



#### POSTDOCTORAL RESEARCHER – DATA SCIENCE & AI

FULL-TIME POSITION

DATA SCIENCE & AI RESEARCH UNIT, DEPARTMENT OF MEDICAL PHYSICS, HOPITAL UNIVERSITAIRE DE BRUXELLES

## Job description

We are looking for a highly motivated candidate with a PhD in Computer Science, Engineering, Physics, Mathematics, or equivalent, with a strong background in artificial intelligence or computational modelling, to conduct research in Generative and Multimodal AI in Oncology, and support other ongoing research projects in the Data Science & AI Research Unit. The activities will focus on all aspects of data science; from supporting the creation of structured databases, to the development and validation of image analysis pipelines using machine- and deep learning. The work will be carried out at Institut Jules Bordet, on the Erasme (Brussels, Belgium) in the Data Science & AI Research Unit of the Hopital Universitaire de Bruxelles. More information on the research unit can be found on the laboratory website: <a href="https://mplab-hub.be/">https://mplab-hub.be/</a>.

## **Project description**

The Jules Bordet Cancer Institute (IJB) in Belgium is a leading cancer research and treatment centre. At IJB, a multidisciplinary team of world-class physicians, scientists, nurses, and support staff collaborate to provide personalized and comprehensive care to cancer patients. From diagnosis to treatment and survivorship, patients benefit from state-of-the-art medical technologies, innovative therapies, and compassionate support services tailored to their individual needs. Beyond clinical care, the institute also serves as a hub for cutting-edge cancer research; driving scientific discovery and therapeutic innovation. Its research programs span the spectrum of basic, translational, and clinical research, with a focus on: (1) understanding the molecular mechanisms of cancer, (2) identifying novel therapeutic targets, and (3) developing precision medicine approaches to improve patient outcomes.

Through its clinical routine and active participation in a broad range of clinical trials, the IJB generates a critical mass of multimodal data, including imaging, molecular, and clinical information. This rich data environment offers a unique opportunity for the development of AI models that can learn from real-world data. At the same time, it enables immediate application and valorization of AI by integrating AI-based tools to support data analysis, accelerate research and ultimately improve clinical practice.

The research will focus on the development of (Generative) AI models for automatic image analysis (digital pathology), and predictive modeling using multimodal data (digital pathology, ctDNA, other 'omics'). The work will be linked to the future Centralized Research Sample Platform; a novel central lab with an innovative digital platform for AI developments and validation.

Further information on the project can be obtained by contacting: Dr. Ir. Jennifer Dhont (jennifer.dhont@hubruxelles.be), Head of the Data Science & AI Research Unit, HUB.

## Funding

Initial funding is available for 2 years, with possible extension for 2 additional years. The salary will be determined based on experience in accordance with HUB's pay scale. Start date: **1**<sup>st</sup> of October, but there is some possibility to start earlier or later.

## Profile

We are looking for a highly motivated, pro-active and creative researcher who can work in a transdisciplinary environment composed of data scientists, computer scientists, bioinformaticians, and clinicians. The candidate must be able to work independently and will be expected to develop and lead their own projects. They will also mentor junior researchers, and might be expected to contribute to teaching activities. The candidate must:

- Hold a PhD in computer science, engineering, biomedical science, physics, mathematics, or a related field.
- Have in-depth experience in artificial intelligence (machine and deep learning) and/or computational modelling, ideally with multimodal data including digital pathology and other 'omics'.
- Demonstrate a publication record in peer-reviewed journals.
- Have good communication skills, both verbal and written.
- Have strong organizational skills to manage the (international and inter-disciplinary) collaborations in this project.
- Experience in writing succesful grant applications will be considered as an asset.

While some flexibility is possible, we expect team members to be on-site at least 80% of the time during the first year to support collaboration and knowledge sharing.

# Application procedure

PhD students soon to be obtaining their PhD degree are welcome to apply provided that they will have obtained the degree before the start of the position. The applicant should provide a motivation letter, a comprehensive academic curriculum vitae including a 1-2 page summary of previous research work and the name and e-mail addresses of two reference persons by e-mail to **Dr. Ir. Jennifer Dhont** (jennifer.dhont@hubruxelles.be) by **1**<sup>st</sup> of July the latest. Selected candidates will then be contacted in the following weeks.