6G: Technology Enablers for Spectrum & Energy Efficient Wireless Access

This University of Bristol led workshop, supported by DCMS and UK SPF, will focus on physical layer hardware technologies and architectures as well as new materials to enhance both spectrum and energy efficient of next generation networks.

26 May 2021, 09:30 - 16:30

Workshop Lead:
Professor Mark Beach

Our brief from DCMS/SPF

- **Efficient use of spectrum:**
- Innovation in spectrum efficiency & spectrum management
- Densification of spectrum sharing, particularly in the lower frequencies.
- **Widespread coverage:**
- Prevent the "digital divide"
- Contribute to improved health, social care and future transport.
- **Seamless connectivity:**
- "network of networks", plus ensuring security and resilience

Our brief from DCMS/SPF, with crossing goals

- **Net Zero**

- optimising energy consumption and using 6G capabilities to deliver the government's net zero targets.

- **Economic viability and resilience of next generation wireless infrastructures**

- through enabling new service possibilities or significant cost savings

6G: Technology Enablers for Spectrum & Energy Efficient Wireless Access – Morning Sessions

9:45 to 11:00, 4 presentations:
Session 1 – RF Transceivers & System Performance Enhancement

11:00 to 11:15, Coffee break
11:15 to 12:30, 4 presentations:
Session 2 – Next Generation Massive MIMO & AI Driven Systems

12:30 to 13:15, 2 presentations
Session 3 – Future Network Architectures

13:15 to 13:45, Lunch break

6G: Technology Enablers for Spectrum & Energy Efficient Wireless Access – Afternoon Sessions

13:45 to 15:00, 4 presentations

Session 4 – New Materials for RF Engineering

15:00 to 15:15, Tea break

15:15 to 16:15, 3 presentations

Session 5 – Spectrum Sharing & Higher Frequency Bands

16:15 to 16:30

Discussion, Overview of next workshop

Agenda: Session 1

9:45 –11:00	**Session 1 – RF Transceivers & System Performance Enhancement**
18 mins each inc Q&A	**Spectral and Energy Efficient Radio Systems**: John Thompson, University of Edinburgh **Linear & Power Efficient RF sub-systems**: Tommaso Cappello, University of Bristol **Advances in RF Planar Filter Technologies**: Jiasheng Hong, Heriot Watt University **Multiband Direct RF Sampling for 5G and Beyond MIMO Receivers:** Tim O'Farrell, University of Sheffield
11:00-11:15	**Coffee Break**