

1ST TCGA CONFERENCE AND WORKSHOP IN INDIA

Multi-Omics Studies in Cancer Learnings from The Cancer Genome Atlas (TCGA)

Co-organized by:

- Centre for Translational Cancer Research (CTCR) - A joint initiative of Indian Institute of Science Education & Research (IISER), Pune and Prashanti Cancer Care Mission (PCCM), Pune
- Persistent Systems
- The Cancer Genome Atlas (TCGA), NCI, NIH, USA



Venue:

IISER Pune

Dates:

21st to 25th September, 2019

Conference:

September 21-22, 2019

Hands-on Workshop:

September 23-25, 2019

ORGANIZING COMMITTEE

ADVISORS

Dr. Jean Claude Zenklusen, Director, TCGA, NCI, NIH, USA
 Dr. Anand Deshpande, Chairman and MD, Persistent Systems
 Prof. Sunil Badve, Joshua Edwards Professor of Laboratory Medicine, Indiana University School of Medicine, USA
 Dr. C.B. Koppiker, Medical Director, PCCM, Pune
 Prof. L.S. Shashidhara, Professor, IISER Pune
 Prof. Chintamani, Professor, VMMC, Safdarjung Hospital, New Delhi
 Dr. Chetan Deshmukh, Consulting Medical Oncologist, PCCM, Pune
 Dr. Sanjeev Galande, Professor and Chair (Biology), IISER Pune
 Dr. Smruti B.K., Consulting Medical Oncologist, Lilavati Hospital, Mumbai

CONVENOR

Dr. Santosh Dixit, Senior Scientist, PCCM, Pune

ORGANIZING TEAM

Dr. Mayurika Lahiri, Associate Professor, IISER Pune
 Dr. Nagaraj Balasubramanian, Associate Professor, IISER Pune
 Dr. M.S. Madhusudhan, Associate Professor, IISER Pune
 Dr. Anamika Krishanpal, Senior Domain Specialist, Labs, Persistent Systems
 Dr. Jyothi Prabhu, Associate Professor, SJRI, Bangalore
 Dr. Aruna Korlimarla, Assistant Professor, SJRI, Bangalore
 Dr. Madhura Kulkarni, Senior Scientist, PCCM, Pune
 Dr. Devaki Kelkar, Senior Scientist, PCCM, Pune
 Dr. Swagatika Sahoo, Assistant Professor, IIT Chennai
 Dr. Sabarinathan Radhakrishnan, Assistant Professor, NCBS
 Mr. Srikant Verma, Domain Team Lead, Labs, Persistent Systems

PATRONS

Ms. Laleh Busheri, CEO, PCCM, Pune
 PCCM Pink Ribbon Support Group

FACULTY

CHIEF GUESTS

Dr. Renu Swarup, Secretary, DBT, Government of India, New Delhi
 Prof. Shekhar Mande, DG-CSIR, New Delhi

INTERNATIONAL

Dr. Jean C. Zenklusen, Director, TCGA, NCI, NIH, USA
 Prof. Sunil Badve, Joshua Edwards Professor, Laboratory Medicine, Indiana University, USA
 Dr. Zhining Wang, Project Officer, Center for Cancer Genomics (CCG), NCI, NIH, USA
 Dr. Benjamin Berman, Associate Professor, Cedar's Sinai Cancer Centre, LA, USA
 Dr. Katherine A. Hoadley, Assistant Professor, UNC, Chapel Hill, USA
 Dr. Cyriac Kandoth, Senior Computational Biologist, MSKCC, NYC, USA
 Dr. Somasekhar Seshagiri, CEO/CSO ModMab Therapeutics, San Carlos, USA
 Dr. Anguraj Sadanandam, Asso. Professor, Institute of Cancer Research, London, UK
 Dr. Kyle Ellrott, Assistant Professor, Oregon Health and Science University, USA

NATIONAL

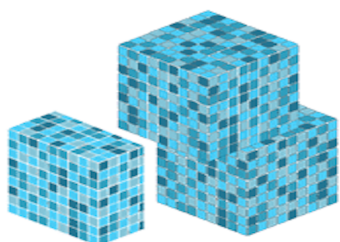
Dr. G.K. Rath, Director, NCI-AIIMS, New Delhi
 Prof. Sudeep Gupta, Director, ACTREC, Navi Mumbai
 Prof. Rajiv Sarin, Professor, ACTREC, Navi Mumbai
 Dr. Radhakrishna Pillai, Director, RGC, Thiruvananthapuram
 Dr. C. S. Pramesh, Director, TMH, Mumbai and Convenor, National Cancer Grid
 Dr. Shahid Jameel, Director, Wellcome-Trust-DBT India Alliance, New Delhi
 Prof. Rajesh Dikshit, Director, Centre for Cancer Epidemiology, ACTREC, Navi Mumbai
 Prof. Sanjeev Galande, Professor and Chair (Biology), IISER Pune
 Prof. T. S. Sridhar, Professor, St. John's Research Institute, Bangalore
 Prof. Mahalingam, Professor, IIT, Chennai
 Dr. Sharmila Bapat, Senior Scientist, NCCS, Pune
 Dr. Amit Dutt, Senior Scientist, ACTREC, Navi Mumbai
 Dr. Ramesh Hariharan, Co-founder and CEO, Strand Life Sciences Pvt. Ltd.
 Dr. Rajgopal Srinivasan, Chief Scientist, Cancer Genomics, TCS, Hyderabad
 Dr. Ravi Kannan, Director, Cachar Cancer Centre, Assam
 Dr. Murali Dharan Bashyam, Head, Molecular Oncology, CDFD, Hyderabad

NATIONAL CANCER INSTITUTE THE CANCER GENOME ATLAS

TCGA BY THE NUMBERS

TCGA produced over

2.5
PETABYTES
of data



To put this into perspective, **1 petabyte** of data is equal to

212,000
DVDs



TCGA data describes



33
DIFFERENT
TUMOR TYPES

...including

10

RARE
CANCERS

...based on paired tumor and normal tissue sets collected from



11,000
PATIENTS

...using

7

DIFFERENT
DATA TYPES



TCGA RESULTS & FINDINGS



MOLECULAR
BASIS OF
CANCER

Improved our understanding of the genomic underpinnings of cancer

For example, a TCGA study found the basal-like subtype of breast cancer to be similar to the serous subtype of ovarian cancer on a molecular level, suggesting that despite arising from different tissues in the body, these subtypes may share a common path of development and respond to similar therapeutic strategies.



TUMOR
SUBTYPES

Revolutionized how cancer is classified

TCGA revolutionized how cancer is classified by identifying tumor subtypes with distinct sets of genomic alterations.*



THERAPEUTIC
TARGETS

Identified genomic characteristics of tumors that can be targeted with currently available therapies or used to help with drug development

TCGA's identification of targetable genomic alterations in lung squamous cell carcinoma led to NCI's Lung-MAP Trial, which will treat patients based on the specific genomic changes in their tumor.

THE TEAM



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COLLABORATING
INSTITUTIONS
across the United States
and Canada

WHAT'S NEXT?

The Genomic Data Commons (GDC) houses TCGA and other NCI-generated data sets for scientists to access from anywhere. The GDC also has many expanded capabilities that will allow researchers to answer more clinically relevant questions with increased ease.



*TCGA's analysis of stomach cancer revealed that it is not a single disease, but a disease composed of four subtypes, including a new subtype characterized by infection with Epstein-Barr virus.