Epidemiology of antimicrobial resistance

Topics to explore

- Distribution of resistance genes in medically important bacteria
- Distribution of virulence genes in resistant bacteria
- Association of virulence and resistance with particular genotypes

Human microbiota in health and disease

Topics to explore

- Microbiota composition association with different diseases (e.g. transplant patients, fecal microbiota transplant donors and recepients)
- Influence of different interventions on microbiota composition (e.g. diatery interventions, antibiotic therapy, fecal transplantation)

Department of Clinical Microbiology

Republic of Croatia
Ministry of Health

Reference Center for Antibiotic Resistance Surveillance of the Ministry of Health

University Hospital for Infectious Diseases "Dr Fran Mihaljevic"

Clinical microbiology laboratory service 24 / 7

- **University Hospital for Infectious Diseases „Dr. Fran Mihaljević", 232 beds**
- **University Hospital Merkur, 330 beds**
- **Magdalena, Clinic for Cardiovascular Medicine**
- **Outpatients**

Prof. Arjana Tambic Andrasevic, MD, PhD, FESCMID
Head of the Department

AMR Focal Point EARS-Net
AMR Focal Point GLASS

Member of EARS-Net CG
Member of CAESAR CG (WHO consultant)

Member of ESCMID Education Subcommittee
Member of ESGARS

Iva Butic, MD
consultant microbiologist

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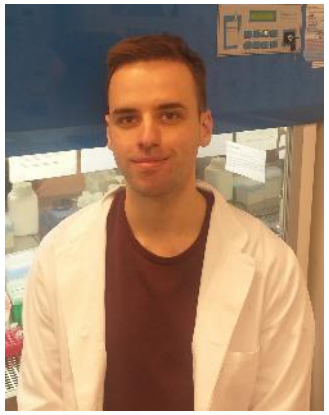

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University Hospital for Infectious Diseases „Dr. Fran Mihaljević”

Department of clinical microbiology

Strenghts and opportunities

- AMR
  - Easy access to isolates with rare resistance phenotypes
  - Equiped for whole genome sequencing (WGS), PFGE genotyping …
  - Trained in bioinformatic analysis of sequencing data in molecular AMR epidemiology (detection of ARGs and genotyping)
  - Good link with clinical and epidemiological data

- Microbiota
  - Good collaboration with clinicians interested in microbiota of specific patient groups (patients with different IDs, transplant patients, Fecal microbiota transplant (FMT) donors and recepients, …)
  - Equiped for 16S rRNA amplicon sequencing
  - Trained in bioinformatic analysis of microbiome data

Role of partners

- Transcriptome and metabolomic analysis
  - Expanding „omics” approach in microbiome analysis
  - Functional microbiome profiling
- Knowledge in bioinformatic tools/pipelines development
  - Creation of customized bioinformatic pipeline solutions
  - Prediction of species specific DNA markers for development of molecular diagnostic tools (i.e. PCR detection)
- Development of diagnostic platforms based on microbiome research
  - Translation of research results and insights into viable diagnostic products
  - Implementing microbiome/metagenome research in personalised diagnostics of infectious diseases
- Contribution in strain collection
- Multidisciplinary insight into AMR and microbiome research

Enhanced networking on antimicrobial resistance surveillance with NGS:

AmReSu

2021 - 2024

Participant	Participant organisation name	Country
1 (coordinator)	Semmelweis Egyetem (SU)	Hungary
2	Universiteit Antwerpen (UAntwerp)	Belgium
3	Fundacio Institut D'Investigacio Sanitaria Illes Balears (IdISBa)	Spain
4	Klinika za infektivne bolesti „Dr. Fran Mihaljevic" (BFM)	Croatia

European Clinical Research Alliance on Infectious Diseases (Ecraid)

Coordinating Committee

2021 - 2026

The Coordination Committee functions as the central body in Ecraid responsible for the European-wide coordination of clinical studies on infectious diseases, strategy development, stakeholder management and service and network development.