

Curriculum Vitae

Dmitry A. Fedosov

Contact information

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Academic degrees

- Jun 2016 **Habilitation and venia legendi** in Theoretical Physics, University of Cologne, Germany; Thesis: Deformation, Dynamics, and Interactions of Soft Particles in Fluid Flow
- May 2010 **PhD** in Applied Mathematics, Brown University, USA; Thesis: Multiscale Modeling of Blood Flow and Soft Matter
- May 2007 **Master of Science** in Applied Mathematics, Brown University, USA
- Aug 2004 **Master of Science** in Aerospace Engineering, **Minor** in High Performance Computing, Pennsylvania State University, USA
- Jun 2002 **Bachelor of Science** in Mathematics, **Minor** in Computer Science, Novosibirsk State University, Russia

Positions held

- Sep 2016 - present **Research group leader (permanent position)**, Institute of Biological Information Processing, Forschungszentrum Jülich, Germany
- Sep 2016 - present **Privatdozent**, Faculty of Mathematics and Natural Sciences, University of Cologne, Germany
- Sep 2012 - Sep 2016 **Junior research group leader**, Institute of Complex Systems, Forschungszentrum Jülich, Germany

Feb 2010 - Sep 2012	Postdoctoral fellow , Institute of Complex Systems, Forschungszentrum Jülich, Germany
Sep 2004 - Jan 2010	Research Assistant , Division of Applied Mathematics, Brown University, USA
Sep 2002 - Aug 2004	Research Assistant , Department of Aerospace Engineering, Pennsylvania State University, USA

Awards and fellowships

Sep 2017	the Jack Perkins Prize 2017 for the best paper published in Medical Engineering and Physics
Sep 2012 - Aug 2017	Sofja Kovalevskaja Award to build up an independent research group, Alexander von Humboldt Foundation
Mar 2015	Wiederhielm Award from the Microcirculatory Society for the most highly cited original article in the journal Microcirculation over the previous five years
Nov 2011	ACM Gordon Bell prize Honorable Mention for special achievement in high performance computing
Jul 2011	People's Choice OASCR Award , SciDAC 2011 Visualization
Mar 2011	Nicholas Metropolis Award for outstanding doctoral thesis work in computational physics, American Physical Society
Mar 2011 - Feb 2013	Humboldt Research Fellowship for postdoctoral researchers
May 2010	The David Gottlieb Memorial Award for excellence in graduate study, Brown University, USA
Sep 2009 - Jan 2010	Simon Ostrach fellowship , Brown University, USA
Sep 2004 - May 2005	Academic fellowship , Brown University, USA

Research interests

- complex fluids, blood flow modeling in health and disease
- synthetic cell and active materials
- multiscale modeling bridging atomistic-mesosopic-continuum scales
- scientific and high-performance computing
- machine learning

Supervision of students and postdoctoral fellows

2011 - present	7 Postdocs (7 completed), 10 PhD students (7 completed, 3 ongoing), and 5 Master students <i>Project areas:</i> soft and active matter, cell mechanics, blood flow in health and disease, microfluidics, complex fluids, microswimmers, multiscale modeling, machine learning
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2008 - 2010 2 PhD students (mentoring new PhDs in the group), Division of Applied Mathematics, Brown University, USA

Teaching activities

2012 - present Lecturing various joint graduate-level courses at the Department of Physics, University of Cologne, Germany; different topics in fluid dynamics, computational biophysics, and soft matter

2011 - present Regular lecturing at specialized schools targeting PhD students

2007 - 2009 Teaching assistant for 3 university courses at the Division of Applied Mathematics, Brown University, USA

Organization of scientific meetings

2021 **Co-organizer of a focused session** on biological cells in microfluidics at the DPG Spring Meeting, Dresden, Germany

2020 **Co-organizer of a minisymposium** on particle-based methods for complex fluids at the 14th World Congress on Computational Mechanics, Paris, France

2018 **Co-organizer of the 49th IFF Spring School "Physics of Life"**, Jülich, Germany

2017 **Co-organizer of the international conference "Blood Flow: Current State and Future Prospects"**, Paris, France

2016 **Co-organizer of a semi-annual meeting** of the FP7 Initial Training Network "LAPASO - Label-Free Particle Sorting", Forschungszentrum Jülich

2016 **Co-organizer of a symposium - From Membranes to Cells 2016**, Forschungszentrum Jülich

2015 - present **Member of the scientific committee** of International Conferences for Mesoscopic Methods in Engineering and Science

2014 **Co-organizer of a minisymposium** on particle methods for micro- and nano-flows at the 11th World Congress on Computational Mechanics, Barcelona, Spain

2013 **Co-organizer of a semi-annual meeting** of the DFG Research Unit FOR 1543 "SHENC - Shear Flow Regulation in Hemostasis", Forschungszentrum Jülich

2012 - 2014 **Member of the scientific committee** of International Conferences on Advanced Engineering Computing and Applications in Sciences

Commissions of trust

2017 - present **Associate Editor**, Frontiers in Physics, Soft Matter Physics Section

- 2017 - present **Associate Editor**, Frontiers in Physiology, Red Blood Cell Physiology Section
- 2013 - present **Reviewer of proposals** from German Research Foundation (DFG), European Research Council (ERC), Human Frontier Science Program (HFSP), Austrian Science Fund (FWF), ETH Zürich Research Commission, French Aix-Marseille excellence initiative
- 2009 - present **Reviewer in ~30 scientific journals**, including Nat. Comm., PNAS, Phys. Rev. Lett., Soft Matter, Biophys. J., Europhys. Lett., Sci. Rep., Biomicrofluidics, J. Biomech., J. Chem. Phys., Microcirculation, J. Fluid Mech., Phys. Fluids, Ann. Biomed. Eng., Med. Eng. Phys., etc.
- 2012 - 2014 **Member of the Scientific and Technical Council**, Forschungszentrum Jülich
- 2012 - 2014 **Member of the Assembly of Representatives**, Forschungszentrum Jülich