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ANTIMICROBIAL RESISTANCE ALLIANCE

November 2025 Newsletter

Overview

Welcome to the November edition of the GW4 AMR Alliance Newsletter, featuring updates, opportunities, and achievements from our cross-institutional AMR research community.

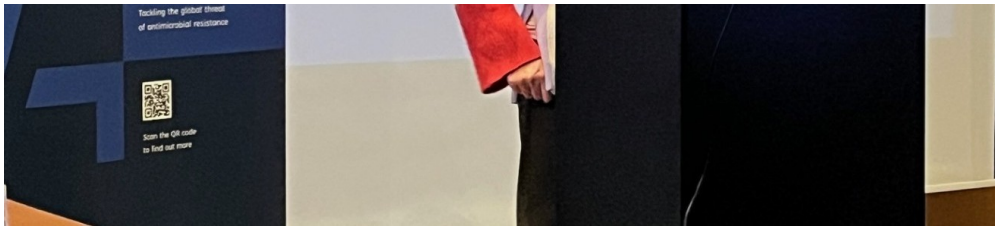
- [GW4 AMR Alliance News](#)
- [Funding](#)
- [PhD opportunities in Environmental AMR](#)
- [Sector News](#)
- [Highlighted Publications](#)

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GW4 AMR Alliance News





(Image credit - Claire Spreadbury)

Diverse disciplines foster collaboration at the GW4 AMR Alliance Networking and Bid Development Workshop

Our workshop took place on 20 November, during World AMR Awareness Week (18–24 November 2025), aligning well with the global focus on antimicrobial resistance.

Over 70 researchers and final year doctoral students from across the GW4 universities, as well as colleagues from the NHS, attended creating a rich and diverse environment for discussion and starting new collaborations.

Our new GW4 Director, [Melanie Knetsch](#), opened the event and highlighted the critical global threat of AMR and emphasised the importance of interdisciplinary, cross-institutional collaboration in shaping meaningful responses to AMR.

Read more in the GW4 news article below:

[Read more](#)



(Image credit - GW4 Alliance)

GW4 AMR Alliance Research Showcased at GW4's Parliamentary Reception

On 29 October, GW4 showcased its research and innovation at a Westminster reception sponsored by Filton and Bradley Stoke MP, Claire Hazelgrove (pictured). The event highlighted examples of the collaborative approach that GW4 has taken to nurturing its

research communities and demonstrate how our innovation ecosystem across South-West England and South Wales can work with governments on both sides of the border to deliver on the UK government's missions.

The University of Bath's **Dr Neil Brown** (AMR Alliance Steering Group member) and **Dr Lauren Cowley** exhibited their work under a 'Microbial Threats to National Security' theme which aligns with the government's 'Stronger Foundations' mission (which includes national security). Dr Brown discussed his work on fungal resistance in relation to food security (crop spoilage) and the presence of fungal mycotoxins in food such as wheat products and the threat that represents to human health and biosecurity. Dr Cowley represented the work of the [GW4 AMR in Conflict and Security \(ARCS\)](#) 2025 Generator Award community where she is a Co-investigator (the project team is led by **Dr Alex Tasker** at Bristol),

More on the showcase event [here](#) and a video capturing the highlights is well worth watching by clicking the link below:

[Video highlights](#)

[Funding News](#)



GW4 Generator Fund – Up to £20,000 Available

Deadline 2 February 2026

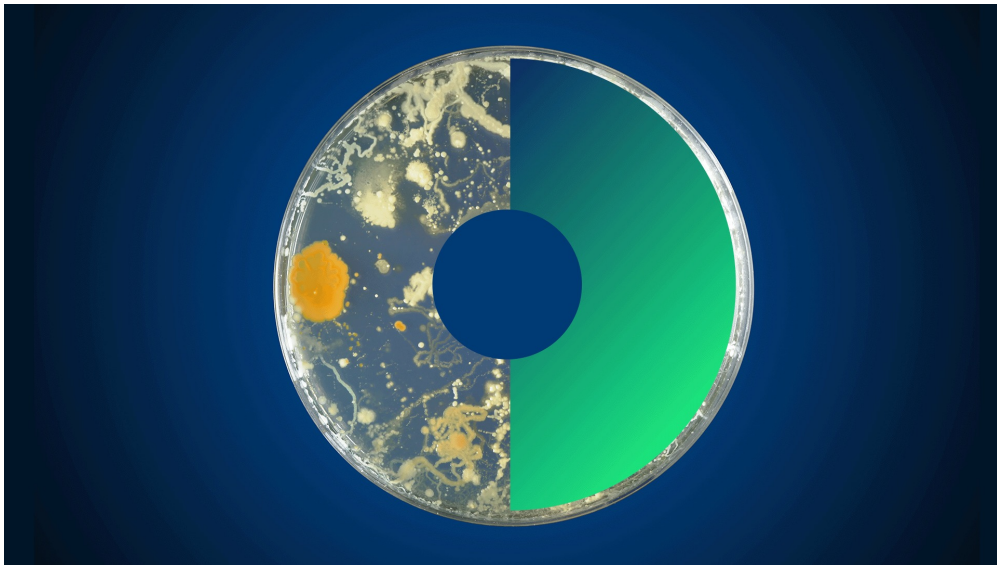
The [GW4 Building Communities Generator Fund](#) is now open, offering up to £20,000 to support innovative research and collaborative communities across the GW4 Alliance: Bath, Bristol, Cardiff, and Exeter.

The fund supports both new and existing GW4 communities working to address major research or societal challenges. Applications are welcome from any discipline, and Early Career Researchers (ECRs) are especially encouraged to apply.

Funding can be used independently or alongside other sources, helping communities take the next step toward securing external funding.

Further information and how to apply below:

[How to apply](#)



(Image credit - JPIAMR)

European Partnership on One Health AMR Joint Transnational call - 'Treatments and Adherence to Protocols'

Pre-proposal deadline 2 February 2026

This first EUP OHAMR call aims to improve the treatment success rates of the patients, animals, plants affected by bacterial or fungal infections by providing new treatment options while reducing the risk of resistance in the different One Health settings, There are 3 topics within the call.

The call will follow a two-step evaluation process: Submission of a pre-proposal; successful consortia will be invited to submit a full proposal (17 June 2026).

For all call details and how to apply, please see below:

[**Further information**](#)

PhD opportunities





(Image credit - University of Exeter at Penryn)

Environmental AMR PhD opportunities offered by the NERC GW4+ DLTP and the NERC RED-ALERT CDT

Deadlines - 8 January 2026 (for NERC GW4+) and 16 January (RED-ALERT)

Environmental AMR PhD opportunities to highlight to your final year undergraduates and Masters PGRs for a September 2026 entry, please.

NERC GW4+ DLTP:

[Assessing microplastics as drivers of antimicrobial resistance selection and spread in wastewater systems](#) with CASE support from Wessex Water

Based at the University of Exeter with Dr Aimee Murray, co-supervised by Prof Angus Buckling, Prof Penelope Lindeque (PML), Prof Barbara Kasprzyk-Hordern (University of Bath) and Ms Megan Robertson (Wessex Water).

[Understanding selective concentrations in different communities of bacteria](#)

Based at the UK Centre for Ecology and Hydrology (UK CEH) with Dr Isobel Stanton, co-supervised by Dr Aimee Murray (Exeter), Dr Dominic Brass and Dr Bethan Purse at UKCEH.

[Environmental Dimensions of Multidrug Resistance Exploring Ecology, Evolution and Human Exposure Risks](#)

Based at the University of Exeter with Dr Anne Leonard, co-supervised by Dr Aimee Murray and Prof Will Gaze (Exeter)

[Understanding The Spread of Antimicrobial Resistance by Migratory Birds](#)

Based at University of Exeter with Dr Xavier Harrison and Prof Stu Bearhop

[Understanding selective concentrations in different communities of bacteria](#)

Based at UK CEH with Dr Isobel Stanton, co-supervised by Dr Aimee Murray (Exeter), Dr Dominic Brass and Dr Bethan Purse (UK CEH).

[Evaluating bathing water quality indicators as proxies for antimicrobial resistance- implications for public health risk assessments](#) with CASE support from Wessex Water

Based at UK CEH with Dr Holly Tipper, co-supervised by Dr Anne Leonard (Exeter) and Dr Daniel Read (UK CEH)

RED-ALERT CDT (NERC Centre for Doctoral Training in Real-Time Digital Water-Based Systems):

[The emergence of antimicrobial resistance in wastewater](#)

Based at the University of Bath with Prof Ed Feil, co-supervised by Dr Aimee Murray (Exeter), Prof Andrew Preston (Bath) and Prof Tiffany Taylor (Bath)

[Understanding the impact of chemical mixtures on antimicrobial resistance in freshwater ecosystems](#)

Based at the UK CEH with Dr Isobel Stanton, co-supervised by Dr Aimee Murray (Exeter), Prof Barbara Kasprzyk-Hordern (University of Bath).

[Impact of Sewage on Antimicrobial Resistance \(AMR\) and Pathogens in River](#)

[Environments](#)

Based at UK CEH with Dr Holly Tipper, co-supervised by Dr Isabelle Durance (Cardiff University) and Dr Daniel Read (UK CEH)

Other AMR studentships

A reminder that studentship applications for the [BBSRC SWBio DTP](#) close on **Wednesday 3 December at 11:59am**. Many AMR and AMR-related PhD projects are offered there too.

[Sector News](#)

English surveillance programme for antimicrobial utilisation and resistance (ESPAUR) Report 2024 to 2025

The annual ESPAUR report was published this month by the UK Health Security Agency. It is a concern that the incidence of resistant infections is rising in England with a 22.7% increase in a selected set of antibiotic resistant infections (in the year 2024-2025 compared to 2019-2020). The report suggests that there is still work to do regarding the responsible use of antibiotics and other antimicrobials to help curb consumption and the emergence of resistance.

Access the full report below:

[ESPAUR report](#)

[Highlighted Publications](#)



Highlighting newly published research from current PGRs on our regional doctoral training programmes and those who have recently completed

PhD's

Further work from Bristol's **Jordan Sealey's** PhD (undertaken in the Medical Research Foundation National PhD Training Programme in AMR), identified that *E. coli* resistant to nitrofurantoin - the front line antibiotic used to treat urinary tract infections - are excreted by dogs fed raw meat. Jordan also found nitrofurantoin resistant bacteria in raw poultry and showed there are multiple nitrofurantoin resistant clones circulating in poultry and some of these have also caused human infections.

A first paper from **Lisa Moiseienko's** PhD as part of the BBSRC SWBio DTP at Bristol, has showed that plasma activated water kills bacteria. This work was led by Lisa's co-supervisor at the University of the West of England.

Neil Byrnes, a doctoral candidate in the University of Bath's CDT in Sustainable Chemical Technologies undertook research whereby antimicrobial residues were quantified in paired hospital and municipal wastewater samples from sewersheds across Wales. Antimicrobial concentrations presented a significant risk for antimicrobial resistance emergence, and potential for environmental harm. Hospitals were identified as a hot spot for AMR emergence highlighting the need for comprehensive national action.

Work by **Emily Stevenson** (who completed her PhD this year at Exeter and Plymouth Marine) published on exploring AMR in biofilms in the environment has also been featured in [The Conversation](#) this week as an article entitled '[Plastic 'bio-beads' from sewage plants are polluting the oceans and spreading superbugs – but there are alternatives'](#)

All the research papers are listed and can be read below in the 'More Publications' section

More Publications

Title: Poultry-associated nitrofurantoin-resistant and pre-resistant *Escherichia coli* clones are found in multiple countries and one-health compartments

Authors: Jordan E. Sealey, Beth Astley, Oliver Mounsey and Matthew B. Avison

Journal: *One Health*. 2025 Oct 13;21:101241

[Read the research paper](#)

Title: Effect of plasma-activated water against *E. coli* and *S. aureus*: Influence of organic matter and impact on skin cell viability.

Authors: Moiseienko Y, Shahbaz HM, Saad S, Avison MB and Stratakos AC.

Journal: *Appl Microbiol Biotechnol*. 2025 Nov 10;109(1):244.

[Read the research paper](#)

Title: Assessing the risk of antimicrobial resistance and potential environmental harm through national-scale surveillance of antimicrobials in hospital and community wastewater.

Authors: Byrnes, N. A.; Silvester, R.; Cross, G.; Weightman, A. J.; Jones, D. L. and Kasprzyk-Hordern, B.

Journal: *Environ. Int.* Aug. 2025, 202.

[Read the research paper](#)

Title: Sewers to Seas: exploring pathogens and antimicrobial resistance on microplastics from hospital wastewater to marine environments

Authors: Emily M. Stevenson, Angus Buckling, Matthew Cole, April Hayes, Penelope K. Lindeque and Aimee K. Murray

Journal: *Environmental International*, Vol. 206, December 2025, 109944

[Read the research paper](#)

This paper based on work funded by an MRC CARP award to Philip Williams shows how community AMR surveillance data can be used to predict which antibiotic to use for empirical treatment of pyelonephritis following therapeutic failure for the UTI that resulted in the more serious infection. This work demonstrates significant cross resistance between UTI and pyelonephritis antibiotics which is being followed up by new GW4 BioMed MRC DTP PhD student Kezia Taylor.

Title: Co-resistance between oral antibiotics for pyelonephritis and those for cystitis-applying an escalation antibiogram model to local community data

Authors: Williams P, Barton E, Bhambhani R, Gorman L, Dowsey AW and Avison MB

Journal: JAC Antimicrob Resist. 2025 Nov 10;7(6):dlaf204

[Read the research paper](#)

Onychomycosis is hard to treat because drugs poorly penetrate the nail plate. The authors discovered that hydrogen sulfide (H₂S), delivered via a soluble donor, kills common nail pathogens, including fungi and bacteria that are resistant to antimicrobials. Unlike current treatments, H₂S rapidly penetrates nails, offering a promising approach for a novel onychomycosis therapy.

Title: Antimicrobial effects and mechanisms of hydrogen sulphide against nail pathogens

Authors: Ho, F.K.H., Al-Tabtabai, A., Nasereddin, S.M. Malallah, O.S. Lindsay, M.A. Jones, S.A. and Bolhuis, A

Journal: *Sci Rep* 15, 38241 (2025)

[Read the research paper](#) and the [Press release](#)

Thanks for reading! The next AMR Alliance Newsletter will be sent out in **December**. If you would like to feature an event, research story, award or opportunity in this newsletter, please email amr@gw4.ac.uk



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