

Maastricht University

Job Title: **Specialist in microscopy image processing and analysis.**

Organisation: Microscopy CORE Lab of the Faculty of Health, Medicine and Life Sciences (FHML) of the University of Maastricht.

Overall Purpose of the Job

The Microscopy CORE lab (MCL) is looking for an image processing and analysis specialist for the microscopy field. As support staff you will be positioned at the Microscopy CORE lab. You will work in close collaboration with researchers, microscopists and data engineers.

As microscopy data specialist you facilitate the use, development and processing of both light and electron microscopy imaging data from the microscopes among the researchers. You train young scientists and research staff, in data analysis on imaging. You are responsible for a maximum uptime of the infrastructure and will develop and adapt new methods for helping to solve research questions.

Tasks

1. Take responsibility for the maintenance of the equipment, hardware (7 working stations) and software packages.
2. Connect microscopes of varying types to the servers, image storage and transference tools enabling systems, safeguard and assuring to keep confidentiality of each user.
3. Ensure optimal system status of the microscopes by resolving hardware and software problems. Implement maintenance program for equipment. Take action before issues arise.
4. Arrange and facilitate service engineer interventions.
5. Establish pipelines to process different types of microscopy data for: single particle analysis (SPA), tomographic 3D reconstruction and correlative light and electron microscopy (CLEM).
6. Maintain knowledge of current imaging data processing and analysis in order to allow this to be done with maximum efficiency.
7. Provide training and support to young scientists and staff and troubleshooting problems.
8. Attend to imaging data courses and workshops.
9. Organize and implement training tutorials and courses.
10. Maintain the tracking system of the use of the instrumentation as well as procedures description, at the MCL management system.
11. Implement novel and/or tailor-made solutions by programming.
12. Help build tailor-made image-analysis pipelines in collaboration with researchers and microscopists.
13. Collaborate in the users research providing the cutting edge methodology.

14. Keep up to date with developments in the field, proposing or implementing changes of direction as necessary.
15. Advise in the selection, installation and commissioning of new IT equipment or software for data collection at the microscopes and for data processing and analysis.

Technology keywords: Microscopy (optical and electron microscopy), SPA, Tomography, CLEM, Python, Linux, Matlab, Image analysis, OMERO, Fiji, RELION, Amira, Huygens, deep learning...

Knowledge, Skills and Experience:

We require:

- Bachelor in applied sciences, information technology, bioinformatics or equivalent experience.
- First class communicator, teacher/trainer and pro-active independent team player.
- Experience in imaging by light microscopy and electron microscopy.
- Experience with programming (Python, Matlab or other relevant languages).
- Experience with Linux (Ubuntu) server administration and maintenance.
- The ability to quickly learn new technologies or acquire new imaging treatment skills.
- Ability to prioritise a demanding workload.
- Strong interest in microscopy, image analysis, quantification and 3D visualisation new developments.

Experience in these areas is appreciated:

- Experience with Research Data Management using OMERO or other RDM database systems.
- Experience in microscopy data processing and deep learning.
- Experience with building web technology (Python Django, HTML, JS, CSS).
- Experience with Linux and Windows networking.

Employment conditions

We offer an enthusiastic working environment within an ambitious international research team for 2 years (fulltime). Upon positive assessment, this fixed-term contract could be replaced with a contract for an indefinite period of time provided that other objections do not arise.

The terms of employment of Maastricht University (UM) are set out in the Collective Labour Agreement of Dutch Universities (CAO). Furthermore, local UM provisions also apply. For more information look at the website www.maastrichtuniversity.nl.

Maximum salary **scale 10** (scale 10.0 Collective Labour Agreement Dutch Universities). Salaries are supplemented with a holiday bonus of 8% and a year-end bonus of 8,3% per year. We offer a pension scheme, collective insurance schemes, flexible employment conditions, working-from-home facilities and partially paid parental leave. Facilities for sports and childcare are available on our campus, which is only 15 minutes away from the historical city centre.

We have a state of the art international school (United World College Maastricht) for children in the age from 2-18 years, equipping them with the attitudes, skills and that provides them access to international universities. <https://www.uwcmaastricht.nl/about-us>

About the Microscopy CORE Lab

The Microscopy CORE Lab provides the most advanced microscopy techniques, including electron tomography, single particle analysis, correlative light and electron microscopy, focused ion beam/scanning electron microscopy (FIB/SEM) all at room and cryogenic conditions. Also, confocal white light microscopy, confocal live cell microscopy, super-resolution STED microscopy, 2-photon (intravital) microscopy, fluorescence lifetime and spectroscopic microscopy, Nuance spectroscopy microscopy, spinning disk cryo-light microscopy. The team works embedded in the M4I Institute (www.maastrichtuniversity/m4i) sharing instrumentation and know-how.

Additional information

For additional information, please contact Carmen López-Iglesias (c.lopeziglesias@maastrichtuniversity.nl), at the Microscopy CORE Lab, FHML, Maastricht University.

Applicants should send their curriculum vitae, contact information of references, and an application letter to hrm-rw-vacatures@maastrichtuniversity.nl under reference of the vacancy number .