NIH NATIONAL CANCER INSTITUTE

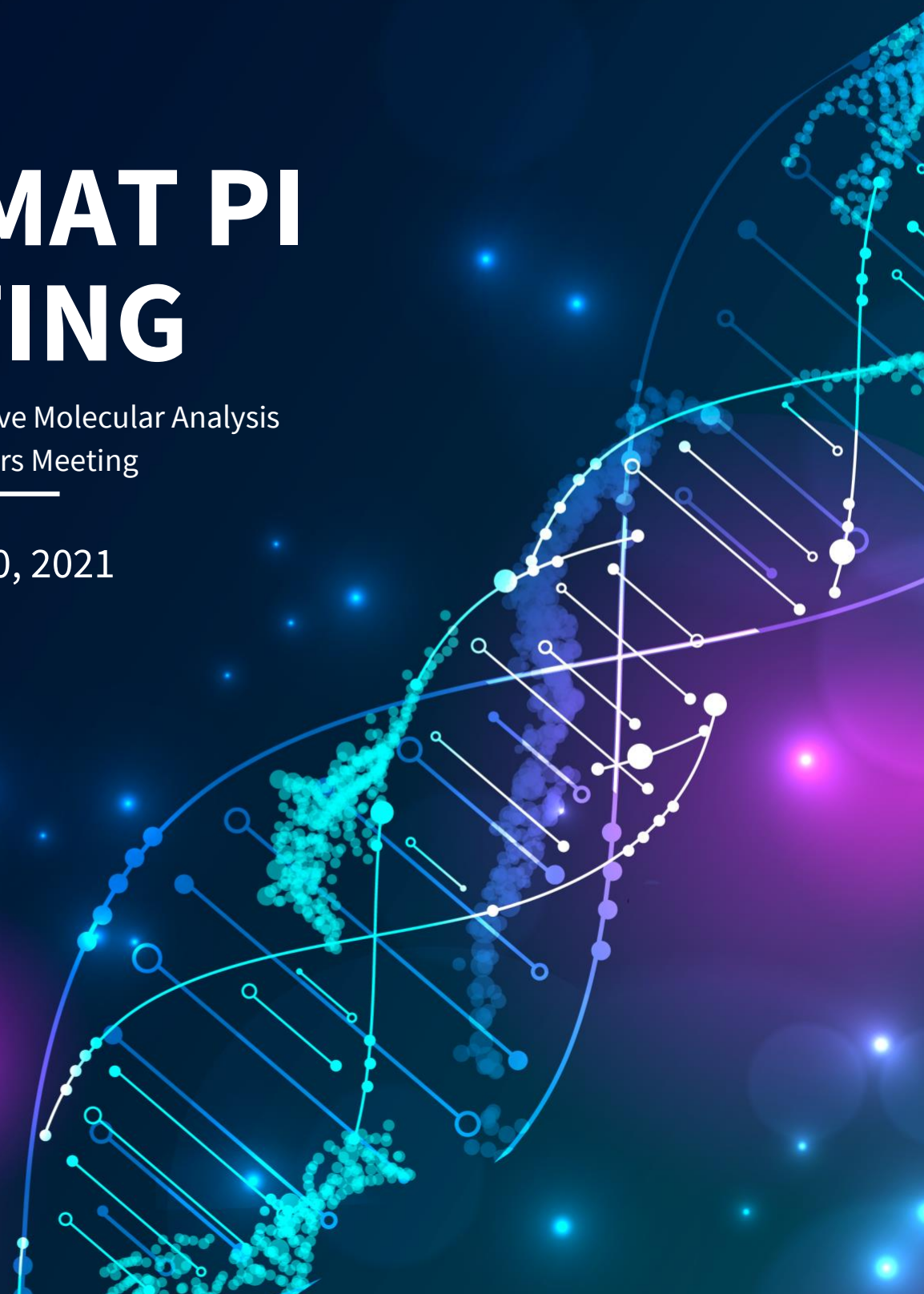
2021

NCI IMAT PI MEETING

22nd Annual Innovative Molecular Analysis Principal Investigators Meeting

December 8 - 10, 2021

Virtual Meeting



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NIH NATIONAL CANCER INSTITUTE

2021 NCI IMAT PI MEETING

Day 1: AGENDA - Wednesday, December 8, 2021

12:00 PM	**Welcome** *Tony Dickherber and Kelly Crotty, National Cancer Institute*
12:10 PM	**Advanced Development of Desorption Electrospray Ionization Mass Spectrometry for Intraoperative Molecular Diagnosis of Brain Cancer Using Pathology Biopsies** *Graham Cooks, Purdue University*
12:25 PM	**Quantitative SRS Imaging of Cancer Metabolism at Single Cell Level** *Ji-Xin Cheng, Boston University*
12:40 PM	**CasCUT&RUN: An *in vivo* method to analyze locus-specific protein complexes driving transcription of target genes in cancer** *Danielle Swaney, University of California - San Francisco*
12:55 PM	**Metal-Organic Framework as Protective Coating for Cancer Biospecimen Preservation** *Srikanth Singamaneni, Washington University*
1:10 PM	**An integrated therapeutic T cell receptor screening platform for adoptive cell therapy in cancer** *Jenny Ning Jiang, University of Texas - Austin*
1:30 PM	**BREAK**
2:00 PM	**Rapidly scalable platforms for direct *in vivo* screening of functional drivers in lethal cancers** *Sidi Chen, Yale University*
2:15 PM	**A microfluidic cell culture platform for personalizing cancer therapies** *Alexander Revzin, Mayo Clinic Rochester*
2:30 PM	**Autohistomagnetic Isolation of Tumor-Reactive T-Cells** *Adam Mailloux, H. Lee Moffitt Cancer Center and Research Institute*
2:45 PM	**Click chemistry-medicated purification of HCC circulating tumor cells and extracellular vesicles** *Yazhen Zhu, University of California - Los Angeles*

3:00 PM	**Characterization of Cancer Specific T cells Using Nanoparticle-based Artificial Antigen Presenting Cells** *Jonathan Schneck, Johns Hopkins University*
3:15 PM	**Multi-color Mapping of Cancer Molecular Signatures and Tumor Microenvironment** *Jenny Yang, Georgia State University*
3:30 PM	**BREAK**
4:00 PM	**Poster Session**

Day 2: AGENDA - Thursday, December 9, 2021

12:00 PM	**A High Throughput Human Tumor Modeling Technology for Cancer Drug Discovery** *Hossein Tavana, University of Akron*
12:15 PM	**Increased Sensitivity of Minimal Residual Disease Monitoring Using Peripheral Blood in Pediatric Patients with Acute Lymphoblastic Leukemia (ALL)** *Steven Soper, University of Kansas - Lawrence*
12:30 PM	**Microsatellite Sequencing to Enable Cancer Genotyping** *Anna Schibel, Electronic Biosciences, Inc.*
12:45 PM	**Advanced Development of the MasSpec Pen for Cancer Diagnosis and Surgical Margin Evaluation** *Livia Eberlin, University of Texas - Austin*
1:00 PM	**A Single Conical Tube Device for Precision CAR-T Cells Manufacturing** *Leo Yuguo Lei, University of Nebraska - Lincoln*
1:15 PM	**Toward fully automated core needle biopsy assessment at the point of care** *Eric Seibel, University of Washington*
1:30 PM	**BREAK**
2:00 PM	**Keynote Address** *Lance Liotta, George Mason University*
2:30 PM	**Panel discussion on tech transfer and commercialization** Moderator: *Andy Kurtz* Panelists: *Lance Liotta, Steven Soper, Livia Eberlin, Mary Ozers*
3:30 PM	**BREAK**
4:00 PM	**Poster Session**

Day 3: AGENDA - Friday, December 10, 2021

12:00 PM	**GESTALT Barcoding and Single-cell Transcriptomics of Tumor Cell Evolution in Personalized Tumor Models** *Josh Breunig, Cedars Sinai Medical Center*
12:15 PM	**Tools for DUB Drug Discovery** *Jarrod Marto, Dana-Farber Cancer Institute*
12:30 PM	**Single Circulating Vesicle Analysis for Early Cancer Detection** *Ralph Weissleder, Massachusetts General Hospital*
12:45 PM	**Technology for measuring telomere length of individual chromosomes of single cancer cells** *Xiaohua Huang, University of California - San Diego*
1:00 PM	**Activity-based profiling of phosphoprotein phosphatases in cancer by mass spectrometry-based proteomics** *Scott Gerber, Dartmouth College*
1:15 PM	**BREAK**
1:45 PM	**Patient Advocate**
2:00 PM	**Exosome-Protein-microRNA-OneStop (Exo-PROS) biosensor: a new liquid biopsy for cancer screening and early detection** *Sunny Yun Wu , State University of New York*
2:15 PM	**Multi-dimensional targeted mass spectrometry technology for pathway-scale functional proteomics** *Paolo Cifani, Sloan Kettering Institute of Cancer Research*
2:30 PM	**A Personalized Colorectal Cancer-on-a-Chip for Assessing Tumor-Microbiome Crosstalk** *Hyun Jung Kim, University of Texas - Austin*
2:45 PM	**Multiplex matrix ELISA for T cell protein interaction networks in cancer** *Adam Schrum, University of Missouri - Columbia*

3:00 PM	**BREAK**
3:15 PM	**Multiscale microscope for 3D cancer imaging in model organisms and organoids** *Reto Fiolka, UT Southwestern Medical Center*
3:30 PM	**An ovarian cancer organoid biobank enables identification of patient-specific drug sensitivities** *Laura Andres-Martin, New York Stem Cell Foundation*
3:45 PM	**Stimulated Raman scattering spectroscopic optical coherence tomography (SRS-SOCT) for label-free molecular imaging of brain tumor pathology** *Paco Robles, Georgia Institute of Technology*
4:00 PM	**Closing Remarks**

Day 1: Poster List - Wednesday, December 8

Room 1A

Poster #	Title	
1	A modular, customizable sequencing system for simultaneous genotyping and transcript analysis in single cells	**Manuel Garber**
2	A Target-Directed Reagent Pipeline via Microfluidic mRNA Display	**Noah Malmstadt**
3	A Virion-Display Oscillator Array and Detection Platform for Quantification of Transmembrane Protein Binding Kinetics	**Shaopeng Wang**
4	Advanced development and validation of microdevices for high-throughput in situ drug sensitivity testing in tumors	**Michael Cima**
5	An ultrasensitive targeted mass spectrometry system for proteomics analysis of single cells	**Reta Kitata**
6	Bio CaRGOS: Capture and release gels for optimized storage of Cancer Biospecimens	**Gautam Gupta**
7	Building microenvironment-containing organoids from patient samples with single-cell precision	**Scott Manalis**
8	Advancing Ultra Long-read Sequencing and Chromatin Interaction Analyses for Chromosomal and Extrachromosomal Structural Variation Characterization in Cancer	**Chia-Lin Wei**
9	Clinical implementations of spatial transcriptomics in tumors	**Fei Chen**
10	Comprehensive breakpoint analyses for simultaneous quantification of all DNA double strand break repair pathways	**Daniel Higginson**
11	Decoding Individual Exosomes in Cancer	**Gregory Faris**
12	Detecting diverse nucleic acid biomarkers of cancer with solid-state nanopores	**Adam Hall**
13	Determining treatment sensitivity in B cell lymphoma by novel microfluidics-based NK cell immunogenicity platform	**Tania Konry**
14	Developing Adhesome Technology as a Physical Marker of Highly Metastatic Cells	**Adam Engler**

Room 1B

Poster #	Title	
15	Development and Utilization of Splice-specific Antibodies	**Rachel O'Neill**
16	Development of a high-resolution mapping platform for HPV DNA integration in premalignant lesions	**Jack Lenz**
17	Development of a microfluidic primary cell editing platform (pCEP) for personal gene therapy	**Claire Hur**
18	EndoGenus Toolkit: A Biometric Method for Absolute Quantification of Tumor Markers by Massive Parallel Sequencing	**Margaret Gulley**
19	Fractionation and Profiling of Heterogeneous Circulating Tumor Cells Using a Hyperuniform- Structured Microchip	**Wei Li**
20	Rational generation of high-performance recombinant antibodies to post-translational modifications	**Takamitsu Hattori**
21	Highly specific, amplification-free, single-molecule counting of rare methylated DNA cancer biomarkers	**Muneesh Tewari**
22	High-Throughput Screening Platform for Cancer Drug Discovery	**Anne Plochowietz**
23	High-throughput single-cell co-sequencing of small and large RNAs to identify molecular circuitry in cancer	**Rong Fan**
24	High-throughput super-resolution imaging of chromatin structures at different epigenetic states	**Yang Liu**
25	Impact of Genetic Diversity on Human Xenograft Tumor Growth	**Muneer Hasham**
26	Integrative Functional Profiling of Tumor-Derived Extracellular Vesicles	**Yong Zeng**
27	Optimization and validation of integrated microscale technologies for low-cost, automated production of PET molecular imaging tracers for cancer research	**Michael Van Dam**
28	High-resolution spatial transcriptomics through light patterning	**Georg Seelig**

Day 2: Poster List - Thursday, December 9

Poster #	Title	Speakers
Room 2A		
29	Intracellular CRISPR gRNA assembly for massively multiplexed, one pot, (epi)genetic screening	**Albert Keung**
30	Multimodal iterative sequencing of cancer genomes and single tumor cells	**Hanlee Ji**
31	Multimodality X-ray transmission and diffraction scanner for molecular analysis of cancer specimens	**Joel Greenberg**
32	Multiplexed imaging of chromatin folding and RNA profiles in cancer	**Siyuan Wang**
33	Nano-plasmonic technology for high-throughput single exosome analyses	**Hyungsoon Im**
34	Nanotechnology Enabled Selection of MHC-Peptide Ligands to Personalize Cancer Therapy	**Georgios Alexandrakis**
35	New Hybrid Molecular Modalities Comprised of DNA-Origami and Interfering Peptides as Inhibitors of Protein-Protein Interactions	**Amanda Haymond Still**
36	Novel Bisphosphonate PET Probes for Myeloma Bone Disease	**Kai Chen**
37	Novel Platform linking cancer-specific glycosylation with cell signaling outcomes	**Karen Abbott**
38	Optogenetic tools for the dissection of oncogenic signaling mediated by kinases	**Andrei Karginov**
39	Phenotypic assay for drug discovery and personalized medicine based on real-time vibrational spectroscopy enhanced by plasmonic metasurfaces	**Gennady Shvets**
40	Precision controllers of mammalian gene expression	**Roger Brent**
41	High-content functional cancer drug testing on micro-cuboidal tumor dissections	**Albert Folch**
42	SNAP-X: Development of a Mutagenesis Strategy and High-Density Protein Array to Comprehensively Display Protein Variants	**Christopher Warren**
Room 2B		
43	Spatially Resolved Metagenomics to Explore Tumor-Microbiome Interactions in Human Colorectal Cancer	**Iwijn De Vlaminck**
44	Spatiotemporal Epitranscriptome Editing Technology	**Fu-Sen Liang**
45	T-cell Biofactories for targeting extracellular matrix	**Parijat Bhatnagar**
46	T-cell Biofactories for targeting interstitial fluid pressure	**Parijat Bhatnagar**
47	Time-resolved FRET-based allostery sensors for any protein kinase drug target	**Nicholas Levinson**
48	Validation and Advanced Development of Albumin Oxidizability as a Marker of Plasma/Serum Integrity	**Chad Borges**
49	High Throughput Digital Droplet ELISA for Ultrasensitive Multiplexed Diagnostics	**Yasemin Atiyas**

50	Rapid unbiased isolation and in situ RNA analysis of circulating tumor cells using a magnetic micropore-based diagnostic chip	**Andrew Lin**
51	Label-Free Cell-Resolved Metabolomics for Tumor Microscopy	**Marcus Cicerone**
52	A Federated Galaxy for user-friendly large-scale cancer genomics research	**Jeremy Goecks**
53	Nucleic Acid Innovations in Cancer Research, Diagnostics, and Therapy	**Shuichi Hoshika**
54	Innovative Droplet Lenses for NextGen Light Sensors of Biomarkers of Inflammation	**Elliot Corless**
55	Intraoperative Evaluation of IDH Mutation Status and Tumor Invasion in Glioma	**Hannah Brown**
56	High-sensitivity multiplexed biomarker detection with programmable DNA nanoswitches	**Wesley Wong**

Resources & Funding Opportunities

RESOURCES

- The NCI Center for Strategic Scientific Initiatives (CSSI) Data Coordinating Center (DCC) Portal is a public repository of experiment-related information describing cancer research investigations. You can use the portal to browse, search, and access data generated through CSSI funded projects and other user uploaded data sets. This data is in ISA-Tab format.
- The NCI Cancer Research Data Commons (CRDC) is a cloud-based data science infrastructure that connects data sets with analytics tools to allow users to share, integrate, analyze, and visualize cancer research data to drive scientific discovery. The CRDC provides access to data-type specific repositories (genomic, proteomic, comparative oncology, imaging, and others) and data from NCI programs such as The Cancer Genome Atlas (TCGA) and its pediatric counterpart, Therapeutically Applicable Research to Generate Effective Treatments (TARGET), and The Clinical Proteomics Tumor Analysis Consortium (CPTAC), among many other data resources.
- The Antibody Characterization Laboratory provides access to a large number of reagents and accompanying characterization data. Antigens and antibodies are expressed, purified, and characterized using standard operating procedures, with all accompanying protocols and data.
- The Nanotechnology Characterization Laboratory (NCL) within Frederick National Laboratory for Cancer Research performs preclinical characterization of nanomaterials using a comprehensive battery of assays. The operation of NCL relies on collaboration with the US FDA and the National Institute of Standards and Technology.
- The cancer Nanotechnology Laboratory (caNanoLab) data portal provides access to nanomaterial characterization data to expedite and validate the use of nanomaterials in biomedicine. Users can search and download cancer-relevant characterization data resulting from physico-chemical, *in vitro*, and *in vivo* assays, as well as associated protocols and publication information.
- The NCI SBIR Development Center oversees all NCI Small Business Innovation Research (SBIR) and Small Business Technology Transfer (STTR) support programs, which includes all grant and contract funding opportunities, as well as a broad variety of additional resources aimed at supporting the innovations and commercial interests of small business entities against cancer.
- The Alliance of Glycobiologists for Cancer Research – A consortium that investigates the molecular basis by which altered glycan expression leads to cancer progression and develop cancer biomarkers based on the aberrant expression of these glycans. Opportunities exist to collaborate in cancer relevant research with a number of experts in glycobiology.
- The Early Detection Research Network (EDRN) – A consortium that promotes discovery, development, and clinical validation of biomarkers for early detection of cancer. Investigators with promising biomarkers may request for core funds to validate their markers using reference sets and resources within the network.
- NCI Best Practices for Biospecimen Resources guiding principles that define state-of- the-science

biospecimen resource practices, promote biospecimen and data quality, and support adherence to ethical and legal requirements. (https://biospecimens.cancer.gov)

- The Biospecimen Research Database (BRD) is a free and publicly accessible literature database that contains curated, peer-reviewed primary and review articles in the field of human biospecimen science. The database is searchable by various parameters including the biospecimen investigated (type and location, patient diagnosis), preservation method, analyte(s) of interest and technology platform(s) used for analysis. An original summary of relevant results is also provided for each article.
- The NCI offers the following two resources for research biospecimens:
    - Specimen Resource Locator (SRL) is a biospecimen resource database designed to help researchers locate resources that may have the samples needed for their investigational use. This publicly searchable database includes information about biospecimen banks and sample procurement services. The specimens and samples come from non-commercial, either NCI or non-NCI-funded resources. Investigators can search the database and gain access to thousands of specimens of various tumor, organ, and preservation methods.
    - The Cooperative Human Tissue Network (CHTN) is a resource developed and supported by the NCI that provides human tissues and fluids from routine procedures open to the scientific community to facilitate basic, early translation research, and assay/technology validation. Unlike tissue banks, the CHTN works prospectively with each investigator to tailor specimen acquisition and processing to meet their specific project requirements.
- The NCI Comprehensive Data Resource (CDR) is a distributed web-based system that manages and maintains multi-dimensional data models on biospecimens. CDR was developed and is currently utilized to collect biospecimen and clinical data on biospecimens collected from cancer patient donors and post-mortem donors, for the NCI's Biospecimen Pre-analytical Variables (BPV) and NIH Genotype-tissue Expression (GTEx) programs.
- NCI has developed the Biobank Economic Modeling Tool (BEMT), a publicly available web-based financial planning tool for biobanks. BEMT is designed to enhance the understanding of the economic considerations involved in initiating, operating and maintaining a biobank to assist with long term financial planning and cost recovery.
- The NIH Library of Integrated Network-based Cellular Signatures (LINCS) Program aims to create a network-based understanding of biology using computational tools into a comprehensive view of normal and disease states that can be applied for the development of new biomarkers and therapeutics. By generating and making public data that indicates how cells respond to various genetic and environmental stressors, the LINCS project will help us gain a more detailed understanding of cell pathways and aid efforts to develop therapies that might restore perturbed pathways and networks to their normal states.

ACTIVE RESEARCH FUNDING OPPORTUNITIES

Innovative Molecular Analysis Technology (IMAT) Program

Updates always available on the IMAT website.

- RFA-CA-22-001: (R61, Clinical Trials Not Allowed) Innovative Molecular & Cellular Analysis Technologies for Basic and Clinical Cancer Research.
- RFA-CA-22-002: (R33, Clinical Trials Not Allowed) Advanced Development and Validation of Molecular & Cellular Analysis Technologies for Basic and Clinical Cancer Research.
- RFA-CA-22-003: (R61, Clinical Trials Not Allowed) Innovative Biospecimen Science Technologies for Basic and Clinical Cancer Research.
- RFA-CA-22-004: (R33, Clinical Trials Not Allowed) Advanced Development and Validation of Biospecimen Science Technologies for Basic and Clinical Cancer Research.

Coming soon for IMAT:

- RFA-CA-22-005: (R01, Clinical Trials Optional) Revision Applications for Incorporation of Novel NCI-Supported Technology to Accelerate Cancer Research
- RFA-CA-22-006: (U01, Clinical Trials Optional) Revision Applications for Incorporation of Novel NCI-Supported Technology to Accelerate Cancer Research
- RFA-CA-22-007: (U54, Clinical Trials Optional) Revision Applications for Incorporation of Novel NCI-Supported Technology to Accelerate Cancer Research
- RFA-CA-22-008: (U2C, Clinical Trials Optional) Revision Applications for Incorporation of Novel NCI-Supported Technology to Accelerate Cancer Research
- RFA-CA-22-009: (P01, Clinical Trials Optional) Revision Applications for Incorporation of Novel NCI-Supported Technology to Accelerate Cancer Research
- RFA-CA-22-010: (P50, Clinical Trials Optional) Revision Applications for Incorporation of Novel NCI-Supported Technology to Accelerate Cancer Research

Small Business Transition Grant

- *RFA-CA-21-001: (R42 Clinical Trial Not Allowed) Small Business Transition Grant For Early Career Scientists will be reissued in 2022. Visit the linked FOA to find out more.*

Alliance for Nanotechnology in Cancer

- PAR-20-284: Innovative Research in Cancer Nanotechnology (IRCN) (R01).
  2 unique receipt dates per year. Expires May 4, 2023.
- PAR-22-071: (R01, Clinical Trials Not Allowed) Toward translation of Nanotechnology Cancer Interventions (TTNCI). Unique receipt dates. Expires Nov 18, 2024.

Academic-Industrial Partnerships

- PAR-20-155: Academic-Industrial Partnerships to Translate and Validate *In Vivo* Imaging Systems (R01 Clinical Trial Optional).
  Expires Sept 8, 2022.

- PAR-21-166: Academic-Industrial Partnerships for Translation of Technologies for Cancer Diagnosis and Treatment (R01 Clinical Trial Not Allowed).
  Expires May 8, 2024.

- PAR-21-206: Academic-Industrial Partnerships for Translation of Technologies for Cancer Diagnosis and Treatment (R01 Clinical Trial Optional).
  Expires May 8, 2024.

Assay Validation for High Quality Markers for NCI-Supported Clinical Trials

- PAR-20-313 (UH2/UH3 Clinical Trials Not Allowed)
- PAR-20-314 (UH3 Clinical Trials Not Allowed)
  3 unique receipt dates per year. Expires Oct. 11, 2023.

Informatics Technologies for Cancer Research (ITCR) Program

Please visit https://itcr.cancer.gov for updates.

Oncology Models

- PAR-20-131: (R01) Research Projects to Enhance Applicability of Mouse Models for Translational Research.
  Standard due dates apply.

  Expires May 8, 2023

- PAR-19-113: (R01 Clinical Trial Optional) Cancer Tissue Engineering Collaborative: Enabling Biomimetic Tissue-Engineered Technologies for Cancer Research
  Expires January 8, 2022

- PAR-20-055: Engineering Next-Generation Human Nervous System Microphysiological Systems (R01)
  Expires January 8, 2020

Other NCI Opportunities

- PAR-21-330: Utilizing the PLCO Biospecimens Resource to Bridge Gaps in Cancer Etiology and Early Cancer Detection Research (U01 Clinical Trial Not Allowed)
  Two unique receipt dates per year, expires October 12, 2024

- PAR-22-049**:** Integrating Biospecimen Science Approaches into Clinical Assay Development (U01 Clinical Trial Not Allowed)
  Three unique receipt dates per year, expires September 14, 2024

- PAR-21-343: Opportunities for Collaborative Research at the NIH Clinical Center (U01 Clinical Trial Optional)
  Applications due April 18 each year, expires April 19, 2024.

- PAR-20-292: NCI Clinical and Translational Exploratory/Developmental Studies (R21 Clinical Trial Optional)
  3 unique receipt dates per year. Expires July 21, 2022

General NIH Bioengineering Research Opportunities

- PAR-20-169: NIBIB Biomedical Technology Resource Center. (P41 Clinical Trials Optional)
  Standard due dates apply. Expires May 8, 2023
- PAR-19-254: Exploratory Research for Technology Development (R21 – Clinical Trial Not Allowed)
- PAR-19-253: Focused Technology Research and Development (R01 – Clinical Trial Not Allowed)
  Standard due dates for these two, expiring May 8, 2022
- PAR-20-104: (P41) NIGMS Biomedical Technology Research Resource. Applications due: January 25, 2019; May 25, 2019; and January 25, 2020.
- PAR-19-149: Exploratory/Developmental Bioengineering Research Grants (EBRG) (R21 Clinical Trial Not Allowed)
- PAR-19-150: Exploratory/Developmental Bioengineering Research Grants (EBRG) (R21 Clinical Trial Optional)
- PAR-19-156: Bioengineering Research Partnerships (U01 Clinical Trial Not Allowed)
- PAR-19-157: Bioengineering Research Partnerships (U01 Clinical Trial Required)
- PAR-19-158: Bioengineering Research Grants (BRG) (R01 Clinical Trial Not Allowed)
- PAR-19-159: Bioengineering Research Grants (BRG) (R01 Clinical Trial Required)
  Expires January 8, 2022

Brain Research through Advancing Innovative Neurotechnologies (BRAIN) Initiative

Various funding opportunities can be found at https://www.braininitiative.nih.gov

TRAINING AND OTHER SUPPORT

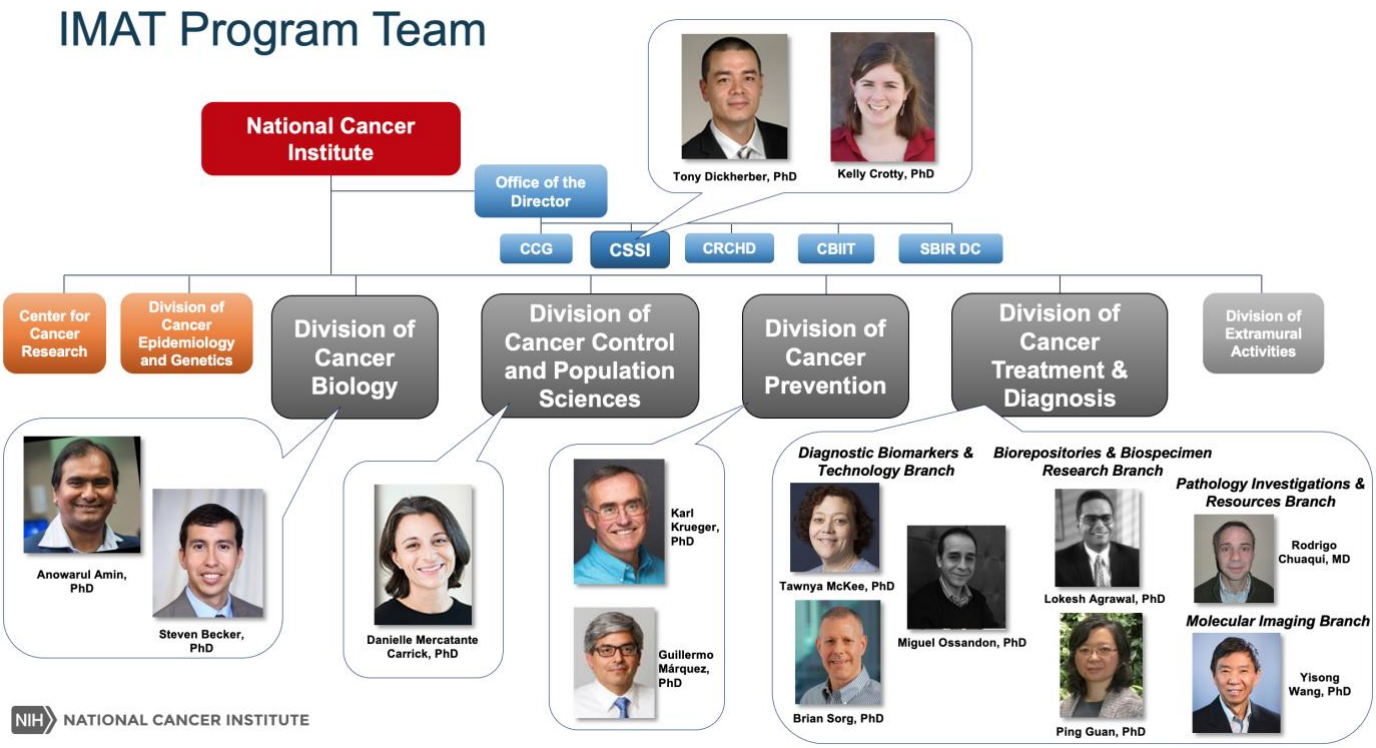
Ruth L. Kirschstein National Research Service Award (NRSA)

- PA-20-199: (K25) Mentored Quantitative Research Development Award
- PA-20-142: (T32) Institutional Research Training Grant
- PA-20-162: (T35) Short-Term Research Training Grant
- PA-21-052: (F31) Predoctoral Fellowship to Promote Diversity in Health-Related Research
- PA-21-049: (F30) Fellowship for Students at Institutions With NIH-Funded Institutional Predoctoral Dual-Doctoral Training Programs
- PA-21-048: (F32) Individual Postdoctoral Fellowship
- PA-21-051: (F31) Individual Predoctoral Fellowship
- PA-21-047: (F33) Individual Senior Fellowship.
- PA-21-050: (F30) Fellowship for Students at Institutions Without NIH-Funded Institutional Predoctoral Dual-Doctoral Training Programs
- PAR-21-128: (K22) The NCI Transition Career Development Award.

All training opportunities use standard receipt dates (3 per year) and expire in 2023 or 2024.

More information on NIH-supported training initiatives here.

NCI IMAT Program Team Contacts



Kelly Crotty, Ph.D. (link)
Role: *Co-Director of the IMAT Program*
Office: *Office of the NCI Director, Center for Strategic Scientific Initiatives*
Background & Portfolio
Kelly is part of the Center for Strategic Scientific Initiatives (CSSI) and is involved in the oversight of NCI programs whose scientific focus cross multiple divisions or offices. She co-directs the IMAT program and supports the Informatics Technology for Cancer Research (ITCR) program. Kelly also coordinates all communication activities for CSSI.

Tony Dickherber, PhD (link)
Role: *Co-Director of the IMAT Program*
Office: *Office of the NCI Director, Center for Strategic Scientific Initiatives*
Background & Portfolio
Tony is Co-Director of the IMAT program, co-chair of NCI's Cancer Moonshot New Technologies Implementation Team, co-director of the Cancer Grand Challenges program, and participates in a number of activities focused on new technology development, especially in the area of liquid biopsy technology. As Co-Director of the IMAT program, he has oversight responsibility for all projects in the program portfolio.

Anowarul Amin, PhD (link)
Role: *Program Director*
Office: *Division of Cancer Biology, Structural Biology and Molecular Applications Branch*
Background & Portfolio
Anowarul Amin is a Program Director in the Structural Biology and Molecular Application Branch (SBMAB) in NCI's Division of Cancer Biology (DCB). He is mainly a biophysicist, overseeing the structural biology, biophysics, and proteomics grants that address fundamental research questions of various cancers! He is also involved with cellular imaging technologies that allow the detection and analysis of *cellular* organelles and macromolecules.

Steven Becker, PhD (link)
Role: *Program Director*
Office: *Division of Cancer Biology, Structural Biology and Molecular Applications Branch*
Background & Portfolio
Steve Becker is a Program Officer in the Structural Biology and Molecular Applications Branch (SBMAB) in the Division of Cancer Biology (DCB). Steve has a grant portfolio that includes advanced imaging and analysis technologies as well as tissue-engineered systems that study cancer phenomena.

Danielle Carrick, PhD (link)
Role: *Program Director*
Office: *Division of Cancer Control and Population Sciences, Genomics Epidemiology Branch*
Background & Portfolio
Danielle Mercatante Carrick is a Program Director in the Genomic Epidemiology Branch (GEB) of the Epidemiology and Genomics Research Program (EGRP) in NCI's Division of Cancer Control and Population Sciences (DCCPS). She is responsible for managing a research grant portfolio related to genetic and immunologic factors that influence personal susceptibility to cancer, including inflammation. She is the DCCPS biospecimen coordinator, and the DCCPS contact for IMAT.

Karl Krueger, PhD (link)
Role: *Program Director*
Office: *Division of Cancer Prevention, Cancer Biomarkers Research Group*
Background & Portfolio
Karl is a program director in the Cancer Biomarkers Research Group in the Division of Cancer Prevention. Beyond his responsibilities in IMAT his programmatic activities cover research in lung cancer biomarkers in the Early Detection Research Network, co-leader of the Alliance of Glycobiologists for Cancer Research, project team leader for the NIH Common Fund Glycoscience Program, and serves as a project scientist in the RADx-SCENT program to identify volatile metabolites diagnostic of Covid infection.

Guillermo Marquez, PhD (link)
Role: *Program Director*
Office: *Division of Cancer Prevention, Cancer Biomarkers Research Group*
Background & Portfolio
Guillermo Marquez works in the Cancer Biomarkers Research Group within the Division of Cancer Prevention. In addition to his work with IMAT, he is involved in the Early Detection Research Network (EDRN), which supports the discovery, development, and validation of biomarkers and imaging methods to detect early stage cancers and to assess risk for developing cancer.

Tawnya McKee, PhD (link)
Role: *Program Director*
Office: *Division of Cancer Treatment and Diagnosis, Diagnostic Biomarkers & Technology Branch*
Background & Portfolio
Tawnya is a Program Director in the Diagnostic Biomarkers and Technology Branch (DBTB) in the Cancer Diagnosis Program (CDP) of the Division of Cancer Diagnosis and Treatment (DCTD). Tawnya's grant portfolio covers biomarker studies focused on diagnosis and treatment of GU cancers (Bladder, Prostate, Renal, etc.) and Thyroid and other adrenal cancers. She is also an active member of the Biomarker Review Committee working with the NCI Clinical Trial Group (CTEP) to enable "Fit-for-Purpose" and validated biomarker assays are incorporated into early phase clinical trials.

Miguel Ossandon, PhD (link)
Role: *Program Director*
Office: *Division of Cancer Treatment and Diagnosis, Diagnostic Biomarkers & Technology Branch*
Background & Portfolio
Miguel Ossandon manages a broad technology portfolio, including microfluidics and liquid biopsy technologies such as ctDNA, exosomes, CTCs etc. In addition, he manages projects on in-vitro imaging technologies and computational modeling. He participates in the trans-NIH Bioengineering Partnership program, the Academic Industrial Partnership and the single cell, single molecule sequencing initiative. In addition to the trans-NCI IMAT, he participates in the Informatics Technology for Cancer Research (ITCR) and the Human Tumor Atlas Network (HTAN) programs.

Brian Sorg, PhD (link)
Role: *Program Director*
Office: *Division of Cancer Treatment and Diagnosis, Diagnostic Biomarkers & Technology Branch*
Background & Portfolio
Brian's portfolio in the Diagnostic Biomarkers & Technology Branch includes cellular and molecular biosensors, tissue chips, in vitro imaging technologies, omics assays/technologies, and cell and molecular capture technologies. Brian is involved in numerous initiatives, including NCI's Engineering Biology for Cancer Applications, the NCI Affordable Cancer Technologies Program, the NCATS Clinical Trials on a Chip initiative, and the NASA Extended Longevity of 3D Tissues initiative.

Lokesh Agrawal, PhD (link)
Role: *Program Director*
Office: *Division of Cancer Treatment and Diagnosis, Biorepositories & Biospecimen Research Branch*
Background & Portfolio
Dr. Agrawal leads the Branch's biospecimen science research program, "Integrating Biospecimen Science Approaches into Clinical Assay Development." He also leads the Cancer Moonshot Biobank that is collecting longitudinal biospecimens from ~1000 cancer patients. Dr. Agrawal manages grants in diagnostics and treatment for heme malignancies and is actively involved in designing biomarker plans for NCI clinical trials in collaboration with Clinical Trials and Evaluation Program (CTEP) of NCI. Dr. Agrawal is also engaged in several trans-NCI programs on cancer technology development, academic-industrial partnership program, low-cost technology global health programs and physical sciences and oncology.

Ping Guan, PhD (link)
Role: *Program Director*
Office: *Division of Cancer Treatment and Diagnosis, Biorepositories & Biospecimen Research Branch*
Background & Portfolio
Ping Guan is a Program Director in the Biorepositories and Biospecimen Research Branch of the Division of Cancer Treatment and Diagnosis. She manages projects related to pre-analytic impacts on downstream molecular profiling and analysis for the Biospecimen Preanalytical Variables program.

Rodrigo Chuaqui, MD (link)
Role: *Program Director*
Office: *Division of Cancer Treatment and Diagnosis, Pathology Investigation & Resources Branch*
Background & Portfolio
Rodrigo Chuagui is the Program Director leading the Cooperative Human Tissue Network (CHTN). The CHTN is a program constituted by 6 Divisions in the US with the goal to procure clinical tissue samples to support basic discovery and translational research and diagnostic assay development studies. He also participates in the Biospecimen Technology arm of the IMAT Program, with the specific goal of developing new technologies for collection, storage, processing of human biospecimens for cancer research. He also participates in the Pathology slide review for the Clinical Assay Development Program and other Cancer Diagnosis/Frederick projects. He is a Member of the International Society for Biological and Environmental and Research (ISBER), being part of the Biospecimen Science Working Group.

Yisong Wang, PhD (link)
Role: *Program Director*
Office: *Division of Cancer Treatment and Diagnosis, Molecular Imaging Branch*
Background & Portfolio:
Yisong Wang is a program director in Molecular Imaging Branch, Cancer Imaging Program in the Division of Cancer Treatment and Diagnosis. He manages grant portfolios focusing on molecular imaging from basic discovery of methods and agents to their development as preclinical tools and into clinical use in the service of diagnosis and therapy of cancer patients and those at risk.