

Leon D. Lotter

Dr. med.

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Education

Sep 2022 – Ongoing	PhD in neuroscience <i>Clinician Scientist Program, Max Planck School of Cognition, Germany</i> <i>Institute of Systems Neuroscience, University Hospital HHU Duesseldorf, Germany</i> <i>INM-7: Brain and Behaviour, Research Center Juelich, Germany</i> <ul style="list-style-type: none">• Project: Multilevel brain systems underlying typical and atypical neurodevelopment• Supervision: Juergen Dukart Simon Eickhoff Julian Koenig Svenja Caspers• 100% ("research associate") contract financed via Max Planck School of Cognition• Collaborations:<ul style="list-style-type: none">– <i>Biological Child and Adolescent Psychiatry, University Hospital Cologne</i> (J. Koenig)– <i>Max Planck Institute of Psychiatry, Munich</i> (E. Binder V. Spormaker)
Dec 2017 – Sep 2022	Doctor of medicine <i>Child Neuropsychology, University Hospital RWTH Aachen, Germany</i> <i>INM-7: Brain and Behaviour, Research Center Juelich, Germany</i> <ul style="list-style-type: none">• Project: Longitudinal development of resting-state fMRI alterations in Anorexia nervosa• Supervision: Kerstin Konrad Juergen Dukart Jochen Seitz• Grade: <i>summa cum laude</i> (With distinction)
Oct 2014 – Nov 2021	Medical studies <i>RWTH Aachen University, Germany</i> <ul style="list-style-type: none">• Elective subject: Clinical neuroscience• Clinical internships: Child and adolescent psychiatry (6 mos) Adult psychiatry (1 mo) Internal medicine (4 mos) General surgery (4 mos)

Work Experience

Apr 2022 – Aug 2022	Research assistant <i>INM-7: Brain and Behaviour, Research Center Juelich, Germany</i> <ul style="list-style-type: none">• Project: Linking cortical thickness development to multilevel brain systems
May 2019 – Jan 2022	Student research assistant <i>Child Neuropsychology, University Hospital RWTH Aachen, Germany</i> <ul style="list-style-type: none">• Diverse projects involving neuroimaging, behavioral data analysis, and visualization
Sep 2013 – Aug 2014	Voluntary service <i>Samuha Samarthya, India</i> <i>Service Civil International, Germany</i> <ul style="list-style-type: none">• Program: <i>weltwärts</i>, German government-funded• Project: Creating barrier-free environments for people with disabilities in rural South India

Academic Contributions, Skills, and Personal Interests

Extracurricular Activities	Student Representative of the Max Planck School of Cognition (since Sep 2022) Organization of a Journal Club at the INM-7, Research Centre Juelich (since Oct 2023)
Software Tools	NiSpace NeuroImaging Spatial Colocalization Environment ABAnnotate A toolbox for multimodal gene-category enrichment analysis of human neuroimaging data
Peer Reviews	<i>Journal of the American Academy of Child and Adolescent Psychiatry</i> <i>Neuropsychopharmacology</i> <i>Translational Psychiatry</i> <i>Schizophrenia Bulletin</i> <i>Neuroimage</i> <i>Neuroimage Clinical</i> <i>Cortex</i> <i>Frontiers in Human Neuroscience</i> <i>BMC Psychiatry</i> <i>BMJ Open</i> <i>European Journal of Neuroscience</i>
Programming Languages	Python since 2021 (<i>example</i>) R since 2020 Matlab since 2019 (<i>example</i>)
Interests	German native speaker English professional proficiency Academic Developmental neuroscience & psychiatry Open science Science communication Private Climbing Cycling Photography

Grants and Funding

2025	Co-Investigator: DFG Research Grant <ul style="list-style-type: none">• Project: "Linking brain functional trajectories in neurodevelopmental disorders to underlying neurotransmitter systems"• Substantial contribution to conception and writing• Direct supervision of four planned subprojects until 2028
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Awards and Scholarships

April 2025	Heine Research Academies (HeRA) travel grant of the Heinrich Heine University <ul style="list-style-type: none">• To present at SOBP 2026 in Toronto, Canada
Dec 2024	DDPPN 2024 "Best Free Talks Abstract" award <ul style="list-style-type: none">• See conference section, awarded with 500€
Oct 2023	"Borchers Badge" for excellent dissertations at RWTH Aachen University <ul style="list-style-type: none">• For the medical doctoral thesis "Recovery-associated resting-state activity and connectivity alterations in Anorexia nervosa" passed with distinction in 2022
Jul 2023	German Academic Exchange Service (DAAD) travel grand <ul style="list-style-type: none">• To present at OHBM 2023 in Montréal, Canada
Jun 2023	72nd Lindau Nobel Laureate Meeting (Physiology and Medicine) Lindau, Germany <ul style="list-style-type: none">• Participation as "Young Scientist", supported by Research Centre Juelich

Conference Presentations and Workshop Participation

April 2025	Society of Biological Psychiatry (SOBP) Toronto, Canada <ul style="list-style-type: none">• Talk: Molecular imaging-informed biomarkers link typical and atypical functional brain synchronization to underlying neurotransmission
Dec 2024	Congress of the German Association for Psychiatry and Neurology (DGPPN) Berlin, Germany <ul style="list-style-type: none">• Talk: Evidence of dopaminergic modulation of resting state functional connectivity alterations in psychosis
Aug 2024	Cologne Summer School in Biological Psychiatry Cologne, Germany <ul style="list-style-type: none">• Participation in lectures and practical exercises on state-of-the-art methods in biological psychiatry
Jul 2024	Organization for Human Brain Mapping (OHBM) Annual Meeting Seoul, South Korea <ul style="list-style-type: none">• Poster: NiSpace – Neuroimaging Spatial Colocalization Environment• Poster: Neurotransmitter systems explain lifespan changes of human resting-state brain activity
Jul 2023	Organization for Human Brain Mapping (OHBM) Annual Meeting Montréal, Canada <ul style="list-style-type: none">• Poster: Human cortex development is shaped by molecular and cellular brain systems
Mar 2023	Minerva Symposium: Interactive Brains - From Methods to Applications Tel Aviv, Israel <ul style="list-style-type: none">• Invited talk: Revealing the neurobiology underlying interpersonal neural synchronization with multimodal data fusion
Mar 2023	Meeting of the German Association for Child and Adolescent Psychiatry (DGKJP) Essen, Germany <ul style="list-style-type: none">• Poster: Linking cortical thickness development to molecular and cellular brain systems

Publications and Preprints

Preprint	Bamberger, R., Lotter, L. D. , Nieto, N., Poulain, T., Körner, A., Kiess, W., Fuchs, M., and von Polier, G. “Voices of change: Associations between vocal markers and symptoms of ADHD - Findings from the LIFE Child Study”. In: <i>Research Square</i> .
2026	Dukart, J., Lotter, L. D. , Paquola, C., Eickhoff, S. B., and Schilbach, L. “The many-to-many problem of endophenotypes in psychiatry - a biological perspective”. In: <i>Molecular Psychiatry</i> . Keller, L., Lotter, L. D. , Eickhoff, C. R., Eickhoff, S. B., Otten, K., Herpertz-Dahlmann, B., and Seitz, J. “Structural brain alterations in anorexia nervosa: A global brain volume and anatomical likelihood estimation (ALE) meta-analysis combined with a functional decoding approach”. In: <i>NeuroImage: Clinical</i> .
2025	Saber, A., Wischniewski, K. J., Jung, K., Lotter, L. D. , Schaare, H. L., ... IMAGEN-Consortium, Paus, T., Dukart, J., Bernhardt, B. C., Popovych, O. V., Eickhoff, S. B., and Valk, S. L. “Adolescent maturation of cortical excitation-inhibition ratio based on individualized biophysical network modeling”. In: <i>Science Advances</i> . Lotter, L. D. and Dukart, J. “Methodological Considerations: Integrating Measures Across Assessment Modalities”. In: <i>Neurobehavioral Individual Differences: A Transdisciplinary Approach To Advancing Clinical Science</i> . Ed. by R. D. Latzman and C. J. Patrick. Springer Nature Switzerland.
2024	Dukart, J., Lotter, L. D. , and Eickhoff, S. B. “Moving towards precision psychiatry: the hard nut of depression”. In: <i>Signal Transduction and Targeted Therapy</i> . Lotter, L. D. , Saber, A., Hansen, J. Y., Misic, B., Paquola, C., ... IMAGEN-Consortium, Nees, F., Banaschewski, T., Eickhoff, S. B., and Dukart, J. “Regional patterns of human cortex development correlate with underlying neurobiology”. In: <i>Nature Communications</i> . Lotter, L. D. , Nehls, S., Losse, E., Dukart, J., and Chechko, N. “Temporal dissociation between local and global functional adaptations of the maternal brain to childbirth: A longitudinal assessment”. In: <i>Neuropsychopharmacology</i> . Kasper, J., Caspers, S., Lotter, L. D. , Hoffstaedter, F., Eickhoff, S. B., and Dukart, J. “Resting state changes in aging and Parkinson’s disease are shaped by underlying neurotransmission – a normative modeling study”. In: <i>Biological Psychiatry: Cognitive Neuroscience and Neuroimaging</i> .
2023	Schloesser*, L., Lotter*, L. D. , Offermann, J., Borucki, K., Biemann, R., Seitz, J., Konrad, K., and Herpertz-Dahlmann, B. “Sex-dependent clinical presentation, body image, and endocrine status in long-term remitted anorexia nervosa”. In: <i>European Eating Disorders Review</i> . Corneille, O., Havemann, J., Henderson, E. L., IJzerman, H., Hussey, I., Orban de Xivry, J.-J., Jussim, L., Holmes, N. P., Pilacinski, A., Beffara, B., Carroll, H., Outa, N. O., Lush, P., and Lotter, L. D. “Beware ‘persuasive communication devices’ when writing and reading scientific articles”. In: <i>eLife</i> . Lotter, L. D. , Kohl, S. H., Gerloff, C., Bell, L., Niephaus, A., Kruppa, J. A., Dukart, J., Schulte-Rüther, M., Reindl, V., and Konrad, K. “Revealing the neurobiology underlying interpersonal neural synchronization with multimodal data fusion”. In: <i>Neuroscience and Biobehavioral Reviews</i> .
2021	Lotter, L. D. , von Polier, G., Offermann, J., Buettgen, K., Stanetzky, L., Eickhoff, S. B., Konrad, K., Seitz*, J., and Dukart*, J. “Recovery-associated resting-state activity and connectivity alterations in anorexia nervosa”. In: <i>Biological Psychiatry: Cognitive Neuroscience and Neuroimaging</i> .
2020	Pankert, K., Pankert, A., Lotter, L. D. , Herpertz-Dahlmann, B., and Konrad, K. “Autism spectrum symptoms in children with congenital blindness”. In: <i>Zeitschrift für Kinder- und Jugendpsychiatrie und Psychotherapie</i> .

* Equal contributions