

Research Laboratory Technician

Hyper-Kamiokande mPMT LED System Production and Quality Control

Number of positions	2
Appointment	Full-time, five-month term; possibility of extension depending on project needs and funding
Start date	As soon as possible
Location	Department of Physics, University of Regina, Regina, Saskatchewan
Salary	\$45,000-\$55,000 per year, prorated for the five-month appointment; commensurate with qualifications and experience

Position overview

The Hyper-Kamiokande group in the Department of Physics at the University of Regina has two immediate openings for Research Laboratory Technicians to support detector-component production and quality control for the Hyper-Kamiokande (Hyper-K) experiment, a major international particle-physics project in Japan. The Regina group is contributing to the multi-PMT (mPMT) detector program, with current laboratory activities focused on production and quality control of the LED light-injection system and associated optical components.

The successful candidates will work closely with research staff and students in a hands-on laboratory environment. The positions are intended to provide consistent full-time technical support during an active production period, including component preparation and handling, operation of quality-control systems, data collection, troubleshooting, and maintenance of accurate production records. On-the-job training will be provided for project-specific procedures.

Primary responsibilities

- Perform careful assembly, preparation, handling, and inspection of detector and optical components used in the mPMT LED light-injection system.
- Carry out routine quality-control measurements of optical diffusers and LED collimators using water-vessel, photodiode, and camera-based test systems.
- Operate laboratory instrumentation, motion-control hardware, cameras, photodiodes, electronic test equipment, and computer-based data-acquisition systems.
- Prepare components and test fixtures, perform alignment and setup checks, and follow established measurement protocols and laboratory safety procedures.
- Collect and organize measurement data; run established analysis and QC software; identify anomalous results and assist with repeat measurements and troubleshooting when required.
- Maintain accurate electronic records of components, runs, QC outcomes, observations, and production status for transfer to project databases and collaboration records.
- Assist with routine maintenance, verification, and improvement of laboratory test setups and production procedures.
- Coordinate day-to-day laboratory activities with research staff, graduate and undergraduate students, and other members of the Hyper-K collaboration as required.

Required qualifications and abilities

- Experience with careful hands-on laboratory, mechanical, electronic, instrumentation, or technical assembly work.
- Strong attention to detail and ability to follow written procedures, measurement protocols, and documentation requirements consistently.

- Good organizational and planning skills, including the ability to track multiple components and measurements through a production workflow.
- Ability to work reliably and independently after training, while also functioning effectively as part of a research team.
- Excellent oral and written communication skills.
- Comfort working with computers for data acquisition, record keeping, and routine data processing.

The following would be considered assets

- Previous experience in a physics, engineering, electronics, optics, instrumentation, or related laboratory environment.
- Programming experience, particularly Python, for data processing, analysis, visualization, automation, or electronic logging.
- Experience with optical measurements, cameras, photodiodes, LEDs, photomultiplier tubes, or related detector instrumentation.
- Experience with mechanical design, CAD, machining, 3D printing, rapid prototyping, or fabrication of laboratory fixtures.
- Experience with electronics assembly, basic soldering, cabling, sensors, motion-control systems, or laboratory data-acquisition hardware.
- A technical diploma, BSc, BEng, or comparable training in Physics, Engineering, Engineering Technology, Electronics, Instrumentation, or a related field; equivalent practical experience will also be considered.

Appointment and application

These are full-time, five-month term positions starting as soon as possible, with the possibility of extension depending on project needs, performance, and available funding. Salary will be in the range of \$45,000-\$55,000 per year, prorated for the duration of the appointment and commensurate with the successful candidate's qualifications and experience.

Applicants should submit a cover letter and resume/CV describing relevant education and experience, together with contact information for at least three references. Applications will be reviewed as they are received and will continue until the positions are filled.

Application contact: Dr. Nikolay Kolev, Department of Physics, University of Regina -
Nikolay.Kolev@uregina.ca

Equity, diversity, and inclusion

The University of Regina is committed to an inclusive workplace that reflects the richness of the community that we serve. The University welcomes applications from all qualified individuals, including individuals within the University's employment equity categories of women, persons with disabilities, members of visible minorities, Indigenous persons, individuals of diverse gender and sexual orientation and all groups protected by the Human Rights Code.

All qualified candidates are encouraged to apply; however, priority will be given to Canadian citizens and permanent residents. Applicants must be legally entitled to work in Canada.