



University
of Exeter

Microbes and Society
@ Exeter Research Network

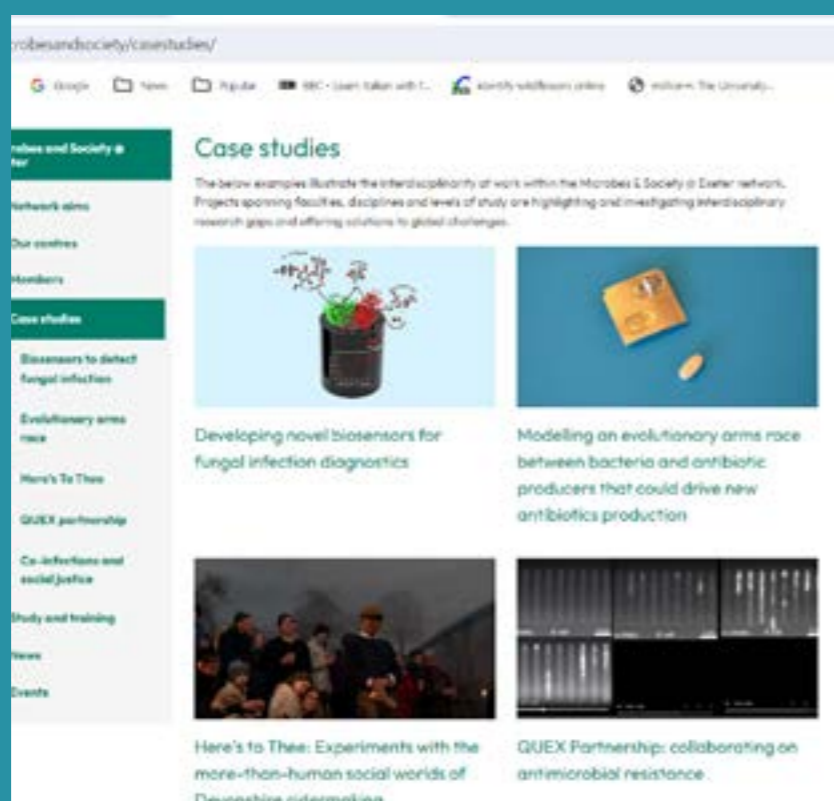
newsletter
spring
2024

Dear All,

Welcome to the spring edition of the Microbes and Society newsletter!

Since the last edition we've welcomed Bridget Watson as a network co-lead, representing CEC Microbiology.

We'd also like to draw your attention to the **Microbes & Society website**, which has been developed over the past six months. Featuring more details about the network, its members, and most recently case studies of interdisciplinary research taking place between network members, we hope this will be a useful repository of information.



(If you do not see your name on the Members list, please email microbes-society@exeter.ac.uk)

Steve, Bridget, Jane and Will
Microbes & Society Network Co-Leads

Contents



Funding calls

Closing calls and pre-announcements



Latest publications

Latest research from across our network



Latest events

Online, hybrid and in-person

AMR latest	3	CMM latest	5
Microbiology latest	7	Microbial Humanities & Social Science latest	9
Reports and Policies	25	Other publications	26

AMR news



Pharma Pollution Hub launches

Dr Kelly Thornber and colleagues have set up a new independent think tank based at the University of Exeter.



Kelly writes, “We bring together thought leaders from across academia, industry, government and the civil sector, to co-develop solutions for reducing the environmental impact of medicines (including antimicrobials) used in UK healthcare, through a systems thinking and engaged research approach. Our work spans the whole of the pharmaceutical life cycle, including population health and culture, pharmaceutical design and manufacture, healthcare decision-making and use, and environmental monitoring and management.

We are delighted to launch our new website, which has more information about the challenges involved in addressing pharmaceutical pollution, our innovative approach, and our fabulous Pharma Pollution Consortium: www.pharmapollutionhub.org”.

PhD success!



April Hayes has passed her PhD ‘Investigating selection for antimicrobial resistance by non-antibiotic drugs’. She was supervised by Aimee Murray, Will Gaze, and Lihong Zhang from the ECEHH, alongside supervisors Barbara Kasprzyk-Hordern and Ed Feil from the University of Bath, and Jason Snape from Astra-Zeneca, which co-funded the project. April is now doing a post-doc with Aimee Murray on understanding selective concentrations of both single antibiotics and mixtures of antibiotics, including those that we can find in the aquatic environment as pollutant mixes. The aim is to understand how real-world antibiotic mixes affect AMR evolution in communities. Congratulations April!

Matt Lloyd Jones wins GW4 Open Research Prize!

Matt Lloyd Jones has won the GW4 Open Research Prize for Widening Reach for his research project ‘Exploring the potential of using simulation games for engaging with sheep farmers about sheep lameness’. The GW4 Open Research Prize celebrates best practice in open research, and is organised by Library Services Teams from across the GW4 Alliance universities and led, for this year, by the University of Bristol.



Neil Gow writes GW4 opinion piece for World AMR awareness week on 'dual use' antifungals



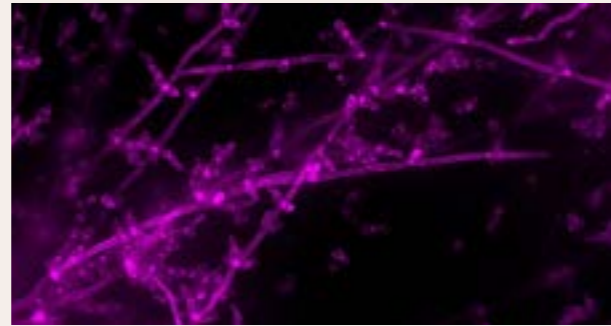
Titled 'Hard to get but easy to lose: protecting the durability of new "dual use" antifungals', it can be found [here](#).

Discover 'The Hidden World of Killer Fungi' through a fascinating new visual display



Located on the ground floor of the Queen's building, Strettham campus, a new exhibition of striking images taken by MRC CMM scientists is drawing attention to the secret lives of deadly fungal pathogens. The display will also feature works from the MRC CMM's previous collaborations with artists across various disciplines, including images of sculpture, photography, illustration and stills from performance. On display until 29 March. [More info](#)

Zinc shows promise as surprising emerging treatment for thrush



New research could one day pave the way for the treatment of vaginal yeast infections (thrush), by shedding new light on how microbes in the body absorb zinc. Funded by Wellcome, published in Science Translational Medicine and led by MRC CMM, the research has found that the trace mineral zinc could play a surprising role. [Read more](#)

MRC CMM awarded Gold LEAF for its environmental sustainability

The Laboratory Efficiency Assessment Framework, developed by Sustainable UCL, contacts actions which lab users can take to save plastics, water, energy and other resources. MRC CMM were awarded Gold for 2023/24 after being awarded Bronze and Silver in previous years. More info on LEAF can be found [here](#).



CMM news

From the MRC Centre for Medical Mycology



University of Exeter



RANK PRIZE NUTRITION

PARTICIPANTS NEEDED

The GAIN ONE study.
Can prebiotic fibre and nitrate improve your blood vessel and gut health?

Who can participate:

- Adults aged 45-74
- Non-smokers
- Not taking blood pressure medications

What is involved?

- 1 screening visit (we check your blood pressure!)
- 4 experimental visits requiring:
 - 6x upper arm ultrasound scans
 - Taking supplements at home for 8 weeks
 - 3x faecal samples
 - 6x Blood samples
 - 6x Saliva samples
 - Questionnaires

An inconvenience allowance and a report on study findings will be provided upon study completion

If you are interested and would like to find out more about this study, please contact

Jessica at:



jv326@exeter.ac.uk

Microbiology news

Stefano Pagliara wins €1.2M JPIAMR award

Stefano Pagliara has been awarded a €1.2M grant from the Joint Programming Initiative on Antimicrobial Resistance (JPIAMR). This grant will allow him to coordinate an international team of scientists, clinicians and industrial partners working together on a new project termed Effective RAPid Diagnostics and treatment of AntiMicrobial Resistant bacteria (ERADIAMR) with the ultimate aim of developing a new technological platform to detect antimicrobial resistant bacteria and optimise antibiotic treatment in less than one hour. [Read more](#)



Andy Young leads on new QUEX Accelerator project

A £30k QUEX Accelerator Grant has been awarded to Andy Young (PI; Exeter Penryn), Mark Blaskovich (Queensland) & Stefano Pagliara (LSI Streatham) to pump prime research on bacterial ageing as a driver of cellular variation in antibiotic resistance. The team will use microfluidics to study the accumulation dynamics and fitness effects of labelled antibiotics at the single cell level, to test the hypothesis that the structured variation in cellular age within microbial lineages is a driver of cellular heterogeneity in responses to antibiotics. The work will take place throughout 2024.



Can you help with an ongoing study at St Luke's?

PhD student Jessica Virgili and Dr Luciana Torquati's study explores the effects of inulin, a commonly used fermentable fiber, on brachial flow-mediated dilation, a very important indicator of heart health. They are investigating the impact on the composition and diversity of gut microbiota when inulin is taken alone and in combination with dietary nitrate. Their aim is to investigate any potential synergistic effects. Screening and experimental visits are at St Luke's. For more information, contact Jessica via jv326@exeter.ac.uk

Social Upheaval & Medical Humanities seminar available on YouTube



A WCCEH seminar that took place in September 2023, this great event explored the relationship between health and social upheaval and is available to watch [here](#)

Urgent work needed to tackle “substantial” digital health inequality, study recommends

Professor Robin Pierce (Law) is part of a team of doctors and academics who have found a “significant association” between increased poverty and reduced use of digital services. [The study](#), published in *BMJ Health & Care Informatics*, argues urgent work is needed to ensure those from deprived areas can access health-care as the NHS increasingly turns to the use of apps and online health portals for its healthcare provision.



Egenis Conference, ‘Understanding Life in a Changing Planet’



Marking the 20th anniversary of Egenis, this three-day event will feature an exciting line-up of distinguished international guest speakers, alumni, and current members of Egenis. Speakers will explore some of the key ideas developed at Egenis and their wider impact, as well as looking ahead to the main opportunities and challenges for the interdisciplinary studies of the life sciences in our changing planet. The event will also honour the achievements of Professor John Dupré, co-founder of Egenis and one of the world’s leading philosophers of biology. [More details](#)

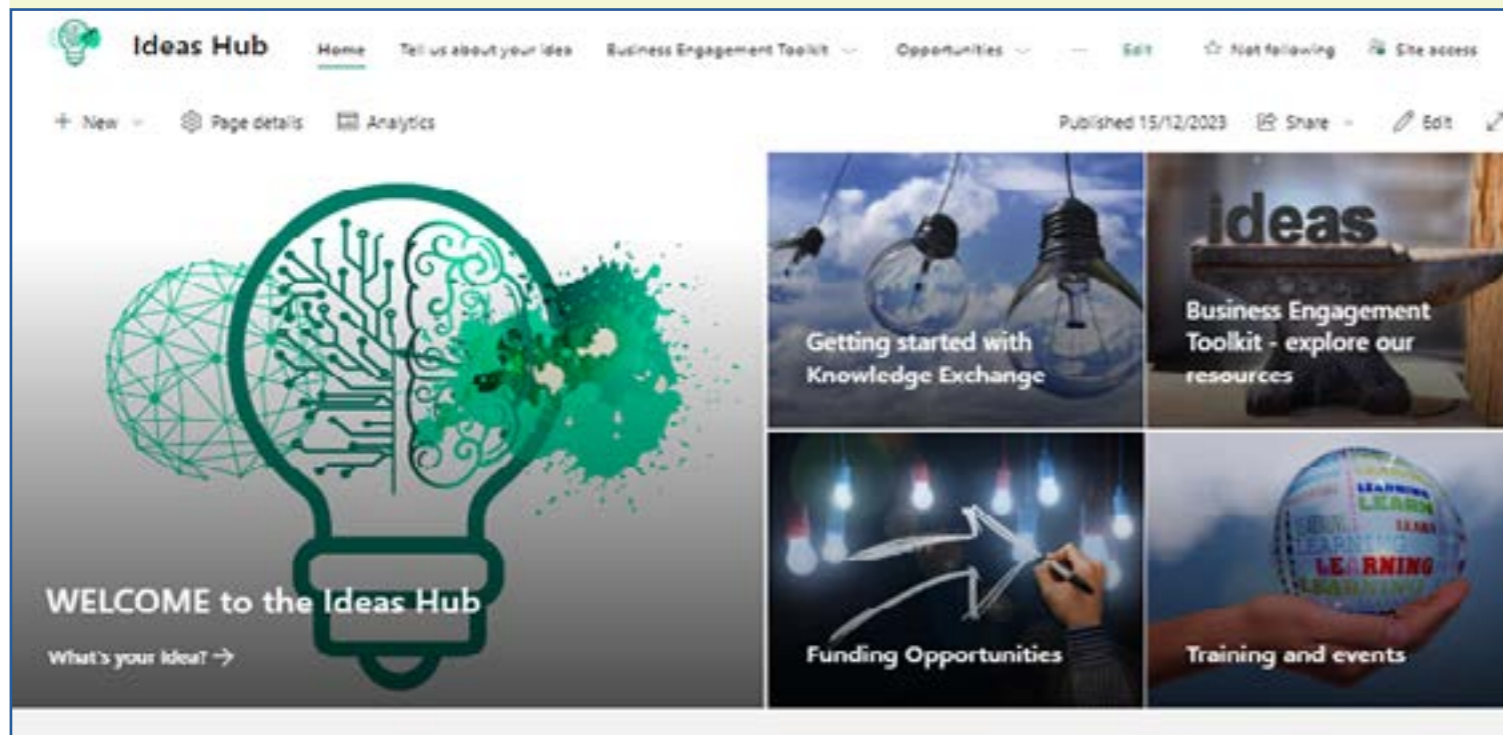


Lighthouse Doctoral Scholarship Programme

The Faculty of Health and Life Sciences “Lighthouse” programme is designed to foster collaborative PhD studentships in partnership with industry and is part of wider efforts at the university to strengthen connections with business.

Lighthouse plans to establish 25-50 collaborative industry-focused PhD studentships, aligned with both company and faculty research priorities. The goal is to create an ongoing framework for industry engagement, attract high-quality project proposals benefiting partners and the University of Exeter, produce skilled PhD graduates with a deep understanding of industry needs, and enhance research impact by translating findings into innovations through partnerships with companies.

Applications are considered on a rolling basis. For more information, please contact the Industrial Studentship Manager at industrialstudentships@exeter.ac.uk



What's YOUR idea?

The Ideas Hub is a new resource from Exeter Innovation that is for anyone developing (or considering) external engagement, particularly with business.

Live since October 2023, the Hub is an information resource to support you in applying your research outside of academia.

If you have an idea to work with business that you're interested in developing, get in touch! You can register your idea very simply using our Ideas Log which asks just 7 quick questions. You'll receive a personal response from a member of the Ideas Hub team offering signposting to wider Exeter Innovation support.

In addition to the log the site offers a wealth of information and resources for you to explore to support your development in this area. At the heart of the site is the Business Engagement Toolkit which is packed with practical advice aimed at staff at any career stage and with any level of external engagement experience.

Find out more at www.exeter.ac.uk/ideas-hub and keep an eye out for training and idea development workshops coming in 2024.

Events

30 January 2024

LSHTM Lecture: Tolib Mirozoev - Bridging disciplines, crossing thematic boundaries and mixing methods: reflections from global health policy and systems research. Zoom, [More info](#)

2 February 2024

Exeter Food Colloquium: The Importance of Science-Industry Collaboration in Changing the Way We Eat. Building One - Constantine Leventis Teaching Room and Online, 13:30-16:30. [Register here](#)

5 February 2024

EGENIS seminar: Kin Wing (Ray) Chan Post-ASF Chinese Corporate Pig Farms: Pathogenic Risk, Microbiome and Toxicity of Labour Health. Byrne House and via Zoom, 15:30-17:00. [Register here](#)



14-16 February 2024

Wellcome Conference: Microbiome Interactions in Health and Disease. Wellcome Genome Campus and online. [Register here](#)

19 February 2024

LSHTM Lecture: David Heymann, the accidental field epidemiology and emerging infections: being at the right place at the right time. 17:30-18:30 via zoom, [more info](#)

22 February 2024

Exeter Food Research Network: Jake Fiennes, Balancing Food Security and Self-Sufficiency for a better Environment. 18.30, Forum Alumni Auditorium LT and via zoom. [Register here](#)

28 February 2024

British Mycological Society Talk: Elaine Bignell: Understanding a mould that infects human lungs: a journey from molecules to novel therapies. 19.30-21.00 [Register here](#)

28 February 2024

GSI Seminar: Ryan Nolan - Mission-oriented complexity? Pragmatic approaches to system change. 16.00-17.00, Forum Exploration Lab 1.

29 February 2024

MycoTalks: Alessia Buscaino and Sing Sing Way. 16.00 via Zoom. [More details](#)

4 March 2024

EGENIS seminar: Lucie White - Policymaking in a catastrophe: a precautionary approach? 15.30-17.00, Byrne House and via zoom. [Register here](#)

13 March 2024

LSHTM event: Benjamin Hunter and Paul Atkinson, British health systems and their values in the late 20th and early 21st century. 13.00-14.25 via zoom, [more info](#)

13-15 March 2024

Wellcome Conference: Antimicrobial Resistance - Genomes, Big Data and Emerging Technologies. Wellcome Genome Campus and online. [Register here](#)

18 March 2024

EGENIS seminar: Oana Matei, Plants as instruments of knowledge in early modern natural philosophy. 15:30-17:00, Byrne House and via Zoom. [Register here](#)

18-20 March 2024

Wellcome Conference: Mitochondrial Medicine: Therapeutic Development. Wellcome Genome Campus and online. [Register here](#)

25-27 March 2024

Wellcome Conference: Genomics of Rare Disease. Wellcome Genome Campus and online. [Register here](#)



4 & 5 April 2024

British Mycological Society/British Society for Plant Pathology event: One Health and the Challenge of Antifungal Resistance. Apex City of Bath Hotel. [Register here](#)

8-11 April 2024

Microbiology Society Annual Conference. Edinburgh International Convention Centre. [Register here](#)

17-19 April 2024

Understanding Life in a Changing Planet: 20+2 Years of Egenis. Henderston Lecture Theatre and via zoom. [Register here](#)

22-24 April 2024

Wellcome Conference: CRISPR and Beyond: Perturbations at Scale to Understand Genomes. Wellcome Genome Campus and online. [Register here](#)



Featuring Exeter speakers **Liliane Mukaremera, Jane Usher** and **Sarah Gurr**, this 1.5 day conference highlights current research to address the increasing concern of antifungal resistance in plants, crops and agriculture, human and animal health, and urban environments. Speakers from a range of research disciplines will offer insight into new methods for controlling fungal pathogens, taking a One Health approach to tackling antifungal resistance. A joint event, organised by the British Mycological Society and the British Society for Plant Pathology.

Funding calls

Large funding opportunities

EFSA - European network for medical and veterinary entomology (VectorNet 3). This call for tender aims to support EFSA and ECDC with increasing the preparedness for vector-borne diseases. €3.75 million. Closing date 15 February 2024. [More info](#)

EBNet Proof of Concept (PoC) Awards: Fund small-scale studies which will investigate research and societal issues of core relevance to EBNet. Max award £25,000. Closing date 19 February 2024. [More info](#)

BBSRC and other funders - Alternative Proteins Innovation and Knowledge Centre. This funding opportunity aims to ensure the UK capitalises on its cutting-edge research and innovation potential across the UK's world-leading science based and alternative protein industry. Award max £15,0000, Closing date 28 February 2024. [More info](#)

WHO - Unitaid Call for proposals: Establish viable business models for access to monoclonal antibodies in low- and middle-income countries. Closing date 01 March 2024. [More info](#)

MRC and other funders - JPIAMR: antimicrobial resistance (AMR) interventions. Apply for funding to support international collaborative research projects. Award max £350,000. Closing date 14 March 2024. [More info](#)

HORIZON EUROPE - HORIZON-HLTH-2024-DISEASE-08 - tackling diseases. This supports proposals that set out a credible pathway to contributing to tackling diseases and reducing disease burden. Award max €8 million. Closing date 11 April 2024. [More info](#)

ESRC - Embedding methodological development in social science research. Supports proposals that will refine methodological approaches developed since March 2020 to enable them to be fully embedded in research practice. Max award £800,000. [More info](#)

UKRI Develop interdisciplinary research proposals to tackle epidemic threats. Apply for Phase-1 seed funding to build interdisciplinary teams and develop research ideas to tackle epidemic diseases of animals, humans and plants. Deadline 27 February 2024. [More info](#)

Leverhulme Trust - Research Project Grants. For researchers based at universities, institutions of higher education or registered charities with university-equivalent research capacity, to undertake an innovative and original research project. Award max £500,000. Closing date 21 March 2024. [More info](#)

Smaller funding opportunities

Wellcome Trust - Fungal pathogen genomics course bursaries. Limited bursaries available (up to 50% reduction on course fee. Closing date 29 February 2024. [More info](#)

BMS - small grants. £500 to support travel to meetings, perform fieldwork or research

projects, etc. Closing date 20 March 2024. [More info](#)

BMS - Research Grants. apply to fund biology research-related activities at different levels. Max amount £10,000. Closing date 31 March 2024. [More info](#)

Microbiology Society - Poster prizes. Enter your poster into a number of prizes at the Annual Conference. [More info](#)

NIHR - Equality Diversity and Inclusion (EDI) Small Awards. Award max £40,000. Existing SPHR members only. [More info](#)

Publications

Duggan S, Usher J. [Candida glabrata: A powerhouse of resistance.](#) *PLoS Pathogens*

Alseth EO, **Custodio R**, Sundius SA, Kuske RA, Brown SP, **Westra ER.** [The impact of phage and phage resistance on microbial community dynamics.](#) *bioRxiv*

Alonso MF, Bain JM, Erwig LP, **Brown AJP, Gow NAR.** [Fungal spore swelling and germination are restricted by the macrophage phagolysosome.](#) *Fungal Biol.*

Hannon E, Anselimus SM, Bardikoff N, Bulc B, Germann S, Gonsalves PP, **Melendez-Torres GJ**, Ospina-Pinillos L, Sinha M, Wanjiru M. [Why cities matter for adolescent mental health and wellbeing.](#) *Lancet.*

Mohamed SH, Fu MS, Hain S, Alselami A, Vanhoffelen E, Li Y, Bojang E, Lukande R, **Ballou ER**, May RC, Ding C, Velde GV, Drummond RA. [Microglia are not protective against cryptococcal meningitis.](#) *Nat Commun.*

Arita GS, **Ma Q, Leaves I, Pradhan A, Hickey E, Dambuza I**, Bebes A, Vincenzi Conrado PC, Barros Galinari C, Vicente Seixas FA, Kioshima ÉS, de Souza Bonfim-Mendonça P, Svidzinski TIE, **Brown AJP.** [The impact of ORF19.36.1 in the pathobiology of Candida albicans.](#) *Microbial Pathogens.*

Piadeh F, Behzadian K, **Chen AS**, Kapelan Z, Rizzuto JP, Campos LC. [Enhancing urban flood forecasting in drainage systems using dynamic ensemble-based data mining.](#) *Water Research.*

Roy S, Gow NAR. [The role of the Candida biofilm matrix in drug and immune protection.](#) *Cell Surface.*

Treagus S, Lowther J, **Longdon B, Gaze W**, Baker-Austin C, Ryder D, Batista FM. [Metabarcoding of Hepatitis E Virus Genotype 3 and Norovirus GII from Wastewater Samples in England Using Nanopore Sequencing.](#) *Food and Environmental Virology.*

Stevenson EM, Buckling A, Cole M, Lindeque PK, **Murray AK.** [Selection for antimicrobial resistance in the plastisphere.](#) *Science of the Total Environment.*

Stevenson EM, Buckling A, Cole M, Lindeque PK, **Murray AK.** [Culturing the Plastisphere: comparing methods to isolate culturable bacteria colonising microplastics.](#) *Frontiers in Microbiology.*

Devran Z, Özalp T, **Studholme DJ**, Tör M. [Mapping of the gene in tomato conferring resistance to root-knot nematodes at high soil temperature.](#) *Frontiers in Plant Science.*

Bolaños LM, Tait K, Somerfield PJ, Parsons RJ, Giovannoni SJ, Smyth T, **Temperton B.** [Influence of short and long term processes on SAR11 communities in open ocean and coastal systems.](#) *ISME Communications.*

Bradbury JD, Chesshyre E, Orenti A, Jung A, **Warris A**; European Cystic Fibrosis COVID project group. [A multinational report on SARS-COV-2 infection outcomes in people with CF and Aspergillus infection or ABPA.](#) *Journal of Cystic Fibrosis.*

Cruciani M, White PL, Barnes RA, Loeffler J, Donnelly JP, Rogers TR, Heinz WJ, **Warris A**, Morton CO, Lengerova M, Klingspor L, Sendid B, Lockhart DEA. [An Overview of Systematic Reviews of Polymerase Chain Reaction \(PCR\) for the Diagnosis of Invasive Aspergillosis in Immunocompromised People: A Report of the Fungal PCR Initiative \(FPCRI\)-An ISHAM Working Group.](#) *Journal of Fungi (Basel)*

Lear L, Padfield D, Hesse E, Kay S, Buckling A, Vos M. [Copper reduces the virulence of bacterial communities at environmentally relevant concentrations.](#) *Environment International*

Publication Spotlight

[Pandemics in the Ancient Mediterranean World](#) - Flemming, R - (Isis: Bibliographic Essays on the History of Pandemics)



Grave at Edix Hill cemetery (6-7th cent. CE) where *Y. Pestis* was identified.

“ Begun during the covid pandemic, my review essay on pandemics in the ancient Mediterranean world finally took officially published form in Isis late last year. The focus is on the three largescale epidemic episodes of classical antiquity which have attracted most of the scholarly attention so far: the ‘Plague of Athens’, in the fifth century BCE; the ‘Antonine Plague’ which spread across the Roman Empire in the late second century CE; and the ‘Justinianic Plague’ which first engulfed the Mediterranean in the sixth century CE.

All present considerable evidential challenges, and my essay emphasises the importance of new archaeological material and new scientific techniques—the emerging discipline of palaeogenetics—in understanding them, as



C19 print after Sweerts' C17 painting ‘Plague in an ancient city’

well as making the most of more traditional literary sources and the rich remains of ancient medical writings. Analysis of samples from burials in western Europe dating to the time of Justinian’s reign and after have established the presence of *Y. pestis*, the bacterium causing bubonic plague, in a range of settings, for example, and that is only the start. This evidence has to be combined with other sources—written and material—for fuller understandings of the ways microbes and societies have interacted in the past. ”

Lazzarin T, **Chen AS**, Viero DP. [Beyond flood hazard. Mapping the loss probability of pedestrians to improve risk estimation and communication.](#) *Science of the Total Environment*

De Rose SA, Isupov MN, Worthy HL, Stracke C, **Harmer NJ**, Siebers B, Littlechild JA; HotSolute consortium. [Structural characterization of a novel cyclic 2,3-diphosphoglycerate synthetase involved in extremolyte production in the archaeon Methanothermus fervidus.](#) *Frontiers in Microbiology*

Porter A, Godbold JA, **Lewis CN**, Savage G, Solan M, Galloway TS. [Microplastic burden in marine benthic invertebrates depends on species traits and feeding ecology within biogeographical provinces.](#) *Nature Communications*

Flemming, R [Pandemics in the Ancient Mediterranean World.](#) *Isis: Bibliographic Essays on the History of Pandemics*

Francis VI, Liddle C, Camacho E, Kulkarni M, Junior SRS, Harvey JA, **Ballou ER**, **Thomson DD**, Hardwick JM, Casadevall A, Witton J, **Coelho C**. [Cryptococcus neoformans rapidly invades the murine brain by sequential breaching of airway and endothelial tissues barriers, followed by engulfment by microglia.](#) *bioRxiv*

Gow NAR, Casadevall A, Fang W. [Top five unanswered questions in fungal cell surface research.](#) *The Cell Surface*

Roselletti E, Pericolini E, Nore A, Takacs P, Kozma B, Sala A, De Seta F, Comar M, **Usher J, Brown GD, Wilson D**. [Zinc prevents vaginal candidiasis by inhibiting expression of an inflammatory fungal protein.](#) *Science Translational Medicine*

Blower TR, **van Houte S**. [Viruses wrap up bacterial defence systems.](#) *Nature*

Williamson J, **Matthews AC, Raymond B**. [Competition and co-association, but not phosphorous availability, shape the benefits of phosphate-solubilizing root bacteria for maize \(*Zea mays*\).](#) *Access Microbiology*

Parsons RJ, Liu S, Longnecker K, Yongblat K, Johnson C, **Bolaños LM**, Comstock J, Opalk K, Kido Soule MC, Garley R, Carlson CA, **Temperton B**, Bates NR. [Suboxic DOM is bioavailable to surface prokaryotes in a simulated overturn of an oxygen minimum zone, Devil’s Hole, Bermuda.](#) *Frontiers in Microbiology*

McCammon, S, Makarovs, K, **Banducci S, Gold V**. [Factors of Prescribing Phage Therapy among UK Healthcare Professionals: Evidence from Conjoint Experiment and Interviews.](#) *SSRN*

Stevens D, **Banducci S**, Horvath L. [Authoritarianism, perceptions of security threats and the COVID-19 pandemic: A new perspective.](#) *Politics and the Life Sciences (CUP)*

Vargha D, Wilkins I. [Vaccination and Pandemics.](#) *Isis: Bibliographic Essays on the History of Pandemics*

Publications contd

Douglas EJA, Marshall B, Alghamadi A, Joseph EA, **Duggan S**, Vittorio S, De Luca L, Serpi M, Laabei M. Improved Antibacterial Activity of 1,3,4-Oxadiazole-Based Compounds That Restrict Staphylococcus aureus Growth Independent of LtaS Function. *ACS Infectious Diseases*

Nikolic N, Anagnostidis V, **Tiwari A**, **Chait R**, **Gielen F**. Droplet-based methodology for investigating bacterial population dynamics in response to phage exposure. *Frontiers in Microbiology*

Lo Iacono G, Cook AJC, Derks G, **Fleming LE**, French N, Gillingham EL, Gonzalez Villeta LC, Heaviside C, La Ragione RM, Leonardi G, Sarran CE, Vardoulakis S, Senyah F, van Vliet AHM, Nichols G. A mathematical, classical stratification modeling approach to disentangling the impact of weather on infectious diseases: A case study using spatio-temporally disaggregated Campylobacter surveillance data for England and Wales. *PLoS Comput Biol.*

Kovács-Simon A, **Fones HN**. Use of chitin:DNA ratio to assess growth form in fungal cells. *BMC Biology*

Tiwari A, **Nikolic N**, Anagnostidis V, **Gielen F**. Label-free analysis of bacterial growth and lysis at the single-cell level using droplet microfluidics and object detection-oriented deep learning *Frontiers in Lab on a Chip Technologies*

Purtova N, **Pierce RL**. Citizen scientists as data controllers: Data protection and ethics challenges of distributed science. *Computer Law and Security Review*

Hinchliffe S. Politics, Space and the More-than-Human Condition. (Chapter). *The Routledge International Handbook of More-than-Human Studies*

Hinchliffe S, Bard A, **Chan KW**, Adam K, Bruce A, Reyher K, **Buller H**. Regulating antimicrobial resistance: market intermediaries, poultry and the audit lock-in. *Agriculture and Human Values*

Vos M, **Padfield D**, Quince C, Vos R. Adaptive radiations in natural populations of prokaryotes: innovation is key. *FEMS Microbiology Ecology*

Risely A, Newbury A, Stalder T, Simmons BI, Top EM, **Buckling A**, **Sanders D**. Host-plasmid network structure in wastewater is linked to antimicrobial resistance genes. *Nature Communications*

Avelar GM, Pradhan A, **Ma Q**, **Hickey E**, **Leaves I**, Liddle C, Rodriguez Rondon AV, Kaune A-K, Shaw S, Maufrais C, Sertour N, Bain JM, Larcombe DE, de Assis LJ, Netea MG, Munro CA, Childers DS, Erwig LP, **Brown GD**, **Gow NAR**, Bougnoux M-E, d'Enfert C, **Brown AJP**. A CO₂ sensing module modulates β -1,3-glucan exposure in Candida albicans. *mBio*

Pinotti F, Giovanetti M, de Lima MM, de Cerqueira EM, Alcantara LCJ, Gupta S, **Recker M**, Lourenço J. Shifting patterns of dengue three years after Zika virus emergence in Brazil. *Nat Communications*

Gifford A, Jayawardena N, Carlesse F, Lizarazo J, McMullan B, Groll AH, **Warris A**. Pediatric Cryptococcosis. *Pediatric Infectious Disease Journal*

Reports, Policy Briefs



[Review: approaches to monitoring and surveillance of antimicrobial resistance in bathing waters - EA, Oct 2023](#)



[10th ESPAUR Report - UKHSA, Nov 2023](#)



[Third UK One Health Report \(HM Government, Nov 2023\)](#)



[People-centred approach to addressing antimicrobial resistance in human health \(WHO, Oct 2023\)](#)



[Prevention and control of microbiological hazards in fresh fruit and vegetables WHO, December 2023](#)



[Water Quality Report 2023, Surfers Against Sewage, November 2023](#)

Other publications

Interdisciplinarity

Qi, F, Zhou, H, Sun, B et al. [Facilitating interdisciplinarity: the contributions of boundary-crossing activities among disciplines](#). *Scientometrics* (2024)

McCance, KR, & Blanchard, M [Measuring the Interdisciplinarity and Collaboration Perceptions of U.S. Scientists, Engineers, and Educators](#). *AERA Open*, 10.

Sukristiono, D. [Examining Interdisciplinarity: Interdisciplinary Work Is Not Always Good](#). *Retorik: Jurnal Ilmu Humaniora*

Hesjedal, M. B. (2023). [Socializing Scientists into Interdisciplinarity by Placemaking in a Multi-sited Research Center](#). *Science, Technology, & Human Values*

Policy studies

Brenton S, Baekkeskov E & Hannah A [Policy capacity: evolving theory and missing links](#). *Policy Studies*

Zhelyazkova A, Thomann E, Ruffing E & Princen S [Differentiated policy implementation in the European Union](#), *West European Politics*

AI and Data Science

Hasselgren C & Oprea TI. [Artificial Intelligence for Drug Discovery: Are We There Yet?](#) *Annual Review of Pharmacology and Toxicology*

Harfouche AL, Petousi V, Jung W. [AI ethics on the road to responsible AI plant science and societal welfare](#) *Land Economics*