

Curriculum Vitae Gordon Benedikt Feld

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Overview

Sleep has been shown to benefit the storage of long-term memories, putatively by repeatedly replaying memory traces that were encoded during prior wakefulness. During my PhD and Postdoc at the University of Tübingen, I focussed on investigating the neurochemical processes that translate this replay into lasting plastic changes for memory storage. Initially, this work concentrated on the major neurotransmitter systems glutamate, GABA and Dopamine, but through ongoing collaborations has been extended to Insulin, Gap Junctions and Endocannabinoids. During my Postdoc at the University College London, I added magnetic resonance imaging to my toolset and developed graph based memory tasks. These new tasks will allow in-depth analyses of neurochemical processing during sleep that has so far been hard to pinpoint. To this end, I was recently awarded a prestigious Emmy Noether Research grant by the DFG to investigate the contribution of sleep related memory processing to the development and maintenance of addiction. As PI my long-term goal is to develop basic sleep science informed treatment and prevention methods for addiction and other neuropsychiatric disorders.

Education

03/2009 Diploma Psychology (Master equiv.), Institute for Psychology, University of Mainz, Germany
06/2014 Dr. rer. nat. (PhD), Institute for Psychology (Supervisor: Jan Born), University of Tübingen, Germany

Professional Experience after PhD

07/2014-08/2016 Research Associate at the Institute for Medical Psychology and Behavioral Neurobiology (Head: Jan Born), Eberhard Karls University of Tübingen, Germany
09/2016-08/2018 Honorary Research Associate (with a fellowship from the DFG) at the Institute of Behavioural Neuroscience (Head: Kate Jeffery), University College London, United Kingdom
09/2018-02/2019 Fellow of the College for Life Sciences, Wissenschaftskolleg zu Berlin – Institute for Advanced Study, Germany
from 03/2019 Research group leader (PI) at the department of Clinical Psychology (Head: Peter Kirsch), Central Institute of Mental Health, Mannheim, University of Heidelberg, Germany

Grants (above 5,000€) and Awards

03/2019-02/2024 1,400,000€ German Research Foundation (DFG) Emmy Noether Research Group
02/2019 7,000€ Grant from the Fritz-Thyssen-Stiftung for the Workshop “Sleep for Memory”
09/2018 - 02/2019 24,600€ Fellowship from the Ernst-Reuter-Stiftung (Wissenschaftskolleg zu Berlin)
07/2017 --- First place in the “Falling Walls Lab” at the University of Manchester for the project “Breaking the Wall of Addiction” (covered expenses for travel to finals)
09/2016 - 08/2018 100,000€ Postdoc fellowship awarded by the DFG, 24 months at University College London
05/2016 1,500€ Young Career Award of the German Society for Psychophysiology and its Applications (DGPA)
05/2016 2,600€ Silvia-King Prize of the German Diabetes Society (DDG)
07/2014 14,000€ Intramural funding for the Summer School “Memory and Consciousness 2014”

Organized Symposia

06/2015 “Sleep-dependent memory consolidation: Oscillations, reactivation and schemas” at the annual meeting of the Psychobiology and Neuropsychology Section of the DGPs, Frankfurt a.M., Germany
07/2016 “Mechanisms, modulation and limits of sleep-dependent memory consolidation.” at the 6th International Conference on Memory, Budapest, Hungary

Teaching

10/2013- Course in Psychology for medical students covering basic topics of undergraduate
06/2016 psychology, University of Tübingen, Germany

Organized Summer Schools and Workshops

12/2010 Member of the organizing committee for the Winter School "Plasticity Across Systems – Linking Neuronal, Immune and Metabolic Memory", University of Lübeck, Germany
07/2014 Co-head (with Susanne Diekelmann) of the organizing committee for the Summer School "Memory and Consciousness 2014", University of Tübingen, Germany
02/2019 Organizer of the Workshop "Sleep for Memory - Current Challenges and Future Directions", Institute for Advanced Study, Berlin

Invited Talks (selected)

03/2015 "Neurochemical mechanisms of sleep-dependent memory consolidation", Department of Biology, University of Pennsylvania, Philadelphia, United States
05/2015 "Optimizing Sleep for Memory: The Roles of Dopamine and Glutamate", Institute of Behavioural Neuroscience, University College London, London, United Kingdom
12/2016 "Blocking Gap Junctions with Mefloquine during Sleep Impairs Declarative Memory Consolidation", MRC Brain Network Dynamics Unit, University of Oxford, United Kingdom
01/2017 "Neurochemical Mechanisms of Sleep's Beneficial Effect on Memory Processes" Cardiff University Brain Research Imaging Centre, University of Cardiff, United Kingdom
03/2017 "Neurochemical Mechanisms of Sleep-Dependent Memory Consolidation: Basic Findings and Clinical Perspectives", Central Institute of Mental Health, Mannheim, Germany
06/2018 "Probing Sleep-Dependent Associative Memory Consolidation – Neuropharmacological and Graph-Based Approaches" Episodic Memory Lab, University of Birmingham, United Kingdom
09/2018 "The Crisis Is Dead, Long Live the Crisis - How Much Trust Can We Put in Psychological Findings?" Wissenschaftskolleg zu Berlin, Germany

Outreach

04/2010 Talk: "Schein und Sein: Lügen", St. Petri, Lübeck, Germany
03/2011 Interactive Installation: "Brain Awareness Week 2011", Museum für Natur und Umwelt, Lübeck, Germany
09/2014 Talk (Science Slam): "Sprechen Sie bitte etwas lauter Herr schläfriges Neuron", Audimax, University of Bochum, Germany
05/2017 Organisation of the lab visit of the biology course (Teacher: Desirée Juchem) at IGS Osthofen (Osthofen, Germany) in the Spatial Cognition Group (Head: Hugo Spiers) at University College London, UK
10/2017 One week curation of the Twitter account *Neurotweets* (currently 2.900 follower)
03/2018 One week curation of the Twitter account *Real Scientist DE* (currently 5500 follower)

Scientific Service (selected)

06/2011 - Representative of the Young Scientists of the German Society for Psychophysiology and its
05/2012 Applications (DGPA)
01/2012 - Member of the Board of the DGPA
12/2013
01/2015 - Member of the Board as Representative of the Young Scientists in the Psychobiology and
12/2016 Neuropsychology Section of the DGPs
05/2017 Curation of the Twitter-Account of the Psychobiology and Neuropsychology Section of the
09/2018 DGPs together with Hedwig Eisenbarth
since Member of the Board as Representative of the Young Scientists in the DGPs
09/2018

Reviewer for (in alphabetical order)

Biological Psychiatry, eLife, Experimental Psychology, Frontiers in Psychology, Journal of Cognitive Neuroscience, Journal of Cognitive Psychology, Journal of Sleep Research, Meta-Psychology, Neurobiology of Learning and Memory, Neuroimage, Perceptual & Motor Skills, Sleep Medical Reviews, Systematic Reviews

Publications

- Alizadeh Asfestani M, Braganza E, Schwidetzky J, Santiago J, Soekadar S, Born J & **Feld GB** (2018). Overnight memory consolidation facilitates rather than interferes with new learning of similar materials - a study probing NMDA-receptors, *Neuropsychopharmacology*, 43(11), 2292-2298.
- Spetter MS, **Feld GB**, Thienel M, Preissl H, Hege MA, Hallschmid M (2018). Oxytocin curbs calorie intake via food-specific increases in the activity of brain areas that process reward and establish cognitive control. *Scientific Reports* 8(1): 2736.
- Feld, GB**, & Born, J. (2017). Sculpting memory during sleep: concurrent consolidation and forgetting. *Curr Opin Neurobiol*, 44, 20-27.
- Feld GB**, Weis P, Born J (2016). The limited capacity of sleep-dependent memory consolidation. *Front Psychol*, 7, 1368.
- Feld GB**, Wilhelm I, Benedikt C, Rüdell B, Klameth C, Born J & Hallschmid M (2016). Central nervous insulin signaling in sleep-associated memory formation and neuroendocrine regulation. *Neuropsychopharmacology*, 41(6), 1540-1550.
- Feld GB**, Born J (2016). Sleep: Functions. In: *Encyclopedia of Theory in Psychology* (Miller HL, ed). SAGE Publications.
- Feld GB**, Born J (2015). Neuroscience. Exploiting sleep to modify bad attitudes. *Science*, 348(6238), 971-972.
- Feld GB**, Diekelmann S (2015). Sleep smart-optimizing sleep for declarative learning and memory. *Front Psychol*, 6, 622.
- Feld GB**, Besedovsky L, Kaida K, Münte TF, Born J (2014). Dopamine D2-like receptor activation wipes out preferential consolidation of high over low reward memories during human sleep. *J Cogn Neurosci*, 26 (10), 2310-20.
- Feld, GB**, Lange T, Gais S, & Born J (2013). Sleep-dependent declarative memory consolidation – unaffected after blocking NMDA or AMPA receptors but enhanced by NMDA coagonist D-cycloserine. *Neuropsychopharmacology*, 38(13), 2688-2697.
- Feld GB**, Wilhelm I, Ma Y, Groch S, Binkofski F, Mölle M, & Born J (2013). Slow wave sleep induced by GABA agonist tiagabine fails to benefit memory consolidation. *Sleep*, 36(9), 1317-1326.
- Born J, **Feld GB** (2012). Sleep to upscale, sleep to downscale: balancing homeostasis and plasticity. *Neuron*, 75, 933-935.
- Feld GB**, Born J (2012). Sleep EEG rhythms and system consolidation of memory. In: *Sleep and Brain Activity*, 1st Edition (Frank MG, ed), pp 187-226. Waltham, MA: Academic Press.
- Feld GB**, Specht M, Gamer M (2010). Differential electrodermal and phasic heart rate responses to personally relevant information: Comparing sleep and wakefulness. *Sleep Biol Rhythms* 8,72-78.