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16th EUROPEAN CONGRESS
ON **BIOTECHNOLOGY**
13-16 July 2014 • EICC • Edinburgh • **Scotland**
Organised by The European Federation of Biotechnology

Detailed Scientific Programme

(Updated 8 July 2014)

Key:	Plenary Session	Symposium	Highlight Event	Keynote Speaker	Poster Session
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Sunday 13 July – Pre-Congress events

10:00 – 14:30 (TINTO SUITE, LEVEL 0) Workshop: Industrial biotechnology from fundamentals to practice.	10:30 – 12:40 (SIDLAW SUITE, LEVEL 3) Workshop: YEBN communications workshop	14:50 – 16:45 (PENTLAND SUITE, LEVEL 3) Workshop: Biomolecular technology of proteins
<p>Organised by the Austrian Centre for Industrial Biotechnology (ACIB)</p> <p>10:00 - 10:25 Two promising biocatalytic tools: regioselective carboxylation of aromatics and asymmetric hydration of alkenes , <i>Silvia Glueck (acib)</i></p> <p>10:25 - 10:40 Unconventional substrates for enzymatic reduction: carboxylates and nitriles, <i>Margit Winkler (acib)</i></p> <p>10:40 - 10:55 Engineering of cupin hydroxynitrile lyases, <i>Kerstin Steiner (acib)</i></p> <p>10:55 - 11:20 Enzyme responsive polymers <i>Alexandra Rollett (acib/BOKU)</i></p> <p>11:20 - 11:35 Esterases from <i>Clostridium</i> are Involved in anaerobic degradation of synthetic polyester <i>Veronica Perz (acib)</i></p> <p>11:35 - 11:50 Designing robust <i>Saccharomyces cerevisiae</i> strains against stresses encountered during bioethanol fermentations from lignocellulosic biomass, <i>Vinod Kumar (University of Nottingham)</i></p> <p>11:50 - 12:40 Lunch</p> <p>12:40 - 13:05 Systems biology of <i>Pichia pastoris</i> <i>Brigitte Gasser (acib/Boku)</i></p> <p>13:05 - 13:20 Cross-species comparison of recombinant protein secretion in CHO cells and <i>Pichia pastoris</i>, <i>Nils Landes (acib)</i></p> <p>13:20 - 13:35 Utilization of recombinase mediated cassette exchange (RMCE) for the generation of recombinant CHO cell lines with defined expression properties, <i>Martina Baumann (acib)</i></p> <p>13:35 - 13:50 Integrated continuous refolding and precipitation of proteins in a tubular reactor <i>Siqi Pan (acib)</i></p> <p>13:50 - 14:15 From multi-sequence alignment to metabolic engineering to minimal drug cocktails: a new hitting set calculator, <i>Jürgen Zanghellini (acib)</i></p>	<p>Supported by the Scottish Universities Life Science Alliance (SULSA) and the Young European Biotechnology Network (YEBN)</p> <p>10:30 - 10:35 Introduction and Welcome</p> <p>10:35 - 11:15 Connecting with People and Active Networking, <i>Alison Gray (Skillfluence)</i></p> <p>11:15 - 11:30 An orienteering session by the EFB: organisation of the EFB, its Sections and how to become involved.</p> <p>11:40 - 12:40 Career planning and development, <i>Alison Gray (Skillfluence)</i></p>	<p>Organised by BioToP - The international PhD programme on protein biotechnology at BOKU Vienna</p> <p>14:50 - 15:30 Keynote Lecture: design and engineering of next generation mammalian cell factories, <i>David James, (University of Sheffield)</i></p> <p>15:30 - 15:45 Characterization of a novel cell penetrating peptide derived from human Oct4, <i>Eva Harreither (BOKU - University of Natural Resources and Life Sciences, Vienna)</i></p> <p>15:45 - 16:00 From slow to fast: effects of growth rate on global gene expression and recombinant protein secretion in <i>Pichia pastoris</i>, <i>Corinna Rebnegger (BOKU - University of Natural Resources and Life Sciences, Vienna)</i></p> <p>16:00 - 16:15 The human anti-HIV antibodies 2F5, PG9 and 2G12 differ in their proteolytic susceptibility, <i>Melanie Niemer (BOKU - University of Natural Resources and Life Sciences, Vienna)</i></p> <p>16:15 - 16:30 Chlorite dismutases and dye-decolorizing peroxidases—similarities and differences within a structural superfamily of heme proteins, <i>Irene Schaffner (BOKU - University of Natural Resources and Life Sciences, Vienna)</i></p> <p>16:30 - 16:45 Enzymatic oxidation of plant polysaccharides adsorbed to cellulose surfaces, <i>Filip Mollerup (Aalto University)</i></p>

Key:	Plenary Session	Symposium	Highlight Event	Keynote Speaker	Poster Session
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Sunday 13 July - Opening Ceremony

17:00 – 19:00

Opening Ceremony (PENTLAND SUITE, LEVEL 3)

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| 17:00 – 17:05 | Introduction and welcome to the congress, <i>Prof. Nigel Brown</i>
Introduction of the Deputy Lord Provost of Edinburgh |
| 17:05 – 17:10 | Welcome to Edinburgh
<i>Deidre Brock, the Deputy Lord Provost of Edinburgh</i> |
| 17:10 – 17:15 | Welcome on behalf of the EFB
<i>Prof. Marc van Montagu, President, EFB</i> |
| 17:15 – 18:05 | Opening Plenary: How to get biotechnology to work for us
<i>Prof. Anne Glover, Chief Scientific Adviser to European Commission</i> |
| 18:05 – 18:10 | Plenary lecture introduction
<i>Dr. Louise Horsfall, Local Organising Committee</i> |
| 18:10 – 18:55 | Plenary lecture: Synthetic biology for synthetic chemistry
<i>Prof. Jay Keasling, University of California, Berkeley</i> |
| 18:55 – 19:00 | Closing remarks
<i>Prof. Jeff Cole, Chair of Scientific Committee</i> |
| 19:00 | Welcome reception commences |

19:00 – 20:30

WELCOME RECEPTION (CROMDALE HALL, LEVEL -2)

Sponsored by Scottish Enterprise

Key:

Plenary Session

Symposium

Highlight Event

Keynote Speaker

Poster Session

Monday 14 July

09:00 – 10:00	Biochemical Engineering Journal Young Investigator Award lecture (PENTLAND SUITE, LEVEL 3) Chair: Prof. Colin Webb A glimpse into the future of mammalian cell culture process development: innovative approaches to impact time to clinic, product quality, and cost of process development and commercial manufacturing <i>Chetan Goudar, Amgen USA</i>
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10:00 – 10:30	REFRESHMENTS AND EXHIBITION (CROMDALE HALL, LEVEL -2)
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	Tinto	Fintry	Sidlaw	Pentland
10:30 – 12:30	Symposium 1: Stem cell applications and gene therapies: where are we? Chair: Prof. Francesc Godia	Symposium 2: Plants for the production of high value chemicals Chair: Dr. Louise Horsfall	Symposium 3: Glycobiotechnology Chair: Dr. Tim Overton	Symposium 4: Robust biocatalysts for the production of novel bio-based products Chair: Dr. Roland Wohlgemuth
10:30	Keynote: Engineering synthetic stem cell niches <i>Matthias Lutolf (Lausanne, CH)</i>	Keynote: Cultured cambial meristematic cells as a source of plant natural products <i>Gary Loake (Edinburgh, UK)</i>	Keynote: Glycoarrays as tools in glycobiotechnology <i>Sabine Flitsch (Manchester, UK)</i>	Keynote: Molecular design of transglucosidases for polysaccharide and oligosaccharide synthesis <i>Pierre Monsan (Toulouse, FR)</i>
11:00	A quick potency assay for osteogenic and chondrogenic differentiation of adipose derived stem cells <i>Eleni Oberbauer (Vienna, AT)</i>	Molecular marker-assisted selection and pyramiding effect of major QTLs for cotton fiber strength <i>Youlu Yuan (Beijing, CN)</i>	<i>Pichia pastoris</i> GlycoDelete: the way out when N-glycans are a burden <i>Bram Laukens (Gent, BE)</i>	Structural studies on transaminase enzymes and applications in biocatalysis <i>J Littlechild (Exeter, UK)</i>
11:15	Repeated systemic administration of human adipose-derived stem cells attenuate diabetic nephropathy in the rats <i>Xue-Yuan Bai (Beijing, CN)</i>	The CO ₂ microalgae biorefinery: high value products and biofuels using halophilic microalgae in the "D-Factory" <i>Patricia Harvey (London, UK)</i>	Enzymatic remodelling of chitin for agrochemical applications <i>Rémi Chambon (CNRS Paris, FR)</i>	Current developments on the engineering of <i>Escherichia coli</i> biofilms for enzymatic biosynthesis of halotryptophans <i>Isaac Vizcaino-Caston (Birmingham, UK)</i>
11:30	Producing and harvesting culture-derived platelets with functional activity from blood stem cells <i>William Miller (Northwestern U., USA)</i>	Exploiting nature's chemists: high value bioactive compounds from algae <i>Christine Edwards (Robert Gordon University, Aberdeen, UK)</i>	Polysaccharides production by autotrophic cultures of microalgae <i>Antonio Marzocchella (Naples, IT)</i>	Structural and biochemical characterization of two novel enzymes with promiscuous ene-reductase activity <i>Tea Pavkov-Keller (Graz, AT)</i>
11:45	Adipose derived stem cells respond to <i>in vitro</i> extracorporeal shockwave treatment with increased stemness and multipotency <i>Christina Schuh (Vienna, AT)</i>	Use of synthetic biology in creating high-value metal nanoparticles from phytoremediated waste <i>Matthew Edmundson (Edinburgh, UK)</i>	Synthesis of potential prebiotics using <i>Pseudomonas syringae</i> DC3000 levansucrase Lsc3 <i>Triinu Visnapuu (Tartu, EE)</i>	Lessons on directed evolution of hydrolases and glucose oxidase <i>Ulrich Schwaneberg (Aachen, DE)</i>

Key:	Plenary Session	Symposium	Highlight Event	Keynote Speaker	Poster Session
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	Tinto	Fintry	Sidlaw	Pentland
12:00	Engineering bacteria for the discovery of potential therapeutic compounds against protein misfolding diseases <i>Georgios Skretas (Athens, GR)</i>	Gene isolation and its identification of salinity stress on <i>G. hirsutum</i> L. <i>Wuwei Ye (CAAS, CN)</i>	7-Hydroxydehydroneuciferine induces human melanoma A375.S2 autophagy and apoptosis and inhibits metastasis <i>in vitro</i> and <i>in vivo</i> <i>Hui Min Wang (Kaohsiung, CN)</i>	Immobilization of carbonic anhydrase for biomimetic CO ₂ capture in slurry absorber <i>Sara Peirce (Naples, IT)</i>
12:15	Computational prediction of associations between psoriasis, rheumatoid arthritis and osteoarthritis <i>Tuba Sevimglu (Marmara, TR)</i>			Engineering of pyranose 2-oxidase for modified oxygen reactivity <i>Dagmar Brugger (BOKU, Vienna, AT)</i>

12:30 – 13:30 LUNCH AND EXHIBITION (CROMDALE HALL, LEVEL -2)

13:15 – 15:00 POSTER SESSION - ODD NUMBERS (STRATHBLANE HALL AND KILSYTH, LEVEL 0)

13:30 – 14:30 (SIDLAW SUITE, LEVEL 3)		13:15 -14:45 (PENTLAND SUITE, LEVEL 3)	
Highlight event: Innogen Institute Session: Governance, risk and responsible innovation		Highlight event: Publications workshop: How to get your science published	
Organised by Prof. Joyce Tait and Dr. Jane Calvert, Innogen Institute, University of Edinburgh		Chair: Dr. Mike Taussig	
<p>The concept of ‘Responsible Research and Innovation’ (RRI) is an increasingly important component of European and UK governance agendas, particularly for advanced biotechnologies. If you haven’t met it already you are likely to find it as a heading in your next grant application. Proposed as an approach to governing innovative technologies, different interpretations of the term and experiences of its use are emerging between policy makers, UK research councils, the European Commission (Horizon 2020) and companies. For example should the approach to RRI be different for basic research and for downstream development of an innovation? What should be the relative roles of stakeholder engagement, formal risk regulation and soft law/government policies at different points in an innovation process? The four speakers will each give a short presentation to explore these different perspectives and we will then open the session up to a broader discussion with the audience.</p> <p><i>Chair: Jane Calvert</i> <i>Speakers:</i> <i>Joseph Murphy, Glasgow University, EPSRC funded project on RRI</i> <i>Sarah Graham, Ingenza, Operationalising the TSB’s RJ Framework</i> <i>Patrick Middleton, BBSRC, BBSRC approach to RRI</i> <i>Joyce Tait, Innogen Institute perspective on RRI</i></p>		<p>13:15 - 13:20 Welcome by the Chair <i>Dr. Mike Taussig, Editor-in-Chief of the EFB Journal, New Biotechnology</i></p> <p>13:20 - 13:30 How to make sure your paper will be rejected, <i>Prof. Jeff Cole, EFB Vice-President</i></p> <p>13:30 - 13:45 How to improve the chance of your paper being accepted, <i>Dr. Mike Taussig, Editor-in-Chief of the EFB Journal, New Biotechnology</i></p> <p>13:45 - 14:00 How to select the most appropriate journal for your work <i>Vicky Johnson, Wiley representative on behalf of the UK learned Societies</i></p> <p>14:00 - 14:10 <i>Leighton Chipperfield, Head of Publishing, Society for General Microbiology</i></p> <p>14:10 - 14:25 What happens after my paper has been submitted: how to interact with editors and reviewers <i>Lynn Sherrer, Elsevier</i></p> <p>14:25 - 14:45 Questions and answer session; Meet the editors</p>	

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	Tinto	Fintry	Sidlaw	Pentland
15:00 – 17:30	Symposium 5: Synthetic biology Chair: Prof. Jeff Cole	Symposium 6: Assimilation of CO₂, CO and CH₄ into biobased products Chair: Prof. Fabio Fava	Symposium 7: Applications of metabolic modelling Chair: Prof. Joost Teixeira de Mattos	Symposium 8: Industrial biotechnology of natural and synthetic polymers Chair: Prof. Pierre Monsan
15:00	Keynote: Design and production of new-to-nature antimicrobials by synthetic biology <i>Oscar Kuipers (Groningen, NL)</i>	Keynote: Microbial fixation of CO ₂ in water bodies and in drylands to combat climate change, soil loss and desertification <i>Roberto de Philippis (Florence, IT)</i>	Keynote: Making use of metabolic models – <i>In-silico</i> driven design and engineering of industrial microorganisms <i>Christoph Wittmann (Braunschweig, DE)</i>	Keynote: Green polymer processing with enzymes <i>Georg Gübitz (Graz, AT)</i>
15:30	Synthetic transcription factors allow regulon wide control and shifting the Nitrogen/Carbon balance in bacteria <i>Jorg Schumacher (Imperial, London, UK)</i>	Microalgal biofuels from native biological resource of Pearl River Delta <i>Maurycy Daroch (Peking, CN)</i>	Design of optimally constructed metabolic networks of minimal functionality <i>David Ruckerbauer (ACIB Vienna, AT)</i>	Open mixed cultures for bioethanol production from lignocellulosic materials <i>Davide Dionisi (Aberdeen, UK)</i>
15:45	Cofactor uptake in 1,2-propanediol metabolising microcompartments <i>Matthias Mayer (Kent, UK)</i>	Exploring the potential of microalgae for bioenergy production <i>Frank Baganz (UC London, UK)</i>	What is the relationship between intracellular and extracellular metabolites? The theory of “metabolic overflow” put into test <i>Silas Villas-Boas (Auckland, NZ)</i>	Strategies for enzymic functionalization of synthetic polymers <i>Enrique Herrero Acero (ACIB, Vienna, AT)</i>

16:00 – 16:30	REFRESHMENTS AND EXHIBITION (CROMDALE HALL, LEVEL -2)
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	Symposium 5 (cont'd)	Symposium 6 (cont'd)	Symposium 7 (cont'd)	Symposium 8 (cont'd)
16:30	Use of transporter plug-ins in building effective microbial cell factories for chemical and fuel production <i>Christopher Grant (UC London, UK)</i>	Development of luminescent photobioreactors for improved microalgae cultivation <i>Seyedeh Fatemeh Mohsenpour (Heriot-Watt Edinburgh, UK)</i>	Towards genome-scale metabolic pathway analysis: metabolome integration allows efficient enumeration of elementary flux modes in metabolic networks <i>Jürgen Zanghellini (ACIB Vienna, AT)</i>	Influence of nutritional and physicochemical variables in PHB production from raw glycerol by a wild <i>Bacillus megaterium</i> strain <i>Carolina Guzman Luna (Rio Grande do Sol, BR)</i>
16:45	Novel tuneable gene expression systems based on orthogonal riboswitches <i>Neil Dixon (Manchester, UK)</i>	Identification of new auxiliary enzymes for the hydrolysis of lignocellulose <i>Oriana Salazar (Santiago, CL)</i>	Genome scale metabolic modeling of recombinant protein producing yeasts: Prediction of process parameters and metabolic engineering targets for efficient production <i>Diethard Mattanovich (BOKU Vienna, AT)</i>	Value-added carotenoid production in the pennate diatom <i>Phaeodactylum tricornutum</i> with light emitting diode based photobioreactors <i>Weiqi Fu (University of Iceland, IS)</i>

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17:00	Signal transduction engineering: a powerful platform technology for enhancing secondary metabolite production <i>Jian-Jiang Zhong (Shanghai, CN)</i>	Engineering biofuel producing microbes for efficient hemicellulose utilisation using synthetic biology <i>Gavin Thomas (York, UK)</i>	Use of a novel combinatorial genetics platform to rapidly clone, express and select target biocatalytic activities for multigenic metabolic pathway optimization <i>Ian Fotheringham (Ingenza, Midlothian, UK)</i>	Antibacterial and antifungal activity of charcoal materials and microwave radiation <i>Hee Jin Yang (Myongji, KR)</i>
17:15	Development of two continuous genome engineering strategies for efficient microbial evolution <i>Zhen Cai (Chinese Academy of Sciences, CN)</i>	Economic assessment of microbial lipids for biodiesel production: competitiveness with microalgae and agricultural plant oils <i>Ho Nam Chang (KAIST, Daejeon, KR)</i>	Methanol – a potential carbon source for <i>Corynebacterium glutamicum</i> <i>Sabrina Witthoff (Jülich, DE)</i>	Polyhydroxyalkanoates production by aerobic mixed microbial cultures using crude glycerol <i>Paulo Costa Lemos (Lisbon, PT)</i>

17.30 – 19.00	POSTER RECEPTION – EVEN NUMBERS (STRATHBLANE HALL AND KILSYTH, LEVEL 0)
17:45 – 19:45	Highlight event: Bioeconomy (PENTLAND SUITE, LEVEL 3) Chairs: Dr. Alredo Aguilar and Prof. Tomasz Twardowski
	<p>Bioeconomy is based on the sustainable transformation of renewable biological resources into a variety of bioproducts and bioenergy. Bioeconomy has two major objectives: the first one aims to reduce the dependence on fossil and non-renewable resources and the second one, to diminish the impact of human activity on climate change.</p> <p>Contrary to the current fossil fuel based economy, bioeconomy needs to be sustainable in order to be successful. The European Union, the USA, and other major countries and regions in the world have developed policies in respect to the bioeconomy.</p> <p>The seminar will benefit from the presence of high rank officials from the European Commission, the OECD and India. They will discuss the policy options and strategic initiatives that their respective counties and regions are taking in relation to the bioeconomy, in particular the goals to be implemented by 2020. The session will also have a panel discussion where the participants at ECB16 will have the opportunity to put forward questions and to discuss with the panellists their vision of biotechnology.</p> <p>Keynote: Building a European Bioeconomy <i>Eveline Lecoq, (European Commission)</i></p> <p>Keynote: Addressing global policy challenges through technology: an OECD perspective <i>James Philp (OECD, France)</i></p> <p>Keynote: Asia Bioeconomy and Biobusiness: current scenario and future prospects, <i>Satyahari Dey (IIT, Kharagpur, IN)</i></p>

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Tuesday 15 July

09:00 – 10:00	Plenary lecture: Prosthetic gene networks for biomedical applications (PENTLAND SUITE, LEVEL 3) Chair: Prof Francesc Gòdia <i>Prof. Martin Fussenegger, Department of Biosystems Science and Engineering, ETH Zürich</i>
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10:00 – 10:30	REFRESHMENTS AND EXHIBITION REFRESHMENTS AND EXHIBITION (CROMDALE HALL, LEVEL -2)
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	Tinto	Fintry	Sidlaw	Pentland
10:30 – 12:30	Symposium 9: Biomarkers and diagnostic tools Chair: Prof. Jennifer Littlechild	Symposium 10: Biowaste biorefinery for a more sustainable bioeconomy Chair: Dr. Philippe Corvini	Symposium 11: Nanotechnology: new biological applications Chair: Prof. Diethard Mattanovich	Symposium 12: Stress responses in microbial bioprocessing Dr. Tim Overton
10:30	Keynote: Designing nanomaterials for ultrasensitive biosensing <i>Molly Stevens (Imperial London, UK)</i>	Keynote: Biowaste biorefinery for a more sustainable and biobased food industry <i>Fabio Fava (Bologna, IT)</i>	Keynote: Design, structure and assembly of superparamagnetic core-shell nanoparticles <i>Erik Reimhult (BOKU, Vienna, AT)</i>	Keynote: Mechanisms of protein folding and quality control in bacteria <i>Bernd Bukau (Heidelberg, DE)</i>
11:00	Antibodies by design <i>Peter Tessier (Rensselaer Polytechnic Inst., USA)</i>	Development of an advanced biorefinery concept based on valorization of pulp and paper industry waste streams <i>Mary Alexandri (Athens, GR)</i>	Production and characterization of HIV-1 virus-like particles using transient gene expression in mammalian cells. <i>Sonia Gutiérrez-Granados (UAB, ES)</i>	Engineering customised cell signalling circuits and their biotechnological applications <i>Baojun Wang (Edinburgh, UK)</i>
11:15	Engineering cofactor specificity of methyltransferases <i>Martin Tengg (Graz, AT)</i>	Biotechnological conversion of spent coffee grounds into polyhydroxyalkanoates <i>Stanislav Obruca (Brno, CZ)</i>	Bacterial microcompartments moving into the world of biotechnology <i>Stefanie Frank (Kent, UK)</i>	Stochastic activation of the GlpR-controlled glp gene cluster in <i>Pseudomonas putida</i> KT2440 results in a bistable growth pattern on glycerol <i>Pablo Ivan Nikel (CNB-CSIC, Madrid, ES)</i>
11:30	Synthetic bioreporters for detection of environmental pollutants <i>Jan Roelof van der Meer (Lausanne, CH)</i>	Extraction of the protein fraction of dry distillers grains with solubles, implementing biocatalytic and chemical methods <i>Maria Villegas Torres (UC London, UK)</i>	Protein supramolecular engineering – applications in biotechnology <i>Patrick Shahgaldian (Muttentz, CH)</i>	The adaptation of the intestinal sulphate reducing bacterium, <i>Desulfovibrio desulfuricans</i> , to nitrosative stress induced by nitric oxide <i>Matthew Faulkner (Birmingham, UK)</i>
11:45	A homogeneous quenching resonance energy transfer assay for H-Ras activation cycle monitoring and inhibitor screening <i>Kari Kopra (Turku, FI)</i>	Succinic acid production from raw materials by <i>Actinobacillus succinogenes</i> <i>Margardia Carvalho (Lisbon, PT)</i>	Biological production of stable copper nanoparticles <i>Nikolaos Pantidos (Edinburgh, UK)</i>	Origins of <i>Escherichia coli</i> growth rate and cell shape changes at high external osmolality <i>Teuta Pilizota (Edinburgh, UK)</i>

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12:00	Comparative large scale microRNA expression profiles of cynomolgus monkeys, rat and human reveal miR-182 associated with T2D <i>Hongli Du (Guangzhou, CN)</i>	Enhanced welan gum production using cane molasses as substrate by <i>Alcaligenes</i> sp. ATCC31555 <i>Jufang Wang (Guangzhou, CN)</i>	Insight into the physiological role of a compartmentalised ferritin like protein in <i>Rhodospirillum rubrum</i> <i>Jon Marles-Wright (Edinburgh, UK)</i>	Engineering global regulator cAMP receptor protein (CRP) of <i>E. coli</i> for improved biobutanol tolerance <i>Rongrong Jiang (Nanyng TU, SG)</i>
12:15	Association of apolipoprotein E gene polymorphism with serum lipid levels <i>Sehrish Fatima (Karachi, PK)</i>	Investigating the biomass modifying and degrading enzymatic toolbox of <i>Aspergillus japonicus</i> var <i>aculeatus</i> FEC 156 with quantitative proteomics and new generation sequencing tools <i>George Anasontzis (Chalmers, Göteborg, SE)</i>	Catalytic properties improvements of <i>Alcaligenes faecalis</i> nitrilase by self-assembly induced aggregation <i>Shuang Li (Guangzhou, CN)</i>	Heat shock at higher cell densities improves the translocation of measles virus hemagglutinin into the yeast endoplasmic reticulum <i>Rimantas Slibinskas (Vilnius, LT)</i>

12:30 – 15:00	LUNCH AND EXHIBITION (CROMDALE HALL, LEVEL -2)
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13:15 – 15:00	POSTER SESSION – EVEN NUMBERS (STRATHBLANE HALL AND KILSYTH, LEVEL O)
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Key:	Plenary Session	Symposium	Highlight Event	Keynote Speaker	Poster Session
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	Tinto	Fintry	Sidlaw	Pentland
	<p>13.15 – 14.30 Highlight Event: Future collaborations of AFOB-EFB and MOU signing ceremony</p>	<p>13:15 14:45 Highlight event: Advances in omic technologies</p>	<p>13:30 - 14:30 Highlight event: Careers workshop: How to manage your career post-qualification</p>	<p>13:15 – 14:30 Sponsored symposium Chair: Prof. Joost Teixeira de Mattos</p>
	<p>13:15 - 13:30 Welcome Address, <i>Ho Nam Chang</i></p> <p>13:30 - 13:40 Asian Federation of Biotechnology (AFOB) as A Driving Force for Collaborative Growth of Biotechnology in Asia and Beyond, <i>Jian-Jiang Zhong</i></p> <p>13:40 - 13:50 Academic Division of AFOB and Possible Collaboration with EFB, <i>Wen-Chien Lee</i></p> <p>13:50 - 14:00 Advances in Biotechnology in Asia and Future Collaboration with EFB, <i>Tai Hyun Park</i></p> <p>14:00 - 14:10 Historical Background for the Establishment of AFOB, <i>Jung-Keug Park</i></p> <p>14:10 - 14:30 AFOB-EFB MOU Signing Ceremony</p>	<p>13:15 Integrating omics to study human biology and disease Mathias Uhlen (KTH, Stockholm, SE)</p> <p>13:45 The use of Genome-scale metabolic models for drug target and biomarker identification <i>Adil Mardinoglu (Chalmers University of Technology, SE)</i></p>	<p>Sponsored by the Careers Group and American Society of Microbiology</p> <p>There are a number of exciting opportunities for those who have completed qualifications beyond undergraduate level and this workshop will help you navigate this part of your career.</p> <p>The Careers Group's Emma Baker, will be help you evaluate the career options open to you after a Masters or PhD, discuss some of the practicalities of finding and applying for jobs and teach you how to promote your skills and experience effectively to potential employers inside and outside academia. Emma will also be available for some 'one to one' advisory sessions after the workshop</p>	<p>13:15 - 13:30 Recent developments in scaling down and using single use probes for measuring the live cell concentration by dielectric spectroscopy <i>Pardip Sandhar (Aber Ins. UK)</i></p> <p>13:30 - 13:45 Scale-down study of oscillations in oxygen and substrate supply for <i>Corynebacterium glutamicum</i> <i>Marco Oldiges (Jülich, DE)</i></p> <p>13:45 - 14:00 Automated development of recombinant bioprocesses – from vision to mission <i>Florian Glauche, (TU-Berlin, DE)</i></p> <p>14:00 - 14:15 Scale up of chito-oligomer production via bacterial fermentation <i>Hendrik Waegeman (Bio Base Europe)</i></p> <p>14:15 - 14:30 Massive protein superfamily data integration applied to smart library design. <i>Henk-Jan Joosten (Bio-Product, Nijmegen, NL)</i></p>
15:00 – 17:30	<p>Symposium 13: Biomedical research Chair: Prof. Dr. Heinz Redl</p>	<p>Symposium 14: Plant genetic engineering Chair: Prof. Marc van Montagu</p>	<p>Symposium 15: Recombinant protein production Chair: Prof. Diethard Mattanovich</p>	<p>Symposium 16: Bioprocessing Chair: Prof. Joost Teixeira de Mattos</p>
15:00	<p>Keynote: Bacteria fabricate 3D scaffolds for organ regeneration <i>Paul Gatenholm (Chalmers, Göteborg, SE)</i></p>	<p>Keynote: Genetic engineering of secondary metabolism for plant protection <i>John Pickett (Rothampstead, UK)</i></p>	<p>Keynote: Getting a grip on complexes: tools and technologies for multiprotein complex research <i>Dr. Imre Berger (Grenoble, FR)</i></p>	<p>Keynote: Bacterial enzymes for lignin degradation: production of aromatic chemicals from lignocellulose <i>Tim Bugg (Warwick, UK)</i></p>

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	Tinto	Fintry	Sidlaw	Pentland
15:30	Enzyme immobilized polymeric biomaterials <i>Mukesh Doble (Madras, IN)</i>	Transcriptome and small RNA sequencing analysis of a new dwarf mutant in <i>Gossypium hirsutum</i> L <i>Xiongming Du (Huazhong, CN)</i>	Making life better for <i>Escherichia coli</i> cells that produce toxic membrane proteins <i>Dimitra Gialama (Athens, GR)</i>	Keynote: Quantitative single cell analysis of isolated microbes in controlled microenvironments <i>Andreas Schmid (Dortmund, DE)</i>
15:45	Osteoblast cell proliferation on magnesium-substituted hydroxyapatite coatings <i>Fatma Nese Kok (Istanbul, TR)</i>	Can plant still be a major and cost-effective source for the supply of artemisinin, the most potent anti-malaria drug? <i>Kexuan Tang (Shanghai, CN)</i>	Population heterogeneity in <i>Pseudomonas putida</i> analyzed on the single cell level using proteomics and digital PCR <i>Michael Jahn (Dortmund, DE)</i>	

16:00 – 16:30 REFRESHMENTS AND EXHIBITION (CROMDALE HALL, LEVEL -2)

	Symposium 13 (cont'd)	Symposium 14 (cont'd)	Symposium 15 (cont'd)	Symposium 16 (cont'd)
16:30	Bone regeneration through facile binding of bone graft substitute particles using mussel adhesive protein <i>Hyung Joon Cha (Gyeongsangbuk-do, KR)</i>	Engineering barley for increased drought resistance <i>Ivo Frébort (Olomouc, CZ)</i>	Synthesis of antibacterial bacteriophage proteins in microalgae <i>Laura Stoffels (UC London, UK)</i>	Continuous precipitation of recombinant antibodies from CHO cell culture supernatant by calcium-phosphate flocculation and cold ethanol precipitation <i>Nikolaus Hammerschmidt (ACIB Vienna, AT)</i>
16:45	The stabilisation of red blood cells in a powdered form <i>Krishnaa Mahubani (Cambridge, UK)</i>	Recombinant protein expression in the chloroplast of the green microalga <i>Chlamydomonas reinhardtii</i> : a case study using a novel green fluorescent protein as a reporter <i>Stephanie Braun Galleani (UC London, UK)</i>	Integrative '-omic' approach to explore molecular mechanism of miRNA engineered Chinese hamster ovary cell. <i>Vaibhav Jadhav (BOKU Vienna, AT)</i>	Modelling of mixing and microbial growth in bubble column bioreactors using computational fluid dynamics <i>Dale McClure (Sydney, AU)</i>
17:00	Stable aqueous solutions of keratin polypeptides: their properties in solution and at interfaces <i>Fang Pan (Manchester, UK)</i>	Comparative evaluation of bacterial diversity from GM and non-GM maize rhizosphere <i>Naseer Ahmad (COMSATS, Islamabad, PK)</i>	Investigating the physiological effect of increased heterologous gene dosage in <i>Pichia pastoris</i> using transcriptomics <i>Elena Camara (UAB, ES)</i>	Bioprocess strategies for production of xylanase on agro-residual products with <i>Aureobasidium pullulans</i> <i>Sirma Yegin (Ege Univ., Izmir, TR)</i>
17:15	Trehalolipid biosurfactants from <i>Rhodococcus ruber</i> with anti-adhesive and immunomodulatory activities <i>Maria Kuyukina (Perm State U., Moscow, RU)</i>	Understanding the interactions between plant biotic and abiotic stress through characterization of microRNA effectors in jute (<i>Corchorus spp.</i>)- <i>Macrophomina phaseolina</i> interaction system <i>Lalit Kharbikar (Barrackpore, IN)</i>	Enhanced membrane protein expression by engineering increased intracellular membrane production <i>Katrien Claes (VIB Gent, BE)</i>	Bioconversion of lignocellulosic hydrolysates: strategies to overcome the inhibitory effects at high gravity processes <i>Charilaos Xiros (Chalmers, Göteborg, SE)</i>

Key:	Plenary Session	Symposium	Highlight Event	Keynote Speaker	Poster Session
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17:30 – 19:00	POSTER RECEPTION – ODD NUMBERS (STRATHBLANE HALL AND KILSYTH, LEVEL O)		
	During this session whisky tasting will be available, sponsored by Celtic Renewables		
17:45 – 19:15	18:00 – 19:30 Highlight Event: Living in a post-antibiotic era: the challenge of disease resistance		Symposium 21: Biodegradation and bioremediation Chair: Prof. Philippe Corvini
17:45	Dr. Paul Hoskisson (University of Strathclyde, UK) leads a discussion on the impending 'post-antibiotic' world that could soon become a reality. Our panel of experts will outline the challenges that the global community faces as the drugs of today become obsolete. Find out what it means for you and your family's health care, and how scientists and policy makers are working together to develop innovative solutions. Ask your questions or listen to the thought provoking discussion. Come and join us for an eye opening evening of vibrant discussion and lively debate.		Bioremediation for resource recovery <i>Louise Horsfall (Edinburgh, UK)</i>
18:00			Reduction of hexavalent chromium using combination of nanoscale zero-valent iron and biological treatment in-situ <i>Tomáš Cajthaml (Prague, CS)</i>
18:15			Isolation of PAH dwelling <i>Penicillium</i> for application in bioremediation processes <i>Elisabet Aranda (CSIC Barcelona, ES)</i>
18:30			Potential of ectomycorrhizal fungus <i>Pisolithus tinctorius</i> to tolerate and to degrade trifluoroacetate into fluoroform <i>Paula Castro (Porto, PT)</i>
18:45		This event is open to the public	

19:30 – 23:00	GALA DINNER (JOHN HOPE GATEWAY, ROYAL BOTANIC GARDEN EDINBURGH)
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Key:	Plenary Session	Symposium	Highlight Event	Keynote Speaker	Poster Session
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Wednesday 16 July

	Tinto	Fintry	Sidlaw	Pentland
09:00 – 11:00	Symposium 17: Development of new vaccines and antimicrobials Chair: Prof. Francesc Gòdia	Symposium 18: Exploitation of metagenomics for environmental and biocatalytic applications Chair: Prof. Jeff Cole	Symposium 19: Evolutionary strategies for cell factory development Chair: Dr. Tim Overton	Symposium 20: Systems biocatalysis Chair: Prof. Jennifer Littlechild
09:00	Keynote: Insect cell technology as a vaccine producing platform <i>Paula Alves (ITQB, PT)</i>	Keynote: Metagenomics: mining for novel catalysts <i>Elizabeta Bonch-Osmolovskaya (Moscow, RU)</i>	Keynote: Evolutionary and reverse metabolic engineering of <i>Saccharomyces cerevisiae</i> <i>Jack Pronk (TU-Delft, NL)</i>	Keynote: Combination of the two "worlds": chemo- and biocatalysis towards multi-step one-pot processes <i>Harald Gröger (Bielefeld, DE)</i>
09:30	Engineering of factor H binding protein, a key vaccine antigen for the prevention of meningococcal disease <i>Hayley Lavender (Oxford, UK)</i>	Metagenomics unveils bacterial and fungal communities response to mycoremediation of polychlorinated biphenyl-contaminated soil <i>Tatiana Stella (Prague, CZ)</i>	Adaptive evolution of <i>Saccharomyces cerevisiae</i> to early stage of an alcoholic fermentation <i>Ana Mangado (ICVV/CSIC, ES)</i>	Keynote: Engineering artificial metabolisms <i>in vitro</i> <i>Wolf-Dieter Fessner (Darmstadt, DE)</i>
09:45	Antimicrobial properties of sophorolipids produced by <i>Candida bombicola</i> ATCC 22214 against Gram positive and Gram negative bacteria. <i>Mayri Alejandra Diaz De Rienzo (Manchester, UK)</i>	Mining alginate lyases in sediment metagenomes from four geographically distant cold coastal environments <i>Hebe Dionisi (CENPAT-CONICET, Puerto Madrin, AR)</i>	Genome dynamics of the human embryonic kidney 293 (HEK293) lineage in response to cell biology manipulations <i>Morgane Boone (VIB Gent, BE)</i>	
10:00	Tailoring <i>Streptomyces</i> : producing novel minor groove binder antibiotics <i>Emilio Cortes Sanchez (Strathclyde, UK)</i>	Designed sensor cells for direct detection of microbial colonies with target enzyme activities on solid plates <i>Haseong Kim (KRIBB, Daejeon, KR)</i>	Versatile and stable vectors for efficient gene expression in <i>Ralstonia eutropha</i> H16 <i>Petra Koefinger (TU-Graz, AT)</i>	Expanding the diversity of diketopiperazines biosynthesized by cyclodipeptide synthases <i>Isabelle Jacques (SIMORPO, Saclay, FR)</i>
10:15	Progesterone biosynthesis by combined action of adrenal steroidogenic and mycobacterial enzymes in fast growing mycobacteria <i>Nicolai Strizhov (Moscow, RU)</i>		Novel human kidney epithelial cell line in pharmaceutical biotechnology <i>Lukas Fliedl (ACIB Vienna, AT)</i>	Improving the performance of coupled racemase/acylase systems: new structural insights and novel tools for high-throughput screening. <i>Guiomar Sanchez Carron (Edinburgh, UK)</i>
10:30	DNA vaccine expressing ubiquitin-conjugated multi-fragments antigens protects BALB/c mice against <i>Toxoplasma gondii</i> infection <i>Hua Cong (Shandong, CN)</i>		<i>De novo</i> production of geranic acid with <i>Pseudomonas putida</i> <i>Jens Schrader (DECHEMA RI, Frankfurt, DE)</i>	Artificial enzyme cascade to the polymer building block ω -amino caproic acid <i>Wolfgang Kroutil (Graz, AT)</i>

Key:	Plenary Session	Symposium	Highlight Event	Keynote Speaker	Poster Session
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10:45	Proteome-wide analysis of the functional roles of bacilysin biosynthesis in <i>Bacillus subtilis</i> <i>Gulay Ozcengiz (METU, Ankara, TR)</i>		High-throughput nL-reactor screening for antimicrobial peptides <i>Steven Schmitt (ETH Zürich, CH)</i>	Uncovering the broader roles of redox partner proteins for cytochrome P450 enzymes <i>Shengying Li (Quindao, CN)</i>
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11:00 – 11:30	REFRESHMENTS AND EXHIBITION (CROMDALE HALL, LEVEL -2)
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Wednesday 16 July – Closing Ceremony	
11:30 – 12:30	Plenary lecture: Bio-based production of chemicals, fuels and materials by metabolically engineered microorganisms (PENTLAND SUITE, LEVEL 3) Chair: Prof. Diethard Mattanovich <i>Prof. Sang Yup Lee, Korea Advanced Institute of Science and Technology</i>
12:30 – 13:00	Closing ceremony and awards presentations (PENTLAND SUITE, LEVEL 3)
	Welcome & introduction to prize presenters, <i>Prof. Mark van Montagu</i> Prize presentation - 5th Biochemical Engineering Journal Young Investigator Award <i>Presented by Prof. William Miller</i> <i>Awarded to Chetan Goudar</i> Prize presentation - Poster Award. Donated by The New Biotechnology Journal, Elsevier, <i>Presented by Lynn Scherrer, Elsevier</i> Prize presentation – ECB17 prize <i>Presented by Prof. Tomasz Twardowski</i> Thank you and closing remarks <i>Prof. Gary Loake</i>

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