Czech Academy of Sciences
STRATEGY AV21
Top research in the public interest
INTER MICRO
MBU Institute of Microbiology of the Czech Academy of Sciences
Institute of Sociology Czech Academy of Sciences

INVITATION TO THE SEMINAR

Talking to microbes

ABOUT RESISTANCE TO ANTIBIOTICS

across the natural and social sciences

Co-organized by the programme Strategy AV 21 and INTER MICRO project CZ.02.01.01./00/22_008/0004597 in cooperation with Institute of Sociology CAS and Czech Microbiome Society of the CMS JEP.

October 3rd, 2025, 10:00-14:30

Academy of Sciences of the CR, Národní 3, Praha 1, room No. 206

MANDATORY REGISTRATION: https://forms.gle/2nExxDriQWEaMr348

PROGRAM

10:00 – 11:00:

Salla Sariola: Integrated AMR research at the Finnish Multidisciplinary Centre of Excellence in antimicrobial resistance research (FIMAR)

11:00 – 11:30 COFEE BREAK

11:30 – 12:00

Markéta Koběrská: Why do antibiotics exist?

12:00-12:30

Jaroslava Hasmanová Marhánková: Local lives of antibiotics: antibiotic prescription and consumption as cultural practices

12:30 – 13:30 LUNCH BREAK

13:30 – 14:00

Jiří Gregor: Antibiotic resistance from the perspective of a hospital epidemiologist

14:00-14:30

Helena Žemličková: Antibiotic stewardship and hospital infection prevention and control – an investment in patient safety.

Co-funded by the European Union
MINISTRY OF EDUCATION, YOUTH AND SPORTS

ANNOTATIONS

Prof. Salla Sariola, Ph.D. (University of Helsinki):

Integrated AMR research at the Finnish Multidisciplinary Centre of Excellence in antimicrobial resistance research (FIMAR)

FIMAR is an 8-year research centre to study the evolution, colonisation and spread of AMR based in Finland. It includes five disciplines: environmental and clinical microbiology, bioinformatics, evolution ecology, and sociology, that are jointly developing an innovative, integrated methodology to study AMR. The aim is to understand the evolution, colonisation and spread in a specific time and place, between various interactions in different ecologies at different scales: molecular, gut, human, and planetary. The talk will present the work of FIMAR and some early findings.

Salla Sariola is a professor of Sociology at the University of Helsinki. Her research interests concern the ethics and politics of science and technology as well as gender and sexuality. Her fieldwork has taken her to South Asia and Africa, namely to India, Sri Lanka, Kenya and Benin. She is the author of two books: Research as Development: Clinical trials, international collaboration and bioethics in Sri Lanka (Cornell University Press, forthcoming) and Gender and Sexuality: Selling sex in Chennai, (Routledge 2009, 2012). Salla is the coordinating editor of the journal Science and Technology Studies which is the house journal of the European Association for the study of science and technology.

https://www.socialmicrobes.org/people/salla-sariola

https://www.fimar.fi

Doc. PhDr. Mgr. Jaroslava Hasmanová Marhánková, Ph.D. (Faculty of Social Sciences, Charles University):

Local lives of antibiotics: antibiotic prescription and consumption as cultural practices

This talk introduces the interdisciplinary project Social Lives of Antibiotics, which recognises the interconnectedness of human, animal, and environmental health and examines the socio-cultural, political, and organisational factors underlying antibiotic resistance. In this presentation, we focus specifically on antibiotic prescription. We understand prescribing not only as a medical encounter shaped by objective facts and evidence-based medicine, but also as the outcome of negotiation between patient and physician. Central to our analysis is how people understand the distribution of responsibilities in decisions about when antibiotics should be used. We draw on data from two studies: one on self-medication with antibiotics and another on attitudes toward antibiotic use. Our research centres on the Czech Republic, where antibiotics are strictly regulated and available only by prescription. While this regulation suggests a limited role for patient attitudes, we investigate how perceptions of antibiotic need, trust in physicians' prescribing authority, and experiences with non-prescription use influence two outcomes: self-medication practices and the reported number of antibiotic treatments in the past year. By exploring how patients' attitudes toward antibiotics intersect with broader social perceptions of competence and responsibility in prescribing, this analysis provides new insights into the dynamics that shape antibiotic use and potential misuse.

Markéta Koběrská, Ph.D. (Institute of Microbiology of the Czech Academy of Sciences):

Why do antibiotics exist?

Antibiotics act through diverse mechanisms, and bacteria have evolved a wide range of resistance strategies in response. While human clinical use rapidly leads to widespread resistance, microbes have produced antibiotics for millions of years without facing an "existential issue" of resistance. In natural environments, antibiotic concentrations are generally low and variable, suggesting that their primary role in microbial communities is not as weapons, but as signalling molecules and transcriptional modifiers at sub-inhibitory levels. Crucially, antibiotic synthesis and resistance often exist in a paired relationship within microbes, serving as a mechanism to manage community assembly. This natural balance between production and resistance is fundamental to the persistence and longevity of antibiotics in microbial ecosystems.

MUDr. Jiří Gregor (Institute of organic chemistry and biochemistry of the Czech Academy of Sciences and Faculty hospital Motol):

Antibiotic resistance from the perspective of a hospital epidemiologist

Antibiotic resistance represents one of the greatest challenges of modern medicine, with hospitals playing an important role in its emergence and spread. This lecture will present the perspective of a hospital epidemiologist - focusing on the surveillance of resistant pathogens, their impact on patient outcomes and hospital care and the core strategies of prevention and infection control. The importance of interdisciplinary collaboration and staff education will also be highlighted as essential components in combating the growing threat of resistance.

Prof. MUDr. Helena Žemličková, Ph.D. (National Institute of Public Health, National Reference Laboratory for Antibiotics):

Antibiotic stewardship and hospital infection prevention and control – an investment in patient safety

Healthcare-associated infections pose a significant threat to patients hospitalized in healthcare facilities, contribute significantly to patient morbidity and mortality, and increase the cost of care. Antibiotic stewardship and the hospital infection prevention and control program are complementary programs that have a common goal. The goal of ATB stewardship is to use antibiotics in such a way as to ensure sustainable access to antibiotic treatment for all who need it. Together with the infection prevention and control program, it then improves patient care outcomes, reduces the incidence of antibiotic resistance, and limits the emergence of infections in hospital settings.