Curriculum vitae Dr. Hana Mizerová

Personal details

Date, place of birth: November 10th, 1988 in Trnava, Slovakia
Nationality: Slovak
Email: hana.mizerova@gmail.com

Academic achievements

2015 **Doctor of Natural Sciences (Dr. rer. nat.)** (PhD equivalent)
summa cum laude
Johannes Gutenberg University Mainz, Germany

2012 **Master of Science in Mathematics (Mgr.)**
with honours
Comenius University in Bratislava, Slovakia

2010 **Bachelor of Science in Mathematics (Bc.)**
with honours
Comenius University in Bratislava, Slovakia

Academic Prizes and Awards

2016 **Prize of the Faculty for excellent dissertation thesis**
Faculty of Physics, Mathematics and Computer Science
Johannes Gutenberg University Mainz, Germany

2012 **Award of the Rector for excellent master thesis**
Comenius University in Bratislava, Slovakia

Research and teaching experience

since 10/2017 **PostDoc researcher**
Czech Academy of Sciences, Prague, Czech Republic
within *ERC Advanced Grant "Mathematical Thermodynamics of Fluids"*
supervisor: Prof. Eduard Feireisl

04/2017 – 09/2017 **PostDoc researcher**
Johannes Gutenberg University Mainz, Germany
within *Internal University Research Funding project "Uniformly stable numerical schemes for multiscale weakly compressible flows"*
supervisor & collaborator: Prof. Mária Lukáčová & Prof. Eduard Feireisl

02 - 03/2017 **Junior Simons Professorship**
Polish Academy of Sciences, Banach center, Warsaw, Poland
within *Simons Semester "CrossFields PDEs"*
collaborators: Profs. Agnieszka Świerczewska-Gwiazda, Piotr Gwiazda

12/2015 – 03/2017 **scientific assistant**
Institute of Mathematics, Johannes Gutenberg University Mainz

09/2013 - 03/2014 **PhD student (6-months-long stay)**
Waseda University in Tokyo, Japan
supervisors: Profs. Masahisa Tabata, Hirofumi Notsu

12/2012 – 12/2015 **PhD student**
Johannes Gutenberg University Mainz, Germany
Technical University Darmstadt, Germany
within IRTG 1529 *"Mathematical Fluid Dynamics"*
and partially within CRC TRR 146 *"Multiscale Simulation Methods for Soft Matter Systems"*
funded by *German Research Foundation DFG*
supervisor: Prof. Mária Lukáčová

09/2012 – 12/2012 **PhD student and scientific assistant**
Institute of Mathematics, Johannes Gutenberg University Mainz

Publications on international peer-reviewed journals

2017 M. Lukáčová-Medvid'ová, H. Mizerová, Š. Nečasová, M. Renardy:
Global existence result for the generalized Peterlin viscoelastic model
SIAM J. Math. Anal. 49-4, pp. 2950-2964
DOI: https://doi.org/10.1137/16M1068505

2017 M. Lukáčová-Medvid'ová, H. Mizerová, H. Notsu, M. Tabata:
Numerical analysis of the Oseen-type Peterlin viscoelastic model by the stabilized Lagrange-Galerkin method, Part I: A nonlinear scheme
ESAIM: M2AN in press
DOI: https://doi.org/10.1051/m2an/2016078

2017 M. Lukáčová-Medvid'ová, H. Mizerová, H. Notsu, M. Tabata:
Numerical analysis of the Oseen-type Peterlin viscoelastic model by the stabilized Lagrange-Galerkin method, Part II: A linear scheme
ESAIM: M2AN in press
DOI: https://doi.org/10.1051/m2an/2017032

2016 M. Lukáčová-Medvid'ová, H. Mizerová, B. She, J. Stebel:
Error analysis of finite element and finite volume methods for some viscoelastic fluids, *J. Numer. Math. 24(2)*, pp. 105-123
DOI: https://doi.org/10.1515/jnma-2014-0057

2015 M. Lukáčová-Medvid'ová, H. Mizerová, Š. Nečasová:
Global existence and uniqueness result for the diffusive Peterlin viscoelastic model, *Nonlinear Anal.-Theor. 120*, pp. 154–170
DOI: https://doi.org/10.1016/j.na.2015.03.001

Publication submitted to international peer-reviewed journals

2017 P. Gwiazda, M. Lukáčová-Medvid'ová, H. Mizerová, A. Świerczewska-Gwiazda: Existence of global weak solutions to the kinetic Peterlin model, *submitted*
arXiv: https://arxiv.org/abs/1707.02783

Thesis

2015 Analysis and numerical solution of the Peterlin viscoelastic model
Johannes Gutenberg University Mainz
pdf: http://ubm.opus.hbz-nrw.de/volltexte/2015/4231/

Invitation to international conferences and workshops

11/2016 *KI-Net Young Researches Workshop:*
Stochastic and deterministic methods in kinetic theory
Duke University, Durham, North Carolina

11/2016 *Oberwolfach Seminar: Different Mathematical Perspectives on Description of Unresolved Scales in Multiscale Systems*
Oberwolfach Research Institute for Mathematics, Oberwolfach

10/2016 *CoMFoS16: Mathematical Analysis of Continuum Mechanics and Industrial Applications II*
Kyushu University, Fukuoka

03/2016 *Algoritmy 2016 in Podbanské*
Slovak University of Technology, Bratislava

Invited seminar talks

10/2016 Kanazawa University, Japan
12/2015 Comenius University in Bratislava, Slovakia
03/2014 Czech Academy of Sciences, Prague, Czech Republic
09/2013 Waseda University in Tokyo, Japan

Participation in conferences, workshops and schools

07/2017 *Equadiff 2017*, Slovak University of Technology, Bratislava
03/2017 Workshop *Current Topics in Kinetic Theory*, Simons Semester *"CrossFields PDEs"*, Warsaw
02/2017 Workshop *Ideal Fluids and Transport*, Simons Semester *"CrossFields PDEs"*, Warsaw
08/2016 Summer school and Workshop *Fluids under Pressure*, Prague
06/2016 Workshop *Hybrid Simulation Methods in Fluid Dynamics*, Munich
10/2015 Workshop *Women in Applied Math & Soft Matter Physics*, Mainz
10/2015 International conference SPP 1506 – IRTG 1529, Darmstadt
06/2015 Workshop for Young Researchers in Fluid Dynamics, Darmstadt
05/2015 The 14th School *Mathematical Theory in Fluid Mechanics*, Kácov
03/2015 The 11th Japanese – German International Workshop on Mathematical Fluid Dynamics, Tokyo
11/2014 Symposium *Simulation and Optimization of Extreme Fluids*, Heidelberg
10/2014 Autumn school and Workshop on Mathematical Fluid Dynamics, Bad Boll
08/2014 Summer school and Workshop *Particles in Flow*, Prague
01/2014 Winter school *Fluids and Snow*, La Clusaz, France
11/2013 The 9th Japanese – German International Workshop on Mathematical Fluid Dynamics, Tokyo
06/2013 The 8th Japanese – German International Workshop on Mathematical Fluid Dynamics, Tokyo
05/2013 The 13th School *Mathematical Theory in Fluid Mechanics*, Kácov
09/2012 *Algoritmy 2012*, Podbanské

Language skills

Slovak native speaker
English fluent
German good working knowledge
Czech good working knowledge
Spanish basic communication skills
Japanese basics (Hiragana and Katakana)

Software and programming skills

C code, LaTeX, MATLAB, COMSOL Multiphysics, ParaView