

**SOLARIS National Synchrotron Research Centre, hosted by the Jagiellonian University,  
has an open position for:**

## **Senior RF systems specialist**

---

SOLARIS is a Polish national research centre providing scientists with synchrotron radiation. It is also the first and only synchrotron light source in Central Europe. The excellent parameters of the SOLARIS synchrotron put it in the forefront of this type of devices in the world.

### **SOLARIS offers:**

- A unique opportunity to take a part in the operation and development of the first Polish synchrotron research centre.
- The possibility of personal development.
- Work in the international community.
- Full-time position.
- Salary commensurate with experience.

### **Main responsibilities:**

- Technical responsibility for the operation, optimization and new developments of the radiofrequency (RF) systems at the SOLARIS NSRC.
- Applying independently RF engineering principles, development methods, and research techniques to solve complex technical problems in RF Engineering.
- Performing a variety of engineering tasks such as developmental works, characterization measurements, subsystem designing and developing, as well as repairing of the RF systems currently installed.
- Upgrading, repairing and maintenance of the following SOLARIS RF systems:
  - Electron Gun System with a thermionic RF gun powered by 3GHz,8 MW high power RF Unit containing pulsed solid state modulator with the 3 GHz Klystron megahertz pulsed chopper system,
  - 35 MW pulsed S-Band Modulators with klystrons delivering power to the 3 GHz Linac accelerating structures,
  - 6 S-band traveling wave normal conducting, Ultra High Vacuum (UHV) linac structures, waveguides system, SLED cavities,
  - Normal conducting, Ultra High Vacuum (UHV) high-Q resonant RF cavities at 100& 300 MHz,
  - Solid-state RF amplifiers at 100 MHz, circulators, dummy loads, coaxial waveguide RF transmission line systems .
  - Low Level RF Controllers consisting of digital based phase and amplitude
  - control loops,
- Managing RF projects and being a support to other RF-related projects at SOLARIS.
- Taking part in the operation of the SOLARIS synchrotron.
- Participating, along with other scientists and engineers, in reviewing and solving difficult technical issues.
- Developing documentation, baseline data, as well as operating and maintenance procedures.
- Providing scope, cost and schedule estimates for research and engineering projects.
- Representing SOLARIS in RF Engineering by, for example, participation in design reviews, workshops and conferences.
- Preparation or contributing to conference presentations and publications.

**Additional responsibilities:**

- Raising the qualification in the fields of RF amplifier technology, accelerating structures or feedback controls.
- Independently lead the research and development of RF systems.
- Publishing and presenting findings in refereed journals and conference proceedings.
- Develop an internal or external collaboration activities.

**Qualifications:**

- BS or equivalent in Physics, Electronics, Telecommunications Engineering or a related field of studies.
- Minimum 5 years of relevant experience in the design, construction, implementation and maintenance of systems involving pulsed megawatt klystrons including associated power supplies and modulators.
- Demonstrated knowledge in the area of High Power RF Amplifier systems (electron tube or solid-state).
- Working with charged particle accelerator applications.
- Demonstrated working knowledge of UHV materials, UHV assembly techniques and of accelerating structures.
- Knowledge of the beam interaction with accelerating structures, RF cavities and stripline kickers.
- Experience in technical leadership and supervision.
- Good time management skills and ability to prioritize are expected.
- Good oral and written communication skills in English.
- Ability to interact effectively with experts in multiple disciplines, including machine control software engineering, mechanical engineering, physics and operations.
- Ability to work effectively in a team environment.

**Additional desired qualifications:**

- Experience with a finite element method solver for electromagnetic structures such as Microwave Studio.
- Have working knowledge of digital based controls for RF systems.
- Experience with industrial control systems and control algorithms/techniques.
- Experience with TANGO control system.

---

If you want to work at the SOLARIS Centre, please send an e-mail address: [synchrotron@uj.edu.pl](mailto:synchrotron@uj.edu.pl):

- CV
- signed and scanned information on the processing of personal data
- signed and scanned consent to the processing of personal data.

In the title of the message, please enter "Senior RF systems specialist".

Information on the processing of personal data and the consent to data processing can be found at <http://www.synchrotron.uj.edu.pl/documents/1457771/139521157/klauzula+UJ+rekrutacja.pdf/ba484c1d-9ebd-4bd0-81c0-bd76d913dffc>.

We reserve the right to contact only selected candidates.

Applications will be evaluated on a regular basis until the successful candidate is found. We will post information about the completion of the recruitment process on our website [www.synchrotron.pl](http://www.synchrotron.pl).