Dr. rer. nat.
Julian Q. Kosciessa

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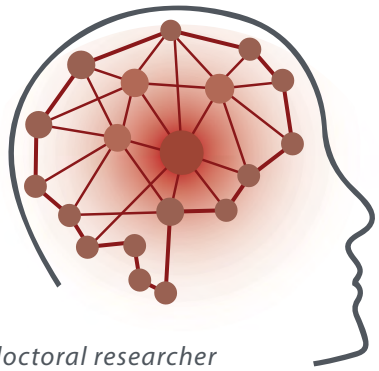

I am a postdoctoral researcher working at the intersection of cognitive, computational and systems neurosciences. My work aims to improve the characterization of neural dynamics, and clarify the functional role of neural rhythms and noise in flexible cognition. My experimental research combines neuroscientific techniques, and extends available methods via scientific open source software development.

behavior EEG fMRI pupil simulations

Research Experience

Postdoctoral Researcher — **2022 – PRESENT**
Donders Institute for Brain, Cognition and Behaviour
Nijmegen, Netherlands

Predoctoral Research Fellow — **2016 – 2020**
IMPRS Comp2Psych
Max Planck UCL Center for Computational Psychiatry and Aging
Berlin, Germany

Research Assistant/Intern — **2010 – 2016**
Berlin, Germany
London, UK
Singapore, Singapore

Education

Humboldt Universität zu Berlin — **2016 – 2020**
Psychology
Dr. rer. nat. (summa cum laude)

Humboldt Universität zu Berlin — **2014 – 2016**
Mind & Brain – Track Brain
M.Sc. Master of Science

Freie Universität Berlin — **2011 – 2014**
Psychology
B.Sc. Bachelor of Science

Skills

MATLAB
R
UNIX
Python
Git
Mandarin

Key Publications

Kosciessa, J. Q., Lindenberger, U., & Garrett, D. D. (2021)
Thalamocortical excitability adjustments guide human perception under uncertainty
Nature Communications

Kosciessa, J. Q., Kloosterman, N. A., & Garrett, D. D. (2020)
Standard multiscale entropy reflects neural dynamics at mismatched temporal scales: What's signal irregularity got to do with it?
PLoS Computational Biology

Kosciessa, J. Q., Grandy, T. H., Garrett, D. D., & Werkle-Bergner, M. (2020)
Single-trial characterization of neural rhythms: Potential and challenges.
NeuroImage

RESEARCH EXPERIENCE

09/2022 – PRESENT **Postdoctoral Researcher / Radboud Excellence Fellow**
Donders Institute for Brain, Cognition and Behaviour
Radboud University, Nijmegen, The Netherlands
PI: Dr. Lennart Verhagen

07/2020 – 07/2022 **Postdoctoral Researcher**
Max Planck Institute for Human Development, Berlin, Germany

10/2016 – 03/2020 **Predoctoral Research Fellow** (*IMPRS COMP2PSYCH*)
Max Planck UCL Center for Computational Psychiatry and Aging
Max Planck Institute for Human Development, Berlin, Germany
Supervisors: Prof. Dr. Ulman Lindenberger, Dr. Douglas D. Garrett

10/2015 – 03/2016 **Research Intern**
UCL Institute of Cognitive Neuroscience
PIs: Prof. Emrah Düzel & Prof. Ray Dolan
PI: Dr. Dorothea Hämmerer

03/2015 – 07/2015 **Research Intern**
Max Planck Institute for Human Development, Berlin, Germany
Center for Adaptive Rationality (ARC)
PI: Dr. Wouter van den Bos

09/2012 – 09/2013 **Research Assistant**
07/2014 – 09/2015 Max Planck Institute for Human Development, Berlin, Germany
04/2016 – 09/2016 Cognitive and neuronal dynamics of memory across the lifespan
PIs: Dr. Markus Werkle-Bergner & Dr. Yee Lee Shing

01/2014 – 05/2014 **Research Intern**
Cognitive Neuroscience Laboratory, Duke-NUS, Singapore
PI: Prof. Michael Chee
Supervisor: Dr. Irma Kurniawan

EDUCATION

10/2016 – 10/2020 **Humboldt Universität zu Berlin**
Psychology. Dr. rer. nat. (summa cum laude)

10/2014 – 09/2016 **Humboldt Universität zu Berlin**
Mind & Brain – Track Brain. M.Sc. Master of Science (GPA: 1.0)

09/2015 – 04/2016 **University College London**
Two Erasmus exchange terms. Institute of Neurology

07/2013 – 05/2014 **National University of Singapore (NUS)**
Two exchange semesters. Faculty of Arts and Social Sciences

10/2011 – 09/2014 **Freie Universität Berlin**
Psychology. B.Sc. Bachelor of Science (GPA: 1.1)

Teaching & Talks (selected)

» 2022: Workshop:
Reusable data management with DataLad
Cognitive Psychology. University of Munster. Germany
» 2022: Invited Research Talks:
Dynamic neural regimes for flexible decisions under uncertainty
- Translational Decision-Making Seminar
[Virtual: University of Minnesota/Université de Montréal]
- Biopsychology. University of Munster. Germany
- Donders Institute for Brain, Cognition and Behaviour
» 2022: Invited Symposium Talk:
Influences of arousal and cortical excitability on adaptive perceptual decision making.
International Conference of Cognitive Neuroscience. Helsinki, Finland
» 2021: Research Talk:
The role of neural dynamics in flexible perception under uncertainty.
Computational Neuroscience Symposium. Osnabrück, Germany
» 2021: Invited Research Talks:
Thalamocortical excitability adjustments guide human perception under uncertainty.
- Shine Lab, University of Sydney, Australia
- Halassa Lab, Massachusetts Institute of Technology (MIT), U.S.A.
» 2020: Invited Colloqium Talk:
Measurement and relevance of rhythmic and aperiodic human brain dynamics.
Biopsychology und Neuroergonomics Lab. Technical University. Berlin, Germany
» 2020: Invited Workshop:
Multi-scale entropy as a tool to characterize neural signal irregularity.
EEG Meeting. Max Planck Institute for Human Development. Berlin, Germany
» 2018: Invited Seminar:
Methods for the analysis of rhythmic and arrhythmic brain activity.
International Max Planck Research School on the Life Course. Berlin, Germany

Funding & Awards

» 2022: Radboud Excellence Fellowship (200.000 EUR)
» 2022: Otto Hahn Medal of the Max Planck Society (7.500 EUR)
» 2022: DAAD Conference Travel Grant: International Conference of Cognitive Neuroscience
» 2021: DGPA Brain Products Young Scientist Award 2021
» 2021: DAAD Conference Travel Grant to OHBM Meeting 2021
» 2021: Merit Abstract Award OHBM Meeting 2021
» 2018: IBRO Poster Award Interpreting BOLD 2018
» 2018: DAAD Conference Travel Grant to Interpreting BOLD 2018 (Oxford, UK)
» 2015/2016: DAAD Erasmus Stipend (University College London, UK)
» 2014: DAAD PROMOS Stipend (National University Singapore, Singapore)

Supervision

» 2021/22: MSc Claire Pleche
  M.Sc. Student in Cognitive Neuroscience, Ecole Normale Supérieure de Paris, France
  Probing the role of neural variability in flexible decision-making under uncertainty
  co-supervision with Dr. Douglas D. Garrett
» 2021: Mentor at Neuromatch Academy

Professional Activites

» Ad-hoc peer reviewer:
  PNAS, PLoS Biology, NeuroImage (9x), Journal of Neuroscience, Psychophysiology, Brain Topography, European Journal of Neuroscience, Mindfulness, PLoS One
» Member of the Organization for Human Brain Mapping (OHBM)
» Associate Member of the Deutsche Gesellschaft für Psychology (DGPs)
» Member of the International Neuroinformatics Coordinating Facility (INCF)