

Quantitative Microbial Physiology and Ecology (QMPE) Conference
May 12-16, 2025 | Shenzhen China

Monday, May 12		
Registration (14:00-17:30) Conservatory I Foyer , Andaz Shenzhen Bay		
Opening session: QMPE2025 Conservatory I		
Time	Speaker	Title
18:00	Organizing Committee	Opening speech
18:30	All speakers	Ice-breaking activities
19:30	Dinner Conservatory II	
20:30	Poster session Conservatory III	

Tuesday, May 13		
Session 1: Coordination of microbial physiological processes Ballroom		
Time	Speaker	Title
9:00-9:45	Arieh Zaritsky	Spatio-Temporal coordination of DNA replication with cell growth, division & dimensions in <i>E. coli</i>
9:45-10:15	Jade Wang	Direct GTP generation during glycolysis powers bacterial growth
10:15-10:45	Paul Wiggins	Protein overabundance is driven by growth robustness
10:45-11:00	Coffee Break	
11:00-11:30	Jie Xiao	Proteins and things that go - a single molecule view of bacterial cell division
11:30-12:00	Orna Amster-Choder	Revisiting dogmas on bacterial cell organization: implications on gene expression
12:00-12:30	Cheng-Cai Zhang	Bistability relay system mediated by c-di-GMP maintains cell size and growth in the cyanobacterium <i>Anabaena</i> PCC 7120
12:30-14:30	Lunch Break West Room	
Session 2: Cellular organization and regulatory dynamics in bacteria Ballroom		
14:30-15:00	Matthias Heinemann	Amino acid biosynthesis enzymes govern cytoplasmic rheology through nutrient-dependent formation of amorphous agglomerates
15:00-15:30	Luca Ciandrini	Quantifying the role of active and inactive ribosomes - Translation initiation, elongation, and maintenance at slow growth
15:30-15:45	Shishen Du	Regulation of elongasome activity in <i>Escherichia coli</i>
15:45-16:00	Wei Zhao	LLPS-mediated cellular organization in regulating asymmetric cell division
16:00-16:15	Coffee Break	
16:15-16:45	Kerwyn C Huang	The role of the outer membrane in bacterial physiology
16:45-17:00	Apratim Chatterji	Topology mediated organization of <i>E. coli</i> chromosome in slow and fast growth conditions
17:00-17:15	Zheng Zhang	Internal nucleoid fluctuations underlie sister segregation in <i>E.coli</i>
17:15-19:00	Poster session Ballroom Foyer	
19:00-20:00	Dinner Dine Out	

Wednesday, May 14		
Session 3: Microbial metabolism and regulatory network Conservatory III		
Time	Speaker	Title
9:00-9:45	Terence Hwa	Resource allocation in starving bacteria
9:45-10:15	Thomas Julou	<i>E. coli</i> prepares for starvation by dramatically remodeling its proteome in the first hours after loss of nutrients
10:15-10:45	Erik van Nimwegen	How do single bacterial cells think?
10:45-11:00	Coffee Break	
11:00-11:30	Petra Levin	In search of the molecular underpinnings of the Growth Law
11:30-12:00	Suckjoon Jun	Decoupling of global metabolic flux and proteome partitioning in bacteria
12:00-12:15	Fabai Wu	Transition state sets a maintenance energy barrier against diazotrophic productivity
12:15-14:30	Lunch Break Conservatory I&II	
Session 4: Microbial growth, division and dimension homeostasis Conservatory III		
14:30-15:00	Markus Basan	Homeostasis of bacterial biomass density
15:00-15:30	Chenli Liu	Cell size homeostasis linked to DNA replication initiation through an adder principle in <i>Escherichia coli</i>
15:30-16:00	Marco Cosentino Lagomarsino	A progress update on the concurrent-cycles hypothesis
16:00-16:15	Yan Liao	Divide and conquer deciphering FtsZ-based cell division in Archaea/The parasitic lifestyle of an archaeal symbiont
16:15-16:30	Coffee Break	
16:30-17:00	Jaan Mannik	Determining the rate-limiting processes for cell division in <i>Escherichia coli</i>
17:00-17:30	Naama Brenner	Growth rate variability and homeostasis: effects of a collective exponential attractor
17:30-17:45	Mattia Corigliano	Rapid chromosome rearrangements forecast <i>E. coli</i> cell-cycle progression transitions
17:45-18:00	Xinxing Yang	Two stages of <i>Deinococcus radiodurans</i> cell division
18:00-20:00	Dinner Ballroom	
Charles Helmstetter Prize Ceremony Ballroom		
20:00-20:15	Prize Committee	Opening speech
20:15-20:30	Arieh Zaritsky	Evolution of The Charles E. Helmstetter Prize (2018-2025), and EMBO's Workshops Expanding Beyond Europe
20:30-20:45	Charles Helmstetter	In memoriam video honoring Steve Cooper and Noboru Sueoka (online)
20:45-21:00	Prize Committee	Award presentation
21:00-21:30	Awardee 1	Lifetime Achievement award Laureate Lecture (online)
21:30-22:00	Awardee 2	Innovation Breakthrough award Laureate Lecture (online)

Thursday, May 15		
9:00-12:00	Shuttle bus to Guangming Science City + campus tour	
12:00-13:00	Lunch Break Cafeteria	
Session 5: Microbes and environment		
Time	Speaker	Title
13:30-14:00	Hanna Salman	Stress effects on bacterial physiology
14:00-14:30	Meriem El Karoui	Suppression of bacterial cell death underlies the antagonistic interaction between ciprofloxacin and tetracycline
14:30-14:45	Jintao Liu	Spatial heterogeneity of bacterial communities and their resistance
14:45-15:00	Coffee Break	
15:00-15:30	Wenyng Shou	Microbial physiology through experiments and quantitative modelling
15:30-15:45	Po-Yi Ho	Quantifying functional selection in microbial communities
15:45-16:00	Lei Dai	Data-driven prediction of colonization outcomes for complex microbial communities
16:00-21:00	Excursion + Dinner Dine Out	

Friday, May 16		
Session 6: From single cell to community Conservatory III		
Time	Speaker	Title
9:00-9:30	Ariel Amir	Insights into bacterial growth and division from single-cell data
9:30-9:45	Kuheli Biswas	Universality of phenotypic distributions in bacteria
9:45-10:00	Xiaojing Yang	Achieving stable labor division with innovative gene circuitry
10:00-10:15	Xiongfeng Dai	On the growth physiology of the ancestral <i>Bacillus subtilis</i> Marburg strain
10:15-10:30	Coffee Break	
10:30-11:00	Olga Schubert	Causes and consequences of collective metabolism in microbial communities
11:00-11:30	Gabriele Micali	Cross-feeding dynamics in microbial communities under different environmental
11:30-11:45	Zhiyuan Li	Forging the iron-net
11:45-12:00	Xiongfei Fu	Colony pattern multi-stability emerges from a bistable switch
12:00-14:00	Lunch Break Conservatory I&II	
Session 7: Heterogeneity: adaptation and evolution Conservatory III		
14:00-14:30	Teuta Pilizota	On the most important thing you likely know little about: the ion motive force
14:30-15:00	Jiliang Hu	Emergent behaviors in complex microbial ecosystems
15:00-15:15	Beile Gao	The architecture, assembly, and evolution of a complex flagellar motor
15:15-15:30	Coffee Break	
15:30-16:00	Jin Yu	Learning transcription machinery from minimal model, molecular dynamics, genomic profiling, and directed evolution
16:00-16:30	Bianca Sclavi	Coupling of changes in gene expression and cell size during bacterial adaptation to sub-lethal concentrations of antibiotics
16:30-16:45	Jie Lin	Fitness-driven scaling laws of mRNA and protein levels reveal universal principles of gene expression
16:45-17:30	Poster award, Closing Remarks	
18:00-20:00	Dinner Veranda	