Poster presentations will be available as part of the virtual meeting beginning at 9:30 a.m. ET on Thursday, September 17

PR01  Analysis of spatiotemporal phenotypic heterogeneity in chemoresistant triple negative breast cancer using imaging mass cytometry. Amanda Rinkenbaugh, The University of Texas MD Anderson Cancer Center, Houston, TX.

PR02  Inferring the evolutionary dynamics of ductal carcinoma in situ through multi-regional sequencing and mathematical modeling. Marc D. Ryser, Duke University, Durham, NC.

PR03  Subtype-specific microenvironmental crosstalk and tumor cell plasticity in metastatic pancreatic cancer. Peter Winter, Massachusetts Institute of Technology, Cambridge, MA.

PR04  Understanding tumor clonal evolution by single-cell transcriptomic analysis in liver cancer. Lichun Ma, National Cancer Institute, Bethesda, MD.

PR05  Mapping the tumor and microenvironmental evolution underlying DCIS progression through multiplexed ion beam imaging. Tyler Risom, Stanford University, Palo Alto, CA.

PR06  Stabilising selection causes grossly altered but stable karyotypes in metastatic colorectal cancer. Salpie Nowinski, Barts Cancer Institute, Queen Mary University London, London, United Kingdom.


PO-001 Heterogeneous overexpression of HES6 promotes the growth of uterine leiomyomas. Matthew Anderson, University of South Florida, Tampa, FL.

PO-002 Revealing tumour spatial heterogeneity in breast cancer and the impact on clinical management. Jane Bayani, Ontario Institute for Cancer Research, Toronto, ON, Canada.

PO-003 Bivalent histone modifications: Clinical targets against pancreatic cancer stem cell heterogeneity. Jayanta Das, Miami Dade College, Miami, FL.

PO-004 Intra-individual heterogeneity of prostate cancer gene expression signatures of luminal and basal subtypes: Implications for selection of biopsy cores for genomic testing. Sandra Gaston, University of Miami Miller School of Medicine, Miami, FL.

PO-005 Spatio-temporal geographical molecular mapping of primary Papillary Thyroid Carcinomas and paired distant metastases. Clinical relevance for monitoring and targeting tumor heterogeneity. Sara Gil, Institute of Molecular Biology and Genetics (IBGM), Valladolid, Castilla y León, Spain.

PO-006 Single cell transcriptomic analysis of primary head and neck cancer stem cells. Molly Heft Neal, University of Michigan, Ann Arbor, MI.
PO-008 Know thy neighbor: deciphering the intra-tumor heterogeneity in ovarian cancer with molecular assessment of subtype heterogeneity (MASH). Ruby Yun-Ju Huang, National Taiwan University, Taipei, Taiwan.

PO-011 Role of tumor heterogeneity, tumor microenvironment and tumor initiating cell in gastric carcinogenesis from the perspective of development of hypothesis for its clinical application. Kalyan Kusum Mukherjee, Chittaranjan National Cancer Institute, Kolkata, West Bengal, India.

PO-012 Metastatic bottleneck in osteosarcoma selects for certain clonal populations, while metastatic lesions exhibit diverse phenotypes. Sanjana Rajan, The Ohio State University, Columbus, OH.

PO-013 Defining immune infiltrate heterogeneity and its role in ovarian cancer chemotherapy resistance using single cell RNA sequencing. Timothy Starr, University of Minnesota, Minneapolis, MN.

PO-014 Harnessing the heterogeneity of circulating hybrid cells in pancreatic adenocarcinoma. Brett Walker, Oregon Health & Science University, Portland, OR.

PO-015 Ex-vivo stimulation of chimeric antigen receptor T cell pre-infusion products predicts clinical response in pediatric B cell acute lymphoblastic leukemia. Steven Woodhouse, University of Pennsylvania, Philadelphia, PA.

PO-016 Revealing the cellular ecosystem and signaling pathways of posterior fossa childhood ependymoma with single-cell transcriptomic profiling. Rachael Aubin, University of Pennsylvania, Philadelphia, PA.

PO-017 Single-cell copy number heterogeneity tracing enabling cancer gene discovery. Ken Chen, The University of Texas MD Anderson Cancer Center, Houston, TX.

PO-018 Single cell whole genome sequencing reveals the dynamics of copy number instability at the earliest stages of cancer evolution. Alexander Frankell, Francis Crick Institute, London, United Kingdom.

PO-019 Deciphering differentiation hierarchies, heritability and plasticity in human gliomas via single-cell multi-omics. Federico Gaiti, Weill Cornell Medicine, New York, NY.

PO-020 Inferring copy number substructure from single-cell transcriptomics in human tumors with CopyKat. Ruli Gao, Houston Methodist Research Institute, Houston, TX.

PO-023 Spatial genomics coupled with machine learning to identify p53-driven molecular signatures that are predictive of lung adenocarcinoma progression. John Lockhart, Moffitt Cancer Center, Tampa, FL.

PO-024 Tumor-specific cell populations in clear cell renal carcinoma associated with clinical outcome identified using single-cell protein activity inference. Aleksandar Obradovic, Columbia University Medical Center, New York, NY.

PO-029 CliP: A model-based method for subclonal architecture reconstruction using regularized maximum likelihood estimation. Yujie Jiang, The University of Texas MD Anderson Cancer Center, Houston, TX.

PO-030 Characterizing mechanisms for inhibiting metastasis in triple negative breast cancer. Dongbo Yang, The University of Chicago, Chicago, IL.

PO-031 Innate immune genes distinguish the immune microenvironment of early onset colorectal cancer. Sudarshan Anand, Oregon Health & Science University, Portland, OR.

PO-033 The angiotensin II type 1 receptor blocker telmisartan inhibits the development of transient tumour hypoxia and improves response to ionizing radiation therapy. Kevin Bennewith, BC Cancer, Vancouver, BC, Canada.

PO-034 Non-random spatial clustering of tumor associated macrophages is associated with poor survival in metastatic RCC patients receiving immunotherapy. Nicholas Chakiryan, Moffitt Cancer Center, Tampa, FL.

PO-035 A novel bioengineered model of osteosarcoma recapitulates critical tumor phenotypes within a native bone microenvironment. Alan Chramiec, Columbia University, New York, NY.

PO-037 Characterization of stemness and immunogenicity of cancer stem cells of intrahepatic cholangiocarcinoma. Jianyang Fu, National Institutes of Health, Bethesda, MD.

PO-038 DCE-MRI of tumor hypoxia in cervical carcinoma and pancreatic ductal adenocarcinoma xenografts. Jon-Vidar Gaustad, Oslo University Hospital, Oslo, Norway.

PO-039 Spatially discrete signalling niches regulate fibroblast heterogeneity in human lung cancer. Christopher Hanley, University of Southampton, Southampton, Hampshire, United Kingdom.

PO-040 Oral squamous carcinoma cells under TGF-β-induced cell cycle arrest represent highly motile and invasive population. Katarzyna Inoue, Department of Biochemistry, Tokyo Medical and Dental University (TMDU), Tokyo, Japan.

PO-041 Multiplexed ion beam imaging to describe tumor-immune microenvironment and tumor heterogeneity in neuroblastoma. Marte B. Kammersgaard, Department of Pediatrics, Bass Center for Childhood Cancer and Blood Disorders, Stanford University, Stanford, CA.


PO-043 Plexiform neurofibroma microenvironment at single-cell resolution. Leah Kershner, Cincinnati Children’s Hospital Medical Center, Cincinnati, OH.

PO-045 Single cell proteomic analysis of lung adenocarcinoma identifies high HLA-DR expression to be associated with indolent tumor behavior. Maria Fernanda Senosain Ortega, Vanderbilt University Medical Center, Nashville, TN.
PO-046 Single-cell profiling of tumor evolution and complex immune infiltrate induced by ADT and PD-1 blockade in metastatic hormone-sensitive prostate cancer. Aleksandar Obradovic, Columbia University Medical Center, New York, NY.

PO-047 Anti-proliferative effect of cannabidiol (CBD) against B and T-cell lymphoma. Saba Omer, Auburn University, Auburn, AL.

PO-048 Combined single-T cell clonotyping and phenotyping defines a predictive response signature that identifies patients more likely to respond to therapy. Andreas Raue, HiFiBiO Therapeutics, Cambridge, MA.

PO-049 Exploiting tumor acidic microenvironment for improved therapeutics. Nazanin Rohani Larijani, National Research Council Canada, Montreal, QC, Canada.

PO-050 Peripheral neurons invade oral squamous cell carcinoma microenvironment and drive tumorigenesis. Nicole Scheff, University of Pittsburgh, Pittsburgh, PA.

PO-051 Tumor stem cells arising from a non-stem origin maintain a differentiated phenotype and modulate T cell activity. Cherie' Scurrah, Vanderbilt University, Nashville, TN.

PO-055 Global Immune Characterization of Hepatocellular Carcinoma Identifies Macrophage and T cell Subsets Related to Disease Progression. Guohe Song, Zhongshan Hospital, Fudan University, Shanghai, China.

PO-057 Host cell-derived TXA2-mediated Gq signaling in tumor cells promotes tumor immune evasion. Kenta Terai, Graduate School of Biostudies, Kyoto University, Kyoto, Japan.

PO-058 Intratumoral distribution and retention of gold nanoparticles characterized by computed tomography in a non-small cell lung cancer model. Rossana Terracciano, Houston Methodist Research Institute, Houston, TX.

PO-059 The genomic landscape of the in situ to invasive ductal breast carcinoma transition shaped by the immune system. Anne Trinh, Dana Farber Cancer Institute, Boston, MA.

PO-065 Utilization of optimized extracellular matrix substratum for inclusive capture of circulating tumor cells in stage IV colorectal cancer. Jonathan Blay, University of Waterloo, Waterloo, ON, Canada.

PO-066 Computational identification of key pathway and differentially-expressed gene signatures in ovarian cancer stem cells. Renata Fu, Scarsdale High School, Scarsdale, NY.

PO-068 Intratumoral heterogeneity of prognostic multigene signatures for breast cancer. Amber Hurson, University of North Carolina, Chapel Hill, NC.

PO-069 Characterizing cell-to-cell heterogeneity and chromosome instability induced by USP22 deficiency in colorectal cancer. Lucile Jeusset, Research Institute in Oncology and Hematology, CancerCare Manitoba; Department of Biochemistry and Medical Genetics, University of Manitoba, Winnipeg, MB, Canada.

PO-071 MYC Influences metastatic heterogeneity in pancreatic cancer. Ravikanth Maddipati, UT Southwestern Medical Center, Dallas, TX.
PO-072 Control of inter- and intra-patient cancer heterogeneity is a predictively accurate explanation for the success of many combination therapies for solid and hematological cancers. Adam Palmer, University of North Carolina at Chapel Hill, Chapel Hill, NC.

PO-075 Dysfunction of centrosome regulation by BRCA1-containing complex increases tumor heterogeneity. Natsuko Chiba, Department of Cancer Biology, Institute of Development, Aging and Cancer, Tohoku University, Sendai, Japan.

PO-076 miR-181a initiates and perpetuates ovarian cancer transformation through inhibition of the tumor suppressors RB1 and stimulator of interferon genes (STING). Matthew Knarr, University of Pennsylvania, Philadelphia, PA.


PO-080 Predicting relapse in patients with Triple Negative Breast Cancer (TNBC) using a deep-learning approach. Herbert Levine, Department of Physics, Northeastern University, Boston, MA.

PO-082 Combining multiplex immunohistochemistry and deep learning: A new approach to tracing the tumour microenvironment. Kouther Noureddine, BC Cancer Research Institute, Vancouver, Canada.

PO-083 Utilizing spatial transcriptomics to elucidate tertiary lymphoid structure heterogeneity in human cancer. Tullia Bruno, University of Pittsburgh, Pittsburgh, PA.

PO-084 Protein marker heterogeneity in breast cancer subtypes measured using immunofluorescence protein multiplexing and quantitative, single cell image analysis. Alison Cheung, Sunnybrook Research Institute, Toronto, ON, Canada.

PO-085 Mass spectrometry imaging of N-glycans identifies racial discrepancies in human prostate tumors. Lindsey Conroy, University of Kentucky, Lexington, KY.

PO-086 Local quantification of protein expression on frozen tissue sections to evaluate tumor heterogeneity. Anna Fomitcheva Khartchenko, ETH Zurich, Zurich, Switzerland.

PO-087 Tumor and immune cell profiling in breast cancer using highly multiplexed Imaging Mass Cytometry single-cell technology demonstrates tumor heterogeneity and immune phenotypic abnormality in Ethiopian Women. Endale Gebregzabher, St. Paul’s Hospital Millennium Medical College, Addis Ababa, Ethiopia.


PO-089 Spatial profiling of the tumour microenvironment using digital spatial profiling. Arutha Kulasinghe, Queensland University of Technology, Brisbane, QLD, Australia.

PO-090 Protein-based immune profiles of Basal-like vs Luminal breast cancers. Linnea Olsson, University of North Carolina at Chapel Hill, Chapel Hill, NC.

PO-092 Immune profiling of the tumor microenvironment using multiplexed ion beam imaging (MIBI). Jason Ptacek, IONpath, Menlo Park, CA.
PO-094 Human pluripotent stem cells acquire malignancy under Tumor microenvironment. Said M. Afify, Graduate School of Interdisciplinary Science and Engineering in Health Systems, Okayama University, Okayama, Japan.

PO-097 High resolution analysis of clonal dynamics using lineage tracing and single cell transcriptomics. Eric Brenner, University of Texas at Austin, Austin, TX.

PO-099 SOX2 delineates a mouse lung adenocarcinoma subtype vulnerable to targeted therapy. Jonathan Cooper, Genentech, South San Francisco, CA.

PO-100 Expressed molecular barcoding coupled with single cell RNAseq enables a high resolution investigation into the evolution of drug tolerance. Jennifer Cotton, Novartis Institutes for BioMedical Research, Cambridge, MA.

PO-101 Transcriptional heterogeneity in lung adenocarcinoma reveals distinct therapeutic vulnerabilities. Anneleen Daemen, ORIC Pharmaceuticals, South San Francisco, CA.

PO-102 A novel disseminated tumor cell identified in myriad cancer harbors tumor initiating properties. Matthew Dietz, Oregon Health & Science University, Portland, OR.

PO-103 Characterizing epigenetic and genetic mechanisms of glioma drug resistance using simultaneous lineage tracing and single-cell transcriptomic analysis. Christine Eyler, Massachusetts General Hospital, Boston, MA.

PO-104 Phenotypic mapping of pathological crosstalk between glioblastoma and innate immune cells by synthetic genetic tracing. Gaetano Gargiulo, Max-Delbrück-Center for Molecular Medicine (MDC), Berlin, Germany.

PO-105 The fibrinolytic factor tPA drives LRP1-mediated melanoma growth and metastasis. Beate Heissig, Juntendo University, Tokyo, Japan.

PO-106 Genomic heterogeneity and clonal dynamics of resistance evolution and metastatic progression in rectal cancer. Daniela Hirsch, National Cancer Institute, Bethesda, MD.

PO-111 Identifying epigenetic mechanisms for proliferation and self-renewal of tumor-propagating cells (TPC) in lung cancer. Eunice Lopez Fuentes, University of California, San Francisco, CA.

PO-112 miR-149-3p inhibits the glioma stem cell phenotype and re-sensitizes therapy-resistant GBM cells. Hernando Lopez-Bertoni, Johns Hopkins School of Medicine, Baltimore, MD.

PO-113 Molecular interplay between dormant bone marrow-resident tumor cells (BMRCs) and CTCs in breast cancer. Dario Marchetti, The University of New Mexico Health Sciences Center, Albuquerque, NM.

PO-114 Mathematical modeling of tumor heterogeneity to optimize treatment scheduling and delay the evolution of resistance. Deepiti Mathur, Memorial Sloan Kettering Cancer Center, New York, NY.

PO-115 Defining mechanisms of resistance in NF1-related malignant peripheral nerve sheath tumors. Lauren McGee, Van Andel Research Institute, Grand Rapids, MI.
PO-116 High resolution single cell microscopy analyses identifies the cellular redox state that supports conversion to a neoplastic stem cell state. Kasturi Mitra, The University of Alabama at Birmingham, Birmingham, AL.

PO-117 CHD1-loss promotes tumor heterogeneity and therapy resistance in prostate cancer. Ping Mu, UT Southwestern Medical Center, Dallas, TX.

PO-118 Novel mechanisms of EGFR-TKI resistance and clonal evolution of lung adenocarcinoma by overexpression of a cell adhesion molecule, CADM1. Yoshinori Murakami, Institute of Medical Science, The University of Tokyo, Tokyo, Japan.

PO-120 MYC drives temporal evolution of small cell lung cancer subtypes by reprogramming neuroendocrine fate. Trudy Oliver, University of Utah, Salt Lake City, UT.

PO-123 Distinct subpopulations of osteosarcoma cells cooperate to establish lung metastases. Ryan Roberts, Nationwide Children's Hospital, Columbus, OH.

PO-125 Targeting histone methylation to overrule transcriptionally driven drug resistance in myeloid leukemia. Linda Smit, Amsterdam UMC, location VUMc, Amsterdam, NH, The Netherlands.

PO-127 Single-cell liquid biopsy reveals circulating heterogeneity and converging subpopulations in relation to immunotherapy response in melanoma. Qianqian Song, Wake Forest Baptist Medical Center, Winston Salem, NC.

PO-128 Lack of Aurora kinase signaling leads cancer cells to adopt an endocycle and form polyploid multinucleated giant cells that resist antimitotic drugs. Vural Tagal, The University of Texas, Southwestern Medical Center, Dallas, TX.

PO-129 Using the castration resistant prostate cancer patient-derived xenograft (PDX) tumor model to identify mRNA/miRNA biomarkers which distinguish abiraterone treatment responders and non-responders. Pheruza Tarapore, University of Cincinnati, College of Medicine, Cincinnati, OH.

PO-130 The mitochondrial protein ATAD3A promotes cisplatin resistance in oral squamous cell carcinoma. Yong Teng, Augusta University, Augusta, GA.

PO-131 Inter-Tumoral Heterogeneity of Progressive Disease in Melanoma Patients Treated with Pembrolizumab. Brian Topp, Merck, Rahway, NJ.

PO-132 CaTCH - A barcode-guided CRISPRa-inducible reporter to isolate clones from heterogeneous populations. Christian Umkehrer, Research Institute of Molecular Pathology (IMP), Vienna, Vienna, Austria.

PO-133 Breast tumors maintain a reservoir of subclonal diversity during primary expansion. Hanghui Ye, The University of Texas MD Anderson Cancer Center, Houston, TX.

PO-134 Identification of the cells of origin and tumor heterogeneity in neuroendocrine prostate cancer (NEPC) by single-cell analysis. Jimmy Zhao, Memorial Sloan Kettering Cancer Center, New York, NY.