Adrian M. Ruf – Curriculum Vitae (August 26, 2020)

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Education/Employment

Since 2019 **Postdoctoral researcher**, ETH Zürich, Switzerland
Mentor: Prof. Siddhartha Mishra

2019 **PhD in Mathematics**, University of Oslo, Norway
Marie Skłodowska-Curie research position
Supervisors: Prof. Nils Henrik Risebro and Prof. Kenneth Karlsen

2016 **MSc in Mathematics**, Technical University of Berlin, Germany
Supervisor: Prof. Etienne Emmrich

2013 **BSc in Mathematics**, Technical University of Berlin, Germany

Publications

[5] J. Badwaik and A. M. Ruf. Convergence rates of monotone schemes for conservation laws with discontinuous flux. *SIAM J. Numer. Anal.*, 58(1): 607, (2020)
doi:10.1137/19M1283276

[4] N. H. Risebro and A. M. Ruf. Numerical investigations into a model of partially incompressible two-phase flow in pipes. *SeMA*, (2019)
doi:10.1007/s40324-019-00207-9

[3] A. M. Ruf, E. Sande, and S. Solem. The optimal convergence rate of monotone schemes for conservation laws in the Wasserstein distance. *J. Sci. Comput.*, 80: 1764, (2019)
doi:10.1007/s10915-019-00996-1

[2] J. Ridder and A. M. Ruf. A convergent finite difference scheme for the Ostrovsky–Hunter equation with Dirichlet boundary conditions. *Bit Numer. Math.*, 59: 775, (2019)
doi:10.1007/s10543-019-00746-7

[1] A. M. Ruf. Convergence of a full discretization for a second-order nonlinear elastodynamic equation in isotropic and anisotropic Orlicz spaces. *Z. Angew. Math. Phys.*, 68: 118, (2017)
doi:10.1007/s00033-017-0863-z

Preprints

[6] A. M. Ruf. Flux-stability for conservation laws with discontinuous flux and convergence rates of the front tracking method. (2020)
arxiv:2008.08320

[7] J. Badwaik, C. Klingenberg, N. H. Risebro, and A. M. Ruf. Multilevel Monte Carlo finite volume methods for random conservation laws with discontinuous flux. (2020)
arxiv:1906.08991

[8] U. S. Fjordholm and A. M. Ruf. Second-order accurate TVD numerical methods for nonlocal nonlinear conservation laws. (2020)
arxiv:2008.08326

Grants and Scholarships

2020 Research-in-Pairs grant, Oberwolfach Research Institute for Mathematics, Germany

2019 Scholarship for NUMHYP2019, University of Málaga, Spain

2018 Scholarship for an academic secondment, ETH Zürich, Switzerland

Scholarship for HYP2018, Penn State University, USA

Research visits

2019 Julius Maximilian University of Würzburg, Germany,
with Jayesh Badwaik (1 week)

Polytechnic University of Bari, Italy,
with Prof. Giuseppe Coclite (1 week)

2018 ETH Zürich, Switzerland,
with Prof. Siddhartha Mishra (3 months)

Invited talks

2019 *Convergence rates of monotone schemes in the Wasserstein distance*
Julius Maximilian University of Würzburg, Germany

Second-order numerical methods for nonlocal conservation laws
Polytechnic University of Bari, Italy

Second-order numerical methods for nonlocal conservation laws
ETH Zürich, Switzerland

Contributed talks

2019 *Second-order numerical methods for nonlocal conservation laws*
NumHyp2019
University of Málaga, Spain

2018 *A second-order method for nonlocal conservation laws*
BIT Circus
Aalto University, Finland

The Ostrovsky–Hunter equation with Dirichlet boundary conditions
Hyp2018
Penn State University, USA

Multiphase flow in pipelines
Modcompshock Midterm Review Meeting
ETH Zürich, Switzerland

Academic experience

2019 **Simula Research Laboratory, Fornebu, Norway**
Teaching assistant

Taught the course 'Communication Scientific Research' for PhD students and postdocs

2010 - 2016 **Technical University Berlin, Germany**
Teaching assistant

Taught courses in Functional analysis, Calculus and Calculus for engineers

2015 - 2016 **Matheon Research Center, Berlin, Germany**
Student assistant

Organized the Matheon advent calendar for students, coordinated and revised the calendar puzzles and solutions

2015 **TUBS, Berlin, Germany**
Coordinating assistant

Coordinated the 79th annual meeting of the DPG

2011 - 2012 **Unitus project Technical University of Berlin, Germany**
Student assistant

Created and improved activity oriented learning materials used in mathematical courses for engineers, e.g. supporting teaching material, online platform Mumie, guidelines for teaching assistants, exam difficulty analyses

Teaching

2020	Spring:	Organization of 'Numerical Methods for Physicists' (ETH Zürich)
2019	Spring:	Exercise sessions for 'Communicating Scientific Research' (Simula)
2015	Fall:	Tutorials for 'Calculus I for Mathematicians' (TU Berlin)
	Spring:	Tutorials for 'Functional Analysis I' (TU Berlin)
2014	Fall:	Tutorials for 'Calculus I for Engineers' (TU Berlin)
	Spring:	Tutorials for 'Calculus I for Engineers' (TU Berlin)
2013	Fall:	Tutorials for 'Calculus I for Engineers' (TU Berlin)
	Spring:	Tutorials for 'Calculus I for Engineers' (TU Berlin)
2012	Fall:	Tutorials for 'Calculus I for Engineers' (TU Berlin)
	Spring:	Tutorials for 'Calculus I for Engineers' (TU Berlin)
2011	Fall:	Tutorials for 'Calculus I for Engineers' (TU Berlin)
	Spring:	Tutorials for 'Calculus II for Mathematicians' (TU Berlin)
2010	Fall:	Tutorials for 'Calculus I for Mathematicians' (TU Berlin)

Languages

German	First language
English	Proficient
Finnish	Basic knowledge
Norwegian	Basic knowledge