

5TH INTERNATIONAL CONFERENCE ON

Responsible Use of Antibiotics in Animals

*Towards Sustainable
Solutions*

7-9 JUNE 2021



**VIRTUAL
CONFERENCE**



www.ResponsibleAntibioticUse.org

CONFERENCE PROGRAMME

(updated 6-6-2021)

ALL TIMES ARE IN CENTRAL EUROPEAN SUMMER TIME (CEST)

Monday 7 June 2021

12:45 - 14:55 Sky Hall

Plenary session

**Addressing antimicrobial use and resistance -
global and regional initiatives**
(5 presentations)

15:10 - 16:50 Sky Hall

Plenary session

**Addressing antimicrobial use and
resistance at the national level**
(5 presentations)

16:50 - 17:30 Relax Area

Time to relax!

Tuesday 8 June 2021

10:00 - 13:00 Sky Hall

Session 1

**Antimicrobial resistance and
the human-animal-environment
interface**
(8 presentations)

10:00 - 13:00 World Hall

Session 2

**Socio-economic, technical, and
regulatory dimensions of sus-
tainable change in antimicrobial
use in animal production**
(10 presentations)

13:30 - 16:40 Sky Hall

Session 3

**Towards sustainable solutions
for antibiotic use in food animal
production: progress and
opportunities**
(8 presentations)

13:30 - 16:35 World Hall

Session 4

**Reducing antibiotic use in
animals: barriers and prospects**
(8 presentations)

16:35 - 17:30 Relax Area

Time to relax!

Wednesday 9 June 2021

10:00 - 13:00 Sky Hall

Plenary session

**Minimising and containing antimicrobial use and resistance:
innovative research directions**
(8 presentations)

13:30 - 16:30 Sky Hall

Final plenary session

**Addressing antimicrobial use and resistance:
where do we go from here?**
(7 presentations)

16:30 - 17:00 Relax Area

Time to relax!

MONDAY 7 JUNE 2021

12:45 Opening of the **5th International Conference on Responsible Use of Antibiotics in Animals** [SKY HALL](#)

12:50 **KEYNOTE PRESENTATION** [SKY HALL](#)
Responsible use of antibiotics in the context of European policy
Dr Barbara Freischem, Veterinary Medicines Division, Surveillance and Regulatory Support Department, European Medicines Agency (EMA), the Netherlands

PLENARY SESSION [SKY HALL](#)
ADDRESSING ANTIMICROBIAL USE AND RESISTANCE – GLOBAL AND REGIONAL INITIATIVES

A wide range of initiatives specifically addressing the challenge of antimicrobial resistance, have been launched globally and regionally. Intended for stakeholders, including researchers, (non)governmental organisations and governments, this session aims to further improve (inter)national understanding on how to best address the threat of antimicrobial-resistant microbes.

Chair: Prof. Jaap Wagenaar, Utrecht University, the Netherlands

13:10 Chair's introduction

13:15 *Global One Health initiative's approach to mitigate antimicrobial resistance*
Dr Getnet Yimer Ali, Global One Health Eastern Africa Office, Office of International Affairs, The Ohio State University, Ethiopia

13:35 *The CGIAR Antimicrobial Resistance Hub: a One Health approach to support the efforts of low- and middle-income countries in controlling agriculture-associated AMR risks*
Prof. Delia Grace Randolph and Dr Arshnee Moodley, International Livestock Research Institute, Kenya

13:55 *How to promote collective action to achieve antibiotic use mitigation in Southeast Asia*
Dr Flavie Goutard, UMR ASTRE, CIRAD and Faculty of Veterinary Medicine, Kasetsart University, Thailand

14:15 *European Joint Action on Antimicrobial Resistance and Healthcare-Associated Infections (EU-JAMRAI): achievements to minimising and tackling antimicrobial resistance*
Dr Cristina Muñoz Madero, Spanish Agency of Medicines and Medical Devices (AEMPS), Spain

14:35 *Investments to prevent the spread of antimicrobial resistance*
Ana Cristina Canales Gomez and Anna Elisabeth Larsen, Food and Agriculture Global Practice, World Bank Group, USA

14:55 **Break**

MONDAY 7 JUNE 2021

**PLENARY SESSION
ADDRESSING ANTIMICROBIAL USE AND RESISTANCE
AT THE NATIONAL LEVEL**

SKY HALL

Global and regional initiatives addressing antimicrobial use and resistance are one side of the story. What's happening at the national level? A selection of approaches and initiatives will be presented and discussed. What lessons can be drawn?

Chair: Dr Rob Hunter, One Medicine Consulting, USA

15:10 *One Health for all: U.S. strategies to collaborate and combat antibiotic resistance*
Dr Jomana F. Musmar, PACCARB, USA

15:30 *Overview of the Brazilian AMR Action Plan, with emphasis on the responsible use of antibiotics in animals*
Dr Suzana Bresslau, Department of Animal Health, Ministry of Agriculture, Livestock and Food Supply, Brazil

15:50 *Understanding the drivers for antimicrobial use and resistance in the Argentinian pig and dairy farming environments*
Dr Cristina Ballesteros, Bristol Veterinary School, Bristol University, UK

16:10 *Antibiotic use, security, and animal production in rural and peri-urban settings in Uganda*
Susan Nayiga, London School of Hygiene & Tropical Medicine, UK and Infectious Diseases Research Collaboration, Uganda

16:30 *Lessons from the implementation of National Action Plans on tackling AMR in livestock*
Michael Ryan, Agro-food, Trade and Markets Division, Organisation for Economic Co-operation and Development (OECD), France

16:50 – 17:30 **Join the Relax Area**

TUESDAY 8 JUNE 2021

SESSION 1
ANTIMICROBIAL RESISTANCE AND
THE HUMAN – ANIMAL – ENVIRONMENT INTERFACE

[SKY HALL](#)

Understanding the drivers and encouraging interdisciplinary collaboration and communication are key to contain the problem of antimicrobial resistance at the human-animal-environmental interface. A selection of research lines will be presented and discussed.

Chair: Dr Celso J.B. Oliveira, Federal University of Paraiba, Brazil

10:00 Chair's introduction

10:05 *Tracking antibiotic resistance from the environment into humans and animals, and back again*
Prof. Michael Gillings, Department of Biological Sciences, Macquarie University, Australia

10:25 *Overview of evidence of antimicrobial use and antimicrobial resistance in the food chain*
Houda Bennani, Department of Pathobiology and Population Sciences, Royal Veterinary College, UK

10:45 *Antibiotic resistant bacteria in wildlife: epidemiology and transmission of clinically important resistances*
Dr Monika Dolejská, Department of Biology and Wildlife Diseases, University of Veterinary and Pharmaceutical Sciences Brno, Czech Republic

11:05 *Tools needed for antimicrobial stewardship to reduce antimicrobial resistance*
Dr Inge van Geijlswijk, Department Population Health Sciences, Institute for Risk Assessment Sciences, Utrecht University, the Netherlands

11:25 **Break**

11:40 *Examining the transmission paths of antibiotic-resistant bacteria and antibiotic resistance genes between humans and companion animals*
Prof. Stefan Schwarz, Institute of Microbiology and Epizootics, Freie Universität Berlin, Germany

12:00 *Competitive exclusion: an alternative for preventing MRSA from livestock to humans*
Dr Birgitta Duim, Department of Infectious Diseases and Immunology, Utrecht University, the Netherlands

12:20 *Aquaculture at the crossroads of global warming and antimicrobial resistance: global threats and sustainable alternatives*
Dr Miriam Reverter, Institut für Chemie und Biologie des Meeres, Universität Oldenburg, Germany

12:40 *Aimed surveillance of veterinary antibiotics in agriculture and pasture lands based on an IT tool*
Dr Antonio Rodríguez, Animal Health Research Centre, National Institute for Agricultural and Food Research and Technology, Spain

13:00 **Break**

TUESDAY 8 JUNE 2021

SESSION 2

[WORLD HALL](#)

**SOCIO-ECONOMIC, TECHNICAL AND REGULATORY DIMENSIONS
OF SUSTAINABLE CHANGE IN ANTIMICROBIAL USE IN ANIMAL PRODUCTION**

The contribution of four EU projects to a sustainable change in antimicrobial use:

- ROADMAP: Rethinking of Antimicrobial Decision-systems in the Management of Animal Production
project coordinator Dr Nicolas Fortané, INRAE, France
- AVANT: Alternatives to Veterinary ANTimicrobials
project coordinator Prof. Luca Guardabassi, University of Copenhagen, Denmark
- DISARM: Disseminating Innovative Solutions for Antibiotic Resistance Management
project coordinator Dr Erwin Wauters, ILVO, Belgium
- HealthyLivestock: Reducing antimicrobial use through improved livestock Health and Welfare
project coordinator Dr Hans Spoolder, Wageningen Livestock Research, the Netherlands

Chair: Dr Nicolas Fortané, INRAE, France

10:00 Chair's introduction and short presentations of the four projects

10:15 **Theme 1: Social, economic, and regulatory factors of transitions**

- ROADMAP: *What can social sciences say about change and transition? Behavioural and structural drivers of antimicrobial use (AMU) on socio-economic drivers of AMU and alternatives to AMU*
Dr Nicolas Fortané, INRAE, France
- AVANT: *Regulatory pathways for alternative products to antimicrobials*
Dr Klaus Hellmann, Klifovet AG, Germany
- DISARM: *Experience with the interactive innovation approach and multi-actor projects*
Dr Helena de Carvalho Ferreira, ILVO, Belgium
- Q&A

11:00 **Break**

11:10 **Theme 2: Promising technical innovations to reduce AMU**

- AVANT: *Non-antibiotic control of ETEC in piglets using phage and polymer strategies*
Dr Liam Good, Royal Veterinary College, University of London, UK
- HealthyLivestock: *Does the peri-hatching environment affect broiler chicken resilience?*
Dr Ingrid de Jong, Wageningen Livestock Research, the Netherlands
- HealthyLivestock: *Case study – integrated technology application of early diagnosis and immunity improvement in chicken farms*
Prof. Shuming Yang, Institute of Quality Standard and Testing Technology for Agro-Products, Chinese Academy of Agricultural Sciences, China
- DISARM: *Dissemination material: database, videos, abstracts, best practice guides and toolbox*
Dr Laura Palczynski, Innovation for Agriculture, UK
- Q&A

12:05 **Break**

12:15 **Theme 3: Stakeholder engagement and impact**

- ROADMAP: *Experiences with Living Labs as an approach towards prudent AMU in different contexts*
Bernadette Oehen, Research Institute of Organic Agriculture, Switzerland and
Dr Mette Vaarst, Department of Animal Science, Aarhus University, Denmark
- DISARM: *Improving antibiotic use through multi-actor farm health plans and coaching*
Annick Spaans, ZLTO, the Netherlands
- Q&A

13:00 **Break**

TUESDAY 8 JUNE 2021

SESSION 3

SKY HALL

**TOWARDS SUSTAINABLE SOLUTIONS FOR ANTIBIOTIC USE
IN FOOD ANIMAL PRODUCTION: PROGRESS AND OPPORTUNITIES**

Sustainable solutions are crucial to minimise and contain antibiotic use in food animal production. What's already underway or in the pipeline?

Chair: Dr Arie Kies, ArieKiesAdvies, the Netherlands

13:30 Chair's introduction

13:35 *Why aren't we there yet? Perceptions of farmers, veterinarians, and consumers about sustainable antibiotic use in dairy farming*
Dr Renata Ivanek, Department of Population Medicine and Diagnostic Sciences, Cornell University, USA

13:55 *Management and nutritional strategies to reduce the reliance on antibiotic usage in pigs*
Dr Peadar Lawlor, Pig Development Department, Animal & Grassland Research and Innovation Centre, Teagasc, Ireland

14:15 *Impact of various pig husbandry conditions on antimicrobial resistance*
Dr Dominic Poulin-Laprade, Sherbrooke Research and Development Centre, Agriculture and Agri-Food Canada, Canada

14:35 *Promoting responsible antibiotic usage in Bangladesh aquaculture*
Dr Kelly Thornber, Biosciences, University of Exeter, UK

14:55 **Break**

15:10 *Probiotics and competitive exclusion of pathogens in shrimp aquaculture*
Hazel Knipe, Centre for Sustainable Aquaculture Futures, University of Exeter, UK

15:25 *The potential of phytogenic feed additives in management of gut microbial pathogens*
Dr Alexander Stallinger, Delacon Biotechnik, Austria

15:40 *Feed additives as alternatives to in-feed antimicrobials in rearing of broiler chickens*
Silje Granstad, Norwegian Veterinary Institute, Norway

16:00 *Holistic approach to reduce antibiotic consumption in poultry*
Yann Fournis, Cargill Health Technologies, France

16:20 *Traceability in antibiotic use*
Dr Johan De Meulemeester, Merck Animal Health Intelligence, Belgium

16:40 – 17:30 **Join the Relax Area!**

TUESDAY 8 JUNE 2021

SESSION 4

WORLD HALL

REDUCING ANTIBIOTIC USE IN ANIMALS: BARRIERS AND PROSPECTS

Reducing antibiotic use is a big challenge globally, hence the establishment of antibiotic stewardship campaigns to encourage responsible and limited use. Thus far, these efforts have yielded variable impacts. How to effectively overcome this challenge?

Chair: Dr Stephen W. Page, Advanced Veterinary Therapeutics, Australia

13:30 Chair's introduction

13:35 *Coaching on broiler and pig farms aimed at optimising management and reducing antimicrobial use*

Prof. Jeroen Dewulf, Department of Reproduction, Obstetrics and Herd Health, Ghent University, Belgium

13:55 *The problem of prudent antibiotic use in veal calves*

Prof. Hanspeter Nägeli, Institute of Veterinary Pharmacology and Toxicology, University of Zurich, Switzerland

14:15 *Antimicrobial prescribing in equine practice*

Amie Wilson, Philip Leverhulme Equine Hospital, University of Liverpool, UK

14:35 *Implementation and evaluation of an antimicrobial stewardship programme in companion animal clinics*

Dr Els Broens, Department Biomolecular Health Sciences, Utrecht University, the Netherlands

14:55 **Break**

15:10 *A journey to no antibiotics ever and antibiotic stewardship*

Dr Erasmus J. Paderes, Bounty Agro Ventures, Inc., Philippines

15:25 *Are different biomass methodologies for adjustment of national veterinary antimicrobials sales data made equal?*

Dr Ece Bulut, Department of Population Medicine and Diagnostic Sciences, Cornell University, USA

15:40 *Untangling meanings, competences, and materials around antimicrobial use*

Dr Gabriela Olmos, Department of Clinical Sciences, Swedish University of Agricultural Sciences, Sweden

15:55 *Diagnostic practices and the responsible use of antimicrobials in livestock farming*

Prof. Henry Buller, Geography Department, University of Exeter, UK

16:15 *Beyond antimicrobial use: leveraging microbial ecology to reduce AMR while improving animal health and performance*

Dr Noelle Noyes, Department of Veterinary Population Medicine, University of Minnesota, USA

16:35 – 17:30 **Join the Relax Area!**

WEDNESDAY 9 JUNE 2021

PLENARY SESSION
MINIMISING AND CONTAINING ANTIMICROBIAL USE AND RESISTANCE:
INNOVATIVE RESEARCH DIRECTIONS

[SKY HALL](#)

Innovative solutions to minimise and contain antimicrobial use and resistance can make a significant contribution to protect human, animal and environmental health. What's up?

Chair: Prof. Gunther Antonissen, Ghent University, Belgium

10:00 Chair's introduction

10:05 *Hologenomic insights into the impact of host-microbiota interactions in animal production*
Dr Antton Alberdi, Center for Evolutionary Hologenomics, GLOBE Institute, Denmark

10:25 *Microbial quorum-sensing systems as targets for the treatment of infections caused by resistant bacteria*
Prof. Tom Coenye, Laboratory of Pharmaceutical Microbiology, Ghent University, Belgium

10:45 *Prevention of bacterial adhesion to intestinal mucus with phytochemicals to improve livestock resilience against pathogens*
Dr Tobias Aumiller, Delacon Biotechnik, Austria

11:05 *Testing direct effects of antibiotic alternatives on the intestinal epithelium using livestock organoids*
Bart van der Hee, Department of Animal Sciences, Wageningen University & Research, the Netherlands

11:25 **Break**

11:40 *Artificial intelligence to reduce antibiotic use in animal farming*
Prof. Kees Lokhorst, Animal Health & Welfare, Wageningen Livestock Research, the Netherlands

12:00 *Cold plasma technology to reduce animal disease and antibiotic use*
Prof. Brendan Gilmore, School Pharmacy, Queen's University Belfast, UK

12:20 *Modern gene editing to combat antimicrobial resistance*
– *Delivery of CRISPR antibiotics to microbial communities by bacterial conjugation*
Prof. David Edgell, Department of Biochemistry, Western University, Canada
– *Inactivation of antibiotic resistance genes in the animal microbiome*
Prof. Conrad Lichtenstein, Nemesis Bioscience, UK

13:00 **Break**

WEDNESDAY 9 JUNE 2020

**FINAL PLENARY SESSION
ADDRESSING ANTIMICROBIAL USE AND RESISTANCE:
WHERE DO WE GO FROM HERE?**

[SKY HALL](#)

From the current state of antimicrobial use and resistance to upcoming challenges: what does the future hold?

Chair: Prof. Jaap Wagenaar, Utrecht University, the Netherlands

13:30 Chair's introduction

13:35 *Containment of antimicrobial resistance: towards a sustainable poultry production chain in Indonesia (Cornerstone)*
Prof. Jaap Wagenaar, Department Biomolecular Health Sciences, Utrecht University, the Netherlands

14:00 *Strategic priorities for animal production in a changing world*
Nan-Dirk Mulder, RaboResearch Food & Agribusiness, Rabobank, the Netherlands

14:20 *Will science, commerce or politics shape the future of antimicrobial use in food animals?*
Prof. Peter Davies, College of Veterinary Medicine, University of Minnesota, USA

14:45 *Cultivated meat: technology fundamentals, progress, and challenges*
Dr Elliot Swartz, The Good Food Institute, USA

15:10 **Break**

15:25 *Economics of antimicrobials in pig production:*
– *Case study antibiotics*
Dr Helmut Saatkamp, Department of Business Economics, Wageningen University & Research, the Netherlands
– *Case study alternatives*
Dr Arie Kies, ArieKiesAdvies, the Netherlands

16:00 *Changing paradigms and routines: some principles for understanding the social drivers of responsible use of antibiotics*
Prof. Steve Hinchliffe, College of Life and Environmental Sciences, University of Exeter, UK

16:30 Closing of the **5th international conference on Responsible Use of Antibiotics in Animals**

16:30 – 17:00 **Join the Relax Area!**