

NuSec UK -US Collaboration Research Grants Summary @11th June 2024

University	Award(s)	Project	NNSA Consortia/ DTRA URA/ UK	US or UK Collaborator
Bristol	PDRA, Research Materials and Travel Grants	Enhancing 'Big-Data' Visualisation and Presentation in Data-Rich Nuclear Security Scenarios	ETI	Pacific Northwest National Laboratory
Bristol	Research Visit	Identifying Opportunities for UK-US Collaborations in Micro-Particle Nuclear Forensics	ETI	Pacific Northwest National Laboratory
Bristol	PDRA	Machine Learning Integrated Quadrant Gamma Detectors for Enhanced Safeguards, Security and Inspection	NSSC	University of Berkeley California
Bristol	Research Visit	Optimisation of drone-based aerial mapping sensors for distinguishing NORM from anthropogenic gamma sources.	NSSC	University of Nevada and US Govt. Dept. of Energy NISA
Bristol	PDRA, Other and Travel Grant	Advanced UAV-based radiation and dosimetry determinations using solid-state LiDAR combined with gamma spectrometry	NSSC	Florida International University, The University of Nevada and the DoE's Airbourne Radiometric Team
Cambridge	Research Visit	Pulsed Neutron-Gamma Die Away Experiments for Cl-35 Nuclear Data Validation	NSSC	University of California Berkeley and Lawrence Livermore National Laboratory
Edinburgh	Research Visit and Conference	Non-Proliferation with Advanced Neutrino Detection [NAND]	MTV	Brookhaven Laboratory
Glasgow	PDRA	Develop a Geant 4 simulation framework to optimize a multimodal detector for tomographic imaging of used nuclear fuel casks	ETI	Colorado School of Mines
Glasgow	Research Visit	Low Power compact dual mode detectors for nuclear security applications	ETI	Lawrence Livermore National Laboratory

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Glasgow	Research Visit	Test An Organic Scintillator EJ-276, and an Inorganic Scintillator CLLBC, on a Detector Prototype using both the neutron generators (D-D and D-T) and alternative radioisotope neutron sources in a US Neutron Science Laboratory	MTV	University of Michigan
Imperial	Research Visit	Neutron Capture in a Plasma Environment	NSSC	Massachusetts Institute of Technology (MIT), the National Ignition facility at LLNL
Kings College London	Research Visit	Water-based quantum dots detector for near-field nuclear fission reactor monitoring detectors	MTV	University of Michigan
Lancaster & Liverpool University and Babcock	PDRA & Research Visit	Application of compact gamma ray detectors on robotic platforms for locating radionuclides in confined spaces	DTRA University Alliance	H3D
Liverpool	PDRA	The Development of Intelligent Object Detection and Semantic Segmentation for Maximum Likelihood Estimation in Complex Radioactive Environments	NSSC	University of Berkeley California
Manchester	PDRAs, Travel Grant (Conference), and US Research Visit	A fast and portable camera for detection and monitoring of nuclear materials	NSSC	Brookhaven National Laboratory
Manchester	PDRA	Neutron detection using in house 3D printed plastic scintillators and a fast Timepix3 optical camera	MTV	Brookhaven National Laboratory

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Manchester	PDRA, Research Visit and Conference	Novel imaging technique for thermal and slow neutrons using a single photon fast optical camera	MTV	Brookhaven National Laboratory
Oxford	Conference	Collaboration with the LLNL AI Inertial Confinement Fusion group	ETI	Lawrence Livermore National Laboratory
Sheffield	PDRA	Boron Loaded Opaque Scintillator for Low-Cost Directional Neutron Sensing	N/A	N/A
Sheffield Hallam	PDRA & Research Visit	PRETSEL: Proton Recoil Tracking for Source Energy & Location	NSSC	Texas A&M University and University of Birmingham,
Surrey	PDRA	Development of Perovskite Scintillators	ETI	Georgia Tech
Surrey	Summer UG Project	Isomer cross sections	N/A	AWE
Surrey	PDRA	Large area CsPbBr ₃ Perovskite detectors for Nuclear Security Applications	IIRM	Applied Radiation Laboratory, Penn State University
Surrey	PDRA	Radiation Hardness of Perovskite Scintillators	IIRM	Applied Radiation Laboratory at Penn State University.
Surrey	PDRA, Training & Travel Grants	Sigma Data Evaluation and Optimisation for Threat Response	N/A	N/A
York	PDRA	Neutron and X-ray imaging in extreme environments	MTV	University of Michigan
York	PDRA	Neutron Detector Development Using Novel ³ He Encapsulated Foils	N/A	N/A