

QBio 2019

Agenda

Wednesday, July 31st, 2019

2:30 – 5:00 pm

Registration and Tutorials (*Annex I*)

6:00 – 8:00 pm

Opening Banquet (*Jack Adams Hall*)

(*registration also available at Jack Adams Hall*)

- Key Note Talk: **Nathalie Balaban** “Evolution of Antibiotic Resistance under Treatment: from *in-vitro* Insight to the Clinic and back”
-

AGENDA

Thursday, August 1st, 2019

8:30 – 9:00 am	<i>Breakfast (Annex I)</i>
9:00 – 9:30 am	Invited Talk: Marina Elez “Mutation dynamics and fitness effects followed in single cells”
9:30 – 9:50 am	Contributed Talk: “Evolutionary stable coexistence of microbes” Speaker- Zhiyuan Li
9:50 – 10:10 am	Contributed Talk: Heidi Klumpe “Combinatorial logic of BMP signaling”
10:10 – 10:40 am	Invited Talk: Kiran Patil “Model-guided evolution of microbial species and communities”
10:40 – 11:10 am	<i>Break</i>
11:10 – 11:30 am	Contributed Talk: Guang Yao “Modeling the Regulation of Cellular Quiescence Depth by Circadian Clock Proteins”
11:30 – 11:50 am	Contributed Talk: Nan Hao : “Waddington’s Landscape of Cell Aging”
11:50 – 12:10 pm	Contributed Talk: Remy Collin “Stochastic Activity of a Bacterial Sensory Network”
12:10 – 12:40pm	Invited Talk: Jeff Tabor “Engineering bacterial two-component systems as sensors for synthetic biology applications”
	<i>Lunch</i>
12:40 – 1:40 pm	<ul style="list-style-type: none">• NIH Workshop Craig Giroux, NIH Scientific Review Officer, Bioengineering Sciences and Technologies IRG
1:40 – 3:00 pm	Poster Highlights/Poster Session
3:00 – 3:30 pm	Invited Talk: Mary Dunlop “Dynamics and Noise and Antibiotic Resistance in Single Cell”
3:30 – 3:50 pm	Contributed Talk: Kevin Wood “Steering a bacterial pathogen through the phenotypes space of multidrug resistance”
3:50 – 4:10 pm	<i>Break</i>
4:10 – 4:40 pm	Invited Talk: Minsu Kim “Stochastic nature of bacterial eradication using antibiotics”
4:40 – 5:00 pm	Contributed Talk: Allison Lopatkin “Antibiotic lethality depends directly on metabolic state”
5:00 – 5:20 pm	<i>Break</i>
5:20 – 5:40 pm	Contributed Talk: Loic Marrec “Periodic treatments and immunity impact antimicrobial resistance evolution and spread”
5:40 – 6:00 pm	Contributed Talk: Lin Chao “Stochasticity, immortality, & mortality in <i>E. coli</i> ”

Agenda

Friday, August 2nd, 2019

8:30 – 9:00 am	<i>Breakfast (Annex I)</i>
9:00 – 9:30 am	Invited Talk: Sabrina Spencer "Real-time visualization of the inception of drug tolerance in single melanoma cells"
9:30 – 9:50 am	Contributed Talk: Shankur Mukherji "Inferring mechanisms of organelle biogenesis from organelle number and size fluctuations"
9:50 – 10:10 am	Contributed Talk: Sanjana Gupta "Bayesian analysis as a tool for mechanistic inference in cell signaling systems"
10:10 – 10:40 am	Invited Talk: Teuta Pilizota "Single-cell bacterial electrophysiology"
10:40 – 11:10 am	<i>Break</i>
11:10 – 11:30 am	Contributed Talk: Robin Lee "An Accessible Microfluidic Platform to Probe the Capabilities of Single Cells"
11:30 – 11:50 am	Contributed Talk: Xiaojing Gao "Programmable Protein Circuits in Living Cells"
11:50 – 12:20 pm	Invited Talk: Christine Jacobs-Wagner "Together is better than alone: Modulating transcription elongation efficiency through RNA polymerase group dynamics"
12:20 – 1:20 pm	<i>Lunch</i>
1:20 – 2:40 pm	Poster Highlights/Poster Session
2:40 – 3:10 pm	Invited Talk: Ilya Nemenman "Automated, predictive, and interpretable inference of phenomenological models of biological dynamics"
3:10 – 3:30 pm	Contributed Talk: Octavio Mondragon-Palomino "3D imaging of the mammalian microbiota reveals the spatial order of bacteria in the mucosa of intestinal crypts"
3:30 – 3:50 pm	Contributed Talk: Hyun Youk "Ultra-sensitive and fractal-like growth of cells"
3:50 – 4:20 pm	Invited Talk: Arjun Raj "Single cell analysis in cancer"
4:20 – 4:50 pm	<i>Break</i>
4:50 – 5:10 pm	Contributed Talk: William Holmes "Microtubules Negatively Regulate Insulin Secretion in Pancreatic Beta Cells"
5:10 – 5:30 pm	Contributed Talk: Roe Amit "Synthetic 5' UTRs can either up- or down-regulate expression upon RBP binding"
5:30 – 6:00 pm	Invited Talk: Megan McClean "Single-cell measurement and control to unravel yeast expression heterogeneity"

AGENDA

Saturday, August 3rd, 2019

8:30 – 9:00 am	<i>Breakfast (Annex I)</i>
9:00 – 9:30 am	Invited Talk: Zev Gartner “Building Tissues to Understand how Tissue Build Themselves”
9:30 – 9:50 am	Contributed Talk: Jing Chen “What a Lysis Pattern Tells about Phage-Bacteria Co-Propagation”
9:50 – 10:20 am	Invited Talk: Chase Broedersz “Dynamics of confined cell migration”
10:20 – 11:10 am	<i>Break</i>
11:10 – 11:30 am	Contributed Talk: Catherine Tan “Probing Macromolecular of Crowding in the Cell Nucleus”
11:30 – 11:50 am	Contributed Talk: Beatrice Ramm “Molecular Transport by a Propagating Diffusion Barrier” Speaker-
11:50 – 12:20 pm	Invited Talk: Toshiyuki Nakagaki “Transport network in living systems by current-reinforcement rule”
12:20 – 1:20 pm	<i>Lunch</i>
1:20 – 2:40 pm	Poster Highlights Poster Session
2:40 – 3:10 pm	Invited Talk: Stacey Finley “Multiscale model predicts dynamics of metabolic reprogramming in tumor spheroids”
3:10 – 3:30 pm	Contributed Talk: Thomas Julou “Faster Growth Reduces the Sensitivity of Gene Circuits to Environmental Signals”
3:30 – 3:50 pm	Contributed Talk Jennifer Oyler-Yaniv “TNFa regulates the tradeoff between speed and accuracy of apoptosis to restrict viral infection”
3:50 – 4:20 pm	Invited Talk: Sahand Hormoz “What can single-cell profiling tell us about blood cancers”
4:20 – 4:50 pm	<i>Break</i>
4:50 – 5:10 pm	Contributed Talk: Kay Chung “A compact synthetic pathway requires cancer signaling to therapeutic effector release”
5:10 to 5:30 pm	Contributed Talk: Christine Ho “Synchronizing mouse presomitic mesoderm cells <i>Ex vivo</i> and <i>in silico</i> approaches”
5:30 – 6:00 pm	Invited Talk: Allyson Sgro “Identifying the key control parameters driving collective multicellular signaling and pattern formation”
6:00 – 8:00 pm	<i>Closing Banquet at Jack Adams Hall</i> <ul style="list-style-type: none">• Key Note Talk: Wallace Marshall “The flagellar length control system”
