

## POSTER SPOTLIGHTS

<u>LAST NAME</u>	<u>FIRST NAME</u>	<u>ABSTRACT TITLE</u>
AHMED	YASMINE	“Automated extension of executable intra-cellular network models”
ARANDA-DIAZ	ANDRES	“ <i>In Vitro</i> Culturing of Fecal Microbial Communities to Study Perturbations to the Gut Microbiota”
VAN DEN BERG	PATRICK	“Pervasive discordance between mRNA and protein expression during embryonic stem cell differentiation”
BROUWERS	REBECCA	“Measuring and predicting bacterial response to cell-wall targeting antibiotics”
DIXIT	PURUSHOTTAM	“Quantifying spatiotemporal variability and noise in absolute microbiota abundances using replicate sampling”
DUPIC	THOMAS	“Genesis of $\alpha$ - $\beta$ T-cell receptor through high-throughput pairing”
FUMAGALLI	MARIA RITA	“Cross-talk between circRNAs and mRNAs modulates miRNA-mediated circuits and affects melanoma plasticity”
GUINN	TYLER	“Mammalian Gene Expression Control & Noise Reduction using Optogenetic Negative Feedback Circuits”
HONG	TIAN	“An enriched network motif family regulates multistep cell fate transitions with restricted reversibility”
LALANNE	JEAN-BENOIT	“Evolutionary convergence of pathway-specific enzyme expression stoichiometry”
LEMIERE	JOEL	“Effects of mechanical pressure on <i>S. pombe</i> ”
MCMNAMARA	HAROLD	“Electrical Reaction-Diffusion Pattern Formation in Synthetic Biological Tissues”
NAKAGAWA	RACHEL	“Characterizing subclonal cooperation in tumor progression”
NISSEN	SILAS BOYE	“Theoretical tool bridging cell polarities with development of robust morphologies”
OYLER-YANIV	ALON	“Measuring Viral Spread in a Whole Organ”
READ	ELIZABETH	“Stochastic Analysis of Kinetic Heterogeneity in Post-replication DNA Methylation”

RIVERA	CATALINA	“Inferring phenomenological models for first passage processes”
SANCHEZ	PAUL GERALD	“Microfluidics-based entrainment of signaling oscillations in mouse somitogenesis”
SRINIVAS	VIVEK	“Characterization and elimination of stochastically generated persister subpopulation in mycobacteria”
SUBRAMANIAM	ARVIND	“Inverted Control of Eukaryotic Gene Expression by Ribosome Collisions”

# POSTERS

<u>LAST NAME</u>	<u>FIRST NAME</u>	<u>ABSTRACT TITLE</u>
AGMON	ERAN	"Kinetic transport in a whole-cell model of <i>E. coli</i> "
AGRAWAL	ANAMIKA	"Optimization of Transport to Multiple Protein Demand Sites in the Neuron"
AGRAWAL	DEEPAK	"Designing protease-based enzymatic logic circuits"
ALVAREZ AZANEDO	GABRIELA	"Yeast as bioreactors: Understanding the role of vacuolar size in biochemicals Concentration"
ANBARI	SAMIRA	"An Auto-catalytic Cell Intercalation Mechanism to Understand Tissue Elongation during Morphogenesis"
ANDREWS	STEPHEN	"Macromolecular Crowding Effects on Diffusion-Influenced Reaction Rates"
ASPERTI	FRANCOIS	"Towards another narrative for T lymphocyte motility from alternative statistical analysis"
BAETICA	ANIA-ARIADNA	"Design Guidelines for Sequestration Feedback Control"
BARDWELL	LEE	"Specificity in Protein-Protein Interaction Networks"
BASTOUNIS	EFFIE	"Mechanical Forces Govern Interactions of <i>Listeria monocytogenea</i> with Host Epithelial Cells"
BERENSON	DANIEL	"A Novel Fluorescent Protein Reporter for Size of Live Human Cells"
BOURASSA	FRANCOIS	"Deciphering the code of cytokines with $\phi$ -evo"
BRAJESH	R G	"A Model to Study Distribution of Fitness Effects in Genetic Networks"
CASS	JULIE	"Bayesian detection of diffusive heterogeneity"
CHANG	JEREMY	"Temporary oncogene inhibition leads to irreversible cell cycle arrest"
CHARDES	VICTOR	"Optimal response to pathogen evolution in immune repertoires"

CHATURVEDI	SONALI	“Disrupting Transcriptional Feedback Yields an Escape-Resistant Antiviral”
CHEMEL	ANGELINE	“The Relationship between Vacuole Inheritance and Biogenesis”
CHEN	HAO	“Dynamics of Blood Flow in Liver Discriminate Hepatic Fibrosis”
CHEN	YANYAN	“Understanding Cell Size Homeostasis and Phenotypic Diversity during Bacteria Filamentation”
CHOU	CHUN TUNG	“Using Bayesian Detection Theory To Derive a Decoder Of Concentration Modulated Signals”
COOLEY	SHAMUS	“The Frailty of Nonlinear Dimensionality Reduction in single cell RNA-Seq Data”
DANESHPOUR	HIRAD	“Quorum Sensing In Mouse Embryonic Stem Cells Controls Survival And Growth During Differentiation”
DAVTYAN	ARAM	“Theoretical Insights into Mechanisms of Channel-Facilitated Molecular Transport in the Presence of Stochastic Gating”
DEJONG	MAXWELL	“Tuning Spatial Profiles of Selection Pressure to Modulate the Evolution of Antibiotic Resistance”
DING	FANGYUAN	“Constitutive splicing and economies of scale in gene expression”
DINH	TRANG	“Tensor train solution to the equilibrium of the Chemical Master Equation”
DOOSTHOSSEINI	HAMID	“Parametrizing a Quantitative Model of Genetic Circuit Function with a Single Experiment”
EBRAHIMPOUR-BOROOJENY	ALI	“Graph Traversal Edit Distance”
FOREMAN	ROBERT	“Gene expression differences explain heterogeneity in calcium signaling response to ATP”
FOREMAN	ROBERT	“Intrinsic gene variability is near Poisson”
FU	YIBEN	“Modeling protein-membrane interactions through an efficient continuum model of lipids”

GOMEZ-SCHIAVON	MARIANA	"A simple and generalizable metric for quantifying feedback control in biomolecular systems"
GREEN	LEOPOLD	"Cooperative Control of Bacterial Consortia with Applications to a Wound-Healing Model System"
HALLERAN	ANDREW	"Random plasmid partitioning reduces the evolutionary stability of synthetic circuits"
HAN	JUNGMIN	"Heritability of Fitness"
HANSEN	CASEY	"Interaction Classifier Improves Accuracy of Fully Automated Model Expansion"
HARRIS	LEONARD	"A computational model of cell phenotype interactions in small cell lung cancer"
HOANG	DANH-TAI	"Protein contacts using Expectation Reflection"
HORTON	CONNOR	"Repetitive sequences tune transcription factor-DNA binding by modulating the kinetics of the transcription factor search process"
HUYAN	CHUQIAO	"Modeling Emergent Biological Phenomena: A Case Study in the Social Amoeba"
JIA	WEN	"Modeling epigenetic feedback regulation during Epithelial-Mesenchymal Transition (EMT)"
JIANG	YI	"Mechanics before Chemistry: Tensile Stress Induced Cytoskeletal Reorganization"
JONES	BARBARA	"Dynamics of Viral Evolution"
KARKARIA	BEHZAD	"Computational Design of Synthetic Microbial Communities"
KAVCIC	BOR	"Translational bottlenecks underlie diverse drug interactions between translation inhibitors"
KIM	SEUNGCHAN	"Tumor cell phenotype and heterogeneity differences in IDH1 mutant vs wild-type gliomas"
KIRBY	DUNCAN	"Modeling Signal Cross-talk in Type I Interferon"
KOGANEZAWA	YUTA	"History-dependent Maintenance of Drug Resistant Phenotypes against Resistant Gene Deletion"
KRASNOPEEVA	EKATERINA	"Single-cell bacterial electrophysiology reveals mechanisms of stress induced damage"

KUS	PAWEL	“Influence of measurement bias on the interpretation of RNA sequencing result”
LAMAN TRIP	DIEDERIK	“Model for transitions between life and death”
LANGEVIN	ARIEL	“Emergence of antibiotic resistance under different environmental dynamics”
LANNAN	RYAN	“Dynamic fluctuations within an epigenetic landscape underlie gene expression variability”
LEWIS	GREYSON	“Constructing Mitochondrial Shape Space”
LINARES	JUAN CARLOS	“Analytical behavior and comparison between second order genetic regulatory systems”
LU	MINGYANG	“Dynamics of Gene Regulatory Circuits Drive Irreversible State Transitions during Cell Cycle”
LUBENSKY	DAVID	“Clocks, Anticipation, and Growth in Bacteria”
LUGAGNE	JEAN-BAPTISTE	“Single-cell, dynamic interrogation of antibiotic resistance acquisition”
MAIRE	THÉO	“Restarting life on demand: Distinguishing dormancy from death by resuming life in yeast”
MANI	SOMYA	“Minimal Boolean model of biological development”
MARKEN	JOHN	“Addressable, "Packet-Based" Intercellular Communication through Plasmid Conjugation”
MARTIN	ADRIAN	“Physical Stretch Activates Mechanically-Gated Calcium Channels for Nitric Oxide (NO) Formation in the Ectoderm of Chicken Embryos”
MCSELFRESH	GW	“Multi-Timescale Dynamics of the Cell Cycle-Stress Response Interface”
MESSELINK	JORIS	“Revealing bacterial chromosome organization from Hi-C data using a maximum entropy approach”
MOMENI	BABAK	“Modeling nasal microbiota: Insight from <i>in vitro</i> experimental characterizations”

MUDLA	ANUSORN	“Decoupling Priming and Desensitization in Response to IFN-alpha Pretreatment”
NAKAYASU	ERNESTO	“Resource reallocation in engineered <i>Escherichia coli</i> strains with reduced genomes”
NIETO-ACUNA	CESAR	“Measurement of noise on added size for <i>E. coli</i> adder and sizer-like division strategies suggests a multi-step control”
NUNLEY	HAYDEN	“Generating Cell Fate Patterns via Mechanical Stress in Human Stem Cells”
ODERMATT	PASCAL	“Cytoplasmic density dynamics in fission yeast”
PADMKAUMAR	JAI	“Mining phage genomes for genetic circuit parts”
PARGETT	MICHAEL	“Rescaling mutant Ras signals by ERK”
PERIWAL	VIPUL	“Classification using Expectation Reflection”
PULS	OWEN	“Towards a Quantitative Understanding of Spontaneous Mitotic Waves”
RAMIREZ-CORONA	BRYAN	“Measuring the Influence of <i>cis</i> -Acting Changes on the Transcriptional Response to Infection in <i>Drosophila</i> ”
RAY	CHRISTIAN	“Inferring a Lot at Once from the Same Cell”
RODRIGUES	NICOLE	“Mitochondrial Localization Within <i>Stentor</i> ”
ROSA	LUCA	“Computation Using Patterning of Bacterial Colonies”
SACHDEVA	VEDANT	“A Time-Dependent Evolutionary Strategy to Discover Generalist Genotypes”
SAMPAIO	NADIA	“Heterogeneity in efflux pump expression in different growth contexts”
SANCHEZ-TAPIA	CYNTHIA	“Control Structures of a Cancer Drug Resistance Model”
SEKAR	JOHN	“Reaction Rules For Whole-Cell Models”
SHI	HANDUO	“Regulation of the Ratio of Surface Area and Volume Synthesis In Fluctuating Environments”
SMART	MATTHEW	“Interacting Hopfield Networks as a Simple Model For Multicellular Gene Regulation”

SPARTA	BREANNE	“Continuous Adaptation By The Mtorc1-TFEB Axis”
SPISAK	NATANAEL	“Evolutionary Paths In Affinity Maturation”
TAGGART	JAMES	“Production Of Protein-Complex Components Is Stoichiometric And Lacks General Feedback Regulation In Eukaryotes”
TCHOURINE	KONSTANTINE	“Functional Variation Elucidates Macroecological Relationships In Gut Microbial Dynamics”
THOMPSON	SAMUEL	“Protein Quality Control Tunes Fitness Landscapes”
TIAN	XIAO-JUN	“Topology-Dependent Interference of Synthetic Gene Circuits by Growth Feedback”
TOMITA	TAKEHITO	“Exploring The Effects Of Signaling Gradients On The Dynamics Of The Segmentation Clock Oscillations”
VARGA	MATTHEW	“A Software For Reaction-Diffusion Simulations Of (Non-)Equilibrium Self-Assembly”
VASTOLA	JOHN	“From Useful Metaphor To Quantitative Framework: A Unified View Of Waddington Landscapes”
VENNETILLI	MICHAEL	“Collective Sensing By Cell Populations With Feedback And Communication”
WANG	HUIJING	“RNA-Seq Reveals Regulatory Pathways In A New Kind Of Persister Cell Phenotype”
WANG	SHANGYING	“Massive Computational Acceleration By Using Neural Networks To Emulate Mechanism-Based Biological Models”
WANG	SHIYUAN	“Energy-Dependent Regulation Of The Cell Cycle”
WILLIAMS	DAVE	“Inferring Intercellular Tension In Cell-Colony Time-Lapse Videos”
WILLIS	LISA	“Connecting Mechanisms Of Cell Proliferation To Size-Homeostasis Statistics”
YE	LI	“Bacterial Transport Via Surface Tension Driven Flow”



ZHANG	BIN	“Modeling Complex Ecosystem In Collective Cancer Invasion Using An Evolutionary Gene Theory Framework”
ZHANG	ZHIBO	“Understanding The Timing And System Architecture Of The Mesenchymal Stem Cell To Bone-Fat Two-Way Fate Decision”
ZHAO	JIAXI	“Binary establishment and maintenance of discrete cell fates in development”