Great Lakes Breast Cancer Research Symposium

Thursday, May 2, 2019
Friday, May 3
Saturday, May 4

AGENDA

12:15 p.m. **Registration, Refreshments and Visit Vendors**

1:45 p.m. **Welcome and Overview**
Raphael Pollock, MD, PhD
Director
The Ohio State University Comprehensive Cancer Center

2:15 p.m. **Session One – Genomics and Novel Mouse Models**
Session Chairs:
Partha Roy, PhD, University of Pittsburgh Medical Center
Michael Ruppert, MD,PhD, West Virginia University (WVU)

Genomic Evolution in Breast Cancer
Adrian Lee, PhD, University Pittsburgh Medical Center

Transcriptional Foundations of Mitotic Dysfunction in Triple Negative Breast Cancer
Ruth Keri, PhD, Case Western Reserve University and Case Comprehensive Cancer Center

A Systems Biology Framework to Decode Mechanisms Contributing to TNBC Disparities
Vinay Varadan, PhD, Case Western Reserve University and Case Comprehensive Cancer Center

Noncoding RNAs as master regulators of tumorigenesis and chemotherapy response
Da Yang, MD, PhD, University of Pittsburgh Medical Center

Insights from whole genome sequencing mouse models of breast cancer
Eran Andrechek, PhD, Michigan State University

4:25 p.m. **Trainee Talks**

Session Chairs:

Steve Sizemore, PhD, The Ohio State University

Mark Jackson, PhD, Case Western Reserve University and Case Comprehensive Cancer Center

Autophagy inhibition elicits emergence from metastatic dormancy by inducing and stabilizing Pfkfb3 expression

Alyssa Flynn

Case Western Reserve University

Hotspot ESR1 mutations reshape the cell-ECM adhesion network via TIMP3-MMPs axis to drive breast cancer metastasis

Zheqi Li, Graduate Student

UPMC

Telomere Plasticity Controls Breast Cancer Metastasis and Therapeutic Responsiveness

Nathaniel Robinson

Case Western Reserve University

Platelet Derived Growth Factor–B (PDGFB) Promotes Breast Cancer Progression

Katie Thies, PhD

Ohio State University

Breast cancer-associated muscle fatigue: novel targets to improve survival and quality of life

Hannah Wilson

WVU

4:50 p.m. **Dinner**

5:30 p.m. **Breast Cancer Evolution Through the Lens of Single Cell Genomics**

Nick Navin, PhD

Associate Professor, Department of Genetics and Department of Bioinformatics

Co-Director, Sequencing Core Facility

MD Anderson Cancer Center

6:30 p.m. **Closing Remarks**

Friday, May 3

7:00 a.m. **Registration, Breakfast and Visit Vendors**
Round Table Discussions
Genomics, Immune Modulation, Metastasis, Clinical Research, Endocrine Resistance and Patient Advocacy

8:20 a.m. **Session Two – Tumor Microenvironment and Metastasis**
Session Chairs:
Ioannis Zervantonakis, PhD, University of Pittsburgh Medical Center
David Klinke, PhD, West Virginia University

The role of Aurora kinases in metastasis of Triple Negative Breast Cancers
Elena Pugacheva, PhD
West Virginia University

Targeting the Cancer Stem Cell Niche in Triple Negative Breast Cancer
Khalid Sossey-Alaoui, PhD
MetroHealth and Case Comprehensive Cancer Center

Analysis of Tumor-Fibroblast Interactions in HER2+ Breast Cancer Therapy Resistance
Ioannis Zervantonakis, PhD
University of Pittsburgh Medical Center

The blood-brain barrier in brain metastasis
Paul Lockman, PhD
West Virginia University

PDGFR Signaling in the Brain Metastatic Microenvironment
Gina Sizemore, PhD
The Ohio State University

In vivo molecular EPR-based spectroscopy and imaging of metabolic tumor microenvironment and redox: new roles for inorganic phosphate
Valery Khramtsov, PhD
West Virginia University

10:20 a.m. **Mid-Morning Break and Visit Vendors**

10:45 a.m. **Group Photo**

11:00 a.m. **Session Three – EMT, Dormancy, and Stem Cells**

Session Chairs:

Craig Burd, PhD, Ohio State University
Elena Pugacheva, PhD, West Virginia University

The lncRNA BORG: A Novel Inducer of TNBC Metastasis, Chemoresistance and Disease Recurrence
Bill Schiemann, PhD
Case Western Reserve University and
Case Comprehensive Cancer Center

Novel Therapeutic Strategy for TNBC by disruption of the Cx26/NANOG/FAK complex
Ofer Reizes, PhD
Cleveland Clinic and Case Comprehensive Cancer Center

Functional hierarchy and cooperation of EMT master transcription factors in breast cancer metastasis
Alexey Ivanov, PhD
West Virginia University

The Great Escape: How Dormant Micrometastases Avoid Elimination
Alan Wells, MD
University of Pittsburgh Medical Center

Co-targeting of embryonic stem cell transcription factor networks for suppression of plasticity in cancer
Michael Ruppert, MD,PhD
West Virginia University

Immunostimulatory Nanocarriers for Breast Cancer Immunochemotherapy
Song Li, MD, PhD
University of Pittsburgh Medical Center

1:00 p.m. **Lunch and Visit Vendors**

1:30 p.m. **Advocacy Session**
Role of patient advocacy in advancing research in breast cancer
Denise Barlow
OSU

Nuts and bolts of forming a patient advocacy for research at your center
Karen Divito

UPMC

A patient's perspective of an unmet need: lobular cancer
Janice Axelrod
UPMC

2:40 p.m. **Session Four – Lobular Cancer and Estrogen Signaling**
Session Chairs:
Bill Schiemann, PhD, Case Western Reserve University and Case Comprehensive Cancer Center
Leisha Emens, MD, PhD, University of Pittsburgh Medical Center

Unique Biology of ILC
Steffi Oesterreich, PhD
University of Pittsburgh Medical Center

Cancer Disparities and Molecular Mechanisms
Bhuvana Ramaswamy, MD
The Ohio State University

The Genomic Landscape Of Invasive Lobular Carcinoma
Megan Kruse, MD
Cleveland Clinic and Case Comprehensive Cancer Center

The Pathological Role of Recurrent Gene Fusions in More Aggressive Forms of Breast Cancers
Xiaosong Wang, MD, PhD, University of Pittsburgh Medical Center

Targeting SHP2 for the Treatment of Breast Cancer
Yehenew Agazie, DVM, PhD, West Virginia University

4:40 p.m. **Trainee Talks**
Session Chairs
Daniel Stover, MD, The Ohio State University
Ioannis Zervantonakis, PhD, University of Pittsburgh Medical Center

Anti-tumor molecule Slit2 influences immunometabolism and may dictate polarization of tumor associated macrophages in experimental breast cancer
Kirti Kaul, PhD
Ohio State University

The stress-inducible gene, Atf3, in host cells contributes to chemotherapy-

exacerbated breast cancer colonization
Justin Middleton, Graduate Student
Ohio State University

Organotypic Co-Cultures to Study Bone Metastases of Breast Cancer
Vaidehi Patel, Graduate Student
UPMC

LIN9 regulation of NEK2 underlies taxol resistance in triple-negative breast cancer
Melyssa Shively
Case Western Reserve University

HIF-1α regulates the Tie2 receptor on Tie2-expressing monocytes and perturbs angiogenic function in breast cancer
Kayla Steinberger
West Virginia University

Novel pre-clinical models of ERα-positive metastatic invasive lobular breast carcinoma using dual bioluminescent and fluorescent human cell line xenograft
Nilgun Tasdemir, PhD
UPMC

Cyclin dependent kinase 7 (CDK7) inhibition induces mitotic catastrophe in triple negative breast cancer
Bryan Webb
Case Western Reserve University

Aurora-A Kinase getting nuclear: a novel driver of metastasis
Kristina Whately
West Virginia University

5:30 p.m. **Visit Vendors and Poster Session**

7:00 p.m. **Adjourn**

Saturday, May 4

7:00 a.m. **Registration, Breakfast and Visit Vendors**
Round Table Discussions
Genomics, Immune Modulation, Metastasis, Clinical Research, Endocrine Resistance and Patient Advocacy

8:05 a.m **Welcome**

8:15 a.m. **Session Five – Immunology and Translational Research**

Session Chairs:

Ruth Keri, PhD, Case Western Reserve University and Case Comprehensive Cancer Center

Julia White, MD, The Ohio State University

Immunotherapy for Triple Negative Breast Cancer

Leisha Emens, MD, PhD, University of Pittsburgh Medical Center

Immune Signatures to Interrogate the Breast Cancer Immune Microenvironment

Daniel Stover, MD, The Ohio State University

p95HER2 as a Targetable Driver of Breast Cancer Immune Evasion

Peter Lucas, MD, PhD, University of Pittsburgh Medical Center

VISTA, A Promising Next-Generation Immunotherapy Target

Lily Wang, PhD, Cleveland Clinic and Case Comprehensive Cancer Center

The Role of the Gut-Brain Axis in Chemobrain

Leah Pyter, PhD, The Ohio State University

Emerging strategies in Chemotherapy Induced Neuropathy

Maryam Lustberg, MD, MPH, The Ohio State University

10:25 a.m. **Mid-Morning Break and Visit Vendors**

10:45 a.m. **Trainee Talks**

Session Chairs:

Rob Wesolowski, MD, The Ohio State University

Khalid Sossey-Alaoui, PhD, MetroHealth and Case Comprehensive Cancer Center

Combination photodynamic therapy (cPDT) for treatment of breast cancer and its metastases

Sanjay Anand, PhD, Case Western Reserve University

Development of a High Throughput 3D Biomaterials Platform to Measure Protease Activity in Breast Cancer Patients

Abdulaziz Fakhouri, Graduate Student, Ohio State University

MRTF/Profilin is an important signaling axis for metastatic outgrowth of triple negative breast cancer cells

David Gau, PhD, UPMC

Electrophilic fatty acids impair RAD51 function and potentiate the effects of DNA-damaging agents on growth of triple-negative breast cells

John Skoko, PhD UPMC

Radio-logical induction of BTB permeability in a pre-clinical model of breast cancer brain metastasis
Samuel Sprowls, West Virginia University

11:10 a.m. **Delivering on the Promise of Precision Oncology**
Gordon Mills, MD, PhD
Director of Precision Oncology
Oregon Health and Science University (OHSU) Knight Cancer Institute
Professor in the OHSU School of Medicine

12:15 p.m. **Awards Presentation**

12:30 p.m. **Closing**