



Add-on Fellows for Interdisciplinary Life Science First Cohort

Natalia A. Bakhtina

Alumna Doctoral candidate (Bioengineering) at the Karlsruhe Institute of Technology (KIT)

Natalia Bakhtina developed NMR methods to analyze small organisms. These methods help to answer questions in genetics, cell biology and neurobiology, e.g., neurodegenerative diseases. Previously, she completed a B.Sc. in electrical engineering and a B.Sc. in information technology both in Moscow, Russia. A master's degree in microsystems engineering at Furtwangen University followed. The Add-on Fellowship allowed her to attend conferences and conduct research stays. She also gained experience in science-related industry. After a postdoc at ETH Zurich, Natalia has been a scientist in a pharmaceutical company in Switzerland.



Felix Boos

Alumnus Doctoral candidate (Biology) at the Technical University of Kaiserslautern

Felix Boos conducted his doctoral studies on mitochondrial protein import at the TU Kaiserslautern. Previously, he studied biology and mathematics (B.Ed. and M.Ed.) at the TU Kaiserslautern. During his studies, he was involved in promoting young talents and worked as an exercise instructor in mathematics and cell biology research. He saw the Add-on Fellowship as an ideal opportunity to combine his two subjects and additionally dive deeper into bioinformatics. Felix has been a postdoctoral fellow and group leader at TU Kaiserslautern and in genetics at Stanford University, USA.



**Tobias Boothe**

Alumnus Postdoc at the Max-Planck-Institute (MPI) of Molecular Cell Biology and Genetics Dresden

Tobias Boothe worked on the regenerative capacity of flatworms at the systems biology level. He received his doctorate in cell biology from the University of British Columbia in Vancouver, Canada, and studied biotechnology at the University of Applied Sciences Zittau / Görlitz. He became aware of the MPI for Cell Biology and Genetics in Dresden as early as his bachelor's thesis. Today he is in a leading scientific position in microscopy at the MPI for Biophysical Chemistry in Göttingen in the department of tissue dynamics and regeneration.

**Mirjam Fehling-Kaschek**

Alumna Postdoc (Physics) at the Albert-Ludwigs-University of Freiburg



Mirjam Fehling-Kaschek studied physics in Konstanz, Freiburg and Granada. She completed her doctorate in high-energy physics at CERN searching for supersymmetric particles. Thereafter, she worked as a postdoc changing her field of research from particle physics to systems biology, focusing on mathematical modeling of dynamic processes. The Add-on Fellowship allowed her to intensify her research as a visiting scientist at different scientific institutions, as well as attend conferences.

Afterwards, she grew to lead the agent-based simulation group at the Fraunhofer Institute for High-Speed Dynamics (EMI). Here she studies the resilience of critical infrastructures, i.e., power and water supply.



**Martin Fischer**

Alumnus Postdoc (Biology and Medicine) at the University of Leipzig and Harvard Medical School



Martin Fischer is a biochemist with doctoral degrees in biology and molecular oncology and a habilitation in molecular medicine. He works in biomedical research at the molecular biology, molecular genetics, and computational biology interfaces. His expertise focus on genome regulation and molecular oncology. Martin has been honored with fellowships and awards, including doctoral thesis awards and a postdoctoral fellowship by the Leopoldina that enabled his training at the Dana-Farber Cancer Institute and Harvard Medical School. The Add-on Fellowship helped Martin to integrate computational approaches into his research and thereby shape his scientific profile. He became a member of the Add-on jury.

**Dhana Friedrich**

Alumna Doctoral candidate (Biochemistry) at the Max Delbrück Center for Molecular Medicine (MDC) in Berlin

Dhana Friedrich's doctoral research at MDC and Humboldt University Berlin focused on the correlation between oscillatory transcription factors and stochastic gene expression and resulting cell fate decisions. Previously, she studied Molecular Life Sciences at the University of Hamburg and Biochemistry at the Free University of Berlin. Through the Add-on Fellowship, she intended to learn mathematical modeling of biological systems to complement her experimental work. This allowed her to address questions that are difficult to access experimentally. As a postdoctoral fellow she moved to the Harvard Medical School, Boston, USA. She is a very active fellow and regularly supports the Fellows of the new cohorts with expertise and exchange of experiences.



**Melina Heise**

Alumna Doctoral candidate (Biology) at the Hannover Medical School



Melina Celik (née Heise) completed her doctorate at MHH in the Institute of Molecular Biology. Previously, she studied Biology (B.Sc.) at Carl-von-Ossietzky University Oldenburg and Biomedicine (M.Sc.) at MHH. With the help of the Add-on Fellowship, she characterized the interaction of biophysical forces and morphogenetic signaling pathways during cardiac looping in zebrafish. Today, she is the coordinator of the master's program in Biomedical Data Science at MHH. In this position, she successfully acquired funding from the Joachim Herz Foundation's "Begegnungszonen" program.

**Arjen Jacobi**

Alumnus Postdoc (Biology) at the European Molecular Biology Laboratory (EMBL) in Hamburg

Arjen Jacobi is working with X-ray crystallography and cryoelectron microscopy to characterize molecular structures. He completed his doctoral degree in Structural Biology at the Bijvoet Center for Biomolecular Research in Utrecht, Netherlands. Previously, Arjen studied Molecular Sciences at Leiden University, Netherlands, and Friedrich Alexander University Erlangen-Nuremberg. His current position is equivalent to Junior Professor ('Assistant Professor') in the Department of Bionosciences, and he is Group Leader of Electron Nanoscopy at the Kavli Institute in Delft, The Netherlands. He became a member of the Add-on jury.



Sabine Kanton

Alumna Doctoral candidate (Biochemistry) at the Max Planck Institute (MPI) for Evolutionary Anthropology in Leipzig

Sabina Kanton's dissertation research focused on brain development using single-cell transcriptomes. Prior to this, she studied biochemistry in a bachelor's and master's program. During this time, she focused her work on biomedicine and became increasingly interested in bioinformatics applications. With the Add-on Fellowship, she expanded her knowledge in microscopy and imaging.

Henning Kempf

Alumnus Postdoc (Biology) at the Hannover Medical School

Henning Kempf focused on the emergence of specific differentiation patterns during early cardiac muscle development. He developed methods to produce cardiac muscle cells from human stem cells in bioreactors during his doctoral studies at MHH. Previously, he studied Biomedicine (B.Sc.) and Molecular Medicine (M.Sc.) at Maastricht University and Georg-August-University Göttingen. He completed his master thesis at the Bioprocessing Technology Institute in Singapore. Through the Add-on Fellowship, he deepened his knowledge in modelling approaches. After his postdoctoral period at MHH, he moved to a healthcare company in Denmark.



Cornelia Klose

Alumna Postdoc (Biology) at the Albert-Ludwig's-University of Freiburg

Cornelia Klose was dedicated to the mathematical modeling of intracellular protein dynamics in spectral action specificity of photoreceptors. She received her doctorate from the University of Freiburg in Molecular Plant Physiology, studying light signaling in plants at the molecular level. Prior, Cornelia studied biology at the University of Freiburg.



Nico Lachmann

Alumnus Postdoc (Biomedicine) at the Hannover Medical School (MHH)



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Nico Lachmann studied biomedicine at the MHH and the Yale School of Medicine. During his studies, he worked as a trainee and founded the GbR "SciSerNet". After graduation, he completed his doctorate at MHH in cell and gene therapy in the hematopoietic system and aims to gain deeper insight into hematopoietic development as well as the analysis of gene expression data using bioinformatics through the Add-on Fellowship. Currently, he focuses on the importance of macrophages in the development of diseases to develop targeted new cell-based therapies. These findings are brought to the public through his initiative "Stem Cells go Back2School" to inspire students for this topic.



Marc Leonhardt

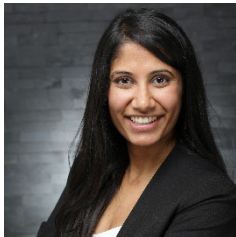
Alumnus Doctoral candidate (Physics) at the Max Planck Institute for Brain Research in Frankfurt

Marc Leonhardt was a physicist researching in theoretical neuroscience and wanted to understand the dynamics and information flux in networks. Marc studied B.Sc. and M.Sc. physics with a minor in computer science and a major in nuclear astrophysics at the TU Darmstadt. His studies enabled him to spend semesters abroad in Canada at the University of Saskatchewan. He also studied business administration in Frankfurt. He used the Add-on Fellowship to participate in conferences and summer schools in Japan and the USA.



Biena Mathew

Alumna Doctoral candidate (Bioinformatics) at Goethe University of Frankfurt



Scientist in industry.

Biena Mathew worked on the development of a novel, 3D in vitro model system. Using image-based system biology, she analyzed the spatial and temporal pattern of cell fate decision in early embryonic development. Previously, she studied Bioinformatics at the Goethe University Frankfurt. While there, she also worked at the German Cancer Research Centre in Heidelberg. Since finishing her doctorate, she has worked as a Data

**Stefan Reich**

Alumnus Doctoral candidate (Biotechnology) at the University of Regensburg

Stefan Reich was dedicated to the stress response in human cell organelles that may lead to the development of tumor cells such as gliomas. Bringing together translomic, proteome analyses, computational models and working with human glioma samples and in vivo animal models will improve therapeutic approaches in the long term. Previously, he studied Bio- and Process Technology (B.Sc.) and Biological Sciences (M.Sc.) at the FH Furtwangen and University of Konstanz. The variety of methods and disciplines applied in his doctoral thesis required comprehensive training, which was financially facilitated by the Add-on Fellowship.

Christiane Rennert

Alumna Doctoral candidate (Biochemistry) at the University of Leipzig

Christiane Rennert conducted her doctoral studies on liver metabolism at the University of Leipzig, with a focus on gender-specific effects and regulations. It quickly became apparent that the research group generates a high volume of omics-data. Through the Add-on Fellowship, she could evaluate and cross-link the data in depth. Previously, she studied biochemistry (B.Sc.) and biomedicine (M.Sc.) at the University of Leipzig. Following her doctorate, Christiane worked as a postdoc in Leipzig.



Christoph Schmal

Alumnus Postdoc (Physics) at the Charité University Hospital Berlin

Christoph Schmal was working on the circadian clock of mammals at the Charité Berlin. His research focused on the bioinformatic analysis of experimental data and the interpretation of the results using mathematical models. Previously, he did his doctorate on the chronobiology of plants at the University of Bielefeld. Christoph studied physics in Bielefeld and at the TU Darmstadt with a focus on the dynamic robustness of gene regulatory networks in his diploma thesis. The Add-On Fellowship helped to gain a deeper understanding of the experimental methods used in chronobiology. He became an independent researcher in Computational Chronobiology at Humboldt-Universität Berlin.



Erika Tsingos

Alumna Doctoral candidate (Biology) at the Ruprecht-Karl's-University of Heidelberg



Erika Tsingos investigated the "Characterization and computational modeling of stem cells in the retina of the Japanese rice fish". Her doctoral thesis was honored with the Ruprecht-Karl's-Preis. A commonly understood article on her dissertation won the KlarText Prize of the Klaus Tschira Foundation. Previously, Erika studied biology with a focus on systems biology. The Add-on Fellowship enabled her to deepen her knowledge in modeling biological systems and, in particular, to network with other experts in the field. She is currently working at the Mathematical Institute of Leiden University in the Netherlands, where she is researching mechanisms of blood vessel formation.



Hervé Turlier

Alumnus Postdoc (Physics) at the European Molecular Biology Laboratory (EMBL) in Heidelberg

Hervé Turlier focuses on the modeling of early mammalian development. Previously, he obtained his doctorate in theoretical biophysics from Sorbonne Université Pierre et Marie Curie and Institut Curie in Paris, France, working on models of cell division. Hervé studied physics and mechanics at Ecole Polytechnique, France, and did a master in soft-matter and biophysics. The Add-on Fellowship enabled him to combine concepts of physics, developmental biology, mechanics, applied mathematics and computer graphics to design a 3D numerical model of mammalian embryo morphogenesis. Currently, he is team leader of the Turlier Lab at the College de France in France.



Miguel Valderrama-Gómez

Alumnus Doctoral candidate (Biotechnology) at the Technical University of Munich



Miguel Valderrama-Gómez was interested in developing next-generation computational tools by combining mechanistic modeling with statistical and machine learning methods. He has degrees in Chemical Engineering (B.Sc.), Industrial Biotechnology (M.Sc.) and obtained his doctorate in Systems Biology from the TU Munich. Miguel did his postdoc research at the University of California, Davis, USA. After that, he changes to a biotech company in Cambridge, Massachusetts, USA, as a Data Scientist.



**Sabine Wagner**

Alumna Doctoral candidate (Biology) at the Technical University of Munich

Sabine Wagner completed her doctorate in the field of systems biotechnology with the topic "Generation of an energetic profile of Escherichia coli during heterologous protein production". She graduated with a B.Sc. Biology from LMU Munich and moved to TU Munich for her Master studies in Industrial Biotechnology. She engaged in several research assistant positions at several chairs, participated twice in a synthetic biology competition (iGEM) and completed a voluntary internship at ETH Zürich as well as at a company. Through the Add-on Fellowship, she gained deeper insight into mathematical modeling and optimized the transitions from experimental results to mathematical models.

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