Alexander Gavrikov

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Education

Ishlinsky Institute for Problems in Mechanics of RAS (Moscow, Russia)
2013, Ph.D. in Fluid Mechanics
Lomonosov Moscow State University (Moscow, Russia)
2005, M.Sc. in Mathematics (specialty: Ordinary differential equations)

Skills: Teamwork & collaboration, quickly adapting to new environments, communicating with technical specialists

Programming languages: Matlab, Maple, C++, CUDA

Experience

- **Postdoctoral researcher, Assistant Research Professor | The Pennsylvania State University, Department of Mathematics | 2020 - present**
- **Senior Researcher | Ishlinsky Institute for Problems in Mechanics of the Russian Acad. of Sc. | 2006-2022**
- **Guest Researcher | The Arctic University of Norway, The University of Rostock (Germany)**
- **Researcher | Steklov Mathematical Institute of the Russian Acad. of Sc. | 2016-2017**
- **Senior Engineer | Korund-M Design Bureau (KB Korund-M) | 2010-2013**

Research

In recent 10 years developed

- computational models for bacteria swimming in biofluids (implemented via C++/CUDA)
- control algorithms for elastic rods actuated by boundary and distributed forces, e.g. piezoactuators
- a control-oriented model and control algorithms for heat conductive bodies actuated by thermoelectric converters
- a numerical approach for the computation of eigenfrequencies and eigenforms for rod-like structures
- control algorithms for experimental equipment working on-board the International Space Station
- mathematical and computational approaches for mines modeling for a major salt mining company
- computational approaches for producing holographic images with application to microlithography (C++ MPI)

Achievements

- Published more than 40 peer-reviewed articles in refereed journals and proceedings of international conferences
- Presented or co-authored more than 50 presentations at international conferences
- Co-authored 6 patents
- Nauka/Interperiodika (Russian Academy of Sciences' publisher) Award for the best article
- Awards for Young Researchers at the Ishlinsky Institute for Problem in Mechanincs RAS

Teaching/Mentoring (Penn State University)

- Taught undergraduate (Calculus, Ordinary Differential Equations) and assisted with graduate (Real Analysis, Partial Differential Equations, Functional Analysis) math courses, prepared homeworks, quizzes and exams
- Oversaw a Ph.D. student and undergraduate students

LANGUAGES: English (fluent), Russian (native)