



ESO

European Organisation  
for Astronomical  
Research in the  
Southern Hemisphere



The European Organisation for Astronomical Research in the Southern Hemisphere (ESO) is the foremost intergovernmental astronomy organisation in Europe and the world's most productive ground-based astronomical observatory. ESO carries out an ambitious programme focused on the design, construction and operation of powerful ground-based observing facilities enabling astronomers to make important scientific discoveries.

ESO operates three unique world-class observing sites in northern Chile: La Silla, Paranal and Chajnantor (home to ALMA and APEX), and the ESO Headquarters are located in Garching, near Munich, Germany.

At Paranal, ESO operates the Very Large Telescope, the world's most advanced visible-light astronomical observatory. ESO is a major partner in ALMA, the largest astronomical project in existence. And on Cerro Armazones, ESO is building the 39-metre European Extremely Large Telescope, which will become "the world's biggest eye on the sky" and whose operations will be fully integrated into the Paranal Observatory.

For its Control Software and Engineering (CSE) department at the Headquarters in Garching near Munich, Germany, ESO is opening the position of

## **Control Engineer**

ESO is looking for one or two suitably qualified Control Engineers to work in CSE's Control Engineering group in the Directorate of Engineering. The department comprises about 36 software and control engineers, who work closely with other departments at ESO as well as many national and international institutes and industrial consortia to define and develop state-of-the-art research facilities for ESO's observatories in Chile, especially for the E-ELT.

### **Main Duties and Responsibilities:**

You will be working closely with various ESO project teams and in particular on the European Extremely Large Telescope (E-ELT) project. The main responsibilities will include:

- Providing support to ESO projects for the specification, design and analysis of control systems;
- Providing support to E-ELT project during all phases of its life cycle; design, construction, integration, commissioning and operation;
- Investigating, designing and simulating suitable controller concepts for the ESO control systems;
- Specifying control system components including actuators and sensors;
- Keep abreast of new technological developments and assess their suitability for ESO's work; and
- Follow up of industrial contracts in terms of schedule, content and quality

### **Reports to:**

Head of Control Engineering group within the department of Control Software and Engineering

### **Experience:**

The successful candidate fulfills at least a significant subset of the following criteria:

- At least 5 years working experience in the development of high-accuracy servo-controlled mechanical systems;
- Solid theoretical knowledge of complex control systems, including analysis and implementation of digital servo systems and signal processing;



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- Excellent knowledge of standard numerical simulation tools for complex control systems such as Matlab / Simulink and/or LabVIEW;
- Hands on experience in system identification (including SISO as well as MIMO systems) and servo tuning with mechanical compliance, friction;
- Experience in high-speed data transfer, industrial field buses, deterministic network communication and synchronization of distributed control systems;
- Sound engineering background in different engineering disciplines like systems engineering, structural mechanics, optics and electronics;
- Experience with implementation of real-time computing on various hardware platforms; and
- Experience with embedded control systems and related development tools and technologies –e.g. FPGA, DSP.

### **Key Competences:**

The successful candidate:

- Provides clear, concise and timely oral and written communications, identifies the key issues, examines options and proposes the way ahead
- Is able to build strong collaborative working relationships with people from different cultural backgrounds and disciplines
- Is flexible in adapting to changes of requirements and priorities as well as of assignments
- Monitors progress of own work and delivers to agreed deadlines and standards
- Develops own skills and ensures that learning and development needs are identified, solutions found and outcomes evaluated
- Is capable to work for different projects and with different teams in a matrix structure, also in parallel and under pressure
- Takes over responsibility and is able to take decisions

### **Qualifications:**

University degree in Control Engineering or equivalent.

### **Language Skills:**

The position requires a working knowledge of English.

### **Remuneration and Contract:**

We offer an attractive remuneration package including a competitive salary (tax free), comprehensive pension scheme and medical, educational and other social benefits, as well as financial support in relocating family members and the possibility to place your child/children in daycare.

The contract is for a fixed term duration of three years, and is subject to successful completion of the probation period. There is a possibility of extension(s) subject to individual performance and organisational requirements, and as defined in the applicable policies and staff rules and regulations. For any further information, please visit <http://www.eso.org/public/jobs/conditions/intstaff>.

### **Duty Station:**

Garching near Munich, Germany with regular duty trips to the ESO sites in Chile.

### **Career Path: V**



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**Application:**

If you are interested in working in areas of frontline technology and in a stimulating international environment, please visit <http://www.eso.org> for further details.

Applicants are invited to apply online at <http://jobs.eso.org/>. Applications must be completed in English and should include a motivation letter and CV.

**Closing date for applications is 29 January 2016.**

Interviews are expected to start soon after this date.

No nationality is in principle excluded. However, recruitment preference will be given to nationals of Austria, Belgium, Brazil, the Czech Republic, Denmark, Finland, France, Germany, Italy, the Netherlands, Poland, Portugal, Spain, Sweden, Switzerland and United Kingdom.

The post is equally open to suitably qualified female and male applicants.