HAMI LEE

Curriculum Vitae

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EDUCATION

DPhil
Year of completion: Aug. 2023
Institution: University of Oxford
Department: Psychiatry
Supervisors: Dr.Elizabeth Tunbridge and Professor Paul Harrison
Thesis: **Characterization of the short transcript in the C-terminus region of CACNA1S and CACNA1F in human brain**

MSc
Year of completion: Sep 2016
Institution: King's College London
Program: Gene, Environment and Development
Supervisors: Dr. Sylvane Desrivières
Thesis: **Does DNA methylation affect the white matter integrity in the Internal Capsule and control gene expression? : Epigenome- Wide Association Studies (EWAS) with healthy adolescents**

BA
Year of completion: Dec 2014
Institution: University of Minnesota, Twin Cities
Major: Psychology and Sociology
Thesis: **Saccadic Eye Movements and Oculomotor Inhibitory Control in Attention Deficit/Hyperactivity Disorder Patients**

EMPLOYMENT HISTORY

Postdoctoral Researcher
Time period: Apr 2025 – present
Institution: University of Luxembourg
Department: Psychology

- Managing a nationwide project examining epigenetic factors of adverse childhood experiences in relation to mental health disorders
- Archiving and organizing three types of questionnaires collected from nine primary schools, ten residential care homes, and four foster-based care services
- Supervising undergraduate and Master's students responsible for data entry
- Supervising a Master's student in data analysis and thesis writing
- Supervising an intern on a project aligned with the main study
- Developing a test battery to examine executive functions in children
- Supervising seven research assistants administering the test battery during data collection

Postdoctoral Researcher
Time Period: Mar 2024 – Mar 2025
Institution: Temple University
Department: Center for substance abuse research
PI: **Dr.Anjali Rajadhyaksha**

- Designed a novel study using iPSC-derived neurons and brain organoids to examine epigenetic marks associated with substance use
- Integrated advanced statistical analyses with molecular biology techniques to deepen understanding of substance use effects
- Presented project findings at international conferences
- Supervised a lab manager in developing basic wet-lab skills
- Supervised undergraduate students conducting literature reviews

Postdoctoral Research Associate
Time Period: Mar 2023 – Mar 2024
Institution: University of Exeter

Department: Psychology
PI: **Dr.Doretta Caramaschi**

- Coordinated and led two Patient and Public Involvement (PPI) meetings with 13 parents of children diagnosed with ADHD
- Presented research studies to public stakeholders
- Analyzed large-scale longitudinal data using innovative approaches, including unsupervised clustering methods, EWAS, and meta-analyses, to identify DNA methylation biomarkers of co-occurring ADHD and anxiety behaviours
- Awarded HLS lab visiting funding from the University of Exeter to establish an international collaboration
- Designed a new collaborative study
- Presented study results as a poster at a scientific conference and as an oral presentation to researchers at the University of Exeter

SKILLS

Programming Language

- Python, Bash, R, Eprime-3

Data Set

- GTEx (Exon expression data), Zoonomia (PhyloP score), FANTOM5 (CAGE), ALSPAC (DNA methylation and behavioural data), Transcriptomic (Short-read sequencing data, Long-read sequencing data), Genomic data (ChIP-seq data)

Statistics Software

- SPSS, Plink

Molecular Biology

- Polymerase Chain Reaction (PCR), Long-read nanopore sequencing, 5' Rapid Amplification of cDNA ends (5'RACE), Cell culture (HEK 293T, SHSY5Y, iPSC-derived neurons), Plasmid Cloning, Western blotting, Immunofluorescence, Immunoprecipitation, Transfection, Chromatin Immunoprecipitation (ChIP)

Language

- English - Fluent, Korean - Native

PUBLICATIONS

Reviewed Articles

- Paul J. Harrison, Syed M. Husain, Hami Lee, Alejandro De Los Angeles, Lucy Colbourne, Arne Mould, Nicola A.L. Hall, Wilfried Haerty, Elizabeth M. Tunbridge, "CACNA1C (CaV1.2) and other L-type calcium channels in the pathophysiology and treatment of psychiatric disorders: Advances from functional genomics and pharmacoepidemiology," Neuropharmacology, Volume 220, 2022. IF: 4.6 / Area: Biochemistry, Genetics and Molecular Biology
- Yeojung Koh, Maria Noterman-Soulinthavong, Anusha Bangalore, Uapingena P. Kandjoze, Zea Bud, Kamryn L. Noel, Hami Lee, Kathryn Franke, Coral J. Cintron-Perez, Anjali M. Rajadhyaksha, Eric B. Taylor, Andrew A. Pieper, "Astrocytic abnormalities in brain-specific Cacna1c-deficient mice: Implications for BBB impairment in neuropsychiatric diseases associated with CACNA1C mutations.Channels, Volume19, 2025. IF: 3.2 / Area: Biochemistry and molecular biology

Non-Reviewed Articles

- (In preparation) Hami Lee, Eilis Hannon, Paul Yousefi, Matthew Suderman, Krasimira Tsaneva-Atanasova, Doretta Caramaschi, "Epigenomic Analysis of ADHD co-occurring with Anxiety in the Avon Longitudinal Study of Parents and Children"
- (In preparation) Hami Lee, Michael Swingler, Raehee Park, Seonhee Kim, Stephanie Dawes, Ilker Sariyer, Anjali Rajadhyaksha Translating mouse studies to humans: Characterization of a Behavior-Specific Genomic Region in CACNA1C Intron 3
- (In preparation) Hami Lee, Syed M. Husain, Lily Waxler, Anjali Rajadhyaksha SNPs of VGCC genes in psychiatric disorder

Book Chapters

- Nicola A.L. Hall, Syed M. Husain, Hami Lee, Elizabeth M. Tunbridge, "Chapter Fourteen - Long read transcript profiling of ion channel splice isoforms." Methods in Enzymology, edited by Daniel L. Minor, Henry M. Colecraft, Academic Press, 2021, Pages 345-364. https://doi.org/10.1016/bs.mie.2021.02.015. IF : 1.709 / Area : Biochemistry

CONFERENCES

- BAP (The British Association for psychopharmacology) 2019 – Poster
- ECNP Workshop for Early Career Scientists in Europe 2020 – Poster
- ECNP (European College of Neuropsychopharmacology) Congress 2020 – Poster
- European calcium channel conference 2022 – Poster
- European Korean Conference 2023 - Talk
- Epigenomics of common diseases 2023 – Poster
- Midatlantic Bioinformatics Conference 2024 – Poster
- European Calcium Channel Conference 2025 -Talk

CREATIVE ACTIVITY

Public Talk

Idea Festival (IF) Oxford 2020

- Organized and led two public symposia on mental health
- Mental Health in Oxford – What's happening
- Mental Health in Oxford – How Can You Help

Exhibitions

Science Festival 2025

- Participated in a public science festival to teach children and parents about emotion regulation and executive function
- Conducted interactive activities such as making sensory bottles with children and using game-like tasks to assess executive function

Projects

MindMap Oxford
A digital storytelling project in which users share personal experiences linked to specific locations, describing how those places made them feel and how the environments affected their well-being. By reading others' stories, users can recognize that they are not alone in experiencing such emotions

Another Oxford
An immersive audio project that allows users to experience simulated auditory hallucinations, a common symptom in several psychiatric conditions. While not reproducing clinical hallucinations exactly, the project aims to approximate the experience to foster empathy and understanding

GRANTS

Internal Funding

Funded

Title: HLS Lab visiting funding
Funder: University of Exeter
Role: Main recipient
Effort: 100Period: Aug 2023

TEACHING AND ADVISING

Course

Veterinary Seminar
Seoul National University
Term: Fall 2025
Role: Guest Lecturer
Description: Delivered a lecture on long-read RNA sequencing and ChIP-seq to graduate students in veterinary sciences

Future Teachers (BSc)
University of Luxembourg
Term: Spring 2025, FALL 2025
Enrollment: 60
Role: Guest Lecturer
Description: Undergraduate course for students training to become primary school teachers, with a focus on attention-deficit/hyperactivity disorder (ADHD) and executive functions in children

Teaching with Special Education Needs (MSc)
University of Luxembourg
Term: FALL 2025
Enrollment: 20
Role: Lecturer
Description: MSc course for students training to become secondary school teachers, with a focus on understanding and supporting learners with special educational needs arising from neurodiversity, including ADHD, autism spectrum conditions, and learning difficulties. The course covered theoretical models of neurodiversity, evidence-based classroom adaptations, differentiation strategies, and multidisciplinary teams to promote inclusive education.