

UK Network on Radiation Detectors and Imaging Technology

RADEK (RAdiation DEtectors uK) Network

RADEK started as a bottom up initiative by scientists interested in organizing one of the major radiation detector conference in the UK, the IEEE NSS/MIC in 2018, and realizing that a UK network is needed to structure the radiation detector research in the UK and to increase the visibility of the topic.

The initial approach of RADEK is to create a basic group of leading scientists from all scientific fields where radiation detectors are key elements. The intention is then to open the network for participation by all UK scientists and industries in the field. The objective is to create a network to address key scientific challenges for development of high performance radiation detectors, and to coordinate the research on radiation detectors with competitive edge at International level.

Current Proposers:

- **Prof. Chris Damerell**, STFC Rutherford Appleton Laboratory (Lyon NSS-MIC Chair)
- **Dr Cinzia Da Vià**, The University of Manchester (NPSS-TNC Member)
- **Dr Dimitra Darambara**, The Institute of Cancer Research
& Royal Marsden NHS Foundation Trust, London
- **Dr A R Faruqi**, MRC Laboratory of Molecular Biology, Cambridge.
- **Prof. Geoff Hall**, Imperial College London
- **Prof. Andrew Holland**, The Open University
- **Prof. Malcolm Joyce**, Lancaster University
- **Prof. Paul Marsden**, King's College London (NMISC Chair 2016/17)
- **Prof. Richard Nickerson**, Oxford University
- **Prof. Paul Nolan**, University of Liverpool
- **Prof. Val O'Shea**, University of Glasgow
- **Prof. Paul Sellin**, University of Surrey
- **Prof. John Simpson**, STFC
- **Dr Chris Steer**, AWE, Aldermaston, Reading

UK Reality in Radiation Detectors and Imaging Technology

In UK Some attempts to coordinate activities within a specific community are done.

- A detector development network is organized by synchrotrons light sources like DIAMOND.
- Detectors for high energy physics and Space Missions are developed exclusively for use at CERN and ESA
- neutron detectors are dedicated to JET or NNL Laboratories.
- Two Hadron Therapy Centres have been approved for construction in London and Manchester and will require beam and patient monitoring detectors

Generally speaking the activities are scattered and no coordination exists, especially between different fields of applications. Initial discussions within the RADEK network have revealed the fact that many requirements on detector performance are general and that similar detector technologies could be used in different applications. In addition exchange of knowledge between the different fields would significantly add to the knowledge base when it comes to radiation interaction and detection.

RADEK is currently a draft proposal for network formation to be submitted to the national funding Agency EPSRC.

The main objective of RADEK is to create a forum for UK detector scientists, developers and manufacturers to discuss a strategic research agenda for radiation detectors development for scientific and/or socio-economic applications, allowing knowledge exchange and the development of a joint research agenda amongst fields.

The Network plans:

- to organise workshops where scientists, students and young researchers would meet with industry and end users
- Actively participate to European initiatives
- Address the national and international challenges