

# International Activities - UKRI



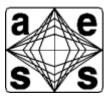
- SEE International Radar Conference 'RADAR 2009' held in Bordeaux, France, 12-16 October 2009. Very successful, also included meeting of AES Radar Systems Panel
- Presentation of Picard Medal to Dr Philip Woodward, 26 October 2009. Written up for AES website and for **AES** magazine
- AES Distinguished Lecture by Dr Eli Brooker, 21 April 2010: 'Amazing Breakthroughs in Radar / Phased Arrays'
- International Conference on Synthetic Aperture Sonar and Synthetic Aperture Radar, Lerici, Italy, 13/14 September 2010. Organised by Institute of Acoustics (UK) with AES co-sponsorship, financial support from **US ONR Global**



**Hugh Griffiths** AES Chapter Chair, UKRI



# **Industry Relations**



#### 1. Continuous Survey

- Purpose of survey
- Design of online survey

#### 2. Coherent graduate-level education and training

- Requirement and scope
- The proposal
- seek AES support
- and could the ideas be more widely applicable?





- Purpose: to gather information on what industry wants of AES, opinion on the relevance and quality of what we currently provide, and on how we can do better
- Largely by tick box (five boxes), but with a box for text comments after each section – these is often the most useful source of information
- Online with each respondent entered into a prize draw
- Emphasize that it is for industry hence some questions which specifically identify this
- How do we analyze the results?
- Comments are invited on the scope and style of the questions





#### 1. Yourself and your company

- How would you describe yourself recent graduate, mid-career, senior management, ... ?
- How long have you been an IEEE member?
- What is your grade of membership?
- What is your level of qualification undergraduate, masters, PhD, MBA, ... ?
- How would you describe the size of the company you work for small, medium, large, multi-national, ...? (need to define in terms of number of employees)
- How would you describe the nature of your company's work?





#### 2. AES Chapter activities

- Is there an AES chapter local to you?
- If so, do you participate in local AES chapter activities?
- What type of Chapter activities do you/would you find most attractive?
- What single thing can you suggest that would make AES Chapter activities more relevant and useful to you?





#### 3. Education and career development

- Do IEEE offerings feature in your company's career development program?
- Have you attended a tutorial at a conference?
- Have you used the online tutorials?
- Does your company have links with universities, for example in sponsoring student projects or for recruitment purposes?

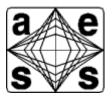




#### 4. Publications

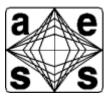
- Do you read the AES Magazine (not at all, occasionally, regularly)?
- On a scale of 1 5, how relevant do you find the AES Magazine to your work?
- On a scale of 1 5, how relevant and useful are the following to you:
  - review articles
  - technical papers
  - reports of events
  - information on future events
- Would you prefer to read the AES Magazine online or in printed form?
- Have you ever submitted an article to the AES Magazine?
- What single thing can you suggest that would make the AES magazine more relevant and useful to you?





- Do you read AES Transactions (not at all, occasionally, regularly)?
- On a scale of 1 5, how relevant do you find AES Transactions to your work?
- Do you or your company have access to IEEE Xplore?
- Have you ever submitted a paper to AES Transactions?
- What single thing can you suggest that would make AES Transactions more relevant and useful to you?





#### 5. AES website

- How often do you visit the AES website?
- On a scale of 1 5, how relevant and useful are the following to you:
  - information on events
  - video tutorials
  - student activities
  - quarterly email blast
  - membership information
- What single thing can you suggest that would make AES website more relevant and useful to you?





#### 6. Conferences

- Have you attended an AES conference? (no, one or two, many)
- Have you ever submitted a paper to an AES conference?
- On a scale of 1 5, how relevant and useful are the following to you:
  - technical sessions
  - tutorials
  - networking
  - conference proceedings
  - exhibitions
  - social program
- What single thing can you suggest that would make AES conferences more relevant and useful to you?



MINISTRY OF DEFENCE







Roke Manor Research Ltd a Siemens company



# **Education and People**

H Griffiths, M Federighi, A Colquhoun



# Some questions

- 1. What exactly is the requirement for education and training for the UK defence sensors community?
  - MSc; PhD; EngD; CPD?
  - full-time or part-time?
- 2. How is it addressed at present?
- 3. How could we do better?
- 4. Do we need new qualifications eg Master of Defence Eng?
- 5. Do we need training in Technical/Capability Management?



## Some ideas

- Bring together the best from a number of participating universities to address geographical spread of industry
- Both technical and management areas covered
- A range of modules that can be used for MSc / EngD / CPD
- Intensive one-week rather than spread over a semester, where possible
- Use existing modules wherever possible
- Link to DTC/CDT sponsored research



#### What sort of modules?

- Introduction to RF Sensors
- Introduction to EO/IR Sensors
- Introduction to Defence Acquisition
- Introduction to Systems Engineering
- Materials and Devices for Sensors
- Advanced RF Sensors
- Sensor Signal Processing
- Sensor Image Processing
- RF devices and subsystems
- Mathematics for Radar Signal Processing
- Antennas and Propagation
- Satellite Remote Sensing
- Nanotechnology and sensors
- Defence Acquisition Management
- Management of Innovation
- Corporate Finance
- Product Strategy
- Capability Planning



## **Masters and Doctorates**

#### Masters:

typically 4 basic-level modules, 4 advanced modules + individual project (12 months full time)

#### EngD:

typically 8 modules + individual research project or portfolio of research projects (4 years full time)

- Projects should normally be unclassified, though in special circumstances classified projects could be considered
- Modules should support route to Chartered status



## **Co-ordination**

- Qualifications can be delivered by any of the participating universities
- But the whole must be led and co-ordinated
- Would need advisory panel (industry and government)
- EPSRC support important leverage
- RDA's (sustaining jobs), TSB?



# Model for adoption

- Needs agreement from industrial partners
- MoU (model from UCL/LBS/Cambridge/ ... , UCL/Arup)
- Agree participating universities with industrial partners
- Funding: EPSRC, RDAs, ...
- Structure
- Could start September 2011