NIH | NATIONAL CANCER INSTITUTE

2024
NCI IMAT
PI MEETING

25th Annual Innovative Molecular Analysis Technologies Principal Investigators' Meeting

2024 NCI IMAT PI MEETING

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Day 1: Monday, December 16

Time	Session
10:00 a.m.	**Early Career Session – Room H**
1:00 p.m.	**Welcome – Natcher Auditorium**
	Kelly Crotty, *National Cancer Institute*
1:10 p.m.	**Protein Sciences and Synthetic Biology Methods**
	Optogenetic control of tumor initiation and tumor progression *in vivo*
	Andre Karginov, *University of Illinois – Chicago*
	High-quality proteins with multiple post-translational modifications
	Shuichi Hoshika, *Foundation for Applied Molecular Evolution*
	A practical approach to tumor-specific aptamers for B-cell hematologic malignancies
	Qiao Lin, *Columbia University*
2:10 p.m.	**Improvements in Sample Handling**
	Novel cryopreservation method for stabilization of manufactured therapeutic cells
	Alptekin Aksan, *University of Minnesota*
	Aliquot-level visual indicators of biospecimen exposure to thawed conditions
	Chad Borges, *Arizona State University*
2:50 p.m.	**Poster Session 1 – Natcher Atrium** **Office Hours with NIH Staff – Room H**
4:20 p.m.	**Single Cell Technologies – Natcher Auditorium**
	In-depth proteome profiling of single cells in 5 minutes or less
	Ryan Kelly, *Brigham Young University and Pacific Northwest National Laboratory*
	Accessible high-throughput single-cell genome sequencing
	Andrew Adey, *Oregon Health and Science University*
	Mapping genotypes to chromatin accessibility profiles in single cells
	Dan Landau, *Cornell University*
	High-throughput single-cell chemoproteomic mapping of protein activity and ligandability
	Ray Moellering, *University of Chicago*
	Systematic characterization of cancer variants using single-cell functional genomics
	Tom Norman, *Memorial Sloan Kettering Cancer Center*
6:00 p.m.	**Adjourn**

Day 1 Poster Session

Poster #	Presenter	Title
32	Yu Gao, Alexandra Naba	Enhanced mass-spectrometry-based approaches for in-depth profiling of the cancer extracellular matrix
33	Matthew Yi, Abraham Lee, Anshu Agrawal	Microfluidic precision engineered artificial antigen presenting cells for cancer immunotherapy
34	Bruce Armitage, Huaiying Zhang	Fluorescent gammaPNA miniprobes for imaging Telomeric RNA
35	Brian Chiu, Wei Zhang	A highly sensitive linear amplification based DNA methylation profiling technique for clinical cancer research
36	Bruce Cunningham, Aaron Mansfield, Xing Wang	Rapid, simple, and ultrasensitive quantitation of KRAS ctDNA at the point of care using CRISPR/Cas amplification and digital resolution biosensor microscopy
37	Kai Chen, Charles McKenna	Novel Bisphosphonate PET Probes for Myeloma Bone Disease
38	Ryne Ramaker, Christopher Counter	Adapting K-MDS to detect KRAS-mutant ctDNA
39	Eric Duncavage, David Spencer	A rapid and comprehensive approach for clinical genomic profiling in lung cancer
40	Facundo Fernandez	Triboelectric ambient mass spectrometry imaging of renal cell carcinomas
41	Connor Grady, Gary Luker	Integrated imaging tools for intercellular chemokine signaling
42	Gloria Sheynkman, Song Stephen Yi	An integrated functional proteomics platform for accelerated discovery of isoform-specific determinants of cancer
43	Hanlee Ji	Single cell modeling of cancer mutations
44	Hao Yan, Rizal Hariadi	High-throughput, purification-free, and ultrasensitive transmembrane nanosensor arrays for digital counting of microRNA biomarkers of intact exosomes
45	Hyungsoon Im, Jaesang Hong	Nano-CRISPR extracellular vesicle sensing system for longitudinal tumor monitoring
46	David Issadore, Erica Carpenter	Combining machine learning and nanofluidic technology for the multiplexed diagnosis of pancreatic adenocarcinoma
47	Jarrod Marto, Justin Kim	New Chemical Tools for Covalent Drug Discovery
48	Joshua LaBaer	MultiplexiIn-solution protein array (MISPA) for high throughput, quantitative, early profiling of pathogen-induced head and neck
49	John Yates III, Casimir Bamberger	3D proteomics at single cell resolution with covalent protein painting (CPP)

Poster #	Presenter	Title
50	Javier Bravo-Cordero	Intersectional genetics-based biosensors for dormant cancer cells
51	Joshua Breunig	Enabling *in vivo* barcoded single-cell multiomics-compatible genome-wide screens in personalized tumor models using defined-copy somatic transgenesis
52	Joshua Snyder	Mouse Paint: A massively combinatorial approach for illuminating tumor heterogeneity in True Color
53	Jonathan Schneck	Identification of cancer neoepitope-specific T cells using novel high-throughput hydrogel based platforms
54	Jungwoo Lee	Develop and validate demineralized bone paper-based human bone metabolic and senolytic assays
55	Ji-Xin Cheng, Xinyan Teng	Mapping cancer metabolism by mid-infrared photothermal microscopy
56	Kathryn Meyer	A high-throughput screening platform to discover RNA methylation inhibitors
57	Gennady Shvets	Metasurface-enabled inverted reflection-light infrared microscopy (MIRIAM): A new label-free real-time imaging platform for live cells in the medium
58	Hossein Tavana, Gary Luker	A high throughput human tumor modeling technology for cancer drug discovery

2024 NCI IMAT PI MEETING

Day 2: Tuesday, December 17

Time	Session
9:00 a.m.	**Lab on a Chip – Natcher Auditorium**
	Liquid biopsy-based toolkits for neoantigen and cognate TCR discovery for cancer immunotherapy
	Wei Wei, *Institute for Systems Biology*
	Semi-permeable micro-capsule technology and applications
	Allon Klein, *Harvard University,* and Linas Mazutis, *Vilnius University*
	Advanced development of a blood brain barrier microfluidic platform
	Sofia Merajver, *University of Michigan*
	Secretion responsive hydrogels for identification of functional single T cells
	Claire Hur, *Johns Hopkins University*
10:20 a.m.	**Break**
10:40 a.m.	**Nucleic Acid Technologies**
	In situ assay imaging nuclear RNA exosome activity for cancer studies
	Vladimir Didenko, *Baylor College of Medicine*
	A CRISPR/Cas13 approach for identifying individual transcript isoform function in cancer
	Megan Schertzer, *New York Genome Center*
	Transfer RNA sequencing and application to cancer research and clinics
	Tao Pan, *University of Chicago*
11:40 a.m.	**Panel on Strategies for Implementing New Tools in a Research Setting**
12:20 p.m.	**Lunch – On your own (can pre-order sandwiches or visit the Natcher cafeteria)**
1:20 p.m.	**Clinical and Translational Technologies I**
	Use of 3-D printing and photolithography to isolate tumor DNA from conventionally stained microscopic slides
	Darryl Shibata, *University of Southern California*
	A highly sensitive linear amplification based DNA methylation profiling technique for clinical cancer research
	Brian Chiu, *University of Chicago,* and Wei Zhang, *Northwestern University*
	Biospecimen analysis with a tabletop 4D specimen radiography system
	Joel Greenberg, *Quadridox*
	A cell-cycle induced genetic recorder for simultaneous recovery of cell division and lineage Charles van de Mark, *Massachusetts Institute of Technology*
2:40 p.m.	**Research Advocate**
	Christina Sisti, *Research Advocate*
2:50 p.m.	**Poster Session 2 – Natcher Atrium** **Office Hours with NIH Staff – Room H**
4:20 p.m.	**Methods for Noninvasive Cancer Detection – Natcher Auditorium**

Detecting diverse nucleic acid biomarkers of cancer with solid-state nanopores

Adam Hall, *Wake Forest University*

Microfluidic digital DNA methylation analysis for highly sensitive and affordable cancer detection: A low-cost, multiplexed digital high resolution melt platform for DNA methylation-based detection and identification of cancers in liquid biopsies

Jeff Wang, *Johns Hopkins University*

Targeted isolation and identification of sialylated glycoproteins in cancer tissues, cells, and biofluids

Rick Drake, *Medical University of South Carolina*

5:20 p.m.	**Panel on Noninvasive Cancer Detection and Monitoring**
6:00 p.m.	**Adjourn**

Day 2 Poster Session

Poster #	Presenter	Title
59	Chad Borges	Plate reader assays to forensically assess exposure of plasma and serum to thawed conditions
60	Joel Greenberg	Multimodality X-ray transmission and diffraction scanner for molecular analysis of cancer specimens
61	Li Ye, Bejamin Cravatt	A platform to identify *in vivo* targets of covalent cancer drugs in 3D tissues
62	Joseph Muretta, Wendy Gordon	Engineering protein modulators of notch activation for T-cell immunotherapy
63	Neel Shah	A generalizable photo-crosslinking strategy to identify tyrosine phosphatase substrates
64	Nir Hacohen	Development of methods for highly multiplexed quantification of cancer proteomes using large-scale nanobody libraries
65	Parijat Bhatnagar	Bioreactor for manufacturing chemotactically competent immune cell therapies
66	Frances Keer, Paul Blainey	Stitch-seq for genome-wide pooled genomic screening with RNA-seq readout
67	Wihan Adi, Paul Campagnola, Filiz Yesilkoy	A novel multimodal ECM analysis platform for tumor characterization combining morphological and spectrochemical tissue imaging approaches
68	Guillem Pratx	A novel assay to individualize resensitization of iodine-refractory thyroid cancer
69	Jonathan Good, Peter Van Galen, Vijay Sankaran	Clonal analysis of cancer by mitochondrial DNA barcoding
70	Richard Levenson	CoreView and FIBI for rapid-onsite evaluation and molecular profiling of core-needle breast biopsies
71	Ralph Weissleder	Bioorthogonal probe development for highly parallel *in vivo* imaging
72	Maria Santore	Paper-based breastmilk collection system for facile, in-home use
73	Sidi Chen	Advanced development of composite gene delivery and CAR engineering systems
74	Soma Dhakal	Single-molecule high-confidence detection of miRNA cancer biomarkers
75	Steven Soper	Molecular sub-typing breast cancer patients using a liquid biopsy
76	Stephen Salipante	Efficient, cost-effective, and ultrasensitive sequencing of somatic mutations

Poster #	Presenter	Title
77	Venktesh Shirure	Microfluidic technology to isolate tumoricidal T-cells from peripheral blood
78	Wilhelm Haas, Lecia Sequist	A real-time AI-driven high-throughput proteomics data acquisition method for clinical applications
79	Xiaojing Gao, Monte Meier Winslow	Program the immune system against RAS-driven cancer
80	Yevgeny Brudno	MASTER scaffolds for rapid, single-step manufacture and prototyping of CAR-T cells
81	Yue Lu	Vesicle epitope transcript sequencing (VET-seq): Droplet-based multiomic profiling platform for single vesicle analysis
82	Yong Zeng, Liang Xu	Integrative functional profiling of tumor-derived extracellular vesicles
83	Kristen Naegle	A synthetic toolkit for the recombinant production of tyrosine phosphorylated proteins and peptides
84	Rani Mahyoob, Qianun Ge	Conditional reprogramming: A living biomarker and phenotypic screen drug platform for urological cancer

Day 3: Wednesday, December 18

Time	Session
9:00 a.m.	**Clinical and Translational Technologies II – Natcher Auditorium**
	A micro-dissection platform for generating organoids to model the tumor immune microenvironment
	Sindy Tang, *Stanford University*
	Spectroscopy assisted laser microdissection
	Rohit Bhargava, *University of Illinois*
	A streamlined, high-throughput platform for validation of cancer antigen presentation and isolation of cancer antigen reactive T cells
	Jenny Jiang, *University of Pennsylvania,* and Amy Brock, *University of Texas - Austin*
	Novel Bisphosphonate PET Probes for Myeloma Bone Disease
	Kai Chen and Charles McKenna, *University of Southern California*
10:20 a.m.	**Panel on Challenges in Clinical Translation of Novel Methods**
11:00 a.m.	**Break**
11:20 a.m.	**Novel Imaging Tools**
	Molecular and cellular imaging of bone biopsies using AI augmented deep UV Raman microscopy
	Vladislav Yakovlev, *Texas A&M University*, and Mikhail Berezin, *Washington University in St. Louis*
	A novel fluorescence imaging platform to predict response to combinatorial tyrosine kinase inhibitors
	Summer Gibbs, *Oregon Health and Science University*
	Fourier imaging system for high-throughput analyses of cancer organoids
	Hakho Lee, *Harvard University*
12:20 p.m.	**Closing Remarks**
	End

Resources and Funding Opportunities
Resources

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. Look out for additional resources in this area that will come from the new [Cancer Screening Research Network](#) (CSRN) to evaluate emerging technologies including multi-cancer detection assays to detect cancer in early stages.

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.

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.

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.

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.

The PREVENT program supports preclinical development of innovative interventions and biomarkers for cancer prevention and interception towards clinical trials. PREVENT allocates NCI contract resources and expertise to generate data and materials which are used by the program applicants for further development.

The NIH Entrepreneurship Bootcamp equips investigators and nascent companies who *have not* received NIH SBIR/STTR funding with specialized innovation and entrepreneurship training. The course requires no prior experience and provides training on customer discovery, developing business models, and commercialization plans.

The NCI Peer Learning and Networking (PLAN) webinar series is coordinated by NCI's Small Business Center to create an interactive forum for small business applicants and awardees to hear from standout SBIR-funded companies who have achieved success towards product development and technological commercialization.

Active Research Funding Opportunities

Innovative Molecular Analysis Technology (IMAT) Program
New funding opportunities should be available soon through the IMAT website.

Informatics Technologies
PAR-23-318: (R21/R33) Mobile Health: Technology and Outcomes in Low and Middle Income Countries. Special Due Dates. Expires March 21, 2026.
PAR-22-131: (R01) Imaging, Biomarkers and Digital Pathomics for the Early Detection of Premetastatic Cancer and Precancerous Lesions Associated with Lethal Phenotypes. Standard due dates. Expires September 8, 2025.
PAR-25-170: (UG3/UH3) Digital Health Technology Derived Biomarkers and Outcome Assessments for Remote Monitoring and Endpoint Development. Special due dates. Expires June 23, 2026.
ITCR: (R21, U01, U24) Early stage development, enhancement and dissemination, and sustainment of informatics tools and resources for cancer research. Special due dates. New RFAs published soon.

Oncology Models
PAR-24-306: (R01) Research Projects to Enhance Applicability of Mammalian Models for Translational Research. Standard due dates apply. Expires Sept. 8, 2026
PAR-25-171: (R01 Clinical Trial Optional) Cancer Tissue Engineering Collaborative: Enabling Biomimetic Tissue-Engineered Technologies for Cancer Research. Expires May 8, 2025
PAR-25-198 and PAR-25-199: (R01) Engineering Next-Generation Human Nervous System Microphysiological Systems. Standard due dates. Expires January 8, 2026

Microbiome and Cancer
PAR-22-062: (R21) Modulating Human Microbiome Function to Enhance Immune Responses Against Cancer
Standard due dates apply. January 8, 2025.
PAR-22-061: (R01) Modulating Human Microbiome Function to Enhance Immune Responses Against Cancer
Standard due dates apply. January 8, 2025.
PAR-25-108: (R21) Microbial-based Cancer Imaging and Therapy
Applications due February 16, 2025.
PAR-25-107: (R01) Microbial-based Cancer Imaging and Therapy
Applications due February 5, 2025.

Assay Validation of High Quality Markers for Clinical Studies in Cancer
PAR-25-074 (UH2/UH3 Clinical Trials Not Allowed)
PAR-25-075 (UH3 Clinical Trials Not Allowed)
Three unique receipt dates per year. Expires October 15, 2026.
PAR-24-304: (R01 revisions) Revision Applications for Validation of Biomarker Assays Developed Through NIH-Supported Research Grants. Standard due dates apply. Expires October 15, 2026.

Other NCI Opportunities
PAR-25-106: (R01) Innovative Research in Cancer Nanotechnology (IRCN).
Two unique receipt dates per year. Expires May 5, 2026
PAR-25-248: (U01) Utilizing the PLCO Biospecimens Resource to Bridge Gaps in Cancer Etiology and Early Cancer Detection Research. Two unique receipt dates per year. Expires October 09, 2027.
PAR-25-139: (R21) NCI Clinical and Translational Exploratory/Developmental Studies

Three unique receipt dates per year. Expires July 2, 2025
PAR-24-311: (R01) Molecular Imaging of Inflammation in Cancer
Standard due dates apply. Expires January 8, 2028.

NIH Bioengineering and Technology Research Opportunities
PAR-25-202: (R21) Technology Development Research for Establishing Feasibility and Proof of Concept.
Standard due dates apply. Expires January 8, 2028
PAR-25-203: (R01) Focused Technology Research and Development
Standard due dates apply. Expires January 8, 2028
PAR-22-090 and PAR-22-091: (R21) Exploratory/Developmental Bioengineering Research Grants (EBRG)
Standard due dates apply. Expires January 8, 2025
PAR-22-242 and PAR-22-243: (R01) Bioengineering Research Grants (BRG)
Standard due dates apply. Expires Sept. 8, 2025
National Institute of General Medical Sciences' Technology Development Program R21, R01, MIRA, RM1, etc.
National Human Genome Research Institute's Genome Technology Program
RFA-EB-21-001: (R01) NIBIB Technology Development to Reduce Health Disparities
Special due dates. Expires May 3, 2025.
PAR-23-235: (P41) NIBIB Biomedical Technology Resource Center
Standard due dates apply. Expires Sept. 8, 2026
PAR-24-022: (R21) Trailblazer Award for New and Early Stage Investigators
Standard due dates apply. Expires January 8, 2026.

Academic Industrial Partnerships
PAR-21-166 and PAR-21-206: (R01) Academic-Industrial Partnerships for Translation of Technologies for Diagnosis and Treatment. Standard due dates apply. Expires January 8, 2025
PAR-25-079: (R01) Academic-Industrial Partnerships to Translate and Validate *In Vivo* Imaging Systems
Standard due dates apply. Expires January 8, 2027
PAR-24-325: (U01) Bioengineering Research Partnerships with Industry
Standard due dates apply. Expires September 8, 2027

BRAIN Initiative
The BRAIN initiative (Brain Research Through Advancing Innovative Neurotechnologies) has numerous open funding opportunities to support the development of new tools to probe cell-specific and circuit-specific processes in the brain, clinical studies to advance next-gen devices for studying the central nervous system, development of new sensor technologies, reagent resources, and more.

HEAL Initiative
The HEAL Initiative (Helping to End Addiction Long-term) has several open funding opportunities, including support to develop diagnostic and therapeutic devices as well as discovery and validation of novel biomarkers.

Training and Other Support

Ruth L. Kirschstein National Research Service Award (NRSA)

PA-24-191: (K25) Mentored Quantitative Research Development Award. Standard due dates apply. Expires May 8, 2027

PA-25-168: (T32) Institutional Research Training Grant. Standard due dates apply. Expires May 5, 2028

PA-23-080: (T35) Short-Term Institutional Research Training Grant. Standard due dates apply. Expires May 8, 2026

PA-23-260: (F30) Fellowship for Students at Institutions with NIH-Funded Institutional Predoctoral Dual-Doctoral Training Programs. Standard due dates apply. Expires Sept. 8, 2025

PA-23-261: (F30) Fellowship for Students at Institutions without NIH-Funded Institutional Predoctoral Dual-Doctoral Training Programs. Standard due dates apply. Expires Sept. 8, 2025

PA-23-271: (F31) Predoctoral Fellowship to Promote Diversity in Health-Related Research. Standard due dates apply. Sept. 8, 2025

PA-23-272: (F31) Individual Predoctoral Fellowship. Standard due dates apply. Expires Sept. 8, 2025

PA-23-262: (F32) Individual Postdoctoral Fellowship. Standard due dates apply. Expires Sept. 8, 2025

PA-23-272: (F33) Individual Senior Fellowship. Standard due dates apply. Expires Sept. 8, 2025

PAR-24-117: (K22) The NCI Transition Career Development Award. Standard due dates apply. Expires November 13, 2025

PA-24-193, PA-24-194, and PA-24-195: (K99/R00) NIH Pathway to Independent Award. Standard due dates apply. Expires May 8, 2027

PAR-23-286 and PAR-23-287 and PAR-23-288: (K99/R00) NCI Pathway to Independent Award for Early-Stage Postdoctoral Researchers. Three unique due dates per year. Expires October 15, 2026

Small Business Transition Grant for Early Career Scientists (R41/R42). New RFA to be published soon.

More information on NCI-specific training initiatives here and on NIH-supported training initiatives here.

IMAT Program Team

Kelly Crotty, PhD
<u>Role</u>: *Co-Director of the IMAT Program*
<u>Office</u>: *Office of the NCI Director, Center for Strategic Scientific Initiatives*
<u>Background & Portfolio</u>:
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 directs the IMAT program and supports the Informatics Technology for Cancer Research (ITCR) program. Kelly also coordinates all communication activities for CSSI and directs the COnsortium of METabolomics Studies (COMETS).

Tony Dickherber, PhD
<u>Role</u>: *Program Director*
<u>Office</u>: *Office of the NCI Director, Center for Strategic Scientific Initiatives*
<u>Background & Portfolio</u>:
Tony is co-chair of NCI's Cancer Moonshot New Technologies Implementation Team, co-director of the Cancer Grand Challenges program, co-leads the NCI Collaborative Foundry, and participates in a number of activities focused on new technology development, especially in the area of liquid biopsy technology.

Anowarul Amin, PhD
<u>Role</u>: *Program Director*
<u>Office</u>: *Division of Cancer Biology, Structural Biology and Molecular Applications Branch*
<u>Background & Portfolio</u>:
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
<u>Role</u>: *Program Director*
<u>Office</u>: *Division of Cancer Biology, Structural Biology and Molecular Applications Branch*
<u>Background & Portfolio</u>:
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.

Hannah Dueck, PhD
<u>Role</u>: *Program Director*
<u>Officer</u>: *Division of Cancer Biology, Biophysics, Bioengineering, and Computational Sciences Branch*
<u>Background & Portfolio</u>:
Hannah Dueck manages a grant portfolio focusing on cancer systems biology, tumor heterogeneity, drug response and resistance, and single-cell biology. She is particularly interested in understanding how tissue homeostasis is maintained and the breakdown of multicellular systems that lead to cancer.

Lokesh Agrawal, PhD
Role: *Program Director*
Office: *Division of Cancer Treatment & Diagnosis, Biorepositories & Biospecimen Research Branch*
Background & Portfolio:
Lokesh 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 and 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. Lokesh is 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
Role: *Program Director*
Office: *Division of Cancer Treatment & 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
Role: *Program Director*
Office: *Division of Cancer Treatment & Diagnosis, Pathology Investigation & Resources Branch*
Background & Portfolio:
Rodrigo Chuaqui is the Program Director leading the Cooperative Human Tissue Network (CHTN). He also participates in the Biospecimen Technology arm of the IMAT Program, with the specific goal of developing new technologies for collection, storage, and processing of human biospecimens for cancer research. He participates in the Pathology slide review for the Clinical Assay Development Program and other Cancer Diagnosis/Frederick projects. Rodrigo is a Member of the International Society for Biological and Environmental and Research (ISBER), part of the Biospecimen Science Working Group.

Yisong Wang, PhD
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.

Asif Rizwan, PhD
Role: *Program Director*
Office: *Division of Cancer Treatment and Diagnosis, Cancer Diagnosis Program*
Background & Portfolio:
Asif Rizwan leverages his rich background in biomedical engineering, biophysics, and systems biology support the development of innovative diagnostic technologies and biomarkers. His focus is on advancing research that utilizes high-dimensional data analysis for improving cancer diagnostics, prognostics, and prediction.

Jung Shin Byun, PhD, MPH
Role: *Program Director*
Office: *Division of Cancer Treatment and Diagnosis, Cancer Diagnosis Program*
Background & Portfolio:
Jung Byun has experience in research aimed at developing biomarkers for cancer detection, diagnosis, and prognosis as well as studies involving pharmacological targeting. She provides support to pertinent cancer research initiatives and contributes to cancer research training within the Diagnostic Biomarker Technology Branch.

Stefanie Nelson, PhD
Role: *Program Director*
Office: *Division of Cancer Control & Population Sciences, Epidemiology and Genomics Research Program*
Background & Portfolio:
Stefanie Nelson is a Program Director in the Genomic Epidemiology Branch of the Epidemiology and Genomics Research Program at NCI. She manages a portfolio of grants that focuses on host factors affecting cancer research. In addition to her work with IMAT, Stefanie is the coordinator for the Breast Cancer Family Registry and a member of Data Strategies Scientific Priority Working Group.

Guillermo Marquez, PhD
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.

Nick Hodges, PhD
Role: *Program Director*
Office: *Division of Cancer Prevention, Cancer Biomarkers Research Group*
Background & Portfolio:
Nick Hodges works in the Cancer Biomarkers Research Group where he is involved in the Early Detection Research Network (EDRN) and the Liquid Biopsy Consortium, an academic/industry partnership program designed to advance and validate liquid biopsy technologies specifically targeted for early stage cancer detection.