PD Dr. habil. Raphael Schulz
Chair for Applied Mathematics 1
Department for Mathematics
Friedrich-Alexander-Universität Erlangen-Nürnberg

Cauerstrasse 11
91058 Erlangen
Telephone: (09131) 85 67242
Email: raphael.schulz@math.fau.de

CURRICULUM VITAE

Academic Employment

since 2020	**Lecturer** at Chair for Applied Mathematics, Friedrich-Alexander-Universität Erlangen-Nürnberg, Germany (Supervisor: Prof. Dr. Martin Burger)
2017 & 2020	**Deputy professorship** in the summer term, Applied Mathematics, Friedrich-Alexander-Universität Erlangen-Nürnberg, Germany
2012 – 2019	**Postdoctoral researcher** at Chair for Applied Mathematics 1, Friedrich-Alexander-Universität Erlangen-Nürnberg, Germany (Supervisor: Prof. Dr. Peter Knabner)
2008 – 2012	**Undergraduate assistant** at Department of Mathematics, Analysis Darmstadt University of Technology, Germany (Supervisor: Prof. Dr. Reinhard Farwig)

Education

2016 – 2019	**Habilitation** at the Chair for Applied Mathematics 1, Friedrich-Alexander-Universität Erlangen-Nürnberg, Germany (Habilitation thesis: "*Mathematical modeling and analysis of processes in evolving microstructures*")
2008 – 2012	**Dissertation** at the Department of Mathematics, Analysis Darmstadt University of Technology, Germany (Dissertation thesis: "*Spatial asymptotic profile in geophysical fluid dynamics*", Magna cum laude)

Undergraduate

2004 – 2008	**Study of Mathematics (major) and Physics** at Darmstadt University of Technology, Diploma in Mathematics (Diploma thesis: "*Global solvability of two-dimensional Boussinesq-equations with non-decaying initial data*")
2002 – 2004	Study of Computer Sciences at the Georg-Simon-Ohm University of Applied Sciences of Nuremberg

WORK EXPERIENCE

Research Expertise

Analysis of nonlinear degenerate partial differential equations – Fluid flow and reactive transport in porous media – Multiscale modeling of processes in evolving microstructures – Discretization methods and numerical analysis of flow and tranport processes – Homogenization methods in a level-set framework – Weighted function spaces – Changeable hydrodynamic properties – Mathematical fluid dynamics – Harmonic analysis and applications in fluid dynamics

Third-Party Funding & Project Participation

2019	Special *reasearch fund* of the Hasselt University, Belgium
since 2018	**Principle investigator** of the subproject "*Multiscale modeling with evolving microstructures: An approach to emergence in the rhizosphere via effective soil functions*" of DFG SPP 2089
2016 – 2017	**Principle investigator** of DAAD PPP Norway: "*Upscaling Evolving Microstructures and its Applications*", Collaboration with University of Bergen, Norway
2009 – 2012	**PhD scholarship holder** of the International Research Training Group 1529 Darmstadt-Tokyo on Mathematical Fluid Dynamics, DFG
2008 – 2010	Participating in an **exchange program** of TU Darmstadt with the Czech Academy of Sciences, Prague, DAAD

International Experience

2016	Research abroad at University of Bergen, Norway (3 weeks)
2010 – 2011	Semester abroad at Waseda University, Tokyo, Japan (6 months)

Professional Service

Reviewer for leading international journals in mathematics and applications, e.g. SIAM Journal on Applied Mathematics, Nonlinear Analysis: Real World Applications, Transport in Porous Media, Water Research, Advances in Water Resources, Journal of Hydrology.

2017	Co-organizer of the **Radon Lecture** of the Department of Mathematics, Friedrich-Alexander-Universität Erlangen-Nürnberg, 11th May, Erlangen
2017	Organizer of the Minisymposium on **Numerical Methods for Simulating Processes in Porous Media**, ENUMATH, 25-29 September, Voss, Norway
2015	Organizer of the Minisymposium on **Multiscale modeling and simulation: Applications in biology, pharmacy, and medicine**, Interpore, 18-21 May, Padova, Italy
2013	Organizer of the Minisymposium on **Fluid/Structure Interaction and Evolving Geometries**, SIAM, 17-20 June, Padova, Italy