Mario Teixeira Parente
Academic CV

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Experience

03/2021 – now	*University of Applied Sciences Munich (HM)*
	Lecturer
Subject	Uncertainty Quantification, Linear Algebra
10/2020 – now	*Jülich Centre for Neutron Science (JCNS)*
	Postdoctoral researcher
Subject	Machine learning-based data analysis of neutron experiments

Education

10/2016 – 09/2020	*Technical University of Munich (TUM)*
	Mathematics (Dr. rer. nat.)
PhD Thesis	Active Subspaces in Bayesian Inverse Problems
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

Summer 2021	**Fundamentals of Uncertainty Quantification**, *Lecturer*, HM
Summer 2020	**Mathematical Models for UQ in Hydrology**, *Module construction*, TUM
Winter 2019/20	**Introduction to Numerical Linear Algebra**, *Exercise coordinator*, TUM
Summer 2019	**Numerics of PDEs for Engineers**, *Exercise coordinator*, TUM
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

Certificates

2017 – 2019	**Certificate for Teaching in Higher Education of the Bavarian Universities**, *Introductory* and *Advanced Level*, TUM ProLehre

Articles

Preprints

Journal papers

2020 **TP., M.**, Wallin, J., Wohlmuth, B. (2020). Generalized bounds for active subspaces. *Electronic Journal of Statistics*, *14*(1), 917–943.

2020 Bittner, D., **TP., M.**, Mattis, S., Wohlmuth, B., & Chiogna, G. (2020). Identifying relevant hydrological and catchment properties in active subspaces: An inference study of a lumped karst aquifer model. *Advances in Water Resources*, *135*, 103472.

2019 **TP., M.**, Bittner, D., Mattis, S., Chiogna, G., & Wohlmuth, B. (2019). Bayesian calibration and sensitivity analysis for a karst aquifer model using active subspaces. *Water Resources Research*, *55*(8), 7086–7107.

2019 **TP., M.**, Mattis, S., Gupta, S., Deusner, C., & Wohlmuth, B. (2019). Efficient parameter estimation for a methane hydrate model with active subspaces. *Computational Geosciences*, *23*(2), 355–372.

Not published

TP., M., *A probabilistic framework for approximating functions in active subspaces*

Talks, Conferences, etc.

05/2019 **Statistics Seminar**, *Active subspaces in Bayesian inverse problems*, Department of Statistics, Lund University

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

Volunteering

10/2021 – now **Mentor for the Max Weber-Program of the State of Bavaria**, Supervision of scholarship holders, 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)

Other experiences

05/2019 **Research stay abroad**, Department of Statistics, Lund University, Topic: Theory of active subspaces

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, 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, Project: Modeling and simulation of pedestrian movement

Munich, September 30, 2021