



Scientific interests

My overall scientific interest is to understand how the immune system affects the sleep regulating networks of the brain. I am particularly interested in the hypocretin system, its involvement in sleep-wake neurophysiology and how it is affected by immune stimuli. In the neurologic sleep disorder narcolepsy, the hypocretin (hcrt, a neuropeptide also known as orexin) producing neurons in hypothalamus are lost, due to what is hypothesized to be an autoimmune attack on the neurons. I have studied the details of the possible neuron-immune system interaction using patient samples, primary neuronal cultures, and animal models. My current research is focused on elucidating the role of the hypocretin neurons in the sickness response, and for this I use animal models, in vivo electrophysiology, molecular biology tools and single cell RNA sequencing.

Occupation

2019-	Associate Professor (tenured), Department of Neuroscience, University of Copenhagen
2018-	Founder and vice president Translational Pharmacology, Ceremedy ApS, biotech company.
2018-2019	Associate Professor (non-tenured), Department of Neuroscience, University of Copenhagen
2017-2018	Assistant Professor, Center for Basic Metabolic Research, University of Copenhagen, Denmark
2015-2017	External Associate Professor (teaching), Faculty of Health and Disease, University of Copenhagen, Denmark
2012-2107	Senior researcher and group leader (PI), Molecular Sleep Laboratory, Department of Clinical Biochemistry, Rigshospitalet, Glostrup Denmark.
2009-2012	Post doc, Stanford Center for Sleep Sciences, Stanford University, California, USA.
2005-2009	Ph.D.-student, Neurobiology Research Unit, Rigshospitalet, Copenhagen, Denmark.
2007-2008	Visiting scientist, Deniz Kirik Lab, Wallenberg Neurocenter, Lund University, Sweden.
2003-2004	Research assistant, Neurobiology Research Unit, Rigshospitalet, Copenhagen, Denmark.

Maternity leave

2006	8 months (April 1st – December 4th)
2008-2009	9 months (April 19th 2008 – January 31st 2009)

Education

2009	Ph.D., Graduate School of Neuroscience, University of Copenhagen (October 29th 2009) Supervisor: Professor Gitte Moos Knudsen, MD, PhD
2003	M.Sc., Human Biology, University of Copenhagen
2000	B.Sc., Chemistry, Technical University of Denmark

Awards and honours

2021	Nominated for University of Copenhagen Innovation Award
2021	Lundbeck Foundation Ascending Investigator Award
2020	Nominated for University of Copenhagen Innovation Award
2020	Carlsberg Foundation Young Researcher Fellowship
2016	Invited for 2 nd stage interview in ERC starting grant evaluation. Final score “A” but outside funding range (top 5% of all applicants).
2015	Elected member of The Royal Young Academy of Denmark (8 members elected/year across all disciplines – humanities, social and natural sciences)

- 2013 Lundbeck Foundation Fellowship Award
- 2011 **Young Investigator of the Year Award**, American Association of Sleep Medicine
- 1997 Study fellowship, Pretzmann Aggerholms Legat
- 1996 Best graduating student of the year, Kolding High School
- 1995 Representative for Denmark at the International Mathematical Olympiad, Toronto

Grants and fellowships

- 2021 Lundbeck Foundation Ascending Investigator grant (5 mio DKK). Solo PI.
- 2020 Carlsberg Foundation Young Researcher Fellowship (4.5 mio DKK). Solo PI.
- 2020 Simon Fougner Hartmanns Familiefond (500 DKK). Solo PI.
- 2019 Pre-seed grant (3.5 mio DKK), Novo Seeds. Co-PI.
- 2019 Lundbeck Foundation Grant (10 mio DKK). Co-PI.
- 2019 Project 1 grant (2 mio DKK), Danish Medical Council. Solo PI.
- 2018 Pre-seed grant (3.5 mio DKK), Novo Seeds. Main PI with 2 co-PIs
- 2018 DFF-ERC grant (250 KDKK), Danish Medical Council. Solo PI.
- 2018 Project collaboration (500 KDKK), NEVSOM, Oslo. Co-PI
- 2017 Project 1 grant (2 mio DKK), Danish Medical Council. Main PI with 1 co-PI.
- 2017 UCB Pharma S.A., investigator driven project (370 KDKK). Solo PI.
- 2017 Augustinus Foundation (200 KDKK). Solo PI
- 2016 RegionH TechTransfer proof-of-concept grant (400 KDKK). Main PI with 1 co-PI.
- 2015 UCB Pharma S.A., investigator driven project (440 KDKK). Main PI with 1 co-PI.
- 2015 Augustinus Foundation (100 KDKK). Solo PI.
- 2014 Toyota Fonden (100 KDKK). Solo PI
- 2013 Carlsberg Foundation grant (400 KDKK). Main PI with 1 co-PI.
- 2013 Marie Curie Career Integration Grant (750 KDKK). Solo PI.
- 2012 Lundbeck foundation 5-year Fellowship (10 mio DKK). Solo PI
- 2012 2-year research grant (2 mio DKK), Danish Medical Council. Main PI with 2 co-PIs.
- 2009 3-year post doc fellowship (2 mio DKK), Danish Medical Council. Solo PI.
- 2005 Ph.D.-stipend (1.8 mio DKK), University of Copenhagen
- 2003 Research grant (80 KDKK), Augustinus Foundation

Innovation and industry connections

- Founder of spin-out company Ceremedy Aps.
- 3 filed patent applications.
- Ad hoc advisory tasks for Jazz Pharmaceuticals, UCB Pharma, Lundbeck, Gubra
- 2020- Scientific Advisory Board, Orexia Therapeutics

Invited talks and oral presentations

Keynote speaker:

7th Nordic Narcolepsy Meeting, Oslo, Norway 2020

Title: "Narcolepsy after H1N1 - 10 years in review."

9th Congress of the International Society of NeuroImmunoModulation, Belgium 2014

Title: "Narcolepsy - an autoimmune disease"

Invited participant and speaker at small closed expert meetings:

The Klaus Grawe Narcolepsy Think Tank, Switzerland 2015

2nd International Scientific Group of Circadian Rhythm Experts (INSPIRE), Italy 2014

Invited speaker:

I&I symposium 2021 of the Utrecht University
12th Narcolepsy Day, Berlin 2021
11th Narcolepsy Day, Berlin 2020
World Sleep Meeting, Vancouver 2019
10th Narcolepsy Day, Bern 2019
6th Nordic Narcolepsy Meeting, Oslo 2019
7th International Narcolepsy Meeting, Boston 2018
24th Congress of the European Sleep Research Society, Bern 2018
9th Narcolepsy Day, Montpellier 2018
5th Nordic Narcolepsy Meeting, Helsinki 2018
8th Narcolepsy Day, Mallorca, 2017
4th Nordic Narcolepsy Meeting, Copenhagen 2017
23rd Congress of the European Sleep Research Society, Bologna 2016
7th Congress of the World Sleep Federation, Turkey 2015.
3rd Nordic Narcolepsy Meeting, Sweden 2015
17th Nordic Sleep Conference, Sweden 2015
6th Narcolepsy Day, Germany 2015
Symposium on narcolepsy, Hôpital Purpan, University of Toulouse, France, 2014
22nd Congress of the European Sleep Research Society, Estonia 2014
5th Narcolepsy Day, Copenhagen 2014
Scandinavian Physiological Society Annual Meeting, Sweden 2014
2nd Nordic Narcolepsy Meeting, Norway 2014
15th Nordic Sleep Conference, Copenhagen 2013
1st Nordic Narcolepsy Meeting, Finland 2013
Oral presentation of abstract: American Society of Human Genetics 2010, Sleep 2011, Sleep 2012, Sleep 2014

Public speaking and knowledge dissemination

Author of popular science book on sleep: "Forstå din søvn. Hvad videnskaben siger om at sove godt og hvordan du opnår det." Gyldendal, 2019.

Talks and Media interviews focused on own research results:

TV2 Vejret. Gave interview at Danish weather show on our research on the hypocretin system and seasonal rhythms. 2018
Ud og Se med DSB. Profile of the month March 2018
Vin og Videnskab, Statens Naturhistoriske Museum "Når immunforsvaret angriber raske hjerneceller". 2017
24/7 Radio program "24 spørgsmål til professoren" hosted by Lone Frank 2017
DR2 Morgen, talked about own research into narcolepsy, 2015
Invited blogger for The Danish Ministry of Science, Innovation and Higher Education 2010

Selected popular knowledge dissemination about sleep in general:

Radio NOVA aftenholdet, show about sleep, 2020
DR2 documentary on the Spanish Flu and Narcolepsy, Aug 2020
Go'morgen Danmark TV2, Jan 3 2019 and Sept 28 2021
P1 radio, "Recept". 1 hour radio show about health aspects of sleep, Nov 2018
Ungdommens Naturvidenskabelige Forening "Søvnens mysterium" 2014, 2016, 2017, 2018
Tanker og Bobler, Frederiksberg Bibliotek "Søvn" 2018
475 års jubilæum Kolding Gymnasium "Hvad er søvn?" 2017
Kulturnatten, 2 lectures "Søvnens mysterie" 2016
Roskilde Festival Science Talk "Søvn" 2015

P1 radio, "Videnskabens Verden" 2013
DIR dage – Open House Glostrup Hospital, "Søvn og Drømme" 2013
Lundbeck foundation Lecture "Søvnens mysterie", Experimentarium 2012

Frequently invited to comment on research related to sleep by Danish media: DR1 TVavisen, DR2 Dagen, DR2 Morgen, Go'Morgen Danmark TV2, P1, P4, Radio 24/7, Politiken, BT, Berlingske, videnskab.dk, Samvirke, Ud og Se med DSB.

Responsibilities

2021- Member of Study Board for Human Biology, Immunology and Neuroscience, UCPH
2020- Selection committee for student applicants to Neuroscience Master education, UCPH
2020- Responsible for course "Experimental Design in Neuroscience", neuroscience master, UCPH
2019- Responsible for hands-on lectures in EEG methodology, medical students, UCPH

Chair of PhD-assessment committees for the University of Copenhagen

2022 Nakul Raval
2021 Erika Bianca Torres Villanueva
2020 Lene Oddershede
2020 Rasmus Rydbirk
2019 Pascal Timshel

PhD-thesis opponent

2021 Mink S Schinkelshoek, University of Leiden, The Netherlands
2020 Katrine Tækker Krohn, University of Southern Denmark
2019 Alexander Lind, University of Lund, Sweden
2018 Natasha Morales Drissi, University of Linköping, Sweden

Teaching:

2020- Lectures and class room teaching (SAU) at "Neuroscience I", neuroscience master students, University of Copenhagen.
2020- Lectures and class room teaching (SAU) at "Experimental Design in Neuroscience", neuroscience master students, University of Copenhagen.
2019- Lectures and class room teaching (SAU) in sleep, biological rhythms and EEG methodology at "Kursus i CNS struktur og funktion", 3rd semester medical students, University of Copenhagen.
2019- Lecture on anaesthesia at School of Odontology, University of Copenhagen.
2019- Lectures and class room teaching (SAU) in anaesthesia at "Kursus i kliniske sygdomsleheder", 5th semester medical students, University of Copenhagen.
2017- Lecturer at "Neuroimmunology", immunology master students, University of Copenhagen
2016- Lecturer "Post doc grant writing workshop", University of Copenhagen
2015-17 Class room teaching (SAU) at "Basal Immunologi", 5th semester medical students, University of Copenhagen
2015 Lecturer at "Narcolepsy Master Class", Budapest
2014 Lecturer at "Role of neuroinflammation in etiology of CNS diseases", PhD course, University of Copenhagen.
2005-07 Lecturer at "Laboratory Techniques", internal lecture series at Neurobiology Research Unit.

Supervision and mentoring:

Post docs: Jessica Justinussen (2020-), René Lemcke (2019-), Maria Lee (2019-21), Julie Jacobsen (2016), Adriano Zager (2016-17), Anja Holm (2014-17), Matilda Degn Vinther (2013-16), Kim Boddum (2014-15), Lars Schack Kruse (2014-15).

Awards for post docs:

2017 European Sleep Research Society Young Researcher Award for post doc Anja Holm
2016 Christian J. Gillin Young Researcher Award for post doc Kim Boddum

PhD students:

Main supervisor:

- 2022- Laura Rose, University of Copenhagen
- 2021- Christine Egebjerg Jensen, University of Copenhagen
- 2020- Nicolai Berendtsen, University of Copenhagen
- 2019- Louise Piilgaard Pedersen, University of Copenhagen
- 2018- Helene Ægidius, industry phd-student, Gubra Aps. and University of Copenhagen
- 2013-16 Karin Dreisig Sørensen, University of Copenhagen
- 2013-16 Julie Jacobsen, University of Copenhagen

Co-supervisor:

- 2020- Stine Graugaard, main supervisor Prof Petrine Wellendorph, U Copenhagen
- 2019- Ahmed Barakat, main supervisor Prof. Anne-Marie Heegaard, U Copenhagen
- 2018- Sara Diana Lolansen, main supervisor Asso. Prof. Nanna MacAulay, U Copenhagen
- 2018- Nane Griem-Krey, main supervisor Asso. Prof Petrine Wellendorph, U Copenhagen
- 2016- Rannveig Viste, main supervisor Dr. Stine Knudsen, Ullevål, Oslo, Norge
- 2016-21 Eva Thorstensen, main supervisor Prof. Poul Jennum, Rigshospitalet-Glostrup, Copenhagen
- 2011-14 Anja Holm, main supervisor Prof. Poul Jennum, Rigshospitalet-Glostrup, Copenhagen
- 2007-10 Anders Ettrup, main supervisor Prof. Gitte Moos Knudsen, Rigshospitalet, Copenhagen

Undergraduate students:

- 2021-22 Miriam Albat, master-student, Bielefeld University, Germany
- 2021 Lisa Schneider, bachelor-student, University of Applied Sciences in Krems, Austria
- 2021 Mie Gunni Kolmos Pedersen, bachelor-student, University of Copenhagen
- 2020-21 Christine Egebjerg Jensen, master-student, University of Copenhagen
- 2020-21 Marieke Vringer, master-student, Maastricht University
- 2020 Natalie Christensen, bachelor-student, University of Copenhagen
- 2020 Alberte Nissen, bachelor-student, University of Copenhagen
- 2020-22 Camille Gylling Hviid, bachelor- and master-student, University of Copenhagen
- 2019-21 Magnus Lettorp, master-student, University of Copenhagen
- 2018-19 Aleksandra Parka, master-student, University of Copenhagen
- 2016-17 Kasper T. Karstensen, master-student, Technical University of Denmark
- 2016-17 Maja Dommer, master-student, University of Copenhagen
- 2016-17 Helene Ægidius, master-student, University of Copenhagen
- 2016-17 Natalie Hauglund, master-student, University of Copenhagen
- 2016 Nikolaj Pagh Kristensen, bachelor-student, University of Copenhagen
- 2015-16 Maria Chiara Arrivas, master-student, University of Bologna
- 2015 Georgia Katsoudi, master-student, Maastricht University
- 2014-15 Kristine Moseholm, master-student, University of Copenhagen
- 2012-14 Jessica Lauren Thomas, master-student, University of Copenhagen
- 2012-17 Louise Sund Pedersen, bachelor and master-student, University of Copenhagen
- 2013-14 Maren Schrölkamp, master-student, Freie Universität, Berlin
- 2010-11 Patricia Chang, undergraduate summer intern
- 2008 Thomas Rune Nielsen, master-student
- 2007 Kristin S. Thygesen, medical student (lab volunteer)
- 2006 Cecilie L Licht, human-biology student (short term research project)

Courses in teaching

- 2022 Semester start workshop, Center for Online and Blended Learning, KU

Management experience and education

- 2018-20 Chair of committee for interdisciplinary science, The Royal Young Academy of Denmark.
- 2017-18 Vice president, The Royal Young Academy of Denmark.
- 2012- Head of research group.
- 2013-14 Research Management Course, CBS-Executive
- 2009-12 Project management of own post doc project
- 2007-08 Board member RHUF (Region Hovedstadens Unge Forskere)
- 2005-09 Board member FYF (Foreningen for Yngre Forskere på Rigshospitalet)

International relations and commitments

Collaborators:

- Prof. Antoine Adamatidis, University of Bern, Switzerland
- Prof. Mehdi Tafti, University of Lausanne, Switzerland
- Prof Yves Dauvilliers, Montpellier, France
- Prof. Giuseppe Plazzi and Asso Prof. Fabio Pizza, Bologna, Italy
- Head of research Stine Knudsen, NEVSOM, Oslo, Norway.
- Prof Elizabeth Mellins, Stanford University, Palo Alto, USA
- Prof. Emmanuel Mignot, Stanford University, Palo Alto; USA

Commitments:

- 2019 Scientific planning committee, 10th Narcolepsy Day, Bern
- 2019 Scientific planning committee, 6th Nordic Narcolepsy Meeting, Oslo
- 2018- Associate Editor, Frontiers in Neuroscience
- 2018- Board Member, European Narcolepsy Network (EU-NN.com)
- 2018 Scientific planning committee, 5th Nordic Narcolepsy Meeting, Helsinki
- 2017 Organiser, 4th Nordic Narcolepsy Meeting, Denmark
- 2014- Member Scientific Committee, European Narcolepsy Network
- 2015 Scientific planning committee, 3rd Nordic Narcolepsy Meeting, Sweden
- 2014 Scientific planning committee, 2nd Nordic Narcolepsy Meeting, Norway
- 2014 Organiser, 5th European Narcolepsy Network (EU-NN) Meeting and Patients Day
Copenhagen, Denmark

Reviewer for funding bodies: Swiss National Science Foundation, European Research Council (Marie Curie actions), Austrian Science Fund (FWF), Fédération pour la Recherche sur le Cerveau.

Reviewer for scientific journals: Nature, Nature Communications, Brain Behaviour and Immunology, Sleep, PlosOne, Journal of Neuroimmunology, Journal of Sleep Research, Neuropharmacology, European Journal of Inflammation, Translational Psychiatry, Experimental Neurology, Psychiatric Genetics etc.

Memberships

- 2015-20 The Royal Young Academy of Denmark
- 2013- Sleep Research Society
- 2012- European Sleep Research Society, International Society for Neuroimmunology
- 2009- American Society for Sleep Medicine
- 2003- Society for Neuroscience