

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 51, pp. 1637-1661
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 51, pp. 1663-1689
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 vis-
coelastic 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