

Mario Teixeira Parente

Academic CV

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Education

- 10/2016 – now *Technical University of Munich (TUM)*
Applied mathematics (Ph.D.)
PhD Thesis Algorithms in Uncertainty Quantification
- 10/2013 – 04/2016 *Ludwig-Maximilians-Universität Munich (LMU)*
Mathematics (M.Sc.)
Master Thesis Brownian Motion and the Dirichlet Problem
- 10/2010 – 09/2013 *University of Applied Sciences Munich (HM)*
Scientific computing (B.Sc.)
Bachelor Thesis N.V. Krylov's Proof of the de Moivre-Laplace Theorem

Scholarships

- 04/2012 – 05/2016 **German Academic Scholarship Foundation** (Studienstiftung des deutschen Volkes)
04/2012 – 04/2016 **Max Weber-Program of the State of Bavaria** (Max Weber-Programm Bayern)
10/2011 – 03/2012 **Deutschlandstipendium**

Teaching

- Winter 2018/19 **Modeling and Simulation with ODEs**, Tutor, TUM
Summer 2018 **Numerics for ODEs**, Tutor, TUM
Winter 2017/18 **Introduction to Numerical Linear Algebra**, Tutor, TUM
Summer 2017 **Introduction to Programming**, Tutor, TUM
Summer 2017 **Hauptseminar: Uncertainty Quantification with Efficient Monte Carlo Methods**, TUM
Winter 2015/16 **Stochastics**, Tutor, LMU
Winter 2014/15 **Analysis I**, Tutor, LMU
Winter 2011/12 **Linear algebra and Software engineering**, Tutor, HM

Publications

Preprints

- 02/2019 D. Bittner, **M. TP.**, S. Mattis, B. Wohlmuth, and G. Chiogna, *On the relationship between parameters and discharge data for a lumped karst aquifer model*
- 01/2019 **M. TP.**, D. Bittner, S. Mattis, G. Chiogna, B. Wohlmuth, *Bayesian calibration and sensitivity analysis for a karst aquifer model using active subspaces*
- 09/2018 **M. TP.**, *A probabilistic framework for approximating functions in active subspaces*

Journal papers

- 04/2019 **M. TP.**, S. Mattis, S. Gupta, C. Deusner, and B. Wohlmuth. Efficient parameter estimation for a methane hydrate model with active subspaces. *Comput Geosci* (2019) **23**:355–372.

Talks, Conferences, etc.

- 03/2018 **M2 Oberseminar**, *Active subspaces for Bayesian inversion, Application for a methane hydrate model*, Garching (slides)
- 09/2017 **FrontUQ** (Frontiers of Uncertainty Quantification in Engineering), Munich

Trainings

- 03/2017 **Parallel Programming of High Performance Systems**, Leibniz Computing Centre (LRZ)
02/2017 **Advanced C++ with Focus on Software Engineering**, Regionales RechenZentrum Erlangen (RRZE)

Experience

- 02/2019 – 03/2018 **Research stay abroad**, University of Texas at Austin (UT), Project: UNcertainties due to boundary conditions in predicting MIXing in groundwater (UNMIX)
06/2016 – 09/2016 **Student assistant**, HM, Research project: Modeling and simulation of pedestrian movement
04/2016 – 05/2016 **Research internship**, Yale University (USA), Image processing of nanoscopic images in cell biology
10/2012 – 11/2013 **Student assistant**, HM, Research project: Modeling and simulation of pedestrian movement

Munich, May 27, 2019