

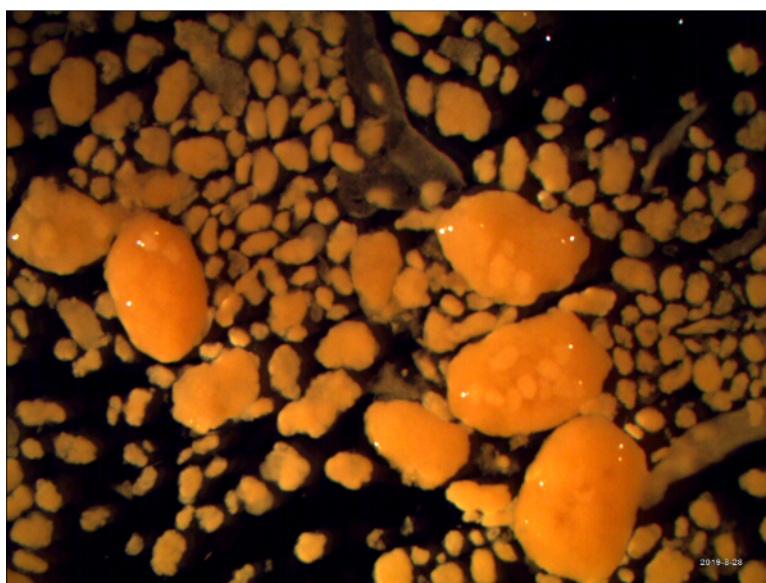


Biotechnology and  
Biological Sciences  
Research Council



Engineering and  
Physical Sciences  
Research Council

## EBNet Newsletter - August 2020



### Congratulations to the Winners of our Photo Competition

Some excellent photos were entered in this year's EBNet photo competition, both by ECR's and non-ECR's.

Winners of the competition were:

#### **Category 1 - The Small Stuff**

**Winner:** Nopa Maulidiany, "Pregnant mother granular sludge with their babies"

**Honourable Mention:** Jarod Tam, "Inorganic distribution of granular sludge cultivated at 20 mg/L of Ca<sup>2+</sup>"

#### **Category 2 - My Lab**

**Winner:** Nopa Maulidiany, "Last day in the lab with social distancing and masks before lockdown. We miss the lab!"

**Highly Commended:** Maria Ramos-Suarez, "My lab"

#### **Category 3 - Images and Schematics**

**Winner:** Maria Ramos-Suarez "Illustration of acidogenic fermentation and applications"

#### **Category 4 - Waste and Wastewater Management**

**Honourable mention:** Prof Charles Banks, "Large-scale algal raceways for wastewater treatment in Chiclana (FP7 ALL-GAS project)"

### And now for a bit of a laugh (or groan)

Congratulations to the winner of our ECR joke competition, Maria Ramos Suarez, who submitted the following gem:

*"My friends asked me to talk about waste decomposition. I didn't know what to tell them because it's too 'degrading'."*

Honourable mention goes to Dr Mark Walker for:

*"What's a biogas plant's favourite form of exercise?"*

*"Anaerobics!"*

...and to Dr Marty Climenhaga who encapsulated our highly technical and fascinating (but occasionally mucky) subject area with:

*"How to gain admirers at a cocktail party: say you work in Environmental Biotechnology. How to lose them: explain what it is."*

## News

Do you have an interest in Air Pollution? NERC has funded [6 new multidisciplinary research networks](#) to investigate solutions to air pollution. (BioAirNet is led by EBNet Co-PI - Prof. Fred Coulon, Cranfield University.)

- Indoor/outdoor Bioaerosols Interface and Relationships Network - BioAirNet
- Air Pollution Solutions for Vulnerable Groups - CleanAir4V
- Breathing City: Future Urban Ventilation Network
- Tackling Air Pollution at School
- The health and equity impacts of climate change mitigation measures on indoor and outdoor air pollution exposure - HEICCAM
- Optimising air quality and health benefits associated with a low-emission transport and mobility revolution in the UK

## Now Open

### Next Quarterly EBNet Placement Call Deadline: 17 August 2020

Awards have a value of up to £1,500 for UK-based placements and £3,000 for overseas placements. More [here](#).

### Workshop: Designing Standardised Biological Electrochemical Systems Postponed: to early summer 2021

Are you researching microbial fuel cells, electrode-assisted fermentation; electro-bioremediation etc.? Featuring: expert talks (how to design the best electrochemical systems); collaborative design (taking best practice to create prototypes); networking (flash presentations and conference dinner). Register your interest [here](#).

### Working Groups

Inspired by ECR2020 and want to form a group? We can help. Even for something as simple as hosting a specialist online webinar, we have resources, extensive contacts, access to top speakers and free advertising! If EB is your passion, get the ball rolling now. See [here](#).

*(Get in touch if you would like to host an event - including webinars. We are always looking to support enthusiastic members to disseminate and explore topics of wider interest.)*

## Spotlight On...

Spread the word - a new paper in **Anaerobic Digestion** just pushed the boundaries. CO<sub>2</sub> biomethanisation is the microbial conversion of hydrogen and carbon dioxide into methane, a fuel gas and potential pre-cursor for other chemicals - relevant to renewable energy, greenhouse gas emissions and the sustainable bio-economy.

The paper (by EBNet members Dr Bing Tao and Dr Yue Zhang *et al.*) presents a theoretically-derived relationship between pH and biogas CO<sub>2</sub> content, backed up by results from long-term trials and supported by a rapid practical assay to determine the safe operating limits for a plant. This provides a basis for digester operation control and will allow full-scale operators to look at *adoption* of the technology to increase methane productivity and offer an alternative route to biogas upgrading in a single-step process.

We encourage you to share this widely - particularly with any *industry* contacts who might otherwise miss it! The links below include free access to the paper for 50 days and open access to the datasets from this EPSRC-funded H2AD project.

Links: [Paper](#); [50-day access](#); [Dataset](#)

*Do you have a recent paper to share with other members? Email us details if you want a shout-out in the next newsletter.*



## Forthcoming Events

*Find selected upcoming events below or look further ahead with our online Google calendar.*

*What have we missed? Whether local or international, niche, general interest or 3rd party - provided the topic is EB, we can share with the wider membership.*

FREE: [AquaEnviro](#) Webinars: Ask the Expert

[Microscopic Examination of Activated Sludge](#) - 27 August 2020

[Nutrient Removal and Recovery Conference](#) (virtual conference)  
1-3 September 2020 (Finland)

[KTN: Enabling green recovery webinar series](#)  
15 September 2020—9 December 2020

[European Waste Water Management Conference](#)  
13th - 14th October 2020, Manchester

[Delivering on Net Zero Carbon in Wastewater Management](#): progress and prospects  
13 October 2020, Manchester

[HVB Network Meeting](#)  
20-21 October 2020, online event

FREE PLACES: [Nature-based Decentralised Wastewater Treatment](#): experiences from the H2020 INNOQUA project - November 2020

[European Biosolids & Bioresources Conference & Exhibition](#)  
24-25 November 2020, Newcastle-upon-Tyne

[UKWIR Annual Conference](#)  
15 December 2020, Hilton London Tower Bridge

[The Future of Sewer Network Management](#)  
25 March 2021, Birmingham

For more, go to: [Events Roundup](#)

## Funding

*Funding opportunities for academia and industry are highlighted below.*

*Want a partner? Contact us with your details and we can connect you with members with similar interests or put a request out through the network*



[Young Innovators Awards](#) 2020/21

Deadline: 2 September 2020

Young people can apply for an award to make their business idea a reality - £5,000 grant, tailored business support and a living allowance.

[NERC: Preparing for Future Clean Air Challenges: Interdisciplinary research and innovation consortia](#)

Deadline: (Notification of Intent): 3 September 2020

[HVB Proof of Concept Calls](#)

Deadline: 14 September 2020

1. High value biorenewable products or processes for industry
2. Research on high value biorenewables or processes to underpin the creation of new spin-outs

[AlgaeUK: Second BIV Call](#)

Deadline: 18 September 2020

[BBNet: Proof of Concept Call](#)

Deadline: 30 September 2020

[HVB Business Interaction Voucher Call](#)

Deadline: 6 October 2020

[Innovate UK: Industrial Energy Transformation Fund: industrial energy efficiency and decarbonisation studies](#)

Deadline: 28 October 2020

Projects must undertake a feasibility or an engineering study (experimental development) to develop either an energy efficiency or a deep decarbonisation project that enables possible subsequent deployment.

[Innovate UK: Industrial Energy Transformation Fund: deployment of energy efficient technologies in industry](#)

Deadline: 28 October 2020

Projects must deploy technologies to improve the energy efficiency of industrial processes.

[NERC: Announcement of Opportunity: Changing the Environment](#)

Deadline for outline proposals: 5 November 2020

Large scale inter-disciplinary research and innovation funding to provide whole system solutions to major environmental challenges. This call will provide up to £20M funding in total over 5 years to support 2 research organisation awards.

For more, go to: [Funding Roundup](#)



## Awards, PhDs & Jobs

*Did you know we have funds available to help members access placements in industry or academia. Could you host one to share what you know? Contact us now.*

## Jobs

[KTP Sustainable Process Development Associate \(Vistafolia\)](#)

The main role is to design a process to develop a new sustainable polymer with recyclable qualities and to set-up a new R&D biopolymer laboratory at Vistafolia, Frimley. Closing date: 16 Aug 20.

The 2021 [Nanyang Assistant Professorship](#) (NAP) Call  
Deadline: 30 September 2020

## Awards

### [The Queens's Awards for Enterprise 2021](#)

Deadline: 9 September 2020

These are for outstanding achievement by UK businesses in the categories of: innovation; international trade; sustainable development; promoting opportunity

### [Stockholm Water Prize 2021](#)

Nominations open until: 30 September 2020

Also, for under-20's, the [UK Junior Water Prize](#)

PhD Studentships - more [here](#)

### **Resource recovery from municipal wastewater with forward osmosis membrane-based process**

University of Southampton. Deadline: 31 August 2020

### **Urban water engineering, transport phenomena of emerging contaminants and microbiological pollutant degradation within Sustainable drainage systems (SuDS)**

Aston University. Deadline: 15 September 2020

### **Saving the planet through carbon recycling: engineering bacterial capture of gasified waste for bioplastics production**

University of Nottingham. Deadline: Applications accepted all year round

## Publications

### [Phytotoxicity and chelating capacity of spent coffee grounds: Two contrasting faces in its use as soil organic amendment](#)

Ana Cervera-Mata et al.

Science of The Total Environment. Volume 717, 15 May 2020, 137247

### [Pilot-scale electro-bioremediation of heavily PAH-contaminated soil from an abandoned coking plant site](#)

Fengmei Li et al.

Chemosphere. Volume 244, April 2020, 125467

### [A robust correlation based on dimensional analysis to characterize microbial fuel cells](#)

Siddharth Gadkari & Jhuma Sadhukhan

Nature Scientific Reports volume 10, Article number: 8407 (2020)

## Still here?

Entrepreneur? The Nature [Spin-out Prize](#) is a relatively new competition to showcase excellence in research commercialisation. One of this years finalists was [CageCapture](#): designing a molecule to filter out pollutants. This University of Liverpool spin-out designs "cages" to selectively capture specific molecules - unlike traditional charcoal filters. The overall winner, Sibel Health, designs vital-sign sensors for premature babies. With the push towards demonstrating impact from research, expect to see this prize gain in prominence in future.

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