

Current as of June 10, 2025

Poster Session A (July 10, 2025, 7:30-9 p.m.)

A001 Harnessing machine learning for the virtual screening of natural compounds as both EGFR and HER2 inhibitors in colorectal Cancer: A novel therapeutic approach.

Deli-Bright Oku. University of South Africa, Roodepoort, South Africa

A002 A Bayesian Machine Learning Approach for Estimating Treatment Effects in Decentralized Clinical Trials. Ying Yuan. University of Texas MD Anderson Cancer Center, Bellaire, TX, United States

A003 An active learning platform for predictive oncology in rare cancers. Wesley Tansey. Memorial Sloan Kettering Cancer Center, New York, NY, United States

A004 Integrating high-throughput screening with ligand-based pharmacophore modeling and virtual screening strategies to optimize exonuclease 1 inhibitor design. Jessica Hess. City of Hope, Duarte, CA, United States

A005 Monotherapy cancer drug-blind response prediction is limited to intraclass generalization. William Herbert. Mayo Clinic, Rochester, MN, United States

A006 Data Curation and Knowledge Integration Pipeline for Biomarker Discovery. Samantha Majoros. Ontario Institute for Cancer Research, Toronto, ON, Canada

A007 Bayesian Counterfactual Machine Learning Individualizes Radiation Modality Selection to Mitigate Immunosuppression. Michael Kane. Yale School of Public Health, New Haven, CT, United States

A008 AI-Predict: Artificial intelligence-mediated drug synergy prediction and validation in cancer models. Alicia Pliego. University of Zurich, Zurich, Switzerland

A009 AI-driven metabolomics and synthetic drug design for targeting CNS metastases . Rajvi Babaria. Johns Hopkins University, Baltimore, MD, United States

A010 Benchmarking 3D against 2D deep learning-driven image-based profiling for predicting biological relationships amongst genes. Matt De Vries. Sentinal4D, London, United Kingdom

A011 Interpretable machine learning for discovery, evaluation and clinical translation of context-specific dependencies. Timothy Sterne-Weiler. Genentech, South San Francisco, CA, United States

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A012 AI-assisted Design of Novel NRF2^{Mut} Inhibitors. Xiaoxin Chen.
 Cooper University Health Care, Camden, NJ, United States

A013 Facilitating AI-Based Hit Discovery through the Development of the AIRCHECK Platform. Shaghayegh Reza. University of Toronto, Toronto, ON, Canada

A014 Machine Learning-Guided Discovery of Drug Combinations Targeting PI3K and mTOR Pathways Using Cell Line and PDX Data. Yuan-Hung Chien. Certis Oncology, San Diego, CA, United States

A015 Precision medicine approach to melanoma immunotherapy: Predicting response, adverse events, and hospital admissions using machine learning and explainable artificial intelligence. Lakshya Sharma. University College London, London, United Kingdom

A016 A computational chemistry and AI-driven framework for structure-based drug design informed by underlying factors of mutation-induced drug resistance: A study of KRAS. Katarzyna Mizgalska. Moffitt Cancer Center, Tampa, FL, United States

A017 Personalizing treatment selection for prostate cancer using causal machine learning. Emma Graham Linck. UW-Madison School of Medicine and Public Health, Madison, WI, United States

A018 Accelerating drug discovery at an HBCU with AI/ML: Text mining, computational modeling, and drug repurposing approaches. Kevin Williams. North Carolina Central University, Durham, NC, United States

A019 A fully transparent and automatable form of AI for biomarker and new target discovery using diverse multi-omics data. Jedidiah Gaetz. Plex Research, Cambridge, MA, United States

A020 Machine learning models of RNA expression landscapes help predict overall tumor response to chemotherapy in cholangiocarcinoma. Ellen Larson. Mayo Clinic, Rochester, MN, United States

A021 Improving cardiotoxicity prediction for oncology drugs via domain-specific adaptation. Daniel Nguyen. University of Virginia, Charlottesville, VA, United States

A022 Deep Learning Meets Transcriptomics: CNN-1D Powered Interpretation of probe based transcriptome array in Prostate Cancer. Neetu Singh. King George's Medical University, Lucknow, India

A023 Spatially resolved drug response predictions reveal fibroblast-associated resistances in in situ lung cancer samples. Robert Gruener. University of Minnesota, Minneapolis, MN, United States

A024 AI-Integrated Framework for Predicting ADME and Toxicological Profiles: A Hybrid Data- and Physics-Driven Approach. Md Ataul Islam. SilicoScientia Pvt Ltd, Bengaluru, India

A025 PicoGen: A structure-grounded generative AI model for drugging undruggable targets, including the TEAD–YAP axis. Nicholas Hamilton. Pledge Therapeutics, LLC, Canton, MA, United States

A026 GenAI and Physics Assisted Methods for the Design and Development of USP1 Inhibitors. Appaji Mandhare. VeGen Labs LLP, Hyderabad, India

A027 Multiscale systems approach to target tumor ecosystem responses for therapeutic benefit. Laura Heiser. OHSU, Portland, OR, United States

A028 Automated Rule Synthesis from Literature for Agent-Based Modeling of the Tumor Microenvironment. Zachary Sims. Oregon Health & Science University, Portland, OR, United States

A029 Validation of a Deep Learning Serial Computed Tomography Response Biomarker for Predicting Overall Survival in Metastatic Kidney Cancer Treated with Immune Checkpoint Inhibitors. Chiharu Sako. Onc.AI, San Carlos, CA, United States

A030 Advancing Pharmacogenomic Modeling: Robust Dose-Response Curve Fitting and Drug Combination Analytics in the Next-Generation PharmacoGx Framework. Nikta Feizi. University of Toronto, Toronto, ON, Canada

A031 Unsupervised graph-based visualization of variational autoencoder latent spaces reveals hidden multiple myeloma subtypes. Anish Simhal. Memorial Sloan Kettering Cancer Center, New York, NY, United States

A032 Using machine learning to tackle tumor heterogeneity. Jennifer Neumaier. TRON gGmbH, Mainz, Germany

A033 Utilizing machine learning algorithms to identify methylation regions predictive of outcome in ICI-treated patients: Insights from the longitudinal RADIOHEAD study.

Christopher Pretz. Guardant Health, Castle Rock, CO, United States

A034 A robust ensemble-feature selection and machine learning approach to identify true somatic variants. YunTe Lin. Memorial Sloan Kettering Cancer Center, New York, NY, United States

A035 Denoising Models Enhance Detection of Tumor-Derived cfDNA fragments and Cancer Tissue signal in Liquid Biopsy. Shiva Farashahi. Harbinger Health, Boston, MA, United States

A036 Genomic alterations associate with distinct tumor dynamics in NSCLC: A genomics-informed Bayesian hierarchical modeling approach. Nikolaos Dimitriou. Memorial Sloan Kettering Cancer Center, New York, NY, United States

A037 Survival-based subtyping of lung cancer through integrated genomic and methylation signatures. Aaron Hardin. Guardant Health, Palo Alto, CA, United States

A038 Unmasking hidden mutational footprints of therapy in pediatric tumors . Mehdi Layeghifard. The Hospital for Sick Children, Toronto, ON, Canada

A039 Pediatric pan-cancer characterization of transposable elements and their modulation by germline TP53 variants. Brianne Laverty. The University of Toronto, Toronto, Ontario, Canada

A040 Digital Controls: An Efficient, Robust, and Privacy-Preserving Bayesian Tool for Adaptive Information Borrowing from External Data. Ruitao Lin. The University of Texas MD Anderson Cancer Center, Houston, United States

A041 A Hybrid Active Learning (AL) Random Forest Model with KNN Imputation to Predict Recurrence in Ductal Carcinoma In Situ (DCIS) of the Breast. Kai Chan. Queen Mary University London, London, United Kingdom

A042 Real-world clinical multi-omics and AI/ML analyses reveal bifurcation of drug resistance mechanisms to CDK4/6 inhibitors. Zhengyan Kan. Pfizer, San Diego, CA, United States

A043 Mutational profiling and machine learning for risk stratification and biomarker identification in intraductal papillary mucinous neoplasms progressing to pancreatic cancer. Aleksandra Karolak. Moffitt Cancer Center, Tampa, FL, United States

A044 Developing a digital twin framework for colorectal cancer outcome prediction and robust clinical trial simulation. Ian Ruchlin. ConcertAI, Cambridge, MA, United States

A045 Unlocking deep learning for cell-free DNA-based early colorectal cancer detection. Michael Widrich. Freenome, Brisbane, CA, United States

A046 Cell states and neighborhoods in distinct clinical stages of primary and metastatic esophageal adenocarcinoma. Josephine Yates. Broad Institute, Boston, MA, United States

A047 Building clinically relevant and interpretable multi-modal machine learning algorithms to predict glioblastoma disease progression. Shreya Chappidi. National Institutes of Health & University of Cambridge, Bethesda, MD, United States

A048 Weakly supervised prediction of EGFR mutation status and early metastasis of lung adenocarcinoma whole slide histopathology images using artificial intelligence. Chi-Long Chen. Taipei Medical University and Taipei Medical University Hospital, Taipei, Taiwan (Greater China)

A049 Development of a tri-modal contrast learning model integrating pathology-text and CT-text for clinical oncology tasks. Zhicheng Du. Tsinghua Shenzhen International Graduate School, Shenzhen, Taiwan (Greater China)

A050 Multimodal integration of H&E slides and matched targeted DNA sequencing data for enhanced cancer subtype identification. Madison Darmofal. Memorial Sloan Kettering Cancer Center, New York, NY, United States

A051 Multi-omic explainable machine learning improves cancer treatment outcome prediction. Khoa Tran*. Cancer Program, QIMR Berghofer Medical Research Institute; School of Biomedical Sciences, Queensland University of Technology (QUT), Brisbane, Australia

A052 The S-RACE Platform: Empowering Healthcare Real-World Data with Artificial Intelligence (AI) Using a Cloud-Based Approach. Alberto Traverso. Università Vita-Salute San Raffaele, Milan, Italy

A053 A pre-operative Artificial Intelligence-based model to estimate the risk of cancer specific mortality in patients with non-metastatic kidney cancer. Alberto Traverso.

Università Vita-Salute San Raffaele, Milan, Italy

A054 Multimodal LLM-Driven Intervention for Precision Risk Prediction in Lung Cancer Surgery. Kenneth Seastedt. Roswell Park Comprehensive Cancer Center, Buffalo, NY,

United States

A055 Inferring genomic properties and histologic subtypes of solid tumors from H&E whole-slide images. Kevin Boehm. MSKCC, New York, NY, United States

A056 Integrative Machine Learning Approaches for Predicting Prostate Cancer Risk Using Multi-Omics Data. Zhanwei Wang. University of Hawaii John A. Burns School of Medicine, Honolulu, HI, United States

A057 Multimodal AI Modeling of Clinical Panel-Based Sequencing for HRD Detection in Ovarian Cancer. Areej Alsaafin. Memorial Sloan Kettering Cancer Center, New York, NY, United States

A058 Multimodal generative AI jointly learns pathology and clinical data to synthesize a multinational lung cancer cohort. Samantha Riesenfeld. Department of Medicine, University of Chicago, Chicago, IL, United States

A059 CP-Fuse: A Comprehensive Assessment of Clinico-Pathological Fusion in TCGA Survival Prediction. Juan Duran. McGill University, Montreal, QC, Canada

A060 OncoMindPro: An AI-augmented assistant to oncologists. Samuel Ding. Lexington High School, Lexington, United States

A061 Machine Learning and Causal Inference-Based Predictive Risk Modeling of Unplanned Radiation Treatment Interruption. David Schwartz. College of Medicine, The University of Tennessee Health Science Center, Memphis, TN, United States

A062 Uncovering Social and Clinical Determinants of Baseline Distress Prior to Radiation Therapy: An Explainable Machine Learning Approach. David Schwartz. College of Medicine, University of Tennessee Health Science Center, Memphis, TN, United States

A063 Artificial Intelligence in Cytopathology and Histopathology of Cancer: The Evolution to Precision Pathology . Priya Hays. Hays Documentation Specialists, LLC, San Mateo, CA, United States

A064 Dynamics in automatic CT based body composition and blood biomarkers in predicting mortality on immune therapy treated solid malignancy patients. Hilla Vardi Behar. The Samuelli Institute at the Davidoff Center, Petah Tikva, Israel

Poster Session B (July 11, 2025, 7-9 p.m.)

B001 Jarvais: A modular framework to standardize machine learning workflows and accelerate reproducible AI in oncology – benchmarking against a human-developed model for predicting emergency department visits during cancer treatment. Joshua Siraj. Cancer Digital Intelligence, University Health Network, Toronto, ON, Canada

B002 Fairness by Design: End-to-End Bias Evaluation for LLM-Generated Data. Melissa Estevez. Flatiron Health, Raleigh, NC, United States

B003 Towards machine learning fairness in glioblastoma: An evaluation of protected attributes in publicly available clinical datasets. Shreya Chappidi. National Institutes of Health; University of Cambridge, Bethesda, MD, United States

B004 A practical framework for operationalizing responsible and equitable AI in healthcare: Tackling bias, inequity, and implementation challenges. Benjamin Grant. Cancer Digital Intelligence, Princess Margaret Cancer Centre, Toronto, ON, Canada

B005 Designing ethically aligned AI to support palliative care in hematologic malignancies: Ethical considerations for equity and patient-centered care. Wamia Siddiqui. Icahn School of Medicine at Mount Sinai, New York, NY, United States

B006 Using large language models for scalable extraction of real-world progression events across multiple cancer types. Aaron Cohen. Flatiron Health, New York, NY, United States

B007 TheBlueScrubs-v1: A Large-Scale Curated Dataset with ~11 Billion Oncology Tokens for AI-Driven Cancer Research. Luis Felipe. Moffitt Cancer Center, Tampa, FL, United States

B008 Fine-tuned large language model accurately estimates progression-free survival from radiology reports in immune checkpoint inhibitor-treated cancers. Feyisope Eweje. Stanford University, Stanford, CA, United States

B009 missense-kinase-toolkit: A toolkit to facilitate kinase sequence and structure-based modeling for property predictions. Jessica White. Tri-Institutional PhD Program in Computational Biology and Medicine, New York, NY, United States

B010 From RECIST to reality: A foundation model pipeline for scalable therapy response evaluation. Caryn Geady. University of Toronto; University Health Network, Toronto, ON, Canada

B011 Pan-cancer immunotherapy response prediction using the CURE AI large clinicogenomic foundation model. Vitalay Fomin. Numenos, New York, NY, United States

B012 Prompting Large Language Models to Predict Adverse Events during Cancer Treatment. Wayne Isaac Uy. Division of Medical Oncology and Hematology, Princess Margaret Cancer Centre, University Health Network, Toronto, ON, Canada

B013 Emotional tone classification as a tool for psychosocial risk detection in oncology: An AI-powered chatbot. Nissim Frija-Gruman. McGill University, Montreal, QC, Canada

B014 Are histopathology foundation models clinically ready for survival prediction?. Vishwesh Ramanathan. University of Toronto, Toronto, ON, Canada

B015 Large language models to predict cancer risk from free-text clinical notes. Daniel Mau. ICES, Princess Margaret Cancer Centre, University Health Network, University of Toronto, Toronto, ON, Canada

B016 Multi-Agent Framework for Deep Research in Cancer Immunogenomics via TCR Datasets and Scientific Literature Search. Samuel Torres-Florez. Roche, Montreal, QC, Canada

B017 Check: A hybrid continuous-learning framework for enhancing factual reliability in clinical language models.. Carlos Garcia Fernandez. Moffitt Cancer Center, Tampa, FL, United States

B018 Practical benchmarking of large language models for structuring synthetic prostate cancer histopathology statements in English and Finnish. Teemu Laajala. University of Helsinki, Helsinki, Finland

B019 Clinician-AI evaluation of prognostic information extraction in head and neck cancer using an on-premises LLM. Yujing Zou. McGill University, Montreal, QC, Canada

B020 Automated classification of thymic epithelial tumours. A novel deep learning approach. Matteo Sacco. University of Chicago, Chicago, IL, United States

B021 Current oncological large language model research lacks reproducibility, transparency, and long term support. Tolou Shadbahr. University of Helsinki, Helsinki, Finland

B022 Prediction of radiotherapy-Induced esophagitis in non-small cell lung cancer using a 3D vision foundation model . Chloe Min Seo Choi. Memorial Sloan Kettering Cancer Center, New York, NY, United States

B023 Deep learning-based prediction of immune checkpoint inhibitor efficacy in brain metastases using brain MRI. Christopher Bridge. Massachusetts General Hospital, Boston, MA, United States

B024 Artificial intelligence enables the ethical reconstruction and social value realization of global cancer research: From technological innovation to humanistic care. Zhicheng Du. Tsinghua Shenzhen International Graduate School, Shenzhen, Taiwan (Greater China)

B025 Automated segmentation pipeline for radiological imaging using UniverSeg and similarity-guided support set retrieval. Niket Patel. Drexel University College of Medicine, Philadelphia, PA, United States

B026 Artificial Intelligence Apps for Medical Image Analysis using pyCERR and Cancer Genomics Cloud. Aditya Apte. Memorial Sloan Kettering Cancer Center, New York, NY, United States

B027 Multimodal prediction of pathological complete response in esophageal cancer using automated machine learning and variational autoencoder-based synthetic data augmentation. Şefika Dinçer. Van Yüzüncü Yıl University, Van, Türkiye

B028 Assessing variability in training deep models in delineating Prostate gland anatomy between clinical experts. Yoganand Balagurunathan. Moffitt Cancer Center, Tampa, FL, United States

B029 Confident Filtering in the context of primary Gleason pattern classification. Yoganand Balagurunathan. Moffitt Cancer Center, Tampa, FL, United States

B030 Multiple instance learning of large-scale DNA organization to characterize prostate cancer aggressiveness. Fumiya Inaba. BC Cancer Research Institute, Vancouver, BC, Canada

B031 Artificial Intelligence-Enhanced Image Analysis of Peripheral Blood Smears Supports the Diagnosis and Monitoring of Acute Promyelocytic Leukemia. Xiaoping Sun. The University of Texas MD Anderson Cancer Center, Houston, TX, United States

B032 Generative modeling (AI) for the analysis of Single-Cell RNA-seq data of radioresistant malignant pediatric brain tumors. Chinar Salmanli. University of Strasbourg, STRASBOURG, France

B033 Identifying triple-negative breast cancer patients at high risk of worse prognosis using molecular features derived from histology images. Jung Hun Oh. Memorial Sloan Kettering Cancer Center, NEW YORK, NY, United States

B034 Decoding the Leukocyte Effect: How Cell Retention Shapes ML Outcomes in Platelet RNA-based Cancer Detection. Anna Supernat. Medical University of Gdansk, Gdansk, Poland

B035 Deep learning-based spatially resolved immune clustering in the tumor microenvironment predicts distant metastasis risk in high-grade prostate cancer. David Yang. Brigham and Women's Hospital/Dana-Farber Cancer Institute, Boston, MA, United States

B036 Machine learning-based and marker-based combined strategy for circulating tumor cells candidates' detection. Michał Sieńczyński. Medical University of Gdańsk, Gdańsk, Poland

B037 AI-powered virtual tissues from spatial proteomics for clinical diagnostics and biomedical discovery. Charlotte Bunne. EPFL, Lausanne, Switzerland

B038 Machine learning used to validate neutrophil classification in Triple Negative Breast Cancer patients . Krzysztof Pastuszak. 1 Department of Algorithms and System Modeling, Gdansk University of Technology, Gdańsk, Poland. 2 Laboratory of Translational Oncology, Intercollegiate Faculty of Biotechnology, University of Gdańsk and Medical University of Gdańsk, Gdańsk, Poland. 3 Cen, Gdańsk, Poland

B039 Detecting obesity-associated histopathology characteristics in breast cancer using an AI foundation model. Naim Matasci. Ellison Medical Institute, Los Angeles, CA, United States

B040 Literature-scaled immunological gene set annotation using AI-powered immune cell knowledge graph (ICKG). Shan He. MD Anderson Cancer Center, Houston, TX, United States

B041 A Cellular Network-Aware Foundation Model Improves Single-Cell Level Predictions. Léo Dupire. Columbia University, New York, NY, United States

B042 Identifying single-cell transcriptomic signatures and changes underlying the evolution of fusion-negative rhabdomyosarcoma in Li-Fraumeni Syndrome mice.. Ashby Kissoondoyal. The Hospital for Sick Children, Toronto, ON, Canada

B043 Cellular localization as a prognostic indicator in invasive breast cancer . Matthew McNeil. University of Toronto, Toronto, ON, Canada

B044 Distributed Transcriptomic Modeling for Biomarker Discovery in Immuno-Oncology. Farnoosh Abbas-Aghababazadeh. Princess Margaret Cancer Centre, University Health Network, Toronto, ON, Canada

B045 Deep learning-guided spatial dissection of melanoma uncovers compartmentalized tumor states associated with response and resistance to immunotherapy and its combination with MAPK inhibitors. Kalpit Shah. Genentech, South San Francisco, CA, United States

B046 Enhancing the Diagnosis and Monitoring of Chronic Lymphocytic Leukemia with Artificial Intelligence-Driven Peripheral Blood Smear Image Analysis. Yun Gong. The University of Texas MD Anderson Cancer Center, Houston, TX, United States

B047 Path2Space: An AI approach for cancer biomarker discovery via histopathology inferred spatial transcriptomics. Emma Campagnolo. National Cancer Institute (NIH), Bethesda, MD, United States

B048 Large Scale, AI-Enabled, Spatial Signal Processing of Breast Cancer Pathology Identifies Consensus Tissue Structures Related to Biology and Outcomes. Jordan Krull. The Ohio State University, Columbus, OH, United States

B049 Deep Learning Enables Identification of Cell Types and Clusters (iCTC) in Immune Tumor Ecosystems for Prognostic Assessment in Cancer. Andrew Hoffmann. Northwestern University, Chicago, IL, United States

B050 Spatially aware transcriptomic topic modeling reveals novel signals of spatial organization in glioblastoma. Joseph Sifakis. University of Chicago, Chicago, IL, United States

B051 Elastic net discovery of DNA methylation biomarkers for non-invasive diagnosis and recurrence detection in head and neck cancer. Alexander Sprague. University of Cincinnati, Cincinnati, OH, United States

B052 Utilizing Dimensionality Reduction for Classification of Cell Senescence and Immune Synapse Formation via Imaging Flow Cytometry. Mohamed Moustafa. AstraZeneca, Gaithersburg, MD, United States

B053 Empowering AI-driven prediction of the tumor microenvironment from histopathology images via molecular annotation. Siao-Han Wong. German Cancer Research Center (DKFZ), Heidelberg, Germany

B054 Identification of spatial motifs linked to tumor genotype using graph attention networks. Nicholas Ceglia. Memorial Sloan Kettering Cancer Center, New York, NY, United States

B055 Analysis of pathologists' intraobserver, interobserver and AI agreement in breast cancer HER2 scoring: AI-assessed intra-sample tumor heterogeneity relates to lower agreement among pathologists and with AI. Pedro S. S. M. Ferrari. D'Or Institute of Research & Education, São Paulo, Brazil

B056 Deep Antigen Sets, a new deep-learning framework, enables in vivo modeling of patient neoantigens for effective targeted immunotherapy design. Frank Zhang. Natera, Inc., Austin, TX, United States

B057 DrBioRight: an AI chat assistant enabling scalable and flexible multi-omics analysis in cancer. Jun Li. UT MD Anderson Cancer Center, Houston, TX, United States



B058 An informed machine learning-based blood test for risk assessment of lethal and common cancers. Ehsan Irajizad. University of Texas MD Anderson Cancer Center, Houston, TX, United States

B059 Cancer Recurrence and Anxiety/Depression: High Accuracy Artificial Intelligence Predictive Modeling. Nabil Adam. Rutgers University, Newark, NJ, United States

B060 DIGIONE: From Fragmentation to Federation: Enabling Scalable Oncology RWE (Real World Evidence) through an international hospital based Cancer OMOP (Observational Medical Outcomes Partnership) Network. Alberto Traverso. DIGICORE (Digital Institute For Cancer Outcome Research), Brussels, Belgium

B061 Learning the Language of Somatic Mutations: A Large Language Model Approach to Precision Oncology. John-William Sidhom. Weill Cornell Medicine, New York, NY, United States