NCI Computational Approaches to Immuno-Oncology (IO)
Monday, September 19, 2022 (Zoom only)

Agenda:

Time (ET)	
10:25 AM	*Housekeeping*, Lillian Kuo, NCI
10:30 AM	*Opening Remarks*, Dinah Singer, NCI
	Session 1: Multi-modal Data Integration
10:40 AM	*Session 1 Introductions*, Alan Hutson, Roswell Park Comprehensive Cancer Center
10:45 AM	*Transcriptomics-based Prediction of Patient Response to Immunotherapy*, Eytan Ruppin, NCI
11:30 AM	*Expanding the Landscape of Immune-oncology Targets with EcoTyper*, Andrew Gentles, Stanford University
11:50 AM	*Challenges and Opportunities in Computational Immuno-oncology*, Eli Van Allen, Dana-Farber Cancer Institute
12:10 PM	*Methods for tumor subclone detection and immune niche modeling on spatial transcriptomics data,* Nancy Zhang, University of Pennsylvania
12:30 PM	*Panel Discussion,* Moderated by Alan Hutson, Roswell Park Comprehensive Cancer Center
12:50 PM	20-minute break
	Session 2: Computational Challenges in IO Data
1:10 PM	*Session 2 Introductions*, Daoud Meerzaman, NCI
1:15 PM	*Inferring Inter-cellular Interactions from Spatial Molecular Data to Uncover Mechanisms of Immunotherapy Resistance*, Elana Fertig, Johns Hopkins University
1:35 PM	*Interpreter of Maladies: Artificial Intelligence for Precision Oncology*, Anant Madabhushi, Emory University
1:55 PM	*Everything as Code,* David Van Valen, California Institute of Technology
2:15 PM	*Cell Atlases as Roadmaps to Understand and Treat Cancer*, Aviv Regev, Genentech
2:45 PM	*Panel Discussion,* Moderated by Jennifer Altreuter, Dana-Farber Cancer Institute
	Session 3: Medical Discoveries and Informing Therapeutic Development Using IO Data
3:05 PM	*Session 3 Introductions*, T. Kevin Howcroft, NCI
3:10 PM	*Lymphocytes as a "Living Drug" for the Treatment of Cancer*, Steven Rosenberg, NCI
3:55 PM	20-minute break
4:15 PM	*Design Considerations for Clinical Trials Involving Immunotherapy Agents*, James Dignam, University of Chicago
4:35 PM	*RNA Dysregulation: An Expanding Source of Cancer Immunotherapy Targets,* Yi Xing, Children's Hospital of Philadelphia
4:55 PM	FDA Speaker Introductions, Jill Barnholtz-Sloan, NCI
5:00 PM	*TBD talk title*, Donna Rivera and Marc Theoret, Food and Drug Administration
5:45 PM	*Panel Discussion*, Moderated by Jill Barnholtz-Sloan, NCI
6:05PM	*Closing Remarks*, Lillian Kuo, NCI
6:10 PM	Adjourn

Workshop Overview: The scientific objectives are to discuss the current state of the art technologies in computational immuno-oncology (IO), provide a global context of IO including tools, computational and clinical applications, and describe common pitfalls and strategies to overcome roadblocks. The scientific sessions will include 1) Multimodal Data Integration (how to grab and integrate data, various types of available data, data repositories and tools), 2) Computational Challenges in IO Data (including rigor and reproducibility, considerations related to AI deep learning for IO data, and data bias), and 3) Making Medical Discoveries and Informing Therapeutic Development (covering aspects of applications of IO data and data reusability).

Workshop Planning Committee:
Jennifer Altreuter, DFCI
Jill Barnholtz-Sloan, CBIIT/NCI
Kevin Howcroft, DCB/NCI
Alan Hutson, Roswell Park
Erika Kim, CBIIT/NCI
Lillian Kuo, DCB/NCI
Song Liu, Roswell Park
Himangi Marathe, Roswell Park
Daoud Meerzaman, CBIIT/NCI
Martin Morgan, Roswell Park
Eliezer Van Allen, DFCI
Yi Xing, CHoP