

# UK Photonic systems outreach networks

**EPSRC**

Engineering and Physical Sciences  
Research Council



University of Essex

UNIVERSITY OF ESSEX

# Background & Motivation

- Three ICT Theme Days/Workshops in 2009-2010 (Photonic Materials and Devices, Photonic Systems and ICT Next Decade Workshop)
  - Fragmented community
  - Lack of connectivity across research areas
  - Not crossing boundaries between Photonics & other ICT disciplines
  - Need for open communication (within the community and cross ICT), system integration and strategic funding

# Vision

- To build an enhanced systems based community culture and achieve greater outreach and interlinking between research areas
  - Consolidating the Photonic Systems community
  - Raise the profile of Photonic Systems expertise in the UK
  - Reaching out of Photonics to other ICT communities
  - Define and promote interaction between appropriate science, technology and industrial groups

# Initial Membership

- **University of Edinburgh**– IDCom: Optical wireless communications, *Dr Harald Haas*
- **University College London**: Photonic Devices and Transmission, *Prof Alwyn Seeds*
- **University of Bristol**: Photonic Devices, *Prof. Siyuan Yu*
- **University of Cambridge**: photonic devices and datacoms, *Prof Ian White/Prof. Richard Penty.*
- **University of Essex**: photonic networks, *Prof. Dimitra Simeonidou/ Prof. Ian Henning*
- **University of Kent**: Radio over fibre; RF, microwave, millimetre-wave and THz optoelectronic systems, *Dr Nathan Gomes*
- **University of Leeds**: Photonic Networks, Green ICT, *Prof. Jafaar Elmirghani*
- **University of Southampton**: optical fibre technology, nanophotonics, novel materials, lasers, optical communication systems and signal processing, sensing and biophotonics. *Prof. David Payne/Prof. David Richardson/Dr Periklis Petropoulos/Dr Wei Loh*
- **University of Strathclyde**: Optical materials and devices; opto-electronic integration; photonic sub-systems, networks and applications; optical sensors and systems; biophotonics, *Prof. Ivan Andonovic*
- **Brunel University**: Optical and Wireless networks, *Prof. Hamed Al-Raweshid*

# Objectives

- Develop a **community culture** within the Photonics Systems researchers
- Facilitate **dialogue across ICT** technical community boundaries opening new collaborative research opportunities
- Equip the photonics community to be better able to respond to new opportunities through integrated and multidisciplinary research
- Influence the direction of national and international programs
- Provide better informed 'at source' research and technology activities via **engagement with a range of end user communities**
- Develop **new channels for exploitation** with existing and emerging industry and develop commercial activities in higher value aspects

# Activities

- Workshop events (2 per year)
- Technology awareness events (1 per year)
- Summer schools (in yrs 2 and 3)
- Technology road-mapping
- Web presence

# Plans for Dissemination and Exploitation

- Website dissemination for network outputs (publications, white papers, documents...)
  - <http://hpn.essex.ac.uk/unison/>
- Communication of outcomes towards broader audiences via website and public events
- Specific industry oriented workshops
- New collaborative projects with industry
- Close interaction with targeted companies to produce technology transfer roadmaps
- **Use existing test-beds and infrastructure to support and showcase multi-disciplinary research**

