

TIMETABLE

Day 1: Sunday, December 11, 2022	
16:00-18:30	Registration
19:00-19:45	<i>Dinner</i>
19:45-20:00	Welcome Note – Organizers
20:00-22:10	Session 1: Bacterial Physiology Comes of Age at 65 <i>Chair: Victor Norris</i>
20:00-20:10	The Helmstetter Award / The Copenhagen School Victor Norris
20:10-20:20	Awarding The Prize for Groundbreaking Research (3 Awardees) Victor Norris
20:20-20:40	Recollections of a Pioneer and the Future of Bacterial Growth Physiology (recorded) Moselio Schaechter
20:40-21:00	Postdoctoral Life, Thymineless Death and the DNA replication cycle (recorded) Philip C Hanawalt
21:00-21:20	The Nucleoid: from Electron Microscopy to Polymer Physics Conrad L Woldringh
21:20-21:40	Half Century of The Bacterial Cell Division Cycle (recorded) Charles E Helmstetter
21:40-22:00	Recollections of a Helmstetter Disciple Alan C Leonard
20:00-22:10	The Bacterial Cell Cycle Workshop series, 1980-2020 Conrad L Woldringh
<i>22:10 Onward</i>	<i>Welcome Reception</i>
Day 2: Monday, December 12, 2022	
09:00-10:45	Session 2: Structures 1: The Nucleoid (DNA) <i>Chair: Conrad L Woldringh</i>
09:00-09:30	New functions for the ParAB proteins of Bacillus subtilis Ling Juan Wu
09:30-10:00	ParB and SMC as chromosomal organizers Cees Dekker
10:00-10:30	Polymer physics of bacterial nucleoid structure Oleg Krichevsky
10:30-10:45	Intra-species diversity in the coordination between growth and cell cycle. Meunier Alix
10:45-11:15	<i>Coffee break</i>
11:20-13:00	Session 3: Structures 2: Hyperstructures and The Sacculus <i>Chair: Ling Juan Wu</i>
11:15-11:45	Hyperstructures and phenotypic variability in bacteria Itzhak Fishov
11:45-12:15	Cell envelope biogenesis in diderm bacteria Waldemar Vollmer
12:15-12:30	The roles of cell-wall synthesis for cell size growth in Bacillus subtilis and Escherichia coli Kitahara Yuki
12:30-12:45	Explaining E. coli 's growth rate reduction at higher osmolarities Mark Zurbruegg
12:45-13:00	Effect of toxin antitoxin systems on ion flows and filamentation following antibiotic treatment James Booth
13:00-14:30	<i>Lunch</i>

TIMETABLE (Continued)

14:30-16:00	Session 4: Driving Forces 1: DNA <i>Chair: Oleg Krichevsky</i>
14:30-15:00	Positioning and movement of chromosome arms in <i>E. coli</i> Conrad L Woldringh
15:00-15:30	Polymer architecture orchestrates the segregation and spatio-temporal organization of replicating bacterial chromosomes Apratim Chatterji
15:30-15:45	DNA-polymer topology orchestrates the segregation & organisation of genomic loci during multifork replication Mitra Debarshi
15:45-16:00	Short-term chromosomal loci mobility to decipher mechanisms of cell division Crozat-Brendon Estelle
16:00-16:30	<i>Coffee break</i>
16:30-19:00	Session 5: Driving Forces 2: Z-ring <i>Chair: Jie Xiao</i>
16:30-17:00	Structure and Constriction Dynamics of the Z-ring in <i>E. coli</i> Mario Feingold
17:00-17:30	Mechanisms controlling formation of Z-ring in <i>E. coli</i> Jaan Männik
17:30-17:45	Treadmilling filaments spontaneously self-organise into highly ordered dynamic structures Vanhille Campos, Christian
17:45-18:00	Distinguishing different modes of growth using single-cell data Prathitha Kar
18:00-18:15	Replication coordination between <i>Vibrio cholerae</i> 's two chromosomes Theophile Niaux
18:15-19:00	Round Table Discussion J. Xiao, O. Krichevsky, L. J. Wu, C. L. Woldringh
19:00-20:30	<i>Dinner</i>
20:30	Poster Session I (odd numbers) including beers & cheers
Day 3: Tuesday, December 13, 2022	
08:00-12:00	<i>Optional Tour - Masada</i>
13:00-15:00	<i>Lunch</i>
15:00-16:30	Session 6: Dynamics 1: Growth, Replication and Division <i>Chair: Kerwyn Casei Huang</i>
15:00-15:30	Coordination of the division and replication cycle in <i>E. coli</i> Johan Elf
15:30-16:00	Causal links between cell-cycle progression and DnaA-ATP oscillations in single <i>Escherichia coli</i> cells Marco Cosentino-Lagomarsino
16:00-16:15	Structural basis of kinetic polarity of bacterial cell division protein- FtsZ Chakraborty Joyeeta
16:15-16:30	Accelerating growth dynamics and stochastic shape fluctuations in rod-like bacteria Callaghan Cylke
16:30-17:00	<i>Coffee break</i>

TIMETABLE (Continued)

17:00-19:00	Session 7: Dynamics 2: Variability and Optimized Growth <i>Chair: Jaan Männik</i>
17:00-17:30	A unifying autocatalytic network-based framework for bacterial growth laws Rami Pugatch
17:30-18:00	Using conditional independence tests to elucidate causal links in bacterial cell cycle regulation Ariel Amir
18:00-18:30	Leader cell triggers exit from lag phase: biological insight from statistical limit theorem Naama Brenner
18:30-19:00	Round Table Discussion N. Brenner, J. Männik, R. Pugatch, A. Amir
19:00-20:00	Dinner
20:30	Poster Session II (even numbers) including beers & cheers
Day 3: Wednesday, December 14, 2022	
09:00-10:15	Session 8: Spatio-Temporal Organization 1: DNA Replication - Initiation <i>Chair: Cees Dekker</i>
09:00-09:30	More studies of bacterial chromosome replication: searching for a primitive oriC Alan C Leonard
09:30-10:00	Replication initiation as a model precision control Suckjoon Jun
10:00-10:15	MetA is a “thermal fuse” that inhibits growth and protects Escherichia coli at elevated temperatures Gough Zara
10:15-11:00	Coffee break
11:00-13:00	Session 9: Spatio-Temporal Organization 2: Wall Remodeling and Cell Division <i>Chair: Waldemar Vollmer</i>
11:00-11:30	Spatio-temporal coordination of septal cell wall remodeling during bacterial cell division Jie Xiao
11:30-12:00	Long-range interactions between insulator-like domains in bacteria Leendert W Hamoen
12:00-12:15	Using simulations to investigate the mechanical properties of peptidoglycan Mauri Marco
12:15-12:45	In vitro reconstitution of Escherichia coli divisome activation Martin Loose
12:45-13:00	Escherichia coli invaginates its outer membrane during division through active mobilisation-and-capture of Pal mediated by the Tol system Szczepaniak Joanna
13:00-14:30	Lunch
14:30-16:00	Session10: Cell and the Environment <i>Chairs: Nathalie Q Balaban, Joel Stavans</i>
14:30-15:00	Bacteria vs the environment: growth, cell cycle progression and antibiotic tolerance Petra Levin
15:00-15:30	Homeostasis in bacterial growth during environmental perturbations Kerwyn Casey Huang
15:30-16:00	The disrupted state: a newly defined state of the bacterial cellular network under stress Nathalie Q Balaban
16:00-16:30	Coffee break

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16:00-16:30	Arrays of noisy, coupled circadian clocks in a multicellular cyanobacterial organism, experiment and stochastic model Joel Stavans
16:45-17:00	Circadian clocks control gene expression and gate cell division via an oscillatory master regulator in multicellular Anabaena Rinat Arbel-Goren
17:00-17:15	Unbalanced response to growth variations reshapes the cell fate decision landscape Xiongfei Fu
17:15-17:30	Tradeoffs in bacterial physiology determine the efficiency of antibiotic killing Anat Bren
17:30-18:00	Round Table Discussion N.Q Balaban, P. Levin, K.C Huang, J. Stavans, X. Fu
19:00-20:30	<i>Dinner</i>
20:30	Poster Session (optional)
Day 4: Thursday, December 15, 2022	
08:00-10:30	<i>Optional Tour – Guided walking tour Ein-Gedi botanical gardens</i>
10:30-11:00	<i>Coffee Break</i>
11:00-13:00	Session11: Spatio-Temporal Organization 3: Quantitation and Modelling <i>Chair: Rami Pugatch</i>
11:00-11:30	Cell division, growth and chromosome replication - quantitative relationships Chenli Liu
11:30-12:00	From bacterial to minimal cell division Petra Schwillie
12:00-12:15	Overall biomass yield of multiple nutrient sources Golan Ohad
12:15-12:30	Intra-species diversity in the coordination between growth and cell cycle Campos Manuel
12:30-12:45	Membraneless Organelles and Wisdom of the Crowds: Novel Mechanisms Underlying Gene Regulation in Bacteria Goldberger Omer
12:45-13:00	Cell Growth Model with Stochastic Gene Expression helps Understand the Growth Advantage of Metabolic Exchange and Auxotrophy Dibyendu Dutta
13:00-15:00	<i>Lunch</i>

TIMETABLE (Continued)

15:00-16:30	Session12: Spatio-Temporal Organization 4: Cell Size and Dimensions Homeostasis <i>Chair: Johan Elf</i>
15:00-15:30	How does a bacterium know how fast it grows? Terry Hwa
15:30-16:00	Does the nucleoid determine cell dimensions in <i>E. coli</i> ? Arieh Zaritsky
16:00-16:15	Role of Cell Size Heterogeneity in Escherichia coli Allometric Scaling Kale Tanvi
16:15-16:30	Cell-division time statistics from stochastic exponential threshold-crossing Kuheli Biswas
16:30-17:00	Coffee Break
17:00-16:50	Session13: Workshop Summary and Closing Remarks <i>Chair: Terry Hwa</i>
17:00-18:00	Panel: Summaries of Sessions All Chairpersons
18:00-18:20	Poster awards Ariel Amir & Chenli Liu
18:20-18:50	Closing Remarks Terry Hwa & Waldemar Vollmer
19:00	Farewell Dinner
	Day 5: Friday, December 16, 2022
09:00	Departure from hotel lobby