



French-German Research Institute of Saint-Louis



The **French-German Research Institute of Saint-Louis (ISL)** situated in the border triangle of Germany, France and Switzerland is an internationally renowned research institute belonging to a global industrial and economic network.

The spectrum of our core activities comprises a variety of topics: aerodynamics, energetic and advanced materials, lasers and electromagnetic technologies, protection, security and situational awareness.

Our activities are related to both basic and applied research.

www.isl.eu

For immediate placement, we are currently looking for a

Research scientist specialised in Positioning, Navigation and Timing (all genders)

for the **STC group (Sensorics, Telemetry, Communication)**.

This scientific group carries out research on the following subjects:

- Radio and inertial navigation and alternative PNT (Positioning, Navigation, Timing) especially for missions under countermeasures such as jamming and spoofing (GNSS-denied und contested environment)
- Antennas, especially electronically guided antennas (CRPA), conform/miniaturised antennas, data-links
- Passive microwave seekers and antenna measurement technology
- Measures and designs for signature reduction
- Shock-hardened sensors, electronics

Your new tasks and responsibilities – challenging and future-oriented

- ◆ Development and application of modern algorithms and software, methods and theories in order to develop solutions for:
 - o Classical radio and satellite navigation (receiver side)
 - o Alternative acquisition methods of position, speed and time (PNT) like LEO-PNT or signals of opportunity
 - o Assessment procedures like Kalman filters and AI-based data fusion
 - o Ruggedness against electronic countermeasures such as spoofing or jamming
- ◆ Research in scientific literature, patents, current practices and applications, benchmarking
- ◆ Defining technical analysis methods, carrying out independent tests in laboratory or in the field, partly with industry partners and military proving grounds
- ◆ Managing projects or project parts (internal projects, third-party contracts, collaborative research projects), directing test campaigns
- ◆ Documentation, publication and presentation of scientific results on internal and external events (with clients and partners, in congresses, fairs, in specialised publications and working groups)
- ◆ Support in elaborating a technical roadmap. Identifying technical milestones and insuring progress in technical goals
- ◆ Scientific supervising of students (student trainees, bachelor and master students, PhD students)
- ◆ Developing and managing partnerships with universities, research institutes, industry, defence proving grounds and end-users

Your qualifications

- ◆ Ph.D. in electric engineering, telecommunications, computer science or any comparable PhD
- ◆ Deep knowledge in the following fields:
 - o Radio and satellite navigation procedures, PNT
 - o Profound experience with GNSS-signal processing, Kalman-Filtering (EKF) and general data fusion knowledge in inertial and coupled navigation as well as other PNT-hprocesses – both on the soft- and hardware
 - o Knowledge in programming with Python, C++, Matlab
 - o Special interest towards AI methods and tools
 - o Knowledge of high-frequency and antenna technology and circuit design
- ◆ You follow with high interest the new military trends, especially regarding electronic and navigation warfare
- ◆ Ability to communicate and to work effectively as part of a team, ability to take initiatives and to exercise flexibility, good organizational skills
- ◆ Very good command of English. A good command of French and/or German would be an advantage. Ability to write easily scientific articles in English and German/French.

Our offer

- ◆ You will be working in a top-level research institute in the centre of Europe
- ◆ The region of the border triangle of France, Germany and Switzerland between Black Forest, Vosges and Swiss Jura mountains offers a high quality of life. You can settle in one of the three countries.
- ◆ We offer attractive remuneration, flexible working time and balanced working-private life, various possibilities of advanced training, canteen, parking area parking area with charging station, occupational-medical care, health mutual, parental leave or part-time models, as well as a wide range of sport activities.

We propose to employ you on a fixed-term contract for five years with possibility of renewal, or of permanent contract.

If this challenging description fits your profile, we are looking forward to receiving your complete application documents (cover letter, resume in tabular form, school-leaving certificate, degree certificate, job references, evaluations and any other relevant certificates) mentioning the keyword **“STC-S”**.

The position is open to individuals with disabilities.

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