Flow Measurement Workshop
11th - 13th December 2018
University of Warwick

This workshop aims to equip early career stage people working in flow measurement with a general introduction to the subject, some instrument selection insights and some hands-on experience of doing flow measurements using some common flowmeters. The workshop is designed to be affordable and give attendees lots of opportunity to network with other early career people and industrial and academic experts. The future of flow measurement R&D and expertise in the UK relies on us all being able to support and interest people at an early stage of their career, and the workshop aims to make a positive contribution to this objective.

Organising Committee:
Roger Baker (University of Cambridge), Steve Dixon (University of Warwick), Manus Henry (University of Oxford), Edward Jukes (Krohne), Gary Oddie (Schlumberger), Alun Thomas (I&P Services), Tao Wang (Krohne)

Speakers will be experts on various aspects of flow measurement including:

- Roger Baker (University of Cambridge)
- Steve Dixon (University of Warwick)
- Mark England (Sentec)
- Manus Henry (University of Oxford)
- Ian Holmes-Higgin (Honeywell)
- Ruben Schol (Krohne)
- Gary Oddie (Schlumberger)
- Alun Thomas (I&P Services)
- Tao Wang (Krohne)

Workshop Programme

Day 1: (pm)
Introduction to flow in relation to flowmeters

14:30-15:00 Register and coffee/tea
15:00-15:10 Welcome & Introductions
15:10-16.00 Basic flow concepts: Reynolds number and a brief introduction to a dimensionless approach, equations of continuity, momentum, energy.
16:00-16:45 Subsonic and supersonic flows as related to critical nozzles for flow measurement
BREAK for tea/coffee
17:00-17:45 How to size a flow rig and pump
17:45-18:45 Other instruments used with flowmeter applications
19:30 DINNER ON CAMPUS
Day 2:
Introduction to flow measurement

10:00-10:45 Introduction to accuracy, calibration & traceability

10:45 - 11:00 BREAK for tea/coffee

11:00-11:45 Flowmeters for liquids, gases & multiphase flows

11:45-12:15 Introductory details for hands-on sessions on water rig with clamp-on and Coriolis and on air flow with multi-sensor ultrasonic gas flowmeter

12:15 - 13:15 LUNCH

13:15 - 16:30 Hands-on / selection sessions in parallel — three groups rotate between A, B & C
(~ 1 hour on each session)

A: Clamp-on & Coriolis flowmeters lab session
B: Airflow demonstrations of ultrasonic techniques
C: Flowmeter selection problems to solve with software systems

Tea/ coffee and biscuits available between sessions

16.30 - 18:00 Plenary session to bring together possible solutions, and an opportunity to discuss alternatives, pros and cons and other experience

18.00 End of Day 2

19.00 DINNER ON CAMPUS

Cost:

3 Day Workshop £250 per person

RESERVE YOUR PLACE HERE https://warwick.ac.uk/fac/sci/ciu/news/flow_measurementworkshop/bookingform

Day 3:
Advanced Lectures

9:15-9:30 Introduction to the 3rd Day – recap on previous day

9:30-10:45 Ultrasonic flow measurement – advanced lecture

10:45 – 11:00 BREAK for tea/coffee

11:00-12:30 Coriolis flow measurement – advanced lecture

12:30-13:15 LUNCH

13:15 -14:00 DP flowmeters

14:00 -15:00 Mechanical meters

15.00-15:15 BREAK for tea/coffee

15:15-16:15 Electromagnetic flowmeters

16:15-16:45 Oil & gas & multiphase

16:45-17:15 Standards & flow calibration facilities

17:15 Closing comments

TEA & DEPART

Accommodation:

Attendees to book & pay their own B & B
ON CAMPUS rooms in Arden, Radcliffe or Scarman Conference Centres can be booked here: https://bandb.warwick.ac.uk/

Travel:

Warwick University Physics Department
5th Floor Room 521
For full directions please see https://warwick.ac.uk/about/visiting/directions/