

Biopharma Facilities for a Sustainable Future



Dear Participants

It is a pleasure to welcome you to this one-day conference on **Biopharma Facilities for a Sustainable Future** held on 12th of December 2023 in Birmingham and organised by the Biochemical Engineering Special Interest Group (BESIG) within the Institution of Chemical Engineers (IChemE).

The healthcare sector, from drug and device manufacturer, through associated transport costs, to hospital-associated activities is a major generator of waste and a major consumer of energy and fossil fuel-based raw materials. Today, we're going to concentrate on biopharmaceuticals and specifically sustainable facility and utility design for their manufacture plus a peek at plastic waste minimisation. This leaves the door open for future events to examine greener process routes and even evaluate the sustainability of different treatment modalities.

Today, we hope that you will enjoy the science, interact with our trade sponsors and extend your network.

On behalf of the organising committee,

Vaughan, Petra, Eirini, Will, Henry and Stephen

IChemE

Biochemical Engineering
Special Interest Group

ORGANISING COMMITTEE



Vaughan Thomas
UCL & Tillingbourne Consulting



Petra Hanga
UCL & Quest Meat



Eirini Theodosiou
Aston University



Will Olughu
Ipsen



Henry Charlton
Cytiva



Stephen Judd
Arcadis

SPONSORS



PRACTICAL INFORMATION

EVENT VENUE

Conference Aston, Aston Street, Aston university Campus, B4 7ET

What's what and where...



- P The blue areas are car parks. If you have booked this online at www.conferenceaston.co.uk/carparking your parking will be in Car Park 12 on campus, off Jennens Road. If you have not pre-booked online or the on-site car park is fully booked, please go to Millennium Point Car Park, the opposite side of Jennens Road.
- P The pink building is the hotel and conference centre. Please make your way to the hotel following the green walking route.
- P Follow the dark green route to find your way across campus from the city centre, taxi drop off or either of our car parks.

Top Tips for your journey...
 As you approach the city centre follow signs for "Aston University"
 The Hotel and Conference Centre are located on the green, landscaped campus.

Clean Air Zone
 Our venue is located in the Clean Air Zone.
 Please visit www.cleanairzone.co.uk to check your vehicle and how to pay any applicable charges.

What Three Words
 We've included the references on our maps to assist your journey.

Handy hint...
 You'll see Conference Aston and Aston Business School above the front doors but don't worry you're in the right place. Take our revolving door on the left into the venue.

Handy hint...
 Turn left here, the "Matthew Boulton Campus" building will be on your left hand side!

Handy Hint...
 Look out for the left hand turn after the Matthew Boulton Campus building

Handy hint... We do our best to make sure we've checked the postcodes and directions (and we think they're right according to the latest Google maps) but we'd recommend that you pop online to maps.google.co.uk, before setting off, to plan your personal journey. Call us if you get lost... 0121 204 4300

SCIENTIFIC SESSIONS and TRADE EXHIBITION

All presentations and the trade exhibition will take place in Meeting Room 144/145 (1st floor).

LUNCH/COFFEE & TEA breaks

A buffet style lunch will be served at the Courtyard restaurant (Ground floor).

A selection of teas, coffees, snacks and fresh fruit will be served at the Courtyard lounge (Ground floor). A coffee station will be also available near the meeting room.

Please advise one of the Committee members if you have any food allergies.

CONFERENCE PROGRAMME

- 9:00** *Registration*
- 10:00** **Introduction to BESIG IChemE and the meeting**
Vaughan Thomas
- CHAIR: Vaughan Thomas**
- 10:10** **Sustainable facilities: a design house perspective**
Stephen Judd, *Arcadis*
- 10:35** **Sustainable facility design – Fujifilm's Borealis Project**
Peter Large, *Fujifilm*
- 11:10** **Platform Design for Manufacturing and Assembly in Life Sciences - Sustainability Through Standardisation**
Adrian La Porta and Helen Hough, *Bryden Wood*
- 11:35** *Coffee break and Technology exhibition*
- CHAIR: Petra Hanga**
- 12:00** **Advances in sustainable solutions at Biopharma facilities**
Keith Beattie, *EECO2*
- 12:25** **Sponsor snapshots (5 min each)**
Frazer Cumming, *IWT*
Barry McDermott, *PM Group*
David Gruber, *Ipsen*
Mark Marlowe, *IPS*
- 12:45** *Lunch break and Technology exhibition*
- CHAIR: Eirini Theodosiou**
- 14:00** **Recycling of post-use bioprocessing plastic containers – mechanical recycling technical feasibility**
Miriam Monge, *Sartorius*
- 14:25** **Sustainable approaches to single use plastics**
Anu Solanki, *PA Consulting*
- 14: 50** *Coffee break and Technology exhibition*

CHAIR: Will Olughu

- 15:30** **Ozonation – low carbon, high efficiency for sustainable sanitation in UPW systems**
Ian Smith, *Veolia WTS*
- 15:55** **Ambient WFI generation to reduce energy demands**
Richard O'Neill, *BWT*
- 16:20** **Final remarks and close of meeting**
Will Olughu

SPEAKER BIOGRAPHIES



Stephen Judd

Arcadis

Sustainable facilities: a design house perspective

Stephen is a Bioprocess SME with Arcadis, an Architectural and Engineering (A&E) company involved in the design and construction of Pharmaceutical and Biotech manufacturing facilities. Stephen's main focus is the field of Cell and Gene Therapy which is an area that he is very passionate about.

IChemE

Biochemical Engineering
Special Interest Group



Peter Large
Fujifilm

Sustainable facility design – Fujifilm's Borealis Project

Peter Large has over 35 years' experience within Fujifilm, with roles at all levels in Engineering Management, Design, and Capital Projects.

Peter has been responsible for a number of strategic investments across the Fujifilm network.

Currently responsible for the generation of Fujifilm's single use manufacturing facilities global standard. His role covers both the development of the standard and the application of it for facilities currently under construction in the UK and US.



Adrian La Porta and Helen Hough

Bryden Wood

**Platform Design for Manufacturing and Assembly in Life Sciences -
Sustainability Through Standardisation**

Adrian is the Technical Director at Bryden Wood. A very experienced process engineer, he has previously worked for other high profile engineering consultancies including Fluor, BPE Design and Support and PM Group. He is a Chartered Chemical Engineer with design and project management experience concentrated in the biotechnology and pharmaceuticals sector. Interests include innovation in plant design, service delivery and sustainable process design. Adrian has previously held the post of Chair of the Pharmaceutical Special Interest Group of the IChemE and is also very active with the ISPE. During the COVID 19 pandemic, he was a technical advisor to the Vaccines Taskforce.

Helen is an experienced Sustainability Designer with a background in architecture and mechanical services. Helen leads the Building Physics and Sustainability team within Bryden Wood. She promotes sustainable and net zero carbon building design which delivers a tangible reduction in energy bills for building operators whilst considering the comfort of occupants. Her passion for creating sustainable low energy buildings and communities has allowed the opportunity to work on projects from the earliest design stages through to completion, and on the ongoing maintenance and refurbishment of buildings.



Keith Beattie

EECO2

Advances in sustainable solutions at Biopharma facilities

Keith Beattie has over 20 years' experience in the life sciences industry, and over the last 15 years has focussed on improving sustainability in the fields of resource use (energy and water).

In his current role within EECO2, Keith and his team help biopharma clients with innovation in utilities, identify improvement actions and facilitate delivery at diverse manufacturing and R&D sites around the world.

EECO2 has a mission to improve the world for future generations through decarbonising the life science industry.



Miriam Monge

Sartorius FMT Single-use Technologies division

Recycling of post-use bioprocessing plastic containers – mechanical recycling technical feasibility study, a Sanofi/Veolia/Sartorius collaboration

Miriam Monge started her career during the pioneering phase of single-use technologies at Stedim Biosystems. During this time Miriam drove industry advocacy for single-use systems notably founding and chairing the ISPE disposables community of practice and leading task forces presenting on Single-use technologies to the FDA. Miriam has authored over 30 publications on single-use technologies and is a long-term editorial advisor for Bioprocess International. Miriam has held a number of roles at Sartorius, including Marketing head for the Integrated solutions business, building our process intensification capabilities, developing specific modality focused solutions and developing relevant external collaborations. She continues to drive company advocacy activities and is the Sartorius BPOG L1 representative.

IChemE

Biochemical Engineering
Special Interest Group



Anu Solanki
PA Consulting

Incorporating sustainable materials into new and existing medical devices

Anu is a materials scientist with a PhD in biomaterials and who specialises in sustainable material product development. She has worked in product development for the last 10 years, and has helped a number of companies on a mission to reduce single use plastics.



Ian Smith

Veolia WTS

Ozonation – low carbon, high efficiency for sustainable sanitation in UPW systems

Ian holds a BSc(Hons) in Applied Chemistry, with over 30 years of experience in water treatment sales to Middle Market, Food/beverage and Pharma industries, collaborating with the market leading companies to optimize performance in dynamic water systems using Veolia technology to improve product quality, provide system assurance and asset protection in a commercially and environmentally sustainable way.

IChemE

Biochemical Engineering
Special Interest Group



Richard O'Neill

BWT

Ambient WFI generation to reduce energy demands

Richard has worked in the Pharma & Biotech Clean Utilities industry since 1999. Beginning as Draftsman, he has worked through positions in Documentation, Validation, Project Engineering, Technical Manager, Business Development Manager and am now in his current position of Managing Director.