



جامعة الملك عبد الله
للعلوم والتقنية
King Abdullah University of
Science and Technology

CBRC Computational Bioscience Research Center

KAUST Research Conference - Advances in Metagenomics and its Applications

23-25 May, 2022

Building 19, Level 3

DAY 1- 23 May 2022

8:00 - 8:30	Breakfast and Registration	
8:30-08:35	Welcome address	Acting Director of CBRC and Distinguished Professor Takashi Gojobori
8:35- 8:45	Opening Remarks	VPR and Distinguished Professor Donal Bradley
Session 1: Computational Tools and Resources in Metagenomics Chair:Takashi Gojobori		
8:45 - 09:40	Microbiome Data Science: from the Earth Microbiome to the Global Virome	Dr. Nikos Kyrpides, DOE Joint Genome Institute, USA
09:40 - 10:20	Advances with paprica: a tool for inferring microbial community structure and metabolic potential	Professor Jeff Bowman, Scripps Institution of Oceanography UC San Diego, USA

10:20 – 10:35	Break	
10:35 – 11:15	Genome of the Biosphere	Distinguished Professor Carlos Duarte, Computational Bioscience Research Center (CBRC), Red Sea Research Center (RSRC), KAUST
11:15 – 11:55	High-resolution large-scale metagenomics of the human microbiome	Professor Nicola Segata, University of Trento, Italy
12:00 – 1:30	Lunch @ Hall 2	
<p style="text-align: center;">Session 2: Metagenomics and Infectious diseases Chair : Alexandre Rosado</p>		
1:30- 2:10	Wastewater as a conduit for diseases – an overview by means of metagenomics	Professor Peiyong Hong, Water Desalination and Reuse Center (WDRC), KAUST
2:10 – 2:50	Application of Metagenomics in Understanding Microbial diversity in Health, Disease, and Hospital Environments: Local Insight	Dr. Ahmed M. Albarrag, Public Health Laboratory Public Health Authority (PHA), KSA
2:50 – 3:30	Amplicon and Metagenomic Analysis of (MERS) Coronavirus and the Microbiome in Patients with Severe MERS	Dr. Waleed Al-Jabr, Molecular Medical Virologist, King Fahad Medical City, Riyadh, KSA
3:30 – 3:45	Break	
3:45 – 4: 25	Metagenomics-guided pathogen discovery in clinical microbiology laboratory settings - case studies from Saudi Arabia	Professor Arnab Pain, Biological and Environmental Science and Engineering Division (BESE), KAUST

4:25 – 5:05	"COVID-19: a Saudi multi-centre collaboration journey"	Dr. Sharif Hala, King Abdullah International Medical Research Center (KAIMRC), KSA
6:30 – 8:30	Sunset cruise / Dinner by invitation only	
DAY 2 – 24 May 2022		
8:00 – 08:30	Breakfast	
Session 3: Marine and Environmental Metagenomics Chair : Carlos Duarte		
8:30 – 9:20	Curation to completion: insights into extrachromosomal elements and interaction dynamics in microbial ecosystems	Professor Jill Banfield, University of California, Berkeley, USA
9:20 – 10:00	Insect microbiome: from bacteria and genes to genomes and application	Associate Professor George Tsiamis, University of Patras, Greece
10:00 – 10:10	Break	
10:10 – 10:40	Searching For Plastic-Degrading Enzymes In The Oceans	Professor Stefan Arold, Computational Bioscience Research Center (CBRC), Biological and Environmental Science and Engineering Division (BESE), KAUST
10:40 – 11:10	The stratified microbial assemblages of the deep anoxic brine pools in the Red Sea	Daniele G. Daffonchio, Biological and Environmental Science and Engineering Division (BESE), KAUST

11:10 - 11:50	Communication among microbes in the plant associated microbiome	Dr. Vittorio Venturi, International Centre for Genetic Engineering and Biotechnology, Italy
11:50 - 12:00	Group Photo	
12:00 - 2:00	Student Poster Competition session with lunch (Featuring Core Labs booths) @ Hall 3	
Session 4: Metagenomics and Biotechnology Chair : Daniele Daffonchio		
2:00 - 2:40	Enzymes wanted, reason: the circular economy and the climate change	Dr. Manuel Ferrer, Spanish National Research Council (CSIC), Spain
2:40 - 3:20	Is it time to trace microbes back? Tracing back microbes to their origins	Sulaiman Alajel, Saudi Food and Drug Authority (SFDA), KSA
3:20 - 4:00	Biotechnology application in oil and gas industry	Dr. Abdulmohsen A. Al-Humam from Saudi Aramco, KSA
4:00 - 4:10	Break	
4:10 - 4:50	Tools and approaches to study host-associated microbiomes	Professor Torsten Thomas, University of New South Wales, Australia
4:50 - 5:30	Using metagenomics to boost the selection and use of coral probiotics	Professor Raquel Peixoto, Biological and Environmental Science and Engineering Division (BESE), KAUST
6:30 - 8:30	Gala Dinner at Al Marsa (by invitation only)	
DAY 3 - 25 May 2022		

8:00-08:30	Breakfast	
Session 5: Metagenomics in Oil & Water Industry Chair : Peiyong Hong		
8:30- 9:25	Biotechnology Perspectives in the Oil and Gas Applications	Dr. Abdulwahab A. Al-Ghamdi, KAUST Upstream Research Center, Saudi Aramco, KSA
9:25 - 10:05	Metagenomics in Oil and Water Industry	Budoor Nasser, Saudi Aramco, KSA
10:05- 10:20	Break	
10:20- 11:00	Metagenomic analysis of bioremediation of extreme environments contaminated by petroleum hydrocarbons	Professor Alexandre Rosado, Biological and Environmental Science and Engineering Division (BESE), KAUST
11:00 - 11:40	Metagenomic approaches for improving microbial control in oilfield applications	Alexander A Grigoryan, Saudi Aramco, KSA
11:40 - 12:20	Seawater desalination based drinking water: Microbial characterization during distribution with and without residual chlorine	Research Scientist Nadia Farhat, Water Desalination and Reuse Center (WDRC), KAUST
12:20 - 2:00	Lunch @ Hall 2	
Session 6: Spotlight on Young Talent Chair : Stefan Arold		
2:00 - 2:15	Predicting the mutations of the future SARS-COV-2 variants of concern	PhD Student Wenkai Han
2:15 - 2:30	Topic to be confirmed	Dr. Martin Ibarra
2:30 - 2:45	Studying a bowl of rice noodles	PhD Student Francisco Guzman Vega

2:45 - 3:00	A Motif-based approach towards Exploring Global Prevalence of Mobile Colistin Resistance (mcr genes)	Postdoctoral Research Fellow Tahira Jamil
3:00 - 3:15	Break	
3:15 - 3:30	Computational methods for functional metagenomics: from protein functions to multi-scale interactions	PhD Student Rund Tawfiq
3:30 - 3:45	The rhizosheath-root system of desert plant is an edaphic "mini-oasis" with enhanced microbial competition	Research Scientist Ramona Marasco, Red Sea Research Center (RSRC), KAUST
3:45 - 4:00	Metagenomic investigation of antibiotic resistome in hospital wastewater during the COVID-19 pandemic: Is the initial phase of pandemic contributing to antimicrobial resistance?	PhD Student Changzhi Wang
4:00 - 4:15	Topic to be confirmed	PhD Student Sakhaa Alsaedi
4:15 - 4:30	Closing remarks and announcement of poster competition winners	Provost Lawrence Carin and Distinguished Professor Takashi Gojobori
6:30 - 09:00	Dinner at Thuwal (by invitation only)	