# Multidisciplinary Approaches to Understand Cancer Treatment Resistance

Cancer Systems Biology Consortium (CSBC) & Cancer Target Discovery and Development (CTD²) Network
Joint Virtual Symposium Series

- November 16-17, 2020
- December 2, 2020
- December 16-17, 2020

## Session 1: Monday, November 16

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
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<tbody>
<tr>
<td>11:30 a.m. – 11:45 a.m.</td>
<td><strong>NCI Director's Presentation</strong>&lt;br&gt;Norman Sharpless, M.D.&lt;br&gt;Director, National Cancer Institute</td>
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<td>11:45 a.m. – 12:00 p.m.</td>
<td><strong>Welcome and Meeting Goals</strong>&lt;br&gt;Gordon Mills, M.D., Ph.D.&lt;br&gt;Oregon Health &amp; Science University&lt;br&gt;Kevin Haigis, Ph.D.&lt;br&gt;Dana-Farber Cancer Institute</td>
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<td>12:00 p.m. – 2:05 p.m.</td>
<td><strong>Session I: Combinatorial Therapy;</strong>&lt;br&gt;<strong>Chairperson: Gordon Mills, M.D., Ph.D, Oregon Health &amp; Science University</strong>&lt;br&gt;(focus on approaches to design and implement combination therapies; 20 minutes for each presentation &amp; 5 mins for Q&amp;A)</td>
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<td>12:00 p.m. – 12:25 p.m.</td>
<td><strong>TBD</strong>&lt;br&gt;William Hahn, M.D., Ph.D.&lt;br&gt;Dana-Farber Cancer Institute</td>
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<td>12:25 p.m. – 12:50 p.m.</td>
<td><strong>TBD</strong>&lt;br&gt;Charles Sawyers, M.D.&lt;br&gt;Memorial Sloan Kettering Cancer Center</td>
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<td>12:50 p.m. – 1:15 p.m.</td>
<td><strong>Targeting drug resistance by regulatory-network based cell reprogramming</strong>&lt;br&gt;Andrea Califano, Ph.D.&lt;br&gt;Columbia University</td>
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<td>1:15 p.m. – 1:40 p.m.</td>
<td><strong>Systematic characterizations of functionally-relevant mutational landscapes</strong>&lt;br&gt;Elizabeth Brunk, Ph.D.&lt;br&gt;University of California, San Diego</td>
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<td>1:40 p.m. – 2:05 p.m.</td>
<td><strong>Modeling tumor heterogeneity towards personalized cancer medicine</strong>&lt;br&gt;Nataly Kravchenko-Balasha, Ph.D.&lt;br&gt;The Hebrew University of Jerusalem</td>
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<td>2:05 p.m. – 2:15 p.m.</td>
<td><strong>Preview of upcoming next session</strong></td>
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Session 2: Tuesday, November 17

12:00 p.m. – 2:05 p.m.  Session II: Evolutionary Biology;
Chairperson: TBD
(focus on the dynamics of evolution to understand treatment resistance; 20 minutes for each presentation & 5 mins for Q&A)

12:00 p.m. – 12:25 p.m.  TBD
Christina Curtis, Ph.D.
Stanford University

12:25 p.m. – 12:50 p.m.  Evolutionary Therapy
Alexander (Sandy) Anderson, Ph.D.
Moffitt Cancer Center

12:50 p.m. – 1:15 p.m.  TBD
Andrea Sottoriva, Ph.D.
The Institute of Cancer Research, UK

1:15 p.m. – 1:40 p.m.  Invasion of homogeneous and polyploid populations in nutrient-limiting environments
Noemi Andor, Ph.D.
Moffitt Cancer Center

1:40 p.m. – 2:05 p.m.  Single-cell lineage tracing and RNA-seq reveal the rates, routes, and drivers of metastasis in cancer xenografts
Jeffrey Quinn, Ph.D.
University of California, San Francisco

2:05 p.m. – 2:15 p.m.  Preview of next session
Session 3: December 2, 2020

12:00 p.m. – 2:05 p.m.  Session III: Tumor Ecosystem;  
Chairperson: Kevin Haigis, Ph.D., Dana Farber Cancer Institute  
(focus on the role of the tumor ecosystem in drug resistance and sensitivity; 20 minutes for each presentation & 5 mins for Q&A)

12:00 p.m. – 12:25 p.m.  Characterization and targeting of tumor-associated macrophages in the melanoma tumor microenvironment  
Kathryn Miller-Jensen, Ph.D.  
Yale University

12:25 p.m. – 12:50 p.m.  A unified atlas of CD8 T cell dysfunctional states in cancer and infection  
Christina Leslie, Ph.D.  
Memorial Sloan Kettering Cancer Center

12:50 p.m. – 1:15 p.m.  TBD  
Judith Varner, Ph.D.  
University of California, San Diego

1:15 p.m. – 1:40 p.m.  Targeting immunosuppressive macrophages overcomes PARP-inhibitor resistance in BRCA1-associated triple-negative breast cancer  
Jennifer Guerriero, Ph.D. (invited)  
Harvard Medical School

1:40 p.m. – 2:05 p.m.  An Integrated Clinical, Omic, and Image Atlas of an Evolving Metastatic Breast Cancer  
Joe Gray, Ph.D.  
Oregon Health & Science University

2:05 p.m. – 2:15 p.m.  Preview of next session
Session IV: Tumor Heterogeneity & Cell Plasticity I;
Chairperson: Shannon Hughes, Ph.D., Division of Cancer Biology, NCI
(role of heterogeneity in drug response and resistance, biological basis for cell plasticity and impact on response and resistance; 20 minutes for each presentation & 5 mins for Q&A)

12:00 p.m. – 12:25 p.m. A novel endocytic mechanism used for antigen uptake from live tumor to immune cells
Nina Serwas, Ph.D.
University of California, San Francisco

12:25 p.m. – 12:50 p.m. Single Cell Analysis of Treatment-Naïve versus Treatment-Refractory NSCLC Demonstrates Differential Enrichment of Partial Epithelial-Mesenchymal States
Sylvia Plevritis, Ph.D.
Stanford University

1:15 p.m. – 1:40 p.m. Tumor stem cells arising from a non-stem origin maintain a differentiated phenotype and modulate T cell activity
Ken Lau, Ph.D.
Vanderbilt University

2:05 p.m. – 2:15 p.m. Preview of Next Session
Session 5: December 17, 2020

12:00 p.m. – 2:05 p.m.  
**Session V: Tumor Heterogeneity & Cell Plasticity II;**  
Chairperson: Daniela Gerhard, Ph.D., Office of Cancer Genomics, NCI  
(role of heterogeneity in drug response and resistance, biological basis for cell  
plasticity and impact on response and resistance; 20 minutes for each presentation &  
5 mins for Q&A)

12:00 p.m. – 12:25 p.m.  
*Decoding Enhancer Dynamics and Its Drivers in Breast Cancer metastasis and  
therapy resistance*  
Zhijie (Jason) Liu, Ph.D.  
UT Health San Antonio

12:25 p.m. – 12:50 p.m.  
*Single-cell pharmacogenomics targets an inflamed chemoresistant tumor  
subpopulation in triple negative breast cancer*  
Sourav Bandyopadhyay, Ph.D.  
University of California, San Francisco

12:50 p.m. – 1:15 p.m.  
*TBD*  
Andrew Ewald, Ph.D.  
Johns Hopkins University

1:15 p.m. – 1:40 p.m.  
*TBD*  
Stuart Schreiber, Ph.D.  
Harvard University

1:40 p.m. – 2:05 p.m.  
*Signaling network analysis reveals therapeutic targets and resistance  
mechanisms*  
Forest White, Ph.D.  
Massachusetts Institute of Technology

2:05 p.m. – 3:00 p.m.  
*Wrap-up Discussion; Summary of series and exploring potential for  
collaboration between the consortiums*