

## ACM BCB 2025 Conference Program Tentative Schedule at-a-glance

*(Last updated: Oct 7, 2025; subject to change. Visit <https://acm-bcb.org/> for latest program)*

Workshops: October 12, 2025 (Sun)				
Time (EST)	Great Room A	Great Room B	Industry 1	Industry 2
07:30 AM - 8 PM	Registration			
08:00 - 12:00 PM	<a href="#">ASI 2025</a>	<a href="#">CSBW</a>	<a href="#">AI4OmicsAC</a>	<a href="#">LLMBio</a>
12:00 - 01:00 PM	Lunch on own			
01:00 - 05:00 PM	<a href="#">ASI 2025</a>	<a href="#">CSBW</a>	<a href="#">ParBio</a>	<a href="#">Agentic Retrieval-Augmented Generation (RAG) for Chronic Disease Self-Care Management</a>
Day 1: October 13, 2025 (Mon)				
Time (EST)	Great Room	Industry 1	Industry 2	
8 AM - 8 PM	Registration			
08:45 - 09:00 AM	<b>Opening Remarks (Great Room)</b>			
09:00 - 10:00 AM	<b>Keynote 1: Lucila Ohno-Machado (Great Room)</b>			
10:00 - 10:30 AM	Break			
10:30 - 12:00 PM	Session 1A (regular x 3)	Session 1B (regular x 3)	Session 1C (regular x 3)	
12:00 - 01:30 PM	Lunch & <b>Women in Bioinformatics</b>			
01:30 - 02:50 PM	Session 2A (short x 4)	Session 2B (short x 4)	Session 2C (short x 4)	
02:50 - 03:50 PM	IEEE/ACM TCBB Meeting (Great Room)			
03:50 - 04:20 PM	Break			
04:20 - 05:20 PM	<b>General Assembly &amp; SIGBio General Meeting (Great Room)</b>			
05:30 - 08:00 PM	<b>Poster session</b>			
07:00 - 10:00 PM	<b>Cocktail-style reception</b>			
Day 2: October 14, 2025 (Tue)				
Time (EST)	Great Room	Industry 1	Industry 2	
8 AM - 5 PM	Registration			
08:30 - 09:30 AM	<b>Keynote 2: Hongfang Liu (Great Room)</b>			
09:30 - 10:00 AM	Break			
10:00 - 12:00 PM	Session 3A (regular x 4)	Session 3B (regular x 4)	Session 3C (regular x 4)	
12:00 - 01:00 PM	Lunch			
01:00 - 02:00 PM	<b>Keynote 3: Ben Raphael (Great Room)</b>			
02:00 - 03:00 PM	<b>Panel with Funding Agencies</b>			

03:00 - 03:30 PM	Break		
03:30 - 04:50 PM	Session 4A (highlight x 1 + short x 3)	Session 4B (highlight x 1 + short x 3)	Session 4C (highlight x 1 + short x 3)
05:00 - 06:00 PM	Students/Young Professionals Travel Award Session		
06:30 - 08:30 PM	Award Ceremony & Dinner		
<b>Day 3: October 15, 2025 (Wed)</b>			
<i>Time (EST)</i>	<i>Great Room</i>	<i>Industry 1</i>	<i>Industry 2</i>
08:00 - 12:00 PM	Registration		
08:30 - 10:30 AM	Session 5A (regular x 4)	Session 5B (regular x 4)	Session 5C (regular x 4)
10:30 - 11:00 AM	Break		
11:00 - 12:20 PM	Session 6A (short x 4)	Session 6B (short x 4)	Session 6C (short x 4)
12:20 - 12:40 PM	Closing Remarks ( <i>Great Room</i> )		

**ACM BCB 2025 Conference Program  
Tentative Full Schedule**

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Day 1: October 13, 2025 (Mon)			
Time (EST)	Great Room	Industry 1	Industry 2
8 AM - 8 PM	Registration		
08:45 - 09:00 AM	Opening Remarks ( <i>Great Room</i> )		
09:00 - 10:00 AM	Keynote 1: Lucila Ohno-Machado ( <i>Great Room</i> )		
10:00 - 10:30 AM	Break		
10:30 - 12:00 PM	<b>Session 1A: Large Language Models For Health I (Regular Papers)</b>	<b>Session 1B: Computational Drug Discovery (Regular Papers)</b>	<b>Session 1C: Automated Diagnosis &amp; Prediction (Regular Papers)</b>
10:30 - 11:00 AM	<b>Interpretable Metadata-Based Microbial Risk Prediction Using Large Language Models</b> <i>Hyunwoo Yoo, Gail Rosen</i>	<b>ChiralRetro: Chirality-Sensitive Encoding and Enhanced Pathway Strategies in Retrosynthesis</b> <i>Zheyi Cai, Yinghui Jiang, Chang Zhi Jiang, Lian Shen, HongPeng Qiu, Yuan Lin, Juan Liu, Xiangrong Liu</i>	<b>DeepPH : A Multimodal Deep Learning Model for Predicting Enzyme Optimal pH Range</b> <i>Wei Wang, PO-YU LIANG, Jun Bai</i>
11:00 - 11:30 AM	<b>Enabling Few-Shot Alzheimer's Disease Diagnosis on Biomarker Data with Tabular LLMs</b> <i>Sophie Kearney, Shu Yang, Zixuan Wen, Bojian Hou, Duy Duong-Tran, Tianlong Chen, Jason Moore, Marylyn Ritchie, Li Shen</i>	<b>Multi-Objective Loss Function For Free Energy Calculations</b> <i>Libina Bovan Thomas, Ali Risheh, Negin Forouzes</i>	<b>Augmenting Randomized Controlled Trials with Foundation Models as Synthetic Units</b> <i>Shiv Shankar, Madalina Fiterau</i>
11:30 - 12:00 pM	<b>MoE-MSc: Mixture of Experts with Multi-Stream Connector for Modality-Aware Medical Image Captioning</b> <i>Al Shahriar Rubel, Frank Shih, Fadi Deek</i>	<b>MADSurv: An Uncertainty-Aware Framework for Multimodal Cancer Survival Analysis</b> <i>Enshi Zhang, Varun Sai Raigir, Christian Poellabauer, Adrian Kohut, John Michael Templeton, Ananda Mondal, Lexi Weintraub</i>	<b>Longitudinal Tumor Generation in Mammograms via Dual Encoder GAN and Learnable Blending</b> <i>Afsana Ahsan Jeny, Sahand Hamzehei, Mostafa Karami, Stephen Andrew Baker, Tucker Van Rathe, Clifford Yang, Sheida Nabavi</i>
12:00 - 01:30 PM	Lunch & Women in Bioinformatics		
01:30 - 02:50 PM	<b>Session 2A: Large Language Models For Health I (Short Papers)</b>	<b>Session 2B: AI/ML In Healthcare I (Short Papers)</b>	<b>Session 2C: Genomics &amp; Disease Modeling (Short Papers)</b>
01:30 - 01:50 PM	<b>Retrieval-Reasoning Large Language Model-based Synthetic Clinical Trial Generation</b> <i>Zerui Xu, Fang Wu, Yingzhou Lu, Yuanyuan Zhang, Yue Zhao</i>	<b>ICU-Length of Stay Prediction on Electronic Health Records using Graph Neural Networks and Homogeneous Similarity Graphs</b> <i>Ahmad F. Al Musawi, Pratip Rana, Sibtanu Raha, Joshua Braunstein, William C. Sleeman IV, Rishabh Kapoor, Preetam Ghosh</i>	<b>Towards optimal selection of ultra-deep sequencing reads for de novo genome assembly</b> <i>Sakshar Chakravarty, Stefano Lonardi</i>
01:50 - 02:10 PM	<b>MicroTraitLLM: A RAG-based, Microbe-focused LLM for Researchers</b> <i>Glen Rogers, James R. Brown, Bahrad A. Sokhansanj, Joshua C. Mell, Gail Rosen</i>	<b>Unsupervised Latent Pattern Analysis for Estimating Type 2 Diabetes Risk in Undiagnosed Populations</b> <i>Praveen Kumar, Vincent T. Metzger, Scott Alexander Malec</i>	<b>From Association to Mechanism: Causal Graph-Based Fine-Mapping of Regulatory SNPs for Functional Validation</b> <i>Nishant Singh Chouhan, J. Ben Tamo, Oankar R. Patil, Wenqi Shi, Micky C. Nnamdi, Steven Hwang, Kamran Shazand, May Dongmei Wang</i>

02:10 - 02:30 PM	<b>GamELY: Human-in-the loop Framework for Scaling Human Evaluation of LLMs in Healthcare</b> <i>Raghav Awasthi, Nishant Singh, Shreya mishra, Atharva Bhattad, Moises Auron, Charumathi Raghuraman, Ashish Atreja, Kamal Maheshwari, Dwarikanath Mahapatra, Jacek B. Cywinski, Ashish K Khanna, Francis Papay, Piyush Mathur</i>	<b>A Hybrid Deep Learning Framework for Automated Cobb Angle Estimation in Scoliosis Assessment</b> <i>Shaun Qien Yeau Tan, Shaunna Wang, Chia-Pei Wang, Alexandru C Florea, Isabella W Wang, Degel S Agoreyo, Joline J Speck, Micky C. Nnamdi, J. Ben Tamo, Benoit Louis Marteau, Yishan Zhong, Selina Poon, May Dongmei Wang</i>	<b>Data-Driven Symbolic Higher-Order Epistasis Discovery with Kolmogorov-Arnold Networks</b> <i>Oankar R. Patil, Benoit Louis Marteau, Kamran Shazand, Yuxuan Shen, May Dongmei Wang</i>
02:30 - 02:50 PM	<b>CTsuggest: An LLM-powered Open Source Application to support Clinical Trial Design by Suggesting Baseline Features</b> <i>Soumeek Mishra, Corey Curran, Tianyan Lin, John S. Erickson, Kristin Bennett</i>	<b>Identifying Top Performing Providers: A Sheaf-theoretic Approach on Healthcare Networks</b> <i>Corey Verkouteren, Djalil Sawadogo, Esra Akbas, Mehmet Emin Aktas</i>	<b>Benchmarking and Improving Foundation Model Dietary Estimates from Meal Images</b> <i>Yongcheng Mu, Jiangwen Sun, Jing He</i>
02:50 - 03:50 PM	IEEE/ACM TCBB Meeting ( <i>Great Room</i> )		
03:50 - 04:20 PM	Break		
04:20 - 05:20 PM	<b>General Assembly &amp; SIGBio General Meeting</b> ( <i>Great Room</i> )		
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<b>Day 2: October 14, 2025 (Tue)</b>			
<i>Time (EST)</i>	<i>Great Room</i>	<i>Industry 1</i>	<i>Industry 2</i>
8 AM - 8 PM	Registration		
08:30 - 09:30 AM	<b>Keynote 2: Hongfang Liu</b> ( <i>Great Room</i> )		
09:30 - 10:00 AM	Break		
10:00 - 12:00 PM	<b>Session 3A: AI/ML In Healthcare II (Regular Papers)</b>	<b>Session 3B: Transcriptomics (Regular Papers)</b>	<b>Session 3C: Sequencing and Genomics (Regular Papers)</b>
10:00 - 10:30 AM	<b>Comorbidity Extraction for In-Hospital Mortality Analysis: a Comparison of Regular Expressions and Large Language Models</b> <i>Ayca Begum Tascioglu, Flavio Bertini, Laura Pistore, Andrea Fabbri, Danilo Montesi</i>	<b>Improved Spatial Transcriptomics Clustering with Nested Graph Neural Networks</b> <i>Atishay Jain, David Laidlaw, Ying Ma, Ritambhara Singh</i>	<b>Movi Color: fast and accurate taxonomic classification with the move structure</b> <i>Steven Tan, Sina Majidian, Benjamin Langmead, Mohsen Zakeri</i>
10:30 - 11:00 AM	<b>MoE-Health: A Mixture of Experts Framework for Robust Multimodal Healthcare Prediction</b> <i>Xiaoyang Wang, Christopher Yang</i>	<b>Fine-Grained Interaction and Task-Driven Fusion of Histology Images and Genomics for Multimodal Cancer Survival Prediction</b> <i>Xulin Chen, Junzhou Huang</i>	<b>Transformer-based Prediction of Microbial Growth Rates from Genomic Data</b> <i>Iyanu Oduwale, Mengling He, Ratish Kumar Chandrakant Jha, Adrienne Hoarfrost, Andrew Steen, Scott J Emrich</i>
11:00 - 11:30 AM	<b>An explainable approach to learning feature representations of omics data using optimal transport to improve phenotype stratification</b> <i>Nandini Amit Gadhia, Soumyadip Ghosh, Ritesh Krishna, Anh Nguyen, Michalis Smyrnakis</i>	<b>FlowGRN: Scalable and Dropout-Robust Gene Regulatory Network Inference via Flow Matching-Based Trajectory Reconstruction</b> <i>Tsz Pan Tong, Jun Pang</i>	<b>Rare Disease Phenotyping via Self-Supervised Multimodal Learning</b> <i>Khartik Uppalapati, Bora Yimenicioglu, Adan Eftekhari, Shakeel Abdulkareem</i>

11:30 - 12:00 PM	<b>Enhancing Agent-Based Models with Real-Time Movement Data to Assess Impacts of Biosecurity Interventions on Disease Exposure in Healthcare Settings</b> <i>RAVI CHANDRA THOTA, Yusuf Sarwar Uddin, Majid Bani-Yaghub, Mohamed Nezar Abourraja, Gary Sutkin, Susanna Paschal</i>	<b>EpiCRISPR: Improving CRISPR/Cas9 on- and off- target prediction by flanking sequences, epigenetic marks, and high-throughput datasets</b> <i>Alon Luboshitz, Michal Rahimi, Yaron Orenstein, Ayal Hendel</i>	
12:00 - 01:00 PM	Lunch		
01:00 - 02:00 PM	Keynote 3: Ben Raphael ( <i>Great Room</i> )		
02:00 - 03:00 PM	Panel with Funding Agencies		
03:00 - 03:30 PM	Break		
03:30 - 04:50 PM	<b>Session 4A: Transcriptomics (Short Papers)</b>	<b>Session 4B: Interpretable &amp; Trustworthy AI in Biomedicine (Short Papers)</b>	<b>Session 4C: Sequencing, Genomics &amp; Phenotyping (Short Papers)</b>
03:30 - 03:50 PM	<b>Characterizing Gene Regulatory Network Ensembles in Kidney Injury and Repair</b> <i>Eitan Tannenbaum, Dana Markiewitz, Tomer Kalisky, Hillel Kugler</i>	<b>Reward Hacking Mitigation using Verifiable Composite Rewards</b> <i>Mirza Farhan Bin Tarek, Rahmatollah Beheshti</i>	<b>MCL-DMD: Multi-modal Contrastive Learning for Drug-Microbe-Disease Association Prediction</b> <i>Niecia Say, Farhan Tanvir, Moctar Keita, Lilia Chebbah, Muhammad Ifte Khairul Islam, Esra Akbas</i>
03:50 - 04:10 PM	<b>Deconvolution-Enhanced Contrastive Pretraining of Histology Images and Gene Expressions in Spatial Transcriptomics</b> <i>Xulin Chen, Junzhou Huang</i>	<b>Privacy-Preserving Collaborative Population Stratification with Dynamic Algorithm and Hyperparameter Selection</b> <i>Maryam Ghasemian, Lynette Hammond Gerido, Erman Ayday</i>	<b>Species detection for microbiomes with TIPP-SD</b> <i>Chengze Shen, Eleanor Wedell, Mihai Pop, Tandy Warnow</i>
04:10 - 04:30 PM	<b>Benchmarking Dimensionality Reduction Techniques for Spatial Transcriptomics</b> <i>Md Ishtyaq Mahmud, Veena Kochat, Suresh Satpati, Jagan Mohan Reddy Dwarampudi, Kunal Rai, Tania Banerjee</i>	<b>Interpretable Neural Networks Reveal Gene Interactions Underlying Autoimmune Disease Risk</b> <i>Monica Isgut, Andrew Hornback, Logan Gloster, Karan Samel, Neha Jain, Kyungbeom Kim, May Dongmei Wang</i>	<b>VECTr: Visualizing Distance Measures for Clonal Trees</b> <i>Thea Traw, Quoc Nguyen, Layla Oesper, Eric Carlson Alexander</i>
04:30 - 04:50 PM	<b>[Highlights] Unique trajectory of gene family evolution from genomic analysis of nearly all known species in an ancient yeast lineage</b> <i>Bo Feng, Yonglin Li, Biyang Xu, Hongyue Liu, Jacob L Steenwyk, Kyle T David, Xiaolin Tian, Carla Gonçalves, Dana A Opulente, Abigail L LaBella, Marie-Claire Harrison, John F Wolters, Shengyuan Shao, Zhaohao Chen, Kaitlin J Fisher, Marizeth Groenewald, Christopher Hittinger, Xing-Xing Shen, Shengying Li, Antonis Rokas, Xiaofan Zhou, Yuanning Li</i>	<b>[Highlights] Cooperative multi-view integration with Scalable and Interpretable Model Explainer</b> <i>Jerome Choi, Noah Cohen Kalafut, Tim Gruenloh, Corinne D. Engelman, Tianyuan Lu, Daifeng Wang</i>	<b>[Highlights] Relapse prediction using wearable data through convolutional autoencoders and clustering for patients with psychotic disorders</b> <i>April Yujie Yan, Traci Jenelle Speed, Casey Overby Taylor</i>
05:00 - 06:00 PM	Students/Young Professionals Travel Award Session		
06:30 - 08:30 PM	Award Ceremony & Buffet		
<b>Day 3: October 15, 2025 (Wed)</b>			
<i>Time (EST)</i>	<i>Great Room</i>	<i>Industry 1</i>	<i>Industry 2</i>
8 AM - 12 PM	Registration		

08:30 - 10:30 AM	<b>Session 5A: AI/ML In Healthcare III (Regular Papers)</b>	<b>Session 5B: Trustworthy AI &amp; Healthcare Informatics (Regular Papers)</b>	<b>Session 5C: Imaging &amp; Genomics (Regular Papers)</b>
08:30 - 09:00 AM	<b>ATHENA: Atherosclerosis Through Hierarchical Explainable Neural Network Analysis of Molecular Signatures and Cohort-Informed Clinical Phenotypes</b> <i>Irsyad Adam, Steven Swee, Erika Yilin Zheng, Ethan Ji, William Speier, Ding Wang, Alex Bui, Wei Wang, Karol Watson, Peipei Ping</i>	<b>Rational Multi-Modal Transformers for TCR-pMHC Prediction</b> <i>Jiarui Li, Zixiang Yin, Zhengming Ding, Samuel J Landry, Ramgopal R. Mettu</i>	<b>Identification of Condition-Specific Exosomal miRNA Modules Using a Bayesian Framework</b> <i>Yin Liu, Daniel J. Wu, Sarah Bounds, Jiyang Cai</i>
09:00 - 09:30 AM	<b>KindSleep: Knowledge-Informed Diagnosis of Obstructive Sleep Apnea from Oximetry</b> <i>Micky C. Nnamdi, Wenqi Shi, Cheng Wan, J. Ben Tamo, Benjamin M Smith, Chad A. Purnell, May Dongmei Wang</i>	<b>Addressing COVID-19 Data Imbalance Issue with Multimodal Image Generation</b> <i>Maxwell Sam, Hailemicael Lulseged Yimer, Salil Desai, Xiaohong Yuan, Jinsheng Xu, Huiming Anna Yu, Letu Qingge</i>	<b>Efficient and effective methods for variant selection</b> <i>Srinivas Aluru, Anne Benoit, Bora Ucar</i>
09:30 - 10:00 AM	<b>Multi-Agent LLM Reasoning for Clinical Procedure Sequencing from High-Granularity EHR Data</b> <i>Yishan Zhong, Wenqi Shi, J. Ben Tamo, Micky C. Nnamdi, Yining Yuan, May Dongmei Wang</i>	<b>Developing Fairness-Aware Task Decomposition to Improve Equity in Post-Spinal Fusion Complication Prediction</b> <i>Yining Yuan, J. Ben Tamo, Wenqi Shi, Yishan Zhong, Micky C. Nnamdi, B. Randall Brenn, Steven W. Hwang, May Dongmei Wang</i>	<b>Predicting Brain Age in Functional Neuroimages using Node Centrality Measures</b> <i>Monireh Taimouri, Vikram Ravindra</i>
10:00 - 10:30 AM	<b>HyMaTE: A Hybrid Mamba and Transformer Model for EHR Representation Learning</b> <i>Md Mozaharul Mottalib, Thao-Ly T Phan, Rahmatollah Beheshti</i>	<b>Fair CCA for Fair Representation Learning: An ADNI Study</b> <i>Bojian Hou, Zhanliang Wang, Zhuoping Zhou, Boning Tong, Zexuan Wang, Jingxuan Bao, Duy Duong-Tran, Qi Long, Li Shen</i>	<b>Characterizing Amyloid Pathogenic Spread in Alzheimer's Disease Through A Network Diffusion Model</b> <i>Frederick H. Xu, Duy Duong-Tran, Heng Huang, Andrew Saykin, Paul Thompson, Christos Davatzikos, Yize Zhao, Li Shen</i>
10:30 - 11:00 AM	Break		
11:00 - 12:20 PM	<b>Session 6A: Biological Network Analysis (Short Papers)</b>	<b>Session 6B: AI/ML In Healthcare II (Short Papers)</b>	<b>Session 6C: Bioimaging &amp; Molecules (Short Papers)</b>
11:00 - 11:20 AM	<b>RDS: A ReCIPE for Overlapping Community Detection in Biological Networks</b> <i>Faith Abiria Ocitti, Charlotte Versavel, Samuel Sledzieski, Lenore Cowen</i>	<b>GCVAE: A graph conditional variational autoencoder for feature dependency guided synthetic metabolomic data generation</b> <i>Kowshika Sarker, ChengXiang Zhai</i>	<b>Deconvolving Complex Neuronal Networks into Interpretable Task-Specific Connectomes</b> <i>Yifan Wang, Ananth Grama, Vikram Ravindra</i>
11:20 - 11:40 AM	<b>PLATO: Predicting Longitudinally-Aligned Time Observations of biological networks</b> <i>Tamim Khatib, Shahaddin Gafarov, Justin Strikowski, Mehmet Turan, Tamer Kahveci</i>	<b>Graph-Based Spatio-temporal Attention and Multi-Scale Fusion for Clinically Interpretable, High-Fidelity Fetal ECG Extraction</b> <i>Chang Wang, Ming Zhu, Shengjie Zhai, Buddhadeb Dawn, Shahram Latifi</i>	<b>Local Structural Features Analysis of Hemispheres for AD Diagnosis from Brain sMRI</b> <i>Yanteng Zhang, Zibo Zhao, Chuanyi Zhang, Lipei Zhang, YUXIANG WEI, Vince D. Calhoun</i>
11:40 - 12:00 PM	<b>CSMSA: Cross-Space Multiscale Adaptive Link Prediction for ceRNA-Mediated Multimolecular Disease Regulatory Networks</b> <i>Junqi Long, Jianqiang Li, Guangzhi Qu, Kun liu, Bo Liu</i>	<b>TrialPred: an interpretability model based on multimodal data for predicting the duration of clinical trials</b> <i>Tianxing Zhou, Jialiang Huang, Chenxi Wang, Andreu Paredes-Gallardo, Eryu Xia, Yinghua Zhou, Guangzhong Sun</i>	<b>Hidden in protein sequences: Predicting cryptic binding sites</b> <i>Vít Škrhák, Hamza Gamouh, David Hoksza</i>

12:00 - 12:20 PM	<b>Vision transformer supported Kolmogorov-Arnold networks for survival prediction in lung cancer</b> <i>Mert Gökpınar, Yasin Almalioglu, Mustafa Taha Kocyigit, Tamer Kahveci, Derya Demir, Kayhan Başak, Mehmet Turan</i>	<b>RawBench: A comprehensive benchmarking framework for raw nanopore signal analysis</b> <i>Furkan Eris, Ulysse McConnell, Can Firtina, Onur Mutlu</i>	<b>Pan-cancer Outcome Prediction using Multi-classifier Systems</b> <i>Sakhawat Hossain Saimon, Tanzira Najnin, Jianhua Ruan</i>
12:20 - 12:40 PM	<b>Closing Remarks (Great Room)</b>		