Curriculum Vitae

Dr. rer. nat. Nils Ralf Winter, M.Sc.

PERSONAL INFORMATION
born April 19th, 1991, in Groß-Gerau, Germany

PROFESSIONAL ADDRESS
University of Münster
Medical Machine Learning Lab
Institute for Translational Psychiatry
University Hospital Münster
Albert-Schweitzer-Campus 1, Gebäude 9A
+49 251 83 - 51847
nils.r.winter@uni-muenster.de
https://mmll.uni-muenster.de/
https://orcid.org/0000-0002-6241-1492

EDUCATION

2019 – present	**Doctoral Studies Medical Sciences (rer. medic.)** Thesis: *"Uncovering Brain-Behavior Relationships using Canonical Correlation Analysis"* supervised by Prof. Dr. Tim Hahn, Prof. Dr. Dr. Udo Dannlowski and Prof. Dr. Andre Karch at the University of Münster, Germany
2018 – 2023	**Doctoral Studies Psychology (rer. nat.),** summa cum laude PhD thesis: *"Towards Precision Psychiatry: From Univariate to Multivariate Biomarkers of Major Depressive Disorder"* supervised by Prof. Dr. Tim Hahn, Prof. Dr. Dr. Udo Dannlowski and Prof. Dr. Niko Busch at the University of Münster, Germany
2018 – 2023	**PhD Program of the Otto Creutzfeldt Center for Cognitive and Behavioral Neuroscience** Secondary, faculty-spanning education in the field of Cognitive and Behavioral Neurosciences
2014 - 2016	**M. Sc. Psychology**, University of Frankfurt, Ø1.0 Cognitive Neuroscience Major, Clinical Psychology Minor Master's thesis: *"Learning Hierarchical Feature Representations in the Brain: A Deep Learning Approach to Resting-State fMRI Analyses"* (1.0) supervised by Prof. Dr. Tim Hahn and Prof. Dr. Sabine Windmann, University of Frankfurt, Germany
2011 - 2014	**B. Sc. Psychology**, University of Frankfurt, Ø1.3 Bachelor's thesis: *"Facial width-to-height ratio differs by social rank across organizations, countries, and value systems"* (1.0) supervised by Prof. Dr. Tim Hahn and Prof. Dr. Sabine Windmann
2010	**A-Levels**, Prälat-Diehl-Schule, Groß-Gerau

PROFESSIONAL EXPERIENCES

2023 – present	**Post-Doc, University of Münster** at the Institute for Translational Psychiatry (Prof. Dr. Dr. Udo Dannlowski) and the Medical Machine Learning Lab (Prof. Dr. Tim Hahn)

2018 – 2023	**Research Associate (PhD), University of Münster** at the Institute for Translational Psychiatry (Prof. Dr. Dr. Udo Dannlowski) and the Medical Machine Learning Lab (Prof. Dr. Tim Hahn), University of Münster
01/2020 – 04/2020	**Research Stay at University College London** Research project on *"Canonical Correlation Analysis and Partial Least Squares Regression for Brain-Behavior Associations"* funded by the DAAD, supervised by Prof. Dr. Janaina Mourão-Miranda, Machine Learning and Neuroimaging Lab, University College London, UK
2017	**Post-Graduate Research Project at University of Frankfurt** Research project on *"Genome-Based Prediction of Lithium Response in Patients with Bipolar Disorder"* funded by the Fraunhofer Institute IME and the Department of Psychiatry, Psychosomatic Medicine and Psychotherapy, University Hospital Frankfurt, Germany
02/2016 – 04/2016	**Internship at University of Glasgow** Project on *"Robust Estimation using Bayesian Statistics for Group Comparisons"*, ERASMUS funded, supervised by Dr. Guillaume Rousselet, University of Glasgow, UK

SCIENTIFIC ACTIVITY

since 2024	Member ***Otto-Creutzfeldt-Center for Cognitive and Behavioral Neuroscience***
2024	**Invited speaker**, Sino-German Frontiers of Science Symposium of the Alexander von **Humboldt Foundation** and the Chinese Academy of Sciences (Shanghai)
since 2023	Member of the **expert panel on AI** of the University Hospital Münster
since 2019	**Reviewer** for scientific journals (American Journal of Psychiatry, Depression and Anxiety, Scientific Reports, Neuroimage, Human Brain Mapping, Cognitive Therapy and Research, Frontiers in Psychiatry)

AWARDS, SCHOLARSHIPS, AND COMPETITIVE FUNDS

2022	**Paper of the Month** (Medical Faculty, University of Münster) für die Publikation *"Quantifying Deviations of Brain Structure and Function in Major Depressive Disorder Across Neuroimaging Modalities"* in ***JAMA Psychiatry***
2022	**Merit Award of the Organization of Human Brain Mapping** or an exceptional abstract submitted at the Annual Meeting of the OHBM 2022 in Glasgow, UK (2000 $)
2020	**Stipend of the German Academic Exchange Service (DAAD)** financing research stay at University College London, UK (3083 €)
2019	**Congress travel scholarship of the German Academic Exchange Service (DAAD)** financing the congress participation of the OHBM 2019, Rome, Italy
2018	**Congress travel scholarship FAZIT** financing the congress participation of the OHBM 2018, Singapore, Singapore (1000 €)

PUBLICATION RECORD AND SKILLS

Bibliometry	Publications: 55 First authorship publications: 11 h-Index[1]: 20 i10-Index[1]: 32 Number of citations[1]: 1479
Methods	Machine Learning, Bayesian Statistics, sMRI (SPM, CAT12), resting-state fMRI (CONN-Toolbox), Diffusion Tensor Imaging (CATO Toolbox), Polygenic Risk Scores (PLINK), SPSS
Programming Languages	Python, MATLAB, R, Bash, HTML, CSS
Research Focus	Machine Learning, Precision Psychiatry, Artificial Intelligence, Dynamical Systems Theory, Bayesian Statistics, Normative Modeling, Affective Disorders, Resting-State fMRI
Languages	German – native speaker English – fluent (C1)

[1]as derived from https://scholar.google.de on November 14th, 2024

TEACHING

SS 23	Research Questions and Methods of Translational Neuroscientific Research of Emotional Disorders (Psychology, Medicine), University of Münster
SS 23	Machine Learning in Medicine (Medicine), University of Münster
WS 20/21	Machine Learning in Medicine (Medicine), University of Münster
WS 20/21	MRI Research in Psychiatry – From Basics to Statistical Analyses (Psychology, Medicine), University of Münster
WS 19/20	Introduction to Machine Learning (Psychology), University of Münster
SS 19	Introduction to Machine Learning (Psychology), University of Münster
SS 19	Neuropsychological Disorders of Cognitive Processes (Psychology), University of Münster

SCIENTIFIC TALKS

10-2024	**Precision Psychotherapy – Signatures, Predictions, & Clinical Utility** Symposium on **AI and mental health care, Humboldt University, Berlin** "*Neuroimaging Biomarkers of Major Depressive Disorder – A Precision Psychiatry Perspective"*
05-2023	**Diversity Week – Unfaire Algorithmen? Wie Künstliche Intelligenz diskriminieren kann und welche Sicherheitsmaßnahmen es braucht, University of Münster, Germany** *"From Bench(mark) to Bedside – Maschinelles Lernen und KI in der Medizin"*
09-2022	**Seminar on "Neuroscientific Advances in Psychiatry", ETH Zurich, Swiss** *"More alike than different: Univariate and Multivariate Neuroimaging Markers for Major Depression"*
08-2022	**Gillan Lab, Trinity College Institute of Neuroscience, Dublin, UK** *"More Alike Than Different - Univariate and Multivariate Neuroimaging Markers for Major Depression"*
12-2021	**Computational Psychiatry & Computational Psychosomatics Seminar, TNU Zurich, Swiss** *"Machine Learning in Affective Disorders: Tools, Theory, and Translation"*

09-2021	**Annual Retreat of the Otto Creutzfeldt Center for Cognitive and Behavioral Neuroscience, University of Münster, Germany** *"More alike than different: The striking similarity of MDD patients and healthy controls"*
06-2020	**Annual Retreat of the Otto Creutzfeldt Center for Cognitive and Behavioral Neuroscience, University of Münster, Germany** *"Multivariate Brain-Behavior Associations in Major Depression"*
05-2017	**2nd Rhine-Main Neuroimaging Retreat, Hohensolms, Germany** *"Multivariate Predictive Models in Psychiatry and Neuroscience – Promises, Problems, Perspectives"*

Münster, November 8th, 2024