



**Microbes
and
Society
network
news
winter 2022**



**Welcome to the first newsletter of the
Microbes and Society network!**

We are establishing the network, formed from four of Exeter's centres of excellence – the AMR Network, the Microbiology Hub, WCCEH and MRC CMM - but still have some way to go. We hope you will be able to join us on the 13 January for our introductory talk, and keep a look out for a further social science-led meeting in the Spring, as well as forthcoming info about our second symposium in the summer.

You should have received an email asking for your input into the government's next five-year action plan on AMR, expect a further email asking for more information about your research interests. This will really help us get to know our members so we can begin to work more closely together.

We hope you enjoy this winter edition, and wish you a Merry Christmas!

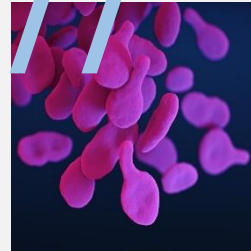
Edze, Jane, Will, Steve & Alistair
Microbes & Society Network Co-Leads

Microbes-society@exeter.ac.uk



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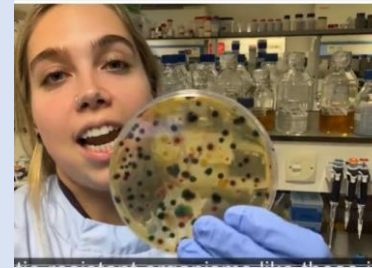


AMR news

From UoE's AMR network

Exeter awarded £14 million for AMR research

'With more than £14 million in recent funding and nearly 400 experts working together, Exeter is at the forefront of developing solutions that could benefit the global population and stop deaths,' said Prof Will Gaze. [Read more](#)



PhD student and BSAC intern Emily Stevenson co-produces video with Baroness Natalie Bennett

[The video](#) was compiled for World Antibiotic Awareness Week, and in it Baroness Bennett talks about how AMR 'has slid from the government's agenda', and that she is looking forward to working with her interns 'to make a big difference.'

To join the AMR network, email

AMR-Network@exeter.ac.uk

Anne Leonard speaks at UKHSA and NHS England South West webinar programme

Dr Anne Leonard gave a talk on 'Research into the environmental dimensions of antibiotic resistance' at a WAAW event on 24 November organised by UKHSA and NHS England South West. The event was shared with pharmacists, prescribers, NHS workers, public health consultants, care home workers, dentists, UKHSA team, Office of Health Improvement & Disparities, and NHS England.



Credit: Emily Whitfield-Wicks

Research on sewage pollution and water quality picked up by UK media

Dr Leonard also gave interviews to Time Radio and ITV on the threat that sewage pollution poses to recreational water users, including the threat of antimicrobial resistance. The piece on water quality in England was picked up by [the BBC](#) and [The Guardian](#), amongst others.

New online course launched

Over 100 delegates attended across the world for the first session of the Fungal Infections in Paediatrics course on 19th September. The interactive course runs on our recently upgraded virtual learning platform, providing space for students and faculty to engage and collaboratively solve problems around delivering new and improved treatment options for fungal infections in neonates and children worldwide. [Read more](#)



UK Fungus Day

On October 8th, the MRC CMM opened its labs for the first time for UK Fungus Day, welcoming over 100 guests to see behind-the-scenes of our research into fungal infections.

We had over 100 attendees of all ages, learning about fungi and the importance of medical mycology.

New Sequencing Facility video featuring Deputy Director of MRC CMM

[The video](#) is part of an initiative led by Dr Nicholas Harmer and features Dr Aaron Jeffries, Director of the University Sequencing Facility as well as a cast of academics including Professor Alistair Brown, Deputy Director of the MRC Centre for Medical Mycology, talking about their work and how sequencing has contributed **to their research success**.



WHO publishes Fungal Pathogen Priority List

The WHO has published the first Fungal Pathogen Priority List (FPPL) to guide research, development and public health action in tackling these pathogens. It is the first global effort to systematically prioritize fungal pathogens, taking into account their public health importance and unmet research and development needs. [Read more](#)



CMM news

From the MRC Centre for Medical Mycology



Microbiology news

New bid to 'outflank' antimicrobial resistance

A major new project will investigate the defence mechanisms of bacterial cells, to help stop the spread of drug-resistant genes.

The new project, led by Edze Westra at the University of Exeter, will use a wide range of methods to work out how bacterial defence systems shape the evolution of "mobile genetic elements" (MGEs), which play a key role in spreading antimicrobial resistance. [Read more](#)



Congratulations to Dan Padfield, Bridget Watson and Ellie Pursey!

Dan has received a NERC Fellowship, Bridget has received a 3-year Leverhulme ECR Fellowship, and Ellie has received a Wenner Gren Fellowship for postdoc research at Lund.

Congratulations all!



Credit: Microbiology Society

Exeter microbiologists at Microbiology Society Conference

Stineke van Houte was one of the organisers of the successful Microbiology Society focus meeting on Understanding and Predicting Microbial Evolutionary Dynamics.

Oral presentations were given by Elze Hesse, Dan Padfield, and Jasmin Ono. Posters were presented by David Walker-Sunderhauf, Meagan Castledine, Luke Lear, Zoltan Erdos, Hugh White, Adrian Campey and Richard Lindsay. Sessions were also chaired by Meaghan Castledine and Sean Meaden.

New Pathogen Evolution Masters launched

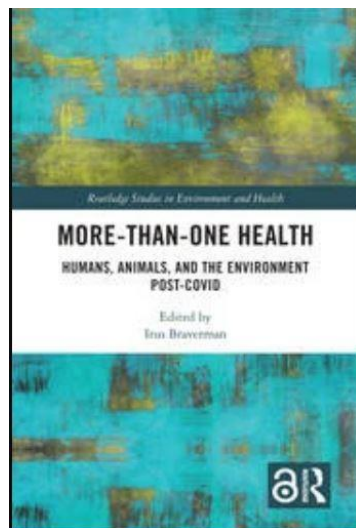
Led by Stineke van Houte, this new taught postgraduate programme welcomed its first intake on Penryn campus this September.

The course now sits alongside the four other bioscience Masters programmes available on Penryn campus. [Read more](#) [Read more](#)

Prof Steve Hinchliffe pens foreword for new Routledge book

The edited volume, entitled **More-than-One Health**, is edited by Irus Braverman and examines the complex entanglements of human, animal, and environmental health.

This volume will appeal to researchers and practitioners in the medical humanities, posthumanities, environmental humanities, science and technology studies, animal studies, multispecies ethnography, anthrozoology, and critical public health.



Defra team reviews participatory approaches to policy in new report

Prof Hinchliffe was also part of the team who reviewed approaches particularly in relation to science and society questions. The report is full of critical thinking around issues with public engagement and science.

The full report is available for access [here](#)



Science
Advisory
Council



Funding calls

Closing calls

EPSRC: Centre for doctoral training in water and waste infrastructure and services engineered for resilience (Water-WISER). Closing date: **04 January 2023**. [Details](#)

MRC: Research grants for molecular and cellular medicine. Closing date: **10 January 2023**. [Details](#)

BBSRC: Pioneer awards, early-stage frontier bioscience research. Closing date: **10 January 2023**. [Details](#)

AHRC: Exhibition Fund, supporting collaborative exhibitions and public engagement activities. £250,000 per project. Closing date: **10 January 2023**. [Details](#)

BBSRC: UK-Brazil joint research funding. Closing date: **11 January 2023**. [Details](#)

MRC: Clinical Research Training Fellowship. Closing date: **11 January 2023**. [Details](#)



BBSRC: Responsive mode standard research grants. Closing date: **11 January 2023**. [Details](#)

MRC: Programme, research, partnership and new investigator grants available for infections and immunity. Closing date: **11 January 2023**. [Details](#)

MRC: Purchase mid-range equipment for biomedical research. £800k available. Closing date **12 January 2023**. [Details](#)

NERC: Pushing the frontiers of environmental science research. £1m available. Closing date **17 January 2023**. [Details](#)

NERC: UK-Greenland Arctic Research Bursaries Scheme. £5,000-£20,000. Closing date **20 January 2023**. [Details](#)

ESRC: ADR UK Research Fellowship. £175,000 for up to 18 months. Closing date: **24 January 2023**. [Details](#)

Healthcare Infection Society: Career development bursaries available. Closing date: **01 February 2023**. [Details](#)

NERC Highlight topics: call for addressing environmental challenges. Max award £4m. Closing date: **16 February 2023**. [Details](#)

ESPID: Postgraduate teaching visits to resource-poor countries. Closing date: **01 March 2023**. [Details](#)

Microbiology Society Conference grants: Europic, and cell-cell communication in bacteria. Closing date **20 March 2023**. [Details](#)

Latest calls & preannouncements

JPIAMR: call for Development of innovative strategies, tools, technologies, and methods for diagnostics and surveillance of antimicrobial resistance.

Opens 10 January 2023.

[Details](#)

MRC: Career Development awards

Opens 24 February 2023.

[Details](#)

ESRC pre-announcement:

UKRI Policy Fellowships

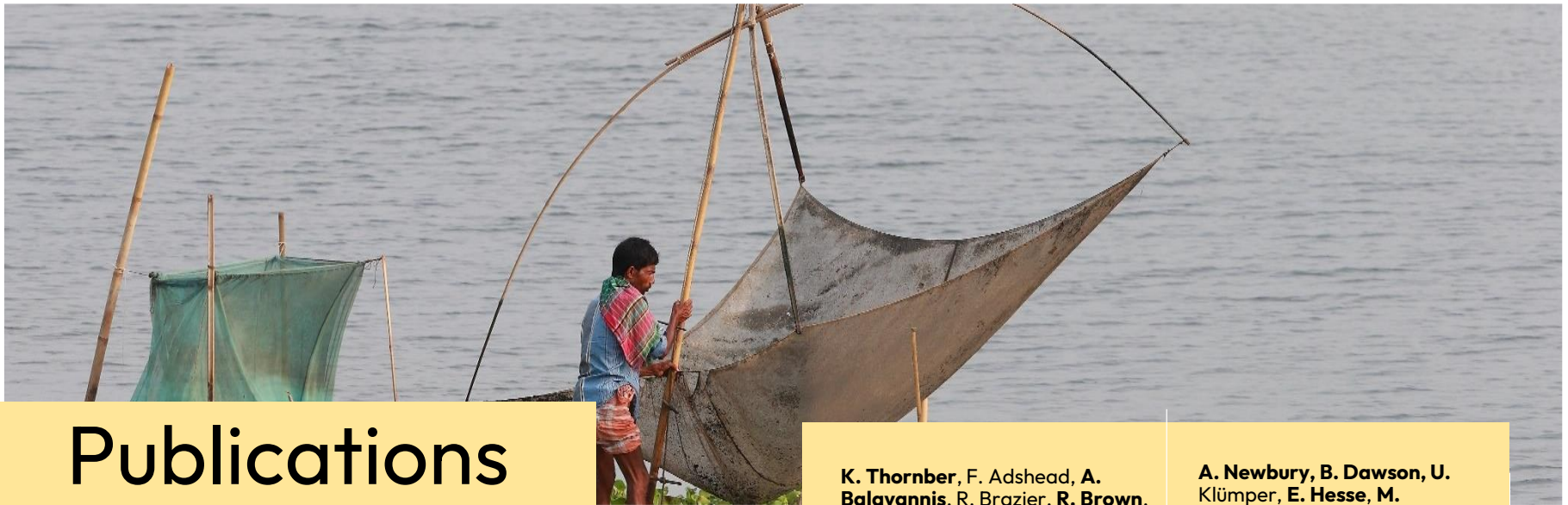
Likely to open February 2023.

[Details](#)

NERC pre-announcement: Addressing environmental challenges, highlight topics 2023. £3m-£6m available.

Opens Jan 2023.

[Details](#)



Publications

N. A. R. Gow, C. Johnson, J. Berman, A. T. Coste, C. A. Cuomo, D. S. Perlin, **T. Bicanic**, **S. Harrison**, N. Wiederhold, M. Bromley, T. Chiller, K. Edgar. [The importance of antimicrobial resistance in medical mycology.](#) *Nature Communications*.

P. T. Nguyen, **T. Wacker**, **A. Brown**, **A. da Silva Dantas**, **E. Shekhova**. [Understanding the Role of Nitronate Monooxygenases in Virulence of the Human Fungal Pathogen *Aspergillus fumigatus*.](#) *Journal of Fungi*.

C. E. Schaum, **A. Buckling**, **N Smirnoff**, **G. Yvon-Durocher**. [Evolution of thermal tolerance and phenotypic plasticity under rapid and slow temperature fluctuations.](#) *Proc Biol Sci*.

C. Campbell, L. Russo, R. Albert, **A. Buckling**, K. Shea. [Whole community invasions Whole community invasions and the integration of novel ecosystems the integration of novel ecosystems.](#) *PLOS Computational Biology*.

I. Stanton, H. Tipper, K. Chau, U. Klumper, J Subirats, **A. K. Murray**. [Does environmental exposure to PPCP residues result in the selection of antimicrobial-resistant microorganisms, and is this important in terms of human health outcomes?](#) *Environmental Toxicology and Chemistry*.

F.C Garcia, **R. Warfield**, **G. Yvon-Durocher**. [Thermal traits govern the response of microbial community dynamics and ecosystem functioning to warming.](#) *Frontiers in Microbiology*.

S. Roxburgh, **A. Buckling**, K. Shea. [Pulse and Press Disturbances Have Different Effects on Transient Community Dynamics.](#) *The American Naturalist*.

J. Furlong-Silva, **P. C. Cooke**. [Fungal-mediated lung allergic airway disease: The critical role of macrophages and dendritic cells.](#) *PLOS Pathogens*

K. Thornber, F. Adshead, **A. Balayannis**, R. Brazier, **R. Brown**, S. Comberg, C. Court, I. Davidson, **M. Depledge**, **C. Farmer**, S. Gibb, R. Hixson, C. Kirchhelle, K. Moore, M. Motta, L. Niemi, S. Owen, **D. Pencheon**, S. Pflieger, **E. Pitchforth**, N. Powell, W. Schmidt, **R. Smith**, G. Sowman, W. Tyler-Batts, H. Wilkinson, **E.C.F. Wilson**, **L. Fleming**, **W. Gaze**, **C. Tyler**. [First, do no harm: time for a systems approach to address the problem of health-care-derived pharmaceutical pollution.](#) *The Lancet Planetary Health*.

A.M. Luján, S. Paterson, **E. Hesse**, L.M Sommer, R.L. Marvig, **M.D Sharma**, **E.O. Alseth**, O. Ciofu, A.M. Smania, S. Molin, H.K Johansen, **A. Buckling**. [Polymicrobial infections can select against *Pseudomonas aeruginosa* mutators because of quorum-sensing trade-offs.](#) *Nature ecology & evolution*.

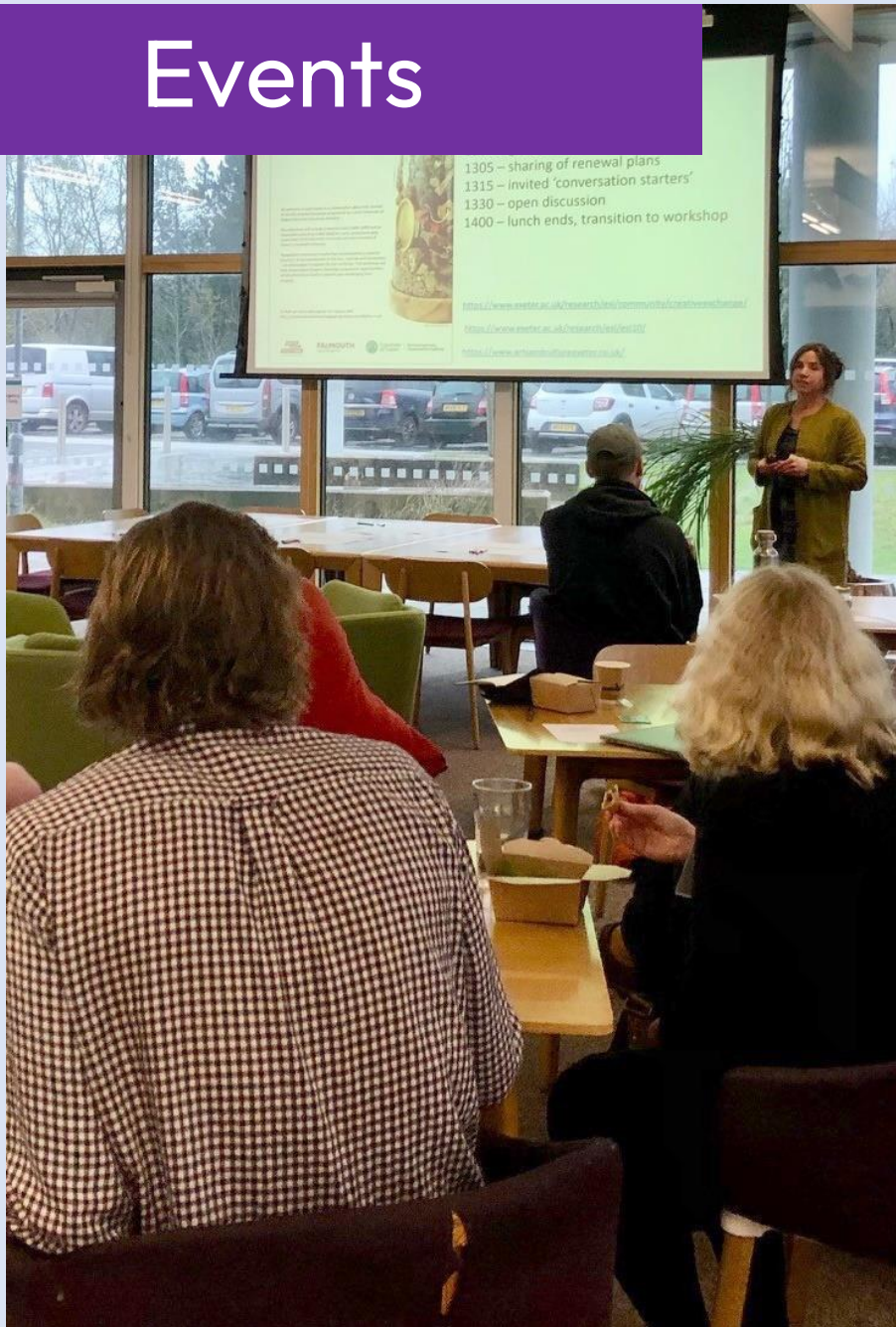
A. Newbury, **B. Dawson**, **U. Klümper**, **E. Hesse**, **M. Castledine**, C. Fontaine, **A. Buckling**, **D. Sanders**. [Fitness effects of plasmids shape the structure of bacteria-plasmid interaction networks.](#) *PNAS*.

L. Lear, **D. Padfield**, H. Inanime, K. Shea, **A. Buckling**. [Disturbance-mediated invasions are dependent on community resource abundance.](#) *ESA*.

A. Chevallereau, **E.R. Westra**. [Bacterial immunity: Mobile genetic elements are hotspots for defence systems.](#) *Current Biology*.

H. White, **M. Vos**, S.K. Sheppard, B. Pascoe, **B. Raymond**. [Signatures of selection in core and accessory genomes indicate different ecological drivers of diversification among *Bacillus cereus* clades.](#) *Molecular Ecology*

Events



UoE AMR Network: Introducing Microbes & Society

Will Gaze, Stineke van Houte,
Emma Pitchforth, Elaine
Bignell.

Teams, **13 Jan 2023**, 11 – 12.

MRC CMM MycoTalk: Marie- Elizabeth Bougnoux

Via Zoom, **26 January 2023**,
4-5pm. [Register](#)

ECR Transdisciplinarity Research: Travels in Transdisciplinarity

Ben Philips, Sarah Crowley,
Kevin Gaston, Steve
Hinchliffe, Robbie McDonald,
Juliet Osborne.

ESI building/Teams, **26
January 2023**, 3-5pm. Email
esidirector@exeter.ac.uk to
request Teams link

LSHTM Medical Anthropology seminar:

Redesigning Life with
Shenzhen Speed: CRISPR-
Cas9 and Possible Futures of
Reproductive Medicine
[Zoom, 31 January 2023, 4-
5.15pm.](#)

Joint BSAC & GARDP Antimicrobial Chemotherapy Conference (ACC2023)

Free virtual conference jointly
organised by BSAC and
GARDP.

[Online, 1-2 February 2023.](#)

MRC CMM MycoTalk: Deborah Hogan

Zoom, 23 Feb 2023, 4-5pm.
[Register](#)

Microbiology Society Conference

Vaccines as tools to combat
antimicrobial resistance
Birmingham, 27-28 February
2023. [Register Now](#)

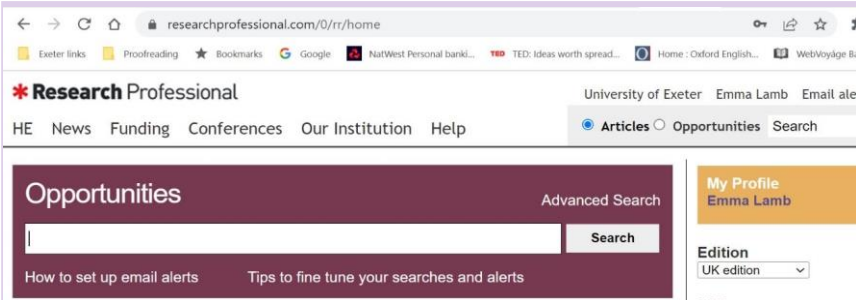
Joint ESI and CEC Symposium: Ecological and Evolutionary drivers of pathogen emergence

13-14 June 2023.

[Submit abstracts for talks
and posters now!](#)

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The screenshot shows the Research Professional website interface. At the top, there is a navigation bar with the logo and links for HE, News, Funding, Conferences, Our Institution, and Help. Below this is a search bar and a 'Search' button. The main content area is titled 'Opportunities' and features an 'Advanced Search' section with a search input field and a 'Search' button. To the right, there is a 'My Profile' section for Emma Lamb and an 'Edition' dropdown menu set to 'UK edition'. At the bottom, there are links for 'How to set up email alerts' and 'Tips to fine tune your searches and alerts'.

Wanted: input into UoE's response to the Government's 5-year action plan on AMR

If you've mislaid the email, please visit the form below!

Antimicrobial resistance national action plan: call for evidence

The survey will take approximately 20 minutes to complete.

There are seven parts to the government's open consultation, each with several multiple-choice and open-text questions. Please complete what you can from your areas of expertise, so that responses can be collated in order for us to provide a unified response from the university.

Send us news, events, publications and other information for our next newsletter:

Microbes-society@exeter.ac.uk

About Microbes and Society @ Exeter

Microbes & Society @ Exeter aims to promote innovative, transdisciplinary collaborations that address the impacts that microbes have on society and that society has on microbial communities.

This includes the role of microbial communities in ecosystems, food production systems and health as well as the potential for pathogens to cause disease and global pandemics, and considers how many of the beneficial and deleterious effects of microbes are underpinned by changes in social and environmental processes.

This Network builds on major centres of excellence at the University that include the Wellcome Centre for Cultures and Environments of Health, the AMR and Microbiology Networks, The Centre for the Study of life Sciences (EGENIS) and the MRC Centre for Medical Mycology and aims to include social, ethical, legal and policy perspectives as well as integrating data science and mathematical modelling.

To leave this mailing list, email microbes-society@exeter.ac.uk