AMR@LEEDS

NEWSLETTER FEBRUARY 2024

Member News

India-UK Tackling AMR in the Environment

Dr Laura Carter co-organised a programme meeting with project teams from the India-UK Tackling AMR in the Environment from Antimicrobial Manufacturing Waste Programme. Project teams met in Mumbai, India at IIT Bombay and were hosted by Prof Soumyo Mukerkji and Prof Suprana Mukerji (28th November – 5th December 2024). Over 50 participants joined in person from the five projects (SELECTAR, AMRFlows, RESPHARM, AMRWATCH and AMSPARE) for three days of project updates, discussion about shared challenges and opportunities for collaboration and networking.

The programme meeting was then followed by a India Stakeholders' Workshop where we were joined by representatives from civil society organisations, industry, regulators and the health sector. Each project delivered an overview of key research findings which provided the basis for wider group discussions with stakeholders. The programme's next steps are coordinating a global stakeholders forum and working to map research outputs to stakeholder priorities while identifying the most appropriate dissemination mechanisms.

The Department of Applied Mathematics Exploring the Dynamics of AMR in Fluctuating Environments

Dr Lluís Hernández-Navarro, Matthew Asker, ProfAlastair M. Rucklidge, and Prof Mauro Mobilia from the Department of Applied Mathematics have been at the forefront, contributing two significant studies to AMR research.

The first study, published in the Journal of the Royal Society Interface, explores the eco-evolutionary dynamics of antimicrobial-resistant and sensitive microbial populations in fluctuating environments. This research provides critical insights into how environmental changes impact the coexistence and survival of different microbial strains. This work is part of the DMS-EPSRC project "Eco-evolutionary dynamics of fluctuating populations." More information can be found on their website and updates are regularly posted on Matthew Asker's Twitter handle @askermatthew.

The second study delves into eco-evolutionary dynamics of cooperative antimicrobial resistance in a population of fluctuating volume and size. This research examines the impact of environmental and demographic variability on the evolution of AMR.

SAVE THE DATE for our ECR Event on 13 March from 9:30 am to 1:00 pm at School of Design Grass Studio. We will be sending out more information on the event soon.

Advancements in AMR Strategy: Insights from Research and Workshops in Latin America

Dr Paula Avello has been actively contributing to the field of antimicrobial resistance (AMR) research and policy development. She recently had a manuscript titled "National action plans on antimicrobial resistance in Latin America: an analysis via a governance framework" published in Health Policy and Planning. This research focused on assessing 11 Latin American national action plans (NAPs) related to AMR between 2015 and 2021. Findings revealed a high alignment with the strategic objectives of the global action plan (GAP) on AMR, but noted discrepancies in the corresponding actions. It also highlighted the importance of addressing governance aspects, particularly in monitoring and assessment, to strengthen AMR strategies in Latin America.

Additionally, Paula organised two workshops in Argentina in November as part of the IAA project on "Fighting antimicrobial resistance: alternatives to antimicrobials for poultry production from technical, economic, and regulatory perspectives." Workshop 1 focused on policymaker engagement, discussing policy aspects of AMR in Latin America. Workshop 2 targeted farmer engagement, emphasising an approach to developing AMR scientific evidence in Agri-systems. Dr. Mariano E Fernández Miyakawa from the Instituto Nacional de Tecnología Agropecuaria (INTA/CONICET), Argentina, played a key collaborative role in the organisation of these workshops.

FUNDING CALLS AND UPCOMING CONFERENCES

1. The Joint Programming Initiative on Antimicrobial Resistance (JPI AMR) has launched its new transnational call entitled 'Interventions Moving Forward to Promote Action to counteract the emergence and spread of bacterial and fungal resistance and to improve treatments' (AMR Interventions 2024).

2. The Global Health European and Developing Countries Clinical Trials Partnership 3 Joint Undertaking (GH EDCTP3 JU) has released its Work Programme for 2024

3. Antimicrobial Resistance – Genomes, Big Data and Emerging Technologies Conference at the Wellcome Genome Campus 13–15 March 2024

Antibiotics don't cure toothache: A spotlight on antimicrobial resistance in Indian dental care

Check out our latest blog post by Dr Vishal Aggarwal, Clinical Associate Professor in Acute Dental Care and Chronic Pain, School of Dentistry, detailing a pivotal study led by a multidisciplinary team at the University of Leeds. The research uncovers widespread inappropriate antibiotic prescribing practices among dentists in India, a trend that strays significantly from established global standards. In response to these findings, we are actively developing targeted interventions in collaboration with Bharat Institute of Higher Education and Research (BIHER). These interventions are designed to steer dental practitioners towards more appropriate antibiotic usage. This effort is not just critical in mitigating antimicrobial resistance (AMR) in India, but it also holds the potential to profoundly influence AMR policies worldwide, particularly in low and middle-income countries.

RECENT PUBLICATIONS FROM AMR@LEEDS MEMBERS

1. Asker, M., Hernández-Navarro, L., Rucklidge, A. M., & Mobilia, M. (2023). Coexistence of Competing Microbial Strains under Twofold Environmental Variability and Demographic Fluctuations. New Journal of Physics, 25(12), 123010.

2. Ahmed, I., King, R., Akter, S., Akter, R., & Aggarwal, V. R. (2023). Determinants of antibiotic self-medication: A systematic review and meta-analysis. Research in Social and Administrative Pharmacy, 19(1), 1007-1017.

3. Parajuli, A., Garbovan, L., Bhattarai, B., Arjyal, A., Baral, S., Cooke, P., ... & King, R. (2024). Exploring community insights on antimicrobial resistance in Nepal: a formative qualitative study. BMC Health Services Research, 24(1), 1-12.

4. Mitchell, J. (2023). Antimicrobial resistance (AMR) as a form of human–wildlife conflict: Why and how nondomesticated species should be incorporated into AMR guidance. Ecology and Evolution, 13(9), e10421.

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