VIRTUAL!

AEROSOL MEASUREMENTS FORUM

Bristol

Thursday 5th May 2022

EPSRC Centre for Doctoral Training in Aerosol Science

University of BRISTOL

UKRI Engineering and Physical Sciences Research Council

Welcome

Prof Jonathan Reid,
CDT Director

Welcome to our second **Aerosol Measurements Forum**.

Following the success of our first Forum last year to which we had 8 partners presenting their latest developments in analytical instruments for aerosol measurements, reaching 120 attendees, this year we have a small addition to our schedule and welcome Dr Daniel McCluskey from the University of Hertfordshire who will give a talk on "Bioprocessing, microfluidics & system integration" as a plenary lecture.

This event will be open to all CDT students, academics, Aerosol Society members and CDT partners.

Topics will include:

- The latest developments in analytical instruments for aerosol measurements and aerosol metrology;
- Reviews of existing measurement techniques and their applications;
- Priority areas for new instrument development;
- A virtual exhibition to meet with representatives of instrument manufacturers and hear about their latest products.

We hope this will be an informative event for our students as well as providing opportunities for networking and hearing about the latest developments in analytical instruments for aerosol measurements and to discuss the latest challenges.

Some of our partners will contribute in presenting topics within the areas of analytical/instrumentation development and research and will be part of the virtual exhibition to take any of your questions, to make connections and to showcase some of their instrument measurements.

Online platform

Please make sure your Zoom account has the most updated version.

The format of the event will be organised in the following way:

- **Presentations** from guest speakers (webinar mode)
- **Exhibition rooms**: these will be set up as breakout rooms. Attendees will be able to move from one room to another according to their interest.
- **CDT in Aerosol Science room**: we would be delighted to meet you and answer any of your queries with regards to our CDT.

Please visit our **Code of Conduct** here.

Programme

TIME	EVENT	LENGTH
13:00	Welcome and Introduction by Aerosol Science CDT Director Prof Jonathan Reid	5 min
13:05	Presentations Session 1	1h 15 min
14.20	Break	10 min
14:30	Exhibition session	55 min
15.25	Break	15 min
15:40	Presentations Session 2	45 min
16:25	Plenary Lecture: Dr Dan McCluskey	30 min
16:55	Closing remarks	5 min
17:00	Exhibition rooms remain open to meet with exhibitors	

Presentations & Exhibitions

Cambustion

Catalytic Instruments
hot technologies • clean solutions

DEKATI

Handix SCIENTIFIC

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Swisens

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Presentations

1. Cambustion

"A new instrument to measure the flow rate of particle laden gas" by Julie Pongetti

2. Catalytic Instruments

"Silver Particle Generator: a pathway towards standardising aerosol generation" by Dr Martin Irwin

3. Dekati

"Direct measurement of high-temperature aerosols "by Erkki Lamminen

4. Handix Scientific

"A network-based approach for measuring aerosol microphysical properties relevant to climate" by Dr Anna Lily Hodshire

5. DustCanary

"Real time wearable monitors " by William Averdieck

6. Droplet Measurement Technologies

"Introducing the Integrated Droplet Analysis System for Aerosols (IDASA)" by Dr Darrel Baumgardner

7. Swisens

"Aerosol particle analysis based on morphological key features derived from digital holography measurement" by Erny Niederberger

8. TSI

"Choosing the Right Measurement Technique for Your Aerosol Research" by Agnieszka Carvalho

Instruments

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Cambustion	
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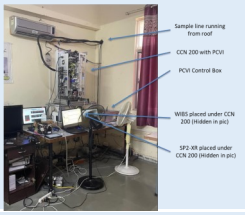
DROPLET MEASUREMENT TECHNOLOGIES	Final iDASA system with updated flow control in Lab 
Swisens	
TSI	

Plenary Speaker

Dr. Daniel McCluskey

University of Hertfordshire, UK

Bioprocessing, microfluidics & System integration

Daniel McCluskey, Ian Johnston, Ian Munro, Richard Kaye, Richard Baxter, Christabel Tan & Loic Coudron

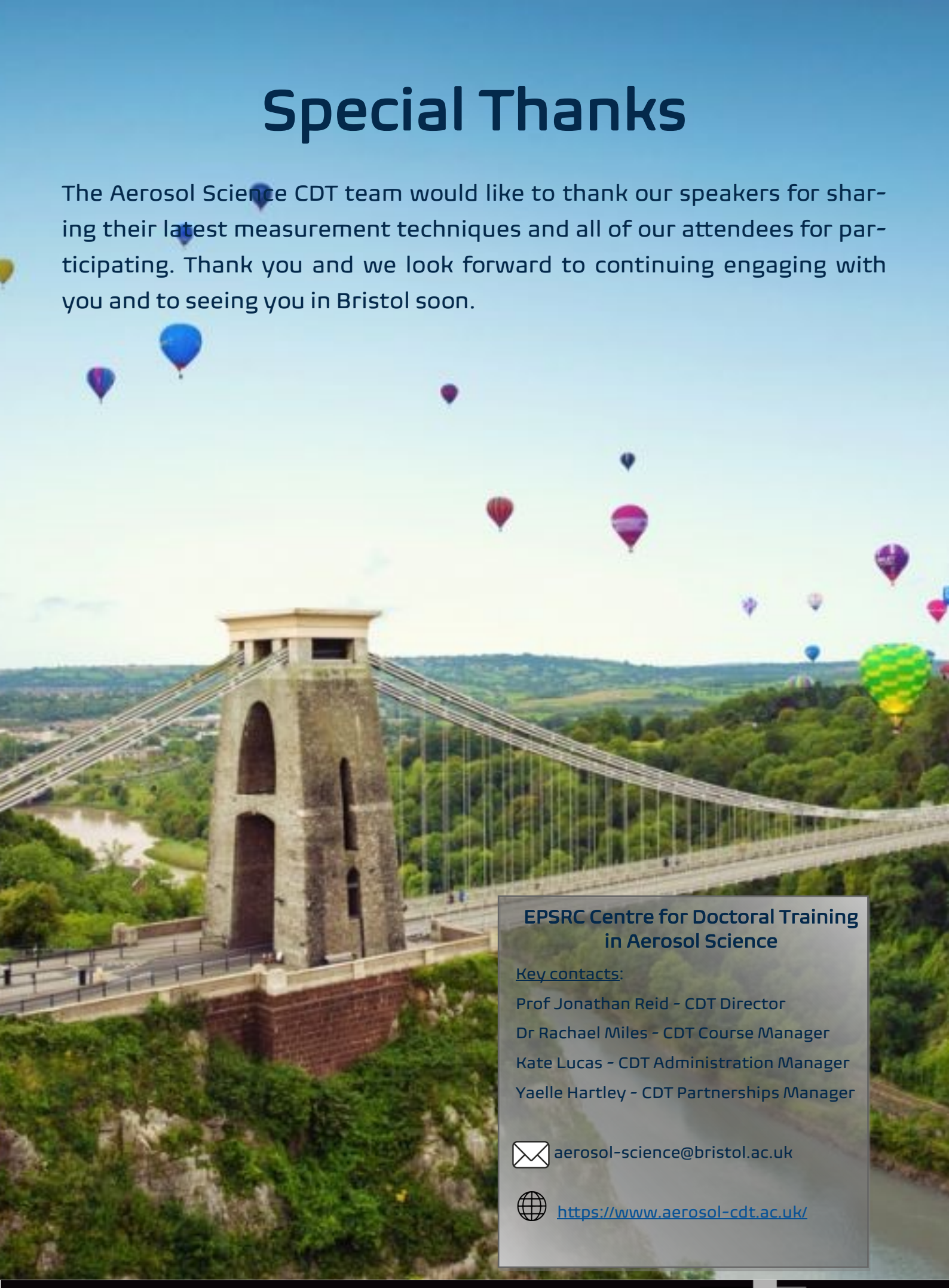
This plenary talk will introduce the concept of automated bioprocessing and biodetection incorporating digital microfluidics (DMF) as a component in an integrated system. The talk will be intentionally broad, highlighting environmental biodetection technologies across a range of scales, ultimately focussing on personal samplers and the challenges associated with collecting real-world environmental and biological samples for downstream analysis. The advantages afforded by DMF will be presented in the context of codeveloped system designed for capture of airborne particulate and biological matter by personal samples and interfacing with a platform utilising DMF as a means of recovering sample for analysis. With an ability to manipulate discrete droplets in a sequential manner, DMF carries the promise of a new paradigm for automated analysis especially for lab-on-a-chip applications where complex protocols are automated on a single 'chip'. These devices are highly scalable and reprogrammable, enabling complex automated procedures that would be difficult, if not impossible, to implement using classical microfluidics.

BIOGRAPHY

Daniel McCluskey graduated with a BEng (Hons) in Aerospace Engineering from the University of Hertfordshire in 2003. This was followed by a Mechanical Engineering PhD concerned with the Computational Fluid Dynamics modelling of cyclonic separators from Coventry University in 2009. He joined the UH Microfluidic & Microengineering Research Group in 2009 and has contributed to the development of advanced microfluidic based biodetection systems for the UK MoD. In addition he is involved in the design and manufacture of rapid prototype mechanical design solutions for microfluidic system and has helped develop the taught module, Microengineering & Microtechnology, for the School of Engineering.

Special Thanks

The Aerosol Science CDT team would like to thank our speakers for sharing their latest measurement techniques and all of our attendees for participating. Thank you and we look forward to continuing engaging with you and to seeing you in Bristol soon.



EPSRC Centre for Doctoral Training in Aerosol Science

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