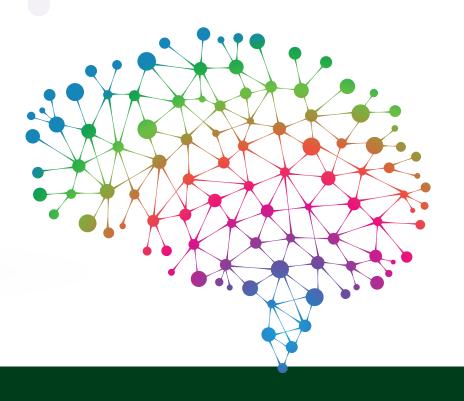
# THE LUNDBECK FOUNDATION INVESTIGATOR NETWORK

MEMBER PROFILES





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# Alexandra G. Mitchell

BSc, MSc, PhD





Position

Post Doc in the Body Pain & Perception Lab

Center of Functionally Integrative Neuroscience

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### **Personal and Research Statement**

I am a post-doc in Dr Francesca Fardo's Body, Pain and Perception Lab, where we are working to understand how the human brain responds to both veridical illusory experiences of pain and heat. I was educated in the UK and hold a BSc from The University of York, an MSc in Cognitive Neuroscience from UCL and, in 2019, obtained a PhD in Psychology from The University of St. Andrews. Prior to moving to Denmark, I worked in teaching and research roles at the University of Edinburgh, Scotland for three years where I studied how neurodegeneration affects visually guided actions and attention. My research currently focuses on brain-body interactions, where I aim to understand how experiences we consider painful affect how we sense and intact with our surroundings in both clinical and healthy populations. I use methods such as functional neuroimaging (fMRI), clinical research and experimental psychology to explore these questions. Outside of work, I am a keen runner, an average tennis player and an amateur painter.

# **Reasons for joining LFIN**

I joined LFIN to meet and interact with other early career researchers within Denmark. My work is highly multidisciplinary and benefits from collaborations with clinicians and basic research scientists, and I am keen to share and generate ideas with fellow likeminded researchers. I am also excited to contribute to and help further develop the excellent neuroscience community here.

# Alexander Sebastian Hauser

BSc, MSc, PhD





### **Position**

### **Assistant Professor**

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### **Personal and Research Statement**

I have a big interest in the integration of large biomedical data in genomics, structural biology, pharmacology, and health care combining innovative computational methods to gain insights into novel drug targets and human physiology. Since my PhD at the University of Copenhagen, I worked on G protein-coupled receptors and identified novel signaling systems through the computational prediction of putative peptide hormones. During a research stay at the MRC LMB in Cambridge, UK, I started working on the pharmacogenomics of drug targets. I am now using biobank data with the use of data science methods in the field of personalized medicine to predict better treatment outcomes for the mentally ill. Besides my work at the Department of Drug Design and Pharmacology, I am also affiliated with the Institute of Biological Psychiatry in Roskilde. I studied molecular biomedicine in Münster, Germany with research visits in Hyderabad, São Paolo, Helsinki, and Hamburg. I enjoy running and climbing with my partner and 2 children.

# **Reasons for joining LFIN**

I am interested in identifying new applications in the intersection between experimental techniques and human clinical applications by providing my data science expertise and domain knowledge on how to employ biobank data to gain insights on specific proteins involved in mental diseases, ultimately driving drug discovery and development.



# **Andrea Moreno**

**PhD** 





Position
Assistant professor
Dept. Molecular Biology and Genetics (Neurobiology), and
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**Aarhus University** 

### **Personal and Research Statement**

I have been working at Aarhus University for 5 years, first as a postdoc and now as an assistant professor. I have a BSc in Psychology and an MSc in Neuroscience by the University Miguel-Hernández (Alicante, Spain) and a PhD in Cognitive Neuroscience by the University of Edinburgh (UK). I have always worked in the field of learning and memory mechanisms, first in information propagation across brain-wide networks, and now in natural memory decay (i.e., forgetting). I have experience with fMRI, electrophysiology, optogenetics and behavioural experiments in rodents. At the moment I am investigating the synaptic changes associated to forgetting in mice.

One of the things I love about Denmark is its people's kindness and trust, and one of the most difficult things to adapt to has been the short daylight hours during wintertime (!). I like reading and painting, and I am passionate about science communication and outreach. I have always been fascinated by the intersection between art and science in different disciplines.

# **Reasons for joining LFIN**

I would like to establish collaborations with clinical researchers to start translational projects. I am especially (but not only) interested in performing memory tests in human subjects with pharmacological manipulations. I am also interested in learning 2P laser microscopy in vivo. I can offer my expertise with rodent models, optogenetics, electrical stimulation, memory formation and decay (at the molecular and synaptic level), aversive conditioning, and in vivo electrophysiology.



# **Anjali Sankar**

PhD





Position
Junior Faculty Member
Neurobiology Research Unit
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### **Personal and Research Statement**

I joined the Neurobiology Research Unit as junior faculty member in 2021. I did my PhD at King's College London (2015) and soon after moved to the United States for my postdoctoral training. Prior to moving to Denmark, I was at the Mood Disorders Research Program, Yale University, where I was involved in neuroimaging research of major depressive and bipolar disorders, first as a postdoctoral associate, and then as research faculty. My research involves utilizing functional magnetic resonance imaging and positron emission tomography to better understand brain functional alterations in individuals suffering from mood disorders. A key focus of my research is using neuroscientific evidence-based knowledge to identify targets for early diagnosis, treatment, and prevention of adverse outcomes, especially suicide in mood disorders.

# **Reasons for joining LFIN**

I am currently at a pivotal time in my career: performing research that will serve as a solid foundation for my research program, obtaining skills for independent research, actively pursuing grant funding, and participating in neuroscientific meetings and conferences which are instrumental in initiating collaborative work and expanding my research skill sets. I see my multimodal cross-disciplinary brain-behaviour approach to understanding the pathophysiological mechanisms and informing new treatments for mood disorders as consistent with the mission of the Lundbeck Foundation. Hence, I would benefit tremendously from being a member of the LFIN.





# **Anjali Sankar**

**PhD** 



Apart from the intellectual exposure and stimulation of conference participation, I would gain immeasurably from mentorship programs and training workshops that are designed specifically for early career scientists. The meetings will open doors to expert research advice from highly experienced scholars. It will also provide a platform for me to further develop multidisciplinary research skills as I will have the opportunity to learn directly from a group of experts whose collective research spans across basic, clinical and cognitive neuroscience, biostatistics, computer science, data and social sciences. These benefits are magnified by the LFIN's invitation to attend their neuroscience meetings and training workshops for four years, and to apply for dedicated seed funds that support much-needed collaborative projects.

In short, the LFIN promises excellent opportunities for training, career development, establishing collaborations, and initiating interdisciplinary projects via their dedicated seed funds. These are opportunities that would undoubtedly be transformative to me as a junior neuroscientist working towards independence and towards leading her own research team.



# **Anna Duncan**

PhD





Position
Tenure-Track Assistant Professor
Department of Chemistry
University of Aarhus

### **Personal and Research Statement**

I have just been hired as a tenure-track assistant professor at Aarhus, which is my first independent position. I am starting my group, which focuses on computational modelling of membrane organisation. My group will use simulations to understand how protein-protein and protein-lipid interactions in membranes of physiological complexity underpin the dynamic organisation of proteins and lipids at the mescoscale (100 nm – 1  $\mu$ m), thereby informing membrane function. I arrive to Aarhus from Oxford University, where I have been a postdoc in the group of Mark Sansom since 2014. My background is in Mathematics, the subject of my undergraduate degree, also at Oxford. I worked my way towards the life sciences, first with a Masters' degree in Chemoinformatics from the University of York, followed by my DPhil in the Mitochondrial Biology Unit, University of Cambridge.I am working remotely from Oxford until October this year, when I will move with my partner and one-year-old son to Aarhus. Playing with / cleaning up after my son seems to take up most of my spare time currently, but when I do have a moment I enjoy gardening and going for walks.

### **Reasons for joining LFIN**

I am really excited to be part of the LFIN, in particular to discuss with other researchers interested in neurological membranes. The type of simulations performed in my group can provide insight into molecular mechanisms of membrane proteins of known structure, thus collaboration with microscopists and structural biologists can be very fruitful. I am also keen to share experiences with other young investigators around the highs and lows of starting one's own group!



# Anna Mathia Klawonn

BSc, PhD





Position
Assistant professor
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### **Personal and Research Statement**

I am a behavioral neuroscientist focusing on uncovering the mechanisms of motivational and affective disorders.

I am originally a biochemist and molecular biologist from University of southern Denmark. I got my PhD from Linköping University on 'the molecular mechanisms of reward and aversion' and did my postdoctoral work at Stanford University with professor Robert C. Malenka (and am still an active member of the group).

I started the Circuits of Affective Neuroscience (CAN) Group, at University of Copenhagen, in the midst of the pandemic 2021. Currently, my group is working on finding new targets for treating and diagnosing major depressive disorder and Parkinson's disease, as well as chronic inflammatory conditions with affective comorbidities. We are among the few worldwide, who employ state-of-the-art neurocircuitry techniques for exploring (gut-to-)immune-to-brain mechanisms. My lab uses in vivo transgenic approaches in mice for circuit explorations (e.g. chemo-and optogenetics), in combination with techniques for identifying individual neural clusters and their input-output characteristics (e.g. CAVCre, rAAVs, RV-cTRIO, TRAP-technology in combination with iDISCO for whole brain activity mapping (collaboration with Boris D. Heifets, Stanford University), and behavioral assays for motor-behaviors, motivation and affective state.





# **Anna Mathia Klawonn**

BSc, PhD



### **Reasons for joining LFIN**

I am looking for collaborators who can help expand the search for neurocircuits and mechanisms responsible for affective disease - I hope we can uncover new territory together through technical and theoretical interchange.

I can offer my knowledge and expertise in in vivo models of affective disease using the techniques mentioned above. The recent progress in bioengineering techniques from Stanford University, is an example of how interdisciplinary collaborations benefit neuroscientific innovation. I hope the LFIN will be the future 'ThinkTank' for progressive neuroscientific ideas, technical and scientific advancement.



# Anna M. Zamorano

PT, PhD





Position
Assistant Professor
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Department of Clinical Medicine
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### **Personal and Research Statement**

I have a formal background in both physiotherapy and in behavioural and cognitive neuroscience. I performed my PhD between Spain (University of the Balearic Islands) and Germany (University of Tübingen), where I learned to design and perform cross-sectional behavioural, TMS, and fMRI studies on humans. My postdoctoral period started in 2017 at the Center for Neuroplasticity and Pain (CNAP, Aalborg University), where I obtained a postdoctoral fellowship from the Lundbeck Foundation. At CNAP, I further developed my skill-set by using EEG and TMS techniques in combination with experimental pain models. My main research interest is to elucidate whether the behavioural and neural pain perception of individuals may be altered as a function of use-dependent plasticity (i.e., sensorimotor training). The goal is to improve our understanding of the neurobiological mechanisms that link prior sensorimotor experience with the occurrence and maintenance of chronic pain in humans. In relation to this, I collaborate with the Center for Music in the Brain (Aarhus University) to investigate whether extensive sensorimotor training (i.e., musical practice) may enhance interoception, the sense of the body's internal state.

# **Reasons for joining LFIN**

One of my main motivations for joining the LFIN is to initiate new collaborations with researchers from other neurosciences disciplines. In particular, computational, clinical, and translational neuroscience. I intend to establish a multidisciplinary and intrinsically collaborative approach to pursue novel directions and more risky research avenues. Moreover, another important reason for joining the LFIN is to meet other scientists who could be interested in my expertise in music and pain neurosciences or my knowledge in behavioural testing, fMRI, EEG, TMS, and non-invasive brain modulation techniques in order to collaborate on new projects outside of my current background.



# **Beck Strohmer**

MSc, PhD (they/them)





**Position** 

**PostDoc** 

Neurorobotics Team, Automation and Control Group
Department of Electrical and Photonics Engineering
Denmark's Technical University (DTU)
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### **Personal and Research Statement**

I started at DTU after handing in my PhD in January 2022. I completed an MSc in Electronics Engineering and then a PhD in Neuromorphic Engineering at the University of Southern Denmark. My focus on computational neuroscience began during my PhD where I was using biological (spiking) neural networks to understand the underlying mechanisms of insect locomotion, completing my latest article in collaboration with neurobiologists at the Büschges Lab, Institute of Zoology, University of Cologne. After joining DTU, the application of my research has shifted to understanding the breakdown in locomotion observed in connection with Parkinson's Disease. The goal of my upcoming project, to be completed as part of the Neurorobotics Team led by Associate Professor Dr. Silvia Tolu, is to understand the correlation or causation of dopamine depletion experienced during PD and the neural circuit breakdown leading to walking impairments such as shuffling and freezing. Beyond my academic work, I was involved in starting a diversity in engineering initiative at my previous university and am currently trying to get involved with similar efforts at DTU.

### **Reasons for joining LFIN**

As my background is within electronics and neuromorphic engineering, my next project will require obtaining a significant amount of new knowledge within neurodegenerative diseases. I see this network as an opportunity to connect with researchers and clinicians to develop mutually beneficial collaborations. I believe my skills can be helpful to neuroscientists and clinical researchers that would like to test hypotheses in a controlled and reproducible manner using tightly constrained biological neural networks.



# Casper Søndenbroe

MSc, PhD-stud





**Position** 

PhD student

Institute of Sports Medicine Copenhagen, Bispebjerg Hospital Xlab, Department of Biomedical Sciences, University of Copenhagen Center for Healthy Aging, Department of Clinical Medicine, University of Copenhagen

### **Personal and Research Statement**

I handed in my PhD thesis in February 2022 and will hopefully defend it in May. I will then continue my work as a postdoc in the same group. I have a bachelor's degree in Sports Science (2016, SCIENCE, UCPH) and a master's degree in Physiology (2018, SUND, UCPH). I am investigating changes in the neuromuscular system during ageing, with a special focus on the influence of physical activity. We mostly do integrative work on human physiology and cell culture work using primary cells (human or animal). We have established a model of motor neurons obtained from primary rat embryos, which I hope will constitute the backbone of my research in years ahead.

# Reasons for joining LFIN

There were three main reasons for my desire to join LFIN. Firstly, being a muscle/exercise researcher "disguising" as a neuroscientist, participating in this network will likely put me in contact with potential collaborators. Here I hope to benefit from their extensive neuroscientific knowledge, and in return I can hopefully use our vast experience in human trials. Secondly, it will be fruitful to both plan and participate in high-level events with various focusses and objectives. I hope to be able to put my mark on these events. Thirdly, I believe that LFIN can push for more interdisciplinary research, something which there is already plenty of talk about, yet not enough action. I believe that complex biological systems cannot and should not be investigated from only a single perspective, and I will work towards having more people acknowledging this.



# Celia Kjærby

**PhD** 





**Position** 

Assistant professor, group leader

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### **Personal and Research Statement**

I recently started up my own research group at Center for Translational Neuromedicine at University of Copenhagen, where I focus on how arousal systems in the brain regulate sleep processes related to learning and memory. I use real-time in vivo imaging in freely moving mice taking advantage of newly developed fluorescent indicators for neuromodulators and modulate circuits using optogenetic tools. My previous work is based on a key interest in how cortical brain circuits shape behavior and how imbalance of the network can lead to neuropsychiatric disorders. I did my PhD at H. Lundbeck A/S, where I used slice electrophysiology to characterize a compromised inhibitory circuit in prefrontal cortex of a rodent model of schizophrenia. I then moved to United States for a post doc at UCSF, where I used genetically encoded indicators and optogenetic modulators to characterize prefrontal circuit deficits in rodent models of anxiety and autism. I returned to Denmark for my second post doc at Center for Translational Neuromedicine at University of Copenhagen, where I studied the role of astrocytes in brain state transitions focusing on sleep-wake and resting-arousal transitions.

# **Reasons for joining LFIN**

I hope to expand my network within the young neuroscience community to get new collaborations and input on how to improve project management and leadership skills. I work within the preclinical sleep and behavioural field, and would love to collaborate with clinical, data and societal scientists to increase the translational aspect of my research. In return, I can help with imaging in freely moving animals bridging the gap between in vitro based research and the clinic.



# **Christos Markos**

B.Eng., M.Sc. (distinction), PhD





Position
Associate Professor
Head of Neural Devices & Gas Photonics Group
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### **Personal and Research Statement**

I received my B.Eng. (Hons) in 2007 and M.Sc. (with Distinction) degree in 2008 from University of Liverpool in Electrical Engineering and Electronics. I continued my PhD studies at the National Hellenic Research Foundation, Theoretical and Physical Chemistry Institute, Athens and received my Ph.D. in Optics/Optoelectronics in 2013. My main research activities are broad within the field of optics/photonics and particularly in optical fiber lasers, soft glasses and multimaterial fiber optics towards development of novel neural interfaces and optoelectronic smart devices. I have joined and worked with several distinguished research groups in USA and Europe including the Multi-material Optical Fiber Devices Group in College of Optics and Photonics (CREOL), USA and Mid-Infrared Photonics Group in the University of Nottingham, UK among others. I have established 3 state-of-the-art laboratories at DTU Fotonik for glass chemistry, extrusion and optical fiber fabrication and 2 more labs dedicated for Neuro-photonics activities. My labs are focused on developing novel multifunctional neural devices and lasers for stimulation, recording and imaging of the neuronal activity of the central nervous system. I hold the position of Associate Professor, and I am heading the Neural Devices and Gas Photonics group at DTU Fotonik. I am a member of OSA, SPIE, IEEE societies and co-founder of NORBLIS ApS.

### **Reasons for joining LFIN**

The reason of joining LFIN is to establish new national collaborations within neuroscience and neurotechnology and move a step forward towards understanding of the major neurodegenerative diseases of the central nervous system. My lab can offer customised optical devices/sensors for the central but also for the peripheral nervous system, including light sources for neurostimulation, imaging and electrophysiology.



# **David Meder**

**PhD** 





Position
Research Fellow
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### **Personal and Research Statement**

I have broad interests in the neurobiology of reward and decision-making, both in health and disease. I like thinking about theoretical constraints on how the brain should compute decision variables, and then translating those ideas into experiments with Bayesian computational modeling. I have a Master's degree in Psychology from University of Jena, Germany and then did my PhD on computational neuroimaging, reinforcement learning and decision making here in Denmark at the DRCMR. After a PostDoc stay at the University of Oxford, I returned to Denmark, extending my research to Parkinson's disease. I am currently testing theories of reinforcement learning in patients with Parkinson's disease, imaging the small midbrain nuclei with an ultra high-field MR-scanner (7 tesla) in order to achieve highest possible resolution.

I am now a dual citizen of Germany and Denmark and I live in Copenhagen with my wife and three kids.

# **Reasons for joining LFIN**

First and foremost, I look forward to all the unpredictable interactions and ideas arising from this interdisciplinary network and the sharing of experiences and insights in soft-skills such as leadership or project-management.



# Elena Burlacu

PhD





Position
Postdoctoral Fellow
Department of Molecular Biology and Genetics
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### **Personal and Research Statement**

My scientific career has oscillated between two main fields of interest: RNA biology and molecular neuroscience. I did my PhD at The University of Edinburgh, UK, as part of the Wellcome Trust PhD programme in Cell Biology, where I studied RNA structural changes in ribosome biogenesis. I subsequently moved to The University of Oxford, UK, for my first postdoc. Here I used single cell sequencing based methods and iPSC derived neurons and microglia to model and study neuropathic pain and neuroinflammation. In 2019 I moved to Aarhus University, DK, where I started my second postdoc with the intention of studying the neuron-specific regulatory steps of RNA processing and turnover. More precisely, my current project focuses on studying RNA decay in embryonic neurodevelopment.

When I am not in the lab differentiating stem cells I enjoy cycling, playing the piano and watching Scandinavian-noir TV series.

# **Reasons for joining LFIN**

I am looking for opportunities to meet other scientists interested in looking at neurodevelopment through the lens of gene expression regulation. I am always interested in discussions about RNA-binding proteins or RNA turnover and I am happy to share my experience with bulk or single cell sequencing methods as well as stem cell models of neurons and microglia.



# Gilles Vanwalleghem

MSc, PhD





Position
Assistant Professor in Neurobiology
Team leader at DANDRITE, Nordic-EMBL Partnership for Molecular Medicine
Department of Molecular Biology and Genetics
Aarhus University

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### **Personal and Research Statement**

I have been working at Aarhus University since October 2021 as an assistant professor. I have a Master's in Molecular Biology and a Ph.D. from the Université Libre de Bruxelles. During my PhD, I worked on an African parasite, Trypanosoma brucei, and studied how it interacts with its mammalian host, this gave me expertise in immunology and host-pathogen interactions.

My involvement with neuroscience started in 2014 when I did a postdoc at the University of Queensland (2014-2021) to study how larval zebrafish sense their environment. After working with most senses of the zebrafish (vision, audition, vestibular, water flow), I switched my focus on the enteric nervous system. I am now a group leader at Aarhus university, where I will study the gut-brain axis. My lab uses in vivo functional imaging of larval zebrafish to understand how the enteric nervous system reacts to changes in the gut, and how it can regulate the microbiome through the immune system.

Outside of the lab I enjoy nature walks or biking, board games and scuba diving.

# **Reasons for joining LFIN**

I am looking for collaborators as my research interests around the gut-brain axis are highly interdisciplinary, we work at the interface between microbiology, immunology, and neuroscience; but I also have plans to include optical physics. Systems neuroscience also depends on data science and mathematics to make sense of the large amounts of data generated. I would of course gladly share my own expertise and experience in those topics, and with zebrafish and imaging. Furthermore, I think having a network of peers to bounce ideas around and support each other will improve our science and chances at getting funding. It will also be useful to provide and receive mentoring on career choices both within and outside of academia.



# Lasse Christiansen

BSc, MSc, PhD





**Position** 

### **Research Fellow**

Danish Research Centre for Magnetic Resonance, Centre for Functional and Diagnostic Imaging and Research, Copenhagen University Hospital Amager and Hvidovre

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### **Personal and Research Statement**

I use non-invasive brain stimulation and neuroimaging to perturb and measure central nervous activity in humans. My goal is to develop stimulation protocols where we get as close as possible to the mechanistic specificity known from invasive stimulation in animals. In part to gain insight into the neural control of movements in humans, but even more so to explore the possibility of inducing long-lasting, beneficial changes in neural activity within central nervous networks. I am intrigued with the clinical potential of scaling cellular models of neural plasticity to the network level, but I also believe much is to be gained from studying the molecular and cellular underpinnings of circuit changes observed in humans.

# **Reasons for joining LFIN**

LFIN constitutes an ideal platform to establish collaborations furthering translational research. I look forward to sparring and brainstorming with equal minded researchers. I hope to take part in discussions that will spur new ideas and collaborations.



# Lau Møller Andersen

**PhD** 





Position
Assistant Professor
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### **Personal and Research Statement**

I am early-career scientist now based at Aarhus University after most recently being employed at The Karolinska Institute. My current research revolves around the cerebellum and its role in building sensory predictions for the near future using magnetoencephalography. In terms of the bigger picture, I am trying to dispel two misconceptions, 1) that the cerebellum is a "reptile brain", not doing anything interesting in terms of cognition, 2) that the cerebellum is impossible to measure and image with non-invasive neurophysiological and neuroimaging methods such as electro- and magnetoencephalography and functional magnetic resonance imaging.

I have an interdisciplinary background with a bachelor's degree in Philosophy and Linguistics from Aarhus University, a master's degree in Brain and Cognitive Sciences from the University of Amsterdam and a Ph.D. from Aarhus University in Neuroscience. Currently I am funded by the Lundbeck Foundation and the Aarhus Institute of Advanced Studies. In 2024 I will transfer to a tenure-track assistant professorship at the Department of Linguistics, Cognitive Science and Semiotics, where I will be a part of the Cognitive Science programme.

When not researching, I am an active Taekwondo practitioner, and I am the chairman of Aarhus Taekwondo Club.

# **Reasons for joining LFIN**

The prospect of connecting with researchers outside and within neuroscience is highly motivating and appealing. As is only natural, my research and expertise has narrowed over the past few years. Now is a perfect time to broaden my views and explore how connections and collaborations between other disciplines can enhance my own work. I am therefore excited by the prospects of meeting biannually and in helping The Lundbeck Foundation Investigator Network become a great success. I would especially be interested in collaborating with other researchers of the cerebellum, both human and animal researchers.



# Louise Birkedal Glenthøj

DrMSc, PhD





### **Position**

Associate professor and head of research program on Psychotherapy and Cognition

Copenhagen Research Centre on Mental Health, Mental Health Centre Copenhagen, University of Copenhagen Gentofte Hospitalsvej 15, 4., DK-2900 Hellerup

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### **Personal and Research Statement**

I have a master's degree in psychology from University of Copenhagen, Institute of Psychology. I obtained my PhD and DrMSc degree at the University of Copenhagen, Department of Clinical Medicine. Additionally, I have a clinical specialization in adult psychiatry and psychotherapy.

Prior to engaging in research, I worked as a clinical psychologist in the Mental Health Services in the Capital Region of Denmark. Since 2014 I have conducted research in the psychosis population. Initially as a PhD-student (2014-2017), subsequently as a postdoctoral fellow. From 2020 I have been heading a research program on psychotherapy and cognition in psychiatric disorders at Mental Health Centre Copenhagen. My research group is interdisciplinary comprising psychologists, medical doctors, and research nurses. My research focuses on using new digital technologies, primarily virtual reality, to optimize the treatment of severe mental disorders. Additionally, I incorporate biomarkers (e.g. eye tracking) to assess treatment response and as a tool that may aid in potentially subgrouping selected psychiatric populations.

# **Reasons for joining LFIN**

Conducting research within the combined field of psychology and psychiatry, I aim at expanding my research focus incorporating a more basic neuroscience perspective (e.g. MRI measures) that can inform my research's mainly clinical perspective. I would therefore welcome collaboration with researcher within the field of clinical research imaging.



# **Mathias Lysholt Mathiasen**

**PhD** 





Position

Postdoc researcher

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### **Personal and Research Statement**

I obtained my PhD from the Kavli Institute at NTNU in Trondheim (Menno Witter group) after which I was employed as a postdoc at the Behavioural Neuroscience Laboratories at Cardiff University (John P. Aggleton group) (2015-2021). After spending a year at Copenhagen University, studying the prenatal development of the human entorhinal cortex, I will move to a new position at the Danish Research Centre for Magnetic Resonance (DRCMR) at Copenhagen University Hospital in May 2022.

Thematically, a major research interest of mine is the functional deconstruction of circuits involved in spatial navigation and learning and how these circuits and regions differentially contributes to the function of the episodic memory system. My background is in neuroanatomy and I have extensive experience in tract-tracing techniques, 'classical' as well as more advanced viral-vector based tracing methods. Additional expertise involves chemogenetics and behavioural testing. At DRCMR I will take further advantage of these methods as I embark on a project that aims to combine optogenetic and chemogenetic circuit modulation with functional MRS/MRI in rodents.

# **Reasons for joining LFIN**

I am very motivated to extend my scientific network in Denmark and I am searching to be part of further multidisciplinary collaborative projects. Of particular interest is interdisciplinary approaches to pathway tracing, as well as projects where my neuroanatomy skills can contribute to more functional or biomedical oriented research programs.



# Melissa Larsen

MSc, PhD





Position

Postdoctoral Researcher

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### **Personal and Research Statement**

I am a postdoctoral researcher at the Danish Research Centre for Magnetic Resonance where I am leading the developmental psychiatry group. I have a background in biomedical engineering from DTU and have since the start of PhD been fascinated by the brain and psychiatric disorders. Especially with a focus on the processes in the brain that go awry when symptoms start to develop. Since my PhD in 2017 I have been a postdoctoral researcher at the Queensland Brain Institute in Brisbane, Australia where I joined the computational psychiatry and cognitive neuroscience lab. I returned to DRCMR in 2019 and have been a group leader of the developmental psychiatry group since 2021.

Our group focuses on multi-disciplinary neuroscience research and use multi-modal neuroimaging techniques to elucidate the complex relationships between brain, body, cognition, and mental health and how these relationships are modulated by environmental and biological factors.

# **Reasons for joining LFIN**

Networking with people from multiple disciplines fosters new ideas. This is my main drive for joining this network together with the unique possibility to expand my research network within Denmark.

I am really interested in engaging in collaborations that could help bridging the neuroscience within psychiatry and clinical applications. As a collaborator, I offer experience managing multidisciplinary projects. Further, I offer experience within EEG, fMRI together with computational modelling.



# **Mette Habekost**

MSc, PhD





**Position** 

### **Postdoctoral Researcher**

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### **Personal and Research Statement**

I am a postdoctoral researcher at Lund University (Sweden) and am running the direct in vivo reprogramming studies in Professor Malin Parmar's laboratory. I have a master's degree and Ph.D. in Biomedicine from Aarhus University (2016 - 2020). Here my focus was to develop in vitro model systems for investigating early causative mechanisms in Alzheimer's disease using human and porcine pluripotent stem cells and the reprogramming of these and fibroblasts directly into neurons. In my postdoctoral studies, I use human stem-cell based in vitro models and pre-clinical human glia chimeric rodent models to develop strategies for turning human glia directly into subtype-specific neurons within the brain. The aim is to generate dopaminergic neurons because of their therapeutic potential in Parkinson's disease. My expertise accordingly includes many experimental systems and molecular biology techniques including transcriptomics, stem cell programming/reprogramming, viral vector design, and delivery into CNS.

On a personal note, I live in Copenhagen with my other half, Asger. I prefer to spend my free time outdoors enjoying the Danish/Swedish nature, preferably in company with friends and family. I love mountain biking, hiking, and skiing and have recently added padel tennis to that list.

# **Reasons for joining LFIN**

I joined LFIN to expand my professional network and to connect with the neuroscience community. I want to become an active and engaged member to strengthen my professional skills, challenge my knowledge, and combine my expertise with the next generation of neuroscientists to explore new and existing research questions.



# Mona Ameri Chalmer

MD, PhD





Position
Postdoctoral fellow
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### **Personal and Research Statement**

I have been affiliated with the Migraine Genomics Group since 2014. I have a medical degree and Ph.D. from University of Copenhagen. My main research areas are headache classification and genetics. I am responsible for the clinical supervision and recruitment in the Migraine Genomics Group. The group is a translational research group consisting of bioinformaticians, geneticists, statisticians, neuroscientists, and physicians. My group works to understand the genetic background of migraine and other primary headaches, using both clinical data, genotype data, and wholegenome sequencing data. Our closest collaborators are deCODE Genetics, the Danish Blood Donor Study, and the International Headache Genetics Consortium.

# **Reasons for joining LFIN**

I enjoy working interdisciplinary together with researchers with other backgrounds than myself. This is also why I founded the Young Researcher Forum in Rigshospitalet, which aims to strengthen networking and collaboration across clinical and basic science groups in the Neurological department. With the LFIN, I also hope to join and help create an interdisciplinary and inclusive space, that will facilitate long-term friendships and collaborations. I want to join the LFIN, as I think it will be a space that is collegial and diverse, which will facilitate creative thinking and genuine career support. For future collaborations, I can among other things offer experience in working with international consortia, establishment of large cohorts, translational research, and big data research.



# Naveed ur Rehman

BSc, PhD





Position
Assistant Professor
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### **Personal and Research Statement**

I joined Aarhus University as a tenure-track Assistant Professor in 2020, where I lead a research group on nonstationary signal processing. I have a bachelor's degree in electrical engineering from Pakistan and a Ph.D. from Imperial College London, UK. I possess more than 10 years of experience in delivering cutting-edge scientific research in the field of signal processing and its applications, through leading research groups of up to a dozen postgraduate students (including 3 successful PhDs).

Specifically, my research interests lie in the development of nonstationary and multiscale signal processing (and time-series) algorithms, machine learning and their applications in neuroscience, biomedical engineering and green energy. My research group develops novel mathematical representations of complex and multidimensional data sets to extract their hidden features and patterns to facilitate accurate decision-making. Many of our developed algorithms are very high-impact, finding interdisciplinary applications, including in the field of neuroscience.

I am a proud father of 3 boys and love running, cycling and playing squash.

# **Reasons for joining LFIN**

I anticipate that being part of the LFIN will provide a platform for regular interaction with neuroscience experts and enthusiasts, resulting in meaningful discussions and better understanding of the challenges in the field. This will hopefully provide opportunities to develop a network of collaborators, with the shared interest and aim of addressing a pressing challenge in the neuroscience field. As a collaborator, I will bring my vast experience in extracting value from complex data via signal processing, data science and machine learning-based approaches.



# Navneet A Vasistha

M.Sc, D.Phil





Position
Assistant Professor
Biotech Research and Innovation Center
University of Copenhagen
DK-2200 Copenhagen

### **Personal and Research Statement**

I am an assistant professor at BRIC studying how faulty development of the brain due to genetic or environmental factors lead to severe psychiatric disorders. I have a master's degree in Genetics from University of Delhi (India) and a D.Phil in Neuroscience from University of Oxford. Prior to coming to Copenhagen, I was a research fellow at the University of Edinburgh. My expertise ranges from mouse and human models of psychiatric disorders, single-cell transcriptomics, histology, and neuronal function.

I am currently focussing on how inflammation can negatively affect the development or maturation of neuronal circuits and lead to disorders such as schizophrenia and autism.

# **Reasons for joining LFIN**

I am interested in collaborating with immunologists/microglia biologists who are interested in studying the role of the immune system in brain development and maturation.

I would be happy to offer my expertise in neurodevelopment and single-cell methods to understand neuroimmune crosstalk.

I am also looking for co-organizers to plan and hold a 2-day symposium to bring together neurodevelopment biologists from across Scandinavia. Those interested are welcome to get in touch.

# Ole Köhler-Forsberg

MD, PhD, DMSc





Position
Clinician and Post.Doc.
Psychosis Research Unit
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### **Personal and Research Statement**

I'm from Germany where I attended a Danish school. I moved to Denmark in 2005 and started my medical studies at Aarhus University in 2008. In 2012, I did a pre-graduate research year, which started my interest in psychiatric research. Since then, I've been affiliated with Aarhus University Hospital Psychiatry, where I also did my PhD (finished in 2019) and doctoral dissertation (in 2021).

My research interests concern the aetiology and pharmacological treatment of the most severe mental disorders, particularly schizophrenia and affective disorders, including the comorbidity with medical diseases, particularly immune-related and cardiometabolic diseases. I have performed several epidemiological studies and meta-analyses and am responsible for ongoing clinical trials on antipsychotic treatment for schizophrenia and lithium treatment for bipolar disorder.

I have several established collaborations on a national and international level, primarily in Boston, USA, Reykjavik, Iceland, and Berlin, Germany, and I have performed foreign research stays at all these places to extend the collaborations.

In addition to my research work, I work clinically as an MD. I have several years of experience from psychiatric and medical departments and are specializing as a psychiatrist.

### Reasons for joining LFIN

Meet new people, get inspiration from other research areas, start new collaborations. It would be great if the LFIN initiative could result in new collaborations including common grants. I have an expertise in pharmacoepidemiological studies on the Scandinavian registers, meta-analyses within several areas of psychopharmacological treatment, and conducting and analysing clinical trials. Particularly the latter, for example collecting blood tests from patients with severe mental disorders, represent possibilities for new data material and collaborations.



# Patrick M. Fisher

**PhD** 





Position
Senior Researcher
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### **Personal and Research Statement**

I am a Senior Researcher and Multimodal Neuroimaging Group Leader at the Neurobiology Research Unit at Rigshospitalet in Copenhagen, DK, where I have worked since joining as a post-doctoral researcher in 2011. I completed my PhD in Neuroscience at the Center for Neuroscience and Center for the Neural Basis of Cognition at the University of Pittsburgh in the US. I am interested in mapping neural mechanisms onto neuropsychiatric illness, treatment response and related behavioral phenotypes. My research applies in vivo human functional imaging (BOLD fMRI, pcASL, PET) to establish complementary functional and molecular imaging phenotypes. We use human brain imaging tools to identify imaging markers associated with major depressive disorder and predictive of antidepressant treatment response. A core element of my research aims to elucidate the functional and molecular pathways in the brain that support acute and lasting clinical and behavioral effects of serotonin psychedelics such as psilocybin.

# **Reasons for joining LFIN**

I see LFIN as a great opportunity to strengthen the Danish neuroscience community by facilitating the sharing of knowledge and research ideas. I look forward to LFIN reinforcing existing translational as well as clinical collaborations and helping to establish new research partnerships that leverage complementary skill sets to produce high-quality research.



# **Per Qvist**

MSc, PhD





### **Position**

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### **Assistant Professor**

Aalborg University
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### **Personal and Research Statement**

I am a research scientist with a background in neuro-genetics and functional genomics. I obtained my degree from Aarhus University (AU) in 2014, and I have been affiliated to AU and the Lundbeck Foundation Initiative for Integrative Psychiatric Research (iPSYCH) for the majority of my post-graduate career. The goal of iPSYCH is to delineate the etiopathology of psychiatric disorders through identification and characterization of genetic and environmental risk factors - and it remains among the world's largest studies of its kind. My contributions has mainly involved bioinformatics ranking, evaluation and functional molecular characterization of identified risks using cell and animal models, along with in silico integration of generated data with clinical and non-clinical data resources.

I currently serve as a MC member and PI on a H2020 COST action (CA18106) dedicated to characterize the neural architecture of consciousness - primarily through extensive brain imaging, and behavioral profiling of thousands of young, healthy volunteers. Supported by a recent Lundbeck Foundation Experiment grant, my aim is to add genetic and blood metabolomic profiles to this COST action, and transform data into a deep phenotyping resource intended for exploration of trait-association molecular signatures in precision psychiatry.

# **Reasons for joining LFIN**

My academic career has benefited enormously from being a member of the iPSYCH research community, and most of my scientific achievements have only been possible through cross-disciplinary collaborations. My main interest in joining LFIN is thus to broaden my network, acquire new skills, develop innovative research ideas and hopefully co-write splendid grant applications with fellow LFIN members.



# Stella Graßhof

Dr.-Ing. (equivalent to Ph.D.)





Position
Postdoc
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### **Personal and Research Statement**

My research focuses on the area of Machine Learning applied to human faces and bodies, where my main interest is to contribute my knowledge to benefit the individuals in society. Specifically, I aim to do this by investigating how information about mental and physical health can be extracted from images and videos. This interest has only grown during the Corona pandemic, which affected the mental health of many very negatively, hence increased the demand for therapists, while access to those professionals has become more and more of a challenge.

Therefore, my goal is to unveil relationships between human data and the mental and physical health of the recorded individuals, such that an early detection or successful therapy can eventually follow.

I earned my Master degree in "Computational Life Science", and hence have an interdisciplinary background in Mathematics (50%), Computer Science (25%), and Life Sciences, i.e. Biology, Chemistry and Physics (25%). During my PhD I intensified my focus on Mathematics and Computer Science, and chose to research on human faces, leading to my PhD thesis "Expressive Personalized 3D Face Models from 3D Face Scans".

Currently, I am working as a Postdoc in the Machine Learning at the IT University of Copenhagen since August 2019, where I research, give lectures in Advanced Machine Learning (Master Program of Computer Science), and supervise student projects, including co-supervision of two PhD students.





# Stella Graßhof

Dr.-Ing. (equivalent to Ph.D.)



### **Reasons for joining LFIN**

In this network I aim to find collaborators, who share my interest in analysis of faces and bodies to derive information about physical and mental health. I am looking forward to share my knowledge and join forces to work towards a joint goal.

Currently, I am aware of different options how to achieve this:

- (1) There is research which found a connection between spontaneous facial expressions and speech with individuals' mental health.
- (2) There is research which investigates physical changes in the brain and their relation to mental health.

I would be thrilled to work on any of the two points or receive further suggestions by network members.



# **Tommi Anttonen**

**PhD** 





Position
Lundbeck Postdoctoral Researcher
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### **Personal and Research Statement**

My research focus is in auditory neurobiology. The auditory system is an excellent platform to study basic biological questions on molecular, synaptic, cellular, and integrative levels. Moreover, hearing deficits are a growing problem in the human population – the majority of cases of hearing loss lack any cure or possibility of medical intervention. The requirement for basic and translative research of the auditory system is therefore immense.

In my PhD work at University of Helsinki, I studied the development of the mouse inner ear and the cellular mechanisms of noise- and ototoxic drug-induced hearing loss. At MPI for Biophysical Chemistry, my research focused on the synaptic physiology of auditory receptor cells. After moving to Denmark, I first studied the pathological effects of perinatal hypoxia in piglets and later characterized a novel mouse model of a deafness syndrome at Aarhus University.

Having worked in multiple laboratories in the field of auditory neuroscience, I have acquired a strong methodological background that allows me to study biological events from the molecular and synaptic level to the systems level and behaviour in various mammalian and non-mammalian research models. At the University of Southern Denmark, I am currently establishing zebra finches as a model to study the mechanisms of hearing regeneration.

# Reasons for joining LFIN

**Offering:** Perhaps your basic research question could be best studied in the auditory system? Wondering if your research animal model can hear well or has hearing loss? Is your gene of interest important for hearing? Could the drug that you study be ototoxic or -protective? Let's collaborate and find out the answer to these questions together!

**Looking for:** I am looking for collaborators that have expertise in single cell omics as I am interested to include patch-seq approaches to my future research.



# **Trine L. Toft**

### Ph.D., Assistant professor





Position

Assistant professor

Department of Neuroscience

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Faculty of Health and Medical Sciences

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### **Personal and Research Statement**

I am an assistant professor at Dept. of Neuroscience, University of Copenhagen (UCPH) and my research focuses on dysregulated brain water production and the consequences of this.

I have a BSc in Biology, an MSc in Molecular Biomedicine, and a Ph.D. in Neuroscience (from UCPH), and have been involved in neuroscience research since 2008.

Our lab uses in vivo experimentation in rats and mice, whole animal live imaging, ex vivo radioisotope flux measurements, electrophysiology, and molecular biology to understand the molecular mechanisms underlying water homeostasis in the mammalian brain under both physiological and pathophysiological conditions.

# **Reasons for joining LFIN**

Many systems or phenomena within neuroscience can be investigated at different levels and from different points of view, given their multidimensional nature. With complex and intractable issues comes the need for involving several disciplines, and often collaboration is critical to good science (and innovation); particularly as new technologies require increased cross-functional work between researchers. Bringing together scientists from different disciplines with their expertise and resources in a network like the Lundbeck Foundation Investigator Network will provide me, us, with the possibility of cross fertilizing each other, providing insights and developing new, synthetic views within Danish neuroscience - and thus possibly new collaborations.



# Vanessa Wiggermann

Dipl Phys, PhD





### **Position**

### **Postdoctoral Research Fellow**

Danish Research Centre for Magnetic Resonance (DRCMR) Centre for Functional and Diagnostic Imaging and Research Copenhagen University Hospital, Amager and Hvidovre Kettegård Allé 30, DK-2650 Hvidovre

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### **Personal and Research Statement**

I came to Denmark and joined the Danish Research Centre for Magnetic Resonance (DRCMR) in 2020. I completed my undergraduate and graduate studies at the Otto-von-Guericke University, Magdeburg, Germany, and thereafter obtained my Ph.D. in physics from the University of British Columbia, Vancouver, in beautiful British Columbia, Canada. I have worked in the field of magnetic resonance imaging (MRI) applied to multiple sclerosis (MS) for over 10 years, developing and exploring novel MRI markers that can help us to better characterize pathophysiological changes in MS, to ultimately improve individual patient monitoring and treatment.

Currently, I am using the powerful 7T MRI scanner at DRCMR to study primary-progressive MS, a severely affected subgroup of MS patients. New prospective biomarkers are urgently needed to establish why some people follow this disease course and to predict their disease progression.

# **Reasons for joining LFIN**

Joining LFIN is an exciting opportunity to partake in an international, cross-disciplinary network with the next generation career scientists. I expect we will build a strong mutual support and collaborative community of early career researchers in Denmark. I look forward to the networking and training opportunities, particularly training regarding strategic workload handling and team management. With my background in neuroimaging, I am happy to collaborate and provide expertise to others that are interested in using imaging, MRI in particular, in their research. I also want to strengthen multiple sclerosis (MS) research at DRCMR, and therefore look forward to collaborating with others in the field. Finally, I am curious to hear about equity, diversity and inclusion initiatives at other centres and departments.



# Zakaria Djebbara

**PhD** 





Position

Postdoc

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### **Personal and Research Statement**

I hold a Ph.D. from Aalborg University in the interdisciplinary fields of philosophy, architecture, and cognitive neuroscience. My research revolves around questioning how the built environment contributes, for better or worse, to human behaviour and cognitive capacities. From my stay at Biopscyhology and Neuroergonomics, Technical University Berlin, I combined Virtual Reality and mobile EEG to better understand the underlying relationship between early perceptual processes and motor behaviour. I have now taken the next step at the Wellcome Centre for Human Neuroimaging, University College London, where I attempt to model the brain when the built environment, through thalamic transmission in combination with motor and visual circuits, alters human behaviour and cognition. When I am not experimenting with different spaces, I enjoy painting, reading, and exercising. And when time permits, I enjoy traveling the world with my wife.

# **Reasons for joining LFIN**

As I strive to develop naturalistic experimental paradigms, I am challenged by the quality of the signal, which I try to overcome by combining both signal processing techniques as well as various modelling techniques. I would love to link up with researchers with an expertise in modelling. I can offer programming naturalistic paradigms, mapping phenomenology to generative models, and applying sophisticated signal processing tools for interpreting noisy data of the mobile human brain.

