The STFC Innovations Club jointly with IOP Nuclear Physics Group, National Nuclear Laboratory and IOP Nuclear Industry Group have organised this knowledge exchange event with industry on current developments and potential applications of nuclear physics in the key areas of healthcare, security, energy and the environment.

UK nuclear physicists work at the forefront of detector technologies of high interest to UK industry including advanced gamma-ray tracking detectors, next generation scintillator detectors, ultra-fast photomultiplier tubes, highly-pixelated silicon and diamond detectors.

These technologies are already being deployed in a wide range of industrial and societal applications, including:

- Environment monitoring – oil and gas exploration
- Mobile X-ray and Gamma-ray cameras for analytical, medical and space applications
- Medical imaging including PET/SPECT imaging
- Nuclear data for reactor cycles, decommissioning and the future fusion programme
- Homeland security.

This workshop aimed to pull together the interest from both academia and industry in order to facilitate knowledge exchange (KE) between STFC-funded researchers and industry with a view of exploiting advances in the nuclear physics area.

Dr David Jenkins, Chairmen of the IoP Nuclear Physics group, welcomed the participants and introduced Dame Dr Sue Ion. In her Keynote Address she highlighted the importance of showcasing Nuclear Physics in the workshops like this one and welcomed the initiatives by STFC and EPSRC to help facilitate knowledge transfer and broker contacts with industry as well as clarifying the funding remits between the two councils.

The presentations have demonstrated that nuclear physics research groups have core skills in simulation, detector design and fabrication, electronic instrumentation and data analysis, which are applicable to a wide range of industries.

A number of recommendations have been made by the speakers as well as during the panel discussion with representatives from Rolls Royce, EDF, Siemens, AWE, NDA, NNL, Environment Agency, DECC, IoP, and STFC. The panel discussion was chaired by Prof Paul Howarth, who outlined challenges facing the nuclear industry and reminded everybody that there is significant shortage of skill base needed to support UK’s forward nuclear programme. There was a broad consensus that total number of PhD students is small and case should be made to also increase the number of case studentships.
The workshop further highlighted funding opportunities to support KE relationships around nuclear physics R&D and industrial/societal applications as well as provide an opportunity to hear an update on the state-of-the-art from all speakers.

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