



Transmission of antimicrobial resistance in different settings: priorities for a Pan-European multidisciplinary approach

Hosted by the UK Medical Research Council and the UK Science and Innovation Network in association with the Joint Programming Initiative on Antimicrobial Resistance

Delegates Information Pack

Monday 12th October 2015

**British Embassy, Wilhelmstrasse 70, 10117
Berlin, Germany**



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Workshop Information

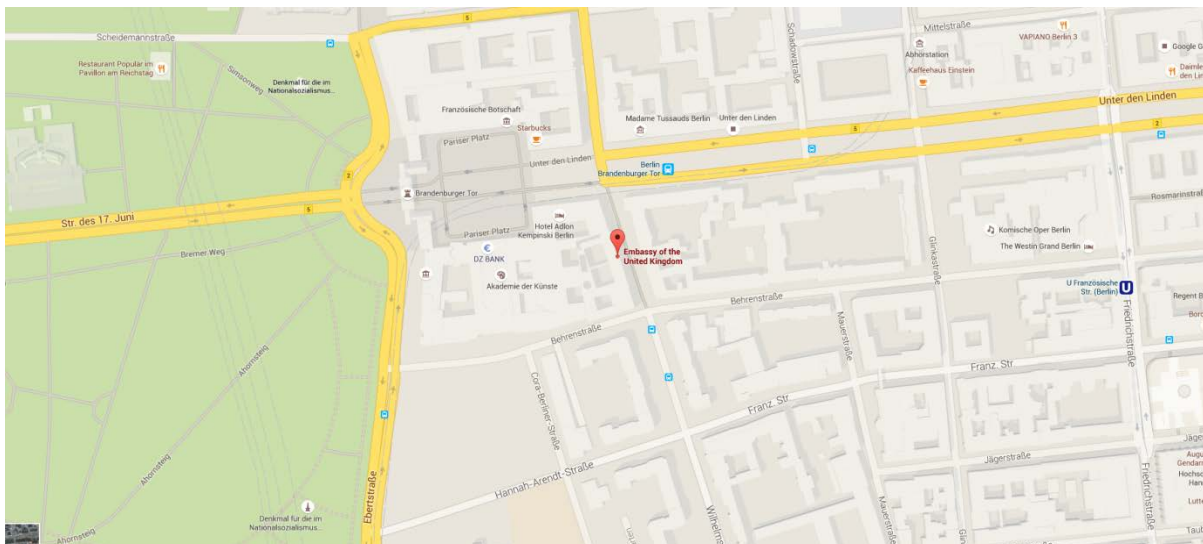
Date: Monday 12th October 2015

Time: 10:00 – 16:45

Venue: British Embassy, Wilhelm Strasse 70, 10117 Berlin

Security: All visitors to the embassy will have to go through the security checkpoint at the entrance. Please ensure you have photo identification and co-operate with the security team as they conduct their checks which should only take a few minutes. The security measures in place are for the benefit of visitors and staff.

Public transport: The underground line U55, and S-Bahn numbers S1, S2, S25 will take you to the embassy. The nearest stop is Brandenburger Tor. Bus number TXL (to and from Tegel airport) and 200 also stop near the embassy.



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Welcome and Background to the Workshop

Thank you for attending the Workshop on the Transmission of Antimicrobial Resistance (AMR) hosted by the UK Medical Research Council (MRC) and the UK Science and Innovation Network (SIN) in association with the Joint Programming Initiative on Antimicrobial Resistance (JPIAMR).

About the MRC

The MRC is one of seven research councils in the UK responsible for investing public money in research to advance knowledge and generate new ideas, leading to a productive economy, healthy society and contributing to a sustainable world. The research councils, along with other UK funders, have been working together to identify a number of research opportunities and challenges to tackle the rise in AMR.

A new [cross-council initiative](#)¹ was launched in June 2014 and identified four key themes to target current and future investments in AMR. These themes will foster collaboration between diverse disciplines, share information across the public and private sector, allow access to tools, compound libraries, datasets and screens to acquire new insights into the emergence and spread of antibiotic resistant bacteria, the evolution of resistance and to drive the discovery of new diagnostic, preventative and therapeutic strategies for bacterial infections particularly antibiotic resistant strains.

The four themes identified were:

Theme 1: Understanding resistant bacteria

Theme 2: Accelerating therapeutic and diagnostics development

Theme 3: Understanding the real world interactions

Theme 4: Behaviour within and beyond the health care setting

Activities are on-going under all themes; more information can be found in the link below.

The MRC represent the UK on the JPIAMR and is an active member of its management board and steering committee.

¹ <http://www.mrc.ac.uk/research/initiatives/antimicrobial-resistance/tackling-amr-a-cross-council-initiative/>

About the UK SIN

The [UK SIN](#)² is jointly funded by the Department for Business, Innovation and Skills and the Foreign & Commonwealth Office. SIN has 93 staff, based at diplomatic missions in 28 countries and 47 cities around the world. SIN teams work closely with UK stakeholders and partners to achieve the following global objectives:

- influence science and innovation policies of governments, industry and academia to benefit the UK
- improve UK policy based on international experience and emerging opportunities and issues
- encourage high level science co-operation to benefit the UK and achieve wider policy objectives
- make best use of international technology co-operation and investment to grow UK innovation potential

About the JPIAMR

AMR is a global and multifaceted problem demanding comprehensive and creative solutions, which require actions from many sectors of society. The JPIAMR was established in 2011 to address the major societal challenge presented by resistant bacteria. This initiative brings together 19 member countries, comprising of 17 European countries (Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Italy, the Netherlands, Norway, Poland, Romania, Spain, Sweden, Switzerland, Turkey, the United Kingdom), Canada, and Israel, and 2 observers, Estonia and Argentina.

Based on an agreed vision on how the major societal challenge of AMR can be addressed, the JPIAMR launched its [Strategic Research Agenda](#)³ (SRA) in April 2014. This is a dynamic framework upon which the JPI will launch joint actions and guide research activity and investment to reduce the burden of AMR by 2040. Six priority topics are identified in the SRA (Figure 1), one of these priority topics being transmission.

² www.gov.uk/government/world/organisations/uk-science-and-innovation-network

³ http://www.jpiamr.eu/wp-content/uploads/2014/05/SRA1_JPIAMR.pdf

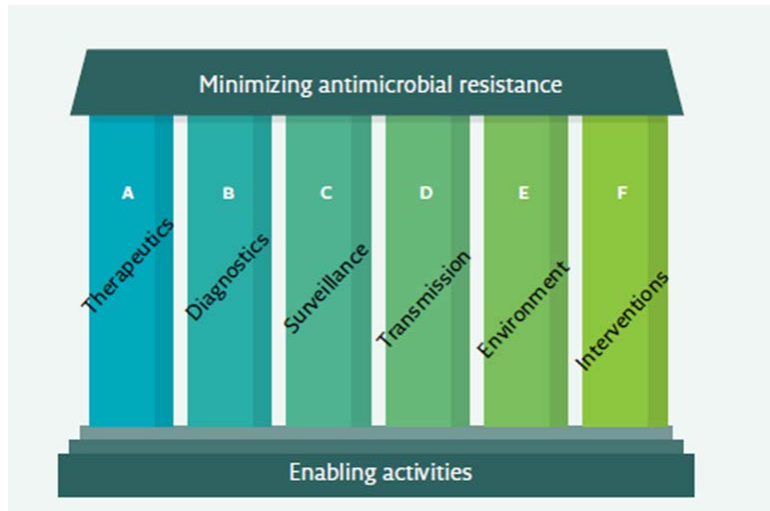


Figure 1: A schematic outline of the priority topics identified in the JPIAMR Strategic Research Agenda.

Agenda

- 10:00 **Registration, Tea and Coffee**
- 10:30 Welcome, Sir Sebastian Wood, British Ambassador to Germany
- 10:35 Introduction from the Chair
Professor Bruno Gonzalez-Zorn, Complutense University, Spain
- 10:50 Short talk 1 – Transmission of AMR within the hospital setting
Professor Mike Sharland, St George's University Hospitals, UK
- 11:10 Short talk 2 – Large scale transmission dynamics of ABR organisms through national health care networks
Professor Hajo Grundmann, University of Groningen, Netherlands
- 11:30 **Break**
- 11:45 Breakout session 1 and feedback from session
- Identifying the research challenges and opportunities of AMR transmission:**
1. *What are the biggest challenges that exist for AMR transmission? (outdoor/indoor/host environment)*
 2. *What research questions still need to be answered?*
 3. *What areas need to be addressed?*
- 13:05 *Professor Dame Sally Davies, Chief Medical Officer, UK*
- 13:15 **Networking lunch**
- 14:00 Short talk 3 – Knowledge gaps in understanding AMR dissemination in the environment
Professor Liz Wellington, University of Warwick, UK
- 14:20 Short talk 4 – Transfer of resistance markers between animals and humans
Professor Jaap Wagenaar, Utrecht University, Netherlands
- 14:40 Breakout session 2 and feedback from session
- Embedding a multidisciplinary approach across countries:**
1. *How do you think working across EU states can help research in this area?*
 2. *How can multi-disciplinary working be encouraged?*
 3. *What other resources are required to work cross-discipline?*

- 16:00 **Break**
- 16:15 AMR Initiative – new ways of working
Dr Desmond Walsh, Medical Research Council, UK
- 16:25 Summary of the day and next steps
Professor Bruno Gonzalez-Zorn
- 16:45 **End of Workshop**

Background and Delegates Brief

The MRC and the JPIAMR are committed to coordinating and disseminating research into AMR. As part of this, we have organised this workshop 'Transmission of antimicrobial resistance in different settings: priorities for a Pan-European multidisciplinary approach' with the UK SIN. It will focus on understanding AMR transmission at the genetic, bacterial, animal, human, societal and environmental levels. According to the One Health concept, multiple disciplines are required to work together to identify and characterise the determinants that contribute to the transmission of resistance in and between different reservoirs; including animals, the environment, and people. The aim of this Workshop is to bring together experts from research, policy, healthcare, and industry to identify the research and funding gaps in AMR transmission, and consider how a "One Health" multidisciplinary approach at the research/policy interface could support the design of preventive measures to reduce transmission in humans, animals, and the environment.

The objectives of the Workshop are:

- To identify the challenges and research gaps that need to be addressed to prevent further transmission of AMR pathogens,
- To encourage networking of researchers across different areas with clinicians and policy makers to form strong multi-disciplinary research teams,
- To provide an opportunity to discuss this topic with a view to informing the development of the upcoming JPIAMR Era Net co-fund call which will be launched early 2016.

The day will consist of four short presentations highlighting the problem of AMR transmission at the basic level, in hospital settings, the environment, and between animals and humans. There will be time for questions and further discussion during the two breakout sessions. To maximise the impact of the event, your attendance at all sessions and active participation will be greatly appreciated. We encourage you to come armed with questions and ideas.

The output from this meeting will feed into a report and further activities at national and EU level. The research priorities identified during the day will feed into the call text for the ERA-Net co-fund call between JPIAMR member states and the EC. There is approximately €25 million available for this call which will be launched early 2016.

We thank you in advance for your participation, and we hope it will be an interesting and stimulating day for everyone.

Delegates

Dr Rustam Aminov

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2013 – present: Senior Researcher, Technical University of Denmark.
2012 – 2013: Senior Lecturer, University of the West Indies
2011 – present: Honorary Senior Research Fellow, School of Medicine & Dentistry, Division of Applied Health Sciences, University of Aberdeen, United Kingdom
2002 – 2011: Principal Scientist, then Senior Research Fellow, University of Aberdeen, United Kingdom.
1997-2002: Visiting Assistant Professor, Department of Animal Sciences, University of Illinois, USA

1994 – 1997: Research Scientist, Research Institute of the Society for Techno-innovation in Agriculture, Forestry, and Fisheries (STAFF-Institute), Japan

1993 – 1994: JSPS Fellow, Department of Bioresources, Mie University, Tsu, Japan

1986 – 1993: Research Scientist, Institute of Biochemistry and Physiology of Microorganisms, Russian Academy of Sciences, Puschino, RF

Current projects:

COST Action ES1403: New and emerging challenges and opportunities in wastewater reuse (NEREUS), Management Committee member for Denmark

ISTC project #A-2116: Schiff base cyclic amino acid derivatives for chemoprotection against damaging action of mycotoxins, collaborator.

ISTC project #A2140: Targeted elimination of multidrug-resistant (MDR) Salmonella by bacteriophages, collaborator.

Dr Martin Barth

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I am a trained biologist with a degree in Neuroscience. I studied at the University of Wuerzburg and the State University of New York (SUNY) at Albany; USA. I received my doctorate degree in 1997. Thereafter I worked at the Max-Planck-Institute in Tuebingen. In 2000 I left the academic field and started to work for the Project Management agency DLR-PT on behalf of the Federal Ministry of Education and Research (BMBF). As a scientific officer I worked in different scientific areas, Health research, International Relation with a focus on cooperation with China and, recently, Sustainability Research. Starting on October 1st I work for the health research department

at DLR-PT, specifically for JPI-AMR.

Maike Becker-Krüger

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Becker-Krüger heads the Berlin office of the pharmaceutical and chemical company Merck. Prior to this, she worked in the German Federal Chancellery in the Department for European Affairs where she was responsible for the coordination of European Policy in the German Government and relations with the German Parliament concerning European Policy as well as the Hessian State Chancellery. Becker-Krüger studied International Relations in Chicago and Lugano and received her MBA in Berlin.

Hannah Boley

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Hannah Boley, Science & Innovation Officer, British Embassy Berlin. Hannah works on science and innovation at British Embassy Berlin, reporting on key policy developments within the German research system. She works with partners across Germany and the UK to deliver small projects to build up links between researchers, focusing mainly on life sciences.

Professor Peter Borriello

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Professor Borriello graduated in microbiology and has held a number of senior and national posts in Research Councils academia, public health and animal health. He has published over 350 research papers, is editor-in-chief of two journals which promote submissions from veterinary and human medicine, was the first president of Med-Vet-Net, a European network of human and veterinary institutes, and has held overall national responsibility for antibiotic resistance in both veterinary and human medicine. He is currently Chief Executive of the Veterinary Medicines Directorate and chairs the European Heads of Medicines Agencies' Taskforce on veterinary antibiotic resistance.

Chris Bradley

SIN Germany

Chris Bradley, Science & Innovation Network (SIN) Europe Regional Director: Has been in Berlin since January 2015, heading up SIN across Europe, Turkey and Russia. SIN Germany is her base and a key S&I post for HMG. Since joining FCO in 2001 Chris has mainly covered S&I and other global issues in roles from Policy Planners, to setting up the FCO Chief Scientific Adviser's office and later helping to establish S&I Dept. Her previous posting was to Ankara.

Dr Nick Brown

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Nick Brown is a Consultant Medical Microbiologist at Addenbrooke's Hospital in Cambridge and an Associate Lecturer at the University of Cambridge. He is employed by Public Health England (PHE) and is currently interim Lead Public Health Microbiologist for the East of England. He is the immediate past President of the British Society for Antimicrobial Chemotherapy (BSAC). Nick is closely involved with the Antibiotic Action initiative of the BSAC and is also a member of PHE groups involved with the implementation of the UK Departments of Health strategy to combat antibiotic resistance.

Professor Chris Butler

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Chris Butler is Professor of Primary Care at the Nuffield Department of Primary Care Health Sciences and Director of the Clinical Trials Unit at the University of Oxford. His main research interests are in common infections and health behaviour change.

He trained in Medicine at the University of Cape Town, did doctoral work at the University of Wales College of Medicine, and studied Clinical Epidemiology at The University of Toronto.

Chris has published over 195 indexed papers. He has won over £100M in research and research infrastructure funding.

Chris practices as a general medical practitioner in Mountain Ash, South Wales.

Dr Rob Christley

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I am a Reader in Epidemiology in the Institute of Infection and Global Health, and the School of Veterinary Science, University of Liverpool. I graduated in veterinary science from the University of Sydney (1991) followed by a Diploma of Veterinary Clinical Science (1992), Master of Veterinary Science (1995) and PhD (1999) from the same institution. I am a Diplomate of the European College of Veterinary Public Health (Population Medicine).

I am particularly interested in the intersection between human and animal health, and the impacts of animals on human health and of humans on animal health. My areas of expertise include: Animal health sociology, including veterinary decision making and prescribing; Epidemiology of AMR in animals; Analysis of livestock movement data, focusing on pathogen transmission risks; and, statistical analysis of population data. My approach is cross-disciplinary, drawing on epidemiology, ecology and sociology.

Dr Cristian Coman

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Dr. Cristian Coman is an environmental microbiologist working at the Institute of Biological Research Cluj-Napoca (ICB), Romania since 2007. His research interests are monitoring and reducing antimicrobial resistance in the environment, the microbiology of extreme environments, geomicrobiology, metagenomics.

In 2012 he was awarded a PhD in Biology and in the same year he became Head of the Algology and Microbial Metagenomics Laboratory. Since 2013, he is a member in the Advisory Board at ICB Cluj-Napoca and also a member in the Scientific Council at the NIRDBS Institute, Bucharest.

In 2015 Dr. Coman was the logistic coordinator of the ROICE 2015 expedition to Antarctica and in the same year he received a 1,000,000 Euro grant, financed through the EEA Financial Mechanisms 2009-2014, for the EnviroAMR project (www.enviroamr.ro). EnviroAMR is focused on developing a methodological guide to monitor environmental pollution in Romania with antibiotics and antimicrobial resistant genes and microorganisms.

Dr Teresa Coque

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Teresa Coque, PhD graduated as a Pharmacist (1986) and Clinical Biochemist (1989) and received her PhD in Medical Microbiology (1991) from the Complutensis University of Madrid (Spain). After a postdoctoral training at the Internal Medicine Department in the School of Medicine at the University of Texas at Houston in the USA (1993-1995) and the Center for Emerging and Reemerging Pathogens also at the University of Texas at Houston (1996-97), she returned to Spain in 1998. Currently, she is Senior Research Scientist at the Microbiology Department of the Ramón y Cajal University Hospital within the Division of Microbial Biology and Infections at the Ramón y Cajal Institute for BioHealth Research (IRYCIS) in Madrid (Spain), leading a research group focused on Population Biology of Human Bacterial Pathogens and their Mobile Genetic Elements. Her special interests and expertise include molecular epidemiology, evolutionary biology, and microbial ecology, with emphasis in the genetic bases for transmission of antibiotic resistance and the adaptation of commensal and pathogenic Gram-negative and Gram positive bacteria to different hosts, MGE being a keystone of such interests. Advanced genomics and metagenomics to be applied on diagnosis of antibiotic resistant bacterial pathogens and as predictive markers of infection in the personalized medicine perspective is becoming a priority of the group.

Professor Peter Damborg

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After obtaining the Veterinary Degree in 2004 I completed a PhD on zoonotic enteric bacteria in dogs, and worked as post doc on projects involving antimicrobial resistance in veterinary pathogens. This work and my work as vice head of a veterinary diagnostic laboratory have resulted in several publications on characterization and selection of antimicrobial resistant pathogens of veterinary and zoonotic relevance. Most of my work has been related to companion animals for which limited surveillance of resistance exists compared to humans and food animals. Recently I became secretary of VetCAST, a subgroup of EUCAST aiming to contribute to global standards for antimicrobial susceptibility testing of bacterial pathogens in animals.

Professor Dame Sally Davies

Chief Medical Officer for England and Chief Medical Advisor to the UK Government



Dame Sally became Chief Medical Officer (CMO) for England and Chief Medical Advisor to the UK Government in March 2011, having held the post on an interim basis since June 2010. She retains responsibility for Research and Development, and is the Chief Scientific Adviser (CSA) for the Department of Health. Dame Sally is independent advisor to the Government on medical matters, with particular responsibilities regarding Public Health. She provides professional leadership for Directors of Public Health and has been actively involved in NHS R&D from its establishment and founded the National Institute for Health Research (NIHR). For the

World Health Organization Dame Sally represents the UK on the WHO Executive Board and is chair of the Strategic and Technical Advisory Group on AMR. In March 2013, as CMO, Dame Sally published her 2011 annual report on infectious diseases. The report focused on and brought to light the increasing threat of antimicrobial resistance, calling for national and international action to address the key areas of stewardship, monitoring and surveillance and antibiotic development. Dame Sally has since been advocating globally on this topic: she has spoken on AMR at numerous events, including the WHA side event in May 2013, the G8 Science Ministers' meeting in June 2013, the 2013 Global Health Security Initiative in Rome and a number of Chatham House conferences. She has also raised public awareness of the issue through publication of a Penguin book, the Longitude prize and a TED talk.

Dr Harpal Dhillon

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I have a wealth of experience in antimicrobial stewardship and resistance having completed a PhD in strategies to optimise antibiotic prescribing and working across every sector in antimicrobial related roles. This has culminated in project managing the development of TARGET (<http://www.rcgp.org.uk/TARGETantibiotics>) on behalf of Public Health England and now working for MSD as Medical Advisor for their antibiotic portfolio. I am also Chair or of the Royal Pharmaceutical Society Expert Antimicrobial Committee.

Professor Paul Edelstein

MRC Laboratory of Molecular Biology in Cambridge

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Paul H. Edelstein, M.D. is Director of the Clinical Microbiology Laboratory at the Hospital of the University of Pennsylvania, and a Professor of Pathology and Laboratory Medicine at the Perelman School of Medicine, University of Pennsylvania. He is an infectious diseases internist at the Hospital of the University of Pennsylvania. Currently he is on sabbatical leave at the MRC Laboratory of Molecular Biology in Cambridge, where he is working in the field of mycobacterial host-pathogen interactions and antimicrobial tolerance in tuberculosis. His academic interests include Legionnaires' disease, laboratory detection of antimicrobial resistant bacteria causing community and healthcare-associated infections, treatment of infections caused by antimicrobial resistant bacteria, antimicrobial tolerance of mycobacteria and the laboratory diagnosis of infectious diseases. Professor Edelstein is a Fellow of the Infectious Diseases Society of America and of the American Academy of Microbiology, and a member of the British Society for Antimicrobial Chemotherapy.

Dr Tim Eckmanns

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Tim Eckmanns is trained as a medical doctor and is board-certified in hygiene and environmental health. He also has a Master of Science from the London School of Hygiene and Tropical Medicine and has a Master of Medical Computer Science (MCS) from the Berlin University of Applied Science. Dr. Eckmanns is the head of the Division for healthcare-associated infections, surveillance of antimicrobial resistance and consumption at the Robert Koch Institute, the German national public health institute. He has wide-spread expertise in infectious disease epidemiology, particularly regarding surveillance and hospital-based infections as well as in evidence-based public health. In 2014 and 2015 he was seconded for 11 months to the World Health Organisation working on Ebola from Geneva and in the field in Sierra Leone.

Dr Patriq Fagerstedt

The Swedish Research Council and JPIAMR Secretariat

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Patriq Fagerstedt is Scientific Officer at Secretariat of the Joint Programming Initiative on Antimicrobial Resistance (JPIAMR) where is coordinates the JPI-EC-AMR ERA-NET Cofunded Call of 2016. Dr. Fagerstedt is a microbiologist who received his PhD in Neuroscience from Karolinska Institutet, Stockholm in 2000. He has experience from both academic and pharmaceutical industry research. Before joining the JPIAMR and the Swedish Research Council in 2014 he worked as Senior Grants Specialist and Coordinator of US Grants and Contracts at Karolinska Institutet.

Professor Petra Gastmeier

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Petra Gastmeier was certified as a specialist in Hygiene and Environmental Medicine in 1988. Following several years working as a senior physician at the Institute of Hygiene of the Free University Berlin she was appointed as an associate professor at Hanover Medical School and head of the Division of Hospital Epidemiology in 2000. Since 2008 she is head of the Institute of Hygiene and Environmental Medicine, Charité -University Medicine Berlin. She is an expert on surveillance of nosocomial infections and antimicrobial resistance and has published more than 300 scientific papers and review articles in this field. She is coordinating the work of the German Nosocomial

Infection Surveillance System (called KISS) with data from more than 1400 German hospitals. She is also responsible for the current German national hand hygiene campaign funded by the German Ministry of Health with 900 hospitals participating.

Dr Will Gaze

University of Exeter

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Will Gaze has worked on the environmental dimension of antimicrobial resistance for >10 years, spending many years working at the University of Warwick before moving to the University of Exeter in 2011. He has since developed an active research group focused on the evolution and dissemination of AMR in the environment, with approximately £1 million in current research funding. Work on evolution of resistance at low concentrations is co-funded by the Biotechnology and Biological Sciences Research Council (BBSRC) and AstraZeneca. Research on catchment scale processes that drive evolution and dissemination of resistance is funded by

the Natural Environment Research Council (NERC) under their Environmental Microbiology and Human Health programme. Evolution of resistance in complex communities using simple gut models is the subject of recent Medical Research Council (MRC) / BBSRC co-funded grant, awarded under the UK government's cross-council initiative on antimicrobial resistance as part of the UK 5 year Antimicrobial Resistance Strategy.

Professor Bruno Gonzalez-Zorn

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Prof. Bruno Gonzalez-Zorn is Professor at the Complutense University in Madrid. He gained his DVM in 1996 and his european PhD in 2001. After his Postdoc at the Pasteur Institute in Paris he received a Ramon y Cajal tenure-track contract from the Spanish Ministry of Science to return to Spain. Currently he leads a group working on molecular microbiology and the ecology of antimicrobial resistance in Madrid. His research interests focus on the role and function of small plasmids in antimicrobial resistance, the bacterial SOS-response and the 16S rRNA methyltransferases in pathogenic bacteria. In 2011 he was awarded the bianual Jaime Ferran Award from the Spanish Society for Microbiology.

Dr Marlin Grape

Public Health Agency

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Pharmacist and PhD in Medical Science at Karolinska Institute, Head of the Unit for Antibiotics and Infection control at the Public Health Agency of Sweden. Background in research on genetic determinants and mobile elements for antibiotic resistance dissemination as well as experience from research projects on health communication with a rational drug use perspective addressing health providers and community. Currently responsible for managing national and international Swedish work on containment of antibiotic resistance. This includes surveillance of resistance and antibiotic consumption (human sector in collaboration with animal sector), infection prevention and control and antibiotic stewardship according to an integrated model sometimes known as the Strama model. Also responsible for the Swedish multi-sectorial coordinating mechanism for national AMR-work. International cooperation includes close collaboration with WHO on the development and implementation of a global AMR surveillance system, network coordination in the Baltic region and bilateral collaborations with e.g. China.

Professor Hajo Grundmann

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Hajo Grundmann, studied Sinology, Nursing and Human Medicine at the Universities of Bochum and Freiburg, Germany. He specialised in Clinical Tropical Medicine, Medical Microbiology and Hygiene & Environmental Medicine and received his PhD at the University of Freiburg, Germany and an MSc in Epidemiology of Communicable Diseases at the London School of Hygiene. He worked clinically as a medical doctor at university hospitals in Freiburg, Berlin, and Nottingham and carried out extensive field studies in Taiwan, Venezuela and Tanzania. His major research interests are the molecular evolution, epidemiology, population dynamics and health impact of emerging antimicrobial resistance and health care associated infections.

Professor Laurent Gutmann

JPIAMR Management Board Member, European Hospital Georges Pompidou

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Laurent Gutmann, MD-PhD, Professor of Microbiology, Head of microbiological Laboratory at the European Hospital Georges Pompidou in Paris, He was Head of Reference Center for Pneumococci (France 1999-2011). He is part of an INSERM research unit [UMRS 872] working on the molecular basis of the resistance to antibiotics oriented towards the cell wall targets. He was counsellor of the INSERM director for infectious diseases and microbiology. He is presently member of the board of the French thematic institute IMMI (Microbiology and infectious diseases).

Heike Hammerlehle

SIN Germany

Heike.Hammelehle@fco.gov.uk

Heike Hammelehle, Science & Innovation Network, Project Management: In 2004 Heike joined the British Embassy in Berlin and the Science & Innovation Network. Since 2011 Heike is responsible with the TU (Technical University) Berlin and British Council for the Queen's Lecture (each year a renowned British scientist gives a speech regarding his/her area of expertise). Heike has a commercial background.

Dr Sarah Harding

Medical Research Council

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I work for the Defence Science and Technology Laboratory (Dstl) in the Biomedical Sciences Department, where I technically lead and project manage a number of projects within the Antimicrobials area of the Microbiology group. The aim of this area is to identify and evaluate compounds that have broad spectrum efficacy, both in vitro and in vivo. These range from novel compounds under development to commercial off the shelf products and are made available to us through collaboration with academia and industry, both nationally and internationally. I am currently working at the MRC two days a week helping to organise this workshop and I am involved in other AMR activities on-going within the MRC.

Professor Dag Harmsen

University of Munster

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Dr. Dag Harmsen, MD specialized in Clinical Microbiology and Infectious Disease Epidemiology. In 2004 he was awarded a professorship in the Medical Faculty at the University Münster, Germany. He earned recognition for the first prospective application of benchtop NGS genomics during the 2011 German E. coli STEC O104:H4 outbreak. He is best known for delivering for more than 20 years popular applied microbiology bioinformatics solutions - like spa-typing for MRSA with a global nomenclature SpaServer or the MIRU-VNTRplus service for M. tuberculosis typing. Dr. Harmsen is co-founder (2003), shareholder, and co-managing director of Ridom GmbH (Münster, Germany). From 2005 until 2014 he was a member of the Executive Board of the 'International Committee on Systematics of Prokaryotes' (ICSP) of the International Union of Microbiological Societies (IUMS). Finally, he is a technical advisor for genotyping in and NGS of the European agencies ECDC and EFSA.

Dr Alain Hartmann

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Area of Interest; Environmental spread of ESBL producing E. coli (soil, water, wildlife). Impact of organic waste recycling (animal manure, sludge, etc.) on the dissemination of antibiotic resistant bacteria and antibiotic resistant genes in cropped soils and water resources (surface and underground). Impact of wastewater treatment plant on the contamination of surface waters by antibiotics, antibiotic resistant bacteria and antibiotic resistance genes. Impact of antibiotic release into soil on the evolution of the soil resistome (irrigation with contaminated reclaimed water).

Development of detection methods for ESBL or carbapenemase producing bacteria based on electrochemical sensors.

Dr Ole Heuer

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O.E. Heuer, DVM, PhD, is a senior expert in surveillance of antimicrobial resistance at the European Centre for Disease Prevention and Control (ECDC) and coordinator of the European Antimicrobial Resistance Surveillance Network (EARS-Net). He is responsible for ECDC's collaboration on antimicrobial resistance surveillance between ECDC, EMA and EFSA, and manages cross cutting activities at ECDC involving different surveillance programmes including antimicrobial resistance, healthcare-associated infections and antimicrobial consumption.

Dr Matt Holden

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I started my research career with a PhD at University of Warwick, studying cryptic antibiotic genes, followed by a postdoc at the University of Nottingham, investigating bacterial communication and quorum sensing. In 2000 I joined the The Wellcome Trust Sanger Institute team sequencing and analysing of the genomes of a wide range of bacterial pathogens including *Yersinia pestis*, *Salmonella typhi*, *Streptococcus pyogenes* and *Staphylococcus aureus*. With developments in next generation sequencing, the focus of my work has shifted towards populations studies, investigating genome diversity and pathogen evolution, as well as the application of sequencing in clinical microbiology. In 2013 I moved to the University of St Andrews in Scotland and establish a research group focusing on experimental and translational genomics. My research interests include: the survival and evolution of MRSA, the genetic basis of antibiotic resistance, and the application of genomics in clinical setting to combat healthcare-associated infections.

Dr Joost Hordijk

Utrecht University

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Since 2013 I have a postdoc position as a molecular microbiologist at Utrecht University, faculty of Veterinary Medicine, the Netherlands. I have finished my PhD early 2013. This was a collaborative project of the Central Veterinary Institute of Wageningen UR and Utrecht University (the Netherlands) which focused on molecular epidemiology of quinolone and extended spectrum beta-lactam resistance in veal calves. The main focus of my current work is molecular epidemiology of antimicrobial resistance in animals and plasmid biology. Important issues addressed are dynamics in carriage of resistance determinants in time, attribution studies and the ecology of resistance plasmids. I am currently involved in the EU-FP7 program "ecology from farm to fork of microbial drug resistance and transmission (EFFORT)", a collaboration with the "Colombian integrated program for antimicrobial resistance surveillance (COIPARS) and several national (collaborative) projects.

Professor Alan Johnson

PHE

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Professor Alan Johnson is Head of the Department of Healthcare-associated Infections and Antimicrobial Resistance at the Centre for Infectious Disease Surveillance and Control, Public Health England. He has worked in the field of antimicrobial resistance for over twenty-five years and was previously based in the national Antibiotic Resistance Monitoring and Reference Laboratory before moving to his current post in 2006. He is the PHE Lead for the National Institute for Health Research Health Protection Research Unit (HPRU) in Healthcare Associated Infections and Antimicrobial Resistance at Imperial College London, and is a co-theme lead for the HPRUs at both Imperial College and the University of Oxford. He is also a member of the government Advisory Committee on Antimicrobial Resistance and Healthcare-Associated Infection (ARHAI).

Dr Barbara Junker

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of Dijon, France

Since 2001 I am working at the DLR project management agency in the department of health research. We are managing research and innovation projects mainly for ministries, but also for other public authorities or foundations. I am in charge of national and international projects on infectious diseases and human genomics.

Professional life:

1996 - 2003 habilitation in molecular genetics (mouse models of human diseases), University of Bonn, Germany

1995 postdoc in molecular biology (peroxisomal metabolism), University

Ruth Kelly

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I am the Science Manager for Antimicrobial Resistance (AMR) at the MRC, working on the AMR Cross Council Initiative in the UK and the UK AMR Funders Forum. The MRC represent the UK on the JPIAMR so I am also involved in many activities in this initiative including the JPIAMR-ERA Net co-fund call launching in early 2016. I will be the UK contact point for any scientific and administration queries for this JPIAMR-ERA Net Call.

Dr Joachim Klein

Federal Ministry of Education and Research

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1995 – 1999 Research Assistant German Cancer Research Centre, Heidelberg

1999 – 2001 Research Assistant University Frankfurt

2001 – 2008 Coordinator Research Network RNA-Technologies, RiNA GmbH, Berlin

since 2008 Officer Federal Ministry of Education and Research, Dpt. Life Sciences

since 2014 Deputy Head of Division Health Research

Sofia Kuhn

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Sofia Kuhn works with scientific communication at the Swedish Research Council. She is in charge of awareness raising for the Joint Programming Initiative for Antimicrobial Resistance (JPIAMR). JPIAMR is an international initiative where member countries join forces to fight AMR through effective collaborative actions and joint research funding in areas of unmet needs. Sofia is also head of scientific communication at the European Food Information Council (EUFIC). EUFIC provides science-based information on nutrition and food safety to health professionals and the general public.

Dr Antina Lübke Becker

University of Berlin

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Antina Lübke-Becker is a veterinary microbiologist. She graduated with a veterinary medical degree from the Freie Universität Berlin in 1987, completed her DVM in 1990 and Veterinary Microbiology specialty training in 1992. Currently she is the acting director (ad interim) of the Institute of Microbiology and Epizootics, Centre for Infection Medicine, Department of Veterinary Medicine, Freie Universität Berlin and director of the research group "Infectious Disease Diagnostics and Molecular Epidemiology" with the consultant laboratory for nosocomial infections in veterinary medicine. Her research interests include epidemiology, population structure, evolution and host specificity of zoonotic multidrug-resistant bacteria such as methicillin-resistant staphylococci and *Clostridium difficile*. Ongoing research projects focus also on the rational use of antibiotics and the prevention of zoonotic pathogen transmission.

Alison MacEwen

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Alison MacEwen is Senior Science and Innovation Adviser at the British Embassy in Paris. She has worked for the UK Science and Innovation Network for seven years, promoting research policy exchange and collaboration with France and other European countries in fields as diverse as aerospace, pollinators, dementia, innovation financing and of course AMR!

Dr Jean-Yves Madec

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Jean-Yves Madec DVM, PhD, molecular microbiologist, is currently Research Director at the French Agency for Food, Environmental and Health Safety (Anses) in Lyon, France. He is the national coordinator of all scientific activities dealing with surveillance, reference and research on Antimicrobial Resistance at Anses. He is the Head of the Antimicrobial Resistance and Virulence Unit and his research interests focus on molecular genetics and epidemiology of resistance in Gram negative and Gram positive bacteria of animal origin (commensal, pathogenic, zoonotic) and issues regarding the animal-human transfer of antimicrobial resistance. He is also member of several expert groups and committees on antimicrobial resistance and antibiotics use in animals and humans in France and Europe and is an active participant/leader in recent European scientific projects.

Professor Duncan Maskell

University of Cambridge

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Duncan is the University of Cambridge's Senior Pro-Vice Chancellor (Planning and Resources), the Marks and Spencer Professor of Farm Animal Health, Food Science and Food Safety at the Department of Veterinary Medicine, and a Fellow of Wolfson College. He was awarded his MA (1982) and PhD (1986) from the University of Cambridge, and worked for Wellcome Biotech on vaccines for typhoid and whooping cough before taking up positions at the University of Oxford and Imperial College, London. He returned to Cambridge to his current Professorship in 1996.

Duncan has spent his research career working on bacterial infectious diseases in humans and other animals. He has worked on many different pathogens, using molecular biology and genomics to understand how they interact with their various hosts. This has led to over 230 papers and many collaborations worldwide. He is or has been a member of many different scientific advisory boards, government committees, Research Council grants and strategic committees, and editorial boards, both in the UK and internationally.

Dr Maria Nica

Clinical Hospital of Infectious and Tropical Diseases

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Head of the Microbiology Laboratory of "Dr V. Babes" Hospital of Infectious and Tropical Diseases" Bucharest. As one of the reference infectious diseases clinics in Romania, the hospital is sentinel unit in the national network of the Survey and Control Program of the Nosocomial Infections. Among our main interests in the last 15 years: antibioresistance monitoring regarding various bacterial strains and antibiotics types in south- east county of Romania and also monitoring the incidence of the MDR strains in systemic and nosocomial infections (MRSA, VRE, ESBL, Carba-R, Pseudomonas aeruginosa/ Acinetobacter baumannii MDR/ XDR, Mycobacterium tuberculosis MDR/ XDR, Clostridium difficile).

My projects and research interests in the last 10 years were also manifested by partnership activities in national and international GRANTS (COST B28, FP7, HORIZON 2020). Now we are involved in the construction of a European Research Infrastructure for the management of BSL 4 facilities and emergency situations in Europe, together with other 22 European partners, participating in ERINHA 1 project -FP7-CP-CSA- INFRASTRUCTURES-2010-1 call 6 (01 Nov 2010- 31 Aug 2014) and ERINHA 2 project H 2020-INFRADEV-2-2015 (Jan 2016- Jun 2017)

Dr Elisabeth Page

Canadian Institutes of Health Research

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Elisabeth Pagé is an Associate of Institute Strategic Initiatives at the Institute of Infection and Immunity (III) of the Canadian Institutes of Health Research (CIHR) since June 2015. In this role, she is the co-lead on a number of strategic files, in line with the mandate and research priorities of III, such as Antimicrobial Resistance (AMR), the HIV/AIDS Research Program and the Environments and Health Signature Initiative. As a strategic lead on AMR, she plays a pivotal role in the Joint Programming Initiative on Antimicrobial Resistance (JPIAMR) for III. Elisabeth has also acquired invaluable experience via her work in neurosurgical research as well as in the field of medication market access and evaluation. She has

worked at the Régie de l'assurance maladie du Québec (RAMQ) prior to joining the Institut national d'excellence en santé et en services sociaux (INESSS) for nearly 5 years.

Dr Annalisa Pantosti

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Annalisa Pantosti is Head of the Unit of Systemic and Respiratory Bacterial Infections, at Istituto Superiore di Sanità (ISS), in Rome. In the last twenty years her interest has focused on antibiotic-resistance surveillance and on molecular epidemiology of resistant bacteria, especially Gram-positives pathogens. She is the microbiologist in charge of the national program for antibiotic resistance surveillance and is AMR Focal Point at ECDC. She is PI of projects on antibiotic resistance surveillance funded by the Italian Ministry of Health. Among other activities, she coordinates the national laboratory-based surveillance of invasive pneumococcal infections, acting as the national reference center for serotyping and antibiotic susceptibility testing. She is the main supervisor at ISS of the training program EUPHEM funded and coordinated by ECDC. She is author of more than 100 peer-reviewed scientific publications and act as a reviewer for international microbiology and infectious diseases journals.

Professor Karl Pedersen

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Karl Pedersen, DVM, PhD, DVSc., is professor in veterinary bacteriology. He has been working for several years with bacteria associated with farmed animals – including fish and fur animals – and in wildlife. An important research topic has been foodborne zoonotic bacteria with emphasis on Salmonella and Campylobacter, detection, typing and epidemiology. Current research topics include general clinical veterinary microbiology, diagnostics and antimicrobial resistance in veterinary and zoonotic pathogens with a special interest in LA-MRSA. A recent interest focus is the use of sequencing for investigation of microbiota and whole genome sequencing of pathogens for epidemiological investigation and for identification of virulence and resistance factors.

Professor Tim Peto

University of Oxford

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Tim Peto is a consultant physician in infectious diseases and general medicine. He has had a long research interest in clinical trials and epidemiology and has been an honorary scientist in the MRC Clinical Trials Unit and a member of the Oxford Tropical Medicine Network. He has conducted and overseen large scale international randomized trials in HIV, malaria, tuberculosis and meningitis for the MRC and Wellcome Trust. In the last 10 years he has been co-director of the Infection Theme of the Oxford NIHR Biomedical Unit and is an honorary consultant in Public Health England. He has developed the use of Whole Genome Sequencing to understand the transmission and resistance mechanisms of major pathogens including tuberculosis, Staphylococcus aureus, Clostridium difficile and gram-negative bacteria. Current studies include looking at the mechanism of spread of the carbapenemase-resistant enterobacteriaceae in collaborative studies in humans and animals in UK, US and SE Asia.

Professor Dirk Pfeiffer

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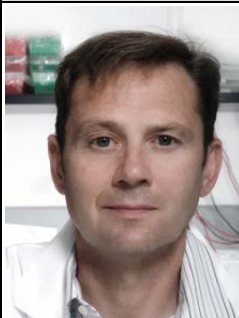
Dirk Pfeiffer graduated in Veterinary Medicine at the Justus-Liebig University, Giessen, Germany in 1984, followed by a Dr.med.vet in 1986 at the same university. He obtained his PhD in Veterinary Epidemiology from Massey University, Palmerston North, New Zealand in 1994, and worked as an academic in New Zealand for 9 years. He has been holding the Chair in Veterinary Epidemiology at the Royal Veterinary College (RVC) since 1999. Dirk is the Head of both the Veterinary Epidemiology, Economics & Public Health Group and the FAO Reference Centre for Veterinary Epidemiology at the RVC. In addition, Dirk has now taken on

the role of Chief Epidemiologist at UK Defra's Animal and Plant Health Agency in Weybridge, UK. He teaches epidemiology at undergraduate and postgraduate levels and international training courses in veterinary epidemiology, risk analysis and spatial analysis. Dirk provides scientific expertise to various national and international organisations.

Dr Johann Pitout

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Dr Johann Pitout is a Medical Microbiologist and Professor at the University of Calgary and Calgary Laboratory Services since 2002. His main research interests are resistance to antimicrobial agents among Gram-negative bacteria especially the laboratory detection, characterization and molecular epidemiology of bacteria with newer β -lactamases such as AmpC, Extended-spectrum β -lactamases and Carbapenemases. He has also been involved in population-based surveillance studies and the role of high risk clones among bacteria producing these newer types of β -lactamases. He has published over 1 20 papers in this field.

Professor Marie-Cecile Ploy

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Marie-Cécile Ploy, PharmD, PhD at the University of Limoges in France. She is professor of Microbiology at the University of Limoges since 2005. She is head of the microbiology department at the Limoges university hospital since 2008. She is director of the Inserm unit U1092 since 2012. Her research interests focus on antibiotic resistance and more specifically on resistance integrons, which are genetic elements involved in the dissemination of resistance. Her main research topics are i) the role of the SOS response in antibiotic resistance acquisition (Science 2009, PLoS Genetics 2010, EMBO reports 2010, Journal of Bacteriology 2011) and ii) the use of integrons as biomarkers of antibiotic resistance in clinical and environmental settings (Journal of Antimicrobial Chemotherapy 2010, ISME journal 2014, IJAA 2014). She is also involved in many clinical trials from academic or industrial partners in infectiology and critical care. She is also involved in different scientific committees or advisory boards.

Dr Etienne Ruppé

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Etienne Ruppé (PharmD, PhD) is a clinical microbiologist. After graduation in 2008, he spent 4 years as an assistant in the bacteriology laboratory of the Bichat-Claude Bernard University teaching hospital (Pr Antoine Andreumont) and obtained his PhD in Infectiology for his work on the epidemiology of carriage of multidrug-resistant bacteria. He then moved as a post-doc to MetaGenoPolis, INRA (Pr Dusko Ehrlich), to investigate the resistome of the human gut microbiota. He is now research assistant in the Genomic Research Laboratory in the Geneva University Hospitals (Pr Jacques Schrenzel) where he works on the development of clinical metagenomics. His work aims to span various aspects of antibiotic resistance: carriage, diagnosis, infections, emergence, epidemiology and prevention.

Dr Ewa Sadowy

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Ewa Sadowy received her PhD in the Institute of Biochemistry and Biophysics, Polish Academy of Sciences, Warsaw, Poland. Since then, she is involved in the research of Gram-positive pathogenic bacteria (streptococci and enterococci) in the National Medicines Institute, working in close collaboration with the National Reference Centre for Bacterial Meningitis and the National Reference Centre for Antimicrobial Resistance, located at the same institution. The principal research interests of Dr Sadowy include bacterial typing, investigation of determinants of bacterial virulence and resistance to antimicrobials, and analyses of mobile genetic elements, such as transposons and plasmids.

Dr Heike Schmitt

Utrecht University
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Heike Schmitt studied chemistry in Germany and graduated with a thesis on the ecotoxicology of nitroaromatic compounds. Her PhD studies were performed at the Institute for Risk Assessment Sciences (IRAS) at Utrecht University in collaboration with the National Institute for Health and the Environment (RIVM) in the Netherlands and investigated the effects of veterinary antibiotics on soil microbial communities. During her PhD studies, she also completed her education as recognized toxicologist. After her PhD research, she continued to work as assistant professor at IRAS, where she collaborated in the EU project ERAPHARM and obtained a VENI grant. She is currently employed as assistant professor, and her main research interests are the transmission of resistant bacteria through aquatic systems and through air. Current research projects include the EFFORT FP7 project and projects on the characterization of the sources of antibiotic resistance in surface water systems.

Professor Constance Schultsz

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Constance Schultsz is a consultant microbiologist and Associate Professor at the Academic Medical Center (AMC) of the University of Amsterdam. Between 1987-1989, she worked at ICDDR,B in Dhaka, Bangladesh. After finishing her training in 2000, she started as a consultant microbiologist, head Infection Control, at the VU University Medical Centre in Amsterdam. From 2003-2008 she headed the Microbiology department at the Oxford University Clinical Research Unit in Ho Chi Minh City, Vietnam. She currently combines her work as Head a.i. of the Department of Global Health-Amsterdam Institute for Global Health and Development of the AMC with her research on AMR and zoonotic infections, focusing on smart and feasible approaches towards quality AMR surveillance; hospital infection control; and antimicrobial drug usage and AMR in human and veterinary domains; with collaborative programs ongoing in the Netherlands, Vietnam and Indonesia.

Dr Bertrand Schwartz

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Bertrand SCHWARTZ, veterinarian, Ph.D, is the Head of the Biology and Health Department of the French Agence Nationale de la Recherche (ANR) since 2013, having being deputy head for nearly two years before. Bertrand Schwartz worked for the Pharmaceutical industry for 10 years, then as Chief Operating Officer in a start- up biotech. Thereafter he joined Inserm - Transfer, the Tech transfer office of Inserm, in charge of preclinical and clinical research, before becoming a Unit Director at the French Institut National de la Recherche Agronomique (INRA) in charge of a BSL3 infectiology facility until 2013.

Professor Mike Sharland

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Professor Mike Sharland is one of the UK and Europe's leading experts in antimicrobial prescribing, resistance and healthcare associated infection in children. He has an interest in policy initiative to reduce the burden of antimicrobial resistance (AMR) and has been closely involved in the implementation of the National AMR Strategy. He has developed the Paediatric Infectious Diseases Unit at St George's into a recognised Centre of excellence for clinical care, teaching and research and was appointed Professor of Paediatric Infectious Diseases in November 2010. Prof Sharland chairs the Department of Health's Expert Advisory Body on antimicrobial resistance and healthcare associated infection (ARHAI). Amongst other roles he is the paediatric advisor to the ECDC expert committee ESAC-net.

Professor Gunnar Simonsen

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Gunnar Skov Simonsen MD, PhD (born 1965) is Professor of Clinical Microbiology at the University of Tromsø and Director of the Department of Microbiology and Infection Control at the University Hospital of North Norway in Tromsø, Norway. He is also in charge of NORM – The Norwegian Organization for Surveillance of Antimicrobial Resistance and editor of the yearly report on antibiotic consumption and antimicrobial resistance (AMR) among humans and animals in Norway (NORM / NORM-VET). His research interests are within molecular epidemiology of AMR as well as population-based studies of host-microbe interactions in bacterial colonization and infection. He has co-authored more than 70 papers in international peer-reviewed scientific journals. From 2015 he will serve as member of the Scientific Advisory Board of the EU Joint Programming Initiative for Antimicrobial Resistance (JPI-AMR).

Professor Jason Snape

AstraZeneca

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Professor Jason Snape is the principal environmental scientist within AstraZeneca. He has worked for AstraZeneca for over 20 years and currently coordinates their environmental research and foresight programmes. Jason is an environmental microbiologist and biochemist conducting research into the environmental fate and behaviour of pharmaceuticals in the environment (PIE) and the environmental dimension of antimicrobial resistance. He is a member of the European Federation of Pharmaceutical Industry Associations (EFPIA) PIE Task Force, PIE Governance Group and is the Chairperson of their Environmental Risk Assessment Work Stream. He is also a member of the European Centre for Environment Toxicology and Toxicology of Chemicals (ECETOC) Scientific Committee and the University of York Environmental Sustainability Institute (YESI) Advisory Board. Jason has a Honorary Chair from Warwick University and has published over 40 papers with greater than 2300 citations.

Professor Liz Sockett

University of Nottingham

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Professor Liz Sockett leads the Functional Genomics Research Group in School of Life Sciences (SoLs), mentoring mainly young academic researchers in archaeal, bacterial and parasitological research. She runs a research group, funded by BBSRC, DARPA, and Leverhulme Trust, on the predatory bacterium *Bdellovibrio bacteriovorus*. This bacterium naturally kills Gram negative bacteria and is coming to the fore in the fight against antibiotic resistance in Gram negative pathogens. Liz has served on Wellcome Trust (IIB Panel and Gates TB Accelerator Review Panel), MRC (Senior Non Clinical Fellowships Panel and Antimicrobial Resistance Theme 1 Panel) and BBSRC grant committees (including Tools, Panel B plus David Phillips Fellowship Reviews). She has also been a member of American Society for Microbiology International Committees and the Council of the UK Society for General Microbiology. Liz was awarded a University of Nottingham Student Oscar as Best Research Supervisor in 2013, and was named as one of the 100 Heroes of the Nottingham Student's Union during the centenary year in 2014.

Dr Edward Topp

Agriculture and Agri-Food

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Ed is a native of Montréal; he received his PhD from the Department of Microbiology at the University of Minnesota in 1988. Since then Ed has toiled as a research scientist with Agriculture and Agri-Food Canada, and also has an adjunct appointment with the Department of Biology at Western University in London Ontario. Ed leads several national studies that seek to better understand and to better manage the risks that food production practices pose for environmental quality and human health. This with the objective of devising means of mitigating the exposure of food and water to pathogenic and antimicrobial resistant enteric bacteria. Ed is the national leader for the Genomics Research and Development Initiative project on AMR, a key component of the innovation pillar of the Canadian National AMR Action Plan. Ed is a former president of the Canadian Society of Microbiologists.

Professor Marko Virta

University of Helsinki

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Professor in the Department of Food and Environmental Sciences at University of Helsinki. He has published over scientific 80 articles and book chapters and supervised 12 PhDs. His research topics include antibiotic resistance in different human impacted environments. He is especially interested in the mobility of antibiotic resistance and related genes. His current projects include development of non-culture based methodology for linking antibiotic resistance gene with the 16S gene in single cell resolution and use that methodology for the collecting the data on the host range of relevant antibiotic resistance genes in different environments and high-throughput quantification of antibiotic resistance genes in different environments by using qPCR array.

Professor Jaap Wagenaar

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Jaap Wagenaar is trained as veterinarian and expert in the field infectious diseases. He performed his PhD study at Utrecht University and worked for this study at the USDA-National Animal Diseases Center, Ames, IA, US. After his graduation he started his research group on Campylobacter at the Central Veterinary Institute in Lelystad, the Netherlands. He worked at WHO (Headquarters, Geneva, Switzerland, and for the Tsunami-relief operations to WHO Indonesia), the Centers for Disease Control and Prevention (Atlanta, US) and the USDA Western Regional Research Center (Albany, Ca, US). From 2006, Jaap Wagenaar is appointed as chair in Clinical Infectious Diseases at the Faculty of Veterinary Medicine, Utrecht University. His research group at the Vet School is focussing on Campylobacter and antimicrobial resistance. He is currently coordinator of a large EU-project on antimicrobial resistance (EFFORT).

Professor Tim Walsh

Cardiff University

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Professor of Medical Microbiology and Antibiotic Resistance at Cardiff University, Wales, and leads an active research in antibiotic resistance. Previously, he was a Reader in Medical Microbiology at the University of Bristol following several postdoctoral research positions in London, UK. Prof. Walsh is a member of the Australian Society of Microbiology, Society for General Microbiology (UK), British Society of Antimicrobial Chemotherapy, American Society of Microbiology and European Society of Clinical Microbiology and Infectious Diseases. Prof. Walsh's research is focused on unusual mechanisms of antimicrobial resistance and how they are mobilized into the clinical sector and spread once established. He is also interested in assessing the burden of AMR in low-middle income countries, particularly vulnerable populations. He currently holds an honorary chair at Murdoch University, Australia is director of BARNARDS and holds several advisory positions including Chinese CDC and CAU, ECDC, WHO, BIRDY (Children's Antibiotic Resistant infections in Low-Income countries: an international cohort study) and Médecins Sans Frontières.

Dr Des Walsh

Medical Research Council

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I am the Head of Infections and Immunity at the Medical Research Council and I lead on our antimicrobial resistance strategy. I also chair the UK antimicrobial resistance funders forum and represent the UK on the EU Joint Programming Initiative in Antimicrobial Resistance. I have worked in a number of areas at the MRC including establishing our Stratified Medicine consortia, developing academic/industry research collaborations and working with international funders in infectious disease.

Dr David Wareham

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David Wareham qualified (MBBS) from the London Hospital Medical College in 1994 and trained in general medicine before specialist training in Medical Microbiology (FRCPath). He was awarded a Clinical Training Fellowship to study aspects of *Pseudomonas aeruginosa* pathogenicity at Queen Mary University in 2002 and appointed as Senior Clinical Lecturer in Microbiology in July 2005 (PhD). He is an Honorary Consultant Microbiologist at Barts Health NHS Trust responsible for aspects of intensive care microbiology. He heads the Antimicrobial Research Group which is involved in characterizing the mechanisms underlying the development and persistence of antimicrobial resistance as well as the consequences this may have on the organism and its capacity to cause human disease. This combines genomics, molecular biology, in-vitro and in-vivo (invertebrates) studies, epidemiological and clinical data in an attempt to dissect the complex relationship between host, pathogen and resistance. Areas of particular interest include the identification of novel resistance determinants, evaluation of novel antimicrobial treatments and combinations, virulence studies of emerging pathogens and interventions to prevent the spread of resistant organisms in the hospital environment.

Professor Liz Wellington

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Professor Liz Wellington is an active member of the Environment theme within the School of Life Sciences at the University of Warwick and director of Warwick Environmental Systems Interdisciplinary Centre (WES IC) at the University of Warwick. She holds a personal chair and, with her research group, is involved in the study of bacteria in soil and survival of pathogenic bacteria in the environment. The focus is on the link between environment and human health specialising in environmental reservoirs of pathogens, virulence and drug resistance genes. Research work has revealed several important pathogens survive in soil and can be a risk to human and animal health. In addition we have demonstrated how pollution, sewage disposal and farming activities impact on reservoirs of pathogens, resistance genes and mobile elements.

Professor Ramesh Wigneshweraraj

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Professor of Microbiology and Wellcome Trust Investigator at the MRC Centre for Molecular Bacteriology and Infection at Imperial College. He is also the Head of Section of Microbiology within the Faculty of Medicine at Imperial College. His laboratory investigates the mechanisms that underpin the activity of bacterial RNA synthesis machinery, the RNA polymerase, and virulence gene expression and stress adaptation in bacterial pathogens at molecular, structural and genome-wide levels. A major line of research in Prof Wigneshweraraj's laboratory is the development of truly novel antibacterial lead compounds based on phage-inspired strategies to combat antibiotic resistant bacteria.

Professor Nicola Williams

University of Liverpool

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Professor of Bacterial Zoonotic Disease with 15 years research experience on bacterial zoonoses (including antimicrobial resistance) in wildlife, food and companion animal species, investigating reservoirs, survival in the environment, fitness and transmission between animals and to humans, using a combination of conventional microbiology and molecular biology and next generation sequencing. Current research also focuses on foodborne pathogens, antimicrobial prescribing practice and resistance, including the impact of antimicrobials on the gastrointestinal and mucosal microbiome.

Professor Neil Woodford

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Professor Neil Woodford is a Consultant Clinical Scientist and Head of Public Health England's Antimicrobial Resistance and Healthcare-Associated Infections (AMRHAI) Reference Unit. In addition to running the national reference laboratory for AMR, he is a Visiting or Honorary Professor at several universities in the UK and overseas. Neil has worked on antimicrobial resistance for three decades and has co-authored over 300 publications and edited three books on this subject. A Fellow of the Royal College of Pathologists, he sits on many national and international committees and working groups, including the independent Review on AMR, which is led by the economist Lord Jim O'Neill and will report to the Prime Minister, David Cameron, in 2016 (<http://amr-review.org>).

Professor Mark Woolhouse

University of Edinburgh

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Professor of Infectious Disease Epidemiology at the University of Edinburgh, U.K. He studied biology and ecology at the Universities of Oxford and York in the U.K. and Queen's in Canada, then held Research Fellowships at the University of Zimbabwe, Imperial College London and Oxford, before moving to Edinburgh in 1997. His research interests concern the population dynamics of pathogens, especially those associated with emerging infectious diseases and antibiotic resistance, applying ecological and evolutionary approaches to combat threats to both human and animal health. He is a frequent advisor to

the UK government and was awarded an OBE in 2002. He has published over 250 scientific articles and is a Fellow of the Royal Society of Edinburgh and of the Academy of Medical Sciences.

Professor Brendan Wren

London School of Hygiene and Tropical Medicine

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Brendan Wren is Professor of Microbial Pathogenesis and Dean of the Infectious and Tropical Diseases Faculty at the London School of Hygiene and Tropical Medicine.

His primary research interest includes the molecular characterization of bacterial virulence determinants and the evolution of virulence. Current applied research focuses on (i) glycosylation in bacterial pathogens and the application of Protein Glycan Coupling Technology for the production of recombinant glycovaccines in *E. coli*, (ii) the inhibition of glycosyltransferases for antibiotic development (glycobiotics) and (iii) the development of alternative antibiotic approaches including biofilm disruption agents, phage/lysin therapy and bacteriotherapy.

Dr Ghada Zoubiane

Medical Research Council

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MRC Headoffice Programme Manager for the Infections and Immunity Board. Ghada has been at the UK Medical Research Council since 2008 leading on different areas of research including Ageing, Public Health Partnerships and more recently Infections, in particular antimicrobial resistance. Ghada is the deputy Chair of the JPIAMR Management Board.

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