

Early Career Researcher Conference

Engineering Biology for Environmental Solutions

16 - 17 September 2025 | Southampton, UK

Conference Programme

Venue

[National Oceanography Centre](#)

European Way, Southampton, SO14 3ZH

The venue is within the Port of Southampton (with entry via Dock Gate 4), Port Security require all visitors have a valid form of photographic ID (Driving License /Passport).

Please ensure you have this information accessible when entering Dock Gate 4:

Reason for visiting NOC: Conference

Dates: 16 - 17 September

Host: NOC Events

Location: NOC

Day 1 | Wednesday 16 September 2026

9:00 - 10:00	Welcome and Registration
Opening Session	
10:00	Opening Remarks Professor Frederic Coulon Director, Environmental Biotechnology Innovation Centre (EBIC)
10:20	Keynote Francesca Dawson-Pell Senior Policy Advisor Department for Science, Innovation & Technology (UK Gov).
11:00 -11:25	Tea/Coffee break/Poster session
Session 1 – Environmental Bioremediation & Water Treatment	
11:25	Nasrin Rastinifard – Royal Agricultural University Evaluation of Algal Bloom Mitigation and Nutrient Removal in Vertical and Floating Constructed Wetlands for Agricultural Wastewater Treatment
11:45	TBC
12:05	Evieva F. Ogbara – Liverpool John Moores University Re-evaluating Biochar-Based Remediation: Disentangling Sorption and Biodegradation Controls on PAH Attenuation in Soil Systems
12:25	Yasmin Meeda – Cranfield University Engineering biology for metaldehyde biodegradation in drinking water using <i>Acinetobacter sp.</i>
12:45	Q&A/ Session Wrap-up

12:50 - 13:50	Lunch break
Session 2 – Synthetic Biology & Engineering Biology Platforms	
13:50	Amanda Hopes – University of East Anglia Generating mutant strains for EBIC: Progress on development of a standardised cloning and transformation system to generate markerless mutants for a broad range of species and applications
14:10	Daniel Evans - UK National Measurement Laboratory at LGC Digital PCR methods to support tracking of engineered organisms in environments
14:30	Joshua Loh – Newcastle University BaNeX-guided identification and validation of neutral genomic integration sites for stable engineering biology applications
14:50	Prabhakar L. Srivastava – Bangor University Neutral Site-Driven Genome Engineering of <i>Alcanivorax borkumensis</i> to Expand Substrate Scope for Enhanced Bioremediation
15:10	Q&A/ Session Wrap-up
Flash Talks	
15:15	James Bowbrick Smith – University of Surrey Biorecovery of Gold Nanoparticles from Industrial Waste: Life Cycle and Techno-Economic Assessment of Scale-Up Pathways
15:20	Josephine Giard – Heriot-Watt University Adaption to climate change in the rhizosphere across the millennia

15:25	Monika Steinke – University of Essex In search of novel marine oil-degrading bacteria
15:30	Beatrix Ellis – GitLife Biotech CellRepo
15:35	Oxford Nanopore
15:40	TBC
Tea/Coffee break/Poster session (15:45 – 16:00)	
16:00 - 17:00	Pannel Discussion Biocontainment Techniques and the Safe Use of Engineering Biology for Environmental Applications
Networking /Poster session (17:00)	
Dinner (19:00 - onwards)	

Day 2 | Thursday 17 September 2026

Day 2 - Welcome and opening	
09:00	Keynote James Allen - Co-Founder & CSO twig Why are there still so few commercialised Engineering Biology products?
Session 3 – Biofilms, Microbial Communities & Environmental Systems	
9:40	Maria Magliulo – Natural History Museum From Attachment to Adaptation: Exploring Biofilm Formation of <i>Acidithiobacillus ferrooxidans</i> on Pyrite
10:00	James Croxford – University of Glasgow Dynamics of SynBio and SynComs in environmental biofilms
10:20	Zach Thompson – Newcastle University Spatio-temporal analysis of activated sludge emissions
10:40	Lyuboslava Harkova – University of Southampton Engineering biofilms for improved bioremediation
11:00	Q&A / Session Wrap-up
Flash Talks	
11:05	Hannah Adams – University of Essex Polycyclic aromatic hydrocarbon degradation pathways in <i>Cycloclasticus Sp.</i> TK8
11:10	Yasir Akbar – Newcastle University BaNeX: Bacterial Neutral sites prediction using multi-Omics: A Comprehensive Computational Framework for Predicting Neutral Integration Sites in Bacterial Genomes

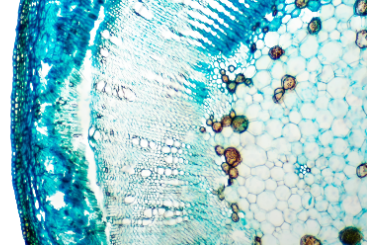
11:15	Giuliano Sting Pechar – University of York Engineering plant-mediated nickel solubilisation in the rhizosphere
11:20	Zahra Khomarbaghi – Durham University Intracellular Metal Buffering as a Design Principle for Engineering Robust Microbial Cell Factories
11:25	Muhammad Ejaz – Qatar University Metagenomic and Biotechnological Characterization of Spore-Forming Bacteria from Arid Soils of Qatar
11:30	Carla Spatola Rossi – Cranfield University Origami paper microfluidic device for the detection of viable bacteria in water
Tea/Coffee break/Poster session 11:35 – 11:50	
Session 4 – Metals, Mining & Resource Recovery Biotechnology	
11:50	Alex Marks – University of York Engineering Temperate Biomass Hyperaccumulators: Understanding the Biological Mechanisms of Nickel Tolerance and Accumulation
12:10	Anjali Vijay Prajapati – Swaminarayan University, Gujarat Fungal-based biosorption: An eco-friendly strategy for heavy metal removal from contaminated water
12:30	Elizabeth A. Watton – The University of Manchester Understanding metal homeostasis in the metal-reducing bacterium <i>Shewanella oneidensis</i> towards enhanced metal biorecovery
12:50	Q&A / Session Wrap-up

Lunch break (13:00-14:00)	
Session 5 – Sustainable Biotechnology & Environmental Adaptation	
14:00	Joseph Pennycook – University of Bristol Evaluation of a photosynthetic chassis organism in response to long-term ecological challenges
14:20	Maira Anam – Newcastle University Impact of fluid flow on microbial community development in pilot-scale MEC
14:40	Nick Dawson – Cranfield University Microbial Interactions in Vermifilter Sanitation
15:00	Magdalena A Howe – University of Southampton Mining For Novel Plastic Degrading Enzymes in the Human Gut Microbiome
15:20	Q&A / Session Wrap-up
Tea/Coffee break (15:25 – 15:40)	
15:40- 15:50	Awards for best presentation
15:50 -16:00	Closing Remarks Prof. Frederic Coulon, EBIC Director
16:00	Conference close – thank you all for joining us!

Poster Presentations

ID	Name	Poster Title
	James Bowbrick Smith University of Surrey	Biorecovery of Gold Nanoparticles from Industrial Waste: Life Cycle and Techno-Economic Assessment of Scale-Up Pathways
	John Steele University of Edinburgh	Sustainable bio-adipic acid production using ML-guided enzyme engineering
	Josephine Giard Heriot-Watt University	Adaption to climate change in the rhizosphere across the millennia
	Tatiana Spatola Rossi Heriot-Watt University	Recombinant expression of rhamnolipid synthesis genes in <i>Pseudomonas putida</i> for biosurfactant production
	Yasir Akbar Newcastle University	BaNeX: Bacterial Neutral sites prediction using multi-Omics: A Comprehensive Computational Framework for Predicting Neutral Integration Sites in Bacterial Genomes
	Oliver Pritchard Moore University of Kent	Noticing Futures: An O.D.E.SS.I. of synthetic potatoes and public engagement.
	Hannah Adams University of Essex	Polycyclic aromatic hydrocarbon degradation pathways in <i>Cycloclasticus Sp.</i> TK8
	Juwon Samuel Afolayan Nottingham Trent University	Engineered Mycelial Scaffolds with Tuneable Ultraviolet Protection, Wettability, Thermal Stability, and Spatial Mechanics
	Yexin Feng University of Southampton	Chemical-free production and in-situ product recovery (ISPR) of value-added chemicals from mixed culture anaerobic fermentation of organic waste streams
	Yu Wang Cranfield University	Understanding the CO ₂ impacts on mycelium: implications for circular bio-based materials
	Giuliano Sting Pechar University of York	Engineering plant-mediated nickel solubilisation in the rhizosphere
	Somaya Ahmed University of Southampton	Optimization of the Biotreatment of GTL Process Water Using <i>Pseudomonas aeruginosa</i> Immobilized in PVA Hydrogel

	Zahra Khomarbaghi Durham University	Intracellular Metal Buffering as a Design Principle for Engineering Robust Microbial Cell Factories
	Merin Thyagu Pereira University of Westminster	Engineering <i>Geobacillus</i> for High-Temperature Plastic (PET) Degradation via Fusion of PETase and MHETase Enzymes
	Harry Maguire University of East Anglia	Development of transformation systems for engineering a range of diverse environmental bacteria
	Haydon Ross University of Nottingham	Enzymatic Degradation of Polyethylene
	Mohammed Rehmanji University of Oxford	High-throughput phenotyping to engineer carbonate biominerals using <i>Sporosarcina pasteurii</i> system
	Monika Steinke University of Essex	In search of novel marine oil-degrading bacteria
	Muhammad Ejaz Qatar University	Metagenomic and Biotechnological Characterization of Spore-Forming Bacteria from Arid Soils of Qatar
	TBD University of Southampton	The effect of Microbial Fuel Cell voltage biasing upon ammonium recovery
	Amualaw Birara	Emerging Strategies for Lithium Recovery from Ultralow-Concentration Brines
	Katharine Davis University of York	Assessing ability of plants and microbes to establish vegetative cover and remove rare earth elements from African mine tailings and soils
	Rebecca Morton Heriot-Watt University	Bioinoculation of Plants using Plant-Growth Promoting Bacteria to Alleviate the Impact of Drought Stress.
	Mahsa Baniasadi Cranfield University	
	Carla Spatola Rossi Cranfield University	Origami paper microfluidic device for the detection of viable bacteria in water



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