AGENDA

Winter qBio Conference 2026

Monday, February 16, 2026

5:00 - 8:00 PM **Opening Registration and Welcome Reception**
Location: Napili Pool Lawn

Tuesday, February 17, 2026

7:00 - 8:30 AM **Registration and Breakfast**
Location: Sunset Terrace

8:30 - 10:20 AM **Opening Remarks and Morning Session I**
Location: Monarchy Ballroom 2-3
Chair: Gurol Suel

Opening Remarks: Hana El-Samad and Wendell Lim
8:30 - 8:50 AM

Keynote 1: Hana El-Samad
9:00 - 9:35 AM

Ramya Deshpande: Predictive Multicellular Assembly via Cell-Cell Adhesion
9:40 - 9:55 AM

Jungmin Lee: Engineering Orthogonal Chemokine-Receptor System to Control Immune Cell Trafficking
10:00 - 10:15 AM

10:20 - 10:40 AM **Coffee Break**
Location: Monarchy Terrace

10:40 - 12:15 PM **Kids' Science!**
Location: Sunset Terrace

10:40 - 12:15 PM **Morning Session II**
Location: Monarchy Ballroom 2-3
Chair: Gurol Suel

Keynote 2: Michael Elowitz
10:40 - 11:15 AM

Mathias Heltberg: Oscillatory Control of Biomolecular Condensates in Regulation of the DNA Damage Response
11:20 - 11:35 AM

Silvia Canas Duarte: Revisiting aging in Escherichia coli: When prepping goes awry
11:40 - 11:55 AM

Justin Gallivan: Keck Foundation
12:00 - 12:10 PM

12:15 - 1:45 PM **Lunch (on own)**

1:45 - 3:30 PM **Main Afternoon Session**
Location: Monarchy Ballroom 2-3
Chair: Wendell Lim

Gege Qian: Remodeling of Cancer Cell Architecture by Chemotherapy
1:50 - 2:05 PM
Keynote 3: Silvia Santos
2:10 - 2:45 PM
Saki Ozeki: Large-Scale Automated Cell Lineage Analysis for Ploidy Transitions
2:50 - 3:05 PM
Shixuan Liu: The Changing Seasonality of Human Reproduction
3:10 - 3:25 PM

6:00 - 8:00 PM **Pau Hana**
A roundtable event with lively discussions that serve to create a positive culture and embrace DEI within the Winter qBio community
Location: Monarchy Ballroom 2-3

Wednesday, February 18, 2026

7:00 - 8:30 AM **Breakfast**
Location: Sunset Terrace

8:30 - 10:20 AM **Contributed Session I**
Location: Monarchy Ballroom 1

Akihiro Isomura: A synthetic biology approach to synchronising the segmentation clock
8:30 - 8:40 AM
Xueqi Jia: Cdh2, as a target of Hes7, fine-tunes the timing of presomitic mesoderm cell differentiation by supporting FGF signaling
8:40 - 8:50 AM
Mohamad Najia: Live-cell transcriptomics with engineered virus-like particles
8:50 - 9:00 AM
P C Dave Dingal: Sequence-specific control of embryonic signaling and development using a synthetic protease library
9:00 - 9:10 AM
Ayumi Goto: Cooperative Roles of Lfng and Dll3 in Stabilizing Segmentation Clock Synchrony
9:10 - 9:20 AM
Cordelia McGehee: Translational Readthrough as a Mechanism of

Chemotherapy Resistance
9:20 - 9:30 AM
Debalina Datta: Age-Dependent Remodeling of Cellular Stress Response Kinetics: Optogenetic Dissection of the ISR Across the Human Lifespan
9:30 - 9:40 AM
Keith Breau: Coupling mathematical modeling with a novel human intestinal stem cell system to understand feedback regulation during planar cell polarity
9:40 - 9:50 AM
Alain Bonny: Stromal-Stem Cell Spatiotemporal Coordination in Tissue Repair
9:50 - 10:00 AM
Mark Greenwood: Epinephrine oscillation enhances the alertness of target cells to stress
10:00 - 10:10 AM

8:30 - 10:20 AM **Contributed Session II**

Location: Maui Suites 3-4

Hollie Hindley: Heterogeneity in responses to ribosome-targeting antibiotics mediated by bacterial RNA repair
8:30 - 8:40 AM
Ksenia Sokolova: Noncoding Regulatory Impact Shapes Cancer Progression
8:40 - 8:50 AM
Hyongbum Kim: High-Throughput Functional Annotation of Genetic Variants using Prime Editing and Deep Learning
8:50 - 9:00 AM
Pujun Guan: Evaluating Single-Cell Integration without Ground Truth
9:00 - 9:10 AM
Cyrus Knudsen: Producing quantitative protein function data at scale to enable protein design
9:10 - 9:20 AM
Alexandra Nava: A Machine-Learning Model Predicts Spore Germination
9:20 - 9:30 AM
Joseph Slivka: Dissecting the stepping dynamics of dynein using 1- and 2-color MINFLUX
9:30 - 9:40 AM
Wei Chen: De novo design of transcription regulators
9:40 - 9:50 AM
Ruoyu Wang: Single-molecule sequence model of the human regulatory genome
9:50 - 10:00 AM
Wojciech Szpankowski: Detecting Correlated Structures in Biological Networks with Mismatches
10:00 - 10:10 AM

10:20 - 10:40 AM **Coffee Break**

Location: Monarchy Terrace

10:40 - 12:15 PM **Kids' Science!**

Location: Sunset Terrace

10:40 - 12:15 PM **Main Morning Session**

Location: Monarchy Ballroom 2-3

Chair: Jeff Hasty

Announcements

10:40 - 10:50 AM

Keynote 4: Kiana Aran | Connecting Semiconductors Chips to the Machinery of Life

10:55 - 11:30 AM

Keynote 5: Michael McManus

11:35 - 12:10 PM

12:15 - 1:45 PM **Lunch (on own)**

1:45 - 2:55 PM **Main Afternoon Session**

Location: Monarchy Ballroom 2-3

Chair: Hana El-Samad

Keynote 6: Wendell Lim

1:50 - 2:25 PM

Charilaos Giannitsis: Many behaviors, one regulator: The phenotypic landscape of a single transcription factor

2:30 - 2:45 PM

2:55 - 3:15 PM **Coffee Break**

Location: Monarchy Terrace

3:15 - 5:00 PM **Poster Session**

Location: Maui Suite 2

Thursday, February 19, 2026

7:00 - 8:30 AM **Breakfast**

Location: Sunset Terrace

8:30 - 10:20 AM **Contributed Session I**

Location: Monarchy Ballroom 1

David Glass: Engineering synthetic multicellularity for understanding consortia and tissue behavior

8:30 - 8:40 AM

Xiao Peng: Feedback control of differentiation for ratiometric stability and pattern formation of synthetic multicellular system

8:40 - 8:50 AM

Paige Steppe

8:50 - 9:00 AM

Gene-Wei Li: The defining features of intrinsic transcription terminators

9:00 - 9:10 AM

Yujia Liu: Reconstitution of feedback architectures in the cyanobacterial clock that allow growth tolerance
9:10 - 9:20 AM
Katie O'Connor
9:20 - 9:30 AM
Kevin YuKai Chao: A Genetically Encoded Device for Transcriptome Storage in Mammalian Cells
9:30 - 9:40 AM
Vaibhav Murthy: Decoding Niche Organization and Adaptive Signaling Activation Patterns Underlying Spatiotemporal Osteosarcoma Drug Response Heterogeneity
9:40 - 9:50 AM
Victoria Chen: Uncovering the Long-Term Dynamics of Engineered Genes Released to the Environment
9:50 - 10:00 AM
Jaeseung Hahn: Two-state pharmacokinetic model simulates systemic delivery of bacterial cancer therapy with dynamic encapsulation system
10:00 - 10:10 AM

8:30 - 10:20 AM Contributed Session II

Location: Maui Suites 3-4

Paola Vera-Licona: Cancer Reversion Encyclopedia: A Quantitative Multi-Omics Map of Cancer Cells Phenotype Reprogramming
8:30 - 8:40 AM
Tongli Zhang: Cerebrospinal Fluid Adrenocortical-Brain Steroid Concentrations and Dynamics in Healthy Humans and in Veterans with Posttraumatic Stress Syndrome: Physiologically-based Hormone Dynamic Modeling
8:40 - 8:50 AM
Gerald Pao: Explainable data science on low dimensional manifolds
8:50 - 9:00 AM
Riley Juenemann: Evaluating Genetic Engineering Trade-offs Through Whole-cell Modeling of Escherichia coli
9:00 - 9:10 AM
Meera Prasad: Learning the rules of life by playing multicellular games
9:10 - 9:20 AM
Xin Wang: Same-cell profiling of chromatin accessibility and protein
9:20 - 9:30 AM
Benjamin Swedlund: Engineering Self-Organized Tissue-Scale Patterns in Mammalian Cells using Synthetic Reaction-Diffusion Circuits
9:30 - 9:40 AM
Jiayi Wu: Tuning a Genetic Circuit with Double Negative Feedforward Loops to Approximate Square Waves
9:40 - 9:50 AM
Ksenia Zlobina: Reconstructing Biological Dynamics from Transcriptomic Time Series
9:50 - 10:00 AM

Filippo Liguori: Dynamic Gene Expression Mitigates Mutational Escape in Lysis-Driven Bacteria Cancer Therapy
10:00 - 10:10 AM

10:20 - 10:40 AM **Coffee Break**
Location: Monarchy Terrace

10:40 - 12:15 PM **Main Morning Session**
Location: Monarchy Ballroom 2-3
Chair: Olga Troyanskaya

Announcements
10:40 - 10:50 AM
Keynote 7: Ellen Zhong
10:55 - 11:30 AM
Keynote 8: Michael Shelley
11:35 - 12:10 PM

12:15 - 1:45 PM **Lunch (on own)**

1:45 - 3:10 PM **Main Afternoon Session**
Location: Monarchy Ballroom 2-3
Chair: Lev Tsimring

Shah Md Toufiqur Rahman: Pooled CRISPRi and live-cell imaging reveal enhancer control of NF-κB signaling dynamics
1:50 - 2:05 PM
Keynote 9: Sujit Datta | Death and chemotaxis: Watching bacterial groups navigate complex environments
2:10 - 2:45 PM
Anthony Fung: Pan-organ profiling of immunosenescence reveals distinct senotypic patterns driven by cell-type and age
2:50 - 3:05 PM

6:30 - 9:30 PM **Banquet!**
Location: Halona Kai

Friday, February 20, 2026

7:00 - 8:30 AM **Breakfast**
Location: Sunset Terrace

8:30 - 10:20 AM **Contributed Session I**
Location: Monarchy Ballroom 1

Mohamed El-Brolosy: ILF3 Links Mutant mRNA Decay to Transcriptional Activation During Transcriptional Adaptation to Mutations—A Process Driven

by Novel Trigger RNAs
8:30 - 8:40 AM
Taimu Masaki: Reprogramming Müller glia to induce oscillatory Ascl1 expression and neurogenesis in the adult mammalian retina
8:40 - 8:50 AM
Chloe Nguyen: Engineering stable cell fate commitment via duplicate-origin cutter plasmids
8:50 - 9:00 AM
Gavin Schlissel: Extracellular Hedgehog diffusion, and evolution of morphogen gradients
9:00 - 9:10 AM
Ivy Xiong: Dynamic flow-metabolic coupling in renal tubules underlies water and electrolyte conservation by the mammalian kidney
9:10 - 9:20 AM
Bassem Al-Sady: Hysteresis measurements reveal a memory gradient in the repressed genome
9:20 - 9:30 AM
Brian Cleary: Fundamental errors in RNA velocity arising from the omission of cell growth
9:30 - 9:40 AM
Bo Gu: Dissecting the Logic of Signaling Receptor Competition using Multiplexed CRISPRi
9:40 - 9:50 AM
Tammy Collins: Insights from Reviewers: Unlocking Success in Applying for Burroughs Wellcome Fund's Career Awards at the Scientific Interface (CASI)
9:50 - 10:00 AM
Camilo Rey-Bedon
10:00 - 10:10 AM

8:30 - 10:20 AM Contributed Session II

Location: Monarchy Ballroom 2-3

Tammy Collins: Insights from Reviewers: Unlocking Success in Applying for Burroughs Wellcome Fund's Career Awards at the Scientific Interface (CASI)
8:30 - 8:40 AM
Mohammad Fallahi-Sichani: AP-1 co-regulatory network organizes discrete, heterogeneous, and reconfigurable cell states
8:40 - 8:50 AM
Thomas Kuhlman: Human Stress Response Specificity through Bioresonance Selectivity
8:50 - 9:00 AM
Yuki Maeda: Functional analysis of asynchronous Hes1 oscillations in the neural tube formation
9:00 - 9:10 AM
Ljubica Mihaljevic: Membrane protein solubilization and structure determination using WRAPs
9:10 - 9:20 AM
Paige Nickerson: The regulatory action of H-NS on gene expression in circular and linear DNA
9:20 - 9:30 AM

Lili Yang: Single-molecule Imaging Reveals RNA Polymerase Generates and Confines DNA Supercoiling
9:30 - 9:40 AM
Piyush Nanda: Competition between cytosolic and mitochondrial ribosomes produces a metabolic bistable switch
9:40 - 9:50 AM
Huyun Chen: Biophysical Requirements for Multicellular Ca^{2+}–ROS Wave Propagation
9:50 - 10:00 AM
Heath Johnson: Optogenetic construction of de novo integrin-adhesion complexes reveals role for biocondensation in adhesion nucleation
10:00 - 10:10 AM

10:20 - 10:40 AM **Coffee Break**
Location: Monarchy Terrace

10:40 - 12:30 PM **Main Morning Session and Closing Remarks**
Location: Monarchy Ballroom 2-3
Chair: Jeff Hasty
Amy Herr: Design of microanalytical tools to understand single-cell biology
10:40 - 10:55 AM
Keynote 10: Olga Troyanskaya
11:00 - 11:35 AM
Matthew Bennett: Fast, long-range intercellular signal propagation through growth assisted positive feedback
11:40 - 11:55 AM
Closing Remarks: Jeff Hasty
12:00 - 12:25 PM

12:30 PM **Meeting adjourns**