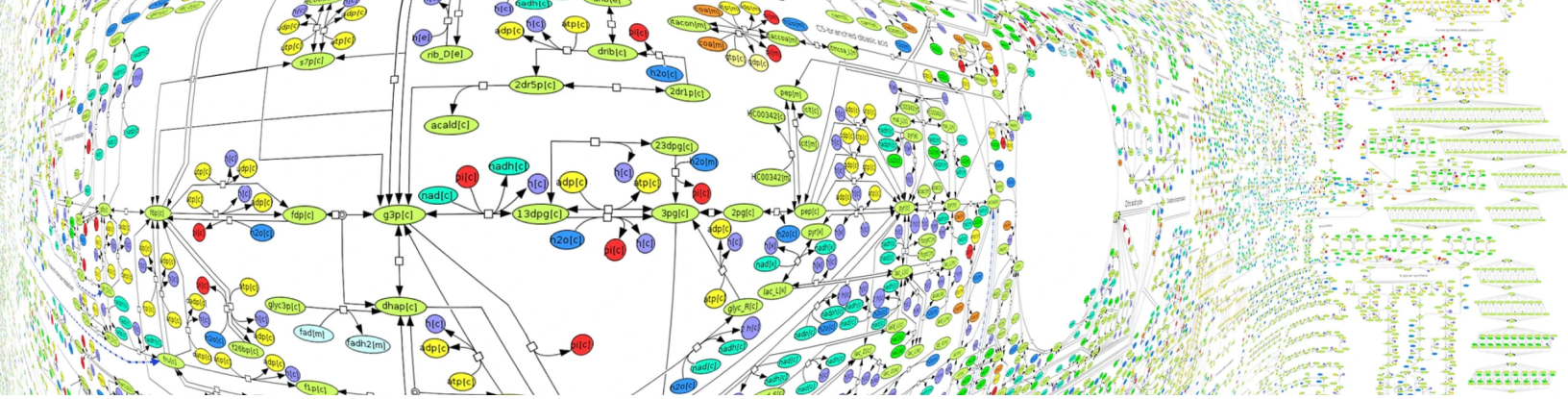

The HOLTHUIS LAB invites applications for a

Postdoctoral Researcher (f/m/d)

to work on

"Lipid Network Reconstruction and Computational Modeling for Inherited Metabolic Diseases"

Your duties

The position is embedded in Recon4IMD, an EU-funded consortium of membrane biochemists, systems biologists, clinical researchers and patient organizations who seek to accelerate the diagnosis of inherited metabolic diseases (IMDs) by personalized genomic, proteomic and metabolomic data-driven computer models (www.recon4imd.org). For modeling IMDs that affect lipid metabolism (e.g. Gaucher, Niemann-Pick), the successful candidate will collaborate with computational biologists and bioinformaticians to reconstruct the highly interconnected and compartmentalized lipid metabolic network. Databases and biochemical literature on lipid metabolic enzymes, transporters and lipidomes will be curated to reconstruct the differentiated lipid composition of organellar bilayers in disease-relevant cell types and organs (e.g. macrophages, liver, brain) as well as the localization of hydrophobic reactions to each membrane and biofluid compartment. In parallel, isotope labeling experiments with patient-derived cell lines will be combined with organellar lipidomics to infer the impact of IMDs on the lipid metabolic network, evaluate computational data, and explore options for therapeutic intervention. Collectively, these efforts will enable Recon4IMD to develop the most advanced metabolic models in the field of systems biology for the diagnosis and management of IMDs.

Key references: Sokoya et al., 2022, *eLife* 11, e79278; Thiele et al., 2020, *Molecular Systems Biology* 16, e8982; Pekkinen et al., 2019, *JCI Insight* 4, e126180; Holthuis and Menon, 2014, *Nature* 510, 48-57

Required qualifications

- PhD degree in biology, biochemistry or bioinformatics
- Solid background in lipid cell biology, membrane biochemistry and/or biomolecular mass spectrometry
- Strong organizational and time-management skills
- Strong communication skills and ability to initiate productive collaborations across a pan-European network of research institutes, academic hospitals and patient organizations
- Fluency in English, both written and spoken

We offer

- A cutting-edge research project at the interface of membrane enzymology, medical biochemistry and systems biology with ample opportunities for developing an extensive academic network
- State-of-the-art instrumental infrastructure in a cooperative working environment (CellNanOS; https://www.cellnanos.uni-osnabrueck.de/en)
- Participation in the Collaborative Research Center SFB 1557 „Functional plasticity of cellular membrane networks" and its support programs (https://irtg.uni-osnabrueck.de/application/sfb-1557.html)
- Collegial cooperation in an interdisciplinary and international research team working on fundamental and disease-relevant aspects of lipid cell biology
- UOS is located in the historical town of Osnabrück, the only German city situated in a national park

Conditions of employment

- The application deadline is **31 January 2024**. The position will be filled as soon as possible
- The position is temporarily limited until 31.05.2027
- Salary is at the E13/100% level according to the German TV-L scale
- UOS is a family-friendly university and committed to helping working/studying parents balance their family and working lives
- UOS seeks to ensure equal opportunities for women and men and strives to correct any gender imbalance in its schools and departments
- If two candidates are equally qualified, preference will be given to the candidate with disability status

How to apply

Applications including an informative letter of motivation, curriculum vitae with list of publications as well as the names and contact details of two academic referees should be sent as **a single PDF-document** by **January 31th, 2024** to Prof. Dr. Joost Holthuis (holthuis@uos.de). Further information can be obtained from Prof. Dr. Joost Holthuis (holthuis@uos.de; Phone +49 541 969 7140).