Add-on Fellows for Interdisciplinary Life Science Sixth Cohort

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Bahar Aksan

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

Bahar Aksan will become an expert in bioinformatical analysis of the cytoskeleton and dendrite dynamics in neurons. Bahar 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 specially 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

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 by join Hennig Group. She now uses her 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.

Stefan Bassler

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

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, 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.

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Sonja Blumenstock

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

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 Regensburg, having studied biochemistry and neuroscience. During her studies, she joined projects at the University of Arizona, USA, and the University of Bordeaux, France. She is now a Postdoc at the MPI of Neurobiology and Visiting Scholar at University of California, San Diego.

Vladyslav Bondarenko

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

Vladyslav Bondarenko became thrilled with embryogenesis. He applies bioengineering and a lot of 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!"

Robert Bücker

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

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, he developed methods of biological imaging at atomic resolution at the MPI for the Structure and Dynamics of Matter. After that, he now aims to apply those methods to amyloid systems through the support of the Add-on Fellowship.

Tom Burkart

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

Tom Burkart focuses in his thesis on modelling protein interactions and pattern formation. Previously, Tom studied physics at the LMU Munich. After finishing his master's 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. His current research topic is the "Modelling of mysosin VI clustering on lipid membranes".

Samuel Collombet

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

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 the computational Thieffry lab at ENS in Paris, and the experimental Graf lab at CRG in Barcelona, during which he used multi-omics integration and gene network modelling the mechanism controlling blood cell specification and reprogramming. He then joined the lab of Edith Heard at EMBL Heidelberg, where he is studying the interplay between chromosome organization and gene regulation during X chromosome inactivation.

Alexandra Damerau

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

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.

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Maximilian Eggl

Postdoc (Applied mathematics) at the Max-Planck-Institute for Brain Research in Frankfurt

Maximilian Eggl applies his mathematical skills to Neuroscience. Prior to that, Maximilian studied mathematics at Imperial College London from his bachelor's degree to his doctorate. After finishing his studies, he moved to Princeton University, 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. His current primary research topic is called "Model-based analysis of heterosynaptic plasticity".

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Nicolas Färber
Doctoral candidate (Physics) at the Universität Augsburg

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. Currently, he is investigating the topic of cell membrane permeability as part of his doctoral project at the institute of physics and the institute of theoretical medicine at the University of Augsburg. 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

Francisco García-Rosales currently works as a postdoc in the Auditory Computations Lab in the Goethe University, Frankfurt. His research 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.

Carina Groh

Doctoral candidate (Biology) at the Technical University Kaiserslautern

Carina Groh is applying mass spectrometry-based techniques to assess functional changes in the cellular proteome in the lab of Johannes Herrmann in the systems biology subgroup of 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.

Dorothee Günther

Doctoral candidate (Gene Therapy) at the Ernst Strüngmann Institute in Frankfurt

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. The biotechnologist completed her master thesis on the field of gene therapy for central nervous system at Lund Universitet in Sweden. She uses the Add-on Fellowship to gain deeper insights into bioinformatics, working with single cell transcriptomic data sets and machine learning.

Anne Helfen

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

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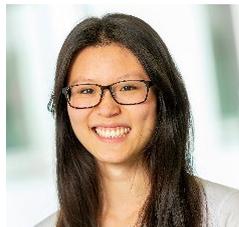
Yue Hu, alias Emy, is an expert in machine learning for biomedical questions. She studied biology at the TU Munich. In addition to molecular work in the laboratory, she also focused on the biostatistics and bioinformatics side of evolution, ecology, and populations genetics. Through the Add-on Fellowship,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

Barbara Huber

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

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 her current 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 would like to gain 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

Antonia Ibel works on disease modelling. Previously, Antonia completed her bachelor's degree in Nutritional Science at the University of Jena and, afterwards, she studied Toxicology as a master's 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 would like to gain a deeper insight into bioinformatical analysis and data management. Her current research topic is "Genome editing and disease modelling for hereditary kidney diseases".

Bethan Jenkins

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

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. While studying at King's, she spends a year in the Weizmann Institute 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

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 current 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.

Juliane Carolin Kade

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

Juliane Kade studied Biofabrication (Master's Double Degree) at the Würzburg University and Wollongong University (Australia). She spent 10 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 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 would like to gain a deeper insight into muscle cell work, as well as computational simulations. Her current research topic is "Electroactive polymers for (coaxial) melt electrowiting".

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Martin Klapper

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

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. In 2021, he was awarded the DECHEMA doctoral prize for natural product research. Through the Add-on Fellowship, he would like to gain deeper insights into bioinformatics and archeology. His current postdoctoral research topic is the "Revival of ancient genes from archeological records".

Alicia Lardennois

Postdoc (Developmental biology) at the Goethe-University Frankfurt

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 C. elegans embryonic elongation in a project at the interface of biology and physics. Now, 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, and cellular biology, pharmacological treatments, and innovative live imaging techniques, she aims to understand how these processes are coordinated in time and space.

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Sinikka Lennartz

Postdoc (Biogeochemical modelling) at the Carl von Ossietzky University Oldenburg

Sinikka Lennartz is a passionate oceanographer with a doctorate in the field of marine biogeochemistry, enjoying field work and modelling alike. Her current 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 modelling of the carbon cycle.

Klara Leonore Lesch

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

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Klara L. Lesch completed her studies in Biology at the University of Freiburg. During her studies, she was part of the iGEM-Team Freiburg in 2017 and 2019. Klara stayed in Freiburg for her doctoral thesis to investigate the dimerization of phytochromes using single-molecule imaging. She enjoys combining two drastically different fields, such as single-molecule microscopy and molecular plant physiology. Through the support of the Joachim Herz Foundation, she wants to deepen 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

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 and neurosciences at the Autonomous University of Madrid. Through the Add-on Fellowship he will learn more about graph theory, machine learning and mathematical modelling of animal behavior.

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Mozzamil Mohammed

Doctoral candidate (Ecological modelling) at the Carl von Ossietzky Universität Oldenburg

Mozzamil Mohammed research in the field of Mathematical and Theoretical Ecology. He received two master's 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 current research topic is the "A trait-based modelling approach applied to plant metacommunities".

Sebastian Onasch

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

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. For this he joined the lab of Julijana Gjorgjieva. 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 modelling studies.

Arne Sahm

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

Arne Sahm is a postdoc at the Leibniz Institute for Aging Research - Fritz Lipmann Institute (FLI) in Jena. 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. Research on the high longevity of rodents such as naked mole rats and gray mole rats and the underlying genetic mechanisms is currently part of his scientific work.

Theresa Schlamp

Doctoral candidate (Developmental biology and Biomechanics) at the Centre for Organismal Studies at the Ruprecht-Karl's-University of Heidelberg

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.

Vivien Schoonenberg

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

Vivien Schoonenberg focuses on the quantitative proteomics, in the lab of Falk Butter. Her current research topic is "Quantitative proteomics to decipher gene regulation". Previously, Vivien studied medical biology in Amsterdam and Nijmegen, Netherlands. During her master's program, she spent time in the lab of Henk Stunnenberg at the Radboud Institute for Molecular Life Sciences and in the lab of Daniel Bauer 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.

Lea Schuh

Doctoral candidate (Biomathematics) at the Helmholtz Centrum in Munich

Lea Schuh is a doctoral candidate in the lab of Carsten Marr, Helmholtz Zentrum München, where she 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 by joining the labs of Carsten Marr and Arjun Raj, University of Pennsylvania. Through the Add-on Fellowship, she would like to gain a deeper insight into experimental techniques to validate her computational findings.

Nico Sollmann

Postdoc (Medicine) at the Technical University of Munich

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 Bonn
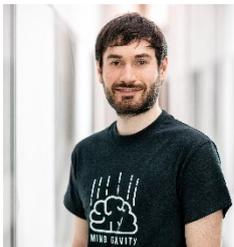
Johannes Striebel is a doctoral candidate at the University Clinic Bonn, where he is conducting research at the border of neuroscience and physics. From his studies in physics and nanoscience he moved to work on an interdisciplinary project where he wants to develop an approach to bottom-up neuroscience. 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.

Romy Thomas

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

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 wants to strengthen 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 (Life sciences) am European Molecular Biology Laboratory in Heidelberg

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, Netherlands. Through the Add-on Fellowship, he learns how to study functions of the human microbiome from a data-driven, systems biology perspective.

Adam Wahida

Doctoral candidate (Hematology and Immunology) at the Technical University Munich

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

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.

Gaukhar Zhurgenbayeva

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

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 Cellular 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 is now working on the project titled "Quantitative Imaging of Organ-on-Chip model".

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Rachel Zsido

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

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, where she investigated sex differences in fear conditioning and extinction in patients suffering from anxiety and post-traumatic stress disorder.

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