

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 - 8:55 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: Engineering protein circuits for cancer therapy
 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 1

6:00 - 8:00 PM

Kids' Movie Night

Location: Maui Suite 4

Wednesday, February 18, 2026

7:00 - 8:30 AM

Breakfast

Location: Sunset Terrace

8:30 - 10:20 AM

Contributed Session I

Location: Maui Suite 3

Akihiro Isomura: A synthetic biology approach to synchronising the segmentation clock

8:30 - 8:40 AM

Mohamad Najia: Live-cell transcriptomics with engineered virus-like particles

8:40 - 8:50 AM

P C Dave Dingal: Sequence-specific control of embryonic signaling and development using a synthetic protease library

8:50 - 9:00 AM

Ayumi Goto: Cooperative Roles of Lfng and Dll3 in Stabilizing Segmentation Clock Synchrony

9:00 - 9:10 AM

Cordelia McGehee: Translational Readthrough as a Mechanism of Chemotherapy Resistance

9:10 - 9:20 AM

Debalina Datta: Age-Dependent Remodeling of Cellular Stress Response Kinetics: Optogenetic Dissection of the ISR Across the Human Lifespan

9:20 - 9:30 AM

Keith Breau: Coupling mathematical modeling with a novel human intestinal stem cell system to understand feedback regulation during planar cell polarity

9:30 - 9:40 AM

Alain Bonny: Stromal-Stem Cell Spatiotemporal Coordination in Tissue Repair

9:40 - 9:50 AM

Mark Greenwood: Epinephrine oscillation enhances the alertness of target cells to stress

9:50 - 10:00 AM

8:30 - 10:20 AM

Contributed Session II

Location: Maui Suite 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 <i>Chair: Jeff Hasty</i> 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 <i>Chair: Hana El-Samad</i> 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: Maui Suite 3 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: Patient-derived organoids as predictive disease models for therapeutic chassis selection

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 Suite 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: Olga Troyanskaya
 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: Maui Suite 3

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

Paula Godoy: TBD

9:50 - 10:00 AM

Tammy Collins: Insights from Reviewers: Unlocking Success in Applying for Burroughs Wellcome Fund's Career Awards at the Scientific Interface (CASI)

10:00 - 10:10 AM

8:30 - 10:20 AM

Contributed Session II

Location: Maui Suite 4

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: Ellen Zhong

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

