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Biography

Education

- 1983–1986 undergraduate studies in Physics at the Warsaw University
- 1986–1988 B.Sc. in Aerospace Engrg and Mechanics, University of Minnesota, USA
- 1988–1992 Ph.D. in Aerospace Engrg and Mechanics, University of Minnesota, USA

Professional History

- 1992–1999 Research Associate, Research Asst Professor, University of Minnesota
- 1999–2003 Assistant Professor, Mechanical Engineering, Rice University
- 2003–2004 Deputy Head, Chair for Computational Mechanics, TU Munich
- since 2004 Professor and Head, Chair for Computational Analysis of Technical Systems, Faculty of Mechanical Engineering, RWTH Aachen University
- since 2005 Adjunct Professor, Chemical and Biomolecular Engineering, Rice University
- since 2017 Founding Director, Center for Simulation and Data Science, Jülich-Aachen Research Alliance
- since 2018 Speaker, International Research Training Group 2379 “Modern Inverse Problems” with University of Texas at Austin

Honors and Awards

- 2014 Fellow of the International Association for Computational Mechanics
- 2016 Plenary at the 12th World Congress on Computational Mechanics, Seoul
- 2019 Chuo University (Tokyo) Guest Professorship

Service

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| Vice President | German Association for Computational Mechanics (GACM) |
| General Council | International Association for Computational Mechanics (IACM) |
| General Assembly | European Community on Comp. Meth. in Appl. Sci. (ECCOMAS) |
| Advisory Board | International Journal for Numerical Methods in Fluids (Wiley) |
| Editorial Board | Computers and Mathematics with Applications (Elsevier) |
| Editorial Board | Lecture Notes in Applied Mathematics and Mechanics (Springer) |
| Steering Comm. | ERCOFTAC SIG37 Biomedical Fluid Mechanics |
| Scientific Board | Sano Centre for Computational Medicine, Krakow, Poland |
| Advisory Board | Lichtenberg HPC Facility, Technical University of Darmstadt |
| Selection Panel | REWIRE Reinforcing Women in Research, University of Vienna |

Doctoral Advising

Feby Abraham (Rice 2004), Dhruv Arora (Rice 2005), Mehdi Behbahani, Stefanie Elgeti, Marcus Hormes, Dimitrios Papadopoulos (RWTH 2011), Mike Nicolai (RWTH 2012), Gero Schieffer, Marcus Probst (RWTH 2013), Bae-Hong Chen, Georg Wellmer (RWTH 2014), Eva Schlauch (RWTH 2015), Eric Borrmann, Lutz Pauli (RWTH 2016), Norbert Hosters (RWTH 2018), Manuel Brüderlin (RWTH 2019), Linda Gesenhues, Lars Reimer (RWTH 2020), Patrick Antony, Max von Danwitz, Stefan Haßler, Violeta Karyofylli, Michel Make, Emre Öngüt, Anna Ranno, Max Schuster, Thomas Spenke, Loïc Wendling, Stefan Wittschieber (RWTH current)

Doctoral Co-Advising with Junior Researchers

Oscar Coronado (Rice 2008), Martin Krause (RWTH 2010), Arianna Bosco, Kwok-Wah Chen, Tue Nguyen (RWTH 2011), Safdar Abbas, Alaskar Alizada (RWTH 2012), Henning Sauerland (RWTH 2013), Malak Baydoun, Andreas Püttmann, Christian Windisch (RWTH 2014), Sarah Frauholz (RWTH 2015), Atanas Stavrev, Niko Weber (RWTH 2016), Philipp Knechtges, Roland Siegbert (RWTH 2018), Sebastian Eusterholz, Markus Frings, Felipe Gonzalez, Jan Helmig, Daniel Hilger, Fabian Key, Konstantin Key, Jayghosh Rao, Eugen Salzmann, Daniel Wolff, Florian Zwicke (RWTH current)

Publications

Ten Most Important Recent Publications:

1. T. Spenke, N. Hosters, and M. Behr, “A Multi-Vector Interface Quasi-Newton Method with Linear Complexity for Partitioned Fluid-Structure Interaction”, *Computer Methods in Applied Mechanics and Engineering* **361** (2020) 112810.
2. S. Haßler, L. Pauli, and M. Behr, “The Variational Multiscale Formulation for the Fully-Implicit Log-Morphology Equation as a Tensor-Based Blood Damage Model”, *International Journal for Numerical Methods in Biomedical Engineering* **35** (2019) e3262.
3. M. von Danwitz, V. Karyofylli, N. Hosters, and M. Behr, “Simplex Space-Time Meshes in Compressible Flow Simulations”, *International Journal for Numerical Methods in Fluids* **91** (2019) 29–48.
4. V. Karyofylli, L. Wendling, M. Make, N. Hosters, and M. Behr, “Simplex Space-Time Meshes in Thermally Coupled Two-Phase Flow Simulations of Mold Filling”, *Computers & Fluids* **192** (2019) 104261.
5. M. Schäfer, M. Behr, M. Mehl, and B. Wohlmuth, editors, “Recent Advances in Computational Engineering”, *Proceedings of the 4th International Conference on Computational Engineering ICCE 2017*, Springer, (2018).
6. N. Hosters, J. Helmig, A. Stavrev, M. Behr, and S. Elgeti, “Fluid-Structure Interaction with NURBS-Based Coupling”, *Computer Methods in Applied Mechanics and Engineering* **332** (2018) 520–539.
7. M. Brüderlin, N. Hosters, and M. Behr, “Robust Active Control of a Winglet with Elastic Suspension at Transonic Flow”, *Journal of Guidance Control and Dynamics* **41** (2018) 526–534.
8. B. Keith, P. Knechtges, N.V. Roberts, S. Elgeti, M. Behr, and L. Demkowicz, “An Ultraweak DPG Method for Viscoelastic Fluids”, *Journal of Non-Newtonian Fluid Mechanics* **247** (2017) 107–122.
9. F. Zwicke, P. Knechtges, M. Behr and S. Elgeti, “Automatic Implementation of Material Laws: Jacobian Calculation in a Finite Element Code with TAPENADE”, *Computers and Mathematics with Applications*, **72** (2016) 2808–2822.
10. L. Pauli, J. Both and M. Behr, “Stabilized Finite Element Method for Flows with Multiple Reference Frames”, *International Journal for Numerical Methods in Fluids* **78** (2015) 657–669.

See also Google Scholar: <https://scholar.google.com/citations?user=zL17ZtMAAAAJ>