Environmental Biotechnology Network

EBNet Newsletter October 2026

New

IEA Bioenergy Task 37 update and work programme

EBNet's director, who doubles as the UK National Representative for IEA Bioenergy's Task 37, was in Brussels for *European Biomethane Week,* organised by the European Biogas Association (EBA). In parallel with this event the Task held its twice-yearly meeting, with progress reports on the current work programme and a preliminary discussion on the next triennium. Several of the workpackages include contributions from EBNet outputs and members. If you have ideas, questions or suggestions for topics for the next three year-programme, contact Prof Heaven directly or via ebnet@ebnet.ac.uk and she will pass them on.

Nanobubbles - hybrid event & joint webinar

Microbubbles and their even smaller relatives nanobubbles are a hot topic in Environmental Biotechnology, as well as many other disciplines, because of their potential contributions in biochemical treatment and remediation. Dr Yoshikatsu Ueda of Kyoto University will give a seminar on *Nanobubble (Ultrafine Bubble) Research & Standardisation*, introducing developments in fine bubble research in Japan and covering electrochemical properties, characterisation methods and environmental applications. This hybrid event is chaired by Dr Tao Lyu of Cranfield University and is jointly hosted by the Better Water 4 all Network, EBIC Hub. and EBNet: see *here* for sign-up details.

Update from IWA Glasgow 2026

Prof Sharon Velasquez-Orta, who leads EBNet's *Bioelectrochemical Systems WG*, attended the 2026 IWA World Water Congress & Exhibition in Glasgow last month, and provided feedback for EBNet members. Her summary covers a wide range of events and activities, from rethinking decentralised sanitation systems to prioritisation of investment areas in the Water Industry Forum session. The full report is available *HERE*, and further discussion will be available via LinkedIn. Our thanks to Prof Velasquez Orta for sharing this – and our warmest congratulations on her recent appointment as Professor of Sustainable Engineering!

NBIC's ICRF supports microbial electrochemical technologies

Colleagues at METzero and Newcastle University were recently awarded funding under NBIC's Industrial Challenge Response Fund (ICRF). The project involves developing a deployable real-time control system for microbial electrochemical technologies (METs). EBNet is proud to have played a small part in this research journey, via a POC project on *Pure biomethane – rather than biogas – from a single waste stream* led by Dr Liz Heidrich. Look out for more on development of these systems on EBNet News and the BES WG News tag.

Machine Learning makes waves

A list of EBNet's working groups gives a snapshot of some key areas of interest, but topics often overlap between them. One recent thought-provoking publication looks at the potential for application of machine learning to the non-invasive monitoring of biofilms as a way to increase their application and enhance their performance in wastewater treatment. This sits within the remits of the AI/ML, Aerobic Granulation , ESWS and WB WGs, as well as the Microenvironments workshop report. Interested? See the Publications section below for details of the paper, and the title link for some reflections on this approach.

How to Partner with Microbial Communities

For those who couldn't make it on the day, the big-ticket webinar by Prof Bruce Rittmann is now available on *Better Water 4 All's* YouTube channel. Highlights include an inspirational description of how the partnership between microbes and human ingenuity works: our many favourite take-out points include the observation that 'From the viewpoint of microbes, Environmental Biotechnology is a volunteer activity'. The second part of the talk used the example of an H_2 membrane biofilm reactor to demonstrate this, with a range of applications including PFAS degradation. The webinar was a joint event, with Better Water 4 All kindly taking care of all the arrangements: many thanks to the team there!



Spotlight on...

Do you have news to share with other members? Email us details if you want a shout-out in the next update, or on the News page

EBBC - 'In space, no-one can hear you innovate'

The 2026 European Biosolids and Bioresources Conference (EBBC) opens next week with a dazzling array of speakers and sessions. One that looks particularly relevant to EBNet and its members is the interactive discussion on biosolids utilisation – provocatively entitled '*In space, no-one can hear you innovate*'. The speakers have pre-posted a White Paper setting out some of the main issues: a great idea to stimulates discussion and participation on the day, and also allow a wider audience to reflect and contribute their ideas. See the accompanying LinkedIn post inviting comments on the session and the paper.

IWA publication - N2O emissions at WWTP

The International Water Association (IWA) has made an invaluable new contribution on evaluating N_2O emissions from wastewater treatment plants freely available in open access eBook format. This is the first globally-coordinated protocol for monitoring and quantifying N_2O in real time at full-scale plants. The protocol presents current best practice, and will be refined as new knowledge and experience become available. Details are given in the Publications section below, and you can access the book *here*. For other major contributions in this area see the EMISI project outputs, and watch our *N2O WG News tag*.

NBIC - Biofilm Week 2026

This year's Biofilm Week runs from 18-24 Sept 2026. The event is organised by the National Biofilms Innovation Centre (NBIC) and aims to raise awareness of the economic and physical impacts of biofilms while showcasing cutting-edge research on prevention, detection, management or engineering. It's also worth noting that, while people often think of negative impacts from biofilms – from dental decay to biofouling of ships, not to mention facilitating the spread of AMR – there is also huge positive potential in environmental biotechnology applications: see *here* for a recent post on the subject, and watch the *Theme 2 tag* for more items. Many EBNet members are already involved in the event. Why not join in, and help shift the balance of opinion? To get involved and access resources see *here*.

GBEP activities and events

Although it has been running since 2006, it seems many EBNet members are not familiar with the work of the Global Bioenergy Partnership (GBEP). GBEP brings together public, private and civil society stakeholders to promote sustainable and efficient use of bioenergy and biomass, particularly in developing countries. It consists of a group of 23 countries and 16 international organisations, with a further 36 countries and 18 institutions participating as observers. Themes of interest to EB members and WGs include *Bioenergy and bioeconomy*, *Biogas and biomethane*, *Liquid biofuels* and *Sustainability indicators*. Recent activities include a webinar on Digestate and a biofertiliser, and a workshop on Bioenergy by-products. See the main site for more freely available tools and resources.

Reflected Glory

Prof Jhuma Sadhukhan has become a Fellow of the Royal Academy of Engineering, at a star-studded evening in London last month. A lot of groups and organisations are basking in reflected glory: as well as her role at the University of Surrey and as an EBNet Co-I and WG Lead, Jhuma also leads the UK side of the Global Centre for Sustainable Bioproducts (GCSB) and is a Co-I on the Elemental Hub and the C-Loop Sustainable Biomanufacturing Hub. It is a pleasure to see her contribution recognised in this way, and we are very grateful for her ongoing commitment to and involvement in EBNet and the ideas it promotes.

Events

Online

NEW BBIA: A National Roadmap for Bio-Based Chemicals Manufacturing to 2035 - 24 Nov 2026, 12-13:00

NEW Forecasting Bioprocess Batch Data Using SIMCA®-online - 1 Dec 2026, 12-13:00 UK

NEW NBIC x Policy Seminar - 2 Dec 2026, 16-17:00 UK. **Hybrid event, also in person in Edinburgh**

NEW Wastewater Network Anomaly Detection and Diagnosis - 11 Dec 2026, 9-10:00 UK

Sustainable Treatment and Resource Recovery from Palm Oil Mill Effluent - 27 Nov 2026, 08:00 UK

And *don't miss* **PhycoClub**'s regular PhycoFridays on the last Friday of each month: details for November 2027 available soon

In person

NEW Mixing Advances and Applications in Water Treatment - 13 Jan 2027, Birmingham

NEW Green Growth: Connecting AgriTech and Sustainable Chemistry - 3 Feb 2027, Invergowrie

NEW Envisioning Fluid Separations in 2035 - 19 Feb 2027, London

NEW Odour Management & Process Emissions - 18 March 2027, Leeds. **Abstract deadline 27 Nov 2026**

NEW WATERMATEX 2027 - 16-20 May 2027, Sète, France. **Abstract deadline 16 Nov 2026**

NEW 21st IWA Leading Edge Conference on Water and Wastewater Technologies - 24-28 May 2027, Ghent, Belgium.

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NEW 7th IWA Resource Recovery Conference 2027: Bringing circular value chains to life - 7-11 June 2027, Santiago de Compostela, Spain. **Abstract deadline 30 Nov 2026**

NEW 11th International Symposium on Applied Microbiology and Molecular Biology in Oil Systems - 14-17 June, Bergen, Norway. **Abstract deadline 1 Dec 2026**

11th International Symposium on Energy from Biomass and Waste - 23-25 Nov 2026, Venice, Italy

IWA Diffuse Pollution and Eutrophication - 24-27 Nov 2026 Vienna, Austria

British Society of Soil Science Annual Conference - 1-4 Dec 2026, Aberdeen

ADBA National Conference - 10 Dec 2026, London

IWA Global Sanitation Summit - 25-27 Jan 2027, Cape town, South Africa

IBioIC 13th Annual Conference - 3-4 March 2027, Glasgow

Monitoring and Control in Biomass Conversion Processes – 23-24 March 2027 Leipzig, Germany

European Biomass Conference & Exhibition EUBCE 35 - 25-28 May 2027 Reims, France

IWA Design, Operation and Economics of Large WWTP - 12-16 Sept 2027 Vienna, Austria

European Congress of Chemical Engineering & Applied Biotechnology - 13-16 Sept 2027, Edinburgh. **Abstracts deadline** 25 Jan 2027.

Funding

Selected funding opportunities are highlighted below. Find more at UKRI Funding

Funding

NEW Royal Society International Collaboration Awards Brazil and South Africa - 3 Dec 2026

NEW JSPS Postdoctoral Fellowship Call Humanities and Social Sciences - 3 Dec 2026

NEW Public Engagement Spark Awards 2026B - 10 Dec 2026

NEW Flush Forward Challenge - 16 Dec 2026

NEW IBioIC Microbial Pilot Scale Development Call - 21 Dec 2026

NEW Advancing solutions for critical mineral production and recycling - 7 Jan 2027

NEW Mid-range equipment for biosciences research: ALERT 2026 - 14 Jan 2027

NEW Eureka collaborative R&D: Globalstars Japan 2027 - 20 Jan 2027

NEW Knowledge Transfer Partnership 2026-7 Round 4 - 27 Jan 2027

NEW Horizon Horizontal Activities - various dates after Jan 2027

NEW Agri-Water Cross-Sector Challenge - 8 Feb 2027

SPRIND Challenge: Engineering microbial consortia - 16 Nov 2026

Bioinformatics and Biological Resources Fund (26BBR) - 19 Nov 2026

Elemental Hub Business Interaction vouchers - 27 Nov 2026 or earlier

UK Bioimaging Access Fund - 30 Nov 2026

Germany SME Bilateral Collaborative R&D Round 5 - 1 Dec 2026

UKRI Enabling AI adoption across science and engineering - 1 Dec 2026

Engineering Biology Investor Partnerships round 1 - 2 Dec 2026

BridgeAI Deployment Catalyst: AI for operational systems - 8 Dec 2026

BridgeAI Deployment Catalyst: AI for decision critical systems - 8 Dec 2026

BridgeAI Deployment Catalyst: AI for assurance and compliance - 8 Dec 2026

Water4All 2026 call: sustainable water management - 6 April 2027

Biodiversa+ 2026-27: novel ecosystems (BiodivFuture) - 16 April 2027

BBSRC Brazil pump-priming award (FAPPA) - open

EPSRC Network Grant - open

IBioIC Feasibility Fund - open

NERC-NSF Work with US-based researchers on Environmental Science - open

NERC Pushing the frontiers of environmental research - open

NERC Urgency Funding - open

Exchange & Travel

NEW International Travel Award Scheme for the Biological Sciences - open

Environments ECR Travel award - 31 Dec 2026

ChemEngineering ECR Travel award - 31 Jan 2027

EPSRC overseas travel grant - open

EPSRC working with overseas scientists: Luxembourg, Brazil, Germany, US - open

UKRI Collaborate with researchers in Brazil - open

UKRI Collaborate with researchers in Norway - open

Awards

Processes Young Investigator Award - 31 Dec 2026

Jobs and training

Jobs

Senior Process Engineer - posted 1 Nov 2026, Veolia UK

Senior Research Associate / RA in AI-Enabled Enzyme Engineering for PET Biorecycling - 12 Nov 2026, Newcastle University

Research Fellow Fate and Effects of Emerging Contaminants in Agricultural Systems - 22 Nov 2026, University of Leeds

Research Fellow Greywater/Rainwater Treatment & Reuse - 23 Nov 2026, Coventry University

Design Manager Wastewater treatment - 7 Dec 2026, Severn Trent Water

Junior Research Fellowships - 11 Jan 2027, University of Oxford

PhDs

Nitrogen pollution sources and pathobiome dynamics in aquatic invertebrates of Windermere - 24 Nov 2026, Durham University

Is biochar production the answer to biosolid reuse? - 30 Nov 2026, University of York

Predicting Chemical Treatability and Transformation Across UK Water and Land-Based Treatment Systems - 30 Nov 2026, University of York

Quantifying In-Sewer Chemical Attenuation to Improve Environmental Exposure Models - 30 Nov 2026, University of York

Understanding interactions between wastewater and pesticides on the fate of AMR in fields - 30 Nov 2026, University of Sheffield

Innovative surveillance of healthcare-associated pathogens and AMR - 1 Dec 2026, University of Oxford

Decoding the Rules for Successful Phage Infection Using High-Throughput Microfluidic Screening - 2 Dec 2026, University of Exeter

Integrating eDNA in hydrodynamic modelling to advance stormwater infrastructure diagnostics in

urban catchments - 13 Jan 2027, University of Sheffield

Training

Wastewater Treatment - 25 Nov 2026, Aquaenviro online

Optimising AS Plants - 1 Dec 2026, Aquaenviro online

Optimising Anaerobic Digesters - sewage sludge - 3 Dec 2026, Aquaenviro online

Optimising Industrial Effluent Treatment Plants - 21 Jan 2027, Aquaenviro online

BioProcess 360: Integrated Upstream and Downstream Bioprocessing - 9-13 Nov 2026, Edinburgh

See also **BB-REG-Net**, **CIWEM**, **CIWM** and **CL:AIRE** for more online training and eLearning opportunities

Publications

Advances in Biosensor Technology for Illicit Drug Detection Enable Effective Wastewater Surveillance. Xu, Q., Guo, Y., Niu, G., Wu, H., Coulon, F. and Yang, Z., 2026. *Chem & Bio Engineering*, *3*(2), pp.87-103. doi.org/10.1021/cbe.4c00188

Making waves: Transforming biofilm-based wastewater treatment using machine learning-driven real-time monitoring. Fisher, O.J., Wang, Y. and Ahmed, A., 2025. *Water Research*, p.124491. doi: 10.1016/j.watres.2025.124491

A Practical Protocol to Monitor and Quantify Nitrous Oxide (N_2O) Emissions. Ye, L., Gruber, W., Duan, H. and Domingo-Felez, C. eds., 2026. IWA Publishing. doi.org/10.2166/9781789065589

Molecular basis of N2 fixation in a hyperthermophilic archaeon. Maslać, N., Törer, M.R., Bolte, P. and Wagner, T., 2026.. *Nature Communications*, *17*(1), p.9602. doi.org/10.1038/s41467-026-77173-0

Still here?



Time to pause and marvel at the aptly-named *Methanocaldococcus infernus*, a thermophilic archaeon native to undersea hydrothermal vents, which is capable of nitrogen fixation at 92 ^{o}C - a temperature that cooks most proteins. A cross-disciplinary international team has been using some fancy kit and techniques to investigate the nitrogenase that works so well in this extreme condition.

Apparently it is the simplest known to date, and seems to combine structural features from the 3 main nitrogenase types that depend on molybdenum, vanadium and iron-only co-factors (Maslać

et al., 2026). The authors suggest this archaeal enzyme may resemble ancient nitrogenases more closely than the bacterial versions of today. Even more fascinating, it can exist in an unusual state between resting and ‘turnover’, a condition not previously seen in molybdenum co-factors. There may be future practical applications, for example in sustainable fertiliser production: but for now we can just admire both microbial ingenuity and the skill of the scientists who revealed it.

See EBNet's **News** pages for more on Events, Funding and Publications - or use the tags to follow **Working Groups** and other topics.

And where else to look?

There is a growing range of UK Networks and Hubs relevant to Environmental Biotechnology. The six UKRI Engineering Biology Mission Hubs include the Environmental Biotechnology Innovation Centre (EBIC), which builds on and expands some of EBNet's themes. Two other Mission Hubs, Elemental and P3EB, also have an environmental biotech focus. The Better Water for All Network+ (BW4All) is another direct successor to EBNet. EBNet members are active in the Global Center for Sustainable bioproducts (GCSB) and C-Loop Hub, while NBIC continues to support research, knowledge exchange and development in biofilms.

EBNet Environmental Biotechnology

UKRI Biotechnology and Biological Sciences Research Council

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