**ACM BCB 2026 - Scientific Program**

**The event rooms are located as follows:**

1. **AUDITORIUM, 'SALA A' and 'SALA STAMPA' at Congress Center "B. Andreatta" (MAPS)**
2. **University Club at Cubo 23C (MAPS)**
3. **Aula Caldora (https://maps.app.goo.gl/SCZattKQycDJVZx66)**

**S – Scientific Session, T - Tutorial, P – Posters,**

**WS – Workshop**

WS1 – 6th Data and Artificial Intelligence Symposium (DAISY Link)

WS2 – 15th International Workshop on Parallel and AI-based Bioinformatics and Biomedicine (ParBIO26 Link)

WS3 – Information Theory in Computational Biology, Physiology and Health (ITCBIO Link)

WS4 – The 4th Workshop on Advances in Systems Immunology (ASI 2026 Link)

**Day 0 – June 29th, 2026**

| Start | End | DOMUS HOTEL |
|---|---|---|
| 18:00 | 21:00 | Registration, PC chairs' meeting, welcome reception |

**Day 1 – June 30th, 2026**

| Start | End | Auditorium (Congress Center "B. Andreatta") | SALA A | SALA Stampa | Caldora | UniClub |
|---|---|---|---|---|---|---|
| 8:00 | 9:00 | REGISTRATION | | | | |
| 9:00 | 10:00 | Opening ceremony, Keynote, K1 - Aidong Zhang, University of Virginia, USA - Interpretability for Responsible Medical AI | | | | |
| 10:00 | 10:30 | COFFEE BREAK | | | | |

| Start | End | Auditorium (Congress Center "B. Andreatta") | SALA A | SALA Stampa | Caldora | UniClub |
|---|---|---|---|---|---|---|
| **10:30** | **12:30** | WS4 – ASI | T1: Spatial transcriptomics meets advanced image analysis: AI-driven integration of spatial omics data | Women in Healthcare Informatics | T2: How Old Are You Really? A Hands-on Computational Tutorial on Epigenetic Clocks as Biomarkers of Biological Aging Across Diverse Populations | WS1 – DAISY26 |
| **12:30** | **14:00** | **LUNCH BREAK** | | | | |
| **14:00** | **15:30** | WS4 – ASI | T1: Spatial transcriptomics meets advanced image analysis: AI-driven integration of spatial omics data | BCB Steering committee meeting | T2: How Old Are You Really? A Hands-on Computational Tutorial on Epigenetic Clocks as Biomarkers of Biological Aging Across Diverse Populations | WS3 – ITCBIO |
| **15:30** | **16:00** | **COFFEE BREAK** | | | | |
| **16:00** | **17:30** | H-Highligths | T1: Spatial transcriptomics meets advanced image analysis: AI-driven | WS2 – ParBIO26 | | SIBIM committee meeting |

| Start | End | Auditorium (Congress Center "B. Andreatta") | SALA A | SALA Stampa | Caldora | UniClub |
|---|---|---|---|---|---|---|
| | | | integration of spatial omics data | | | |

*Social Events*

| Start | End | COSENZA | |
|---|---|---|---|
| **18:00** | **22:30** | **Cosenza old town tour, down-town tour and MAB open-air museum (Link), meal voucher for pizzas** | **PC chairs' dinner (by invitation, only)** |

**Day 2 – July 1th, 2026**

| Start | End | Auditorium (Congress Center "B. Andreatta") | SALA A | SALA Stampa | UniClub | Caldora |
|---|---|---|---|---|---|---|
| **8:30** | **9:00** | **REGISTRATION** | | | | |
| **9:00** | **10:00** | **Keynote, K2 – Pietro Liò, University of Cambridge, UK - Designing biological molecules with generative AI: from RNA structure to synthesisable drugs** | | | | |
| **10:00** | **10:30** | **COFFEE BREAK** | | | | |
| **10:30** | **12:30** | S1 – Data 1 | S3 – LLM 1 | P1 - Rapid fire presentation | S7 – Omics 2 | S18 – Omics 6 |
| **12:30** | **14:00** | **LUNCH BREAK** | | | | |

| Start | End | Auditorium (Congress Center "B. Andreatta") | SALA A | SALA Stampa | UniClub | Caldora |
|---|---|---|---|---|---|---|
| **14:00** | **15:30** | S2 – Omics1 | SIGBio meeting | P2 - Rapid fire presentation | S5 - Image 1 | S4 – Learn 1 |
| **15:30** | **16:00** | **COFFEE BREAK** | | | | |
| **16:00** | **17:30** | S8 - Learn 2 | Doctoral consortium | Industry Track | | S15 - Data 5 |

*Social Events*

| Start | End | COSENZA |
|---|---|---|
| **18:00** | **20:00** | **Visit @ National Gallery of Cosenza (Galleria Nazionale di Cosenza) Link** |
| **20:00** | **22:00** | **Social Dinner at Villa Rendano (link)** |

**Day 3 – July 2nd, 2026**

| Start | End | Auditorium (Congress Center "B. Andreatta") | SALA A | SALA Stampa | UniClub |
|---|---|---|---|---|---|
| **9:00** | **10:00** | **Keynote, K3 – Tom Pollard, Massachusetts Institute of Technology, USA – Data for Health AI in a Time of Change** | | | |
| **10:00** | **10:30** | **COFFEE BREAK** | | | |

| Start | End | Auditorium (Congress Center "B. Andreatta") | SALA A | SALA Stampa | UniClub |
|---|---|---|---|---|---|
| **10:30** | **12:30** | S12 – Data 4 | S14 – LLM 4 | S16 – Omics 5 | S19 – Data 7 |
| **12:30** | **14:00** | **LUNCH BREAK** | | | |
| **14:00** | **15:30** | S10 – LLM 3 | S11 – Learn 3 | S17 – Data 6 | P3- Rapid fire presentation |
| **15:30** | **16:00** | **COFFEE BREAK** | | | |
| **16:00** | **17:15** | S20 – Omics 7 | S21 – Learn 4 | S22 – Data 8 | |

*Social Events*

| Start | End | |
|---|---|---|
| **18:00** | **22:30** | **Stay together tour, visit on tirrenia sea @Belvedere Marittimo old town (Link) and @Diamante (murales link)** |

**Day 4 – July 3rd, 2026**

| Start | End | Auditorium (Congress Center "B. Andreatta") | SALA A | SALA STAMPA |
|---|---|---|---|---|
| **9:00** | **10:00** | **Keynote, K4 - Raffaele Bruno, University of Pavia, Italy - From Algorithm to Antibiotic: An Infectious Disease Physician's View on Computational Health** | | |
| **10:00** | **10:30** | **COFFEE BREAK** | | |
| **10:30** | **12:30** | S6 - Data 2 | S9 – Image 2 | S13 – Omics 4 |

| Start | End | Auditorium (Congress Center "B. Andreatta") | SALA A | SALA STAMPA |
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| 12:30 | 13:00 | Closing ceremony | | |

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| | **PRELIMINARY Program** | |
| | **Tuesday, 30 June 2026** | |
| **Session** | **Title and Authors** | **Duration** |
| Tutorial 1 | T1 Matteo Bonfanti, Damian Dalle Nogare, Sara Terzoli, Alberto Riva Spatial transcriptomics meets advanced image analysis: AI-driven integration of spatial omics data. | 2h+2h |
| Tutorial 2 | T2 Chaini Konwar, Beryl C. Zhuang How Old Are You Really? A Hands-on Computational Tutorial on Epigenetic Clocks as Biomarkers of Biological Aging Across Diverse Populations | 2h+1.5h |
| Workshop | WS1 – 6th Data and Artificial Intelligence Symposium (DAISY) | 2h |
| Workshop | WS2 – 15th International Workshop on Parallel and AI-based Bioinformatics and Biomedicine (ParBIO26) | 2h |
| Workshop | WS3 – Information Theory in Computational Biology, Physiology and Health (ITCBIO) | 2h |
| Workshop | WS4 – The 4th Workshop on Advances in Systems Immunology (ASI 2026) | 4h |
| Women in Healthcare Informatics | May Wang, Mor Peleg, Barbara Di Camillo | |
| Highlights Track | H1 Nure Tasnina, Maryam Haghani, T. Murali SynVerse: A Modular Framework for Building and Evaluating Deep Learning Based Drug Synergy Prediction Models<br><br>H4 Timothy Becker SoMaCX: a complex generative genome modeling framework<br><br>H6 Mukesh Kumar, Christoph Schlaffner, Shaojun Tang, Maaike Beuvink, Hanno Steen, Judith Steen Molecular features | 2h |

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| | of human pathological tau distinguish tauopathy-associated dementias | |
| | **Wednesday, 1 July 2026** | |
| **Session** | **Title and Authors** | **Duration** |
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| **S1 - Data 1 - chair:TBD** | | |
| | Efficient Imputation for Patch-based Tabular Missing Data via Cluster-regularized Optimal Transport, Yuyu Liu, Jiannan Yang, Ziyang Yu, Weishen Pan, Fei Wang, Tengfei Ma | 20 |
| | iMotifPredictor: i-motif prediction by multi-data integration, Danielle Shrem, Yaron Orenstein | 20 |
| | Inference of Disease-Associated Pathway Interaction Networks using Graph Neural Networks, Eunyoung Jang, Euiseong Ko, Mingon Kang | 20 |
| | FPLIER: Federated Pathway-Level Information ExtractoR, Daniele Malpetti, Christian Berchtold, Francesco Gualdi, Marco Scutari, Laura Azzimonti, Francesca Mangili | 15 |
| | A Two-Stage Fusion Framework for Few-Shot Species Identification from Melting Curve Data, Chengqian Zhang, Kyumin Lee, Zhongyi Tong | 15 |
| | Towards Optimal Prompt Design for Clinical Information Extraction using Large Language Models, Xinqi Su, Ruihong Huang | 15 |
| | Mathematical Insights into Tumor-Immune Interactions: A Stochastic and Delayed Response Model, Anushree Bhople, Aakash Kolekar | 15 |
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| **S2 - Omics 1 - chair:TBD** | | |
| | Cross-batch concordant clustering for comprehensive single-cell transcriptomic stratification, Jiayu Zhao, Xinzhu Jiang, Chongxiao Mao, Hongyi Xin | 20 |
| | CuVert-Q: Resolving the Throughput-Ratio Tradeoff in Genomic Sequence Data Compression via GPU Acceleration, Taolue Yang, Youyuan Liu, Bo Jiang, Chong Li, Xinghua Shi, Sian Jin | 20 |
| | PD-scWorld: Pathway-Guided Disentanglement for Single-Cell Perturbation World Models, Azmine Toushik Wasi | 20 |
| | Slide-Omics: An Interpretable Bi-Directional Attention Framework for Integrating Multi-Omics and Pathology in Cancer Survival Analysis, Carson Green, Ali Momennsab, Maxwell Nguyen, Ethan Reidel, Siddhi Narayan, Sai Phani Krishna Parsa, Sai Chandra Kosaraju | 15 |
| | From Genes to Subtypes: Benchmarking Feature Selection in Glioblastoma, Kim Anh Phung, Justin Zhan | 15 |
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| **S3 - LLM 1 - chair:TBD** | | |
| | Multimodal Fusion and Adaptive Learning for Cardiopulmonary Classification, Mahjabeen Abed, Xinghui Zhao | 20 |
| | Scalability and Saturation in Swarm Learning: A KPI-Driven Analysis on Real-World Clinical Data, Matteo Mantovani, Simone Scaglia, Carlo Combi | 20 |
| | A Multi-View Fusion Framework Integrating Graph Representations and Pre-trained Models for Drug-Target Mechanisms of Action Prediction, Fei Wang, Yang Zhang, Yue Chen, Hai Chen, Dongliang Yang, Xiujuan Lei, Fang-Xiang Wu, Yansen Su, Junfeng Xia | 15 |
| | Interactive Visual Analytics for Generating and Exploring LLM-Predicted Protein-Protein Interactions, Allison Austin, Fnu | 15 |

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| | Shilpika, Aditya Tanikanti, Venkatram Vishwanath, Michael Papka, Kwan-Liu Ma | |
| | An Investigation of Federated GNNs under Aggregation, Data Poisoning, and Differential Privacy for ICU Length-of-Stay Prediction, Shakib Dipto, Soumya Banerjee, Sandip Roy, Ahmad Al Musawi, Preetam Ghosh, Sachin Shetty, Pratip Rana | 20 |
| | CIERTe: Continuous Inter-Event Relative Temporal Anchoring for Anxiety Detection from Social Media Posts, Ashala Senanayake, Zilu Liang | 20 |
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| **S4 - Learn 1 - chair:TBD** | | |
| | CACL: Context-Aware Contrastive Learning for Semantic Modeling of Anomalies in EHR Data, Hajar Homayouni, Veera Venkata Satya Sai Kiran Polu, Ana Julia Morais Arantes, Hossein Shirazi | 20 |
| | CLIP-AML: Contrastive Learning Framework for AML treatment response prediction, Mohammed Al-Ani, Siddhi Jani, Halima Bensmail, Raghvendra Mall | 20 |
| | SkillNet: Open-Style Skill Acquisition and Adaptive Inference for Robust Biomedical Deep Learning, Zihan Li, Tianyu Kang, Ping Chen, Yash Gondkar, Wei Ding | 20 |
| | DisentangleCascade: Disentangled Representation Learning with Uncertainty-Driven ROI Zoom for Skin Lesion Classification, Md Kamran Hussin Chowdhury, Proloy Mondal, Md Raj kabir | 15 |
| | HiC-SuperNet: Multi-Scale Attention-Based Deep Learning for High-Resolution Chromatin Contact Map Enhancement, Proloy Mondal, Oluwatosin Oluwadare | 15 |
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| **S5 - Image 1 - chair:TBD** | | |
| | Out-of-Distribution Detection in Medical Imaging Benchmarks using Concentration-Free Density Estimation, Fabrizio Angiulli, Fabio Fassetti, Maria Pia Zupi | 20 |
| | Voxel-Based Deep Learning Method for Local Detection of Protein-Ligand Binding Sites, Jingbo Liang, Bruna Jacobson | 20 |
| | When Does Conformer Geometry Help? Selective Complementarity of 3D Ensemble Statistics and 2D Fingerprints, Bryan Cheng | 20 |
| | A Physics-Informed Generative Framework for Joint Estimation of Biomechanical Parameters and Interaction Forces from Laparoscopic Depth Maps, Alessia Finti, Guido Manni, Franco Marinozzi, Fabiano Bini | 15 |
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| **S7 - Omics 2 - chair:TBD** | | |
| | Structured Gaussian Processes for Uncertainty-Aware Classification of High-Dimensional, Small-Sampled Omics Data, Yue Zhang, Nandini Gadhia, Georgios Karagiannis, Michalis Smyrnakis | 20 |
| | PepEDiff: Out-of-Distribution Sampling Peptide Binder Design via Protein Embedding Diffusion, Po-Yu Liang, Tibo Duran, Jun Bai | 20 |
| | Attention-Based Multi-Omics Fusion for Drug Synergy Prediction, Kusal Debnath, Pratip Rana, Preetam Ghosh | 20 |
| | TransTissueFormer : Translating Transcriptomic Profiles Between Tissues, Guojing Cong | 15 |
| | Estimating Continuous Chemotherapy Effect Trajectories in Head and Neck Squamous Cell Carcinoma, Everest Yang | 15 |

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| | AE-AEPD: Repurposing Adversarial Evasion for Cross-Omics Linkage Defense, Mohammadjavad Zohrabi, Gamze Gursoy, Russell Bowler, Katerina Kechris, Farnoush Banaei-Kashani | 15 |
| | Hybrid LASSO-GA Feature Selection for Gene Expression Classification, Garima Malik | 15 |
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| **S8 - Learn 2 - chair:TBD** | | |
| | WaveDNA:Wavelet-Based Encoding Enables Transfer Learning from Vision Models for Transcription Factor Binding Site Prediction, Lorenzo Ruggeri, Manuel Tognon, Rosalba Giugno | 15 |
| | Explainable Deep Learning for Multi-Label ECG Classification: Clinical Validation and Analysis of Signal Transformations, Noelia Barranco Godoy, Marian Diaz-Vicente, Sergio González-Cabeza, Mario Sanz-Guerrero, Belen Diaz-Agudo, Juan Recio-Garcia | 15 |
| | Disagreement-Informed Arbitration for Gene Regulatory Network Inference: A Meta-Classifier that Learns from Inter-Method Conflict, Ihor Kendiukhov | 15 |
| | Multimodal Deep Learning for Predicting Treatment Outcomes in Acute Ischemic Stroke: A Comparative Analysis of Clinical, Structural, and Perfusion Data, Jannek Sekowski, Luisa Persau, Alexander Raphael Fichtenberg, Danilo Lofaro, Carlo Adornetto | 15 |
| | Adversarially Robust Federated Learning for IoMT-based Physiological Condition Monitoring: A Benchmark Dataset and ML-Aided Aggregation Framework, Kim Ystebø, Carl-Eirik Johnsen, Lars-Even Andersen, Bithi Banik, Debasish Ghose | 15 |
| | CLOVER: A Cross-Cancer Learning Model using Somatic Variant Data for Biomarker Recognition, Tasnimul Alam Taz, Melike Yildirim, Suzan Arslanturk | 15 |
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| **S15 - Data 5 - chair:TBD** | | |
| | A Multimodal Graph-based Approach for Early and Explainable Health Risk Assessment, Sonal Jha, Saikat Dey, Wu Feng | 20 |
| | Integrating Molecular Dynamics and Structure Analysis to Reveal Context-Dependent Effects of Disease-Associated TSHR Variants, Juan Diaz-Lara, Ernestina Menasalvas Ruiz, Alejandro Rodríguez-González, Paloma Tejera-Nevado | 15 |
| | Deep Temporal Modeling and Ensemble Fusion for Multimodal Emotion Recognition from Physiological Signals, Desta Hagos, Saurav Aryal, Patrick Ymele-Leki, Anietie Andy, Legand Burge | 15 |
| | HarmoMed: An Agentic Framework for Auditable Multimodal Biomedical Data Harmonization, Ismael Villanueva-Miranda, Zifan Gu, Guanghua Xiao, Yang Xie | 15 |
| | A Generalized Framework for Multi-fidelity Acquisition Functions for Bioprocessing Applications, Quang Cat Tuong Duong, Mohammad Golzarijalal, Uwe Aickelin, Ellen Otte | 15 |
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| **S18 - Omics 6 - chair:TBD** | | |
| | Stratified Molecular Data Splitting using Topological Graph Barycenter, Giuseppe Albi, Giovanni Sclavi, Alberto Malovini, Sandra Atlante, Carlo Gaetano, Riccardo Bellazzi, Arianna Dagliati | 15 |
| | Sex-specific causal effects of immune gene expression on biological aging in subcutaneous adipose tissue: a DoWhy-based analysis of GTEx data, Silvia Pugliese, Claudia Torino, Raffaele Giancotti, Antonio Demetrio Vilasi, Stefano Curcio | 15 |

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| | CB-Gene: A Computational–Biological Framework for Gene Prioritization in High-Dimensional-Low-Sample-Size (HDLSS) Lymphoma Data, Shamima Naznin, M Saifur Rahman | 15 |
| | Stable-Shift: Predicting Transcriptional Responses of Unseen Gene Perturbations Using Graph Neural Networks with Biological Priors, Sajib Acharjee Dip, Liqing Zhang | 15 |
| | GenoME-SL: Genomic-LLM Fused Mechanism Explanation Framework for Synthetic Lethality, Xueheng Lv, Yimiao Feng, Jie Zheng | 15 |
| | Feasibility of Risk-Calibrated Early-Termination for Molecular Dynamics Screening of Antifungal Resistance-Mediating ABC Transporter Pockets, Avelyn Jing | 15 |
| | Graph Signal Processing as an Experimental Approach to Radiomics Analysis, Alessandro Stefano, Tommaso Latino, Giovanni Pasini, Alessia Finti, Nicolò Lauciello, Franco Marinozzi, Giorgio Russo, Fabiano Bini | 15 |
| | Adaptive State-Dependent Integration for Efficient And Scalable Simulation of the Izhikevich Neuron Model, Pratul Gupta, Satvik Yechuri, Praneet Lingamallu | 15 |
| P1 - Rapid Fire Presentation | Identifying Modifiable Risk Factors for One-Year Mortality After Hip Fracture Using Explainable Machine Learning — Orit Mazza, Roni Ramon-Gonen, Philip Rosinsky, Galia Cohen Peres, Omri Lubovsky<br><br>Pan-Cancer Integration of Gene Expression and Body Mass Index Data Enables Systematic Exploration of Obesity-Associated Molecular Signatures — Piercarlo Del Console, Luca Gelsomino, Cinzia Giordano, Ines Barone, Stefania Catalano, | 5 minutes for each poster presentation |

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| | | Balázs Győrffy | |
| | Reason First or Predict First: Enhancing the Interpretability of Large Language Models for Digital Mental Health Screening | Prasan Yapa, Ashala Lakmini Senanayake, Zilu Liang | |
| | CHiP-FL: A Federated Learning Framework for Equitable Risk Modeling Across Multi-Institutional ICU Cohorts | Rhea Zhou | |
| | Bridging Literature Mining and Reliable Enzyme Kinetics Prediction via Multimodal Extraction and Multi-Task Learning | Rui Zhou, Jingjing Zhang, Liangzhen Zheng, Ye Li, Yanjie Wei | |
| | Combining short- and long- read sequencing with machine learning to decipher multiple deletions patterns in mitochondrial disorders | Francesco Casadei, Claudio Fiorini, Alberto Pasti, Andrea Legati, Daniele Ghezzi, Leonardo Caporali | |
| | Task-Conditioned PEFT with Prompt-Aligned ASR Error Structure Fusion for Parkinson's Speech Assessment | Muhammad Kashif, Patrizia Vizza, Giuseppe Tradigo, Sergio Flesca | |
| | AI-Assisted Pre-Reporting for Head CT Case Prioritization in High-Throughput Healthcare Scenarios | Stefania Galassi, Davide Durante, Francesca Filice, | |

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| | | Simone Bartucci, Edoardo De Rose, Maria Pia Zupi, Fabrizio Angiulli, Francesco Calimeri, Fabio Fassetti | |
| | A Computational Framework for Deep Phenotyping of Maternal Autonomic Resilience Using 65 Months of Continuous Wearable Biometric Data | Chandler Buckingham, Kyle Johnson | |
| | Unravelling expansion patterns in DM1 patients with ONTFlow and NanoExpansion | Francesco Casadei | |
| | Towards Computational ASD Prediction via Lung Airway Geometry using Vision Language Models and and Attention for Interpretability | Arissa Islam, Asef Islam | |
| | N3C Data Analytics for Attribute Importance and Prediction Tasks | Mirna Elizondo, Chloe Jones, Jelena Tešić | |
| | Extracting Clinical Insights: LLM-Powered EHR Knowledge Graphs | Caterina Francesca Perri, Annamaria Defilippo, Valentina Carbonari, Ugo Lomoio, Barbara Puccio | |
| | 3D CT-to-PET Translation via Latent-Guided Contrastive Alignment and Brownian Bridge Diffusion | SARITA MOURYA, Francesco Di Feola, | |

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| | | PAOLO SODA | |
| | Synthetic Germline VCF Generation for Rare Diseases: Case Study in NF1 | Sikha Pentyala, Ziwei Pan, Patrick McKeever, Jineta Banerjee, Luca Foschini, Martine De Cock | |
| | Weakly Supervised Representation Learning for Cross-Ontology Mapping | Harshit Soni, Gabriel Nixon, Woodward Galbraith, Benjamin Gyori | |
| | An Agentic Framework for Mechanistic Therapeutic Reasoning in Oncology via Pathway-Grounded Tree-of-Thought Inference | Sujoy Banik, Koushik Howlader, Ushashi Bhattacharjee , Zainab Ghafoor, Sayantan Chakraborty, Adrito Roy, Tanusree Bhattacharjee , Tirtho Roy | |
| P2 - Rapid Fire Presentation | Mol-Detox: Reducing Animal Testing Through Toxicity Prediction and Molecule Optimization | Aadhya Vijil, Peng Zheng | 5 minutes for each poster presentation |

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| | An application of genomic language models for antimicrobial resistance prediction in S. pneumoniae | Michael Sy, Tiancheng Zhou, Toni Betiku, Daniel Czyz, Vidhu Kariyawasam , Simone Marini | |
| | SupportAI: A Multimodal AI Platform for Clinical Decision Support | Ester Zumpano | |
| | A Utility-Preserving Metric-Differential Privacy based Method for Obfuscating Longitudinal Health Data and Beyond (DSLO) | Pranjal Srivastava, Simeone Marino, Ivo Dinov | |
| | An Interactive Web Application for Exploring Age-Dependent Gene Switching Across Human Tissues | Mattia Zicarelli, Tamer Kahveci, Tamim Khatib, Omer Kahveci | |
| | A Hybrid Framework Integrating REDCap and LLMs for the Optimization of Surgical Workflows and Evidence-Based Clinical Governance | Raffaele Giancotti, Maria Ghita Cassano, Federica Mirabelli, Elisabetta Anello, Patrizia Vizza, Giuseppe Tradigo | |
| | Design of a Radar-Based System for Contactless OSAS Monitoring | Federica Sicilia, Marida De Maria, Marco | |

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| | | Mercuri, Patrizia Vizza | |
| | Ranking Reversal Theory Under Candidate-Set Shift in GRN Benchmarking | Ihor Kendiukhov | |
| | Evaluation Protocol Choices Dominate Gene Regulatory Network Benchmarking Outcomes for Single-Cell Foundation Models | Ihor Kendiukhov | |
| | Towards Lighting the Dark Proteome with InteractionFormer: SE(3) Equivariant GNN + ANM to Simulate the Human Interactome | Aaryan Senthilvanan | |
| | MkAtt-SDN2GO: A Preliminary Multi-Modal Attention Framework for Human Protein Function Prediction | Kartik Jhawar, Tapasvi Bhatt, Rohan Sunil, Lipo Wang | |
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| | **Thursday, 2 July 2026** | | |
| **Session** | **Title and Authors** | | **Duration** |
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| **S12 - Data 4 - chair:TBD** | | | |
| | Expert-Driven Survival Machines: Improving Stratification and Interpretability in Multiple Clinical Cohorts, Farica Zhuang, Zixuan Wen, Christos Davatzikos, Li Shen | | 20 |
| | Generic and Easy Method to Update Static Text Indexes, Jaroslaw Zola, Andrew Mikalsen, Devendra Rana, Dong Xie, Douglas Rambaugh, Zhuoyue Zhao | | 20 |
| | Reliable OOD Virtual Screening with Extrapolatory Pseudo-Label Matching, Yunni Qu, Bhargav Vaduri, Karthikeya | | 20 |

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| | Jatoth, James Wellnitz, Dzung Dinh, Seth Veenbaas, Jonathan Chapman, Alexander Tropsha, Junier Oliva | |
| | PRECISION-Connect: AI-Ready Multimorbidity and SDOH Risk Vectors for Explainable 30-Day Readmission and County-Level Disparity Modeling, Mirna Elizondo, Daniel Amante, Jelena Tešić | 15 |
| | Assessing Subgroup Fairness in Clinical Missing Data Imputation: A Case Study Using MIMIC-IV, Aldo Marzullo, Abdelrahman Ali Mohamed Dafalla, Elena De Momi | 15 |
| | Trigger-Outcome Analysis with Adjusted Risk-Difference Envelopes for Substance Use Disorder at a Community Scale, Xinran Wang, Bowen Liu, Dawn Wiest, Zeyuan Qiu, Dianxiang Xu, Mei Fu, ZhiQiang Chen | 15 |
| | MedFSN-Bench: A Benchmark Corpus for Medical Device Safety, Md Moin Uddin | 15 |
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| **S10 - LLM 3 - chair:TBD** | | |
| | Dynamic Information Sub-Selection for Adaptive Decision Support, Hung-Tien Huang, Maxwell Lennon, Shreyas Brahmavar, Sean Sylvia, Junier Oliva | 20 |
| | BASIS: An LLM-Empowered Benchmark and Agent System for Inferring Synthetic Lethality, Yuanxian Li, Siyu Tao, Yimiao Feng, Jie Zheng | 20 |
| | SLAMR: LLM-Augmented Multimodal Learning for Cold-Start Synthetic Lethality Recommendation in Cancer Cell Lines, Siyu Tao, Yingfan Rui, Jie Zheng | 20 |
| | Evaluating Retrieval-Augmented Open-Source LLMs for Generating Context-Rich Gene Sets, Ebunoluwa Makinde, Farhad Maleki, Alan Rosenberg, Katie Ovens | 15 |

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| | Large-Scale Synthetic Data-Driven Fine-Tuning SegGPT for In-Context Key Point Detection in Medical Imaging, Li Tong, qunfang Mao, Jing Lin, Peng Huang | 15 |
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| **S14 - LLM 4 - chair:TBD** | | |
| | UniPocket: Unified Ligand and Cryptic Pocket Prediction from Protein Language Model Embeddings, Lening Zhao, Tianhua Zhai, Li Shen | 20 |
| | Med-HEAL: Analyzing and Mitigating Hallucinations in Medical LLMs with Hallucination-Aware In-Context Learning, Yiming Liao, Zeno Franco, Jose Lizarraga Mazaba, Keke Chen | 15 |
| | Stochastic Retrieval for Fairness–Accuracy Trade-offs in Clinical RAG, Riccardo Lunardi, Vincenzo Della Mea, Carsten Eickhoff, Kevin Roitero | 15 |
| | GraphXtract: Adaptive Graph-Based Sentence Selection for Resource-Efficient Lay Summarization with Large Language Models, Ahmet Savaşlı, Emre Sefer, Ilknur Karadeniz | 15 |
| | CellTarNet: Robust Single-Cell Perturbation Prediction using Transformer Generative Model, Shiv Shankar | 15 |
| | Probing the Intrinsic Effectiveness of Large Language Models for Medical Classifications, Riccardo Lunardi, Kevin Roitero, Vincenzo Della Mea | 15 |
| | Generative Artificial Intelligence for de novo Antibody Design and Agentic Evaluation, Delower Hossain, Fuad Al Abir, Jake Y Chen | 15 |
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| **S11 - Learn 3 - chair:TBD** | | |

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| | PNEA-MIL: Interpretable Multiple-Instance Learning for Whole-Slide Images through Positive-Negative Evidence Analysis, Junxiang Chen, Justin Couetil, Nigel Maher, Richard Scolyer, Ahmed Alomari, Jie Zhang, Kun Huang | 15 |
| | Learning and Neutralizing Structured Stochasticity in DNA Synthesis for Deterministic Entropy Conditioning, Zhiyi Zheng, Xin Chen | 15 |
| | Assessing BRCA Subtyping fairness with Ancestry-aware and Secure Federated Learning, Mallek Mziou | 15 |
| | An Active Learning Framework for Data-Efficient, Human-in-the-Loop Enzyme Function Prediction, Ashley Babjac, Adrienne Hoarfrost | 15 |
| | FedBalance: An Adaptive Cross-Silo Federated Learning Approach for Stress Detection under Non-IID Data Distributions, Bjarte Nerland, Bithi Banik, Yuan Lin, Debasish Ghose | 15 |
| | Auditing Retrieval-Augmented LLM Hypotheses for Longitudinal Cell Painting Morphology, Gilchan Park, Guang Zhao, Byung-Jun Yoon, Shinjae Yoo | 15 |
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| **S16 - Omics 5 - chair:TBD** | | |
| | AttF-GNN: An Attention-Based Multi-omics Graph Neural Network with Modality Learning for Disease Subtyping, Sovon Chakraborty, Eleni Adam, Terry Stilwell, Harold Riethman, Desh Ranjan, Pratip Rana | 15 |
| | Exploring User Perspectives on Security and Privacy of Genetic Home Testing, Jingyu Qian, Aleksander Ksiazkiewicz, Jane Betchley, Stephen Schneider, Carl Gunter | 15 |
| | Integrative Multi-Omics Approach with Graph Attention Network and Cross-Attention to Uncover Alzheimer's Disease Subtypes, Ziyan Song, Xiaoqing Huang, Jiahui Liu, Junxiang Chen, Travis Johnson, Jie Zhang, Kun Huang | 15 |

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| | Reliable Decomposition of Binary and Continuous Correlations in scRNA-seq, Weixi Luo, Cheng Wang, Chongxiao Mao, Yang Yang, Qiuyu Lian, Hongyi Xin | 20 |
| | Beyond Binning: Resolution-Preserving MS1 Pretraining for Clinical Proteomics Classification, Yu Zhou, Vladimir Vutov, Susmita Ghosh, Fabienne Meier-Abt, Sibylle Pfammatter, Odit Gutwein, Rosary Yao, Thorsten Zenz, Matthias Gunzer, Junyan Lu, Jianxu Chen | 20 |
| | Velocity-Weighted Gene Regulatory Modeling Identifies Drivers of Drug-Induced Plasticity, Manjveekar Prabantu Vasam, Mengbo Wang, Shourya Verma, Luopin Wang, Ananth Grama, Nadia Lanman | 20 |
| | MoCo-DRG: Patch and Image-Level Self-Supervision for Generalizable Diabetic Retinopathy Grading, Usman Ali, Abdullahi Imam, Rosyzie Apong | 15 |
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| **S17 - Data 6 - chair:TBD** | | |
| | EvoMod: Evolutionary Optimization of Modular Prompts for Biomedical Relation Extraction, Yang Lu, Justin Zhan, Jichao Chen | 15 |
| | Exploring the Evolutionary Landscape of AI-Generated Viral Sequences: a Case Study on HIV-1, Pablo Arozarena Donelli, Simone Rancati, Giovanna Nicora, Riccardo Bellazzi, Enea Parimbelli, Luigi Portinale | 15 |
| | Context-based Hierarchical Backbone-Dependent Rotamer Library, Kamal Al Nasr, Ahmad Jad Allah, Mohammad Alamri, Mohammad Al Sallal | 15 |
| | Integrated virtual and wet-lab screening to identify ligands of a SLC benchmark, SLC25A20., Lara Console, Sara Filice, Annamaria Tonazzi, Nicola Giangregorio, Mattia di Sevo, Cesare Indiveri | 15 |

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| | LTR-ICD: A Ranking-Aware Framework for Automatic ICD Coding, Mohammad Mansoori, Amira Soliman, Farzaneh Etminani | 15 |
| | Transformer-Guided Graph Attention for Direct Cardiac Mesh Reconstruction: A Structural Digital Twin Framework, Abhishek Hs, Akash Ganamukhi, Abhimanyu Suresh, Aditya Hiremath, Prasad B Honnavalli, Adithya Balasubramanyam | 15 |
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| **S19 - Data 7 - chair:TBD** | | |
| | Characterization of Temporal Trajectories of Autoimmune Atrophic Gastritis Using a Graph Representation Learning Pipeline, Chiara Sirtoli, Arianna Dagliati, Marco Lenti, Antonio Di Sabatino, Antonio Ferramosca, Daniele Pala | 15 |
| | IDF-EC: Interpretable Dynamic Feature–Logit Fusion for Enzyme Commission Number Prediction, Suhyeong Jeon, Louis Dumontet, So-Ra Han, Tae-jin Oh, Mingon Kang | 15 |
| | Study of Cis-regulatory Effects at the Population Level, Roberto Pagliarini, Alberto Policriti, Michele Morgante | 15 |
| | UNIStainNet: Foundation-Model-Guided Virtual Staining of H&E to IHC, Jillur Rahman Saurav, Thuong Pham, Pritam Mukherjee, Paul Yi, Brent Orr, Jacob Luber | 15 |
| | Decomposing Adverse Drug Event Extraction via Sentence-Level Inference, Howard Prioleau, Santiago Romero-Brufau, Saurav Aryal, Legand Burge | 15 |
| | MedDreamBooth: Structure-Guided Chest X-Ray Generation with Fine-Tuned Stable Diffusion, Likitha P, Smera Setty, Lolitha Y, Manya Gaonkar, Ayush Dangi, Prasad Honnavalli, Adithya Balasubramanyam | 15 |
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| **S20 - Omics 7 - chair:TBD** | | |
| | Endometriosis Screening Using Machine Learning And Microbiome Analysis, Aruzhan Bolatova, Mai Oudah | 15 |
| | Graph Neural RNA Velocity: Manifold-Aware Prediction of Single-Cell State Transitions from Spliced/Unspliced Counts, A. S. M. Bakibillah, Hampei Sasahara, Jun-ichi Imura | 15 |
| | Variational Generative Modeling for Forecasting Protein Diffusion from Molecular Dynamics, Phuong Thai, Mario Soria, Jacob Levine, Chen Wen, Yun Luo, Sai Chandra Kosaraju | 15 |
| | Quantifying Memorization and Privacy Risks in Genomic Language Models, Alexander Nemecek, Wenbiao Li, Xiaoqian Jiang, Jaideep Vaidya, Erman Ayday | 15 |
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| **S21 - Learn 4 - chair:TBD** | | |
| | Information-Theoretic Requirements for Gradient-Based Task Affinity Estimation in Multi-Task Learning, Bryan Cheng | 15 |
| | Patch-Level Tissue Context Improves Learning from Frozen Pathology Foundation Model Embeddings, Sajib Acharjee Dip, Liqing Zhang | 15 |
| | Lightweight Discriminative Indel Refinement via Artifact-Aware Alignment Modeling, Chinmay Bhardwaj, Ishaan Saxena, Manoj Rajpoot | 15 |
| | ppLM-CO: Parameter-Efficient Codon Optimization with Frozen Pre-trained Protein Language Model and Guaranteed Translation Fidelity, Shashank Pathak, Guohui Lin | 15 |
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| **S22 - Data 8 - chair:TBD** | | |
| | Graph Neural Networks Reveal When Structural Methods Can Predict Splice Variant Drug Resistance, Bryan Cheng | 15 |
| | Understanding Channel Complementarity for Multiplex Cell Segmentation, Haotian Ma, Yi Lin, Elizabeth Godschall, Bruno Matuck, Kevin Byrd, Yifan Peng, Jinze Liu | 15 |
| | MetabOmics: Metabolism-Oriented Omics Data Integration, Aycan Şahin, Mehmet Ali Erdoğan, Utku Sabri Kaya, Ali Çakmak | 15 |
| | Wearable Intelligent System for Non-Invasive Glucose Monitoring Using Quantum Sensing, Tanoy Debnath, Anichur Rahman, Md Shohel Rana, Hayden Wimmer | 5 |
| P3- Rapid fire presentation | Horizon-Aware Event-Driven Glucose Forecasting from Integrated CGM–Insulin Pump Data — Lavanya Mandava, Husam Ghazaleh, Guilin Zhao, Rahul Biswa Karma<br><br>A Decision-Support Framework for Clinical Engineering Internalization: The Case of ASST Spedali Civili di Brescia — Diego Pagnoncelli<br><br>MultiGEOmics: Graph-Based Integration of Multi-Omics via Biological Information Flows — Serdar Bozdag, Bizhan Alipourpijani<br><br>A Low-Cost Wearable Platform for Gait Assessment and Plantar-Pressure Monitoring in Clinical and Sports Contexts — Danilo Arnone, Patrizia Vizza, Gionata Fragomeni, Francesco | 5 minutes for poster presentation |

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| | | Lamonaca, Nicola Marotta, Antonio Ammendolia, Daniele Masala, Emanuele Sgambitterra, Giuseppe Tradigo | |
| | Translating Deep Multi-Omic Latent Spaces into LLM-Synthesized Mechanistic Hypotheses | Neil Lin | |
| | CAMINO: Context-Aware Mobility In Neighbourhoods and Outdoor Environments | Kresimir Friganovic, Jia Jun Raphael Han, Navrag B Singh | |
| | From Laboratory to Real World Gait: Leveraging Progressive Transfer Learning for Accurate and Reliable Event Detection | Kai Zhe Tan, Zhi Yi Yong, Kresimir Friganovic, Yong Kuk Kim, Navrag B Singh | |
| | Integrating Clinical Drivers and PET Radiomic Features: Application for Lung Cancer Survival Prediction | Martina De Salazar, Marida De Maria, Alexandra Lazar, Francesca Ogliari, Lidija Antunovic, Arturo Chiti, Patrizia Vizza | |
| | Designing a Data Quality Assessment Framework for Multi-sensor Breath Analysis Systems | Valentina Pizzillo, Jolanda Palmisani, | |

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| | | Alessia Di Gilio, Annamaria Catino, Alba Quarato, Gianluigi de Gennaro, Sérgio Lopes | |
| | Depth-Gated Cross-Omics Graph Fusion for Cancer Subtype Classification | Mason Ritchotte, Sheida Nabavi | |
| | Graph-Theoretical Analysis of HD-EEG Functional Connectivity in High-Frequency Episodic Migraine Patients Following Atogepant Treatment | Ludovico Ferreri, Elena Fenoglio, Enea Parimbelli, Marianna Semprini, Roberto De Icco | |
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| | **Friday, 3 July 2026** | | |
| **S6 - Data 2 - chair:TBD** | | | |
| | Relaxed Efficient Acquisition of Context and Temporal Features, Yunni Qu, Dzung Dinh, Grant King, Whitney Ringwald, Bing Kok, Kathleen Gates, Aidan Wright, Junier Oliva | | 20 |
| | Physics-Grounded Active Sensing for Spectroscopic Tissue Characterization via World Models and Bayesian Experimental Design, Ashritha Chundru | | 20 |

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| | Federated Synthetic Data Generation for Hepatology Research: A UNOS based Evaluation, Sikha Pentyala, Abhinava Bharathi Babu, Joseph Ahn, Martine De Cock | 20 |
| | Faithful Supervised Dimensionality Reduction for Biomedical Data via Decision Geometry, Zexuan Wang, Zhuoping Zhou, Qipeng Zhan, Li Shen | 20 |
| | Multi-Objective Evolutionary Optimization for the Discovery of Structurally Diverse and Active Compounds, Konghao Zhao, Yimin Wang, Osvaldo Hernandez-Segura, Natalia Khuri | 15 |
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| **S9 - Image 2 - chair:TBD** | | |
| | Assessing Utility-Leakage Trade-offs in Coreset Selection for Chest X-Ray Embeddings, Aldo Marzullo, Sebastián Cajas Ordóñez, Leo Anthony Celi, Elena De Momi | 15 |
| | Quantum Information-Inspired Distance Functions for Siamese Networks in Longitudinal Mammogram Imaging, Sahand Hamzehei, Mostafa Karami, Afsana Ahsan Jeny, Stephen Andrew Baker, Tucker Van Rathe, Clifford Yang, Sheida Nabavi | 15 |
| | Vision Transformer Embeddings for Biosensor Image-Based Diagnosis, Luan B. Guerra, Ana Beatriz S. Zerati, Wallace Casaca, Lucas C Ribas | 15 |
| | Virtual Scanning for NSCLC Histology: Investigating the Discriminatory Power of Synthetic PET, Fatih Aksu, Laura Ciuffetti, Francesco Di Feola, Filippo Ruffini, Giulia Romoli, Fabrizia Gelardi, Arturo Chiti, Valerio Guarrasi, Paolo Soda | 15 |
| | Secure Integration of Image Analysis Services in Cloud-Based PACS Using an Anonymization Framework, Rui Jesus | 15 |
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| **S13 - Omics 4 - chair:TBD** | | |
| | DegradoMap: Multi-Modal Protein Representations Enable Pre-Synthesis Prediction of PROTAC DegradabilityBryan Cheng | 20 |
| | Hierarchical Enzyme Classification with Integrated Sequence and Folding-Derived RepresentationsPO-YU LIANG, Wei Wang, Zeyu Wang, Jun Bai | 20 |
| | CSTATE: Predicting cellular responses to perturbationsShiv Shankar | 15 |
| | Feasible radiomics workflow for the zebrafish model: a preliminary studyAlessandro Stefano, Nicolò Lauciello, Enrico Rizzo, Gaia Pucci, Giovanni Pasini, Alessia Finti, Giusi Forte, Franco Marinozzi, Giorgio Russo, Fabiano Bini | 15 |
| | DeepMetal: A Hierarchical Coarse-to-Fine Framework for Metal-Binding Site Prediction via Protein Language Models and SE(3)-Equivariant Graph Neural NetworksBingkun Liu, Yangfan Xu, Yunpeng Wang, Zihang Wu, Runming Wang | 15 |
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| | **Printed on 01-06-2026** | |