PROGRAMME

3 July (Monday)

8:00 „Summer school" Registration, Get Tutorial - **venue:** Semmelweis University, Budapest 1089, Nagyvarad ter 4.

8:15 Welcome: Prof. Dr. Dora Szabo, Head of the Institute of Medical Microbiology, Semmelweis University

8.30-9:00 Surbhi Malhotrakumar, University of Antwerpen - *Changing microbiology: revolutionary technologies – whole genome sequencing -enhancing today´s diagnostics*

9.00-9.30 Dr Antonio Oliver Palomo, ESCMID fellow, Servicio de Microbiología, Hospital Universitario Son Espases, Instituto de Investigación Sanitaria Illes Balears (IdISBa) – *Emerging resistance mechanisms to novel beta-lactams in Pseudomonas aeruginosa*

9.30-10.00 Prof. Arjana Tambic Andrasevic, MD, PhD, Department of Clinical Microbiology, University Hospital for Infectious Diseases - *The role of clinical microbiology in the appropriate antibiotic prescribing*

10.00-10.30 Coffee break

10.30-11.00 Carla Lopez Causape, Servicio de Microbiología y Parasitología Clínica

Hospital Universitario Son Espases - *The use of NGS in fighting antimicrobial resistance*

11.00-11.30 Sara Cortez, Antibiotic Resistance and Pathogenicity of Bacterial Infections Group, Hospital Universitari Son Espases - *Microbiome analysis: clinical applications*

11.30-12.00 Prof. Dr. Dora Szabo, Head of the Institute of Medical Microbiology, Semmelweis University - *Advances and perspectives of WGS in infection diagnostics and infection control*

12.00-13.00 Lunch break

13.00-13.30 Juan-Pablo Rodriguez-Ruiz, University of Antwerpen - *Processing, metagenomic sequencing and analysis of samples with a high host material content, focus on endotracheal aspirates*

13.30.14.00 Irina Pristas, clinical microbiologist, University Hospital for Infectious Disease - *Resistance and virulence determinants in Klebsiella pneumoniae*

14.00-14.30 Dr. Qiang Lin, University of Antwerpen - *Selective decontamination of digestive tract and oropharynx impacts gut microbiome and resistome of patients in intensive care unit, based on metagenomic exploration*

14.30-15.00 Coffee break

15.00-15.30 Prof. Arjana Tambic Andrasevic, MD, PhD, Department of Clinical Microbiology, University Hospital for Infectious Diseases - *Epidemiology of healthcare associated infections*

This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No. 952491

15.30-16.00 Szabolcs Makkai, Semmelweis University - *The role Arteficial intellligence in the analysis of whole genome sequencing*

16:00-16:30 Dr Manuel Banzhaf PhD, group leader in the Institute for Microbiology and Infection at the University of Birmingham - *Using systems microbiology to combat infectious disease*

19.00 Official dinner – Sightseeing boat tour in the Danube

4 July (Tuesday)

9.00-9.15 Prof. Dr. Dora Szabo, Head of the Institute of Medical Microbiology, Semmelweis University - *Intro to the state of the art industrial applications of invited external speakers*

9.15-10.00 Alihan ZOR, MSc, Essa Biotech R&D Lab. - *Using molecular and microbial gene technologies antimicrobial peptide, therapeutic peptide design*

10.00-10.45 Dr. Knut Rennert, CEO, Dynamic 42 GMBH - *Ask me about: organs-on-a-chip next generation*

10.45-11.30 Tomos Harris, AssistMe GmbH - *Incontinence management*

11.30-12.00 Hugo Alexandre Louro Filipe, Politecnico da Guarda - M*olecular dynamics simulations of biomolecular systems*

12.00-13.00 Lunch break

13.00-16.00 General introduction about sequencing technique and WGS practice in wet lab XI.floor. Semmelweis University, Zsuzsanna Dunai, Nóra Makra

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5 July (Wednesday)

9.00-12.00 Analysis of whole-genome sequences: databases

12.00-13.00 Lunch break

13.00-16.00 Practice on your own computer

6 July (Thursday):

9.00-12.00 Analysis of whole-genome sequences: visualization tools

12.00-13.00 Lunch break

13.00-16.00 Practice on your own computer

7 July (Friday):

9.00-12.00 16S RNA based metagenome analysis from open databases

12.00-13.00 Lunch break

13.00-16.00 Practice on your own computer

End of the Summer School.

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