Software engineer astronomical instrumentation and telescopes

Ref. ATP-2021-111

The Institute of Astronomy at KU Leuven is a young and vibrant research group of about 80 researchers, engineers and administrative staff. The institute is part of the Department of Physics and Astronomy, which conducts research in various domains in modern physics. It contains several research units comprising activities in physical acoustics and thermal physics, biophysics, nuclear and radiation physics, semiconductor physics, solid state physics, theoretical physics, astronomy and (astro)physics education research. The department belongs to the Science, Engineering and Technology Group, Faculty of Science, and currently counts about 370 staff members.

The Institute of Astronomy is a partner in a wide range of international networks and research projects developing astronomical telescopes and instruments for international observatories and space missions. Some examples of these projects are:
• For the European Extremely Large Telescope (ELT, operational in 2024) in Chile, we are developing the control system for the mid-infrared instrument METIS.
• For the Very Large Telescope Interferometer (VLTI), we are leading the Hi-5 instrument. The primary scientific goal of Hi-5 is to image young planetary systems within the snow line with a new dedicated high-contrast interferometric instrument for the VLTI.
• To measure accurately the mass of exoplanets discovered by the PLATO space mission, we are building MARVEL, an array of 4 telescopes connected via optical fibers to a high resolution spectrograph.
• The Mercator Telescope On La Palma (Canary Islands, Spain), operated by the Institute of Astronomy.
For these developments, we are looking for a software engineer with a passion for software engineering, control technology and astronomy who will work in a team of 5 software and electronics engineers.

ELT: http://www.eso.org/sci/facilities/eelt
METIS: http://metis.strw.leidenuniv.nl/
Hi-5: https://fys.kuleuven.be/ster/research-projects/scify/scify
MARVEL: https://fys.kuleuven.be/ster/instruments/marvel

https://fys.kuleuven.be/ster

Responsibilities

Together with your colleagues, you will work on:
• Integration of the Hi-5 detector data acquisition software in the ESO VLT instrument software framework (C++, Python).
• Implementation of the high-level software interfaces to the PLC control electronics in the ESO software framework for the METIS and Hi-5 instruments (C++, Python).
• Development, integration and testing of prototypes and production versions of the METIS and Hi-5 control systems, focusing on high-level software development.
• Development of the high-level control software for the MARVEL project, based on the existing MERCATOR python control system (GUIs, interfaces to PLC hardware).
• Preparation of design documentation for project reviews.

Profile

• You obtained a relevant master degree in electronics/software engineering, ICT. or you will obtain this degree in the coming months or equivalent through experience.
• You show a passion for high-tech applications and are willing to continue to study and learn about novel technologies.
• You show a passion for programming, preferably in Python, C++, and preferably also coding software that interacts with real hardware (sensors, actuators, etc.).
• A good command of the English language, able to understand and write technical reports and to orally present your work in an international consortium.
• You are a good team player, looking forward to collaborating with colleagues in Leuven as well as at institutes abroad.
• Short missions abroad (to our consortium partners in various European countries, to La Palma, etc.) are not a problem.
• Relevant assets:
o Good knowledge of Linux.
o Some experience with embedded systems
o Interest or some knowledge about space, astronomy and astronomical observations.

Offer

We offer a full-time contract for 1 year, extensible to an indefinite period of time. This function will be remunerated in the KU Leuven salary scale 7, 8 or very exceptionally scale 9, depending on your relevant experience and competences.

You are offered the opportunity to work in a multi-disciplinary and international team in a vibrant research environment. You will be encouraged to continuously learn and deploy your own initiatives

Interested?

For more information please contact Mrs. Martien Vanmechelen, tel.: +32 16 37 61 47.

Contact for specific questions on the contents of the job: Wim De Meester (wim.demeester@kuleuven.be), Instituut voor Sterrenkunde, KU Leuven, Celestijnenlaan 200D, 3001 Leuven.

You can apply for this job no later than March 25, 2021 via the online application tool :

http://www.kuleuven.be/eapplyingforjobs/light/60000683

KU Leuven seeks to foster an environment where all talents can flourish, regardless of gender, age, cultural background, nationality or impairments. If you have any questions relating to accessibility or support, please contact us at diversiteit.HR@kuleuven.be.