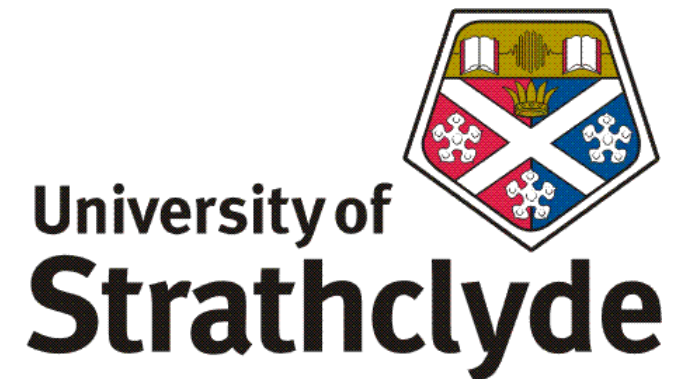


Department of Electronic and Electrical Engineering

Dr Robert C Atkinson

Prof Ivan Andonovic



Overview

- Largest EEE Department in the UK
- At the forefront of electronic and electrical engineering teaching and research
- National research rating in the top 10%
- Research spend £40M
- Rated “excellent” for teaching
- All degree programmes fully accredited by the Institution of Engineering and Technology, the Institution of Mechanical Engineers and British Computer Society.

Personnel



- Academic Staff 60
- Admin Support 20
- Technical Support 32
- Research Assistants 70
- PhD Students 184
- Mphil Students 18
- MSc Students 86
- Undergraduates 648



- Mobile Communications
 - Principally wireless: layers 2 - 7
- Broadband Communications
 - Network management and Photonics
- DSP Enabled Communications
 - MIMO, adaptive filtering, PHY layer

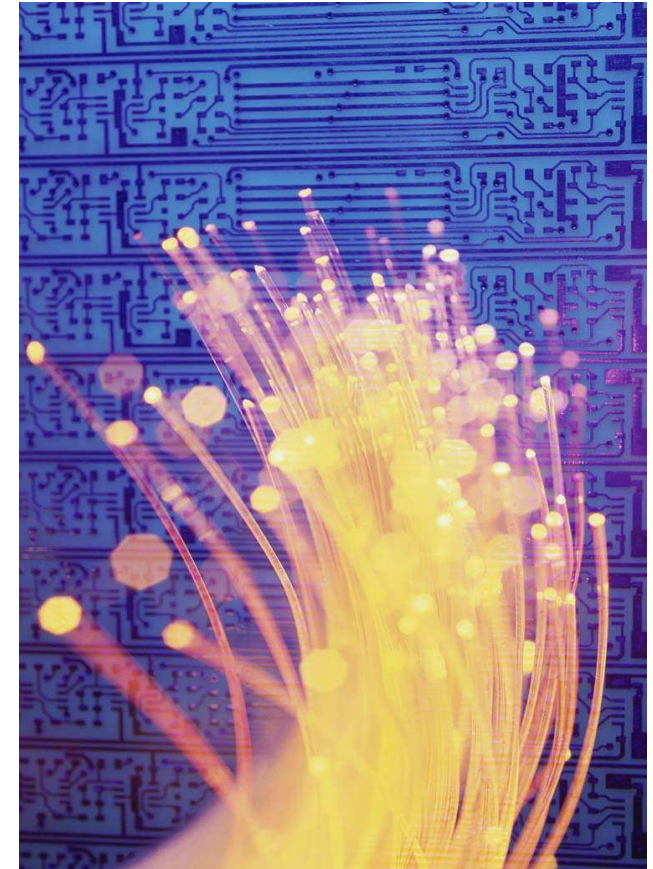
Mobile Communications

- Layer 3 mobility management
 - Extensions to Mobile IPv6, multihoming
- Autonomic networking
 - Self-X for LTE based systems
- Mobile social networks
 - Context awareness
- Wireless sensor networks



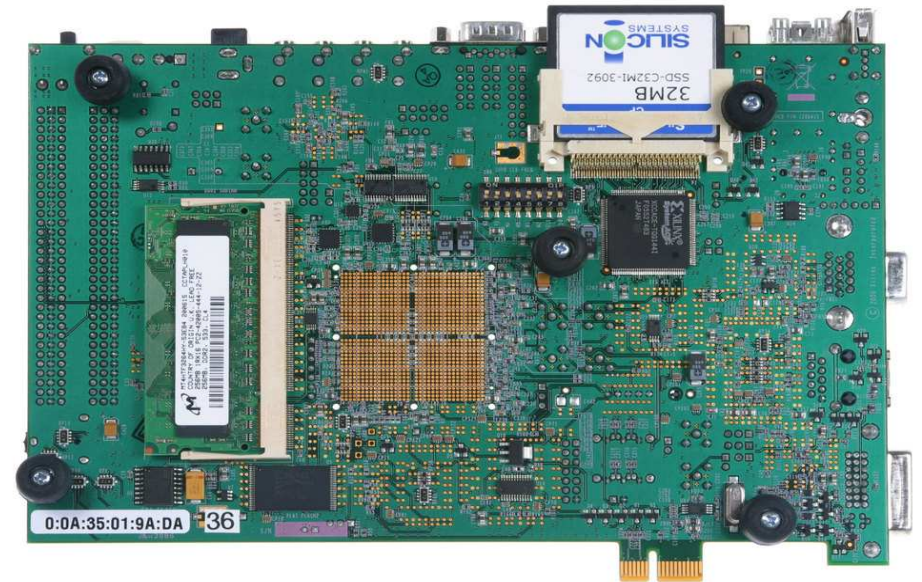
Broadband Networks

- Network design and integration
- Network resilience and Survivability
- Traffic Modelling and Analysis
- Optical Networking: Devices and Systems
- Wireless Sensor Networks



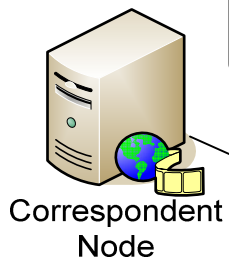
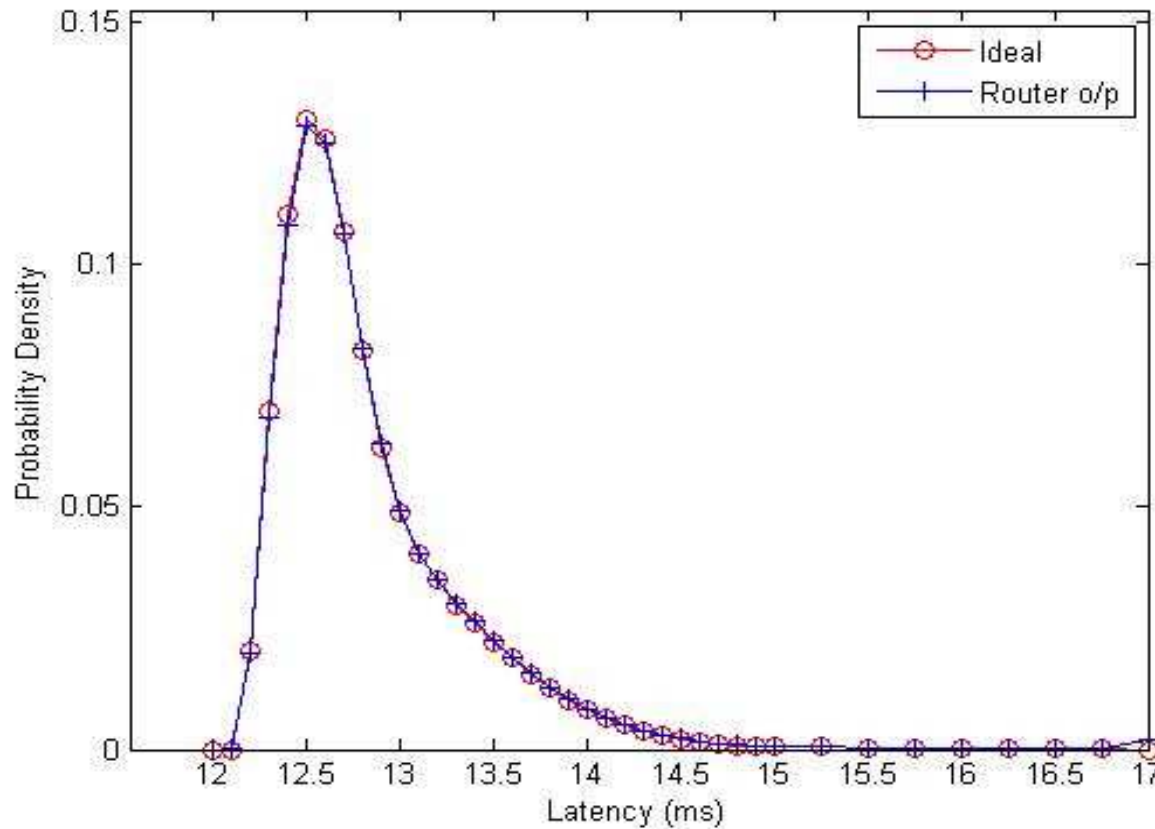
DSP Enabled Communications

- DSP Comms to FPGA Implementation
- Beam-forming and MIMO System
- Channel Equalisation
- Digital Audio and Acoustics
- Wireless Sensor Networks

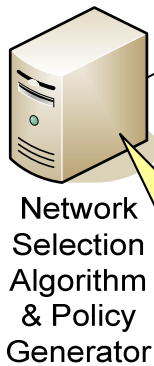


IPv6 NGN Test Bed

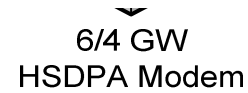
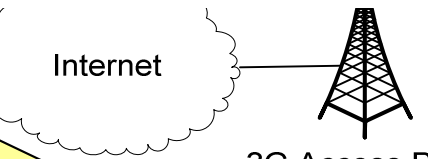
Double Weibull Model



Configurable probabilistic packet loss, packet error rate, delay profile

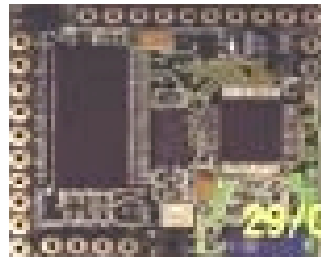


Generates flow binding policy and distributes to HA and MR



Speckled Computing

- A dense, wireless network of tiny nodes known as ‘Specks’
- Self-powered (battery/solar/kinetic....)
- Communicate by radio and/or light
- Sense the environment
- Progressively smaller.....



2005



5m
m



2007



1mm



2010

Desired Research Projects

- LTE System modelling
 - Characteristics of interfaces
- Autonomic Networks – LTE/SON
- Wireless Sensor Networks
- Optical-Wireless Interfaces/Interoperability
- Context-Aware Cross Layered Multimedia Streaming Based on H.264 AVC/ SVC
- Free-viewpoint TV

Summary

- Expertise
 - Layer 1 wireless and optical
 - Passive Optical Networks
 - MIMO, Beam-forming
 - Interworking of heterogeneous networks
 - Multihoming
 - Mobile IPv6
 - Autonomic networking
 - Self Optimising Network