

JOB DESCRIPTION

Job Title:	Present Grade:
Department/College:	
Directly responsible to:	
Supervisory responsibility for:	
Other contacts	
<p>Internal: Physics Department staff and students, colleagues in other faculties, library personnel, ISS and central administration staff.</p> <p>External: Member of NA62, HIKE, KOTO and KOTO II collaborations, professional bodies, research funding bodies and councils, academic and research networks.</p> <p>The successful applicant will support the activities of the Lancaster University kaon physics group in their studies involving the KOTO II experiment located at J-PARC. They will focus on leading the delivery of high-quality physics results within the group's established programme and using such results to define future analysis directions within the group.</p> <p>This position will be based in the Experimental Particle Physics group of the Lancaster University Physics Department. Paid national and international travel (especially to J-PARC, Japan), is to be expected.</p> <p>Major Duties:</p> <ol style="list-style-type: none"> 1. Investigate the feasibility of the $K_L \rightarrow \pi^0 \ell^+ \ell^-$ measurement at the KOTO II experiment. In particular, develop a tracking/PID strategy for the lepton pair, evaluate signal/background and optimize the detector configuration for the $K_L \rightarrow \pi^0 \ell^+ \ell^-$ measurement. 2. Play a leading role in the development of the KOTO II simulation. 3. Co-supervise undergraduate projects working with the kaon physics group in Lancaster. 4. Provide input to grant applications supporting the KOTO II experiment work at Lancaster. 5. Write technical documents to capture results. 6. Publish results in leading, peer-reviewed academic journals. 7. Present results at international conferences, collaboration meetings (virtually and/or in person) and Lancaster group meetings. 	