

Michael Meister

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Curriculum Vitae

Personal Data

- Name **Michael Meister**
- Academic Degrees **Univ.-Ass. Dr. techn. MSc**
- Gender **Male**
- Nationality **Austrian**
- Parents **Univ.-Prof. Dr. Bernhard Meister**, Head Physician, Oncology Department, University Hospital Innsbruck
Maria Meister, MSc, Biomedical Analyst & Academic Lecturer, Head of Laboratory, Hospital Hall in Tirol
- Brothers **Julian Meister, MSc**, Lecturer in Hydraulic Engineering, ETH Zürich
Simon Meister, Student of Mechatronics, UMIT Hall & University of Innsbruck

Academic Education

- 2012–2015 **Doctor of Technical Sciences (with Distinction)**, University of Innsbruck, Unit of Environmental Engineering
Title of Thesis: “Smoothed Particle Hydrodynamics in Urban Water Management”
- 2011–2012 **Master of Science in Theoretical Physics (with Merit)**, Imperial College London, MSc Programme “Quantum Fields and Fundamental Forces”
Title of Thesis: “Numerical Simulations of a Gravitational Collapse in Anti-De Sitter Space”
- 2008–2011 **Bachelor of Science in Physics (with Distinction)**, University of Innsbruck
Title of Thesis: “Optische Bloch Gleichungen und Exponentielle Integratoren”

Work Experience

- 2017 – –> **Junior Professor**, Management Center Innsbruck, Department for Environmental, Process- & Energy Engineering
- 2015 – 2017 **Post-Doctoral Research Associate (Univ.-Ass. Dr. techn.)**, University of Innsbruck, Unit of Environmental Engineering
- 2012 – 2015 **Research Assistant (Univ.-Ass.)**, University of Innsbruck, Unit of Environmental Engineering

- 2012 – 2013 **Lecturer in Numerical Analysis**, *University of Innsbruck*, Institute of Mathematics
- 2007 – 2012 **Head Coach of the Tyrolean Sailing Team**, *Tyrolean Sailing Federation*

Awards

- 2013 - 2014 **Award for Extraordinary Success in the Doctoral Programme Technical Sciences**, *University of Innsbruck*, Faculty of Technical Sciences
- 2009 - 2011 **Award for Academic Work at the Imperial College London**, *Award Conferred by the University of Innsbruck*, Office for International Relations
- 2009 - 2011 **Award for Extraordinary Success in the Undergraduate Programmes of Physics and Technical Mathematics**, *University of Innsbruck*, Faculty of Mathematics, Informatics and Physics

Scientific Talks

- 2017 Numerical Simulation of the Mixing of Anaerobic Digesters. *Association for Sewage Treatment - Achental - Inntal - Zillertal*, Strass, 09.01.2017.
- 2016 Process Control in Wastewater Treatment Plants. *Appointment Lecture - Management Center Innsbruck*, Innsbruck, 21.11.2016.
- 2016 Assets and Drawbacks of Smoothed Particle Hydrodynamics in Urban Water Management. *Workshop der Süddeutschen SPH Arbeitsgruppen*, Stuttgart, 15.11.2016.
- 2016 A GPU-Compatible Scheme for Coupling SPH to Process-Based Wastewater Treatment Models. *11th SPHERIC International Conference*, Munich, 14.06.2016.
- 2016 Smoothed Particle Hydrodynamics in Wastewater Treatment – Coupling CFD to Process-Based Biokinetic Wastewater Treatment Models. *Seminar on Modelling and Simulation, School of Civil Engineering*, Leeds, 12.01.2016.
- 2015 Smoothed Particle Hydrodynamics in Urban Water Management. *Doctoral Viva, University of Innsbruck*, Innsbruck, 23.11.2015.
- Activated Sludge Modelling with Smoothed Particle Hydrodynamics. *36th IAHR World Congress*, The Hague, 29.06.2015.
- Reducing the Particle Refinement Error of the Density Summation and the Kernel Gradient. *10th SPHERIC International Conference*, Parma, 17.06.2015.
- 2014 Anwendung von Smoothed Particle Hydrodynamics in der Siedlungswasserwirtschaft. *Aqua Urbanica 2014: Misch- und Niederschlagswasserbehandlung im urbanen Raum*, Innsbruck, 24.10.2014.
- Simulating Rising Bubble Problems with Smoothed Particle Hydrodynamics. *IMA Conference on Mathematical Modelling of Fluid Systems*, Bristol, 10.09.2014.
- Multiphase Simulations of Activated Sludge Basins with Smoothed Particle Hydrodynamics. *International Conference on Computational Fluid Dynamics for Dispersed Multiphase Flows*, Munich, 03.04.2014

2013 Smoothed Particle Hydrodynamics in Urban Water Management. *SPH Symposium Innsbruck*, Innsbruck, 18.12.2013.

Third-Party Funding (Research Projects)

- 2015 - 2018 **SPHAUL - Integrated Modeling of Anaerobic Digestion with Smoothed Particle Hydrodynamics**, *Awarded by the Austrian Research Promotion Agency (FFG)*
- 2014 - 2017 **SPHASE - Smoothed Particle Hydrodynamics Activated Sludge Engine**, *Awarded by the Austrian Science Fund (FWF)*

Supervised Theses

- 2014 - 2015 “**Bubble Induced Mixing with Smoothed Particle Hydrodynamics**”, *Master Thesis*, Bergmeister Christoph, Co-Supervisor
- 2014 “**Anwendung von SPH zur Simulation von Sedimentations- und Transportprozessen in der Siedlungswasserwirtschaft**”, *Bachelor Thesis*, Wolf Hannah, Supervisor
- 2014 “**Smoothed Particle Hydrodynamics in der Siedlungswasserwirtschaft**”, *Bachelor Thesis*, Schett Bernhard Jakob, Supervisor

Software and Programming Skills

Smoothed Particle Hydrodynamics (CFD) Method [SPHASE Code, SPHYSICS Code], ANSYS Fluent, ASIM 5 (Wastewater Treatment Modelling), Mathematica, Matlab, C