185101.
- **D. Schnoerr**, G. Sanguinetti, and R. Grima. “Validity conditions for moment closure approximations in stochastic chemical kinetics.” *The Journal of Chemical Physics* 141.8 (2014): 084103.
- **D. Schnoerr**, I. Boettcher, J. M. Pawłowski, and C. Wetterich. “Error estimates and specification parameters for functional renormalization.” *Annals of Physics* 334 (2013): 83-99.

David Schnörr
Edinburgh, February 1, 2017

²B. Cseke and D. Schnoerr contributed equally.