

ACM BCB 2026: The 17th ACM Conference on Bioinformatics, Computational Biology, and Health Informatics

June 30 to July 3, 2026 | University of Calabria, Rende (Cosenza), Italy

ACM BCB 2026 - Scientific Program at a Glance *(as of June 28th 2026)*

(see here for detailed program Link)

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)

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
17:00	19:00	Visit Rende Old Town (starting from Domus Hotel)
19:00	21:30	Registration, Welcome Reception at Grand Hotel Domus, in Rende (stay together at swimming pool side with light food)

Day 1 – June 30th, 2026

Start	End	Auditorium (Congress Center "B. Andreatta")	SALA A	SALA Stampa	Caldora	UniClub
8:30	**9:00**	**REGISTRATION**				
9:00	**10:00**	**Opening ceremony** **Keynote, K1 - Aidong Zhang, University of Virginia (VA):** **“Interpretability for Responsible Medical AI”**				
10:00	**10:30**	**COFFEE BREAK**				
10:30	**12:30**	WS1 – DAISY26	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	WS4 – ASI
12:30	**14:00**	**LUNCH BREAK**				
14:00	**15:30**	WS1 DAISY Posters (first floor) ——— WS3 – ITCBIO	T1: Spatial transcriptomics meets advanced image analysis: AI-driven integration of spatial omics data	H-Highligths	T2: How Old Are You Really? A Hands-on Computational Tutorial on Epigenetic Clocks as Biomarkers of Biological	WS4 – ASI

Start	End	Auditorium (Congress Center "B. Andreatta")	SALA A	SALA Stampa	Caldora	UniClub
					Aging Across Diverse Populations	
15:30	**16:00**	**COFFEE BREAK**				
16:00	**17:30**	WS3 – ITCBIO	T1: Spatial transcriptomics meets advanced image analysis: AI-driven integration of spatial omics data	BCB Steering committee meeting	SIBIM committee meeting	Free access

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	S2 – LLM 1	P1 - Rapid fire presentation	S3 – Omics 1	S4 – Omics 2
12:30	**14:00**	**LUNCH BREAK**				
14:00	**15:30**	S5 – Omics3	SIGBio members meeting	P2 - Rapid fire presentation	S6 - Image 1	S7 – Learn 1
15:30	**16:00**	**COFFEE BREAK**				
16:00	**17:30**	S8 - Learn 2	Doctoral consortium	P3 - Rapid fire presentation	Free access	S9 - Data 2

Social Events

Start	End	COSENZA
18:00	**20:00**	**Visit @ National Gallery of Cosenza (Galleria Nazionale di Cosenza)** Link

Start	End	COSENZA
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	Caldora
9:00	**10:00**	**Keynote, K3 – Tom Pollard, Massachusetts Institute of Technology (MA)** **“Data for Health AI in a Time of Change”**				
10:00	**10:30**	**COFFEE BREAK**				
10:30	**12:30**	S10 – Data 3	S11 – LLM 2	Free access	Industry Track	S12-Data4
12:30	**14:00**	**LUNCH BREAK**				
14:00	**15:30**	S13 – LLM 3	S14 – Learn3	Free access	S15 - Omics 4	S16-Data5
15:30	**16:00**	**COFFEE BREAK**				
16:00	**17:15**	S17 – Omics 5	S18 – Learn4	Free access	Free access	S19-Data6

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**	S20 - Data 7	S21 – Image 2	S22 – Omics 6
12:30	**13:00**	**Closing ceremony**		

	Program	
Day 1	**Tuesday, 30 June 2026**	
Session	**Title and Authors**	**Duration**
Opening Ceremony	Pierangelo Veltri, Giuseppe Pozzi, Francesco Scarcello, Gianluigi Greco	10
Keynotes	Interpretability for Responsible Medical AI, Aidong Zhang	50
Tutorial 1	Spatial transcriptomics meets advanced image analysis: AI-driven integration of spatial omics data., Matteo Bonfanti, Damian Dalle Nogare, Sara Terzoli, Alberto Riva	270
Tutorial 2	How Old Are You Really? A Hands-on Computational Tutorial on Epigenetic Clocks as Biomarkers of Biological Aging Across Diverse Populations, Chaini Konwar, Beryl C. Zhuang	150
H - Highlights - chair:Gregor Stiglic, University of Maribor, Slovenia		
	SoMaCX: a complex generative genome modeling framework, Timothy Becker	20
	Molecular features of human pathological tau distinguish tauopathy-associated dementias, Mukesh Kumar, Christoph Schlaffner, Shaojun Tang, Maaike Beuvink, Hanno Steen, Judith Steen	20

	Parallels and Anti-Parallels Between Natural and Artificial Intelligence Safety, Pierre Baldi	30
	To be defined	10
Women in Healthcare Informatics	Women in Healthcare Informatics, May Wang, Mor Peleg, Barbara Di Camillo	50
WS1 - DAISY26 - chair:Mattia Prosperi, University of Florida, USA		
	Daisy Keynote Speach, Takis Benos	30
	Panel discussion (30m) Dr. Beth Virnig (University of Florida, USA), Dr. Fabrizio Pecoraro (National Research Council, Italy), and Dr. Gregor Stiglic (University of Maribor, Slovenia)	30
	Lightning talks (3x10m) Adrian Albernas, Aprinda Indahlastari Queen, Shae Gantt, Tiancheng Zhou	30
	Posters - afternoon session	
	Mapping the System, Mining the Data: Integrating Group Model Building, Directed Acyclic Graphs, and Electronic Health Records to Identify PrEP Intervention Priorities, Yiyang Liu, Adran Albernas, Balu Bhasuran, Andrea Cheshure, Sara Green, Jonathan Morgan, Henna Budhwani, Zhe He, Sylvie Narr	10
	Evaluating the complexity of a clinical case for educational purpose through diagrams: a validation study, Fabrizio Pecoraro, Fabrizio Consorti, Antonio D'Uffizi, Fabrizio Murgia, Oscar Tamburis, Fabrizio L. Ricci	10
	BioShield: A Context-Aware Firewall for Securing Bio-LLMs, Protiva Das, Sovon Chakraborty, Sidhant Narula, Lucas Potter,	10

	Xavier-Lewis Palmer, Pratip Rana, Daniel Takabi, Mohammad Ghasemigol	
	AI Driven Personalized tDCS for Enhancing Brain Health in Aging Populations, Aprinda Indahlastari Queen	10
	Using Causal Graphical Modeling to Predict Emphysema, Shae Gantt, Panayiotis Benos	10
	Predicting Interim Analysis Requirements From Clinical Trial Protocols: A Comparative Evaluation of Large Language Models and Traditional Machine Learning, Tiancheng Zhou, Samantha Andritsch, Vanessa Mosad, Michael E von Fricken, Simone Marini	10
WS3 - ITCBIO - chair:Anna Carbone, Politecnico di Torino, Italy		
	An information-theoretic perspective on evolutionary game theory and population genetics, Alexandre V. Morozov	30
	Maximum Entropy Model for Replicating Bacterial Chromosomes, Janni Harju	30
	Exploring Transcription Factor Binding Sequence and Orientation Patterns, Timothy James Becker	30
	Integrating Ethnobotanical, Phytochemical and Structural Information for In Silico Prioritization of Bioactive Compounds from Medicinal Plants of Roraima, Karla Santana Morais	30
	Using data science to provide crucial information for reliable modelling of climate drivers of malaria in South Africa, Suzana Blesic	30
	A Maximum Entropy Framework for Anthropometric Tail Modeling via Gaussian-Weibull Mixtures, Ken Kiyono	30

WS4 - ASI - chair:Marma Moussa, Oklahoma University, USA		
	Towards In Silico Design of Personalized Epitopes for Targeting Transthyretin Variants, Ugo Lomoio, Valentina Carbonari, Paola Roncada, Andrea Urbani, Pietro Lio, Pierangelo veltri, Pietro Hiram Guzzi	15
	Thermodynamic Limits on T Cell Receptor Discrimination: A Stochastic Thermodynamic Framework Unifying Energy, Accuracy, and Speed in Kinetic Proofreading, Siddharth Karuturi, Kaustubh S. Bukkapatnam	15
	Multimodal Computational Identification of Candidate Resilience-Associated Phenotypes in Alzheimer's Disease, Poojak Patel	15
	Modeling School Dropout as a Dynamical System: Neural ODEs with Lyapunov Stability for Early Warning in East Africa, Emile Lucky Muhigira	15
	Demographic Bias in Single-Cell Foundation Models: Evaluation and Mitigation Across Models and Cohorts, Fernando Peralta Castro, Jiaqi Zhang, Ritambhara Singh	15
	Graph-Guided Deep Learning for Predicting Somatic Mutations in Colorectal Cancer, Collin Sumrell, Aleksandr Shishkin, Marmar R. Moussa	5
	Novel integrated cross-species pipeline for neoepitope predictions, Aleksandr Shishkin, Marmar R. Moussa	5
Day 2	**Wednesday, 1 July 2026**	
Session	**Title and Authors**	**Duration**

Keynotes	Designing biological molecules with generative AI: from RNA structure to synthesisable drugs, Pietro Lio'	50
S1 - Data 1 - chair:Patrizia Vizza, University of Calabria, Italy		
	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, Hanyun Yin, Yining Yang, Rongrong Wang, Qiuhao Lu, Sunyang Fu, Hongfang Liu, Ruihong Huang	15
	Mathematical Insights into Tumor-Immune Interactions: A Stochastic and Delayed Response Model, Anushree Bhople, Aakash Kolekar	15
S2 - LLM 1 - chair:Giuseppe Tradigo, University		

Magna Graecia, Italy		
	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 Shilpika, Aditya Tanikanti, Venkatram Vishwanath, Michael Papka, Kwan-Liu Ma	15
	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
P1 - Rapid fire presentation - chair:Li Tong, Shenzhen University, PRC		
	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	5
	Pan-Cancer Integration of Gene Expression and Body Mass Index Data Enables Systematic Exploration of	5

	Obesity-Associated Molecular Signatures, Piercarlo Del Console, Luca Gelsomino, Cinzia Giordano, Ines Barone, Stefania Catalano, Balázs Győrffy	
	CHiP-FL: A Federated Learning Framework for Equitable Risk Modeling Across Multi-Institutional ICU Cohorts, Rhea Zhou	5
	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	5
	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	5
	Task-Conditioned PEFT with Prompt-Aligned ASR Error Structure Fusion for Parkinson's Speech Assessment, Muhammad Kashif, Patrizia Vizza, Giuseppe Tradigo, Sergio Flesca	5
	AI-Assisted Pre-Reporting for Head CT Case Prioritization in High-Throughput Healthcare Scenarios, Stefania Galassi, Davide Durante, Francesca Filice, Simone Bartucci, Edoardo De Rose, Maria Pia Zupi, Fabrizio Angiulli, Francesco Calimeri, Fabio Fassetti	5
	A Computational Framework for Deep Phenotyping of Maternal Autonomic Resilience Using 65 Months of Continuous Wearable Biometric Data, Chandler Buckingham, Kyle Johnson	5
	Unravelling expansion patterns in DM1 patients with ONTFlow and NanoExpansion, Francesco Casadei	5
	Towards Computational ASD Prediction via Lung Airway Geometry using Vision Language Models and and Attention for Interpretability, Arissa Islam, Asef Islam	5
	N3C Data Analytics for Attribute Importance and Prediction Tasks, Mirna Elizondo, Chloe Jones, Jelena Tešić	5
	Extracting Clinical Insights: LLM-Powered EHR Knowledge Graphs, Caterina Francesca Perri, Annamaria Defilippo, Valentina Carbonari, Ugo Lomoio, Barbara Puccio	5

	3D CT-to-PET Translation via Latent-Guided Contrastive Alignment and Brownian Bridge Diffusion, SARITA MOURYA, Francesco Di Feola, PAOLO SODA	5
	Synthetic Germline VCF Generation for Rare Diseases: Case Study in NF1, Sikha Pentyala, Ziwei Pan, Patrick McKeever, Jineta Banerjee, Luca Foschini, Martine De Cock	5
	Weakly Supervised Representation Learning for Cross-Ontology Mapping, Harshit Soni, Gabriel Nixon, Woodward Galbraith, Benjamin Gyori	5
	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	5
	Mol-Detox: Reducing Animal Testing Through Toxicity Prediction and Molecule Optimization, Aadhya Vijil, Peng Zheng	5
	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	5
	SupportAI: A Multimodal AI Platform for Clinical Decision Support, Francesco De Rose, Dattola Francesco, Catia Grazioso, Pasquale Iaquinta, Miriam Iusi, Simona Leo, Martina Francesca Maiorano, Francesco Pelle, Ivana Pellegrino, Giorgio Veltri, Mario Cannataro, Chiara Zucco, Tommaso Ruga, Ester Zumpano	5
S3 - Omics 1 - chair:Pietro Hiram Guzzi, University Magna Graecia, Italy		
	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, Ria Vasishtha, Andrew Hope, Lisa A. Kachnic, Eric Wang, Igor Shuryak	15
	AE-AEPD: Repurposing Adversarial Evasion for Cross-Omics Linkage Defense, Mohammadjavad Zohrabi, Gamze Gursoy, Russell Bowler, Katerina Kechris, Farnoush Banaei-Kashani	15
S4 - Omics 2 - chair:Serdar Borzag, Univ. Of North Texas, USA		
	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
	CB-Gene: A Computational–Biological Framework for Gene Prioritization in High-Dimensional-Low-Sample-Size (HDLSS) Lymphoma Data, Shamima Naznin, M Saifur Rahman	10
	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
S5 - Omics 3 - chair:Igor Shuryak, Columbia University, USA		
	Cross-batch concordant clustering for comprehensive single-cell transcriptomic stratification, Jiayu Zhao, Xinzhu Jiang, Chongxiao Mao, Hongyi Xin	20
	DegradoMap: Multi-Modal Protein Representations Enable Pre-Synthesis Prediction of PROTAC Degradability, Bryan Cheng, Jasper Zhang	15
	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

P2 - Rapid fire presentation - chair:Yanjie Wei, Shenzhen Institute Adv. Technology, PRC		
	An Interactive Web Application for Exploring Age-Dependent Gene Switching Across Human Tissues, Mattia Zicarelli, Tamer Kahveci, Tamim Khatib, Omer Kahveci	5
	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	5
	Design of a Radar-Based System for Contactless OSAS Monitoring, Federica Sicilia, Marida De Maria, Marco Mercuri, Patrizia Vizza	5
	Ranking Reversal Theory Under Candidate-Set Shift in GRN Benchmarking, Ihor Kendiukhov	5
	Evaluation Protocol Choices Dominate Gene Regulatory Network Benchmarking Outcomes for Single-Cell Foundation Models, Ihor Kendiukhov	5
	Towards Lighting the Dark Proteome with InteractionFormer: SE(3) Equivariant GNN + ANM to Simulate the Human Interactome, Aaryan Senthilvanan	5
	MkAtt-SDN2GO: A Preliminary Multi-Modal Attention Framework for Human Protein Function Prediction, Kartik Jhawar, Tapasvi Bhatt, Rohan Sunil, Lipo Wang	5
	Horizon-Aware Event-Driven Glucose Forecasting from Integrated CGM–Insulin Pump Data, Lavanya Mandava, Husam Ghazaleh, Guilin Zhao, Rahul Biswa Karma	5
	A Decision-Support Framework for Clinical Engineering Internalization: The Case of ASST Spedali Civili di Brescia, Diego Pagnoncelli	5

S6 - Image 1 - chair:Sheida Nabavi, University of Connecticut, USA		
	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, Jasper Zhang	15
	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
S7 - Learn 1 - chair:Li Shen, University of Pennsylvania, USA		
	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	15
	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
S8 - Learn 2 - chair:Vincenzo Della Mea, University of Udine, Italy		
	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
P3 - Rapid fire presentation - chair:Mattia		

Prosperi, University of Florida, USA		
	MultiGEOmics: Graph-Based Integration of Multi-Omics via Biological Information Flows, Serdar Bozdag, Bizhan Alipourpijani	5
	A Low-Cost Wearable Platform for Gait Assessment and Plantar-Pressure Monitoring in Clinical and Sports Contexts, Danilo Arnone, Patrizia Vizza, Gionata Fragomeni, Francesco Lamonaca, Nicola Marotta, Antonio Ammendolia, Daniele Masala, Emanuele Sgambitterra, Giuseppe Tradigo	5
	Translating Deep Multi-Omic Latent Spaces into LLM-Synthesized Mechanistic Hypotheses, Neil Lin	5
	CAMINO: Context-Aware Mobility In Neighbourhoods and Outdoor Environments, Kresimir Friganovic, Jia Jun Raphael Han, Navrag B Singh	5
	From Laboratory to Real World Gait: Leveraging Progressive Transfer Learning for Accurate and Reliable Event Detection, Kresimir Friganovic, Jia Jun Raphael Han, Navrag B Singh	5
	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	5
	Designing a Data Quality Assessment Framework for Multi-sensor Breath Analysis Systems, Valentina Pizzillo, Jolanda Palmisani, Alessia Di Gilio, Annamaria Catino, Alba Quarato, Gianluigi de Gennaro, Sérgio Lopes	5
	Depth-Gated Cross-Omics Graph Fusion for Cancer Subtype Classification, Mason Ritchotte, Sheida Nabavi	5
	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	5

	Robustness and Energy-Aware ECG Classification under Input and Model Compression, Luca Barillaro, Chiara Zucco, Giuseppe Agapito and Mario Cannataro	5
S9 - Data 2 - chair:Yunan Luo, Georgia Tech, USA		
	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
Day 3	**Thursday, 2 July 2026**	
Session	**Title and Authors**	**Duration**

Keynotes	Data for Health AI in a Time of Change, Tom Pollard	50
S10 - Data 3 - chair:Junier Oliva, Univ. North Carolina Chapel Hill, USA		
	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 Jatoth, James Wellnitz, Dzung Dinh, Seth Veenbaas, Jonathan Chapman, Alexander Tropsha, Junier Oliva	20
	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, Mouzhi Ge	15
S11 - LLM 2 - chair:Matteo Mantovani,		

University of Verona, Italy		
	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
Industry - chair:Giuseppe Tradigo, Marida de Maria, Martina de Salazar		
	Industry: Opening and Welcome, Giuseppe Tradigo, Martine De Salazar, Marida De Maria	5
	SupportAI: A Multimodal AI Platform for Clinical Decision Support, E-Way: Francesco De Rose	15

	Beyond AI Models: A Multimodal AI-driven Digital Twin for Personalized Insulin Titration in Type 2 Diabetese, SI Maggioli: Giuseppe Pelelgrino, Rosarina Vallelunga	15
	DIMARIA: A System for Preventive Diagnosys of Respiratory Diseases Through AI-driven Medical Auscultation Analysis, Webgenesys: Umberto Delprato	15
	Where Clinical Data Meets AI: Relatech's Platform for Intelligent Healthcare Ecosystems, Relatech: Stefano Brusamolino, Angelo Aloia	15
	From Biomedical Data to Knowledge: Enterprise AI; Large Language Models and Intelligent Digital Platforms for Clinical Decision Support, Vitti Solutions and Consulting: Elmiro Tavolaro	15
	, Pegasoft	15
	, Networking and Exibition Visit	15
S12 - LLM 3 - chair:Raffaele Giancotti, University of Calabria, Italy		
	When Medical LLMs Eat Their Own Output: The Effects of Recursive Self-Training on German Medical Text, Aashamsu Nepal, Ruben Nuredini, Gerrit Meixner	20
	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, Katie Ovens	15
	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
S13 - Data 4 - chair:Giuseppe Albi, University of Pavia, Italy		
	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
S14 - Learn 3 - chair:Danilo		

Lofaro, University of Calabria, Italy		
	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, Karl Paygambar, Adda Akram BENDOUKHA, Oana Stan, Mallek Mziou-Sallami, Vincent Meyer	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
S15 - Omics 4 - chair:Jelena Tesic, Texas State University, USA		
	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
	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
S16 - Data 5 - chair:Marida De Maria, University of Catanzaro, Italy		
	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
	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
S17 - Omics 5 - chair:Simone Marini, University of Florida, USA		
	Endometriosis Screening Using Machine Learning And Microbiome Analysis, Aruzhan Bolatova, Mai Oudah	15
	Recovering blind spots in spatial transcriptomics profiles (INVITED highlights), Tamer Kahvechi	30
	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
S18 - Learn 4 - chair:Wu-chun		

Feng, Virginia Tech, USA		
	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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S19 - Data 6 - chair:Xinghua Mindy Shi, Temple University, USA		
	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
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Day 4	**Friday, 3 July 2026**	
Keynotes	From Algorithm to Antibiotic: An Infectious Disease Physician's View on Computational Health, Raffaele Bruno	50
S20 - Data 7 - chair:Ashala Lakmini Senanayake, Kyoto University, Japan		
	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
	Federated Synthetic Data Generation for Hepatology Research: A UNOS based Evaluation, Sikha Pentyala, Abhinava Bharathi Babu, Joseph Ahn, Martine De Cock	15
	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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S21 - Image 2 - chair:Yunan Luo, Georgia Tech, USA		
	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
	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, Luís Godinho, Eduardo Pinho, Shelton Lázio Agostinho, Luis Bastião Silva, Carlos Costa	15
S22 - Omics 6 - chair:Raffaele Giancotti, University of Calabria, Italy		
	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
	Hierarchical Enzyme Classification with Integrated Sequence and Folding-Derived Representations, PO-YU LIANG, Wei Wang, Zeyu Wang, Jun Bai	20
	CSTATE: Predicting cellular responses to perturbations, Shiv Shankar	15
	Feasible radiomics workflow for the zebrafish model: a preliminary study, Alessandro 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 Networks, Bingkun Liu, Yangfan Xu, Yunpeng Wang, Zihang Wu, Runming Wang	15