

# IBioIC Newsletter

## Spring 2019

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## Welcome from the Chair

IBioIC has enjoyed a tremendous 2019 so far. It started with our 5<sup>th</sup> Annual Conference, 'Industrial Biotechnology for a Sustainable Future'. This was our biggest and most successful conference to date with over 450 registered delegates and 70 speakers. This year we introduced for the first time a number of 'Fringe' events surrounding the conference which capitalised on the opportunities presented by having so many of biotechnology's key players all in the same place at the same time. The conference was also the launchpad for a number of significant announcements from member companies and from government, for example the update to Scotland's National Plan for IB announced by the Minister for Trade, Investment and Innovation, Ivan McKee. It's a measure of the esteem in which IBioIC's conference is held that it is seen as the occasion to make major policy, funding and strategic announcements, and we're delighted that the event continues to build its reputation both in Scotland and internationally.

In March, we won seedcorn funding from the Strength in Places fund for a strong collaborative project designed to accelerate the growth of the IB industry in the Central Belt of Scotland. This is an exciting project and the team are delighted to be one of the few chosen projects in Scotland to progress through to a full bid.

Our project funding programme also continues to flourish with seven new projects awarded funding earlier this year and a further competition just closed. These projects are a key part of our work to accelerate commercialisation and we're pleased to be able to support all of them.

Careers have been a theme of the Skills programme recently with the highly successful 'Pick Your Crew' IBioIC19 Fringe event introducing our shortly to graduate HND students to our industry members. In addition, the first eight of our PhD students have successfully passed their *vivas* and have moved on to start their careers, about half in industry and half in academia. We wish all of our recent graduates the very best for the future, and I expect we'll be seeing plenty of familiar faces in new roles in the coming months.

We also welcome the new member companies who have joined our network over the past few months and look back on some of the key news stories from our members, such as FujiFilm Diosynth Biotechnologies' Centre of Excellence in Bioprocessing 2.0, which was another announcement at our annual conference.

It's been another busy quarter for the team and the network and I hope you will enjoy catching up as we head into summer and towards the end of our first year of Phase II.

**Professor Dame Anne Glover**



## IBioIC Headlines

### Strength in Places Fund Award

IBioIC led one of 23 successful bids for up to £50K seedcorn funding from UK Research and Innovation's Strength in Places fund. The project, '**Accelerating the 4th industrial revolution across Scotland's Central Belt**' will aim to accelerate the development of biology-based products for a wide range of sectors, from health to agriculture and the marine sector.

The project consortium includes expertise from industrial and academic players in synthetic biology (Ingenza, GSK), biorefining (Cellucomp, Celtic Renewables, 3FBio, Marine Biopolymers Ltd) and Grangemouth cluster colocation providers (Ineos, Calachem and Forth Ports) as well as the leading academic institutes in the region (Universities of Strathclyde, Edinburgh and Glasgow, Heriot Watt University, James Hutton Institute and Forth Valley College). The project is supported by Scottish Enterprise, Scottish Development International, Scottish Futures Trust, Scottish Funding Council and the local authorities across the region.

The award underlines the importance of Scotland's growing biotechnology sector and this significant win will help us boost the economic impact of the IB sector in Scotland and accelerate commercialisation by closing gaps in the current innovation system.

The project partners now have until September to develop a full-stage bid which, if successful, will result in an investment of £20M towards the fulfilment of the proposal.

### UK Research and Innovation

### IBioIC Funded Projects

IBioIC regularly runs funding competitions for industry-led collaborative projects. Our last such project, the IB Prime Accelerator competition 2018, closed at the end of October 2018, and winners were announced in early April.

The projects which were funded are:

- **ScotBio and University of Edinburgh**  
3D-AEX: a novel 3D printed chromatography column for improving the extraction and purification of C-phycoerythrin
- **Synpromics and University of Edinburgh**  
CNS-specific promoters for gene therapy applications
- **Celtic Renewables and Napier University**  
Isolation and Characterisation of Solventogenic Clostridial Strains from renewable Sustainable Substrates
- **3FBIO Ltd and University of Strathclyde**  
Accelerating scale up of the ABUNDA® bioprocess
- **Cellucomp and University of Edinburgh**  
Validating a potential ethanol toxicity reducing additive from vegetable waste
- **Ingenza and University of Edinburgh**  
Using a new-chromosome for synthetic biology in *Pichia pastoris*
- **Marine Biopolymers Ltd and Heriot Watt University**  
Extraction of Nitrogenous Material from Seaweed

# Annual Conference Review

IBioIC's 5<sup>th</sup> Annual Conference, *Industrial Biotechnology for a Sustainable Future*, took place on 30<sup>th</sup> and 31<sup>st</sup> January 2019 at the Technology and Innovation Centre, Glasgow. This was our biggest conference yet, with over 70 speakers, 30 exhibition stands, 30 poster displays, and 450 delegates.

We were delighted to welcome a number of significant announcements at the conference, including the launch of the updated National Plan for IB, announced by Minister for Trade, Investment, Innovation, Ivan McKee MSP, the launch of a new *Credibility Audit* by Sustainability Consult, the announcement by Fujifilm Diosynth of a new *Centre of Excellence in Bioprocessing* in the UK for which IBioIC will provide governance, and Principal of the University of Strathclyde Professor Sir Jim McDonald discussed the £150K investment in the new Glasgow City Innovation District.



There was an ongoing discussion throughout the conference about the confusion over terms like 'recyclable', 'biodegradable' and 'compostable', with speakers flagging the need for agreed definitions and education for consumers, and calling for consistency of recycling facilities across the country and the need for new end of life options. There were differences of opinion over whether our current problem with plastics is rooted in their consumption and disposal or in their production, and enthusiasm for Renewable Hydrogen as an energy source in the future.

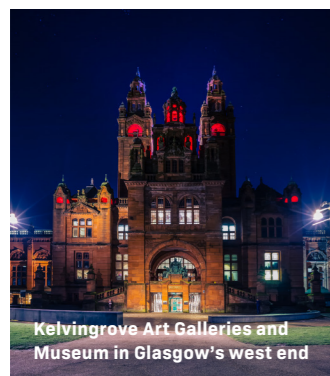
Beyond the auditorium, there was also plenty of activity with a range of new Fringe events which took place over the course of the week of the conference. These included IBioIC's Annual Symposium, the Next Generation Workforce – Pick Your Crew, a Wood Biorefining Networking Breakfast, a workshop by the National Physical Laboratory on measurement capability and the Charles Tennant Memorial Lecture, as well as closed events including the BioBased Industries Consortium meeting and the first meeting of the BBSRC Phase II NIBBs. Also running throughout the conference was 'Invest in Biotech', a series of one to one partnering meetings between investors and delegate companies.



Ivan McKee MSP



Kathryn Sheridan, Sustainability Consu



Kelvingrove Art Galleries and Museum in Glasgow's west end



Whisky tasting, provided by Glenmorangie



Dippy the dinosaur, on tour

And of course, there was the conference dinner. This year, we couldn't resist the opportunity to dine in the auspicious company of Dippy the Dinosaur, currently visiting Glasgow's Kelvingrove Art Galleries and Museum while on tour from the Natural History Museum. Whisky tasting was provided by Glenmorangie, and the evening was hosted by IBioIC Operations Director Jo Partridge and Senior Business Development Coordinator Steven Asiala, whose double act proved so successful that there has been talk about going professional!



Hosted by IBioIC Operations Director Jo Partridge and Senior Business Development Coordinator Steven Asiala

## IBioIC19 Fringe Events

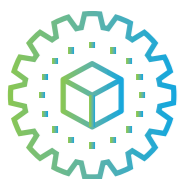
### Wood Biorefining Networking Breakfast

IBioIC hosted an informal networking breakfast for delegates involved in forest value chains on the morning of 30th January as part of the IBioIC19 Annual Conference Fringe. All delegates with an interest in wood based biorefining were invited to attend and for a value chain which is very much in its infancy in the UK, we were delighted to welcome 27 attendees from Finland, Netherlands, and Sweden as well as the UK and from industry, academia and other organisations with links to the forest value chain.

### Investing in Biotech Event Review

This event, which took the form of a series of one to one partnering meetings, was held in collaboration with three distinguished investor companies; Thomas Grotkjaer, of Novo Holdings, Poonam Malik, from Investing Women and Sarah Hardy, of Archangels. All had a very busy two days of meetings with a wide range of UK based biotechnology companies attending the conference.

This was the first time IBioIC have organised investor meetings at the conference and we are delighted to report that feedback from both investors and companies has been highly positive.



### HND 'Next Generation Workforce – Pick your Crew'

As part of #IBioIC19, the Skills Team organised a Glasgow Clyde College HND Student and Employer Engagement session, which included 2-minute presentations from industry members and a student/employer speed-dating session. Seven companies attended including GSK, Merck, Ingenza, Biocatalysts, uFraction8, Glasgow Science Centre and Antibody Analytics. There are some exciting outcomes from this that we're looking forward to reporting on in future editions!

### Annual Symposium

This year's annual symposium was a first of its kind for IBioIC; a vertically-integrated training event for IBioIC students from HND to PhD level. Around 90 students and stakeholders came together to contemplate some of the global challenges faced today and consider how IB can contribute to reducing the burden on our environment and natural resources. Topics included healthcare with a focus on antibiotic resistance, ocean health, food security and waste, essential resources from sustainable sources and the impact of the textile industry. With guest speakers including Glasgow Skeptic, Brian Eggo; BBC Scotland Special Correspondent, Ken MacDonald and Susan Meikleham from Glasgow Science Centre, this was a hugely energetic symposium that challenged everyone to engage your audience by establishing what's important to them and finding an approach that piques their interest.



## Events Round-Up

### Insect Farming in Scotland

In February, IBioIC took part in Zero Waste Scotland's Insect Farming in Scotland event in Edinburgh. The conference was attended by entomologists, farmers, government organization representatives, fish feed producers, biotech experts, and food and drink producers who got together to investigate how to close the gaps on all aspects of insect farming, including the necessity for alternative protein sources, EU and local regulation around these potential farms, the companies investigating business models for farming flies, the unique opportunity for insect feed in Scotland, the existing support structure for these businesses.

Insect farming has significant potential to address the joint challenges of dealing with unavoidable food waste and the need for dietary protein, but there are regulatory and logistical challenges to overcome. IBioIC's Senior Business Development Coordinator Steven Asiala reported on the event and his blog post has more detail and plenty of additional reading: [http://www.ibioic.com/news\\_and\\_events/blog/i2892/insect\\_farming\\_in\\_scotland\\_event\\_blog.aspx](http://www.ibioic.com/news_and_events/blog/i2892/insect_farming_in_scotland_event_blog.aspx)

### Biotech Meets Co-products

In February, IBioIC partnered with the Scotch Whisky Research Institute (SWRI) to hold an event designed to bring together every part of the whisky co-product value chain. The event was incredibly well attended, with over 60 delegates including senior level decision makers in the whisky industry, biotech companies, end users including fish food producers and support organisations like IBioIC, enterprise agencies and Zero Waste Scotland. Feedback so far indicates that the event was also very well received, and the IBioIC team are looking at using the template of this event for future value chain meetings.

### European Chemistry Partnering 2019

IBioIC joined over 800 delegates at this year's ECP conference in Frankfurt in February for the 3<sup>rd</sup> ECP. Our goal in attending was to build new connections, pitch the Scottish biotech sector and highlight opportunities for collaboration, and we're delighted to report that we accomplished that successfully with a number of interesting follow-on conversations currently in progress.

### Food Waste Net

IBioIC joined the last meeting of this NIBB with around 40 other delegates to hear presentations on proof of concept, innovation vouchers and the successful outcomes of funding schemes run by the NIBB during its lifetime. This meeting was a good opportunity to set the table for future meetings on food waste.



## Changes to the IBioIC Team

### Ashley Jackson Stakeholder Engagement Manager

Having been IBioIC's Marketing and Communications Manager for longer than she cares to remember, Ashley has now taken on a new role within the team. Her new remit will be to work with the team to promote IBioIC and IB to companies working within the new value chains identified in Scotland's National Plan for IB, to work with the Business Development Team to continue to develop IBioIC's offering in terms of our membership benefits, management of IBioIC's conference, and to develop activities that raise awareness of Scotland as a 'great place to do IB'.



### Isabel Vincent PDRA to Project Manager

Isabel joined IBioIC as Project Engagement Manager in March 2019, having previously worked with Glasgow Polyomics as a Biochemical Data analyst, and on several projects with IBioIC as a Post Doctoral Research Associate. Following her undergraduate degree in Biomedical Science with Industrial Experience, Isabel moved to Glasgow University to pursue a CASE PhD with Pfizer in the use of metabolomics to elucidate drug mode of action in African trypanosomes. Following a post-doctoral post in Quebec, Canada on using 'omics to analyse drug resistance mechanisms, Isabel returned to Glasgow to work on post-doctoral projects with AstraZeneca and Anacor.

During this time, Isabel also completed a Master's in Public Health by distance learning at Manchester University. In 2017 Isabel decided she wanted to broaden her research and move away from the lab and more towards a project management role. She accepted a position at Glasgow Polyomics, working on several projects with IBioIC and industrial partners. As Project Engagement Manager, Isabel oversees the day to day running of projects resulting from IBioIC's calls, helping academics and industrial partners get the most out of their collaborations and to apply for follow on funding. Isabel enjoys the translational nature of her work at IBioIC and is inspired by the high level of IB research taking place in Scotland.



## The Skills Programmes

IBioIC's skills programmes continue to flourish. Here are some of our recent successes.

### Opportunities for HND Graduates

The Skills Team are working with the HND Course Director to help secure Technical Apprenticeships, summer work experience placements and employment opportunities for Year 1 and Year 2 graduating students, with some exciting discussions having already taken place.

### PhD Successes

Eight PhD students have now completed their PhDs and are awaiting graduation. Congratulations to all from the whole IBioIC team!

### MSc Industry Placements

The Skills team have worked hard to develop the Industry Placements programme for MSc students, with the result that this year there are seventeen companies involved in the programme and several are offering more than one placement. Students are currently undertaking interviews, and we look forward to reporting on the outcomes of the placements in future editions.



## Member News

**Our members continue to innovate and inspire. Here, we look back on some of the key news stories from our members over the past couple of months.**

### FujiFilm Diosynth Biotechnologies Centre of Excellence in Bioprocessing 2.0

FDB invited IBioIC to become the programme manager of their new strategic partnership with three of the leading IB-focused Universities (led by University of Edinburgh with the Universities of Manchester and York as partners). The CoE in Bioprocessing is a commitment to academic collaboration by FDB over the next 5 years. IBioIC's role will focus on project governance and management to ensure that FDB industrial needs are met. It is anticipated that there will be strong overlap with IBioIC's existing skills programme including potential for new PhD programmes and wider skills training (eg CDP). It is anticipated that the industrial funding will be leveraged extensively with a proposed total projects value of >£10M. e to do IB'.



### National Importance of Highlands and Islands Marine Resources highlighted in March report

The 'Maximising the Marine Economy in the Highlands and Islands' (MAXiMAR) study focuses on supporting the growth of aquaculture, energy and marine biotechnology which are the most highly innovative sectors and concludes that the total value of the marine economy in Scotland could be £5bn by 2035. The outcomes of the Highlands and Islands research are available here: [www.hie.co.uk/MAXiMAR-SIA](http://www.hie.co.uk/MAXiMAR-SIA)

### Newly isolated human microbiota strains added to the NCIMB reference collection

In February, NCIMB received 20 strains of bacteria from the Wellcome Sanger Institute which included a number of novel species and genera. Culture collections like NCIMB's play a vital role in preserving new strains of bacteria and making them available to the scientific community. NCIMB look for type strains of newly discovered environmental bacteria and those that may be environmentally important and/or industrially useful.

The Wellcome Sanger Institute is one of the premier centres of genomic discovery and understanding in the world, and the work that this research group is doing in culturing and isolating gut bacteria is making a significant contribution to the understanding of gut microbiota and its compositional diversity. This makes their contribution to NCIMB's collection highly important for future research into the various diseases gut bacteria can play a part in as well as new treatments.

### BPE expands its team further by appointing Mark Thomason as process design lead

In March, BPE, the chemical and biochemical engineering design specialists, appointed Mark Thomason as process design lead. Mark brings with him significant experience across most phases of the project life cycle. BPE are expanding their team following a hugely successful 2018 and Mark's appointment signals further growth for BPE in the North West.

### £4M Revamp for Glasgow Science Centre

Glasgow Science Centre announced in February that it is to undergo the biggest transformation in its 19-year history with a £4million revamp aimed at broadening interest in science. As part of this, a new exhibition, Idea #59, will inspire future engineers, scientists and innovators with an experience centred on transformative technologies. Alongside the new indoor hub, the project will include a free outdoor area transforming Pacific Quay into a space for play, discovery and social interaction.

## New Members

ALTAR

[www.altar.bio/](http://www.altar.bio/)

SLG Technologies

[www.slgtechnology.com](http://www.slgtechnology.com)

Biome Bioplastics

[biomebioplastics.com](http://biomebioplastics.com)

Holiferm

[www.holiferm.com](http://www.holiferm.com)

Catax

[www.catax.com](http://www.catax.com)

NNFCC

[www.nnfcc.co.uk](http://www.nnfcc.co.uk)

R-Biopharm Rhone

[www.r-biopharm.com](http://www.r-biopharm.com)

Revive Eco

[revive-eco.com](http://revive-eco.com)

Glasgow Science Centre

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