

# **NuSec Network**

## **Workshop on “Imaging and Localisation”**

**STFC Nuclear Security Sciences Network**

12<sup>th</sup> September 2016

## **10.00 Coffee and Registration**

## **10:30 Welcome and Introduction**

### **Technical Presentations 1**

*Airport Security imaging – Nick Calvert (Rapiscan)*

*Real-time event selection at the LHC- Andy Rose (Imperial College)*

### **Summer 2016 NuSec Pilot Projects**

## **12:30 Lunch and Networking**

Including Pilot Projects Poster presentations

## **13:30 Technical Presentations 2**

*Real time imaging - Paul Nolan (University of Liverpool)*

*Interrogation techniques - Phil Martin (AWE)*

*Panel Discussion*

## **15:00 Network Opportunities**

Industry Topics

External Funding Opportunities

Launch of the NuSec Personal Development Grants

## **16.00 - 16.30 Tea, Networking and Close**

Following our launch meeting in March, the network is now 'open for business'

Welcome to Lisa Fletcher our Network Manager. You can contact Lisa by email at [info@nusec.uk](mailto:info@nusec.uk)

Our new website at [www.nusec.uk](http://www.nusec.uk) has been commissioned and is about to go live:

- **News about forthcoming meetings**
- **Network funding through summer Pilot Projects and also our new network Personal Development Grants**
- **Information about external funding opportunities**
- **Download meeting information, agendas and minutes**

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The network will run various events over the next 3 years:

- **Technical Workshops – with the 2<sup>nd</sup> event scheduled for July 2017**
- **Challenge Meeting – first one scheduled in January 2017**
- **Midterm Network Conference, combined with the 2<sup>nd</sup> Challenge Meeting in December 2017**

We have successfully awarded 5 summer Pilot Projects, which are currently running.

We have student posters from the 5 projects on display during the lunch break – please take a moment to view the posters.

## This workshop has the theme of 'Imaging and Localisation'

This morning's presentations are:

*Nick Calvert (Rapiscan) - Airport Security imaging*

*Andy Rose (Imperial College) - Real-time event selection at the  
LHC*

This afternoon's technical presentations are:

*Paul Nolan (University of Liverpool) - Real time imaging*

*Phil Martin (AWE) - Interrogation techniques*

Panel Discussion

Followed by a session on Network Opportunities:

*Industry Topics*

*External Funding Opportunities*

*Launch of the NuSec Personal Development Grants*

Refreshments will be served at 4 – an opportunity for further discussions

Some options to discuss...

## 1. Industrial Undergraduate Summer projects

Placements for ~8 weeks during the summer for undergraduate physics or engineering students to work in a company.

The company would normally provide the student with a stipend of approximately £1000/month.

An opportunity for a student to contribute to the company whilst also learning about your business and future career opportunities.

The network would advertise the placements on your behalf, administer the student recruitment, and also circulate information via partner networks, eg SEPnet, SUPA.

## **2. CASE PhD/EngD research studentships**

EPSRC and STFC support industrially-focussed CASE PhD (or Engineering Doctorate EngD) research students.

Typically the company makes a financial contribution and the bulk of the support comes from the research council. Suitable for companies with a strong R&D focus.

The network can help companies find academic/university partners for potential projects.

## **3. Networking opportunities**

NuSec can assist with networking and information exchange between companies, government stakeholders, and trade groups.

We have representatives at our meetings from CBRN-UK and KTN, AWE and other government agencies.



## **NuSec Pilot Projects**

The Pilot Projects competition will be run again for Summer 2017.

Applications will open in the New Year, allowing more time next year to complete the award process.

Assessment will be carried out by the End User panel

As this year, the scheme funds summer student projects, up to £4k.

**DNDO Call for “Exploratory Research for Preventing Nuclear and Radiological Terrorism”.** White paper deadline was 20 August, delayed to 14 September.

RTA-01: Approaches for Advanced Continuous Monitoring of R/N Threats by Law Enforcement Vehicles

RTA-02: Development of Accelerators with Applications to Homeland Security

RTA-03: Plastic Scintillators: Low cost, Large Volume, Spectroscopic and Long-Term Stable, Plastic Scintillators for Gamma Detection

RTA-04: Modeling to Improve Risk Assessment and Encounter Dynamics in Challenging (non-Port/Point of Entry) Pathways

RTA-05: Development of Materials to Support Fundamental Nuclear Data Targets and Nuclear Forensics Reference Materials

**More information at DNDO website, ref HSHQDN-16-R-0002**

## **Nuclear Engineering University Programs (NEUP)**

This DoE/EPSCRC joint funded programme is a collaborative US-UK funding call.

Only selected call topics are supported by EPSRC:

- Radioisotope Retention in Graphite and Graphitic Materials
- Materials Ageing and Degradation
- Reactor Safety Technologies
- Materials Recovery
- Advanced Waste forms
- Advanced Fuels
- Used Nuclear fuel disposition: Disposal
- Nuclear Energy Advanced modelling and simulation

## Application process for NEUP proposals

Proposals are US-led and submitted by the US partner.

The schedule for the 2016 round is effectively closed:

**14 September 2016** - submission of US pre-applications

Still time for the 3 page white paper!

**15 February 2017** final close - submission of full applications  
to US Department of Energy (DoE)

## **CNEC Consortium for Nonproliferation Enabling Technologies**

Led by North Carolina State University.

A consortium of 7 US Universities and 3 Government Laboratories, to enhance capability in detection and characterisation of special nuclear materials.

Further information at: [www.cnec.ncsu.edu](http://www.cnec.ncsu.edu)

## **CVT Consortium for Verification Technology**

Led by University of Michigan.

A large consortium of 13 US Universities and 9 Government Laboratories, focussed on R&D to address technology and policy issues in treaty compliance monitoring

Further information at: [cvt.engin.umich.edu](http://cvt.engin.umich.edu)

NuSec Personal Development grants are a new funding scheme from the network:

- To support researchers across a range of personal development activities related to Nuclear Security Science
- To strengthen the research and innovation capacity of scientists in Nuclear Security Science, and to develop new collaborations between researchers and partner organisations

The scope of the Personal Development Grant is flexible, eg:

- Travel and subsistence costs for conferences, research collaborations, industrial visits, networking
- Conference/event registration fees
- Recipients will be expected to report on their activities, as appropriate.

## Eligibility

Applicants for Personal Development Grants:

- should be researchers based either at a University, Research Establishment or a Company within the UK.
- are expected to either be active in the field of nuclear security, or wishing to apply their expertise from other areas into nuclear security research.
- will normally only receive one award across the duration of the network.

## Award Value

Grants will be awarded with a total project value of up to £2000.

50% matched funding will normally be required, ie. the maximum funding awarded will be £1000.

However for Postgraduate Students and Postgraduate Researchers the matched funding is not required, and the full project value up to £2000 will be funded.

## **Application Procedure – open from October 1<sup>st</sup>.**

Use the short application form that can be downloaded from the NuSec website [www.nusec.uk](http://www.nusec.uk)

There is an open application deadline, with a decision made within 6 weeks of submission.

The assessment of proposals will be carried out by the NuSec Management Group. The website contains information about the selection criteria

## **Payment Method**

Recipients will receive their award post-event by submission of a University of Surrey expenses claim form, with receipts attached.



## Thank you for attending this Workshop

All presentations can be downloaded from the NuSec website.  
We will email you details of the password which is required for access

Please contact us with any feedback or suggestions for future events:  
[info@nusec.uk](mailto:info@nusec.uk)

Refreshments are now served in the foyer