PhD researcher (m/f) Structural Bioimaging

Your function

In the framework of a Special Research Fund Large Research Project you will work as a doctoral scholar together with 3 other PhD students on an ambitious research initiative "**Structuromics@UHasselt**" focused on elucidating biomolecular assemblies that are related to neurodegenerative disorders. Your PhD project specifically will focus on developing and applying a versatile high-throughput fluorescence imaging platform. In this function you will:

- optically design a microscope tailored to high-resolution high-throughput imaging.
- assemble, align, optimize and validate the microscope using reference samples.
- expand existing software with data analyses tailored to the new microscope.
- employ the microscope to study pathological aggregation of Alzheimer's Tau protein.
- work in an international multidisciplinary team of biomedical scienists, biochemists and nanotechnologists.
- publish in international journals and present at scientific conferences.
- write a doctoral thesis contributing to academic knowledge on Structuromics

Your team

You will become member of the Dynamic Bioimaging Lab, a passionate, fun and international group of scientists from a variety of research disciplines, that work together on developing advanced novel optical microscopy methods to solve timely questions in the biomedical sciences. Our laboratory collaborates with many top scientists in Flanders, Europe and beyond to push our research impact maximally. Check out our website www.uhasselt.be/dbi to see who you will work with, where the Lab is located, and which tools and expertise you can count on.

The laboratory is part of the dynamic and ambitious Neuroscience Research Department at the Biomedical Research Institute (www.uhasselt.be/biomed), where the common goal is to discover and characterize new targets for specific neurological diseases (developmental disorders, neurodegeneration, neurogastroenterological disorders, aging...).

The laboratory furthermore will have access to a top-notch microscopy facility (www.uhasselt.be/aomc), that specializates in the development of innovative light microscopic imaging methods to study dynamic cellular processes (live calcium imaging, pathological protein assembly, imaging of signal cascades) at spatial levels ranging from a single molecule to (entire organs of) model organisms.

Your talents

- You have a Master's degree in (bio)engineering, (life) sciences, (bio-)physics, optical sciences or a related field.
- You are trained in optics, can interpret complex optical microscope assemblies and engineer novel optical designs.

- You have proven experience with programming and a motivated interest in programming image analysis algorithms.
- You have proven experience, or show a motivated interest in bioimaging (light, electrons, NMR/MRI, CT,...) and in advanced fluorescence imaging techniques such as single-molecule imaging, Förster resonance energy transfer and light-sheet fluorescence microscopy.
- You are prepared to develop further in the following areas:
    - Research expertise and methodological skills: You are open to methodological training and guidance to conduct independent and critical quantitative research. You are curious, analytical and willing to explore complex issues thoroughly.
    - Personal effectiveness: You are eager to learn, resilient and motivated to successfully complete a multi-year research project. You demonstrate ownership of your learning and can handle feedback. You are able to prioritize and work systematically towards long-term goals.
    - Communication and collaboration: You are willing to learn how to communicate research results clearly and convincingly, both orally and in writing, to various audiences. You demonstrate openness to collaboration in a multidisciplinary context. You are motivated to work in interaction with partners from different research fields.
    - Societal impact and innovation: You are motivated to conduct research that is not only academic but also societally relevant. You want to contribute to the development of innovative solutions to current health challenges, with a focus on inclusion and sustainability. You are open to interacting with stakeholders and valorizing scientific insights.
    - Professional and career development: you are willing to actively participate in training and networking activities within the Doctoral School. You see the PhD not only as an academic pathway, but also as an opportunity to develop broad skills that are valuable within and outside of academia.

Our offer to you

- You will be appointed and paid as a PhD student as part of a 4-year research project called Structuromics (http://www.uhasselt.be/dbi-structuromics)
- We offer a full-time position with a fellowship agreement of 2 x 2 years (after positive mid-term evaluation).
- You will be supervised by a multidisciplinary and committed team of researchers.
- You will have opportunities to attend international conferences and networking events.
- You will join a dynamic and inclusive research environment.
- The start is scheduled for Q4 2025.

- As PhD student at UHasselt, you can follow many doctoral school training courses and workshops for personal development (public speaking, grant writing, valorization,…).

Apply for this position

The selection procedure consists of a pre-selection based on the application file, and an interview. In addition to your CV, provide us with a motivation letter. Interviews take place in September/October.

Please apply until September 19, 2025.

Questions about this vacancy?

For content-related questions, please send an e-mail to jelle.hendrix@uhasselt.be. For questions about the selection procedure, please email jobs@uhasselt.be.