**NCI ITCR Virtual Annual Meeting**

September 21 - 23, 2021

Draft Agenda

**Tuesday, September 21**

WebEx Link: <https://cbiit.webex.com/cbiit/j.php?MTID=m419fd5ce7f791a3be308ec05e2517233>

1:00 **Welcome and Meeting Overview**

Juli Klemm, *NCI Center for Strategic Scientific Initiatives*

1:15 **Opening Keynote** “**Cancer Informatics is the Heart of the Hospital”**

Trevor Pugh, *University of Toronto*

1:45 – 2:30 **Panel: Tools for understanding mechanisms of cancer initiation and progression**

**Inference of tumor growth dynamics using genomic data**

Subhajyoti De, *Rutgers Cancer Institute of New Jersey*

**Technology for efficient simulation of cancer cell transport**

Amanda Randles, *Duke University*

**Comprehensive and robust tools for analysis of tumor heterogeneity and evolution**

Ben Raphael, *Princeton University*

**Moderator:** Kristen Naegle, *University of Virginia*

2:30 – 2:40 **BREAK**

2:40 – 4:00 **Posters and Demos** (See next page for posters/demos in each session)

*Each presenter will give a flash talk, followed by time with each speaker in breakout rooms.*

Poster Session 1

**Moderator:** Yantian Zhang

WebEx Link: <https://cbiit.webex.com/cbiit/j.php?MTID=m149d356ec0dc9d7b97fedf3784f64da8>

Poster Session 2

**Moderator:** Jerry Li

WebEx Link: <https://cbiit.webex.com/cbiit/j.php?MTID=m69596c5744316b56ca5bbfb87fcb9bc6>

Poster Session 3

**Moderator:** Angela Mariotto

WebEx Link: <https://cbiit.webex.com/cbiit/j.php?MTID=m201fa619efbff3ea992198c00ce9ae21>

4:00 **Adjourn**

**September 21 Posters and Demos**

Poster Session 1: <https://cbiit.webex.com/cbiit/j.php?MTID=m149d356ec0dc9d7b97fedf3784f64da8>

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| **Order** | **Presenter** | **Title** |
| 1 | Beibin Li | A Unified Machine Learning Package for Cancer Diagnosis |
| 2 | Fusheng Wang | Computational pathology software for integrative cancer research with 3D digital slides |
| 3 | Kooresh Shoghi | Development of an Open-Source Preclinical Imaging Informatics Platform |
| 4 | Spyros Bakas & Sarthak Pati | The Federated Tumor Segmentation (FeTS) platform |
| 5 | Liangqiong Qu & Praveer Singh | Tackling Data Heterogeneity for Distributed Learning in Cancer Research |
| 6 | Jonathan Bona | TCIA Sustainment and Scalability - Platforms for Quantitative Imaging Informatics |

Poster Session 2: <https://cbiit.webex.com/cbiit/j.php?MTID=m69596c5744316b56ca5bbfb87fcb9bc6>

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| **Order** | **Presenter** | **Title** |
| 1 | Brian Haas | Trinity: Transcriptome assembly for genetic and functional analysis of cancer |
| 2 | Marcel Ramos | SingleCellMultiModal: Integrated Multi-modal Single Cell Landmark Datasets |
| 3 | Yi Qiao | SuperSeeker + Oncogene.iobio: a complete analysis software and interactive web app suite to examine cancer somatic mutations and subclonal evolution for precision oncology |
| 4 | Milovan Suvakov | CNVpytor: application to somatic CNA detection |
| 5 | Derrick DeConti | WebMeV: A Robust Platform for Intuitive Genomic Data Analysis |
| 6 | Allen Lynch | Developing Informatics Technologies to Model Cancer Gene Regulation |

Poster Session 3: <https://cbiit.webex.com/cbiit/j.php?MTID=m201fa619efbff3ea992198c00ce9ae21>

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| **Order** | **Presenter** | **Title** |
| 1 | Dexter Pratt | NDEx - the Network Data Exchange A Network Commons for Biologists |
| 2 | Brigitte Raumann | Building protected data sharing networks to advance cancer risk assessment and treatment |
| 3 | Jeremy Goecks | A Federated Galaxy for user-friendly large-scale cancer genomics research |
| 4 | James Eddy | Advancing method benchmarking and data sharing through crowd-sourced competitions |
| 5 | Evan Bolyen | Reproducible and accessible cancer microbiome bioinformatics with QIIME 2 |
| 6 | Michael Reich | GenePattern and GenePattern Notebook: Integrative Omic Analysis for Cancer Research |

**Wednesday, September 22**

WebEx Link: <https://cbiit.webex.com/cbiit/j.php?MTID=m56e3d323b412e8de91dbd4eb230c8255>

1:00 **Welcome**

1:05 – 1:50 **Panel: Tools for cancer early detection and diagnosis**

**PRISTINE: Pre-cancer histology identification of endobronchial biopsies using deep learning**

Jennifer Beane, *Boston University Medical Campus*

**Informatics Tools for Quantitative Digital Pathology Profiling and Integrated Prognostic Modeling**

Lee Cooper, *Northwestern University*

**Scalable clinical decision support for individualized cancer risk management**

Guilherme Del Fiol, *University of Utah*

**Patient Advocate:** Brittany McKelvey

**Moderator:** Malachi Griffith, *Washington University in St. Louis*

1:50 – 2:35 **Panel: Tools to support cancer treatment decisions**

**A computational method to calculate the radiation dose to circulating lymphocytes**

Clemens Grassberger, *Massachusetts General Hospital*

**RadxTools for assessing tumor treatment response in imaging**

Pallavi Tiwari, *Case Western Reserve University*

**Standardized and genome-wide clinical interpretation of complex genotypes for cancer precision medicine**

Obi Griffith, *Washington University in St. Louis*

**Patient Advocate**: Chuck Schmaderer

**Moderator**: Jeremy Warner, *Vanderbilt University*

2:35 – 2:45 **BREAK**

2:45 – 4:00 **Posters and Demos** (See next page for posters/demos in each session)

*Each presenter will give a flash talk, followed by time with each speaker in breakout rooms.*

Poster Session 4

**Moderator:** Melissa Rotunno

WebEx Link: <https://cbiit.webex.com/cbiit/j.php?MTID=m119ae1c61565703825c1993f1591809e>

Poster Session 5

**Moderator:** David Miller

WebEx Link: <https://cbiit.webex.com/cbiit/j.php?MTID=md525c57f25561370c5d8f50c86fb2be6>

Poster Session 6

**Moderator:** Natalie Abrams

WebEx Link: <https://cbiit.webex.com/cbiit/j.php?MTID=me27a2d12551515121bc7001a6b410048>

4:00 **Adjourn**

**September 22 Posters and Demos**

Poster Session 4: <https://cbiit.webex.com/cbiit/j.php?MTID=m119ae1c61565703825c1993f1591809e>

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| **Order** | **Presenter** | **Title** |
| 1 | Malachi Griffith | Informatics tools for identification, prioritization, and clinical application of neoantigens |
| 2 | Melissa Cline | Eliminating variants of uncertain significance in BRCA1, BRCA2 and beyond |
| 3 | Team DeepPhe | Cancer Deep Phenotype Extraction from Electronic Medical Records |
| 4 | Xuanyi (Lexi) Li | Network Analysis for a Data-Driven Approach to Cancer Care |
| 5 | Hua Xu | Advancing Cancer Pharmacoepidemiology Research Through EHRs and Informatics |
| 6 | David Hanauer | Advanced Development and Dissemination of EMERSE for Cancer Phenotyping from Medical Records |

Poster Session 5: <https://cbiit.webex.com/cbiit/j.php?MTID=md525c57f25561370c5d8f50c86fb2be6>

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| **Order** | **Presenter** | **Title** |
| 1 | Rob Frost | Cancer-specific gene set testing |
| 2 | Jun Li | TCPA: An Integrated Bioinformatics Resource for Functional Cancer Proteomic Data |
| 3 | Jim Robinson | The Integrative Genomics Viewer (IGV): visualization supporting cancer research |
| 4 | Pablo Tamayo | Supporting and evolving Gene Set Enrichment Analysis and the Molecular Signatures Database for cancer research |
| 5 | Ian Holmes | Developing the JBrowse Genome Browser to Visualize Structural Variants and Cancer Genomics Data |
| 6 | Ino de Brujin | cBioPortal for Cancer Genomics |

Poster Session 6: <https://cbiit.webex.com/cbiit/j.php?MTID=me27a2d12551515121bc7001a6b410048>

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| **Order** | **Presenter** | **Title** |
| 1 | Leili Shahriyari | Software for personalized childhood osteosarcoma chemotherapy based on a Data driven mathematical model |
| 2 | Wenyuan Li | Informatics resources for liquid biopsy research |
| 3 | Joseph Perl | The TOPAS Tool for Particle Simulation, a Monte Carlo Simulation Tool for Physics, Biology and Clinical Research |
| 4 | Paul Fitzgerald | XCIST project |
| 5 | Janelle Montagne and Atul Deshpande | Single-cell and imaging data integration software to spatially resolve the tumor microenvironment |
| 6 | Phil Montgomery | The Cancer Dependency Map portal (DepMap.org) |

**Thursday, September 23**

WebEx Link: <https://cbiit.webex.com/cbiit/j.php?MTID=m82d2cc925043787c1ed1d1e0d95f07f4>

1:00 **NCI Leadership Welcome**

Dinah Singer, Deputy Director, NCI; Acting Director, NCI CSSI

1:05 – 2:15 **Presentations from new ITCR Awardees**

**The Cancer Epitope Database and Analysis Resource**

Bjoern Peters, *La Jolla Institute for Immunology*

**Sustaining the Integrative Imaging Informatics for Cancer Research (I3CR) Center**

Daniel Marcus, *Washington University at St. Louis*

**Integrative genomic and epigenomic analysis of cancer using long read sequencing**

Michael Schatz, *Johns Hopkins University*

**Extraction of symptom burden from clinical narratives of cancer patients using natural language processing**

Meliha Yetisgen, *University of Washington*

**Optimizing the population representativeness of older adults in cancer trials**

Jian Bian, *University of Florida*

**Enhance UCSC Xena: Extend interactive visualization to ultra-large-scale multi-omics data and integrate with analysis resources**

Jingchun Zhu*, University of California Santa Cruz*

**PROTEAN-CR: Proteomics Toolkit for Ensemble Analysis in Cancer Research**

Lydia Kavraki, *Rice University*

2:15 – 2:25 **BREAK**

2:25 – 2:55 **NCI Program Breakout Sessions – Round 1**

**The NCI Cancer Research Data Commons**

Tanja Davidsen and Allen Dearry

*NCI Center for Biomedical Informatics and Information Technology*

**Human Tumor Atlas Network**

Sean Hanlon, *NCI Center for Strategic Scientific Initiatives*

Jerry Li, *NCI Division of Cancer Biology*

**The NCI Childhood Cancer Data Initiative**

Tony Kerlavage and Subhashini Jagu

*NCI Center for Biomedical Informatics and Information Technology*

**The Small Business Innovation Research (SBIR) Program**

Ming Zhao, *NCI SBIR Program*

2:55 – 3:25 **NCI Program Breakout Sessions – Round 2**

*Attendees are invited to choose a second session to attend. Breakouts are the same as Round 1*

3:25 **Closing Keynote**: “**Real World Data and Precision Oncology”**

Tina Hernandez-Boussard, *Stanford University*

4:00 **Adjourn**