

# Welcome to the NuSec Technical Workshop

11<sup>th</sup> October 2022

# Workshop Program (1)

## 9:30 Welcome & Introductions

*NuSec Research Context – Programme Overview and Technical Challenges*  
Richard Dockree

## 9:45 NuSec PhD Studentships – Progress Updates

*Larger area semiconductor detectors based on novel inorganic polycrystalline perovskite materials*, Stephen Kearney, University College London

*Development of compact neutron detectors using next-generation scintillator materials*, David Bennett, University of Glasgow

*Evaluating the suitability of Organic Semiconductor Detectors for Nuclear Security*, Aled Horner, Queen Mary University of London

*Real time identification and tracking of radioactive materials carried by humans*, Samuel Fearn, University of Bristol

*Developing the next-generation shipping container scanning system*, Euan Connolly, University of Bristol

*Development of mixed field radiation detection techniques for oil and gas well logging*, James Greer, University of Sheffield

## 11:15 Coffee Break and Posters – in the Basement Auditorium

# Workshop Program (2)

## 11:45 Results from NuSec NNSA Collaboration Grants

*Machine Learning Integrated Quadrant Gamma Detectors for Enhanced Safeguards, Security and Inspection*, Peter Martin, University of Bristol

*Development of Perovskite Scintillators*, Joydip Ghosh, University of Surrey

*A Geant4 simulation framework to optimize a multimodal detector for tomographic imaging of used nuclear fuel casks*, Guangliang Yang, University of Glasgow

*Neutron and X-ray imaging in extreme environments*, Chris Murphy, University of York

## 12:45 NuSec Activities and Sigma Data Challenge

*AWE Sigma Data Challenge Launch*, Phil Martin, AWE

*Program updates and NuSec NNSA collaboration grants*, Paul Sellin, University of Surrey

## 13:00 Workshop Ends



# NuSec support for Sigma Data Challenge

Researchers who are participating in the Sigma Data Challenge will be able to apply for a NuSec support grant, which will provide 2-3 months of student stipend.

These awards will be similar to our current NuSec Pilot Projects, and aim to support either undergraduate or postgraduate work for the Sigma Data Challenge.

More details about how to apply will be provided to you once you have registered to participate in the Sigma Data Challenge.

# Update on NuSec NNSA Collaboration Grants

## NuSec NNSA Collaboration Grants

This scheme supports UK researchers working in nuclear security to collaborate with members of the NNSA Nuclear Security University Consortia:

- ETI led by Georgia Tech
- MTV led by University of Michigan
- NSSC led by UC Berkeley

The scheme has now been running successfully for 12 months, with 4 UK-US collaborative projects awarded so far.

The grants will be offered for one more year, and the scheme will close in October 2023.

The amount that can be claimed has been increased to cover 6 months of PDRA support (plus FEC overheads), awarded at 80% of total value.

There will be 3 further application deadlines: 1 January, 1 April, 1 July 2023.

# Thank you for Attending

**The presentations from this meeting will be available to download  
from the NuSec website**

If you are wish to register for the Sigma Data Challenge, please use the application form which can be downloaded from the NuSec Website

For additional information please contact [info@nusec.uk](mailto:info@nusec.uk)

We anticipate holding our next NuSec Research Workshop in  
Autumn 2023 – details will follow in due course