Martin Michálek

Date of birth	26 August 1988
Place of birth	Hradec Králové, Czech Republic
Title	Mgr. (Master degree)

Completed education

Period	2004 — 2008
School	**Grammar school in Hradec Králové**, mathematical class

Period	2008 — 2011
Degree	**Bachelor degree in Pure Mathematics**
Results	Summa cum laude, scholarship for the outstanding studying results (for years 2009, 2010)
University	Faculty of Mathematics and Physics, **Charles University in Prague**

Period	2011 — 2013
Degree	**Master degree in Mathematical Analysis**
Supervisor	**doc. RNDr. Dalibor Pražák, Ph.D.**
Topic	**Dissipative partial differential equations on unbounded domains.**
Results	Summa cum laude, scholarship for the outstanding studying results (for years 2011, 2012)
University	Faculty of Mathematics and Physics, **Charles University in Prague**

Education in progress

Period	October 2013 — to date
Degree	**Ph.D. in Mathematical Analysis**
Supervisor	**prof. RNDr. Eduard Feireisl, DrSc.**
Topic	**Mathematical analysis of equations describing fluid mechanics**
University	Faculty of Mathematics and Physics, **Charles University in Prague**
Cooperating institute	Institute of Mathematics, **Academy of Sciences ČR**

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Conferences and workshops

May 2013	**The 13th School in Mathematical Theory in Fluid Mechanics**, Kácov, Czech Republic
October 2013	Workshop: **Modelling Revisited + Model Reduction**, Chateau Liblice, Czech Republic
May 2014	Workshop: **Regularity theory for elliptic and parabolic systems and problems in continuum mechanics**, Telč, Czech Republic
June 2014	**The week of doctoral students**, Prague, Czech Republic. Short talk: **Compressible Navier Stokes Equations**
June 2014	**School on Nonlinear Analysis and Function Spaces**, Třešť, Czech Republic
September 2014	Conference: **Modeling, analysis and computing in nonlinear PDEs**, September 21-26, Chateau Liblice, Czech Republic. Short talk: **Navier-Stokes equation with Entropy Transport**
October 2014	**Cooperation on some topics in fluid mechanics**, October 14-23, Université du Sud - Toulon - Var, France
November 2014	Participant of **Oberwolfach Seminar: Analysis of Compressible Navier Stokes Equations and Related Topics**, November 23-29, Mathematisches Forschungsinstitut Oberwolfach, Germany
March - May 2015	Participant of **Doc Course of Applied Mathematics**, Sevilla and Bilbao, Spain. Research project (under supervision of prof. Francisco Guillén): **Mathematical and numerical analysis of the modified Caginalp model for melting and solidification.**
May 2015	Participant of **BCAM Workshop on Mathematics and its Applications**, 27-29 May, Bilbao, Spain. Short speak on the topic: **Phase field modelling of melting and solidification**
June 2015	Workshop participation: **Young Researchers in Fluid Dynamics**, Darmstadt, Germany, June 17-19, Short talk on topic: **Compressible flows, mathematical and numerical analysis**.
June - July 2015	Participation on the seminar: **Mathematical Thermodynamics of complex fluids** of Centro Internazionale Matematico Estivo, Cetraro, Italy, June 28 - July 4
January 2016	Organizer of **The first meeting of Ph.D. students of mathematical analysis and differential equations**, Prague, Czech Republic, January 25-28
May 2016	Workshop: **Regularity theory for elliptic and parabolic systems and problems in continuum mechanics**, Telč, Czech Republic
May 2016	Participation on the workshop: **2nd Workshop on CENTRAL Trends in Analysis and Numerics for PDEs**, Prague, Czech Republic. Given talk: **Primitive equations and oscillatory solutions**
June 2016	Participation on the workshop: **Entropy methods, dissipative systems, and applications**, Schrödinger Institute, Wien, Austria
July 2016	Participation on the summer school on Evolution Equations **EVEQ 2016**, Prague, Czech Republic
July 2016	**Cooperation with E. Chiodaroli - oscillatory solutions of equations used in oceanology**, July 18-22, École polytechnique fédérale de Lausanne, France

List of accepted and published articles

2015	M. Michálek. Stability result for Navier-Stokes Equations with Entropy Transport. *Journal of Mathematical Fluid Mechanics, 2015*
2015	E. Feireisl, T. Karper, M. Michálek. Convergence of a numerical method for the compressible Navier-Stokes system on general domains. *Numerische Mathematik, pp 1-38, First online: 18 December 2015*
2016	E. Feireisl, R. Hoěk, M. Michálek. A convergent numerical method for the full Navier-Stokes-Fourier system in smooth physical domains. *accepted in SIAM J. Num. Math.*
2016	David Maltese and Martin Michálek and Piotr B. Mucha and Antonin Novotný and Milan Pokorný and Ewelina Zatorska. Existence of weak solutions for compressible Navier–Stokes equations with entropy transport. *Journal of Differential Equations, First online: 15 July 2016*

Language skills

English	Fluent
German	Working knowledge
French	Fair knowledge

Teaching experience

2011-2013	**Basic Analysis, exercises for the first year students,** Charles University in Prague
2015	**Measure theory, exercises for the second year students,** Charles University in Prague

Other skills

Programming	Working knowledge of **Python, C#, Visual Basic and MATLAB**
Mathematical modelling	knowledge of **FEniCS** and some other implementations of FEM and FVM

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