

Conference Schedule

Quantitative Biology 2026: Systems and Physical Biology

Location: Building 1, Zhongguanyuan Global Village PKU
(中关村新园 1 号楼群英厅)

Day 1 (July 20, 2026)

13:00-17:30	Registration (Building 1, Zhongguanyuan Global Village PKU, 中关村新园 1 号楼大厅)	
17:30-18:45	Dinner (Heyuan Restaurant, 和园餐厅)	
Time	Speaker	Title
Opening Lecture (Chair: Chao Tang) (Building 1, Zhongguanyuan Global Village PKU, 中关村新园 1 号楼群英厅)		
	Kim Sneppen	
19:00-20:00	University of Copenhagen	Spatio, Dynamics and Barriers in Biology

Day 2 (July 21, 2026)

8:20-8:50	Registration (Building 1, Zhongguanyuan Global Village PKU, 中关村新园 1 号楼群英厅)	
Time	Speaker	Title
Session 1 (Chair: Zhiyuan Li)		
	Sergei Maslov	Ecology and Evolution of Microbial Metabolic Strategies in
9:00-9:40	University of Illinois Urbana-Champaign	Boom-and-Bust Environments
	Xiongfei Fu	
	Shenzhen Institutes of Advanced	
9:40-10:10	Technology, Chinese Academy of Sciences	Cell State Transitions Beyond the Small-Noise Limit
10:10-10:40	Group Photo / Coffee Break	
Session 2 (Chair: Hang Yu)		
	Shuqiang Huang	
	Shenzhen Institutes of Advanced	Bacterial Survival Strategies under Multi-dimensional
10:40-11:10	Technology, Chinese Academy of Sciences	Environmental Stresses
	Yuansheng Cao	Dynamic Condensates Enhance the Robustness of
11:10-11:25	Tsinghua University	Biological Oscillations
	Yuping Chen	
	Shenzhen Institutes of Advanced	
11:25-11:40	Technology, Chinese Academy of Sciences	Spatial Diffusion Bottlenecks Translation Initiation
	Jintao Liu	Combination of Glucose and Oxygen Gradients Dictates
11:40-11:55	Tsinghua University	Metabolic Regime and Antibiotic Tolerance of Biofilms
12:00-13:30	Lunch (Heyuan Restaurant, 和园餐厅)	
Session 3 (Chair: Ming Han)		
	Junhua Yuan	
	University of Science and Technology of	Hydrodynamic Phase Entrainment Drives Synchronization
13:30-14:10	China	of Sperm Flagella

	Yufei Wu	A Fluid-Centric Theory of Notochord Development and Perturbation Response
14:10-14:25	Duke University	
	Hanqing Guo	Par3 Condensate Wetting Stabilizes Adherens Junctions in a Bistable Actomyosin Architecture
14:25-14:40	Westlake University	
	Haowei Meng	Precise DNA Base Editing via AlphaFold3-Based Contact Modeling
14:40-14:55	Peking University	
	Jiazhen Liu	
14:55-15:10	Fudan University	Dynamical Phase Transitions in Nonequilibrium Networks
15:10-15:40	Coffee Break / Posters	
Session 4 (Chair: Jie Lin)		
	Dapeng Bi	
15:40-16:10	Northeastern University	Geometry, Mechanics, and Disorder in Epithelial Tissues
	Wei-Hsiang Lin	
	Institute of Molecular Biology, Academia Sinica	Measuring and Modeling the Dynamics of <i>E. coli</i> Growth and Metabolism
16:10-16:40		
	Ziwei Dai	
	Southern University of Science and Technology	
16:40-16:55		Economic Principles of Metabolic Networks
	Weikang Wang	
	Institute of Theoretical Physics, Chinese Academy of Sciences	Sloppiness and Least Action in Cell State Transition Revealed by Information Geometry
16:55-17:10		
	Xin Lai	HallmarkGraph: A Biologically Grounded, Interpretable Graph Neural Network for Pan-Cancer Classification
17:10-17:25	Tampere University	
	Yao Li	From Zebrafish Notochords to Table Tennis Balls: Packings in Anisotropic Cylinders
17:25-17:40	Nankai University	
17:40	Dinner (Shiguang Restaurant, 时光餐厅)	

Day 3 (July 22, 2026)

Time	Speaker	Title
Session 1 (Chair: Jing-Dong Jackie Han)		
9:00-9:40	Jianhua Xing	Theoretical Biological Physics is More Important Than Ever in the AI Era
	University of Pittsburgh	
9:40-10:10	Jae Kyoung Kim	Advancing Static and Time-Series Data Analysis for Biology and Medicine
	Korea Advanced Institute of Science and Technology	
10:10-10:40	Coffee Break / Posters	
Session 2 (Chair: Peijie Zhou)		
10:40-11:20	Qing Nie	From Single Cells to Multicellular Organization: Spatiotemporal Learning from Static Omics Data
	University of California, Irvine	
11:20-11:35	Xuefei Li	Quantitative Cellular Neighbourhood Spatial Features in Solid Tumours and Their Association with Patient Prognosis and the Hot-Cold Immune Transition
	Shenzhen Institutes of Advanced Technology, Chinese Academy of Sciences	

	Huixia Ren	Global Synchronization of Pancreatic Islets Maintains
11:35-11:50	Chinese Institutes for Medical Research	Fasting Glycemia In Vivo
	Fangzhou Xiao	Holistic Geometry of Bioregulation Reveals New
11:50-12:05	Westlake University	Perspectives on Systems Biology
12:05-13:30	Lunch (Heyuan Restaurant, 和园餐厅)	
Session 3 (Chair: Chen Song)		
	Michael Stumpf	Lineages, Landscapes, and Cell Fate Decision Making
13:30-14:10	The University of Melbourne	Systems
	Andrew Mugler	
14:10-14:40	University of Pittsburgh	Physical Limits to Cell Sensing and Decision-Making
	Zeyu Shen	
	Southern University of Science and	
14:40-15:10	Technology	Percolation and Its Function in Biological Systems
	Qian Peter Su	The Interplay of Physical, Chemical and Biological
15:10-15:25	University of Technology Sydney	Dynamics in Living Cells

Day 4 (July 23, 2026)

Time	Speaker	Title
Session 1 (Chair: Yuling Jiao)		
9:00-9:40	Hao Li	A Genetic Switch Involving EGR1 and EZH2 Connects
	University of California, San Francisco	Aging and Development Across Human Tissues
9:40-10:10	Xiakun Chu	Physical Principles of the Dynamic 3D Genome: Balancing
	The Hong Kong University of Science and Technology (Guangzhou)	Structure, Plasticity, and Gene Regulation
10:10-10:40	Coffee Break / Posters	
Session 2 (Chair: Xiaojing Yang)		
10:40-11:10	Yaojun Zhang	Searching for Sequence Features that Control DNA
	Johns Hopkins University	Cyclizability
11:10-11:40	Qiong Yang	Energy and Mechanical Control of Embryonic Clocks and
	University of Michigan	Pattern Formation
11:40-11:55	Qiyun Tang	Negative Interfacial Tension Driven by Intrinsic Molecular
	Southeast University	Disorder
11:55-12:10	Jiliang Hu	Emergent Principles Governing Diversity, Stability, and
	Shenzhen Bay Laboratory	Invasibility in Ecosystems
12:10-12:20	Closing	
12:20-13:30	Lunch (Heyuan Restaurant, 和园餐厅)	