



The Leibniz Institute for Astrophysics Potsdam (AIP) is a publicly funded German research institute with a long history, including the Berlin Observatory and the Astrophysical Observatory Potsdam. The latter was the world's first observatory to emphasize explicitly the research area of astrophysics. Today, the AIP has an international reputation as a competence centre for the development of research technology in the fields of spectroscopy, robotic telescopes and E-Science. About 130 scientists work on a variety of astrophysical topics such as magnetic fields, solar and stellar physics, stellar and galactic evolution and cosmology. As a member of staff of the AIP, you will have the advantage of living very close to the Berlin metropolitan area as well as enjoying the calm, family-friendly area of Potsdam-Babelsberg for your work place and residence.

The Leibniz-Institut für Astrophysik Potsdam (AIP) invites applications for the position of

## **Mechanical Engineer (m/f/d)**

for the development and support of astronomical instrumentation/telescope projects. The successful candidate will interact closely with AIP project teams and scientists, collaborating institutions and suppliers.

### **Overview**

The institute has a strong record in the development of optical instrumentation for state-of-the-art international telescope facilities, such as the European Southern Observatory in Chile, the Large Binocular Telescope in Arizona, the Hobby Eberly Telescope in Texas, the Calar Alto Telescopes in Spain and also operates the robotic STELLA observatory on Tenerife. AIP will make significant contributions to the next generation European Large Telescope (ELT) instrumentation and is involved in space missions such as Gaia, eRosita and Solar Orbiter. AIP specialises in fibre-coupled precision, multi-channel and integral field spectroscopic systems, and examples of current instrumentation projects include: 4MOST (VISTA), ELT-HiReS, ELT-MOSAIC and GANS (GREGOR).

The successful candidate will primarily work on the 4MOST project at AIP in collaboration with the large local project team and extensive external partner network. Engineering support is required for completion of the final design of the AIP sub-system contributions to the 4MOST project and for development of the tooling and additional equipment required for the manufacture, assembly, integration and testing (MAIT) phases of those sub-systems.

### **Your Tasks**

- Design mechanical component, assembly and unit solutions based on the system/subsystem functional and performance requirements and constraints, and the critical review of designs developed by other parties.
- Design and develop opto-mechanical and electro-mechanical systems for complex instrumentation using Computer Aided Design Tools (Autodesk Inventor® 3D CAD software).
- Produce fully detailed fabrication and assembly packages for the components, assemblies including detailed manufacturing and assembly drawings, parts lists and assembly procedures.
- Analyse feasibility of products, using engineering skills in the areas of precision mechanics, dynamics, materials and structures, thermodynamics, engineering modelling including FEA using ANSYS, detailed tolerance analysis and knowledge of machine shop processes.
- Develop and validate manufacturing, assembly, integration and test (MAIT), quality assurance (QA) and risk mitigation processes, procedures and safe practices.

- Oversight of the purchase/manufacture, assembly, integration and verification of mechanical parts, component and assemblies.
- Write mechanical design, analysis, training and maintenance documents for the design.
- Interact in a multi-disciplinary team involving optical, electronic, and software design and support staff

#### **Your profile must include:**

- A degree in mechanical engineering or equivalent (Bachelor or Master in engineering or applied sciences, Dipl.-Ing. (FH))
- Extensive experience with mechanical engineering, design and detailing and proficiency with precision mechanics, dynamics, structures, thermodynamics, engineering modelling and machine shop processes.
- Extensive experience critical analysis and validation of designs, including finite element analysis, measurement and prototyping.
- Proficiency with Autodesk Inventor® 3D CAD, Autodesk Vault and ANSYS® software is highly desirable.
- Familiarity with the EU machinery directive 2006/42/EC, the optical drawing standard ISO 10110 and related standards is desirable
- Ability to document designs and write reports and procedures using MS Office software.
- Excellent interpersonal and communication skills with the ability to collaborate efficiently and effectively with administrative, technical and scientific staff.
- Demonstrated ability to work as a member of multi-disciplinary (often international) teams in close collaboration with optical, electronic, software design and support staff.
- Fluency in spoken and written English and German proficiency is highly desirable.

#### **Conditions**

The AIP is an equal opportunity employer and strives to maintain a diverse, inclusive work environment and culture. AIP particularly encourages applications from women. Preference will also be given to people with disabilities with equal competence. The appointment could be either part or full time and could start in October 2019 after the recruitment process is completed. The appointment would be for 2 years. Salary and social benefits are calculated based on the German public service scale TV-L and commensurate with qualifications and experience in relation to the position. Employer contributions to medical, parental leave, and retirement benefits are included.

To apply, please send your Curriculum Vitae and copies of academic degrees, certificates, a letter of reference and any supporting documents via our job portal at <https://jobs.aip.de/rec024/> alternatively via eMail to [bewerbung\\_2019-15@aip.de](mailto:bewerbung_2019-15@aip.de). Complete applications received by 14<sup>th</sup> August 2019 will receive full consideration.

#### **Contact**

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