SOLARIS EXCURSION

The Vinci RELOAD Summer School excursion programme includes a visit to the SOLARIS National Synchrotron Radiation Centre in Kraków. This visit is designed as an introduction to **the one of the most advanced large-scale research infrastructures** in the region. It will provide students with a unique opportunity to observe synchrotron-based experiments in practice. Participants will learn how a synchrotron operates, how electron beams are accelerated and controlled, and how synchrotron radiation is generated and delivered to experimental stations for scientific measurements.

During the tour, students will be introduced to **SOLARIS beamlines** and the types of experimental techniques they enable. The programme will highlight how synchrotron radiation can be used for a wide range of measurements, including X-ray spectroscopy and imaging, photoemission techniques, and infrared studies. These approaches support detailed investigations of the structure and properties of materials, as well as the chemical composition and behaviour of complex systems at different scales. In addition to synchrotron-based research, the visit will include an overview of **SOLARIS cryo-electron microscopy infrastructure**, which is used for high-resolution structural studies in the life sciences. Students will learn how cryogenic techniques allow sensitive biological samples to be analysed in near-native conditions and how cryo-EM complements synchrotron methods in modern interdisciplinary research.

Overall, the excursion will present **the broad scientific scope of SOLARIS** and the diversity of research areas supported by the facility. These include projects in physics, chemistry, materials science, engineering, and life science, with applications ranging from fundamental studies to advanced functional materials and research relevant for biotechnology and biomedical sciences. The visit will offer valuable insight into how advanced experimental tools support scientific discovery and innovation, and how large-scale research facilities operate in a real-world scientific environment.

Enjoy!