

JOLIEN RIETKERK

CONTACT INFORMATION

Address: University Center Psychiatry
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EDUCATION

Master of Science (Sep2018- Aug2020)

Molecular and Cellular Life Sciences
University of Utrecht (NL)

- Thesis: *The Omnigenic Model: looking for validation*. Genetics department of University Medical Center Groningen. Supervisor: Dr. Patrick Deelen.
- Research project: *3C analysis of Arabidopsis root microbiome and application of MetaTOR data analysis pipeline*. Plant Microbe Interactions group of Prof. Corné Pieterse. Supervisors: Dr. Giannis Stringlis and Ass. Prof. Ronnie de Jonge.
- Major: Genes to Organisms
- Minor: Applied Data Science

Bachelor of Science (Sep2015-Jul2018)

Life Science and Technology
University of Groningen (NL)

- Project and Thesis: *The molecular mechanism of surfactin immunity in B. subtilis*. Scheffers lab, University of Groningen. Supervision: Dr. Alexandra Zielinska.
- Internship: *Gene expression prediction using methylation Quantitative Trait Loci*. Part of course: Computational Molecular Biology Research. Hosted by: Genetics department of University Medical Center Groningen. Lude Franke Lab. Supervision: Dr. Harm-Jan Westra.
- Major: Molecular Life Sciences
- Minor: Biomedical Sciences and Behavior and Neurosciences

CAREER PROFILE

I am fascinated by interactions and complex traits. My research showcases my passion for statistical human genetics and mental health and strives to personalize medicine through trans-ancestry genetic studies and international collaborations.

PROFESSIONAL EXPERIENCE

Postdoctoral Researcher (Mar2025-present)

Trans-ancestry statistical genetic analyses of Major Depressive Disorders
SUNY Downstate Health Sciences University, NY, USA
University Medical Center Groningen, NL

- Utilize large datasets with diverse genetic ancestry data to improve our understanding of the aetiology of Major Depressive Disorder and eventually personalize treatment outcomes
- Application of novel techniques to the Dutch Lifelines cohort

Supervision: Dr. Roseann Peterson and Dr. Hanna van Loo

Doctoral Researcher (Oct2020-Dec2024)

Gene-Gene Interactions in Psychiatric Disorders
Helmholtz Pioneer Campus, Helmholtz Munich (DE)

- Investigation of genetic pathway interactions through use and development of the statistical genetics framework Coordinated Epistasis in ~300.000 European Ancestry individuals in the UKBiobank and their phenotypes. Applied to meta-analyses of Major Depressive Disorder and related phenotypes such as symptoms, clinical subtypes, family history and environmental exposures.
- Research using iPSYCH (130.000 individuals) data to analyze genetic pathway interactions among co-morbid disorders using and extending the Coordinated Epistasis framework.

Supervisors: Dr. Na Cai, Prof. Dr. Bertram Müller-Myshok, Dr. Bastian Rieck

SELECTED CONFERENCES AND SEMINARS

- 2024 **Speaker, World Congress of Psychiatric Genetics, Singapore**
Coordinated Epistasis Detects Heterogeneous Pathways Across Psychiatric Disorders and Comorbidities
- 2024 **Speaker, Behavior Genetics Association meeting, London, United Kingdom**
Using Coordinated Epistasis to Investigate Genetic Architecture of Psychiatric Comorbidity
- 2023 **Poster, 75th Annual Meeting of American Society of Human Genetics, Washington DC, USA**
Heterogeneous Pathways Characterized in Meta-Analyses of Psychiatric Disorders using Coordinated Epistasis
- 2023 **Oral Presentation Award Finalist, World Congress of Psychiatric Genetics, Montréal, Canada**
Coordinated Epistasis Reveals Pathway Architecture (and method considerations)
- 2023 **Speaker, Gordon Research Seminar, Quantitative Genetics and Genomics, Ventura, USA**
Coordinated Epistasis Reveals Symptom-Driven Pathways Towards Major Depressive Disorder
- 2022 **Poster, World Congress of Psychiatric Genetics, Florence, Italy**
Investigating Divergent and Convergent Pathways in Major Depressive Disorder through Coordinated Epistasis

SERVICE AND OUTREACH

Secretary for the Foundation to Conserve the Jacoba II (Feb2023-present)

The 'Chauken', waterscouts in Groningen, have the Jacoba II ship as their base: a national heritage, inland ship of 40 meters long. The Foundation is charged with its conservation. My responsibilities include: correspondence; meeting scheduling; archival organization and digitization; attending and taking minutes of board meetings. Groningen, the Netherlands

Mental Health Advocate and general Member of DINI (May2022- June2024)

The Doctoral Initiative DINI is the representation of doctoral researchers within Helmholtz Munich. As part of the DINI, I held a variety of roles, including: organization and communication of Mental Health Awareness Month; organize social events; create content for both social media and the newsletter, as well as corporate design of the newsletter; and welcome team: point of contact for new doctoral researchers at the center. Munich, Germany

External Commissioner at KOSMU (Sep2019-Aug2020)

As part of the KOSMU Utrecht Orchestra Umbrella Organization, my responsibilities included: website and logo graphic design and execution, content writer and input in general meetings and organization. Utrecht, The Netherlands

Chair and Secretary of the Kunstorchestra (Sep2019- Jan2020)

As violinist within the orchestra, I was offered the opportunity to work within its board. I took on responsibilities of: (1) Chair of Orchestra in charge of organizing rehearsals, retreats, concerts. (2) Secretary of Orchestra in charge of correspondence, minute taking, board meetings and members meetings. Utrecht, The Netherlands

Secretary, editor and writer at Lifelines Magazine (Feb2016-Jul2018)

The Lifeline Magazine Committee of study association GLV Idun creates a quarterly magazine for students. My responsibilities included writing, editing and minute taking. Groningen, The Netherlands

REFEREES

Available upon request

PUBLICATIONS

Co-author Huang L., ... , **Rietkerk, J.** (3rd author), et al. Polygenic Analyses Show Important Differences Between Major Depressive Disorder Symptoms Measured Using Various Instruments. *Biological Psychiatry*. 2023 DOI: 10.1016/j.biopsych.2023.11.021.