Add-on Fellows for Interdisciplinary Life Science

Cohort 2023

Saskia Altmaier

Doctoral candidate (Biotechnology) at the University of Saarland

Research interests: Molecular biotechnology, human induced pluripotent stem cells, neurodegenerative diseases, 2D and 3D cell culture, application oriented biomedical research, cryopreservation

Saskia Altmaier is keen on the application-oriented links between biological research and human medicine with reference to stem cell research. Particularly, the combination of the development of therapeutically relevant cell systems, automation processes and cryopreservation protocols. Prior to that she did a B.Sc. in Molecular Biology and a M.Sc. in Biotechnology. Working scientifically in the field of life sciences and knowing that future professional activities contribute to progress and developments in medical research are fascinating career goals for her.

Sara Anthony

Doctoral candidate (Ecology) at the University of Rostock

Research interests: Methane cycling, methylotrophic methanogens, AOM, stable isotope chemistry, biogeochemistry, microbial ecology, permafrost, peatlands, wetlands

Sara E. Anthony is working in the G3 sub-project “Drivers of methane production and emission in coastal peatlands.” She is associated both with the University of Rostock and the University of Greifswald, a partner in the Greifswald Mire Center. Previously she has worked in GHG emissions from permafrost at both the University of Cologne and the University of Tübingen. She completed her M.Sc. in Applied and Environmental Geoscience at the University of Tübingen, specializing in Hydrogeology. Before moving to Germany, she worked in quality control in the pharmaceutical industry in Bend, Oregon, and completed her B.Sc. in Environmental Science at Oregon State University, specializing in Environmental Chemistry. She is passionate about methane cycling, biogeochemistry, and microbial ecology, and has a particular interest in methylotrophic methanogenesis.

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Emma Bailey

Doctoral candidate (Neuroscience) at the Max-Planck-Institute (MPI) for Human Cognitive and Brain Sciences in Frankfurt am Main

Research interests: Neural engineering, medical devices, electrical engineering, neuroscience, non-invasive imaging, data analysis

Emma Bailey is a biomedical engineer who has switched gears towards neuroscience. The focus is on developing research methods and analysis pathways to investigate pain processing non-invasively in healthy humans. Currently, she works with EEG-sequel technology to investigate spinal cord function by placing surface electrodes along the spinal cord of healthy humans, and uses the python program to get the most from the data. With the help of this add-on fellowship, the goal is to extend beyond electrospinography and enable the investigation of spinal cord function using recently developed optically pumped magnetometers, with the aim being to investigate pain processing non-invasively in the human spinal cord.

Jeremy Baldwin

Postdoc (Immunology) at Leibniz-Institute for Immuntherapy in Regensburg

Research interests: Cancer Immunology, Vaccine Research, Tissue Engineering, Mitochondria Biology

Jeremy Baldwin is specializing in the fields of immunology, vaccine research, cancer immunotherapies, and tissue engineering. He was awarded an ANZ board Trustee fellowship to undertake a Ph.D. in Cell and Molecular Biology at the Queensland University of Technology. During his Ph.D. studies, he also completed a Master of Research and Development Management as part of the Australian Government's Commercialization Training Scheme to train the next generation of entrepreneurial scientists. Other notable work experiences prior to the conferral of his Ph.D. include an internship at Harvard University to study the processes of research translation, an international research training program at the Tropical Disease Institute, Ecuador, and traveling to Antarctica as part of a youth expedition to raise awareness for renewable energies and climate change. Jeremy was awarded a Fulbright Future Fellowship, Endeavour Research Fellowship and Sir Winston Churchill fellowship to continue his post-doctoral training in immunology.

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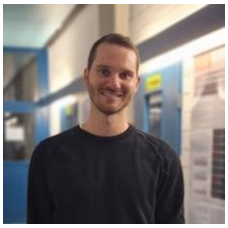

Leon Balters

Doctoral candidate (Pharmacy) at the Technical University of Braunschweig

Research interests: 3D printing, hydrogels, biomaterials, rheology, cell biology, ophthalmology, machine learning/deep learning, image analysis, biomechanics

Leon Balters has been working on a development of a 3D printed corneal model as an alternative to corneal transplants. For this he is testing biomaterials such as alginate, hyaluronic acid and keratin. The urgency of corneal blindness and the demand for transplants serve as motivator Furthermore, he researches on the rheological properties of hydrogels and their printability as potential biomaterials for corneal bioprinting. The combination of tissue engineering and 3D printing is fascinating.

Hosna Baniadam

Doctoral candidate (Bioinformatics) at the European Molecular Biology Laboratory (EMBL) in Heidelberg

Research interests: Tumor immunology and immunotherapy, computational immuno-oncology

Hosna Baniadam research focuses on understanding and improving heterogeneous therapy response in haemato-oncology. Previously, she started her studies towards a medical degree and increasingly became interested in basic research aimed at improving patient care. She aims to pursue a career as a physician-scientist. She seeks to continue to combine her skills in clinical medicine and data science, to keep contributing to the adaption of novel biotechnologies to biomedical research and eventually patient care, for instance, by improved treatments and accurate patient stratification.

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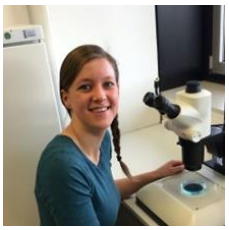

Dorothee Bornhorst-Ohmstede

Postdoc (Developmental Biology) at the University of Münster

Research interests: Haematology/Oncology, Cardio-Vascular development and congenital heart diseases, developmental biology and animal model systems, mechanobiology and biophysical forces during development and disease progression

Dorothee Bornhorst-Ohmstede received scientific training and doctorate at Potsdam University and Hannover Medical School, Germany, on biomechanical signaling during zebrafish heart development. Afterwards, she was interested in hematopoietic stem cell clonality and leukaemia. In Muenster, her project deals with the function and biomechanics of hematopoietic stem cells in the developing zebrafish heart. Generally, her skills and interest cover developmental-, and cell-biology, imaging, and state-of-the-art genetic and molecular technologies.

Mira Erhart

Doctoral candidate (Neuroscience) at the Max-Planck-Institute (MPI) for Psychiatry in Munich

Research interests: psychiatric disorders

Mira Erhart is a clinical neuroscientist trying to understand the biological mechanisms underlying stress-related psychiatric disorders. She focuses on the deviations from a healthy stress-response manifest in behavioral changes, hormonal fluctuations, epigenetic and genetic alterations, and neural responses. She is dedicated to identifying meaningful endophenotypes that bridge the gap between the macro and micro levels of the biological foundations of stress-related disorders. Her ultimate goal is to help identifying patient subgroups that may benefit from targeted treatment.

Add-on Fellows for Interdisciplinary Life Science

Helena Gellersen

Postdoc (Neuroscience) at the German Center for Neurodegenerative Diseases (DZNE) in Magdeburg

Research interests: cognitive neuroscience of memory, Alzheimer's disease, neurodegeneration, neuroimaging methods

Helena Gellersen obtained her PhD in psychology at the University of Cambridge studying the cognitive neuroscience of memory in ageing and became a postdoc at the DZNE focusing on preclinical Alzheimer's disease. Her work employs a wide variety of analysis methods and multimodal data ranging from behavior, lifestyle and health data to magnetic resonance imaging.

Maximilian Hammer

Postdoc (Medicine) at the University Hospital in Heidelberg

Research interests: Ophthalmology, Vitreoretinal surgery, material science, hydrogels, forward light scattering, optics, cytotoxicity, Intraocular lens designs

Maximilian Hammer is an ophthalmology resident and researcher at the University Eye Clinic Heidelberg. His current research is focused on biomaterials used in vitreoretinal surgery and their impact on visual outcomes of patients. His main projects focus on creating hydrogel vitreous body substitutes and on improving short- to mid-term tamponades after vitreoretinal surgery. Max conducted his medical dissertation at the Department of Neurophysiology at Heidelberg University and did research and clinical electives at BIDMC, Harvard Medical School and Oxford Eye Hospital, University of Oxford.

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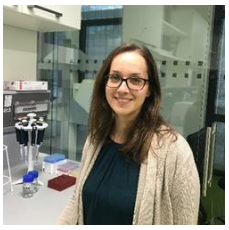
Jonas Hellgoth
Doctoral candidate (Bioinformatics) at the European Molecular Biology Laboratory (EMBL) in Heidelberg

Research interests: image analysis, machine learning, microscopy data, cellular ultrastructure, cellular morphology

Jonas Hellgoth works on deep learning approaches to understand the cellular ultrastructure of unicellular marine eukaryotes. He studied B.Sc. and M.Sc. in Molecular Biotechnology at the University of Heidelberg. His previous work on reducing the annotation effort for segmenting electron microscopy data combined bioinformatics, computer science, and machine learning. His goal is to combine large data sets and deep learning techniques to tackle complex problems and gain new biological insights. During his studies he was supported by the German National Academic Foundation.



Julia Bieber (geb. Hesselbarth)
Doctoral candidate (Biochemistry) at the University of Mainz

Research interests: intrinsically disordered proteins; membrane proteins; signal transmission in neurons; SNARE complex-mediated membrane fusion; mass spectrometry for structural and functional analysis of proteins, protein-protein complexes, and protein-lipid complexes

Julia Bieber developed a strong interest in elucidating the structures of membrane proteins and their complexes by mass spectrometry, which is a well-suited technique to tackle these challenging proteins. In her research project she investigated the disorder-to-order transition of SNARE proteins in response to protein and/or lipid binding. She analysed the assembly pathway of the SNARE membrane fusion machinery including the formation of transient intermediates and regulatory steps. Julia completed her studies of biochemistry at the Martin Luther University Halle-Wittenberg, Germany. In Halle, Julia was a member of the research training group 2467 “Intrinsically disordered proteins – Molecular Principles, Cellular Functions and Diseases” until the laboratory moved to the Johannes Gutenberg University Mainz.

Add-on Fellows for Interdisciplinary Life Science

Andres Jaramillo

Doctoral candidate (Neuroscience) at the Leibniz-Institute for Neurobiology in Magdeburg and at the Otto-von-Guericke-University of Magdeburg

Research interests: Parkinson´s disease, Mechanisms of neuromodulation, behavioural flexibility and cognition

Andrés Jaramillo evaluates early biomarkers for Parkinson´s disease diagnostics using MRI and proteomic approaches. Previously he did his B.Sc. Biology and Chemistry at Los Andes University (Bogotá, Colombia). Afterwards, he did his master in neuroscience at the Weizmann Institute of Science. Here, he explored the molecular fingerprints of epilepsy. Since early on in his career, he has been interested in catecholaminergic modulation of complex cognitive behaviors such as flexibility and creativity.

Isabell Karnatz

Doctoral candidate (Biomedicine) at the Fraunhofer Institute for Biomedical Engineering in Würzburg

Research interests: Neuroscience, stem cells, biomaterials (Alginate), bioreactors, neuro mechanobiology, electrophysiology

Isabell Karnatz models the brain on the cellular and biomechanical level in vitro. The low stiffness and high viscoelasticity of the brain pose a major challenge for research and require adaptable materials and a better understanding of the interactions between neural cells and matrix. The knowledge gained from this project can then be used to develop a physiological in vitro model of the brain, e.g., for the screening of drugs, to ensure the ethical and safe use of drugs in humans. Previously, she did her Master Thesis at the Fraunhofer IBMT on stem cell research in the field of neurology.

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Aleksandra Kozyrina

Doctoral candidate (Biology) at the University Hospital of Aachen

Research interests: epithelial mechanobiology, tissue mechanical homeostasis, extracellular matrix remodeling, biophysics, theragnostic

Aleksandra Kozyrina research is focused on understanding the role of extracellular matrix composition in controlling epithelial mechanical homeostasis and defining tissue pathophysiology. Proficient in mathematics, physics, and cell laboratory techniques, Aleksandra is skilled in data analysis and programming. Prior to that she received her M.Sc. in Applied Mathematics and Physics in Russia. She moved to Germany to pursue her doctoral degree in natural science, specializing in the mechanobiology of the retinal pigmented epithelium. Aleksandra has been involved in science communication, mentoring and student teaching. For several semesters, her studies were supported by the Increased State Academic Scholarship due to her active participation in scientific and extracurricular activities.

Laura-Marie Krumm

Doctoral candidate (Neuroscience) at the Charité Universitätsmedizin Berlin

Research interests: Neuroscience, machine learning, clinical neuroscience, disorders of consciousness

Laura-Marie Krumm is monitoring and predicting brain states in unresponsive patients with machine learning-based approaches in the intensive care unit. She has a background in physics.

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Zoë Lange

Doctoral candidate (Biophysics) at the Frankfurt Institute for Advanced Studies of the Goethe-University of Frankfurt am Main

Research interests: statistical inference, mechanistic models, cell and developmental biology, morphogenesis, tissue mechanics, mechanobiology

Zoë Lange is a physics interested in multi-scale effects in living systems and especially how developing cellular systems optimize processes and tune properties over multiple scales. In her research she uses a combination of theory, data analysis, statistical inference and mathematical modelling. She studies cellular stresses and tissue properties during early embryogenesis of the beetle *Tribolium castaneum* using data analysis and statistical inference. Zoë was a student in the Physiology course at the Marine Biological Laboratory in Woods Hole where she obtained her first wet lab and microscopy experience. The course changed her perspective on science and allowed her to visit labs in MPI-CBG Dresden, NYU Abu Dhabi, UC Berkeley, and UC San Francisco (United States) to continue research on the formation of the actomyosin cortex during embryogenesis in *C. elegans* and the emergence of multicellularity in a choanoflagellate.

Kathrin Laxhuber

Doctoral candidate (Biophysics) at the Max-Planck-Institute (MPI) for the Physics of Complex Systems in Dresden

Research interests: (theoretical) physics to improve the understanding of (cell) biological processes, i.e., metabolism, physics of the endocrine system

Kathrin Laxhuber is fascinated by the logical, coarse-grained understanding of biological processes that can be gained through physics. At the heart of all these processes is cell metabolism, which is the engine that fuels life. In her doctoral research she studies the energetics and spatial organization of cell metabolism. Kathrin Laxhuber uses minimal physical models to understand how different spatial arrangements can affect, e.g., efficiency or throughput of metabolism. Previously, she studied Interdisciplinary Sciences in Zurich (Switzerland) where she was supported by scholarships of the Swiss Study Foundation and the Werner Siemens Foundation.

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Alena Lemazina
Postdoc (Neuroscience) at the Max-Planck-Institute (MPI) of Brain Research in Frankfurt am Main

Research interests: Bioacoustic, machine learning,

Alena Lemazina researches how naked mole rats distinguish sounds by combining auditory perception research with machine learning algorithms. She holds a B.Sc. and M.Sc. in Biology and has previously studied vocal interactions and neural control of vocalizations in songbirds. Alena has experience in science outreach, such as giving presentations on misconceptions about naked mole rats, creating illustrations for communicating science using birds as an example, and coordinating a science slam competition.

Luis Mandl
Doctoral candidate (Engineering) at the University of Stuttgart

Research interests: (Physics-informed) machine learning, image processing, biomechanics, clinical decision support tools

After obtaining his M.Sc. in Aerospace Engineering, Luis Mandl joined the Institute of Structural Mechanics and Dynamics in Aerospace Engineering as doctoral researcher for machine learning methods in biomechanics. In his work, he extends a multiphase and multiscale model of the liver for predicting early ischemia reperfusion injury in liver transplantation. Furthermore, he investigates purely data-driven as well as hybrid data- and knowledge-driven methods for patient-specific and near real-time prediction based on the continuum mechanical model. This includes the creation of a pipeline in which initial and boundary values, for example from image and laboratory analyses, are used to make prognostic statements about the extent of ischemia reperfusion damage already during the transplantation process.

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Manuel Mastel

Doctoral candidate (Biomedicine) at the German Cancer Research Center (DKFZ) in Heidelberg

Research interests: Biotechnology, Genome Engineering, Cancer Biology, CRIPSR, Cancer evolution, disease modelling

Manuel Mastel research is centered in understanding cancer mechanism and vulnerabilities to develop therapies. For this, he develops genome engineering technologies to model advanced colorectal cancer and combines it with single cell sequencing methods. He has the goal of understanding the mechanisms of cancer progression to contribute to the development of new diagnostical and therapeutical approaches. Previously he did a M.Sc. in Molecular Biotechnology and stayed at MIT, Cambridge University, ETH Zurich and Novartis in Basel.

Carina Meiners

Doctoral candidate (Biology) at the Technical University of Munich

Research interests: Microbiology, Molecular biology, Biotechnology, Metabolic Engineering

Carina Meiners studied metabolic stress and resource allocation in *Pseudomonas putida* while expressing a synthetic pathway for geranic acid production. After completing her B.Sc. at the University of Münster, Carina Meiners was able to undertake an internship at UCD in Dublin. She completed her M.Sc. in microbiology at the FSU in Jena. During her M.Sc., she was part of the "Honors Program for future researchers", which enabled her to conduct independent research. Already during her doctorate, she had the opportunity to organize a conference on the bacterium *Pseudomonas putida*. This conference was attended by 50 people from 16 different universities in 8 different countries.

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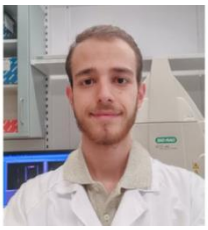

Andreas Metousis
Doctoral candidate (Biochemistry) at the Max-Planck-Institute (MPI) for Biochemistry and at the Ludwigs-Maximilians-University of Munich

Reearch interests: Spatial omics, clinical proteomics, cancer biology, mass spectrometry method development

Andreas Metousis focuses on clinical cancer proteomics. He applies Deep Visual Proteomics to characterize the spatial proteome of ovarian, lung and skin tumors on a cell type level. Prior that, he studied Biology in Athens, Biomedicine at Karolinska (Sweden) and gained expertise in spatial transcriptomics method development by working at the Human Protein Atlas and gained experience in affinity-based proteomics. Andreas is highly interested in innovation and entrepreneurship and his dream is to contribute to a future with Omics-guided clinical decision-making.

Fatmeh Mirzapour
Postdoc (Biophysics) at the Technical University of Munich

Research interests: materials science and engineering, biomaterials, vascular biology, hemodynamics to drive innovation in vascular tissue engineering

Fatmeh Mirzapour is specializing on the development of optimal vascularization platforms for on-chip models of micro-pathophysiological systems. Prior, she did a M.Sc. in Biomaterials in Ulm, Germany, after moving from Tehran, Iran. With a background in materials engineering and a doctorate in vascular biology she brings a blend of interdisciplinary knowledge to her role as a vascular tissue engineer.

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Ninon Möhl

Doctoral candidate (Chemistry) at the Leibniz-Institute for Interactive Materials in Aachen

Research interests: kidney disease modeling, ultra-thin microgels for cellular guidance, Simulation of microfluidics

After finishing her M. Sc. in Chemistry, Ninon Möhl began her doctoral research focusing on the development of a high throughput platform for kidney disease modeling in cooperation with the university hospital in Aachen (UKA). Using macromolecules in microfluidics Ninon aims to build a 3D model mimicking the kidney tubule. With the help of computational fluid dynamic simulations Ninon gains insights of the microfluidic system and enlarges its potential. Therefore, her project sits exactly at the interface between chemistry, medicine and computer simulations.

Jonathan Nyenhuis

Doctoral candidate (Biotechnology) at the University of Augsburg

Research interests: Mammalian cell culture, virus production, spectroscopy, biocatalysis, total synthesis, biosensors, 3D-printing, nanotechnology

Jonathan Nyenhuis research topic is about the development of an integrated optical biosensor for virus detection in cell culture processes. He received his B.Sc. in Life Science from the Leibniz University Hanover. His bachelor thesis was about the evaluation of raman spectroscopy for process monitoring of mammalian cell culture processes. In his master studies he focused on chemistry and bioprocess technology and worked on projects dealing with drug delivery (Israel) and total synthesis of natural products (UC Berkeley, United States). Jonathan wrote his master thesis at Sartorius about the optimization of lentivirus production with suspension cells. After another research stay at University of Graz (Austria) he decided to move to Augsburg for his doctoral studies in the chair of technical biology.

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Sophia Ohnemus

Doctoral candidate (Bioinformatics) at the University Hospital in Freiburg

Research Interests: Computational modelling of cardiac cells and applications of artificial intelligence

Sophia Ohnemus holds a M.Sc. in physics and began her doctoral research on the theoretical examination of light-gated ion channels in terminating cardiac arrhythmias. Using simulations, Sophia aims to explore the potential of optical defibrillation as a novel therapeutic approach. Therefore, her project sits exactly at the interface between physics, computer science and medicine.

Anja Oßwald

Postdoc (Medicine) at the University Hospital in Essen and at the University of Duisburg-Essen

Research interests: aortic disease, especially aortic dissection, computational fluid dynamics, artificial intelligence, cardiovascular research

Anja Oßwald is a cardiac surgeon and clinician scientist. During a research fellowship at the Houston Methodist Research Institute, she learned the computational fluid dynamics technique. She uses this technique to simulate blood flow in the aorta. Particularly, she focuses on the identification of hemodynamic risk factors, for the occurrence of complications after surgical treatment of aortic dissections. She studied medicine at the Ruprecht-Karls-University of Heidelberg. In Essen she qualified for the 3-year "Clinician Scientist Fellowship".

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Eva Pillai
Postdoc (Biophysics) at the European Molecular Biology Laboratory (EMBL) in Heidelberg

Research interests: cell surface mechanics, tissue mechanics, biophysics, mechanobiology, evolutionary transitions, multicellularity, evolutionary biology, morphogenesis, developmental biology

Eva Pillai's research spans the realms of biophysics, evolution, and developmental biology. She aims to decipher the fundamental physical principles governing the emergence of animal multicellularity. During her doctoral studies at the University of Cambridge (United Kingdom), Eva combined her diverse academic backgrounds in engineering and neuroscience to study the interplay between chemical and mechanical signaling in nervous system development. In her postdoc at EMBL, Eva has shifted her focus to adopt a broader perspective; she is interested in employing biophysical approaches to explore common mechanisms underlying evolutionary transitions across the tree of life.

Kausthubh Ramachandran
Doctoral candidate (Biology) at the European Molecular Biology Laboratory (EMBL) in Heidelberg

Research interests: evolution, molecular phylogenetics, theoretical biology, systems biology

Kausthubh Ramachandran brings together his background in molecular biology and systems biology to investigate the evolution of the nucleus in Opisthokonts using phylogenetics. Kausthubh's research aims to identify evolutionary transitions in the tree of life that can help why different cells divide their nucleus in strikingly different ways. Previously he completed his Bachelor of Technology in Biotechnology at SASTRA University (India). And then joined the BioModels team at EMBL-EBI worked on making transmission models of COVID-19 reproducible in accordance with the standards in systems biology.

Add-on Fellows for Interdisciplinary Life Science

Martin Reynders

Postdoc (Chemistry) at the Ludwig-Maximilians-University of Munich

Research interests: PROTACs and other bifunctional molecules, photopharmacology, protein post-translational modifications, fluorophores, organocatalysis

Martin Reynders works on photostabilization of fluorophores. He focuses on developing new strategies to catalytically modify protein posttranslational modifications with high-precision and investigate their potential for clinical translation. Specifically, he works on tools to selectively phosphorylate, dephosphorylate, or degrade arbitrary selected proteins. Previously he did is doctorate at the LMU Munich, moved to New York University (United States) on modular, small molecule approaches to control cell signaling and targeted protein degradation with light.

Lennart Riemann

Doctoral candidate (Immunology) at the Hannover Medical School (MHH)

Research interests: Systems biology, bioinformatics, data analytics, clinical studies, immune system in the young and elderly, vaccinology

Lennart Riemann studied medicine at the University of Heidelberg and LMU of Munich. After graduation, he started working as a clinician scientist at the Institute of Immunology and Department of Paediatric Pneumology, Allergology and Neonatology at Hannover Medical School. There, he has developed a keen interest in computational biology and clinical data science. Using and combining new methods to analyze complex data, he is currently working on a project that aims to better understand individual vaccine responses by looking at many different facets of the immune system following mRNA vaccination. In his scientific work, he is particularly interested in the intersection between clinical medicine, immunology, and computer science.

Add-on Fellows for Interdisciplinary Life Science

Leticia Rodríguez Montes

Doctoral candidate (Biology) at the Ruprecht-Karls-University of Heidelberg

Research interests: Bioinformatics, systems biology, single-cell technologies, sexual dimorphism, evolution, phylogenetics

Leticia Rodriguez Montes focuses on understanding the molecular evolution of the liver in a wide range of mammalian species at the single-cell level using different bioinformatic tools. Previously, she obtained her B.Sc. in Biochemistry from Universidad Autónoma de Madrid (Spain), her M.Sc. in Bioinformatics and Biostatistics from Universidad Oberta de Catalunya (Spain) and her M.Sc. in Molecular Biosciences from Ruprecht-Karls Universität Heidelberg (Germany). During her studies, she was supported by scholarships from the María Cristina Masaveu Peterson foundation and the German Academic Exchange Service (DAAD).

Rebecca Sack

Doctoral candidate (Engineering) at the Technical University of Braunschweig

Research interests: DNA circuit design, DNA thermodynamics, composition of patient samples and their influence on assay performance, magnetic nanoparticles, magnetic measurements, nanotechnology

Rebecca Sack finished her studies of electrical engineering with her master's thesis on the fundamental development of magnetic assays for the detection of synthetic DNA. Captivated by this interdisciplinary topic, she now aims to refine the magnetic assays during a doctorate at the EMG of TU Braunschweig to use them to detect pathogens in patient samples by the end of her doctoral projects. She aims to gain many cultural experiences and deepen her knowledge on biology and the detection of a variety of diseases during her studies.

Add-on Fellows for Interdisciplinary Life Science

Shervin Safavi

Postdoc (Neuroscience) at the University of Tübingen

Research interests: Computational Neuroscience, Systems Neuroscience, Computational Psychiatry

Shervin Safavi is a system and computational neuroscientist. He wants to understand the computations that support our cognition. Shervin closely collaborates with experimental and computational labs to develop new tools, computational models, and experimental paradigms to understand the computational machinery of cognition. By training he physicists (University of Tehran, Iran) and did his doctorate and a previous postdoc at the MPI for Biological Cybernetics. He started Computational Machinery of Cognition (CMC) lab in TU Dresden from late 2023.

Kathleen Schlüter

Doctoral candidate (Genetics) at the German Cancer Research Center (DKFZ) in Heidelberg

Research interests: Epigenetics, spatial proteomics, single cell techniques, lung cancer, tumor biology and immunology, metabolism, tumor microenvironment

Kathleen Schlüter focuses on epigenetic and transcriptional heterogeneity in the tumor and its microenvironment in non-small cell lung cancer (NSCLC). She studied Molecular Life Science in Lübeck with a stay at the Karolinska Institute for a research internship. During her studies, she was supported by a scholarship from the Studienstiftung des deutschen Volkes e.V.

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Maximilian Schönung

Postdoc (Biomedicine) at the German Cancer Research Center (DKFZ) (DKFZ) in Heidelberg

Research interest: Epigenetics, stem cell biology, leukemia, cancer biology, bioinformatics, single molecule sequencing

Maximilian Schönung focuses on an understanding of the cancer epigenome at a single molecule level and the development of assays for DNA methylation-based cancer diagnostics. He studied biology and molecular biosciences with a focus on cancer biology in Munich and Heidelberg, with a research internship at the Wellcome Trust Sanger Institute (Hinxton, United Kingdom). During his doctoral research, Maximilian developed a molecular classifier for juvenile myelomonocytic leukemia and investigated DNA methylation patterns in healthy and malignant hematopoiesis. During his studies he was supported by the "Max Weber Program" of the Elite Network of Bavaria.

Helena Anna Marie Schulz-Mirbach

Doctoral candidate (Biology) at the Max-Planck-Institute (MPI) for terrestrial Microbiology in Marburg

Research interests: CO_2 fixation, synthetic metabolism, sustainable microbial production, carbon capture, growth-coupled selection, metabolic plasticity

Helena Anna Marie Schulz-Mirbach seeks to enable the use of CO_2 as resource for such conversions, which will hopefully contribute to the transition towards a circular, carbon neutral future bioeconomy. The potential of microbial productions first came to her attention during her B. Sc. degree with the biotechnology focused University Bielefeld. Since, she harnessed metabolic engineering, specifically growth-coupled selection, to I) fundamentally assess the plasticity of *E. coli*'s ammonium and amino acid metabolism and II) implement synthetic metabolic modules for sustainable bioconversions.

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Laura Katharina Steffens
Doctoral candidate:in (Immunology) at the German Cancer Research Center (DKFZ) in Heidelberg

Research interests: Immunology, cancer biology, colorectal cancer, pancreatic cancer, single cell sequencing, antigen identification, adoptive T cell therapies

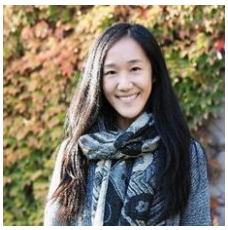
Laura Katharina Steffens journey in cancer research began during her studies in Molecular Biotechnology at Heidelberg University. Focused on tumor immunology with translational potential, she is pursuing her doctorate by investigating tumor-infiltrating T cells in colorectal and pancreatic cancer. She utilizes single-cell RNA sequencing to study the tumor-reactive T cell receptor repertoire. Additionally, she aims to identify new targets for immunotherapeutic strategies by analyzing antigens recognized by tumor-reactive T cells through mass spectrometry.

Leonie Marie Weskamm
Doctoral candidate (Immunology) at the University Hospital in Hamburg-Eppendorf

Research interests: immunology, vaccinology, antibody subclasses and glycosylation, non-neutralizing antibody functions, systems serology, B cell memory, BCR sequencing, immunity against MERS and SARS coronaviruses

Leonie Marie Weskamm is focuses on a comprehensive analysis of humoral and B cell immunity induced by vaccination, aiming at a better understanding of immune mechanisms involved in antibody-mediated protection. Following her studies in Molecular Life Science at the University of Lübeck, she investigated sex-specific differences of human monocytes as part of her master thesis at the Bernhard Nocht Institute for Tropical Medicine (Hamburg). During her doctoral research at the IIRVD she established a set of laboratory techniques to study antigen-specific B cells and antibody functionality following vaccination against MERS-CoV and SARS-CoV-2. Supported by a stipend from the German Center for Infection Research (DZIF), she stayed in the SISTM team (Statistics in systems biology and translational medicine, University of Bordeaux, France) for two months as a visiting researcher and gained additional expertise on biostatistical tools for multidimensional data analysis.

Add-on Fellows for Interdisciplinary Life Science



Anabelle Wong
Doctoral candidate (Biology) at the Max-Planck-Institute (MPI) for Infectionbiology in Berlin

Forschungsinteressen: vaccine impact, immunogenicity, pneumococcus serotype replacement, social contact patterns, pathogen interaction, antimicrobial resistance

Anabelle Wong aims to estimate the population-level impacts of pneumococcal conjugate vaccines and interrogate the effect of social mixing patterns on vaccine impacts. Previously, she worked as a pharmacist and obtained her Double Master of Public Health with the support of a scholarship from the Consulate General of France. During her internship at the Institut Pasteur in Paris (France), she completed her master's thesis on pertussis vaccination policy.

Friederike Marlene Wunsch
Doctoral candidate (Pharmacology) at the University Münster

Research interests: Computational and medicinal chemistry, pharmacology, GPCRs, signaling pathways, natural products, peptides

Friederike Wunsch studied Pharmacy and works on in-silico pharmacology. In particular, she is interested in structural mechanisms at various G protein-coupled receptors, with a focus on the functional selectivity of certain natural products at sphingosine-1-phosphate and muscarinic receptors. In addition, she is studying the structural mechanisms of ACKR3, which is involved in the body's opiate system and therefore represents a potential new pain modulator.

Add-on Fellows for Interdisciplinary Life Science

Roxana Zeraati

Doctoral candidate (Neuroscience) at the University Tübingen

research interests: Computational and systems neuroscience, collective neural activity and behavior, biological and machine intelligence

Roxana Zeraati is working on the mechanisms underlying flexible behavior by analyzing neural activity recorded during cognitive tasks such as selective attention and developing computational models. She is also interested in how such brain-inspired mechanisms can improve machine intelligence. Previously, she earned her M.Sc. degree in neural information processing at the University of Tübingen and was a double-major B.Sc. student in physics and biomedical engineering at Amirkabir University of Technology (Iran).

Rosa Zimmermann

Doctoral candidate (Neuroscience) at the Charité Universitätsmedizin Berlin

Research interests: Unsupervised learning, learning in spiking neuron models, developmental neuroscience

Rosa Zimmermann first became interested in unsupervised learning while studying computer science at the University of Vienna. During her graduate studies at the Bernstein Center for Computational Neuroscience in Berlin, she developed an even deeper interest in learning in spiking neurons, and is now studying unsupervised learning in spiking neural networks at the Charité Medical School in Berlin. In particular, her research focuses on self-supervised learning and unsupervised learning using spike-threshold surface-based algorithms. Rosa is interested in collaborating with experimental neuroscientists to test predictions arising from her theoretical and modeling work.

Add-on Fellows for Interdisciplinary Life Science

Cohort 2022

Khaldoon O. Al-Nosairy
Postdoc (Medicine) at the Otto-von-Guericke University Hospital in Magdeburg

Research interests: ophthalmology, neuroscience, electrophysiology, AI, statistics

Khaldoon Al-Nosairy is working at the visual processing lab. There, he is conducting research in the field of vision and neuroscience. He has studied medicine, ophthalmology, and neuroscience. Currently, he is interested in applying artificial intelligence in the field of medicine to enable early detection and hence management of prevalent eye diseases.

José Filipe Amado Coelho Nunes Vicente
Postdoc (Biophysics) at the European Molecular Biology Laboratory (EMBL) in Heidelberg

Research interests: molecular mechanobiology in the context of cell surface mechanics; development of imaging and biophysical methods to probe and study cell mechanics as well as molecular forces

Filipe considers himself a mechanobiologist with a focus on imaging and quantitative biophysical methods. He completed his doctoral research at the IINS in Bordeaux, France, where he studied the mechanisms of molecular mechanosensing in cell mechanics, focal adhesions and the cytoskeleton. He gained experience in cell stretching, microfabrication, and super-resolution microscopy. As postdoc he studies the role of spectrins in cell surface mechanics and morphogenesis. Thereby, he learned biophysical techniques, atomic force microscopy and magnetic pinching, as well as optogenetics and molecular biology such as CRISPR.

Add-on Fellows for Interdisciplinary Life Science

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Aylin Balmes

Doctoral candidate (Biophysics) at the University of Tübingen

Research interests: biophysics, nanoscience, cell mechanics, medical physics

Aylin Balmes is investigating the interplay between the second messenger cyclic guanosine monophosphate (cGMP) and the biophysical properties of cells. In addition, she is student representative of the RTG 2381 "cGMP: From Bedside to Bench", vice chair of the doctoral convention and editorial member of the student research magazine Faktor14. Previously, she studied nanoscience and physics at the University Tübingen. During her studies she was supported by a scholarship of the German Academic Scholarship Foundation.

Jonas Bendig

Postdoc (Medicine) at the Technical University of Dresden

Research interests: Parkinson's disease, ultrasound, blood-brain barrier, neuromodulation, functional connectivity

Jonas Bendig uses focused ultrasound to open the blood-brain barrier to enhance the delivery of therapeutic compounds in Parkinson's disease. In addition, he is trying to combine functional ultrasound imaging of neural activity with ultrasound-based neuromodulation to investigate network effects and identify new targets for neural stimulation in neurodegenerative diseases. In previous work he started to use digital and blood-based biomarkers to diagnose and monitor progression in Parkinson's disease. This work is ongoing. Jonas holds and MD from TU Dresden and has a second affiliation at Columbia University (USA).

Add-on Fellows for Interdisciplinary Life Science

Anthoula Chatzimpinou
Doctoral candidate (Biology) at the Ruprecht-Karls-University of Heidelberg

Research interests: neuroinflammation, brain immune cell ultrastructure, single-cell imaging

Anthoula Chatzimpinou is fascinated by the diversity of microglia, a brain immune cell, and its function of activation upon different neuroinflammatory cues. By using single-cell soft x-ray tomography, she investigates the 3D anatomy of microglia, like DNA packing, mitochondria function, and lipid metabolism, in their native and activated state. By combining protein analysis with 3D ultrastructural studies, she will potentially understand the mechanisms that drive various organelles to function upon special demands of different activations. Inspired by long-COVID-19 patient cases with ongoing neurodegeneration, she aims to understand how healthy and prolonged activated microglia behave upon infection with another virus, called Zika virus.

Giacomo Costalunga
Doctoral candidate (Biology) at the Max-Planck-Institute (MPI) for Biological Intelligence in Munich

Research interests: behavioral neuroscience, neuroethology, vocal communication

Giacomo Costalunga works on the neural circuits for vocal communication. In particular, he studies nightingales in a neuroethological framework spanning from behavioral field experiments to single-cell dissection of neuronal circuits to investigate vocal communication processing and production. Previously, he completed a M.Sc. degree in neuroscience at the University of Trieste (Italy) and aB.Sc. degree in biology at the University of Padova (Italy). With the support of the Add-on Fellowship, he aims to develop novel automatic ways to quantify animal behavior and to fill the gap between field-based behavioral observations and brain dynamics underlying complex vocal communication.

Add-on Fellows for Interdisciplinary Life Science

Michaela Dehne

Doctoral candidate (Biotechnology) at the University of Augsburg

Research interests: transient transfection, microfluidic systems, mammalian cell culture, 3D printing, DoE, polyplex formation und uptake, nanoparticles, production of biopharmaceuticals, patient specific medicine

Michaela Dehne has been working on continuous transient transfection in microfluidic systems for the production of biopharmaceuticals as a faster and cheaper alternative to the prevailing production with stable cell lines. Previously, she studied life science in Hannover, with a special focus on microfluidics, 3D printing and mammalian cell culture and received a DAAD scholarship for her research stay at Northeastern University in Boston, USA. Due to her previous work as a project consultant, she brings a lot of knowledge on management systems, which is of great advantage for industry related research.

Alissa M. Drees

Doctoral candidate (Biochemistry) at the University of Hamburg

Research interests: aptamers, high-throughput sequencing–fluorescent ligand interaction profiling (HiTS-FLIP), microarrays, machine learning

Alissa Drees is committed to optimize the selection and characterization of aptamers, inter alia by performing HiTS-FLIP experiments. Aptamers are nucleic acid-based affinity reagents that are similar to antibodies regarding their affinity and specificity for a target and hence their application possibilities. However, compared to antibodies, aptamers can be advantageous, e.g., because they can be produced in vitro. Previously, she studied food chemistry and was particularly interested in the food authentication via near-infrared spectroscopy. During her M.Sc. degree, she oriented herself toward biochemistry. She participated in the 70th and 71st Lindau Nobel Laureate Meeting.

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Felix Drost

Doctoral candidate (Bioinformatics) at the Helmholtz Center Munich

Research interests: adaptive Immunology, T-cell receptor, deep learning, representation learning

Felix Drost develops deep learning models for understanding the adaptive immune system. Particularly, he aspires to aid the development of precision medicine against tumors and autoimmune diseases by predicting the interaction of T-cell receptors with their cognate epitopes through computational tools. Prior, he graduated in B.Sc. engineering sciences at the TU Munich before specializing on machine learning and artificial intelligence during his M.Sc. robotics, cognition, intelligence. He uses to Add-on Fellowship to validate the computational models with his experimental collaborators.

Simon Frerich

Postdoc (Bioinformatics) at the Ludwigs-Maximilians-University of Munich

Research interests: spatial and single-cell transcriptomics data analysis, genome-wide association studies, Mendelian randomization, polygenic risk scores, cardiovascular disease

Simon Frerich uses heterogeneous single-cell and spatial transcriptomic data to uncover stroke-related processes in the brain. Previously, he led a Mendelian randomization analysis to screen for cardiac risk factors for stroke. Simon holds an M.Sc. from Imperial College London (United Kingdom) and a B.Sc. from TU Dresden with a stay at Norwegian University of Science and Technology (NTNU). He also conducted research at Karolinska Institute, Sweden.

Add-on Fellows for Interdisciplinary Life Science

Nadin Haase

Postdoc (Bioinformatics) at the Leibniz University of Hannover

Research interests: theoretical biophysics, RNA sequencing, mathematical modeling, protein synthesis, Markov models

Nadin Haase focuses on the analysis of plant RNA sequencing data sets for the calculation of kinetic parameters, which will be used for the stochastic modeling of the translation process in chloroplasts with Markov models. Previously, she studied physics at the University of Potsdam and did her doctorate at the MPI for Colloids and Interfaces in the Department of Theory and Biosystems. The Add-on Fellowship promotes her work at the interface of theoretical biology, bioinformatics and physics and supports networking and professional exchange with other research groups.

Tilmann Herberger

Doctoral candidate (Chemistry) at the Max-Planck-Institute (MPI) of Polymer Research in Mainz

Research interests: living materials; biotechnology, polymer science, bioelectronics, biosensors, materials for environmental and medical applications

Tilmann Herberger investigates biogenic nanosheets for environmental and medical applications such as photocatalytic water splitting, electrobiocatalytic wastewater purification, wearable biosensing and wound healing. In his work he combines polymer science, electrochemistry and biotechnology. Previously, he graduated in environmental sciences and engineering. He founded the startup “Faraja Water”, which aims to enable Tanzanian woman to purify drinking water with ultrafiltration membranes.

Add-on Fellows for Interdisciplinary Life Science

Miriam Herbert

Doctoral candidate (Microbiology) at the Max-Planck-Institute of Infection Biology in Berlin and the Humboldt University of Berlin

Research interests: host-pathogen interactions, immune regulation, microbiology, bioinformatics

Miriam Herbert is interested in how pathogens and hosts interact and influence each other. In her doctoral project, she investigates how host immune cells, specifically eosinophils, contribute to the formation of granuloma structures in tuberculosis and closely related diseases. Currently she uses the in vivo zebrafish-Mycobacterium marinum model to answer her questions. The Add-on Fellowship allows her to expand her scope and to add a bioinformatics component to her research project, building on previous experiences in transcriptome analysis.

Theresa Ingenhaag

Doctoral candidate (Biology) at the Technical University of Darmstadt

Research interests: cellular stress response, radiation biology, systems biology, NMR-based structural biology, mathematical modeling

Theresa Ingenhaag combines in-vitro NMR studies with live-cell imaging to investigate how clustered phosphorylation sites can regulate the signaling network of the tumor suppressor p53. Previously, she examined the cellular effects of breast cancer associated p53 mutations. Theresa holds a M.Sc. and B.Sc. from TU Darmstadt and is a member of the local graduate school “life science engineering” at TU Darmstadt, which brings together students from biology, chemistry, physics, mechanical and electrical engineering.

Add-on Fellows for Interdisciplinary Life Science

Abdelrahman Khalifa
Doctoral candidate (Neuroscience) at the Max-Planck-Institute (MPI) of Brain Research in Frankfurt

Research interests: pharmacology, genetics, autism

Abdelrahman Khalifa researches neurodevelopmental disorders that affect social behavior, language, and movement in children under the age of three, particularly autism. The Add-on Fellowship will help him dive deep into computational neuroscience and deep learning approaches to support electron microscopy and genetic techniques. Abdelrahman looks forward to discussing the work with neurobiologists in the Add-on community, as well as engaging in interdisciplinary conversations. He welcomes the Joachim Herz Foundation's support in developing young people regardless of background or status.

Lukas Kluy
Doctoral candidate (Engineering) at the Technical University of Darmstadt

Research interests: production engineering, titanium alloys, severe plastic deformation, implants, microbiology, nanotechnology

Lukas Kluy is researching the production of nanostructured implants in which bone ingrowth is stimulated but bacteria film formation is suppressed. Therefore, the mechanical engineer is developing a continuous forming process for a stable production of implant materials with a homogeneous nanostructure. With the help of the Add-on Fellowship, he is gaining deep insights into microbiology to better understand the biological and orthopedic requirements. He is convinced that the interdisciplinary linking of challenges from medicine with the possibilities of mechanical engineering can achieve added value for society through the implants of the next generation.

Add-on Fellows for Interdisciplinary Life Science

Fiona Kolbinger

Postdoc (Medicine) at the Technical University of Dresden and at the Carl-Gustav Carus University Hospital in Dresden

Research interests: complication risk and outcome stratification in oncological surgery, translational research, pancreatic cancer, colorectal cancer, medical image analysis

Fiona Kolbinger is a surgical clinician scientist with a research focus at the intersection of surgical oncology and computer science. Her interdisciplinary projects aim at the translation of technological innovations, particularly artificial intelligence, into surgical practice. In particular, she is interested in AI-based complication risk and outcome stratification in patients with pancreatic and colorectal cancer. To facilitate data privacy-preserving collaborative research between clinical institutions, she explores decentralized methods for collaborative training and validation of AI in surgical centers. The Add-On Fellowship gives her the opportunity to expand her knowledge and skills in computer science and interact with national and international collaboration partners.

Janina Kupke

Doctoral candidate (Neuroscience) at the Ruprecht-Karls-University of Heidelberg

Research interests: learning and memory, neuroscience, epigenetic in memory research, cognition

Janina Kupke is interested in understanding why some memories last a life long, whereas others only exist for a short period of time. For this, she uses behavioral readouts in rodents and genetic and viral tools to manipulate the epigenome of mice to convert a normal short-transient memory into a persistent one.

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Lena Lambers
Doctoral candidate (Engineering Science) at the University of Stuttgart and the University hospital in Jena

Research interests: biomechanics, multiscale modeling, liver modeling, continuum mechanics, FEM, function-perfusion coupling, patient-specific models

Lena Lambers is developing a continuum biomechanical model to simulate function-perfusion processes in the liver. Here, the focus is on improving patient-specific predictions as well as robustness through data-driven approaches and the incorporation of experimental, clinical and in silico data. Previously, she studied civil engineering at TU Dortmund University, where she specialized in numerical mechanics. The Add-on Fellowship will allow her to strengthen interdisciplinary research related to biomedical aspects.

Jia Hui Li
Postdoc (Biophysics) at the European Molecular Biology Laboratory (EMBL) in Heidelberg

Research interests: mechanobiology at the cell surface, biophysics, stem cell biology, germ layer specification, gastrulation

Jia Hui Li studies the role of cell surface mechanics in the fate acquisition of the three germ layers, the primary tissues specified during embryogenesis. During her doctorate, she developed a method to manipulate membrane protein movement using magnetic tweezers. She obtained her M.Sc. and B.Sc. degree in biochemistry at the FU Berlin. Jia is passionate about sustainability in the life sciences and gender equity and inclusion in academia. The Joachim Herz Add-on Fellowship allows her to visit her collaborators in Spain to work with 3D organoids models.

Add-on Fellows for Interdisciplinary Life Science

Mattea Müller

Postdoc (Biology) at the Leibniz University of Hannover

Research interests: gut microbiome, nutrition, metabolic health, short-chain fatty acids, dietary fiber, eating patterns, personalized nutrition, biomedical data science

Mattea Müller is a cell biologist by training and has been working on the interaction of the human gut microbiome, dietary factors, and metabolic health since the beginning of her doctorate. Her research areas are at the intersection of gastroenterology, nutrition, and microbiology. At her current position, she is focusing on personalized dietary interventions based on the gut microbiome as well as prediction of health responses towards different dietary interventions.

Markus Müller

Doctoral candidate (Biochemistry) at the Ludwigs-Maximilians-University of Munich

Research interests: chemical biology, photopharmacology, imaging technologies, translational projects

Markus Müller centered his research on the development of next-generation contrast agents for photoacoustic imaging to establish novel methods to detect and monitor disease. After a stint in the medicinal chemistry department of Boehringer Ingelheim in Biberach, he studied chemistry at the University Ulm and the TU Munich.

Add-on Fellows for Interdisciplinary Life Science

Jonas Naumann

Doctoral candidate (Physics) at the University of Leipzig

Research interests: fetal lung mechanics, mechanical ventilation, tissue models and mechanics, cell behavior under pressure gradients, extracellular matrix models

Jonas Naumann investigates the biophysical properties of the preterm lung. He wants to target prematurity as the world's leading cause of death in children under the age of 5, in order to make a contribution to reduce mortality. He completed his undergraduate studies with a B.Sc. in physics at the Leipzig University and continued as a fast-track doctoral candidate at the Peter Debye Institute for Soft Matter Physics at the Leipzig University. In addition, Jonas is familiar with teaching and supervising students. He was awarded the 1st place of the Young Scientist Award during the Annual Physics of Cancer Symposium.

Giulia Paiardi

Postdoc (Bioinformatics) at the Ruprecht-Karls-University of Heidelberg

Research interests: molecular modeling, biophysics, artificial intelligence, oncology

Giulia Paiardi combines her knowledge of molecular modeling and simulations with her interest in the artificial intelligence methods. The goal of her research is to leverage significant advances in AI methods for the design and mechanistic characterization of peptides and peptidomimetics for therapeutic purposes with a focus on cancer. Previously, she got her M.Sc. in bioinformatics and medical biotechnology (University of Verona, Italy) and gained her doctorate in technology for health (departement of information engineering. University of Brescia, Italy). The Add-on Fellowship of the Joachim Herz Foundation allows Giulia to gain deeper knowledge in the fields of artificial intelligence/machine learning methods as well as attend national and international events.

Add-on Fellows for Interdisciplinary Life Science

John-Alexander Preuß

Doctoral candidate (Biotechnology) at the University of Augsburg

Research interests: BioMEMS, 3D printed microfluidics, microfluidic separation techniques, microfluidics for bioprocess engineering

John-Alexander Preuss investigated the possibilities of 3D printing for the development and production of customized microfluidic applications. A particular focus was on the parallelization of sensing experiments and separation techniques using microfluidics. Prior, John completed his M.Sc. degree in life science at Leibniz University Hannover. He recently started a postdoc at the University of Augsburg. The Add-on Fellowship will allow John to expand his methodology to include microelectronics and to work on microfluidic electrical separation techniques in a research project at the Massachusetts Institute of Technology (USA).

Silvia Rodriguez-Rozada

Postdoc (Neuroscience) at the University Hospital in Würzburg

Research interests: optogenetics, neurophysiology, synaptic circuits, interception, brain-body connection, neurodegenerative and psychiatric disorders

Silvia Rodriguez-Rozada investigates how neuronal circuits integrate bottom-up information about bodily states and its contribution to behavioral adaptation, both in health and disease. Silvia received her B.Sc. in biochemistry from Universidad Autónoma de Madrid (Spain), and then moved to Germany for her M.Sc. in neuroscience at Goethe University Frankfurt. She completed her doctoral degree in Hamburg. Her thesis work focused on the development and application of optogenetic tools and was recognized with the Uwe Koch-Gromus Ph.D. Prize awarded by the Freundes- und Förderkreis des UKE e.V. As a postdoc in the defense circuits lab, Silvia aims at manipulating and recording neuronal activity in living mice to unravel the neurobiological mechanisms underlying Parkinson's disease. Through the Add-On Fellowship she will complement her experimentalist profile by expanding her knowledge on computational neuroscience. In addition, Silvia is passionate about science communication and committed to promoting gender equality in STEM.

Add-on Fellows for Interdisciplinary Life Science

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Annalena Salditt
Doctoral candidate (Biophysics) at the Ludiwgs-Maximilians-University of Munich

Research interests: origin of life, emergence of replication, biophysics, RNA biochemistry, non-equilibrium systems, microfluidics, sequencing

Annalena Salditt conducts research in experimental biophysics with an emphasis on the question of how life emerged on early Earth. In particular, she works on model hadean microcompartments that help RNA-dependent RNA replication and ligation reactions in random sequence pools. Previously she studied physics at LMU Munich. She has actively participated in multiple international conferences as well as outreach programs. She was involved in teaching and mentoring students.

Alejandro Salinas
Doctoral candidate (Biology) at the Max von Pettenkofen-Institute of the Ludwigs-Maximilians-University of Munich

Research interests: cancer biology, protein biochemistry, applied virology, recombinant protein purification, innate immunity, synthetic biology

Alejandro Salinas-Illarena focusses on an experimental biomedical research project that aims to combat certain types of chemotherapy resistance in leukemia patients using parts of the human immunodeficiency virus (HIV). For this purpose, he was awarded a scholarship from the “Studienstiftung des deutschen Volkes”. After obtaining his M.Sc. in biochemistry from the LMU Munich, he started his doctorate in Switzerland, where he got insight into the research and development workflow of the pharmaceutical industry. Prior, as student, he represented his homeland Spain at the International Chemistry Olympiad and obtained a bronze medal.

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Kseniia Sarieva

Doctoral candidate (Neuroscience) at the Hertie-Institute for Clinical Brain Research at the University hospital in Tübingen

Research interests: neurodevelopment, brain organoids, single-cell omics

Kseniia Sarieva uses brain region-specific organoids to investigate the mechanisms of neurodevelopmental abnormalities caused by both environmental and genetic perturbations. In particular, she is interested in applying multimodal single-cell omics to explore cell type-specific defects caused by either maternal immune activation or a genetic variant in tRNA splicing endonuclease complex. Previously, she studied cellular and molecular neuroscience. The Add-on Fellowship grants her the opportunity to broaden her knowledge in multimodal single-cell omics and thus supports her to realize her research goals. She looks forward to discussing her work with Add-on Fellows and Alumni.

Yannik Schälte

Postdoc (Bioinformatics) at the Rheinische Friedrich-Wilhelm's-University of Bonn

Research interests: machine learning, statistical inference, computational biology, generative modeling, simulation-based inference, mixed-effects modeling

Yannik Schälte works at the interface of mechanistic modeling and machine learning to improve the understanding of biochemical systems. He develops efficient statistical inference algorithms and tools that are widely applicable, e.g., used to study cancer growth and virus spread mechanisms. Currently, he is a postdoc at the University of Bonn. Previously, he studied mathematics and computer sciences at the University of Bielefeld and did his doctorate in mathematics at the TU Munich. Through the Add-on Fellowship, he intends to obtain a better understanding of experimental biology, and to promote open science communication and reproducible research.

Add-on Fellows for Interdisciplinary Life Science

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Luca Schulz

Doctoral candidate (Biochemistry) at the Max-Planck-Institute (MPI) for terrestrial microbiology in Marburg

Research interests: evolutionary biochemistry, protein evolution, structure-function relationships in enzyme catalysis, dynamics in enzyme catalysis, photosynthesis, carboxylases, metabolic engineering

Luca Schulz works on understanding the evolution and effects of complexity in protein assemblies on the model system RuBisCO, the carboxylase of the photosynthesis. He studied Biology (B.Sc.) at the Universität Marburg and chemical biology (M.Sc.) at the ETH Zurich (Switzerland). For his master thesis in the USA, he was supported through a Master Thesis Grant by the Zeno Karl Schindler foundation as well as an ETH Zurich travel grant and was awarded the Rainer Rudolph Prize. For his ongoing doctoral studies, he was offered a scholarship by the "Studienstiftung des deutschen Volkes" and received a Refeyn Travel Grant for conference attendances.

Niklas Schwegler

Doctoral candidate (Chemistry) at the Ruprecht-Karls-University of Heidelberg

Research interests: biophysical chemistry, medicinal chemistry, natural and synthetic polymers, peptide and protein engineering, 3D printing, computational modeling in chemistry and biochemistry

Niklas Schwegler is developing novel printable biomaterials. He is implementing peptide engineering and 3D laser printing techniques to produce highly functionalized hydrogels that allow the assessment of cellular behavior. With an educational background in chemistry, he will expand his biological and computational skill set. The Add-On Fellowship allows him to pursue these ambitions.

Add-on Fellows for Interdisciplinary Life Science

Lorenzo Semeia

Doctoral candidate (Neuroscience) at the University of Tübingen

Research interests: cognitive and developmental neuroscience, neuroimaging, metabolism, diabetes

Lorenzo Semeia is a psychologist working with humans. His focus is on the relationship between cognition, brain activity and body metabolism. He is also studying how the maternal metabolism could influence the offspring brain and heart activity. After graduating in psychology and neuroscience at the University of Trento (Italy), he moved to the University of Tübingen where he worked as a research assistant, learning different neuroimaging and neurophysiolocal monitoring techniques, such as EEG, MEG, fMEG, fNIRS and fMRI. The Add-on Fellowship allows him to extend his skills in metabolic research, conducting a study about the impact of gestational diabetes on maternal cognition after birth.

Henrike Steding

Doctoral candidate (Biomedicine) at the Medical University Hannover

Research interests: molecular oncology with focus on leukemia (AML), clonal heterogeneity, single-cell transcriptomics, multiplexing approaches such as fluorescent genetic barcoding (FGB)

Henrike Steding studied biomedical Science at Marburg University, where she focused on tumor biology and did her master thesis on gene regulation through long non-coding RNAs. As a doctoral candidate she studies clonal heterogeneity in acute myeloid leukemia. She developed multiplexing approaches that combine fluorescent labelling of cells with DNA-barcoding suitable for single-cell RNA sequencing, and that support the analysis of disease development, drug responses and relapse properties.

Add-on Fellows for Interdisciplinary Life Science

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Michel Struwe
Doctoral candidate (Pharmacology) at the Christian-Albrechts-University of Kiel

Research interests: recombinant protein production, stable isotopes labelling, structural biology, X-ray crystallography, bioinorganic chemistry

Michel Struwe focusses on the structure and mechanism of molybdenum-containing enzymes by various biophysical and spectroscopic methods. Prior to his doctoral studies, he obtained a degree in pharmacy (state examination degree) and drug research (M.Sc.). Michel has been awarded the Bayer International Fellowship and a doctoral scholarship of "Studienstiftung des Deutschen Volkes".

Sarah Täuber
Postdoc (Biotechnology) at the University of Bielefeld

Research interests: microfluidic, single-cell cultivation, dynamic microfluidic single-cell cultivation, scale-down bioprocess, microfluidic materials and manufacturing technology, computational fluid dynamics

Sarah Täuber develops microfluidic systems to study the effects of large-scale bioprocess environments on industrially relevant microorganisms. In particular, she is interested in interdisciplinary work that can be used to apply new materials in microfluidics and their fabrication techniques, as well as to model complex bioprocess environments. The foundation for this was laid while studying physics and biophysics and working in the field of biotechnology. She is also involved in teaching and supervising students and doctoral candidates.

Add-on Fellows for Interdisciplinary Life Science

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Vera Thiel

Doctoral candidate (Medicine) at the German Cancer Research Center (DKFZ) within the Helmholtz Association in Heidelberg

Research interests: neurobiology, cancer biology, single-cell sequencing, bioinformatics, machine-learning-algorithm, lightsheet microscopy

Vera Thiel is interested the interaction of neurons with the tumor micro environment and its impact on tumor progression. She focusses on method development including scSeq of traced neurons as well as 3D imaging of full organ/tumor masses and processing and analysis of 3D data.

Alejandro Tlaie-Boria

Postdoc (Neuroscience) at the Ernst Strüngmann Institute in Frankfurt

Research interests: brain dynamics, information theory, brain-machine interfaces, emergent phenomena, mind-body problem, psychedelics on brain function, animal behavior, single-trial analyses, data science, deep learning and machine learning

Alejandro Tlaie-Boria want to understand the internal cognitive—emotional states that give rise to naturalistic behavior in mammals. To that end, he develops mathematical models through which he can relate an animal facial expression with its observed behavior. Previously, he studied physics (B.Sc.) and theoretical mathematics (M.Sc). The Add-on Fellowship, allows him to spend months at a collaborator in the USA, attend conferences and workshops, critical for staying up to date in the field.

Add-on Fellows for Interdisciplinary Life Science

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Vera van der Weijden
Postdoc (Biology) at the Max-Planck-Institute (MPI) for Molecular Genetics in Berlin

Research interests: embryo development, embryonic diapause, stem cell dormancy, developmental toxicology.

Vera van der Weijden has been working in the stem cell chromatin research group. Here, she focusses on understanding the molecular code of cellular dormancy. She is fascinated by how metabolic interventions affect embryo survival during diapause. During her doctorate, she focused on embryonic diapause in the European roe deer. Her doctoral work was awarded with the ETH medal. Previously, she studied the effect of exogenous compounds on different cell systems.

Dominik Vonficht
Doctoral candidate (Immunology) at the German Cancer Research Center (DKFZ) within the Helmholtz Association in Heidelberg and the Ruprecht-Karls-University of Heidelberg

Research interests: T-cell immunology, immunology in general, single-cell technologies, single-cell RNA sequencing, cellular interactions, multiparametric spectral flow cytometry

Dominik Vonficht focuses on bidirectional interactions between blood stem cells and the immune system as well as the characterization of the healthy and diseased bone marrow microenvironment using high-parametric single-cell readouts. For his doctoral studies, he received the Helmholtz International Graduate School Ph.D. scholarship. Previously, he studied molecular biology with a focus on cancer biology and specialized during his studies into immunology by performing research internships in Boston, MA, USA, as well as in industry at Roche Diagnostics.

Add-on Fellows for Interdisciplinary Life Science

Sophia Wagner
Doctoral candidate (Medical Data Science) at the Helmholtz Center in Munich

Research interests: computational pathology: how to apply AI methods to support pathologists in cancer diagnosis? Can we discover new insights, e.g., new biomarkers, in cancer research with the use of AI?

Sophia J. Wagner is working on "artificial intelligence for microscopy", particularly, on computer vision and deep learning methods in computational pathology. In her work, she applied unsupervised deep learning methods to develop a data augmentation technique to counteract the batch effect in histopathology and developed a fully transformer-based approach evaluated on a large-scale dataset to predict biomarkers from histopathology slides. Previously, Sophia studied mathematics at TU Darmstadt, Université de Bordeaux (France), and TU Munich, where she focused on the application of data science to life sciences in her M.Sc. studies and wrote her thesis in the field of computer vision.

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Laura M. Weber
Doctoral candidate (Biophysics) at the Rheinische Friedrich-Wilhelm's-University of Bonn

Research interests: molecular and cellular biophysics, single-molecule techniques, super-resolution fluorescence microscopy, autonomous ("smart") microscopy, image and data analysis, software development

Laura Weber studied physics and is enthusiastic about interdisciplinary research. She enjoys working at the frontier of physics and biology. Combining tools and techniques from different natural sciences offers her unique research opportunities and provides the possibility to solve recent research questions. In her doctoral project she focuses on microbiological systems and is developing a simulation software for dynamic single-molecule experiments. Besides her studies, she organizes, develops, and performs science shows on stage as part of the Physics Show Bonn.

Add-on Fellows for Interdisciplinary Life Science

Simon Wengert
Doctoral candidate (Bioinformatics) at the Helmholtz Center Munich

Research interests: effects of mitochondrial heteroplasmy in humans, molecular correlates of psychiatric diseases, statistical genetics, single-cell data science, spatial transcriptomics

Simon Wengert uses methods from data science and statistical genetics to investigate how differences in the mitochondrial DNA (mtDNA) between people may contribute to the formation of neuropsychiatric conditions. In particular, Simon works on the effect of mutations on ageing and psychiatric disorders. Previously, he studied molecular biotechnology in Munich and Heidelberg. He gained experience in genomic research through internships in Stockholm (Karolinska Institute, Sweden), Cambridge (Cancer Research, United Kingdom), Basel (Novartis institutes of Biomedical Research, Switzerland) and Heidelberg (EMBL). He enjoys reading nonfiction literature, cares about the role of science in society and how technological progress can be without blundering into human extinction. Apart from work, Simon enjoys singing and running.

Carlos Wert Carvajal
Doctoral candidate (Bioinformatics) at the Rheinische Friedrich-Wilhelm's-University of Bonn

Research interests: biological reinforcement learning, cognitive maps, decision making, bio-inspired neural networks, theoretical foundations of machine learning, hippocampal-thalamic-prefrontal loop

Carlos Wert Carvajal studies the formation of cognitive maps in the brain from the theoretical framework. Particularly, he aims to understand how reinforcers underpin functional maps and their diversity in the human brain. After completing a B.Sc. in biomedical engineering at Universidad Carlos III de Madrid, Spain, and an M.Sc. in biomedical engineering at Imperial College London, United Kingdom, Carlos joined the MPI for Brain Research and, later, the University of Bonn for his doctoral studies in computational neuroscience. During his career, he has performed interdisciplinary research – from molecular biology to biocomputing – which has earned him awards such as the JAE-Intro scholarship or the "la Caixa" postgraduate fellowship.

Add-on Fellows for Interdisciplinary Life Science

Marcel Seungsu Woo

Postdoc (Medicine) at the University hospital in Hamburg-Eppendorf and at the University of Hamburg

Research interests: neurodegeneration, neuroinflammation, multiple sclerosis, computational neuroscience, genomics, CRISPR Cas, machine learning, omics-technologies, stem cell technologies, evolutionary medicine

Marcel S. Woo is a resident physician at the department of neurology and postdoc researcher at the Institute of neuroimmunology and multiple sclerosis (INIMS). His research is dedicated to identifying early biomarkers and treatment strategies to halt neurodegeneration by investigating neuronal (mal-)adaptations to CNS inflammation. Therefore, he combines his experience in molecular cell biology and genomics with unsupervised sequencing and machine learning approaches. His MD thesis was granted the best student publication at the UKE, and he was awarded by the Werner Otto Foundation.

Yue Wu

Doctoral candidate (Bioinformatics) at the Max-Planck-Institute (MPI) for Brain Research in Frankfurt

Research interests: theoretical neuroscience, synaptic plasticity, neural dynamics, machine learning

Kris uses mathematical and computational models to study neural dynamics in networks with multiple interneurons subtypes and how long- and short-term plasticity mechanisms shape the dynamics and computations. Before that, he studied engineering with specialization in computational neuroscience, machine learning, and artificial intelligence. He is representative of the Bernstein Network Computational Neuroscience.

Add-on Fellows for Interdisciplinary Life Science

Sara Zocher

Postdoc (Biology) at the German Center for Neurodegenerative Diseases (DZNE) in Dresden within the Helmholtz Association and the Technical University of Dresden

Research interests: neuroepigenetics, brain aging, metabolism-epigenome crosstalk, aging at Interfaces

Sara Zocher is passionate about researching why the function of our brains is impaired when we age. Her current research focus lies on identifying the contribution of epigenetic aging to cognitive decline, specifically what causes age-related epigenetic aging and how at the molecular level epigenetic aging affects neuronal gene regulation. One of her research lines addresses the crosstalk between systemic metabolism and epigenetic aging in the brain-a project which is supported by the Joachim Herz foundation. Previously, she did her doctorate at the Center for Regenerative Therapies Dresden (CRTD), working on adult neurogenesis in the hippocampus, and then stayed as a postdoc at the MPI of Neurobiology in Martinsried, investigating structural brain plasticity during learning.

Add-on Fellows for Interdisciplinary Life Science

Cohort 2021

Prince Saforo Amponsah

Postdoc (Molecular Genetics) at the Technical University of Kaiserslautern

Research interests: cell metabolism, redox biology, proteomics

Prince S. Amponsah is interested in understanding how protein homeostasis is regulated in aneuploid human cells. Previously, he did his doctorate in cellular biochemistry, investigating the interrelationship between cellular metabolism and cellular redox changes and its effect on cell physiology. In addition, he was involved in teaching, mentoring and science communication. Few years ago, he became the student speaker and member of the steering committee of the DFG Priority Program, SPP1710. He is honored that his work has been acknowledged and appreciated with awards.

Constantin Berger

Postdoc (Tissue Engineering and Regenerative Medicine) at the University Hospital in Würzburg

Research interests: stem cell research, endocrine pancreas, beta cell engineering, cell-matrix interactions, vascularization, tissue engineering, bioprinting

Constantin Berger creates an in vitro model of the endocrine pancreas which resembles the physiological tissue as close as possible. In this regard, his work particularly focuses on the combination of pancreatic endocrine cells with vessel-forming endothelial cells to study the interaction between cells of the endocrine pancreas with cells of the capillary system. Therefore, he aims to combine cell culture techniques with bioprinting approaches, which allows the precise positioning of the generated cell types. The Add-on Fellowship grants him the opportunity to broaden his knowledge in bioprinting and thus supports him to realize his research goal.

Add-on Fellows for Interdisciplinary Life Science

Cohort: 2023 (9), 2022 (8), 2021 (7), 2020 (6), 2019 (5), 2018 (4), 2017 (3) 2016 (2), 2015 (1)

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Thomas Biedenbänder

Doctoral candidate (Biophysics) at the University of Rostock

Research interests: NMR spectroscopy, solid state NMR, dynamic nuclear polarization, NMR method development, spin dynamics, cross relaxation, biomolecular dynamics, RNA, tRNA, structural biology

Thomas Biedenbänder investigates and uses cross relaxation dynamics of various biomolecules at low temperatures by dynamic nuclear polarization-enhanced solid-state NMR. Previously, he studied biochemistry at the Goethe University in Frankfurt which he finished with his M.Sc. degree about relaxation dynamics of modified nucleobases in transfer RNA. Beside his research topics, he is involved in teaching as an assistant. The Add-on Fellowship offers him to shape his scientific career.

Aylin Binici

Doctoral candidate (Biochemistry) at the Max-Planck-Institute (MPI) for Molecular Physiology in Dortmund

Research interests: co-culture assays, immuno-oncology, drug development, natural killer cells, target discovery and target validation

Aylin Binici has obtained her M.Sc. degree working on the synthesis and biological investigation of pyrano-furo-pyridone pseudo natural products. Her project focuses on chemical biology, particularly, the identification of small molecule enhancers of natural killer cell tumoricidal activity. Aylin Binici is an active member of the International Chemical Biology Chapter (ICBS) since several years, and close before the fellowship, she became president of the Students' Chapter located in Dortmund.

Add-on Fellows for Interdisciplinary Life Science

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Abin Biswas

Postdoc (Biophysics) at the Max-Planck-Institute (MPI) for the Physics of Light in Erlangen

Research interests: biophysics of nuclear assembly in Xenopus egg extracts, quantitative analysis of the material properties of metaphase spindles, nuclear size scaling during neuronal differentiation

Abin Biswas uses advanced optical tools to quantitatively image nuclei and self-organizing microtubule assemblies such as metaphase spindles. In particular, he is interested in using interdisciplinary approaches to explore mechanisms that help set and regulate the biophysical properties of intracellular mesoscale structures. Previously, he studied medical physics and biotechnology. He plans on using the funds from this grant to investigate nuclear size scaling during differentiation and to broaden his scientific perspective by working with new collaborators.

Luisa Blöbaum

Doctoral candidate (Biotechnology) at the University of Bielefeld

Research interests: microfluidic cultivation, single-cell analysis, scale-up and scale-down and robustness of bioprocesses, industrial microorganisms

Luisa Blöbaum studies the effect of large-scale bioprocess environments on industrial microbes using microfluidic single-cell cultivation. Other aspects of bioprocesses, such as strain engineering and fermentation, were already central for her education at Bielefeld University and her internship at a large company in Leverkusen. Her master's thesis was awarded the price for excellent and interdisciplinary student's thesis of the DECHEMA "Zukunftsform Biotechnologie". Additionally, to research, Luisa Blöbaum is involved in teaching and supervising students.

Add-on Fellows for Interdisciplinary Life Science

Elena Buglakova
Doctoral candidate (Bioinformatics) at the European Molecular Biology Laboratory (EMBL) in Heidelberg

Research interests: mathematics, data science, biology

Elena Buglakova combines her extensive knowledge of mathematics with her interest in the biology of living organisms. She develops computational methods to study metabolic cell states with single-cell resolution. Previously, she studied data science and applied physics and mathematics at Skolkovo Institute of Science and Technology and Moscow Institute of Physics and Technology, Russia. The Add-on Fellowship provides her the opportunity to expand her knowledge in modern biology and build a network of professional contacts. She looks forward to discussing her work with Add-on Fellows and Alumni.

Simona Capponi
Postdoc (Genetics) at the German Cancer Consortium (DKTK) in Freiburg

Research interests: epigenetics, transcription, neurological diseases

Simona Capponi focuses on understanding how alternative splicing shapes transcriptional programs in neurons. The goal of her research is to translate her findings to human neurological diseases, such as parkinsonism and intellectual disabilities. Currently she is a postdoc in medical epigenetics. Prior to that, she obtained her doctorate in neuroscience from the University of Genoa, Italy. She was awarded the Young Investigator Award by the Collaborative Research Center 992 in medical epigenetics. With the Add-on Fellowship, she will gain expertise in stem cell physiology and differentiation. As a mother of two, Simona advantages by the Add-on family support.

Add-on Fellows for Interdisciplinary Life Science

Fiona Charitou

Doctoral candidate (Human Medicine) at the Technical University of Munich and University Hospital rechts der Isar

Research interests: tissue engineering, mechanobiology, biomechanics, medical engineering, artificial intelligence in medicine

Fiona Charitou is a medical student at the Technical University of Munich and doctoral candidate at the Department for Orthopedics and Sports Orthopedics at Klinikum rechts der Isar in Munich. Previously, she studied bioengineering with specialization in medical engineering. She started working as a student research assistant at the department for orthopedics during her first studies, now combining the engineering and medical background in her doctoral thesis.

Marta Cortesão

Postdoc (Aerospace Microbiology) at the Germen Aerospace Center (DLR) in Cologne

Research interests: stress resistance, biology in radiation and microgravity environments, in situ resource utilization (ISRU), lunar and Martian exploration, filamentous fungi, pigment protection

Marta Cortesão focuses on studying microbial physiology under exposure to space conditions (e.g., radiation, spaceflight microgravity). She also works to develop new strategies for using microbes in space exploration (e.g., fungal biomining of Lunar soil; or fungal-based space biotechnology). Prior to that, she has received her doctorate in Biology, in particular, space microbiology, from the University of Göttingen, and a M.Sc. degree in Molecular and Cellular Biology from the University of Porto. She is passionate about science communication and outreach, particularly in the field of astrobiology and space microbiology.

Add-on Fellows for Interdisciplinary Life Science

Rosa Delgado

Doctoral candidate (Immunology) at Ludwig-Maximilian-University of Munich

Research interests: immunology, neuroscience, microbiology, stroke, gut microbiota

Rosa Delgado research involves the study of gut microbiota-derived metabolites on chronic inflammation after stroke, combining expertise from different fields: neuroimmunology, microbiology and bioinformatics. Previously, she finished her B.Sc. degree in Pharmacy in Madrid, Spain, and joined the Institute for Stroke and Dementia Research, at the LMU Munich. The Add-on Fellowship supports her multidisciplinary education, allowing Rosa to attend courses, conferences and creating a network of international cutting-edge scientists from different backgrounds to promote exchanges of ideas.

Linda Dieckmann

Doctoral candidate (Translational Psychiatry) at the Max-Planck-Institute for Psychiatry in Munich

Research interests: multi-omics (epigenetics, gene expression, genomics), early development, placental tissue, differential susceptibility, biological embedding of and pathways to health and disease

Linda Dieckmann is interested in how combining omics-approaches together with knowledge about environmental influences can help to understand the biological embedding of health and disease. She is member of the International Max Planck Research School for translational psychiatry. Previously, she studied psychology and was supported by a scholarship of the German National Academic Foundation. For her master's thesis she received a student award of the Ruhr-University Bochum for an outstanding academic assignment. For her research, she aims to combine approaches at the interface of psychology, genetics, statistics and bioinformatics.

Add-on Fellows for Interdisciplinary Life Science

Tim Dullweber

Doctoral candidate (Biophysics) at the European Laboratory for Molecular Biology (EMBL) in Heidelberg

Research interests: theoretical biophysics, statistical physics, nonlinear dynamics, muscle formation, developmental biology, tissue mechanics, tissue dynamics, notch signaling, image segmentation

Tim Dullweber is committed to study on a theoretical level how selective cell differentiation is coordinated in dynamic, embryonic tissues. For his work, he exploits concepts of statistical physics and nonlinear dynamics. Previously, he graduated in Molecular Medicine as well as Physics and specialized in theoretical biophysics. In addition, he is involved in teaching at Heidelberg university, in the organization of the 23rd EMBL Ph.D. Symposium and supports ELLS in their efforts to inspire school kids for science.

Dennis Feigenbutz

Doctoral candidate (Neuroscience) at the Max-Planck-Institute (MPI) for Neurobiology in Martinsried next to Munich

Research interests: neurodegeneration at mechanistic and molecular levels, application of novel data analysis methods to single-cell RNA sequencing data

Dennis Feigenbutz aims to find out why certain types of neurons are more vulnerable to neurodegenerative diseases, i.e., Huntington's disease. Dennis focuses on areas in the brain that are responsible for the control of movement and investigate what molecular characteristics neurons have that are heavily impaired by the disease. Prior to that, he studied molecular biology (B.Sc.) and neurobiology (M.Sc.) at the University of Heidelberg. His interests in neurodegenerative diseases sparked during his master thesis abroad at the University of Oxford, United Kingdom, where he researched on cellular models of Parkinson's disease.

Add-on Fellows for Interdisciplinary Life Science

Gina Fürtjes

Postdoc (Medicine) at the University Hospital in Cologne

Research interests: fluorescence imaging, fluorescence-guided surgery, tumor mouse models

Gina Fürtjes is a resident in the department of neurosurgery at the University hospital of Cologne. In parallel, she started to contribute in the next-generation in vivo imaging group at the Helmholtz Pioneer Campus at the Helmholtz Center in Munich with the aim of clinical translation of near-infrared imaging. She is focusing on fluorescence-guided surgery. Previously, she studied human medicine in Münster and gained her doctorate in the field of epigenetics of meningiomas.

Nathalie Gerstner

Doctoral candidate (Bioinformatics) at the Max-Planck-Institute (MPI) for Psychiatry in Munich

Research interests: computational biology, translational psychiatry, next-generation sequencing data, multi-omics data, network biology, machine learning

Nathalie Gerstner focuses on the molecular characterization of psychiatric disorders in the human cortex using multi-modal single-cell sequencing data. She holds a degree in bioinformatics from TU and LMU Munich. Already, during her studies she was involved in teaching activities and co-authored scientific publications. The Add-on Fellowship of the Joachim Herz Foundation allows Nathalie to broaden her scientific horizon by conducting a research stay abroad and expanding her professional network.

Add-on Fellows for Interdisciplinary Life Science

Pamela Guruciaga

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

Research interests: statistical physics, biological physics, disordered systems, symmetry-breaking processes, phase transitions, morphogenesis, developmental biology, cell biology

Pamela Guruciaga is a physicist interested in symmetry-breaking processes, order-disorder transitions, and exotic phases of matter. During her doctorate and previous postdoc, she focused on applications of statistical mechanics to magnetic materials (frustrated and disordered, respectively). She is now using this versatile framework to dissect the interplay between boundary properties and epithelial polarity organization during morphogenesis. Although she is a theorist, she is deeply interested in collaborating with experimentalists to test and improve her models which is aimed by the Add-on Fellowship.

Tanja Holstein

Doctoral candidate (Bioinformatics) at the Federal Institute for Materials Research and Testing (BAM) in Berlin

Research interests: virus bioinformatics, proteomics, statistical models, complex systems, network science, biological networks, co-evolution of ecosphere and anthroposphere

Tanja Holstein is developing bioinformatic methods for virus proteomics including new statistical applications for virus identification. Before that, she did her master's thesis at the Potsdam Institute for Climate Impact Research on a network model for socio-ecological co-evolution. She enjoys working with students, has co-taught a seminar on meta- and multi-omics and tutored high school students all throughout her studies. She is also a yoga teacher.

Add-on Fellows for Interdisciplinary Life Science

Karin Hrovatin

Doctoral candidate (Medical Data Science) at the Helmholtz Center in Munich

Research interests: biomedical data science, single-cell analysis, pancreatic beta cells and diabetes

Karin Hrovatin is a doctoral candidate in biomedical data sciences with focus on pancreatic beta cell-related single-cell analysis at the Institute for computational biology at Helmholtz Center Munich. She studied biotechnology and bioinformatics and is enrolled in the doctoral program Munich school for data science. She is also interested in public communication, visualization, and entrepreneurship.

Susanne Ibing

Doctoral candidate (Medical Data Science) at the Hasso-Plattner-Institute at the University of Potsdam

Research interests: clinical predictive modeling, inflammatory disease, multimodal data integration, pharmacogenomics

Susanne Ibing is doing her doctorate at the Chair of Personalized Medicine at the Hasso-Plattner-Institute for IT systems engineering, data engineering and digital health at the University of Potsdam. Besides her research on predictive modeling in the context of inflammatory bowel disease, she is involved in teaching. Previously, Susanne studied molecular biotechnology at the University of Heidelberg. At the German Cancer Research Center in Heidelberg, she wrote her master's thesis in the Department of applied bioinformatics.

Add-on Fellows for Interdisciplinary Life Science

Kevin Jahnke

Doctoral candidate (Biophysics) at the Max-Planck-Institute (MPI) for Medical Research in Heidelberg

Research interests: bottom-up synthetic biology, microfluidics, DNA nanotechnology, protein reconstitution, giant vesicles, photoswitching, la-ser nanoprinting

Kevin Jahnke focusses on the bottom-up assembly and dynamic actuation of synthetic cells. He studied physics at Heidelberg University with a stay abroad for his master thesis at Cambridge University, United Kingdom. He is a member of the Heidelberg Graduate School for physics and a Carl Zeiss Stipend holder within the excellence cluster 3D Matter Made to Order. He continued his scientific work as a postdoc at Harvard University, Boston, Cambridge, USA.

Mi-Sun Ruth Jang

Doctoral candidate (Biomedicine) at the Hannover Medical School

Research interests: macrophages, hematopoietic development, tissue adaptation

Mi-Sun Jang focuses on the development of macrophages from induced pluripotent stem cells by using bioinformatics tools in combination with classic wet lab techniques. For her previous work in the nephrology, she received grants for presenting her projects at national and international conferences. Before her doctoral project, she received her M.Sc. degree in molecular life science at the University of Hamburg. The Add-on Fellowship provides her with an excellent platform for vivid scientific exchange, professional and personal growth and to take a deeper dive into the field of bioinformatics.

Add-on Fellows for Interdisciplinary Life Science

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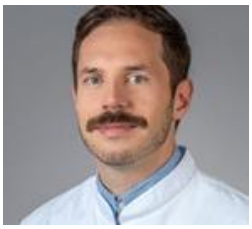
Niko Lindlar

Doctoral candidate (Chemistry) at the Ludwig's-Maximilian-University of Munich

Research interests: understanding non-heme iron enzymes, bioinorganic chemistry, coordination chemistry, functional model complexes, UV-Vis spectroscopy, kinetics, mass spectrometry, stable isotope labeling

Niko Lindlar (née Jonasson) has been working on bioinorganic chemistry to understand non-heme iron enzymes from his master's degree to his dissertation and is now continuing this in his postdoctoral research. He also acts as a mentor for students. In parallel, he works as an adventure educator for the youth of the German Alpine Association (JDAV), where he teaches young people and future youth leaders about communication, cooperation, and risk assessment and management. In addition to the Add-on Fellowship, he is supported by the Studienstiftung des Deutschen Volkes.



Daniel Kaiser

Postdoc (Medicine) at the University Hospital Carl Gustav Carus in Dresden

Research interests: cerebrovascular disease, stroke, aneurysm, hemocompatibility, neuroimmunology, additive manufacturing

Daniel Kaiser is a postdoc and clinician scientist at the Institute of Neuroradiology, University Hospital in Dresden. His current research is dedicated to improved diagnostics and individualized interventional therapies for patients with stroke or intracranial aneurysms. He is a board-certified radiologist and in specialist training in neuroradiology. Daniel has been working in scientific societies with the goal of improving networking and education for young clinicians and researchers.

Add-on Fellows for Interdisciplinary Life Science

Florian Klimm

Postdoc (Bioinformatics) at the Max-Planck-Institute (MPI) for Molecular Genetic in Berlin

Research interests: network science, single-cell RNA sequencing analysis, topological data analysis, integrative biology, biostatistics, graphs

Florian Klimm investigates to what extent advanced tools from network science and biostatistics allow us to uncover hidden structure in single-cell RNA sequencing data and so may reveal the complex genetic and function of cells. Previously he studied physics at the HU Berlin and as a Fulbright Scholar in Santa Barbara and received a Ph.D. from the University of Oxford, United Kingdom. Before returning to Berlin, he was a postdoc at the University of Cambridge and the Imperial College London, United Kingdom. He decided to take a follow-up position in Research and Development at the University of Oxford at the Novo Novo Nordisk Research Centre.

Franziska Viktoria Kraus

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

Research interests: T-cell immunology, rheumatopathology, autoimmunity, immune metabolism, metabolome-epigenome interactions, translational research

Franziska Kraus works on CD8 T-cell metabolism in Rheumatoid Arthritis and became a member of the Heidelberg Biosciences International Graduate School (HBIGS). She accomplished her master's thesis at the Heidelberg University in molecular biosciences with a major in infectious diseases, building on her B.Sc. in biomedicine at the Würzburg University. Her curiosity and enthusiasm led her to many internships in various laboratories in academia and industry. Since several years she became also engaged in the Signal Transduction Society and a member of Pro-Test Deutschland e.V. contributing to science communication.

Add-on Fellows for Interdisciplinary Life Science

Tina Lence
Postdoc (Microbiology) at the Institute for Molecular infection Biology (IMIB) at the Julius-Maximilian's-University of Würzburg

Research interests: RNA processing, post-transcriptional gene regulation, epitranscriptomics, ASO-based programmable anti-infectives, high-throughput sequencing technologies and bioinformatics, bacterial infection biology

Tina Lence is exploring novel approaches to develop antisense oligonucleotide (ASO)-inspired antibiotics that will enable specific and targeted elimination of a human pathogenic bacteria Clostridioides difficile. She completed undergraduate study of biochemistry and gained further expertise in the fields of molecular and RNA biology during her doctorate. Tina received poster awards at international conferences. The fellowship of the Joachim Herz Foundation allows her to gain deeper knowledge in the fields of infection biology and computational biology.

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Jakob Lingg
Doctoral candidate (Biomedicine) at the Helmholtz Center in Munich

Research interests: optical microscopy, fluorescence spectroscopy, deep tissue imaging, fluorescence guided surgery

Jakob Lingg is pursuing his doctorate in computer science from the TU Munich while working at the Helmholtz Center. His project focuses on the development of a line-scan confocal microscope that operates in the shortwave-infrared wavelength regime. The aim is to use this microscope to reveal three-dimensional dynamics with high spatiotemporal resolution in organisms. He became a doctoral representative for the Graduate School of BioEngineering at the TU Munich. Previously, Jakob studied physics and astronomy at the LMU Munich, followed by a M.Sc. degree in astrophysics with focus on computational methods.

Add-on Fellows for Interdisciplinary Life Science

Philipp Mauker

Doctoral candidate (Biochemistry) at the Ludwig-Maximilian's-University of Munich

Research interests: organic synthesis, chemical biology, fluorogenic probes, enzyme imaging, disease-selective delivery of small molecules

Philipp Mauker investigates chemical strategies to control the cell membrane permeability of fluorogenic probes and small molecules. He is a trained organic chemist with a M.Sc. in chemistry who expanded his skills towards chemical biology where the worlds of biology and chemistry are brought together. He received a scholarship from Studienstiftung des Deutschen Volkes and became a Studienstiftung doctoral scholar. He was awarded the CeNS travel award for presenting his work at the Pacifichem conference in Honolulu, Hawaii. He obtained research experience in research groups in Germany and the United Kingdom as well as in industry in the chemical development division.

Giovanni Palla

Doctoral candidate (Bioinformatics) at the Helmholtz Center in Munich

Research interests: computational biology, machine learning, probabilistic models, uncertainty estimation, spatial data analysis, abdominal pancreatic cancer

Giovanni focuses on the developing of open-source tools and machine learning methods for the analysis of spatial molecular data. He is generally interested in probabilistic machine learning for the analysis for large-scale biological data. Giovanni holds a M.Sc. from Utrecht University, Netherlands, and a B.Sc. from University of Trento, Italy. He also researched at EMBL Heidelberg and Novartis Institute for biomedical research in Basel, Switzerland.

Add-on Fellows for Interdisciplinary Life Science

Tancredi Massimo Pentimalli

Doctoral candidate (Biology) at the Max-Delbrück-Center for Molecular Medicine (MDC) in Berlin within the Helmholtz-Association

Research interests: tumor biology, translational oncology, single-cell and spatial transcriptomics, brain organoids

Tancredi Massimo Pentimalli aims to combine his medical background with data science and bioinformatics approaches to tackle the complexity of tumors to identify novel therapeutics. He has been working in the single-cell and spatial transcriptomics field, first as a summer intern and then as a doctoral candidate at MDC. Also, he teaches research skills and bioinformatic analyses. Previously at the University of Rome 'La Sapienza', Italy, he studied medicine and surgery and attended the interdisciplinary Superior School of Advanced Studies. He was included in the National Registry of Excellency of the Italian Ministry of Education for study merits, and he was awarded the title of 'Excellent Graduate' by the University of Rome 'La Sapienza'.

Enja Rösch

Doctoral candidate (Engineering) at the Technical University of Braunschweig

Research interests: magnetic nanoparticles and nanomagnetism, measurement science, DNA nanotechnology

Enja Rösch is a doctoral candidate at the Institute of electrical measurement science and fundamental electrical engineering, where she is involved in the development of magnetic nanoparticle-based detection of pathogen specific targets, such as antigens and nucleic acids. She has studied electrical engineering (B.Sc.) and industrial engineering (M.Sc.) at the Technical University of Braunschweig. She was awarded with the Walter-Kertz study award for her master's thesis. In addition, she has gained intercultural experience during a semester abroad in China and an internship in India. Enja is involved in teaching and supervision of students.

Add-on Fellows for Interdisciplinary Life Science

Oskar Staufer

Postdoc (Synthetic Biology) at the Max-Planck-Institute (MPI) for Medical Research in Heidelberg

Research interests: synthetic biology, immunology

Oskar Staufer focuses on the design and assembly of synthetic tumor immune environments. He performed his doctorate focusing on the application of bottom-up synthetic biology principles for biomedical purposes. He developed a fully synthetic extracellular vesicles and showed their application for wound healing therapy. Moreover, he constructed fully synthetic SARS-CoV-2 virions to understand the role of fatty acid binding by the spike proteins in immune evasion during COVID-19. He was awarded the Otto Hahn Medal of the Max-Planck-Society, the young investigator award from the Society of Extracellular Vesicles, and fellowships from the Hartmut Hoffman-Berling Graduate School and the Max Planck School.

Marco Stock

Doctoral candidate (Bioinformatics) at Helmholtz Center in Munich

Research interests: gene regulatory networks, cellular reprogramming, neuronal graph networks, scRNA sequencing

Marco Stock focuses on the identification of transcription factors that represent barriers for cellular reprogramming during nuclear transfer in Xenopus laevis. To achieve this goal, he applies machine learning methods to single-cell omic datasets. Previously, he studied electrical engineering and practical computer science. In addition, he is also part of the Munich School of Data Science (MUDS) joint graduate school.

Add-on Fellows for Interdisciplinary Life Science

Marleen Stuhr

Postdoc (Ecology) at the Leibniz-Center for Tropical Marine Research in Bremen

Research interests: coral reef ecology, adaptation and acclimation mechanisms of photosymbiotic coral reef organisms to environmental changes, proteomics to decipher cellular mechanisms in marine holo-bionts

Marleen Stuhr research focused on the effects of climate change, i.e., ocean warming and acidification, on important photosymbiotic carbonate producers. Further, she was awarded a Postdoctoral Fellowship of the Minerva Foundation to study foraminiferal community in the northern Red Sea. Working at the Inter-University Institute for Marine Sciences in Israel, she, also conducted long-term experiments on differently thermo-resistant corals to understand their bleaching response and subsequent recovery processes across multiple biological levels. Additionally, she participated in scientific diving and shipboard expeditions, being involved in projects on reef carbonate budgets, reef manta rays, seagrass and macroalgae.

Oleg Vinogradov

Doctoral candidate (Neuroscience) at the University of Tübingen

Research interests: computational neuroscience, neural dynamics, collective dynamics, machine learning

Oleg Vinogradov studies the collective dynamics of neuronal networks utilizing mechanistic modeling and machine learning techniques. His main focus is on inference of models of network bursting activity. This type of collective activity robustly emerges in many in vitro neuronal networks, used in both basic and clinical research. Oleg's work relies on the integration of experimental data and theory. The Add-on Fellowship allows him to organize a series of internships to learn first-hand modern wet-lab techniques and to use the theoretical insights in a closed loop with experiments.

Add-on Fellows for Interdisciplinary Life Science

Cohort: 2023 (9), 2022 (8), 2021 (7), 2020 (6), 2019 (5), 2018 (4), 2017 (3) 2016 (2), 2015 (1)

Maik Wolfram-Schauerte

Doctoral candidate (Biochemistry) at the Max-Planck-Institute (MPI) for terrestrial microbiology in Marburg

Research interests: transcriptomics and epitranscriptomics, bacteriophages and infection mechanisms, next-generation high-throughput technologies, bioinformatics

Maik Wolfram-Schauerte is working on elucidating the roles of epitranscriptomic modifications on interactions between prokaryotic hosts and their viruses. He studied molecular biotechnology (B. Sc.) and biochemistry (M.Sc.) at Heidelberg University where he focused on epitranscriptomics and post-translational protein modifications. During his studies, the Studienstiftung des deutschen Volkes e.V. supported him with a scholarship. In addition, he was involved in teaching and mentoring at Heidelberg University. As a speaker of the students' parliament, he participated in university politics.

Congcong Zheng

Doctoral candidate (Ecology) at the Forschungszentrum Jülich und at the Rheinische Friedrich-Wilhelm's-University of Bonn

Research interests: root ecophysiology and nutrient uptake, plant drought recovery, biodiversity and phosphorus uptake, plant adaptation to salt stress

Congcong Zheng investigates root biology and plant phosphorus uptake via roots in the research field of plant biology and agriculture. Previously, he graduated from Northeast Normal University, China, with a M.Sc. degree focusing on biodiversity, root phosphorus uptake and soil salinity. Congcong was a member of the International Society for Root Research and were awarded the Ambassador of the 11th Symposium of the International Society for Root Research (ISRR11) just before the Add-on fellowship.

Add-on Fellows for Interdisciplinary Life Science

Cohort 2020

Bahar Aksan
Doctoral candidate (Neuroscience) at the Ruprecht-Karl's-University of Heidelberg

Research interests: characterization of molecular modulators of neuronal morphology

Bahar Aksan will become an expert in bioinformatical analysis of the cytoskeleton and dendrite dynamics in neurons. She has been focusing on molecular biosciences and neuroscience since her bachelor's and master's. To strengthen her knowledge in Alzheimer's research and electrophysiology, she did lab rotations. In her thesis, she successfully investigated the molecular mechanisms in traumatic injury and harmful neurotransmitters (excitotoxic) in the retina. With the help of the Add-on Fellowship, Bahar is gaining even deeper insights into bioinformatics and especially learning how to handle large data sets and complex processing for live imaging.

Lucía Álvarez
Postdoc (Biochemistry) at the European Molecular Biology Laboratory (EMBL) in Heidelberg

Research interests: combined experimental techniques and theoretical approaches to understand the structural basis of the molecular and chemical mechanisms by which proteins achieve biological functions

Lucía Álvarez is fascinated by the chemistry through which proteins achieve their functions. In her doctorate, she studied the reaction mechanisms of proteins applying a computational approach. Subsequently, Lucía did an experimental postdoc working in a biophysical lab where she studied protein-protein interactions involved in cellular signaling. Furthermore, she enhanced her skill set in experimental structural biology. She now uses her broad expertise to understand the molecular mechanism of RIG-I ubiquitination that leads to induction of immune response by combining structural and cellular biology techniques to improve our understanding of the innate immune response.

Add-on Fellows for Interdisciplinary Life Science

Stefan Bassler

Doctoral candidate (Systems Microbiology) at the European Molecular Biology Laboratory in Heidelberg and at the Ruprecht-Karl's-University of Heidelberg

Research interests: systems biology, epistasis, drug screening, drug interactions, microbiology

Stefan Bassler is working on high-throughput experimental resistance evolution in bacteria. Prior to that, Stefan studied B.Sc. and M.Sc. molecular biotechnology at Heidelberg University. Through master internships at EPFL, EMBL, Biozentrum and HMS, as well as an Erasmus semester in Oxford, United Kingdom, he broadened his view on systems biology and developed an interest in high-throughput technologies to answer biological questions, systematically. The Add-on Fellowship will expand his skill set in robotics and computation by both working with abroad collaborators and visiting courses.

Sonja Blumenstock

Postdoc (Neuroscience) at the Max-Planck-Institute (MPI) for Neurobiology in Martinsried next to Munich

Research interests: neurodegenerative diseases, molecular and circuit neurosciences

Sonja Blumenstock's research include bridging molecular and circuit neuroscience to identify cell-type and circuit-specific treatment targets for Parkinson's and Huntington's Disease. She earned her doctorate from the LMU Munich, specializing in in vivo 2-photon microscopy to study cortical network dysfunction in neurodegenerative disorders. Prior to that, she graduated from the Regensburg University, having studied biochemistry and neuroscience. During her studies, she joined projects at the University of Arizona, USA, and the University of Bordeaux, France. She became a Postdoc at the MPI of Neurobiology and Visiting Scholar at University of California, San Diego.

Add-on Fellows for Interdisciplinary Life Science

Vladyslav Bondarenko

Doctoral candidate (Developmental Biology) at the European Molecular Biology Laboratory in Heidelberg and at the Ruprecht-Karl's-University Heidelberg

Research interests: developmental biology, bioengineering, biophysics, genomics, computer biology

Vladyslav Bondarenko became thrilled with embryogenesis. He applies bioengineering and different microscopes to understand how mammalian embryos interact with the environment. Previously, he spent his bachelor's and master's using computational biology and bioinformatics to study genome regulation in paramecia, flies, and humans at the University of Kyiv. Originally, the unique Ukrainian nature inspired him to go into science. He said, "If you are also passionate about nature and believe that collaboration and interdisciplinary pave the ways to understand it, Joachim Herz Foundation is the right place to get in touch!" Vlad went for his postdoc to Weizmann Institute (Israel).

Robert Bücker

Postdoc (Biology) at the University of Hamburg and the Max-Planck-Institute (MPI) for the Structure and Dynamics of Matter in Hamburg (CSSB)

Research interests: electron microscopy techniques, structural biology, coherent imaging

Robert Bücker is investigating functional amyloids - fibrillate structures found across all kingdoms of life that can act both as virulence factor of pathogens and as natural antibiotic against them. Using electron microscopy, he elucidates their molecular structure and how it gives rise to their functionality, paving the way for clinical and technological applications. Having obtained his doctorate in quantum physics from Vienna University of Technology, Austria, he developed methods of biological imaging at atomic resolution at the MPI for the Structure and Dynamics of Matter in Hamburg. After that, he now aims to apply those methods to amyloid systems through the support of the Add-on Fellowship.

Add-on Fellows for Interdisciplinary Life Science

Tom Burkart
Doctoral candidate (Physics) at the Ludwig-Maximilian's-University in Munich

Research interests: pattern formation and shape adjustment, population dynamics, financial markets

Tom Burkart focuses in his thesis on modeling protein interactions and pattern formation. Previously, Tom studied physics at the LMU Munich. After finishing his M.Sc. degree, he worked as a junior consultant for a boutique consulting company on banking projects for half a year. Through the Add-on Fellowship explores the experimentalist's part of research in biological physics. The "modeling of mysosin VI clustering on lipid membranes" became the topic for which he was awarded the Add-on Fellowship.

Samuel Collombet
Postdoc (Biology) at the European Molecular Biology Laboratory (EMBL) in Heidelberg

Research interests: epigenetics, multi-omics, quantitative microscopy

Samuel Collombet first studied medicine when he became passionate about applying computational and theoretical methods to tackle biological problems, and followed a master's in systems biology at the Ecole Normale Superieure in Paris, France. He then pursued his doctorate between a computational lab at ENS in Paris, France, and an experimental lab at CRG in Barcelona, Spain, during which he used multi-omics integration and gene network modeling the mechanism controlling blood cell specification and reprogramming. Afterwards he joined EMBL Heidelberg, where he studied the interplay between chromosome organization and gene regulation during X chromosome inactivation.

Add-on Fellows for Interdisciplinary Life Science

Alexandra Damerau
Doctoral candidate (Biomedicine) at the Charité – University Hospital Berlin and at the Free University Berlin

Research interests: cell and molecular biology, in vitro tissue engineering, musculoskeletal disorders

Alexandra Damerau focuses on the development of human-based in vitro 3D models simulating musculoskeletal disorders to understand underlying mechanisms of the 3Rs (Refine, Reduce, Replace). Her work is supported by the German Academic Scholarship Foundation. Prior, she studied biotechnology and quality management in Berlin. Through the Add-on Fellowship, she gains a deeper insight into microfluidic technology and biomechanical loading devices. She is also passionate in investigating inflammation-related metabolic alterations of immune cells in musculoskeletal disorders. She won the Lush Prize supporting animal-free research, and the ideation contest of the German Rheumatism Foundation.

Maximilian Eggl
Postdoc (Applied Mathematics) at the Max-Planck-Institute for Brain Research in Frankfurt

Research interests: optimal control, dynamic systems, mathematical modeling

Maximilian Eggl applies his mathematical skills to neuroscience. Prior to that, Maximilian studied mathematics at Imperial College London, United Kingdom, from his B.Sc. degree to his doctorate. After finishing his studies, he moved to Princeton University, USA, moving to the mechanical engineering department. Throughout his studies, he worked as a chess tutor and did a short stint at the European Central Bank. Through the Add-on Fellowship, he fosters his passion for interdisciplinary sciences, combining his mathematical skills with biological knowledge to solve issues with tangible real-world effects. The project awarded is called "model-based analysis of heterosynaptic plasticity".

Add-on Fellows for Interdisciplinary Life Science

Nicolas Färber

Doctoral candidate (Physics) at the Universität Augsburg

Research interests: physics, biophysics, biomembranes

Nicolas Färber worked during his studies of physics on interdisciplinary projects at the Texas Christian University, USA, in the field of nanotechnology and at the Institut Laue-Langevin, France, in the field of biophysics. For his doctorate he investigates the topic of cell membrane permeability. His experimental approach is inspired by thermodynamic models of lipid membranes. Through the Add-on Fellowship, he extends the physical point of view on cell membranes by concepts of medicine and biochemistry.

Francisco García-Rosales

Doctoral candidate (Neuroscience) at the Goethe-University Frankfurt

Research interests: neuroscience, sensory systems, neural coding, neuroengineering

Francisco García-Rosales focuses on the neurobiology of mammalian communication, from the perspectives of sound perception and vocalization production, using bats as an animal model. Before starting his doctorate on the neural interactions between frontal and auditory areas of the brain during acoustic processing, Francisco completed a Diploma on telecommunications and electronics engineering in Cuba. With the support of the Add-on Fellowship, he seeks to delve deeper into the neural underpinnings of vocal communication from the perspective of large-scale brain networks. He continued with a postdoc at the Ernst Strüngmann Insitute for neuroscience in Frankfurt.

Add-on Fellows for Interdisciplinary Life Science

Carina Groh
Doctoral candidate (Biology) at the Technical University Kaiserslautern

Research interests: systems biology, cell biology

Carina Groh is applying mass spectrometry-based techniques to assess functional changes in the cellular proteome in the lab of the previous fellow Felix Boos. Her biological aim is to identify novel mechanisms which control the proteostasis network in yeast cells. Before, Carina studied molecular cell biology and neurobiology at the University of Kaiserslautern. During her studies, she stayed in Canada for a research internship. With the Add-on Fellowship, she dives into machine learning and expand her knowledge in data science. After her doctorate, she found a research and development position in industry in Saarland.

Dorothee Günther
Doctoral candidate (Genetik) at the Ernst Strüngmann Institute in Frankfurt

Research interests: gene therapy, neurology

Dorothee Günther is engineering adeno-associated viral vectors for modifying specific cell types in brain of different species. Her work is in collaboration with the Paul-Ehrlich-Institute. Previously, Dorothee studied biotechnology at the TU Berlin. She completed her master thesis on gene therapy for central nervous system at Lund Universitet, Sweden. She uses the Add-on Fellowship to gain deeper insights into bioinformatics, working with single-cell transcriptomic data sets and machine learning.

Add-on Fellows for Interdisciplinary Life Science

Anne Helfen
Postdoc (Radiology) at the University Hospital Münster and at the Westfälische Wilhelms-University in Münster

Research interests: molecular imaging, tumor immunology

Anne Helfen is part of the translational radiology group with focus on imaging tumor associated inflammation and heterogeneity. Prior to that, Anne studied medicine at the Universities of Münster, Zürich (Switzerland), and London (United Kingdom). After her studies, she completed her MD at the University of Münster in the field of molecular imaging in the radiology department. Through the Add-on Fellowship, she establishes her expertise in chemistry (sample synthesis and optimization) and engineering (optoacoustic imaging and technological development). The topic awarded is called "optoacoustic imaging for early detection of tumor hypoxia as a prognostic biomarker for treatment response and prognosis".

Yue Hu
Doctoral candidate (Bioinformatics) at the Helmholtz Center in Munich

Research interests: network biology, bayesian inference, deep learning, biomedicine, evolution, ecology

Yue Hu, alias Emy, is an expert in machine learning for biomedical questions. She studied biology at the TU Munich. In addition to molecular work in the laboratory, she also focused on the biostatistics and bioinformatics side of evolution, ecology, and populations genetics. Through the Add-on Fellowship, she gains a deeper insight into multi-omic integration through networks inference and embedding. Apart from science, she is passionate in art and painting.

Add-on Fellows for Interdisciplinary Life Science

Barbara Huber

Doctoral candidate (Biochemistry) at the Max-Planck-Institute for the Science of Human History in Jena

Research interests: biochemistry, natural science Archaeology, organic residue analysis, archaeology

Barbara Huber studied archaeology and chemistry at Free University and TU Berlin. During her studies she was involved in several field projects in Iraq, Saudi Arabia, Oman and Iran, working as an excavator and specialist for organic sampling. In the awarded projects, she combines biochemical, botanical, and archaeological methods to investigate ancient plant use and the complex human-plant relations of the past. Through the Add-on Fellowship, she gains a deeper insight into the biochemistry of natural products.

Antonia Ibel

Doctoral candidate (Molecular Medicine) at the Max-Delbrück-Center for Molecular Medicine in Berlin and at the Charité – University Hospital Berlin

Research interests: disease modeling, organoids, DNA manipulation, kidney diseases

Antonia Ibel works on disease modeling. Previously, Antonia completed her B.Sc. degree in nutritional science at the University of Jena and, afterwards, she studied toxicology as a M.Sc. degree. Antonia worked as a student trainee in a metabolic nutrition science laboratory. Her master's thesis was conducted at the University Hospital of Hamburg in the Department of Toxicology and Pharmacy. Through the Add-on Fellowship, she gains a deeper insight into bioinformatical analysis and data management. The awarded project is called "genome editing and disease modeling for hereditary kidney diseases".

Add-on Fellows for Interdisciplinary Life Science

Bethan Jenkins
Doctoral candidate (Neuroscience) at the Max-Planck-Institute (MPI) for Neurobiology in Martinsried next to Munich

Research interests: systems neurobiology, neural computation

Bethan Jenkins switched the field from molecular to systems neuroscience within the recently founded group “olfactory memory”. Bethan studied neuroscience at King's College, London, United Kingdom. While studying at King's, she spends a year in the Weizmann Institute, Israel, examining genetic risk factors of Parkinson's disease. She utilizes the Add-on Fellowship to gain further skills in computational neuroscience.

Lea Jopp-Saile
Doctoral candidate (Bioinformatics) at the German Cancer Research Center (DKFZ) in Heidelberg and at the Ruprecht-Karl’s-University of Heidelberg

Research interests: cancer, bioinformatics, multi-omic single-cell data analysis, translational medicine

Lea Jopp-Saile shifted her focus from wet lab cancer research to bioinformatics. She studied molecular biotechnology at the Heidelberg University with internships across Europe focusing on cancer research. Her awarded project "the usage of multi-omics single-cell data analyses and machine learning to enable personalized diagnostic, prognostic and therapy prediction" is in collaboration with the DKFZ, the National Center of Tumor Diseases, the Max-Delbrück-Center and the Charité Berlin. Through the Fellowship she is close with the institutes involved. The interaction between medicine, technologies and bioinformatics allows her a rich patient cohort, to develop methods and a scientific network.

Add-on Fellows for Interdisciplinary Life Science

Juliane Carolin Kade

Doctoral candidate (Engineering) at the Julius-Maximilian's-University of Würzburg

Research interests: melt electrowriting, electroactive polymers, 3D printing, muscle regeneration, biomedical materials

Juliane Kade studied biofabrication (Master's Double Degree) at the Würzburg University and Wollongong University (Australia). She spent ten months in Wollongong working on 3D bioprinted ear cartilage. After her studies she gained more experience in bioprinting during her internship at CELLINK in Gothenburg, Sweden, and then started her doctoral studies in Würzburg working with high resolution 3D printing of polymers for biomedical applications. Through the Add-on Fellowship, she gains a deeper insight into muscle cell work, as well as computational simulations. Her awarded research topic is called "electroactive polymers for (coaxial) melt electrowiting".

Martin Klapper

Postdoc (Biotechnology) at the Leibniz Institute for Natural Product Research and Infection Biology – Hans Knöll Institute (HKI) in Jena

Research interests: natural products chemistry, bioinformatics and molecular biology analysis of archaeological records, analytics, biosynthesis, paleo-biotechnology

Martin Klapper studied B.Sc. chemistry and M.Sc. chemical biology at the Friedrich-Schiller-University of Jena. After his studies, he completed his doctorate at the Leibniz Institute for Natural Product Research and Infection Biology, Hans-Knöll-Institute Jena, in natural product chemistry. He was awarded the DECHEMA doctoral prize for natural product research. Through the Add-on Fellowship, he gains deeper insights into bioinformatics and archeology. His awarded topic is the "revival of ancient genes from archeological records".

Add-on Fellows for Interdisciplinary Life Science

Alicia Lardennois
Postdoc (Developmental Biology) at the Goethe-University Frankfurt

Research interests: developmental biology, microscopy, image analysis

Alicia Lardennois is enthusiastic about morphogenesis processes from one cell to a whole organism. Previously, she studied genetic in Paris, France. Subsequently, her doctoral thesis work was focused on the contribution of actin cytoskeleton to Caenorhabditis elegans embryonic elongation in a project at the interface of biology and physics. She chooses to work on the lateral line system to elucidate the mechanisms by which leading and trailing cells coordinate their movements in a migrating cell group. Combining genetic, molecular biology and cell biology, pharmacological treatments, and live imaging techniques, she aims to understand how these processes are coordinated in time and space.

Sinikka Lennartz
Postdoc (Biogeochemistry) at the Carl von Ossietzky University Oldenburg

Research interests: chemical oceanography, global carbon cycle, climate system, numerical modeling, microbiology

Sinikka Lennartz is a passionate oceanographer with a doctorate in the field of marine biogeochemistry, enjoying field work and modeling alike. Her postdoc is about using numerical models to understand mechanisms of natural carbon storage in the ocean. Through the Add-on Fellowship, she aims to bridge the "communication gap" between (marine) microbiology and global-scale modeling of the carbon cycle. She changed her position and holds a professorship of Biogeochemical Ocean Modeling at Oldenburg University. Sinikka Lennartz was awarded the Annette Barthelt Prize in the field of marine research, the Bernd Rendel Prize of the DFG for young geoscientists and the prize of the Prof. Dr. Werner Petersen Foundation for her doctoral thesis.

Add-on Fellows for Interdisciplinary Life Science

Cohort: 2023 (9), 2022 (8), 2021 (7), 2020 (6), 2019 (5), 2018 (4), 2017 (3) 2016 (2), 2015 (1)

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Klara Leonore Lesch

Doctoral candidate (Biology) at the Albert-Ludwig's-University of Freiburg

Research interests: molecular plant physiology, protein-protein interactions, microscopy, photoreceptors, signaling networks, gene regulation

Klara L. Lesch completed her studies in Biology at the University of Freiburg. During her studies, she was part of the iGEM-Team Freiburg. Klara stayed in Freiburg for her doctoral thesis to investigate the dimerization of phytochromes using single-molecule imaging. She enjoys combining two different fields, such as single-molecule microscopy and molecular plant physiology. Through the support of the Joachim Herz Foundation, she deepens her knowledge of programming and physics.

José Maria Martínez de Paz

Doctoral candidate (Neuroscience) at the Max-Planck-Institute (MPI) for Neurobiology in Martinsried next to Munich

Research interests: behavioral neuroscience, theoretical neuroscience, data analyses

José Maria Martínez de Paz is specialized in behavioral neuroscience and focuses on the research topic "brain-wide consequences of psychosocial stress", while frequently also engaging in science communication activities. Prior to that, José studied biochemistry at the University of Seville, Spain, and neurosciences at the Autonomous University of Madrid, Spain. Through the Add-on Fellowship he learns more about graph theory, machine learning and mathematical modeling of animal behavior.

Add-on Fellows for Interdisciplinary Life Science

Mozzamil Mohammed
Doctoral candidate (Mathmatics) at the Carl von Ossietzky Universität Oldenburg

Research interests: mathematical ecology, theoretical ecology

Mozzamil Mohammed research in the field of mathematics, mathematical ecology and theoretical ecology. He received two M.Sc. degrees from University of Western Cape and University of Stellenbosch, both in South Africa. He then worked as research associate while joining the Young Scientist Summer Program (YSSP) at IISAS in Austria. Through the Add-on Fellowship, he extends his knowledge in biology and ecology and developing a scientific network. His awarded research topic is "a trait-based modeling approach applied to plant metacommunities".

Sebastian Onasch
Doctoral candidate (Computational Neuroscience) at the Max-Planck-Institute (MPI) for Brain Research in Frankfurt

Research interests: neural network modeling, artificial intelligence, intermediate neurons

Sebastian Onasch investigates how multiple neuron types interact to enable the comparison of external inputs with predictions about the environment that are generated internally in the brain. While starting doctoral studies in Frankfurt during the course he moved to TU Munich. Previously, Sebastian studied physics at the KIT and biophysics at the HU Berlin and the Goethe University Frankfurt. The Add-on Fellowship improves his expertise in experimental techniques that lead to the data he is using for his modeling studies.

Add-on Fellows for Interdisciplinary Life Science

Arne Sahm

Postdoc (Bioinformatics) at the Leibniz-Institute on Aging – Fritz-Lipmann-Institute in Jena

Research interests: ageing research, genetics, comparative epigenetics, alternative model organisms

Arne Sahm research on the high longevity of rodents such as naked mole rats and gray mole rats and the underlying genetic mechanisms. Previously, he received his doctorate from the Friedrich-Schiller-University in Jena. He studied bioinformatics and genomics in B.Sc. and M.Sc. at Bielefeld University. He was appointed junior professor by the Leibniz Institute for Environmental Medicine in Düsseldorf and by the RUB.

Theresa Schlamp

Doctoral candidate (Biophysics) at the Centre for Organismal Studies at the Ruprecht-Karl's-University of Heidelberg

Research interests: physical properties of biological compartments and their implications for developmental biology

Theresa Schlamp investigates the physical properties of biological compartments and their impact in developmental biology, for instance the elasticity of the plant cell wall and its impact in cell fate. Before that, she studied chemistry at the University of Potsdam with a specialization in physical chemistry and spectroscopy. Theresa uses the networking events of the Joachim Herz foundation to exchange and discuss results and their interpretations, but also general concerns and problems that occur especially in interdisciplinary research environment.

Add-on Fellows for Interdisciplinary Life Science

Vivien Schoonenberg
Doctoral candidate (Biology) at the Institute for Molecular Biology in Mainz

Research interests: computational biology, gene regulation, genome editing, mass spectrometry

Vivien Schoonenberg focuses on the quantitative proteomics. Her research topic is "quantitative proteomics to decipher gene regulation". Previously, Vivien studied medical biology in Amsterdam and Nijmegen, both Netherlands. During her M.Sc. program, she spent time at the Radboud Institute for Molecular Life Sciences, Netherlands, and at the Boston Children's Hospital, USA. Through the Add-on Fellowship, she develops her interest and knowledge in computational biology and learn about systems biology approaches. Her goal is to be able to integrate several proteomic and translational datasets. After her doctorate she coninued with a postdoc at the Boston Children's Hospital, MA, USA.

Lea Schuh
Doctoral candidate (Mathematics) at the Helmholtz Center in Munich

Research interests: modeling, systems biology, epidemiology, epigenetics

Lea Schuh continues her training in mathematical modeling. During her doctorate, Lea develops computational models to dissect the mechanisms of gene expression kinetics and regulation. Before, she studied mathematics at the Technical University of Munich. Already during her master's did she gain her first research experience in mathematical modeling at TU Munich and at Pennsylvania University, USA. Through the Add-on Fellowship, she gains a deeper insight into experimental techniques to validate her computational findings. After defense she moved to Italy (IT) becoming a Project Officer, Infectious Disease Modeller, at a Joint Research Center of the EU Commission.

Add-on Fellows for Interdisciplinary Life Science

Nico Sollmann

Postdoc (Medicine) at the Technical University of Munich

Research interests: computed tomography, neuronavigation and functional mapping

Nico Sollmann graduated from medical school at TU Munich and completed the doctoral program “medical life science and technology" at TU Munich, followed by residency at the Department of Diagnostic and Interventional Neuroradiology, Klinikum rechts der Isar, and at the Department of Diagnostic and Interventional Radiology, University Hospital Ulm. His main research interests include brain stimulation by navigated transcranial magnetic stimulation and advanced imaging and modeling for computed tomography and magnetic resonance imaging.

Johannes Striebel

Doctoral candidate (Neuroscience) at the University Hospital in Bonn

Research interests: neural dynamics and computation, nanobiotechnology

Johannes Striebel conducts research at the border of neuroscience and physics. From his studies in physics and nanoscience he moved to work on an interdisciplinary project where he wants to develop an approach to bottom-up neuroscience. Reproducible, creating neuronal networks in a petri dish would allow direct validation of theoretical predictions and support various areas of research. With the Add-on Fellowship, he wants to bring mathematical simulation of small-scale neural networks and experimental results together.

Add-on Fellows for Interdisciplinary Life Science

Romy Thomas

Doctoral candidate (Pharmacology) at the Max-Delbrück-Centrum for Molecular Medicine in Berlin

Research interests: molecular biology, pharmacology, GPCRs, modeling

Romy Thomas is working on the structural dynamics of G protein coupled receptors (GPCRs) and wants to gain a better understanding about receptor allostery which might lead to drug induced side effects. Thus, she is using different single-cell fluorescence microscopy methods. Prior to that, she studied biotechnology at the TU Berlin. With the given opportunity of the Add-on Fellowship, Romy strengthens her professional knowledge and techniques in computational modeling. Especially, she intends to implement structure guided modeling approaches into biosensor design for GPCRs to combine computational biology and biochemistry.

Carlos Voogdt

Postdoc (Biology) am European Molecular Biology Laboratory in Heidelberg

Research interests: molecular biology, (anaerobic) microbiology, mass spectrometry, microscopy

Carlos Voogdt studies the molecular communication between bacteria and their hosts, as well as the bacteria-pharmaceuticals interactions and the impact of these on host cells. He is developing methods to manipulate bacteria of the human intestine to study the functions of the microbiome. Previously, he received his doctorate from the Utrecht University, Netherlands, on infection biology, specifically, on the evolution of (Toll-like) immune receptors. From Hoge School he got a B.Sc. Zoology and at Wageningen University a M.Sc. Animal Sciences, both Netherlands. Through the Add-on Fellowship, he learns how to study functions of the human microbiome from a data-driven, systems biology perspective.

Add-on Fellows for Interdisciplinary Life Science

Adam Wahida

Doctoral candidate (Immunologie) at the Technical University Munich

Research interests: inflammation, cell death, oncology, immunology

Adam Wahida is researching how the primary immunodeficiency XLP-2 syndrome can lead to the development of very early-onset inflammatory bowel disease (IBD). He received a double grant from the DZIF and the TU Munich to conduct his doctorate. He studied medicine in Aachen and Munich. For his thesis, he developed a prognostic tool on the molecular mechanisms of inflammatory cell death in acute kidney injury. He completed a research sabbatical on bacteriophage biology at the Institute of Microbiology, University Hospital Aachen. In parallel, he worked on the "5,000 genome project" at the Munich Leukemia Laboratory and defined novel mutations leading to paroxysmal nocturnal hemoglobinuria.

Timo Wunderlich

Doctoral candidate (Computational Neuroscience) at the Charité – University Hospital Berlin

Research interests: computational modeling, machine learning, theoretical physics

Timo Wunderlich becomes an expert in neural networks on a theoretical level. Specifically, he believes that researching learning in spiking neural network models is important to advance our understanding of the brain, and it will support the development of artificial brain-like systems. Before, he worked on neuromorphic computing at Heidelberg University for his B.Sc. and M.Sc. thesis.

Add-on Fellows for Interdisciplinary Life Science

Gaukhar Zhurgenbayeva

Doctoral candidate (Biophysics) at the Friedrich-Schiller-University of Jena

Research interests: STED microscopy, fluorescence microscopy, human microbiome.

Gaukhar obtained her B.Sc. degree at Boston University, USA. She then returned to her home country, Kazakhstan, where she worked as an engineer. After a year in industry, Gaukhar decided to go back to academia and received a M.Sc. degree in cell biology. Finally, she moved to Jena to work on her doctorate in biophysics. She plans to gain expertise in additional super-resolution microscopy techniques using the Add-on Fellowship. She worked on the project titled “quantitative imaging of organ-on-chip model".

Rachel Zsido

Doctoral candidate (Neuroscience) at the Max-Planck-Institute for Human Cognitive and Brain Sciences in Leipzig

Research interests: impact of sex hormones on brain structure, cognitive and emotional health, vulnerability to depression, resilience and treatment, multimodal neuroimaging

Rachel Zsido focuses on how sex hormones and the serotonergic system interact to influence brain microstructure, neurochemistry, and depression susceptibility. Previously, she studied neuroscience at Harvard University, USA, where she investigated sex differences in fear conditioning and extinction in patients suffering from anxiety and post-traumatic stress disorder. After defending her doctorate, she got a postdoc position at Massachusetts General Hospital / Harvard University, Boston, USA.

Add-on Fellows for Interdisciplinary Life Science

Cohort 2019

Julia Ahlfeld
Postdoc (Biochemistry) at the Ludwig-Maximilian's-University of Munich

Research interests: translating basic biomedical research into therapeutic applications

Julia Thorn-Seshold (née Ahlfeld) focuses her research on functional neuroanatomy and neurogenesis. She considers her expertise to be in the fields of developmental tumor biology, virology, and immunobiology. Julia studied biology in Bonn and Munich. With the help of the Add-on Fellowship, she strives to develop metabolically sensitive small molecules out of the chemistry lab and to follow their action through early cell biology to in vivo application in the diagnosis and therapy of inflammatory diseases.

Carolin Andresen
Doctoral candidate (Bioinformatics) at the German Cancer Research Center (DKFZ) and the Ruprecht-Karl's-University of Heidelberg

Research interests: multidimensional analysis of hematologic disorders and congenital neurotransmitter diseases

Carolin Andresen analyzes and integrates multidimensional datasets (transcriptomics, methylation, and metabolomics) to learn more about acute myeloid leukemia and inborn neurotransmitter diseases. The Add-on Fellowship allows her to expand her knowledge in metabolomics analysis. A funded research stay at the ETH Zurich, Switzerland, gave her the opportunity to use an innovative metabolomics approach that complements her previous work. Beforehand, Carolin graduated in molecular biotechnology at Heidelberg University and focused on bioinformatic analysis. After her doctorate she changed her position towards Boehringer Ingelheim.

Add-on Fellows for Interdisciplinary Life Science

Marcel Bermudez
Postdoc (Pharmacy) at the Free University Berlin

Research interests: structural biology, molecular modeling, drug development, pharmacology

Marcel Bermudez focuses his research on in-silico pharmacology, using an interdisciplinary approach of molecular pharmacology and computational methods. He studies G protein-coupled receptors, which is an important drug target. He is also interested in other protein classes such as bacterial toxins, ion channels, and Toll-like receptors. Previously, he studied pharmacy and received his doctorate from the FU Berlin. Marcel is became a professor at the University of Münster at the Institute of pharmaceutical chemistry and medicinal chemistry.

Jadna Bogado Lopes
Doctoral candidate (Neuroscience) at the Technical University of Dresden

Research interests: neurogenesis in the adult hippocampus and individuality

Jadna Bogado Lopes focuses on the psychopharmacology of addictive behavior in combination with behavioral biology, molecular biology, and mathematical analyses. She focuses on individual behavior rather than group effects. Previously, she studied biology at the Federal University of Sanata Catarina, Brazil, with a study abroad in Coimbra, Portugal.

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Benjamin Buchmuller

Doctoral candidate (Biochemistry) at the Technical University of Dortmund

Research interests: biology, chemistry, epigenetics

Benjamin Buchmuller has a perpetuate interest in the interface between animated and unanimated matter. During his studies he became intrigued by next-generation sequencing and high-throughput screening methods. Previously, he studied B.Sc. life sciences and M.Sc. molecular biosciences at the University of Konstanz and Heidelberg. With the help of the Add-on Fellowship, he will intensify his knowledge in bioinformatics and combined these approaches to develop molecular probes for exploring the role of oxidized DNA nucleobases with epigenetic function in the human genome. Benjamin joined the Princeton chemistry department as a postdoc to continue his journey in chromatin biology.

Philipp Burt

Doctoral candidate (Biophysics) at the German Rheumatism Research Center (DRFZ) and at the Humboldt University in Berlin

Research interests: cell-cell communication, chronic inflammation, mathematical modeling, T helper cell differentiation, circadian clock

Philipp Burt received his M.Sc. in biophysics from HU Berlin. During his M.Sc. studies, he conducted wet lab research on plant osmotic stress (UC San Diego, USA) and was trained in mathematical modeling of circadian clocks (Charité Berlin). In his doctoral project, he is interested in combining high-throughput data with mathematical models to predict T helper cell fate-decisions in chronic and acute inflammation. Afterwards, he took a position at a large biotechnology company in Research & Development as a bioinformatic scientist.

Add-on Fellows for Interdisciplinary Life Science

Eric Danner
Doctoral candidate (Biology) at the Max-Delbrück-Center for Molecular Medicine (MDC) in Berlin within the Helmholtz-Association

Research interests: CRISPR, DNA repair mechanisms, gene therapy, knock-in analyses

Eric Danner has shifted his focus to genetic engineering and is investigating different ways to make targeted specific changes in the genome. Eric studied biochemistry and molecular biology at the University of California, Santa Barbara, USA. The Add-on Fellowship will allow him to develop his bioinformatics skills for sequencing analysis and data visualization.

Leander Dony
Doctoral candidate (Bioinformatics) at the Max-Planck-Institute (MPI) for Psychiatry in Munich

Research interests: transcriptomics, psychiatry, machine learning, deep learning

After completing his European Baccalaureate in Munich, Leander studied chemistry and bioinformatic at the Imperial College of London, United Kingdom. Following internships in research and industry, he started his doctorate between the groups in psychiatry (MPI) and computational biology (Helmholtz Munich). Through the Add-on Fellowship he will do lab exchange to partners and explore spatial transcriptomics approaches. Further, he works on developing machine learning approaches for the analysis of single-cell gene expression data for applications in psychiatry.

Add-on Fellows for Interdisciplinary Life Science

Mariia Efremova

Postdoc (Biochemistry) at the Technical University of Munich

Research interests: biogenic magnetic nanoparticles, biophysical characterization techniques, magnetic field sensitive proteins, contrast agents for magnetic resonance imaging, magneto-mechanical manipulation.

Mariia Efremova has been working on a project "Magnetoencapsulins: bioengineering genetically controlled magnetic nano compartments in living cells". She is a recipient of the Humboldt Research Fellowship for Postdoctoral Researchers. Before, she studied chemistry and materials science and defended her doctoral thesis at Lomonosov Moscow State University, Russia, where she acquired expertise in the synthesis, characterization, and biomedical application of magnetic nanoparticles. The Add-on Fellowship gave Mariia a lot of flexibility, including traveling to collaboration partners to perform unique experiments at their facilities and attending the most important conferences in her field.

Christine Gäbel

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

Research interests: psychobiology, psychotherapy, chronobiology, psychoneuroendocrinology

Christine Gäbel is a doctoral candidate at the Institute of medical psychology at the center for psychosocial medicine, Heidelberg University Hospital. She is a fellow for her doctoral research at the Graduate Academy at the University of Heidelberg and the Christine Nüsslein Volhard foundation. Her primary research interests concern psychobiological effects of music therapy in major depressive disorder. After a Bachelor program in Health Care Management at the University of Applied Science Zwickau, Christine attained her master's degree in Clinical Music Therapy at the School of Therapeutic Sciences at SRH University Heidelberg.

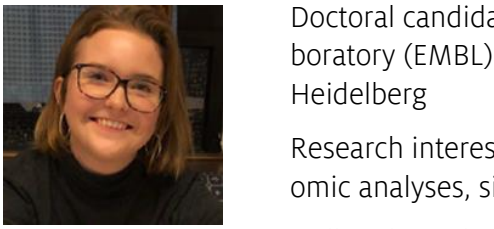
Add-on Fellows for Interdisciplinary Life Science

Mercè Garí

Postdoc (Biomedicine) at Helmholtz Center in Munich

Research interests: environmental health, exposomes, data science, statistical modeling

Mercè Garí studied human biology and obtained her doctorate on biomedicine at the University Pompeu Fabra (UPF) in Barcelona, Spain. She has been dedicated to investigating the environment-health linkages of chemical pollutants for the past decade, mostly in universities and research centers in Barcelona and in Munich. Already as a young scientist, she has developed a robust research record, including more than thirty publications, leading, and participating in numerous European and national research projects, lecturing at international conferences, and mentoring students and doctoral candidates. Through the Add-on Fellowship, she deepened her knowledge on machine learning applications for the life science. After the fellowship she continued her career as a postdoc in Spain (ES).



Holly Giles

Doctoral candidate (Biomedicine) at the European Molecular Biology Laboratory (EMBL) in Heidelberg and at the Ruprecht-Karl's-University of Heidelberg

Research interests: oncology, leukemia, tumor microenvironment, multi-omic analyses, single-cell sequencing.

Holly Giles is focusing on leukemia cancer. Her awarded topic is "multi-omic analysis of the role of the tumor microenvironment in leukemia". Holly studied natural sciences with a focus on genetics at the University of Cambridge, United Kingdom. With the help of the Add-on Fellowship, she gains deep insights into statistical methods for large biological data sets and is taking on clinical challenges in haemato-oncology. After her doctorate she took a postdoc position in the United Kingdom (UK).

Add-on Fellows for Interdisciplinary Life Science

Cohort: 2023 (9), 2022 (8), 2021 (7), 2020 (6), 2019 (5), 2018 (4), 2017 (3) 2016 (2), 2015 (1)

Ruth Großeholz

Postdoc (Biology) at the Ruprecht-Karl's-University of Heidelberg

Research interests: modeling (ODE, agent-based, multiscale)

Ruth Großeholz is a computational biologist who is analyzing plant physiological processes using multiscale computational modeling. She studied molecular biosciences with a focus on systems biology at Heidelberg University, and she completed her doctorate at the BioQuant/Centre for Organismal Studies at Heidelberg University in computational biology. Through the Add-on Fellowship, she would like to gain a deeper insight into the field of agent-based modeling to analyze plant physiological processes not only at the cellular but also at the tissue and organ level. Her awarded research topic is the analysis of the fast brassinosteroid response using computational modeling.

Hannah Jeckel

Doctoral candidate (Physics) at the Phillips-University of Marburg

Research interests: image analysis, microscopy, microbiology, modeling, bacterial communities

Hannah Jeckel wants to understand the swarming behavior of bacteria in biofilms. Biofilms consist of populations of uni- and multicellular organisms often in a slimy system. Biofilms do not represent whole organisms, but the collective to cooperative behavior can be in some instances pronounced but is poorly understood. Earlier, Hannah studied physics and mathematics at the Marburg University. Her master's thesis on the collective behavior of bacteria eventually led her to work at the interface of physics, mathematics, and biology. The Add-on Fellowship allows her to dive deep into the world of biology, to learn new techniques, build quantitative skills, and thus understand biological systems. She took a position at the Center for Molecular Life Science in Switzerland.

Add-on Fellows for Interdisciplinary Life Science

Xenia Kobeleva
Postdoc (Medicine) at the University Hospital in Bonn

Research interests: computational neuroscience, medical informatics, brain hacks, digital art, digital medicine, open science

Xenia Kobeleva focuses on neurodegenerative diseases and the search for biomarkers that underlie pathological cognition loss and disease pattern. Her research has also taken her to the computational neuroscience group at UPF Barcelona, Spain, and the Institute of Ageing and Health in Newcastle, United Kingdom. Previously, she studied medicine at RWTH Aachen and completed a postdoc fellowship at Hannover Medical School. With the Add-on Fellowship, she is able to combine her experience in neuroimaging with mathematical modeling and faces the challenges at the interface of clinicians' problems and basic scientists. She became a junor professor for neurostimulation at RUB.

Simon Krooss
Doctoral candidate (Molecular Medicine) at the Hannover Medical School (MHH)

Research interests: molecular biology, molecular pathology, gene editing, developmental biology, vector sciences

Simon Krooss studied at Hannover Music School, Hannover, and Ireland University and MHH. He accomplished internships in the field of virology, toxicology, and neurosurgery. His doctorate at MHH on liver gene therapy and RNA processing was supported by the German Academic Scholarship Foundation and Hannover Biomedical Research School. He achieved the Basic Research Award of the Bayer Hemophilia Program. The Add-on Fellowship provides him insights into genome analysis, evolutionary biology, oceanology and geobotany. His awarded research topic is "the protective role of a retrotransposable element in the human coagulation factor IX 3'UTR" and its relevance of primate evolution.

Add-on Fellows for Interdisciplinary Life Science

Annemarie Lang
Postdoc (Medicine) at the Charité – University Hospital Berlin

Research interests: in vitro disease modeling, osteoarthritis and cartilage homeostasis, fracture healing, regenerative medicine

Annemarie Lang develops human-based in vitro models to simulate musculoskeletal diseases such as osteoarthritis, rheumatoid arthritis, and fracture healing. Previously, Annemarie studied veterinary medicine and received her doctorate from the FU Berlin while in department of rheumatology at Charité - Universitätsmedizin. The Add-on Fellowship allows her to expand her knowledge and skills in mathematical modeling with a particular focus on cartilage homeostasis and degradation. Moreover she was awarded the Marie Skłodowska-Curie Global Postdoctoral Fellowship. She made it to the habilitation.

Mohammad Lotfollahi
Doctoral candidate (Bioinformatics) at the Helmholtz Center in Munich

Research interests: machine learning, computational biology

Mohammad Lotfollahi is interested in modeling drug responses and drug behavior using single-cell sequencing data and machine learning. Previously, Mohammad studied artificial intelligence at Sharif University of Technology in Tehran. With the help of the Add-on Fellowship, he will get a deeper insight into cell biology.

Add-on Fellows for Interdisciplinary Life Science

Max Masthoff
Postdoc (Medicine) at the University Hospital in Münster

Research interests: experimental magnetic resonance imaging, cell tracking, molecular imaging, interventional radiology.

Max Masthoff's postdoc follows on from his doctoral thesis on cell tracking in magnetic resonance imaging. However, he is now turning his attention to clinical applications and to further molecular imaging techniques, such as optoacoustic imaging. Prior to this, Max studied human medicine at the University of Münster and worked on new methods of cell tracking in magnetic resonance imaging during his doctoral studies. The Add-on Fellowship will enable him to lay the financial fundamentals for evaluating the so-called time-lapse magnetic resonance imaging for tracking individual immune cells in inflammatory diseases.

Pedram Mehrabi
Postdoc (Biology) at the Max-Planck-Institute (MPI) for Structure and Dynamics of Matter in Hamburg

Research interests: structural biology, time-resolved crystallography

Pedram Mehrabi moved to Hamburg upon being awarded an Alexander von Humboldt fellowship and continued the topic from his thesis on X-ray crystallography as being a postdoc. He completed his doctorate at the University of Toronto, Canada, specifically in time-resolved X-ray crystallography. Before that, Pedram earned his bachelors at the University of Waterloo and his master's at York University both in Canada. Using the Add-on Fellowship, he will continue his work in method development for time-resolved crystallography experiments. After his postdoctoral fellowship, he began as a group leader as an Emmy Noether fellow in the department of physics at the University of Hamburg.

Add-on Fellows for Interdisciplinary Life Science

Aditi Mehta
Postdoc (Pharmacology) at the Ludwig-Maximilian's-University of Munich

Research interests: nanomedicine, lung cancer, nucleic acids

Aditi Mehta is becoming a junior research group leader and is conducting research in the field of pulmonary nucleic acid delivery. Previously, she completed her doctoral degree in lung cancer at the Max-Planck-Institute for Heart and Lung Research. With the help of the Add-on Fellowship, she is continuing her education on polymer synthesis, with a focus on biodegradable and biocompatible polymers used for drugs and drug delivery.

Signe Penner-Goeke
Doctoral candidate in (Psychiatry) at the Max-Planck-Institute (MPI) for Psychiatry in Munich

Research interests: genetics, molecular psychiatry

Signe Penner-Goeke applied for a fast-track doctoral program and is focused on identifying functional genetic variants that play a role in the stress response system and depression. Previously, she studied biology at the University of Winnipeg, Canada. In graduate school, she gained research experience as an assistant characterizing chromosomal instability in ovarian cancer. Through the Add-on Fellowship, she is deepening her knowledge of data analysis, especially for integrating multi-omics datasets.

Add-on Fellows for Interdisciplinary Life Science

Pedro Pablo Rojas
Doctoral candidate (Theoretical Physics) at the University of Kassel

Research interests: neuroscience, biophysics, complex systems

Pedro Pablo Rojas conducts research on "design principles of biological clocks at multiple scales". Pedro studied mechanical engineering at the Balserio Institute in Bariloche, Argentina and has worked in computational mechanics for the nuclear and aerospace industries and as a technology transfer consultant. He is using the Add-on Fellowship to understand biological processes and to become skilled in neural circuits and electrophysiological techniques.

Hector Sanchez-Iranzo
Postdoc (Biophysics) at the European Molecular Biology Laboratory (EMBL) in Heidelberg

Research interests: zebrafish embryonic development, physics of developmental biology, mathematical modeling.

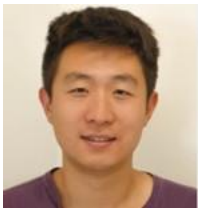
Hector Sanchez-Iranzo is interested in the physics of cell rearrangements during early embryonic development. Previously, Hector studied pharmacy and biochemistry at the University of Valencia, Spain. After this, he received his doctorate from the Spanish National Research Center for Cardiovascular Research in Madrid, Spain, where he studied heart regeneration in zebrafish. Then, he started his postdoc at the EMBL Heidelberg. The Add-on Fellowship allows him deeper training into mathematical modeling of notch patterns and physics of cell rearrangements. After his postdoc at the EMBL, he started his research group at the Karlsruhe Institute of Technology (IBCS-BIP KIT). He was awarded the Add-on Special Grant 2021.

Add-on Fellows for Interdisciplinary Life Science

Frederic Strobl
Postdoc (Developmental Biology) at the Goethe University in Frankfurt

Research interests: cell biology, developmental biology, genetics, biophysics, bioinformatics, system biology

Frederic Strobel investigates the embryogenesis of insect species. He wrote his diploma thesis at the Max-Planck-Institute for Heart and Lung Research in Bad Nauheim on fibrotic diseases. Frederic studied biology at the Goethe University in Frankfurt, specializing in animal physiology, neurobiology, genetics, and cell and developmental biology. With the help of the Add-on Fellowship, he is expanding his bioinformatics skills and creating an open-access image database for developmental fluorescence microscopy data of insects.



Chao Sun
Postdoc (Neuroscience) at Max-Planck-Institute (MPI) for Brain Research in Frankfurt

Research interests: single-molecule imaging, synaptic plasticity, self-assembly

Chao Sun is as a chemist in neuroscience and fascinated by the emergent complexity of biomolecular organization for information storage. He obtained his doctorate in chemistry at Cornell University, USA, where he studied molecular interactions in two-dimensional nanomaterials. He uses single-molecule techniques to investigate protein homeostasis of neuronal synapses at the MPI for Brain Research. Afterwards, he started a group leader position at the Danish Institute for Translational Neuroscience, Aarhus University. Through the Add-on Fellowship, he will understand the sociology of resource allocation among neuronal synapses. His awarded research topic is the "synaptic allocation of nascent proteins during neuronal plasticity".

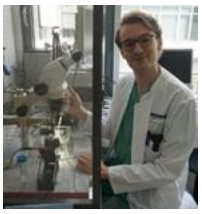
Add-on Fellows for Interdisciplinary Life Science

Anna Svirina

Doctoral candidate (Biophysics) at the Technical University of Dresden

Research interests: outer membrane proteins, FRET-spectroscopy

Anna Svirina has received both her B.Sc. and M.Sc. degree in physics in Saint Petersburg, Russia, and decided to address fundamental biological questions for her doctoral studies, which she started at the TU Dresden. Anna's main biological interest is in membrane biophysics and her research is focused on the bacterial outer membrane protein BAM, which is potentially of use as a novel antibiotic target.



Felix Wiedmann

Postdoc (Medicine) at the Ruprecht-Karl's-University of Heidelberg

Research interests: single-molecule imaging, synaptic plasticity, self-assembly

Felix Wiedmann is addressing the cellular mechanisms of atrial arrhythmogenesis and the pharmacology of potassium channels in the heart. Identifying new therapeutic targets for the treatment of atrial ventricular fibrillation is one of his goals. Felix studied medicine and received training as a cardiologist. His doctoral thesis, "Cardiac role of wo pore domain potassium channels," was awarded the Ludolf Krehl Prize. With the help of the Add-on Fellowship, he gains deeper insights into mathematical modeling of cellular electrophysiology.

Add-on Fellows for Interdisciplinary Life Science

Manon Wigbers
Doctoral candidate (Biophysics) at the Ludwig-Maximilian's-University of Munich

Research interests: protein self-assembly, modeling, (guided) structure formation

Manon Wigbers studies how proteins organize robustly in space and time in cells. Previously, she studied physics at the Vrije Universiteit in Amsterdam, Netherlands, alongside her work as a teacher for secondary school students and teaching assistant for physics lab courses. As a visiting student, she spent a year at Princeton University, USA, working on bacterial colony dynamics. Aiding the Add-on Fellowship, she explores biophysical theories in both living systems and in synthetic biology.

Karina Witte
Doctoral candidate (Pharmacy) at the Albert-Ludwig's-University of Freiburg

Research interests: biosynthesis, biocatalysis, sustainable pharmacy

Karina Witte works on the biosynthesis and biocatalysis of ephedrine as well as the establishment of a concept of 'sustainable pharmacy'. She studied pharmacy in Freiburg and did her diploma thesis at a research institute in Lucknow, India. Additionally, she does further training as "Fachapothekerin" for toxicology and ecology. The Add-on Fellowship supports her in fostering interdisciplinary aspects in her research. Main topics for this are: environmental aspects of pharmaceuticals (biodegradability, risk assessment), sustainability, transformation, and change management as well as the concept of planetary health. She co-applied and gained funding for a summer school within the frame of the funding program of the "Begegnungszone" of the Joachim Herz Foundation.

Add-on Fellows for Interdisciplinary Life Science

Cohort 2018

Katharina Baum
Postdoc (Theoretical Biophysics) at the Max-Delbrück-Center for Molecular Medicine in Berlin in the Helmholtz-Association

Research interests: network-based integrative omics, data analytics

Katharina Baum tracks phenotypic changes in leukemia and use omic data to detect changes in gene expression. She also studies metabolic fluxes in colon cancer cells. Previously, Katharina completed her doctorate in theoretical biophysics at the HU Berlin and studied mathematics also at HU Berlin and École Polytechnique in Lozère, France. After a postdoc, she is pursuing a career as a group leader at the Hasso-Plattner Institute in Potsdam. She became a member of the Add-on jury.

Ann-Kristin Becker
Doctoral candidate (Bioinformatics) at the University Hospital in Greifswald

Research interests: statistics, stochastics, bayesian networks

Ann-Kristin Becker did her doctorate at the University Hospital Greifswald, Institute of Bioinformatics, where her research was about interpretable machine learning and its application to high-dimensional biomedical data. Prior to that, she studied mathematics in Marburg with a minor in biology. After her doctorate, Ann-Kristin joined a German credit agency, as a Data Science Researcher.

Add-on Fellows for Interdisciplinary Life Science

Laura Bernáez Timón
Doctoral candidate (Neurosciences) at the Max-Planck-Institute (MPI) for Brain Research in Frankfurt

Research interests: modeling and simulation of networks, electrophysiology, in vivo two-photon calcium imaging

She grew to be an expert in imaging techniques, for example Magnetic resonance imaging, Positron-Emissions-Tomography, and 2-photon calcium imaging. Previously, Laura studied B.Sc. biomedical engineering at Universidad Carlos III de Madrid and M.Sc. physics of solids and biological systems at Universidad Autónoma de Madrid, both in Spain, and M.Sc. interdisciplinary neuroscience at Goethe University Frankfurt.

Gregory Born
Doctoral candidate (Neuroscience) at the Ludwig-Maximilian's-University of Munich

Research interests: systems neuroscience, neural circuits

Gregory Born conducts his doctoral research on "the influence of cortico-thalamic feedback on visual spatial integration in the mouse dorsolateral geniculate nucleus". Previously, he studied psychology (B.Sc.) in Würzburg and neural and behavioral sciences (M.Sc.) at the International Max Planck Research School at the University in Tübingen. He spent time abroad at the Federal University of Rio Grande de Norte in Brazil.

Add-on Fellows for Interdisciplinary Life Science

Cohort: 2023 (9), 2022 (8), 2021 (7), 2020 (6), 2019 (5), 2018 (4), 2017 (3) 2016 (2), 2015 (1)

Laura Breimann

Doctoral candidate (Biology) at the Max-Delbrück-Center for Molecular Medicine (MDC) in Berlin within the Helmholtz-Association

Research interests: 3D chromatin architecture, chromatin-based transcriptional regulation, dosage balancing, single molecule microscopy, lightsheet microscopy, computer image processing

Laura Breimann focused on dissecting the mechanism of dosage compensation in Caenorhabditis elegans by using imaging and image analysis tools. Through the BIMSB-NYU exchange fellowship, she obtained her doctorate. Previously, she studied biochemistry with a focus on gene regulation in Tübingen, Munich, and Oxford (United Kingdom). Her passion is community building. As a doctoral representative, she pushed for a safer work environment through harassment guidelines and mental health support. For her postdoc position, she moved to Boston at Harvard Medical School. She is a active alumna and regularly supports the Fellows of the new cohorts with expertise and exchange of experiences.

David Brückner

Doctoral candidate (Biophysics) at the Ludwig-Maximilian's-University of Munich

Research interests: cell dynamics of moving cells

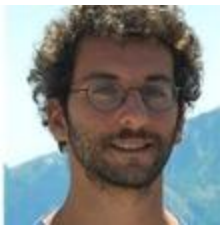
David Brückner is a NOMIS Foundation Postdoctoral Fellow at the Institute of Science and Technology Austria. His research focusses on the physical principles governing complex biological systems, including cell migration, developmental systems, and chromosome dynamics. To study these systems, he develops theoretical approaches combining inference methods, biophysical models, and information theory. David studied physics at the University of Cambridge, United Kingdom, followed by doctoral studies at the LMU in Munich.

Add-on Fellows for Interdisciplinary Life Science

Anna-Marie Finger
Doctoral candidate (Biology) at the Charité – University Hospital Berlin

Research interests: circadian oscillations

Anna-Marie Finger focuses on mechanisms of cell-cell communication between peripheral circadian oscillators that drive coherent circadian rhythmicity on the tissue level. Prior to that, received her B.Sc. biology from the University of Virginia, USA, and her M.Sc. molecular medicine from the Charité. Anna-Marie genuinely enjoys promoting and connecting the next generation of scientists and has been involved in the organization of the 2021 Summer School of Circadian Sciences and Chronobiology Gordon Research Seminar (both funded by the Joachim Herz Foundation "Begegnungszonen" program), as well as the SRBR Global Talk Series for early career researchers. She got positions in science and research in Canada and at the University of California, San Francisco, USA.



Jonathan Fiorentino
Doctoral candidate (Theoretical Biophysics and Bioinformatic) at the Helmholtz Center in Munich

Research interests: embryonic development in mouse model

Jonathan Fiorentino studied Physics and did his doctorate at Sapienza University of Rome, Spain. He worked on physical models of gene expression regulation. Afterwards, he was a postdoc at the Helmholtz Center Munich where his research focused on theoretical models and bioinformatics analyses about cell decision making in embryonic development. After that, he joined the Italian Institute of Technology, where he started working on RNA biology and RNA-protein interactions. The Add-on Fellowship allowed him to visit the experimental collaborators, to attend international conferences, to get all the equipment needed for his research and to network at Add-on Fellow meetings.

Add-on Fellows for Interdisciplinary Life Science

Ankita Garg

Doctoral candidate (Biology) at the University Hospital in Hannover

Research interests: biomechanics, RNA biology and cardiovascular disease, mechanism of action of miRNAs, artificial heart tissue (EHT), iPSC

Ankita Garg is focusing on RNA therapeutics from her master's to her postdoc. Currently, she strives to identify novel non-coding RNA, which modulate several pathways of cardiovascular diseases and develop them into potential therapies. Previously, she studied biotechnology (B.Tech., M.Sc.) at the National Institute of Technology in Jalandhar and at the Indian Institute of Technology in Delhi, India. Her work requires collaborations to incorporate models such as engineered heart tissues, living myocardial slices, and in vivo animal models to characterize and analyze novel therapies. The Add-on Fellowship support her in establishing collaborations, advancing her knowledge and skill set. She took a scientific position at a large chemical institution in Wuppertal.

Jakob Gierten

Postdoc (Medicine) at the Center for Organismal Studies at the Ruprecht-Karl's-University of Heidelberg

Research interests: pediatric cardiology

Jakob Gierten works in pediatrics, more specifically in children's cardiology. In his dissertation, he investigated cardiac phenotypes relevant to humans using a quantitative genetic approach in the fish model system. For this, Jakob used a combination of genome-wide analyses and microscopy. Previously, he studied medicine in Hamburg, Heidelberg and Paris (France). He completed his practical training at the KIT.

Add-on Fellows for Interdisciplinary Life Science

Roman Herzog
Doctoral candidate (Biology) at the Ludwig-Maximilian's-University of Munich

Research interests: quorum sensing, cholera disease

Roman Herzog is an expert in RNA sequencing, protein expression analysis and mass spectrometry and is doing research on cholera, specifically on "characterization of a novel quorum sensing pathway in Vibrio cholerae". Previously, he studied biology and chemistry on a teaching degree and molecular biology in the M.Sc. program at LMU Munich. After completing his doctorate, his career led him to work as a project manager for the world market leader for service offerings in analytical methods in environment and food and later as a scientist at Eurofins and further later as a scientist for a biotechnology company in Bavaria.

Martin Hölzer
Postdoc (Bioinformatics) at the Friedrich-Schiller-University of Jena

Research interests: long-read sequencing data, virus bioinformatics, bats

Martin Hölzer is a trained bioinformatician who works a lot with all kinds of sequencing data (the longer, the better) to unlock the secrets of biology. He studied at the Friedrich-Schiller-University of Jena, then he went to the European Bioinformatics Institute near Cambridge, United Kingdom, and is now continuing his academic journey at the Robert Koch Institute in Berlin. At the Robert Koch Institute he is deputy head of the bioinformatics unit and responsible for research around real-time nanopore sequencing, rapid detection of pathogens and microbial evolution – "certainly", Martin says, "thanks to the support of the Joachim Herz Foundation".

Add-on Fellows for Interdisciplinary Life Science

Marius Lange

Doctoral candidate (Bioinformatics) at Helmholtz Center in Munich

Research interests: single-cell dynamics, integration of multi-omics data, deep learning applications for transcriptomic data, integration of mechanistic models with data-driven techniques

Marius Lange is an applied mathematician, working at the interface of machine learning and molecular biology. In his research, he develops computational methods that describe continuous biological processes, such as development, regeneration, or reprogramming, through the lens of single-cell genomics. For example, he developed CellRank, a toolkit that leverages RNA velocity to reconstruct cellular fate decisions. In the past, he studied physics and applied math at the universities of Freiburg, London (United Kingdom) and Oxford (United Kingdom). Thanks to the Joachim Herz Foundation, he was able to spend three months each in New York and at the Hebrew University of Jerusalem. Becoming a postdoc he changed his position to lab in Switzerland.

Benjamin Maier

Doctoral candidate (Biology) at the Robert-Koch-Institute in Berlin

Research interests: spread of infectious diseases via temporally resolved face-to-face contact networks

Benjamin Maier researches the spread of infectious diseases primarily in temporally resolved face-to-face contact networks. In addition to his research, he is a member of the student council and is proficient in a variety of computer languages and operating systems. Previously, he studied physics in B.Sc. and M.Sc. at HU Berlin. Benjamin followed up combining methods from statistical physics and epidemiology with a postdoc at the Robert Koch Institute Berlin and at the TU Kopenhagen (Denmark).

Add-on Fellows for Interdisciplinary Life Science

Felicia Maull

Doctoral candidate (Neuroscience) at the University Hospital in Mainz

Research interests: mitochondrial calcium homeostasis, mitochondrial physiology, neurodegenerative diseases

Felicia Dietsche's (née Maull) vita is influenced by two major interests: the fascination for natural sciences and the passion for language. Following her interest in science, she studied biomedicine and is currently working in basic molecular research. Yet, during her studies and while pursuing her doctorate, she never lost her enthusiasm for communication. As an intern, she worked at a radio station and in the editorial office of popular science magazines like GEO WISSEN and GEO WISSEN GESUNDHEIT. She strongly believes that science and communication need not be separated fields but should go hand in hand. After her doctorate she moved to a dermatology unit of a pharmaceutical company as a medical advisor.

Ewa Sitarska

Doctoral candidate (Biophysics) at the European Molecular Biology Laboratory (EMBL) in Heidelberg

Research interests: membrane tension, mechanical and biochemical signal transduction, cell migration

Ewa Sitarska investigated the mechanobiology of the plasma membrane. In particular, she focuses on curvature-sensitive proteins and the complex interplay between the cell surface, the membrane trafficking machinery and the cytoskeletal networks that power cell migration and determine cell shape. She uses a wide range biophysical, biochemical and cell biology methods, from breeding and control of cell lines, the genetic scissors CRISPR/Cas9, flow cytometry, sequencing techniques, advanced microscopy techniques to atomic force spectroscopy and nuclear magnetic resonance spectroscopy. Previously, Ewa studied biotechnology (B.Sc. and M.Sc.) and psychology (M.Sc.) at the University of Warsaw, Poland, with a research stay at the UT Southwestern Medical Center, USA. She moved to Boston for her further scientific career.

Add-on Fellows for Interdisciplinary Life Science

Erika Urdaneta
Doctoral candidate (Biology) at the Humboldt University Berlin

Research interests: hemoparasites, RNA-protein interactions

Erika Urdaneta develops an unbiased method to purify RNA-protein complexes independently of poly-A during her doctorate. Previously, she conducted studies in biological sciences at the Universidad Simon Bolivar in Caracas, Venezuela, where she was also engaged as a teaching assistant and research assistant in cell biology, biochemistry and immunology of blood parasites. After a short postdoc at HU Berlin, she joined a biotechnology company.

Johannes Zierenberg
Postdoc (Statistical Physics and Neurosciences) at the Max Planck Institute (MPI) for Dynamics and Self-Organization in Göttingen

Research interests: computational neuroscience, statistical physics

Johannes Zierenberg studies stochastic processes in complex networks with a focus on information processing in neural networks and epidemic spread. His approach builds on experimental data to constrain numerical models and to derive analytical theories if possible. Of particular interest are emergent phenomena in the vicinity of (non-equilibrium) phase transitions, which goes back to his training in theoretical physics at the University of Leipzig where he received his doctorate. He successfully applied for funding within the framework of the “Begegnungszonen” program of the Joachim Herz Foundation.

Add-on Fellows for Interdisciplinary Life Science

Marietta Zille

Postdoc (Neuroscience) at the Fraunhofer Research Institution for Marine Biotechnology and Cell Engineering in Lübeck

Research interests: neuroscience, machine learning, neurodegeneration, etiology and pathophysiology of stroke

Marietta Zille is a medical neuroscientist and has dedicated her career to studying the etiology, pathophysiology, and therapy of neurodegeneration, cerebrovascular disease, and brain aging. She enjoys the reputation of an internationally visible expert in cell death signaling having characterized the signaling pathways leading to neuronal demise after stroke. Marietta worked as a postdoc at Cornell University, USA, and at the Fraunhofer Institute for Marine Biotechnology and Cell Technology. Previously, she studied biology in Cologne, medical neuroscience in Berlin and received her doctorate from the Charité. She got the professorship at the University of Vienna, Austria. She is a active alumna and regularly supports the Fellows of the new cohorts with expertise and exchange of experiences. She became a member of the Add-on jury.

Vera Zizka

Doctoral candidate (Ecology) at the University of Duisburg-Essen

Research interests: metabarcoding, aquatic ecosystems, ecology, biodiversity

Vera Zizka uses the metabarcoding method to analyze the biodiversity of aquatic ecosystems. She is involved in teaching and benefited from several research stays at the Australian Tropical Herbarium in Cairns, Australia, and in Marine and Arctic Ecology at the University of Tromsø, Norway. She studied biological sciences, ecology, and evolution in Frankfurt. Upon receiving her doctorate, Vera moved to the Natural History and Zoological Research Museum Alexander Koenig in Bonn.

Add-on Fellows for Interdisciplinary Life Science

Cohort 2017

Apoorva Baluapuri
Doctoral candidate (Biochemistry) at the Biocenter of the Julius-Maximilian's-University of Würzburg

Research interests: cancer systems biology, molecular biology, systems biology, cancer research

Apoorva Baluapuri was working on quantitative aspects of how information is read from genes before it is used to make the building blocks of life. This process is misregulated in cancer. He was awarded the DFG Excellence Initiative Fellowship and the Biocentre Science Prize for excellent research at the University of Würzburg. Previously, he completed his studies in biotechnology and clinical neuroscience and worked as a software service engineer in India. As a postdoc, he now also works with high-resolution imaging techniques. He moved to Harvard Medical School in Boston, USA.

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Stephan Baumgärtner
Postdoc (Physics) at the Center of Systems biology and Max-Planck-Institute (MPI) for the Physics of Complex Systems in Dresden

Research interests: modeling, synthetic biology

Stephan Baumgärtner continued his research from his doctoral studies and wants to understand how heterogeneity arises and is controlled in biological systems. He wrote his dissertation at the University of Mainz and previously studied physics at the TU Dresden and the Max Planck Institute for Cell Biology and Genetics. The Add-on Fellowship helped him utilizing mathematical modeling to test hypotheses and then test the models using synthetic biology. The fellowship also allowed him to attend summer schools and conference. He is currently a postdoctoral fellow at the Max Planck Research Network in Synthetic Biology.

Add-on Fellows for Interdisciplinary Life Science

Cohort: 2023 (9), 2022 (8), 2021 (7), 2020 (6), 2019 (5), 2018 (4), 2017 (3) 2016 (2), 2015 (1)

Katherine Beckham

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

Research interests: structure biology

Kate completed her undergraduate studies in molecular biology at the University of Saint Andrews, Scotland. She joined the Welcome Trust Program on the "molecular functions of disease" at the University of Glasgow, Scotland, where she completed her MRes and Ph.D. Kate was awarded an EMBL Interdisciplinary Postdoctoral (EIPOD) fellowship to investigate the structure and assembly of the Type VII Secretion System, is a key virulence factor for mycobacterial pathogens. She was awarded the Helmholtz Center for Infection Research award. Obtaining the Add-on Fellowship allowed Kate to pursue interdisciplinary approaches.

David Fischer

Doctoral candidate (Bioinformatics) at the Helmholtz Center in Munich

Research interests: statistical modeling of biological systems, machine learning

David Fischer was working on his doctoral project in computational biology and machine learning, specifically on algorithm development for single-cell RNA-seq data. David received a B.Sc. biochemistry from the University of Cambridge, United Kingdom, and a M.Sc. in compuational biology and bioinformatics from ETH Zurich, Switzerland. During his Masters, he specialized in statistical modeling of biological systems and machine learning. He used the Add-on Fellowship to facilitate collaborations and to conduct a single-cell RNA-seq experiments in conjunction with an experimental collaborator.

Add-on Fellows for Interdisciplinary Life Science

Adrian Granada

Postdoc (Biophysics) at the Humboldt University Berlin

Research interests: theoretical biology, microscopy

Adrian Granada is a physicist – turned – biologist. He studied physics at the University of Buenos Aires, Argentina. He then decided to pursue his doctorate in biophysics at the Institute for Theoretical Biology in Berlin, where he used the theory of coupled oscillators to investigate features of the circadian system. For his postdoc, he joined the systems biology department from Harvard Medical School, Boston, USA, to gain training in experimental single-cell biology. At Harvard, Adrian gained hands-on expertise on cell line engineering and high-resolution live microscopy. He started his group at Charité Berlin with the goal to advance the understanding of the single-cell dynamics of cellular processes.

Michael Heymann

Postdoc (Biophysics) at the Max-Planck-Institute (MPI) for Biochemistry in Martinsried next to Munich

Research interests: biophysics, structural biology, medicine

Michael Heymann worked with high-resolution 3D printing methods to develop optimal mixing jets for time-resolved observation of biological reactions. Previously, he studied biology in Berlin, followed by a doctorate in structural biology and biophysics in Boston, USA. In his doctoral thesis, he explored dynamic, self-assembling, biological processes using microfluidic methods. With the Add-on Fellowship, he was exploring medical applications for submicrometer 3D printing processes and researching how complex biological systems can self-organize from the nanometer to the mesoscale. Michael became an assistant professor at the Institute of Biomaterials and Biomolecular Systems in Stuttgart. He became a member of the Add-on jury.

Add-on Fellows for Interdisciplinary Life Science

Sayuri Hortsch
Doctoral candidate (Biotechnology) at the Technical University of Munich

Research interests: stochastics, genetic, gene expression

Sayuri Hortsch was a doctoral candidate at the department of systems biotechnology. She was majoring in stochasticity in gene expression and the resulting cellular heterogeneity. Previously, she studied molecular biotechnology, mathematics and biomathematics at the TU Munich. She was involved as a student assistant and as a tutor. She completed her master's thesis at Roche Diagnostics in Penzberg. The Add-on Fellowship was the basis to learn experimental single-cell technologies to generate data for her models and to exchange with international research groups.

Florian Huber
Postdoc (Bioinformatics) at the European Molecular Biology Laboratory (EMBL) in Heidelberg

Research interests: high content screening, systems biology

Florian Huber was working on the question of how to predict phenotypes based on high content screening. He also models data from high throughput experiments to predict drug mechanisms and drug interactions. He completed his dissertation at the University of Heidelberg in RNA systems biology on baker's yeast. Previously, he studied molecular biology at the University of Vienna, Austria, and molecular medicine at Imperial College London, United Kingdom. He was using the Add-on Fellowship to understand and apply machine learning methods to systems biology.

Add-on Fellows for Interdisciplinary Life Science

Cosimo Jann
Doctoral candidate (Biology) at the European Molecular Biology Laboratory (EMBL) in Heidelberg

Research interests: non-coding RNA, stress adaptation of cells

Cosimo Jan performed his doctorate in cooperation with the ETH Zurich, Switzerland, developing genetic tools and revealing how signaling pathways regulate stress adaptation. Beforehand, he studied biotechnology at University of Kaiserslautern. At UC Berkeley, USA, he specialized in nanoengineering and bioengineering. After M.Sc. completion, he trained at the Wellcome Trust Sanger Institute and BASF Corp., NY, USA. The Add-On Fellowship enabled fruitful international collaborations and allowed him to acquire experience in confocal microscopy, statistics, and large data analysis. As a postdoc at the Institute of Molecular Biology and the Mainz University, he works on developing technologies for genetic code expansion.

Andrej Kamenac
Doctoral candidate (Biophysics) at the University of Augsburg

Research interests: biophysics of biological membranes, pharmacology

Andrej Kamenac was doing his doctoral thesis on the effects of the thermodynamic phase state of the membrane on enzyme activity and drug uptake. Previously, he studied physics and materials science at the University of Augsburg. During his studies, he worked as an exercise instructor for experimental physics and as a working student in the field of polymer chemistry and lightweight construction. The Add-on Fellowship supported him to gain deeper insights into various biochemical experimental techniques. After his scientific career in Augsburg, he moved into industry, particularly, at a large precision mechanical-optical company in the research and development team.

Add-on Fellows for Interdisciplinary Life Science

Andreas Kist
Doctoral candidate (Neuroscience) at the Max-Planck-Institute (MPI) for Neurobiology in Martinsried next to Munich

Research interests: neurobiology, in-vivo calcium imaging, purkinje cells

Andreas Kist was using in vivo calcium imaging, aiming to understand the recording, processing, and output of signals from the cerebellum in zebrafish. Previously, he studied as B.Sc. and M.Sc. molecular medicine at the Friedrich Alexander University in Erlangen-Nuremberg. In addition to physiology and pathophysiology research, he worked in the department of a consortium focuses on medical technology, digitalization, and automation in Munich. He is a freelance web designer, programmer, and lecturer. With the Add-on Fellowship, he addressed the data processing of Purkinje cells, which he wants to model. Andreas became a junior professor for artificial intelligence at FAU. He became a member of the Add-on jury.

Arghyadip Mukherjee
Doctoral candidate (Biophysics) at the Max-Planck-Institute (MPI) for the Physics of Complex Systems in Dresden

Research interests: non-equilibrium physics to evolutionary dynamics

Arghyadip Mukherjee, alias Argo, became a biophysicist due to his fascination for complex shapes. He uses theoretical concepts of active matter physics to identify underlying principles that govern the organization and dynamics of living tissues. For Argo, theoretical approaches represent not only a way to capture the true essence of biophysical phenomena, but also an instrument to gain novel quantitative insights. Previously, he studied physics at the Indian Institute of Science, India, with an emphasis on theoretical physics. After his doctorate at MPI-PKS, Dresden, he is starting his postdoc at Collège de France, Paris.

Add-on Fellows for Interdisciplinary Life Science

Andreas Nold

Postdoc (Neuroscience) at the Max-Planck-Institute (MPI) for Brain Research in Frankfurt

Research interests: neurology, immune response, modeling

Andreas Nold works on microscopy and imaging of single molecules. He also develops models for biological processes, mainly in brain research and neuro-immune interaction. Before that, he studied mechanical engineering and mathematics and computer science at the Technical University of Darmstadt. Subsequently, he did research as a research assistant at the department of fluid dynamics and subsequently obtained his doctorate in the 'complex multiscale systems' group at the chemical engineering department at Imperial College London, United Kingdom. After his doctorate, Andreas worked as a senior business consultant for an IT transformation project before taking up his current research topic in neuroscience.

Laura Paulowski

Postdoc (Biophysics) at the Research Center Borstel – Leibniz Lung Center

Research interests: membrane peptides

Laura Paulowski's research topic is "generation of asymmetric vesicles as a model for gram-negative bacteria". Previously, she did her thesis at the Leibniz Lung Center within the Cluster of Excellence Inflammation@Interfaces where she investigated the effect of membrane active substances, so called host defense peptide, on model membranes i.e., lipid rafts. Previously, she studied chemistry at the Westfälische Wilhelms-Universität Münster and at the University of California, San Diego, USA (UCSD). Through the Add-on Fellowship, Laura had the opportunity to gain a deeper insight into high-resolution fluorescence microscopic analysis (STED-imaging and STED-FCS). After her postdoc at Borstel Research Center she changed her position and became a medical innovation manager.

Add-on Fellows for Interdisciplinary Life Science

Cohort: 2023 (9), 2022 (8), 2021 (7), 2020 (6), 2019 (5), 2018 (4), 2017 (3) 2016 (2), 2015 (1)

Lourdu Xavier Paulraj

Doctoral candidate (Biophysics) at the Max-Planck Institute (MPI) for the Structure and Dynamics of Matter, CFEL-DESY and EuXFEL in Hamburg

Research interests: structural DNA nanotechnology, energy landscape of protein-protein interaction

Lourdu Xavier Paulray works at the interface of DNA nanotechnology, crystallography and single-particle imaging. He carries out his research on single-particle diffractive imaging of 3D DNA-origami molecular scaffolds using XFEL pulses with the goal of developing DNA-origami-based holographic platforms for imaging small-proteins. He was a visiting scholar at New York University, Linac Coherent Light Source (LCLS), SLAC National Accelerator Laboratory and Stanford University (USA). There he got trained on DNA nanotechnology, X-ray imaging, and cryo-EM. Also, he has done an internship at Harvard University, Cambridge near Boston, USA, on computational tools for de nova designer proteins funded by the Add-on Fellowship.

Max Schelski

Doctoral candidate (Neuroscience) at the German Center for Neurodegenerative Diseases (DZNE) in Bonn

Research interests: synthetic biology, axon specification

Max Schelski was working on axon development, using live-cell imaging and coding in Python. During his B.Sc. he worked on research projects in synthetic biology and on a project with human-derived neurons. He analysis the train-track network (microtubule array) in neuronal protrusions (neurites), which for a long time has been thought to be stationary but is in fact dynamic and constantly flows from neurites into the cell body. Max plans to develop a quantitative, biophysical model of these cytoskeletal dynamics using mathematical modeling and machine learning.

Add-on Fellows for Interdisciplinary Life Science

Adrian Schwarzer
Postdoc (Biomedicine) at the Hannover Medical School (MHH)

Research interests: medicine, oncology

Adrian Schwarzer was a research associate and physician assistant at the department of hematology, oncology and stem cell transplantation and focused on aggressive T-cell leukemia. He completed his doctoral thesis in molecular medicine with a focus on biochemistry at the MHH as well as at the institute of immunology at the TU Dresden. Previously, he studied human medicine at the TU Dresden with a stay abroad at Dartmouth Medical School, NH, USA. He was also a member of the "Junge Akademie" of the MHH. The Add-on Fellowship supported him in strengthening collaborations with Copenhagen (Denmark) and Vienna (Austria), conference visits, continuing education and in the acquisition of powerful technology.

Darius Schweinoch
Doctoral candidate (Biology) at the University Hospital in Greifswald

Research interests: mathematical modeling

Darius Schweinoch explored the innate immune response in viral infections using mathematical modeling. Previously, Darius studied cell biology at the University of Osnabrück and bioinformatics at the University of Potsdam. During his M.Sc. degree, he worked as a research assistant in theoretical systems biology and conducted research on model-based methods for assay system evaluation. The Add-on Fellowship supported him in interdisciplinary collaboration and improves his methodological repertoire. As a modeling and simulation scientist, he joined a consulting company for drug development and pharmaceuticals.

Add-on Fellows for Interdisciplinary Life Science

Joanne Trinh

Postdoc (Genetics) at the University of Lübeck

Research interests: genetics, Parkinson's disease

Joanne Trinh received her B.Sc. and Ph.D. in medical genetics at the University of British Columbia, Canada. Following a scientific fellowship at the University of Antwerp, Belgium, Joanne returned to Canada to work on genetic modifiers in LRRK2 parkinsonism. She subsequently joined the Institute of neurogenetics in Lübeck, where she has obtained a faculty position. The Add-on Fellowship has spearheaded her career growth as an independent scientist and research group leader. She is head of the "integrative omics in Parkinson's disease" research group, which investigates the role of nuclear and mitochondrial genome sequences and lifestyle and environment in parkinsonism using big data approaches.

Michael Witting

Postdoc (Chemistry) at the Helmholtz Center in Munich

Research interests: metabarcoding, aquatic ecosystems, ecology, biodiversity

Michael Witting studied applied chemistry at the Georg-Simon-Ohm University of Applied Sciences in Nürnberg with a functional direction into biochemistry. He obtained his doctorate from TU Munich. His research interest is the development of novel tools for the analysis of the metabolome of the model organism Caenorhabditis elegans and novel data analytical tools for identification of unknown metabolites. The Add-On Fellowship enabled him to learn more about mathematical modeling and analysis of metabolic fluxes.

Add-on Fellows for Interdisciplinary Life Science

Cohort 2016

Mania Ackermann
Postdoc (Biochemistry) at the Hannover Medical School (MHH)

Research interests: stem cells, hematology

Mania Ackermann is working on the generation of blood cells from induced stem cells (iPSCs), which will be used for cell-based therapeutic approaches. She also uses the developed iPSZ model to gain deeper insights into human embryonic hematopoietic development. In this context, Mania used the Add-on Fellowship to further her education of advanced imaging techniques in 3D tissue structures. Previously, she studied biochemistry at the Leibniz University of Hannover. After her M.Sc. degree, she completed her doctorate in gene and cell therapy in the doctoral program “regenerative sciences” of the Excellence Cluster REBIRTH at the MHH.

Lisa Bast
Doctoral candidate (Mathematics and Computational Biology) at the Technical University of Munich

Research interests: stem cell biology, mathematical mechanistic modeling, parameter inference

Lisa Bast studied mathematics in bioscience at Koblenz University of Applied Sciences (B.Sc.) and later at TU Munich (M.Sc.), where she also conducted her doctoral research in close collaboration with the Helmholtz Center Munich. In her doctoral thesis, she focused on data-driven modeling and model selection of cell division and differentiation processes. Her current postdoc at Karolinska Institute, Sweden, relates to gene regulatory network inference from single-cell RNA sequencing data to decode the alterations in psychiatric disorders such as schizophrenia. The Add-on Fellowship supported her in many ways with courses, conferences, books, research stay’s and network meetings.

Add-on Fellows for Interdisciplinary Life Science

Fabian Bonk
Doctoral candidate (Engineering) at the Helmholtz Centre for Environmental Research in Leipzig

Research interests: microbiology, environment, modeling

Fabian Bonk was doing his doctorate on "modeling the microbiology of the biogas process". Previously, he completed a B.Sc. waste management engineering at RWTH Aachen and a M.Sc. environmental engineering at Masdar Institute in Abu Dhabi. He gained international experience in Chile, Indonesia, and the US. He volunteered as a doctoral student representative and in the debate club. He used the Add-on Fellowship to conduct research in New Zealand, attend conferences, and further his education in research modeling and business administration. He changed to a biofuels company.

Marc Brehme
Postdoc (Biology) at the RWTH Aachen

Research interests: biomedicine, modeling, cell biology

Marc Brehme studied molecular and cell biology at the Universities of Heidelberg and Manchester, United Kingdom, as well as at DKFZ and EMBL in Heidelberg. After a stay at CeMM in Austria, he obtained his doctorate in molecular biology at the University of Vienna, Austria. After his experience in a biotech company, he was a postdoc at CCSB, Dana-Farber Cancer Institute and Harvard Medical School in Boston, USA, and Northwestern University in Evanston, USA. Finally, he became group leader at the Joint Research Center for Computational Biomedicine, a joint venture between RWTH Aachen University and University Hospital and an industry company.

Add-on Fellows for Interdisciplinary Life Science

Dorothea Busse
Postdoc (Biophysics) at the Humboldt University of Berlin

Research interests: biology, physics, cancer therapy

Dorothea Busse worked on the topic “network analysis of the therapy-induced DNA damage response in colorectal cancer” at HU Berlin. Before, she studied biophysics and received her doctorate in theoretical biophysics at HU Berlin. She used the Add-on Fellowship to financially support her research (RNA sequencing) and to attend key conferences. The additional family support also helped her to expand her research career.

Valentin Dunsing
Doctoral candidate (Physics) at the University of Potsdam

Research interests: biological systems, protein interaction

Valentin Dunsing was devoting his doctoral studies at the University of Potsdam to fluorescence microscopy techniques to elucidate protein interactions during cell-cell fusion and cell adhesion. Previously, he studied physics at the HU Berlin, with a focus on complex systems and biophysics. Through the Add-on Fellowship, he gained a deeper insight into developmental biology to conduct his experiments in vivo and thereby discover regulatory mechanisms at the systemic level. After Potsdam, his path led him to the developmental biology institute in France.

Add-on Fellows for Interdisciplinary Life Science

Rukeia El-Athman
Doctoral candidate (Bioinformatics) at the Humboldt University of Berlin and Charité University Hospital Berlin

Research interests: circadian clock

Rukeia El-Athman worked on the mathematical modeling of the molecular connection between the circadian clock and cancer. Previously, Rukeia studied bioinformatics at the FU Berlin and Charité – Universitätsmedizin Berlin. As an assistant, she worked in a research group for metabiobanks of human tissue samples and in a research group for biodiversity informatics. Through the Add-on Fellowship, she gained a deeper insight into cancer research as well as systems biology methods. Rukeia moved to the Federal Institute for Materials Research and Testing (BAM) in research data management. She is an active alumna and regularly supports the Fellows of the new cohorts with expertise and exchange of experiences.

Jan Engelhardt
Doctoral candidate (Bioinformatics) at the University of Leipzig

Research interests: biochemistry, bioinformatics, RNA biology

Jan Engelhardt conducted his doctorate on the topic “bioinformatic analysis of disease-induced changes in DNA methylation”. He is also interested in the evolution of epigenetic gene regulatory mechanisms. By background, Jan is a studied bioinformatician with B.Sc. and M.Sc. degrees from the University of Leipzig. During his studies, he worked as a student assistant in the field of RNA bioinformatics. Through the Add-on Fellowship, he gained a deeper insight into experimental methods to improve mathematical modeling of molecular processes.

Add-on Fellows for Interdisciplinary Life Science

Tim Herfurth
Doctoral candidate (Physics) at the Max-Planck-Institute (MPI) for Brain Research

Research interests: solid state physics, theory of complex systems

Tim Herfurth conducted research on the topic of information transmission between neurons in the field of theoretical neuroscience. He studied physics and did his M.Sc. degree in condensed matter theory at the Goethe University Frankfurt. Tim completed a research semester at the University of Florida, USA. With the aid of the Add-on Fellowship, he started to expand his research focus towards data science and machine learning. His further path led him to industry in IT and innovation service providers as a data scientist. There he has been working within different enterprises and fields such as aviation, chemistry, and engineering.

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Linnea Hesse
Doctoral candidate (Biology) at the Albert-Ludwigs-University of Freiburg

Research interests: botany, functional morphology, mechanics

Linnea Hesse is a research group leader in the plant biomechanics group at the University of Freiburg and later professor at Hamburg University. She is a fellow of the Margarete von Wrangell habilitation program. Her research deals with the question on how the functional morphology of monocotyledonous plants and their mechanical adaptability can inspire technology. Earlier, Linnea studied biology at the University of Mainz and completed her diploma thesis in biomechanics at the TU Dresden. Through the Add-on Fellowship she gained a deeper insight into the use of magnetic resonance imaging to analyze the biomechanics, ontogeny, and functional morphology of plant structures. She became a member of the Add-on jury.

Add-on Fellows for Interdisciplinary Life Science

Julia Hofhuis
Postdoc (Medicine) at the University Hospital in Göttingen

Research interests: molecular medicine, cell biology, bioinformatics

Julia Hofhuis conducted analysis on the endogenous translational readthrough of the DNA stop codon. A better understanding enables a better treatability of diseases that are due to premature DNA stop codons. Julia completed her doctorate on cellular and molecular basis of dysferlin-deficient muscular dystrophy at the Department of Pediatrics and Adolescent Medicine in Göttingen. Before, she studied molecular medicine in Göttingen. Through the Add-on Fellowship, she dived into bioinformatics modeling. Thus, she combined basic research, systems biology approaches and clinical research. Her further path steered her to the biochemistry department of Bielefeld University.

Dana Kleimeier
Doctoral candidate (Biomathematics) at the Ernst-Moritz-Arndt-University of Greifswald

Research interests: mathematics, physiology, metabolism

Dana Kleimeier was working at the institute of bioinformatics at the University Medicine of Greifswald as project manager and lecturer. As a scientist, she focused on the mathematical modeling of pathogen host immune system interactions, especially the activation of the tryptophan metabolism due to bacterial infection and due to drug administration. She studied biomathematics with focus on physiology. Moreover, she participated in the mentoring program with two mentors (Jane Heffernan, University of Toronto, Canada, and Alison Hill, Johns Hopkins School of Medicine, USA) and was awarded for her outstanding presentation at the Society for mathematical biology annual meeting.

Add-on Fellows for Interdisciplinary Life Science

Paul-Albert König
Postdoc (Biochemistry) at the Hospital rechts der Isar and at the Technical University of Munich

Research interests: immunology, signal transduction, protein complex

Paul-Albert König researched on temporal and spatial regulation of protein complexes during signal transduction in immune cells. Previously, he investigated different physiological roles of protein quality control in endoplasmic reticulum for his doctoral project at the Cambridge Whitehead Institute for Biomedical Research, USA. He studied biochemistry and molecular biotechnology at the TU Munich with a focus on immunology. Through the Add-on Fellowship, he acquired the necessary skills to model regulatory processes under physiological and pathological conditions. He became core facility manager in the department of nanobodies at the medical faculty of the University of Bonn and co-founder of two therapeutics companies.

Lisa Schlicker
Doctoral candidate (Biotechnology) at the Technical University of Braunschweig

Research interests: metabolomic, metabolomics, metabolism, mass spectrometry

Lisa Schlicker (née Krämer) was completing her doctorate on the "dynamics of human glucose metabolism using stable isotopes" at the Luxembourg Centre for Systems Biomedicine (LCSB) and the TU Braunschweig. Lisa studied human biology and molecular biology (B.Sc.) and biotechnology (M.Sc.) at Saarland University. The Add-on Fellowship enabled her to spend time at Cornell University, USA, where she identified and characterized the enzymes involved in the endogenous synthesis of the sugar substitute erythritol. After her dissertation, she moved to the DKFZ in Heidelberg, where she is responsible for the mass spectrometry of metabolites and lipids.

Add-on Fellows for Interdisciplinary Life Science

Dmitry Kuchenov
Doctoral candidate (Chemistry) at the European Molecular Biology Laboratory (EMBL) and at the Ruprecht-Karl's-University of Heidelberg

Research interests: cell biology, cell pathology

Dmitry Kuchenov was pursuing a doctorate at the interface between cell biology and biophysics. Previously, he studied chemistry and biochemistry at Novosibirsk State University, Russia. Dmitry gained practical experience in various laboratories of organic chemistry, cell physiology and cell pathology, to cell biology and biophysics. The Add-on Fellowship helped him to acquire the necessary equipment to analyze the massive amount of experimental data. He also attended a variety of conferences. After a postdoc position at the Gladstone Institute, USA, he is currently a scientist at the University of California, San Francisco, USA, in the field of bioengineering.

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

Research interests: neurodegenerative disease

Hyun Lee combined cell biology with biophysics and protein chemistry focuses on disordered proteins that form membrane-less compartments in cells in the context of neurodegenerative diseases. Previously, she obtained her doctorate in genetics and molecular biology from the University of North Carolina at Chapel Hill, USA, and studied molecular biology at Wisconsin University, Madison, USA. In addition to research stays in Dallas and Chicago, she used the Add-on Fellowship to further expand her experimental and theoretical interdisciplinary method repertoire. She continues to deepen her scientific career at the MPI in Dresden

Add-on Fellows for Interdisciplinary Life Science

Adriana Pitea
Doctoral candidate (Bioinformatics) at the Helmholtz Center in Munich

Research interests: cancer diseases, genetic

Adriana Pitea focused on „delineating radiation-resistance regulatory networks in head and neck cancer patients". Previously, she obtained a B.Sc. in automatic control and computer science (Polytechnic University of Bucharest, Romania) and a M.Sc. in bioinformatics (University of Copenhagen, Denmark). The Add-on Fellowship supported her lab exchange experience at the Trey Ideker Lab, University of California, San Diego, USA. There she studied the effect of rare non-coding mutations on cancer, and she started a collaboration between her lab at the ICB in Munich and the Trey Ideker Lab at UCSD.

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

Research interests: molecular biology, molecular ecology

Jan Strauss researched the molecular mechanisms of iron uptake in microalgae, a process that ensures the marine microalgae to produce as much oxygen as land plants. Jan completed his doctorate in the United Kingdom at the University of East Anglia in Norwich in molecular biology of polar microalgae. Earlier, he studied biology at the University of Rostock and wrote his diploma thesis at the Alfred Wegener Institute for Polar and Marine Research in Bremerhaven. With the Add-on Fellowship, he was developing and validating a metabolic model for systems analysis of iron metabolism in marine microalgae. After Hamburg, he obtained a postdoc at GEOMAR Helmholtz Center for Ocean Research in Kiel and later a member of a large natural museum in Hamburg.

Add-on Fellows for Interdisciplinary Life Science

Dana Westmeier
Doctoral candidate (Biomedicine) at the University Hospital in Mainz

Research interests: oncology, microbiology, microbiome, pathology

Dana Westmeier conducted her doctoral research in molecular oncology and cellular oncology. In the field of nano biomedicine, she was working on the systematic identification of basic pathobiological effects of nanoparticles and their impact on the human microbiome. Earlier, Dana completed her B.Sc. degree in biology at TU Darmstadt and her M.Sc. degree in biomedicine at Mainz University. The Add-on Fellowship supported collaborations and continuing education that focus primarily on computer modeling of nanoparticle-microbiome interactions. After her doctorate, she followed up with a postdoc in Mainz. Dana has co-applied for funding for a symposium as part of the Joachim Herz Foundations' "Begegnungszonen".

Maria Winzi
Postdoc (Biotechnology) at the Technical University of Dresden

Research interests: omics, biotechnology, bioengineering

Maria Winzi worked on "mechanical alterations during EMT: from single genes to omics" at the biotechnology center. Earlier, she completed her doctorate in Denmark at the Hagedron Research Institute and graduated with a B.Sc. in molecular biotechnology and M.Sc. in molecular bioengineering. She also gained experience as a research assistant at TU Dresden and at a service research organization in Dresden. The Add-on Fellowship professionalized her skills in Matlab and programming and were used to establish new collaborations. She became an expert in DNA analysis at the State Criminal Police Office.

Add-on Fellows for Interdisciplinary Life Science

Cohort 2015

Natalia A. Bakhtina
Doctoral candidate (Engineering) at the Karlsruhe Institute of Technology (KIT)

Research interests: stem cells, mouse embryo, microscopy, molecular biology, fabrication and integration of chip-based microfluidic systems with specific electrical circuits

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 M.Sc. 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, Switzerland, Natalia has been a scientist in a pharmaceutical company also in Switzerland.

Felix Boos
Doctoral candidate (Biology) at the Technical University of Kaiserslautern

Research interests: mitochondrial biology, cell biology, bioinformatics, genetics

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 postdoc and group leader at TU Kaiserslautern and in genetics at Stanford University, USA.

Add-on Fellows for Interdisciplinary Life Science

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

Research interests: morphogenesis, regeneration, microscopy

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

Mirjam Fehling-Kaschek
Postdoc (Physics) at the Albert-Ludwigs-University of Freiburg

Research interests: modeling, particle physics, systems biology

Mirjam Fehling-Kaschek studied physics in Konstanz, Freiburg and Granada (Spain). 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.

Add-on Fellows for Interdisciplinary Life Science

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

Research interests: oncology, molecular biology, bioinformatics

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 postdoc fellowship by the Leopoldina that enabled his training at the Dana-Farber Cancer Institute and Harvard Medical School, USA. The Add-on Fellowship helped Martin to integrate computational approaches into his research and thereby shape his scientific profile. He was appointed to a group leader position at the Leibniz Institute for Aging Research in Jena. He became a member of the Add-on jury.

Dhana Friedrich
Doctoral candidate (Biochemistry) at the Max-Delbrück-Center for Molecular Medicine (MDC) in Berlin within the Helmholtz-Association

Research interests: oscillatory transcription factors, stochastic gene expression

Dhana Friedrich's doctoral research at MDC and HU 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 FU 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 postdoc she moved to the Harvard Medical School, Boston, USA, and took afterwards a lab head position on image-based screening systems in Wuppertal. She is an active fellow and regularly supports the Fellows of the new cohorts with expertise and exchange of experiences. She became a member of the Add-on jury.

Add-on Fellows for Interdisciplinary Life Science

Melina Celik

Doctoral candidate (Biology) at the Hannover Medical School (MHH)

Research interests: zebrafish, heart development, morphogenesis

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

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

Research interests: structural biology, electron nanoscopy

Arjen Jacobi is working with X-ray crystallography and cryo-EM 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 in the department of bionanosciences, and he is group leader of electron nanoscopy at the Kavli Institute in Delft, Netherlands. He became a member of the Add-on jury.

Add-on Fellows for Interdisciplinary Life Science

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

Research interests: transcriptomics, imaging

Sabina Kanton's dissertation research focused on brain development using single-cell transcriptomes. Prior to this, she studied biochemistry in a B.Sc. and M.Sc. 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
Postdoc (Biology) at the Hannover Medical School (MHH)

Research interests: heart muscle development, molecular biology

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, Netherlands, 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 modeling approaches. After his postdoc at MHH, he moved to a healthcare company in Denmark.

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

Research interests: mathematical modeling, plant physiology

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.

Add-on Fellows for Interdisciplinary Life Science

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Nico Lachmann

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

Research interests: mathematics, physiology, metabolism

Nico Lachmann studied biomedicine at the MHH and the Yale School of Medicine (USA). 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, as a professor, 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. He became a member of the Add-on jury.

Marc Leonhardt

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

Research interests: neurology, mathematics, physics

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.

Add-on Fellows for Interdisciplinary Life Science

Biena Mathew

Doctoral candidate (Bioinformatics) at Goethe University of Frankfurt

Research interests: imaging techniques

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 (DKFZ) in Heidelberg. Since finishing her doctorate, she has worked as a data scientist in industry.

Stefan Reich

Doctoral candidate (Biotechnology) at the University of Regensburg

Research interests: proteome, translatome, cancer research

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 translatomic, 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 biotechnology 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.

Add-on Fellows for Interdisciplinary Life Science

Christiane Körner
Doctoral candidate (Biochemistry) at the University of Leipzig

Research interests: molecular and metabolic sex differences, signal transduction

Christiane Körner (née 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
Postdoc (Physics) at the Charité University Hospital Berlin

Research interests: chronobiology, mathematical modeling

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 HU Berlin.

Add-on Fellows for Interdisciplinary Life Science

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

Research interests: systems biology, modeling of organ development (eye)

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-Prize. 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, Netherlands, where she is researching mechanisms of blood vessel formation.

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

Research interests: mammalian developmental biology, embryonic development modeling

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 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 Paris.

Add-on Fellows for Interdisciplinary Life Science

Miguel Valderrama-Gómez
Doctoral candidate (Biotechnology) at the Technical University of Munich

Research interests: metabolism, engineering

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
Doctoral candidate (Biology) at the Technical University of Munich

Research interests: mathematical modeling, project management

Sabine Wagner completed her doctorate in the field of systems biotechnology. There, she worked on understanding the boundaries and processes in a host cell during biotechnological production. Previously, she did her M.Sc. degree in industrial biotechnology at the TU Munich. The Add-on Fellowship allowed her to conduct research at Imperial College London, United Kingdom, and attend international conferences and workshops. The opportunity to build knowledge and contacts in a variety of fields helped her on her journey from academia to industry. She started as a project manager and was responsible for the planning and commissioning of biotechnology processes, leading the process development of the production of bioengineered spider silk and took the responsibility for setting up the production for a chocolate alternative with cocoa butter produced via yeast.

Add-on Fellows for Interdisciplinary Life Science

▶ Ansprechpartner
Dr. Philipp Giesemann
Projektmanager
+49 40 533295-70
pgiesemann(at)joachim-herz-stiftung(dot)de

Karin Liau
Projektmanagerin
+49 40 533295-97
kliau(at)joachim-herz-stiftung(dot)de