CV David Meder

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BIO:

I hold a Master's degree in psychology from University of Jena, Germany. Before receiving the Master's degree, I went to the Unit for Cognitive Neuroscience at Copenhagen University where I was accepted as a research intern and subsequently master student. From there, I went to work at the Danish Research Centre for Magnetic Resonance (DRCMR), receiving my PhD degree on computational neuroimaging, reinforcement learning and decision making. I then went to the University of Oxford for postdoctoral research. Thereupon I returned to the DRCMR to work as a postdoctoral researcher and research fellow. Here, I am group leader of the Movement Disorders group. I am currently an honorary fellow of the Max-Planck UCL centre for Computational Psychiatry.

SUMMARY OF OWN RESEARCH

I have broad interests in the neurobiology of reward and decision-making, both in health and disease. I like thinking deeply about theoretical constraints on how the brain should compute decision variables, but I then also care about being rigorous in how to translate those ideas into experiments. To do so, I have developed a new analysis technique (Meder et al., 2017, Nat.Comm.), moved towards Bayesian computational modelling and Bayesian statistics in my research (Meder et al., 2021, PLOS CompBiol) and am a strong advocate of open science (pre-registration of hypotheses, analysis approach and code; data sharing; open access publications).

I am currently testing theories of reinforcement learning in patients with Parkinson's disease, imaging the small midbrain nuclei with Denmark's only ultra high-field MR-scanner (7 tesla) in order to achieve highest possible resolution.

EDUCATION:

2015	**PhD Degree**
	Graduate School of Health and Medical Sciences, University of Copenhagen
2009	**Diplom in psychology (MSc)**
	Department of Psychology, Friedrich-Schiller-University Jena, Germany
2004-	**Study abroad**
2005	Faculty of Psychology, University of Seville, Spain

ACADEMIC POSTIONS:

2020-	**Honorary Fellow**

Max-Planck UCL Centre for Computational Psychiatry

2015-	**Research Fellow** (since 2019) / **Postdoctoral Research Associate** (2015-2019)
	Danish Research Centre for Magnetic Resonance, Copenhagen University Hospital Hvidovre
2014-	**Postdoctoral Research Associate**
2015	Decision and Action Laboratory, Dept. of Experimental Psychology, University of Oxford, UK
2010-	**PhD Student** (from June 2010) / **Research Assistant** (Feb. 2010 – June 2010)
2014	Danish Research Centre for Magnetic Resonance, Copenhagen University Hospital Hvidovre
2007-	**Research Assistant**
2010	Unit for Cognitive Neuroscience, Institute of Psychology, University of Copenhagen

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AWARDS & HONOURS:

2022	Member of the Lundbeck Foundation Investigator Network
2021	Sapere Aude: DFF-Starting Grant
2020-	Honorary Fellow, Max-Planck UCL Centre for Computational Psychiatry
2010	PhD Mobility Scholarship from the Health Faculty at Copenhagen University

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REVIEW ENGAGEMENT:

Journals	Ad-hoc reviewer for NeuroImage, NeuroImage:Clinical, Translational Psychiatry
Grant Agencies	Grant reviewer for French National Research Agency (ANR)

MANAGEMENT EXPERIENCE:

Group Leader	Group leader of "Movement Disorders" group since Nov. 2020
Group Coordination	Coordinator of "Control of Movement" group since 2015
Meeting Organizer	ADAPT-PD Kick-off meeting (March 2022), Cognitive and Computational Modeling PhD course (April 2019), ContAct Symposium (Nov. 2016),
Project Management	PI for *Optimistic and Pessimistic Dopamine Signals in Parkinson's Disease* (4 year grant, 1 PostDoc, 1 PhD student, student helpers, interns and master students). Daily project leader for *Probing altered brain structure and function in PD with ultra-high field MRI* (project on locus coeruleus and midbrain changes, 1 PhD student, 2 master students), *LID TMS-fMRI* (project investigating effects of transcranial magnetic stimulation on levodopa-induced dyskinesia in PD, 1 PhD student), *Approach-avoid* (project on approach-avoidance grip-force behavior, 1 PhD student), *CBG circuits in LID* (mapping cortico-basal ganglia circuits in LID in PD, 1 PhD student).
Teaching	Co-organizer and teacher for PhD courses on MR-analysis and statistics

Cambridge Centre for Frontotemporal Dementia and Related Disorders

Cambridge University, PI James Rowe

James Rowe was visiting professor at the DCMR, ongoing collaboration on the analysis of structural MR data.

Department of Clinical Physiology and Nuclear Medicine

Copenhagen University Hospital - Bispebjerg and Frederiskberg, Lisbeth Marner

Lisbeth Marner is a highly profiled researcher in PET imaging. We are currently collaborating in the context of the ADAPT-PD project (funded by Lundbeckfonden).

Department of Clinical Medicine - Nuclear Medicine and PET

Aarhus University, PI Per Borghammer

Collaboration on brain-first vs. body-first pathogenesis in PD.

Max Planck UCL Centre for Computational Psychiatry and Ageing

University College London, PI Ray Dolan

Ray Dolan was visiting professor at the DRCMR, since then we have an ongoing collaboration on reward learning and decision-making, recently intensified and formalized through the Sapere Aude research project. One publication.

Experimental Neurology

Charité Berlin, PI Andrea Kühn

Collaboration on risky decision behavior in PD patients with deep-brain stimulation, one publication.

Decisions and Actions lab

University of Oxford, Experimental Psychology, PI Matthew Rushworth

One publication on topographic mapping of decision variables.

Ergodicity Economics

London Mathematical Laboratory, PI Ole Peters

Ongoing collaboration since 2018, future collaboration on project "The Ergodicity Experiment" (funded by NovoNordiskFoundation).

SUPERVISION:

4 PhD students (1 ongoing), 8 BSc/Master Students/Internships (3 ongoing)

DISSEMINATION OF RESEARCH:

TV	Manipulator II - Halloween (Nov. 2019, DR1), Cillemouse (April 2019, TV2play), Eksperimentet (Aug. 2018, DR2), Din geniale krop (Feb. 2018, DR1)
Newspaper	Politiken (Oct. 2019, https://politiken.dk/forbrugogliv/sundhedogmotion/art7431748/Vi-drak-Lars-i-hegnet-for-at-f%C3%A5-svaret), Kristeligt Dagblad (Dec. 2021,

https://www.kristeligt-dagblad.dk/kultur/julens-musik-og-filmklassikere-er-som-gode-hundekiks), Videnskab.dk (https://videnskab.dk/forskerzonen/krop-sundhed/ny-forskning-patienter-med-parkinsons-sygdom-mister-evnen-til-at-flygte-eller-kaempe?utm_source=dlvr.it&utm_medium=twitter), multiple interviews and reports in local newspapers

Radio	Interviews on "P4 morgen" (April 2018, August 2018, 2 in July 2021, Feb. 2022), P1 (April 2018), P3 (April 2018)
Podcasts	videnskab.dk "Brainstorm" podcast (Dec. 2019)