



**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](http://www.isl.eu)**

For immediate placement, we are currently looking for a

## Research scientist/Post-Doc in Radio/Satellite Navigation and PNT (m/f/d)

for the NSC (Navigation, Sensors and Communication) group.

### 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

- ◆ Work on the next generation of resilient navigation solutions for advanced effectors like guided projectiles, missiles, rockets or drones/UAVs and swarms
- ◆ Supervise and conduct theoretical and experimental studies for systems designed for navigation warfare conditions
- ◆ Research in scientific literature, patents, current practices and applications, benchmarking
- ◆ Development and application of modern algorithms and software, methods and theories in order to develop solutions for:
  - Classical radio and satellite navigation (receiver side)
  - Alternative acquisition methods of position, speed and time like LEO-PNT or Signals of Opportunity (SoP)
  - Assessment procedures like Kalman filters and AI-based data fusion
  - Ruggedness against electronic countermeasures such as spoofing, jamming or meaconing
- ◆ Analyse, validate and track the progress of research results
- ◆ Manage and deliver on research contracts (acquiring, planning and preparing contracts, managing research activities) and direct test campaigns
- ◆ Maintain and expand the scientific network with academia, research institutes, defence industry, military test sites and end-users in your domain
- ◆ Define technical analysis methods, carry out independent tests in laboratory or in the field, partly with industry partners and military proving grounds
- ◆ Document, publish and present scientific results on internal and external events (with clients and partners, in congresses, fairs, in specialised publications and working groups)
- ◆ Mentor and supervise interns, bachelor, master and doctoral students
- ◆ Support the team leader in drafting updates to the strategic scientific roadmap, milestones and planned scientific investments

### Your qualifications – solid and appropriate

- ◆ Ph.D. in electric engineering, telecommunications, geo-informatics, computer science or any comparable PhD
- ◆ Deep knowledge in the following fields:
  - Radio or satellite navigation or general PNT
  - GNSS-signal processing, Kalman-Filtering (EKF) and general data fusion knowledge – both on the soft- and hardware
  - Programming with Python, C++, Matlab
- ◆ Additional knowledge in in related fields like AI methods and tools, inertial and coupled navigation, LEO-PNT, high-frequency / CRPA technology or circuit design could be an asset
- ◆ 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
- ◆ ISL offers attractive remunerations, flexible work arrangements and many opportunities for vocational training, a cafeteria, 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: “NSC-S”.**

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