



The Center for Computational Life Sciences (CCLS) Inaugural Symposium AI for Biology and Medicine (AI4BM)

October 30, 2025
Gateway Center, University of North Texas

Poster List

Poster #	Abstract Title and Author(s)
1	<i>Leveraging Protein Language Models for Structural Prediction and Classification of Antibiotic Resistance Proteins</i> Tallon Coxe, Rajeev Azad
2	<i>AI-driven statistical inference for molecular interactions</i> Ricky Sexton, Mohamadreza Fazel, Maxwell Schweiger, Steve Presse, Oliver Beckstein
3	<i>Distance Based Alignment Free Approach For Prion Discovery</i> Ambarish Kumar
4	<i>Dissociation Kinetics of the Intrinsically Disordered Sos Peptide Bound to the SH3 Protein Explored through Atomistic Simulations</i> Jaya Pathak, Omar Valsson
5	<i>Engineering De Novo α-Synuclein Amyloid Strains Using Deep-Learning Hallucination</i> Laxmikant Gadhe
6	<i>Structure-based protein design of tau binders</i> Macy Lozen, Katerina Konstantoulea, Harichandra Tagad, Laxmikant Gadhe, Nikolaos Louros
7	<i>BioLM-NET: an interpretable deep learning model combining prior biological knowledge and contextual LLM gene embeddings on multi-omics data to predict disease</i> Jubair Ibn Malik Rifat, Thasina Tabashum, Md Marufi Rahman, Md Farhad Mokter, Sarthak Engala, Serdar Bozdag
8	<i>Sex-Aware Multi-Omics in Colorectal Cancer: Hormones, DNA Repair, and the Microbiome - A Review</i> Natalie Gierat, Elizabeth Miller, Amber Hoskins, Shahela Mahammad, Dr. Riyaz Basha
9	<i>Integrating multiomics, evolutionary variation and machine learning to link genotype with phenotype and predict gene regulatory networks in snake venom systems</i> Siddharth Gopalan, Yannick Z. Francioli, Blair W. Perry, Kaas Ballard, Claire Kim, Hannah D. Guss, Cara F. Smith, Esther Betran, Jeffrey P. Demuth, Mark W. Pellegrino, Daren C. Card, Samuel Kerwin, Anthony J. Saviola, Stephen P. Mackessy, Richard H. Adams, Todd A. Castoe
10	<i>Inhibition of KAT8 Demonstrates Its Essential Role in Zebrafish</i> Vijaykumar Naidu, Fanju Meng

11	<i>Using Expression Profiling and Machine Learning Models to identify Genetic Factors underlying Liver Metastasis</i> Ahmad Bereimipour, Rajeev K. Azad
12	<i>Evaluation of Anti-MBG Antibody (H3L2) in a Rodent Model OF Preeclampsia</i> Ayeman Mahbub, Sara ZB Anwar, Ahmed F Pantho, James W. Larrick, Andrew R. Mendelsohn, John M. Wages, Mohammad Nasir Uddin
13	<i>Evaluation of Copper-Tolfenamic Acid (Cu-TA) Against Ovarian Cancer: Linking Sp1/Survivin Proteomics to Anti-proliferative Response</i> Elizabeth Miller, Amber Hoskins, Ameya Bhargava, Gisel Gutierrez, Christopher Lambring, Riyaz Basha
14	<i>Proteomics and Integrative Pathway Analysis to Understand the Mechanism of Action of Mithramycin and Etoposide Combination Induced Cell Death in Ewing Sarcoma Cells</i> Elin Stone, Christoffer B. Lambring, Khadiza Zaman, Ameya Bhargava, Laszlo Prokai, Riyaz Basha
15	<i>Enhancing Deep Learning Classification of PSR-Stained Liver Histology in Alcohol-Drinking Rhesus Macaques through Slide Preprocessing Frameworks</i> Kofi Nketia Ackaah-Gyasi, Sri Manjusha Tella, Joseph Yu, Mary Lauren Benton
16	<i>Multimodal vision and language models for healthcare practice</i> Sai Rushitha Bhimavarapu, Zeenat Tariq
17	<i>On the Systematicity of Gender Bias in Deep Learning Models for Ocular Disease Classification</i> Poulomi Guha, Ajita Rattani, Sagnik Ray Choudhury
18	<i>Low-Resource Diabetic Retinopathy Screening via AUM-ST with Vision Transformer</i> S M Saiful Islam Badhon, Praneeth Rikka, Ana Cleveland, K S M Tozammel Hossain
19	<i>Revisiting Predictive Models of Alcohol Consumption in Nonhuman Primates</i> Alejandro Medina, Mary Lauren Benton
20	<i>Predicting likelihood of surgery and surgery outcomes for children with cerebral palsy</i> Shou-Jen Wang, Thasina Tabashum, University of North Texas Joseph Krzak, Karen Kruger, Adam Graf, Ross Chafetz, Jon Davids, Anita Bagley, Susan Seinko, Jeremy Bauer, Mark V. Albert
21	<i>Symptom-Oriented Machine Learning Strategy for Assessing Endometriosis Severity</i> Visalaxi Sankaravadeivel, Usha Kiranmayee.M, Supratim Das Gupta
22	<i>Predicting Cardiovascular Disease Risk Factors Among US Adults Using Machine Learning Algorithms: A Comparative Analysis</i> Kayode Oke, amorudeen Abiola Taiwo, Emmanuel Mutchi Timothy, Eric Akuoko
23	<i>Phase-Dependent Wall Shear Stress and Mechanosensory Hotspots in the Human Nasal Cavity: Inhalation vs. Exhalation Across Breathing Regimes</i> Abdullah Saiffee, Andrea Barreiro
24	<i>RareNet: A Deep Learning Model for Rare Cancer Diagnosis</i> Danyang Shao, Sohan Addagudi, Joseph Cowles, Arnav Jain, Lauren D'Souza, Steven Gore, Rajeev K. Azad
25	<i>Method and apparatus for segmenting a medical text report into sections</i> Shaika Chowdhury, Halid Yerebakan, Yoshihisa Shinagawa
26	<i>A Multi-Agent Framework for Medical Summarization</i> Ke Yang
27	<i>Machine Learning on Interictal Intracranial EEG Predicts Surgical Outcome in Drug Resistant Epilepsy</i> Hmayag Partamian
28	<i>Deep Learning for Hemoglobin Concentration Estimation in Two-Layer Brain Tissue Using Time and Frequency Domain NIRS: A Monte Carlo Simulation Study</i> Haiyang Tang, Yiqing Hu, Hanli Liu

29	<i>Fusing EEG and bbNIRS for Alzheimer's disease classification via data augmentation</i> Wanjun Ning, Fiza Saeed, Haiyang Tang, Hanli Liu, Li Wang
30	<i>ToF Based Wearable Sensing for Passive Food Intake Monitoring</i> Harshavardhan Sasikumar, Mahdi Pedram
31	<i>Estimating Fall Risk in Older Adults Using Postural Sway Parameters and Machine Learning</i> Haoxuan Zhang, Ting Xiao, Guna Sindhuja Siripurapu, Shawn Kennedy, Rita M. Patterson, Mark V. Albert
32	<i>Monitoring Beverage Sugar and Artificial Sweetener Intake: A Comparative Study of Smart Glasses and EEG</i> Wen Liu, Gabrielle Gonzalez, Ruxin Wang, Chen Wang, Tung-Sung Tseng
33	<i>Deep Fusion Framework for Next-Generation Tongue Biometrics: Secure, Stable, and Spoof-Resistant Identification</i> Venkata Haritha Animilli, Abhinay Peeta, Sayed K. Shah
34	<i>Toward Smart Nanopores: Machine Learning Enabled Biosensing with Multilayer Solid-State Nanopores for Molecular Diagnostics</i> Kamruzzaman Joty, Chaoming Gu, Navod Thyashan, Ivan Vlassiuk, Liam Collins, Xingye Zhang, Christopher Nelson, Nathan Taton, Sangyoun Lee, Min Jun Kim
35	<i>Machine Learning Driven Nanopore Analytics for Gene Therapy Vector Quality Control</i> Navod Thyashan, Janeesha Manawasinghe, Southern Methodist University Chaoming Gu, Santosh Khatr, Christopher Nelson, Merve Emecen Sanli, Steven J. Gray, Sangyoun Lee, Prashanta Dutta, George Alexandrakis, Min Jun Kim
36	<i>Securing the Internet of Medical Things (IoMT) Using Zero Trust Principles</i> Amal Alshehri, Cihan Tunc
37	<i>Offline Reinforcement Learning for Crop Production Management</i> Joseph Balderas, Dong Chen, Yanbo Huang, Li wang, Ren-Cang Li
38	<i>Co-Circulation Dynamics of Influenza and SARS-CoV-2: A Multi-Scale Approach Based on Within-Host Viral Burden</i> Mani Dhakal, Rajeev K. Azad
39	<i>Large-Scale Geospatiotemporal Modeling of Influenza Dynamics by Environmental Drivers in the Southern United States</i> Samiraalsadat Saleh
40	<i>Determining the forecasting window and generalizability of our model as COVID-19 as an example</i> Sujan Shrestha, Rajeev K. Azad,
41	<i>Disentangling processes that shape hybridization and speciation at whole genome scales using convolutional neural networks</i> Yannick Francioli, Richard H. Adams, Zachariah Gompert, Stephen P. Mackessy, Todd Castoe
42	<i>DyGraphTrans: A weight update-driven graph learning framework for dynamic graphs</i> Most Tahmina Rahman, Mohammad Al Olaimat, Serdar Bozdog
43	<i>CeCAM Enables Stress-Free, Longitudinal and Continuous Imaging of Freely Moving C. elegans</i> Parsa Safaeian , Tasnuva Mahbub, Rhythem Tahrin, Salman Sohrabi
44	<i>Software and Hardware Co-Design to Enhance GPU Acceleration of Genomics Analysis</i> Shouzhe Zhang, Hui Zhao
45	<i>Privacy-Preserving Medical Risk Assessment via Interval Checks on Encrypted Data</i> Raushan K. Pandit, Kirill Morozov, Cihan Tunc
46	<i>AI-Driven Multi-Omics Integration for Translational Drug Discovery in Lung Adenocarcinoma</i> Ramyashree Doddaballapur