Lecture 1: IoT Architectures

15.00-17.00 on 30th Sept 2016

- **What is IoT**

- **CIoT vs IIoT (difference and similarities)**

- **Organisations and Standards **

  - Industrie 4.0
  - IIC
  - ETSI
  - OneM2M
  - ...

- **Architectural Style Evolution **

  - Cloud Computing
  - Fog Computing
  - Mist Computing

- **Reference Architectures**

  - I4.0
  - IIRA

- **Architectural Challenges**

  - Scale
  - Security
  - Privacy
  - Heterogeneity
  - Asymmetry

Lectuer 2: IoT Connectivity Technologies Part-I

15.00-19.00 on 3 Oct 2016

- **Review of IoT Reference Architectures **

- **Connectivity and Information Sharing in IoT**

- **Connectivity Technologies and Standards**

  - MQTT
  - AMQP
  - REST/HTTP
  - WebSockets
  - CoAP

Lectuer 3: IoT Connectivity Technologies Part-II

8.00-10.00 on 5 Oct 2016

- **Connectivity Technologies and Standards**

  - DDS

- **Lab Assignments**

- **Lab Solutions **

Lectuer 4: IoT Connectivity Technologies Part-III

15.00-19.00 on 10 Oct 2016

- **Connectivity Standards**

  - OPC/UA

- **Upcoming Standards **

  - DDS-XRCE
  - MQTT-SN

- **Lab Assignments**

- **Lab Solutions **

- **Conclusions & Moving Next **

  - Review of IoT Systems connectivity needs
  - Review and classification of Connectivity standards / protocols

- **Open Problems**