National Cancer Institute

INNOVATIVE MOLECULAR ANALYSIS TECHNOLOGIES

The Innovative Molecular Analysis Technologies (IMAT) Program

AACR 2013 Annual Meeting

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U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES
National Institutes of Health

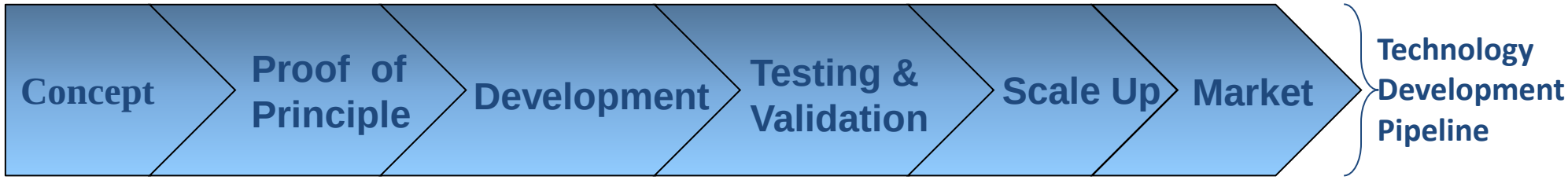
NIH...Turning Discovery into Health

Innovative Molecular Analysis Technologies (IMAT) Program

INNOVATIVE MOLECULAR ANALYSIS TECHNOLOGIES

Program Mission:

To support the development, maturation, and dissemination of novel and potentially transformative next-generation technologies through an approach of balanced but targeted innovation in support of clinical, laboratory, or epidemiological research on cancer.



R21

Exploratory/Pilot phase
Innovative technology/approach
No preliminary data required

R33

Validation/Development phase
Demonstration of transformative utility
Requires proof of feasibility

IMAT credits thus far…

INNOVATIVE MOLECULAR ANALYSIS TECHNOLOGIES

Older

- **ICAT** by Applied Biosystems [2001]
- **Mudpit**, licensed by the Scripps Research Institute [2001]
- **Rolling Circle Amplification**, available from Amersham Biosciences (now GE Healthcare), [2002]
- **Affymetrix GeneChip® CustomSeq®** arrays [2002]
- **Illumina Bead** technology (**BeadChip**, **Beadstation**, and **Sentrix BeadArray**) [2004]
- **Quantum Dots**, purchased by Invitrogen [2005]
- **MELT®** & **RNALater®** by Ambion [2005 and 2008, respectively]

Newer

- **Microfluidic Genetic Analysis** platform, licensed by both Lockheed Martin and MicroLab Diagnostics [2008]
- Raindance® **RDT-1000** (oil nanodroplet technology) [2009]
- **COLD-PCR**, licensed by TransGenomic [2010]
- **TrIP-Chip** Technology, licensed by OceanRidge Biosciences [2010]
- **NanoTrap** Biomarker Discovery Platform, licensed by Shimadzu Scientific [2010]
- **IUVO™** cell isolation platform from Bellbrook Labs, exclusively licensed by ThermoFisher [2012]
- CellASIC **ONIX** microfluidic perfusion system, acquired by EMD-Millipore [2012]

Diversity of IMAT-supported technologies

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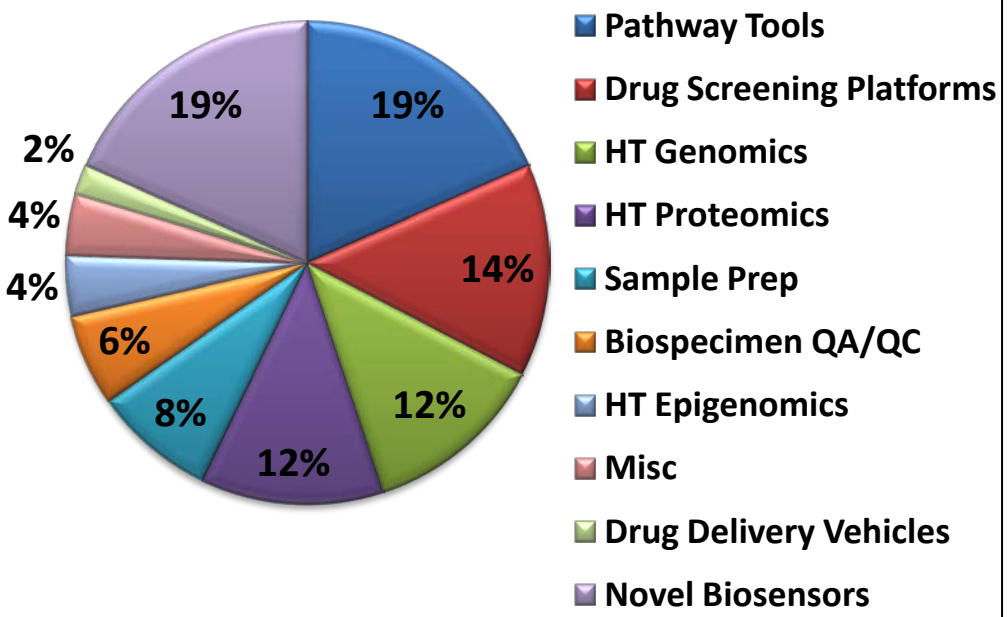
Innovative Technologies for Molecular Analysis of Cancer (R21)

- Proof-of-concept
- Milestone driven (no biology)

Application of Emerging Technologies for Cancer Research (R33)

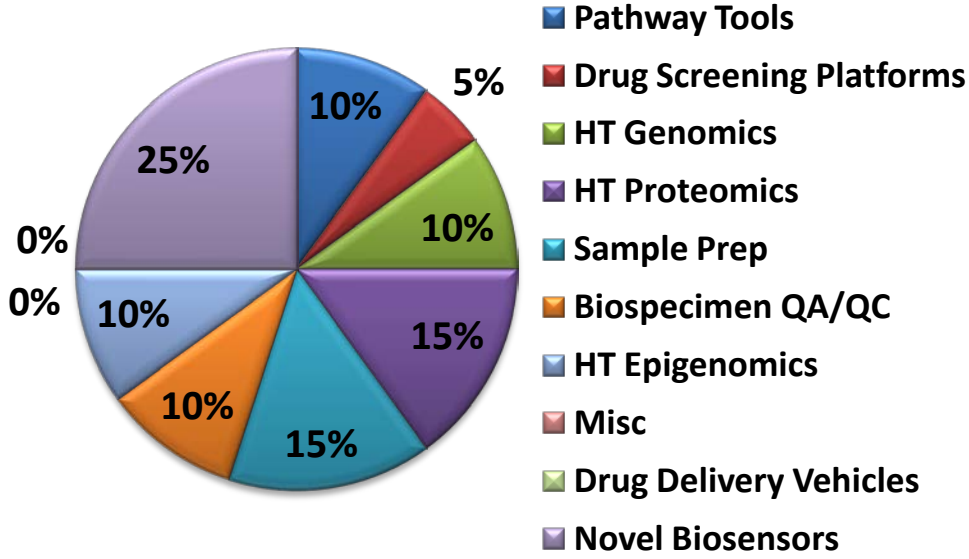
- Validation
- Demonstration of impact on basic and/or clinical research

Current IMAT R21 Portfolio (49 Active Projects)



HT = High throughput

Current IMAT R33 Portfolio (20 Active Projects)



Active IMAT Funding Opportunities

INNOVATIVE MOLECULAR ANALYSIS TECHNOLOGIES

Early-Stage Innovative Molecular Analysis Technology Development for Cancer Research [R21] **RFA-CA13-001**
Advanced Development and Validation of Emerging Molecular Analysis Technologies for Cancer Research [R33] **RFA-CA13-002**
Innovative Technologies for Cancer-Relevant Biospecimen Sciences [R21] **RFA-CA13-003**
Advanced Development and Validation of Emerging Technologies for Cancer-Relevant Biospecimen Sciences [R33] **RFA-CA13-004**

Unique Attributes of IMAT Program

INNOVATIVE MOLECULAR ANALYSIS TECHNOLOGIES

- Emphasis on ***innovative technology with transformative potential*** (*i.e.* high-risk, high-impact)
  - Focus on technology development (*NOT hypothesis-driven research*)
- ***Milestone-based*** applications that *quantitatively* assess the performance capacities of the technology (such as specificity, sensitivity, and speed) and characterize the improvement over state-of-the-art
- 100% ***investigator-initiated*** research grants

Non-responsive applications

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- Projects focused on a biological or clinical hypothesis for which the novelty resides in the biological or clinical question being pursued (i.e. traditional biological-hypothesis driven research);
- Projects that propose to use existing technologies (for which proof of concept has already been obtained) that may be ready for the targeted applications without substantial further developmental efforts;
- Projects that propose to develop only incremental technical advances to existing technologies projects that will have low potential for transforming cancer research;
- Technologies for whole-body or *in vivo* imaging methods;
- Projects involving clinical trials or toxicology studies;
- Projects focused on biomarker discovery or biomarker validation;
- Projects focused on development of specific contrast agents;
- Projects focused on development of specific drugs or therapies;
- Projects focused primarily on software/informatics solutions, database development, data mining, statistical tools, and computational/mathematical modeling (including those applicable to drug and/or patient responses) with the exception of projects which include software development for embedding in new devices or limited amounts of computational efforts as might be needed to develop new devices or methods;
- Applications that may have appropriate scientific scope but do not include the required specific components (Statement of Impact and Quantitative Milestones) will also be considered non-responsive to this FOA and will not be reviewed.

Application Information

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Funding Instrument	R21 & R33 Grants
Application Types Allowed	New Resubmission
Award Budget	R21: Direct costs are limited to $200,000 in any single year, with no more than $500,000 in direct costs over a 3-year period R33: Direct costs are limited to $300,000 per year, and $900,000 in direct costs over a 3-year period. ***Application budgets must reflect actual needs of the proposed project***
Award Project Period	The total project period is allowed for up to, but may not exceed, 3 years for all awards
Letter of Intent Due Date	April 20, 2013; August 20, 2013
Application Due Date(s)	May 20, 2013; September 20, 2013, by 5:00 PM local time of applicant organization.
Earliest Start Date(s)	April 2014; July 2014

Opportunities

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- CSSI:http://cssi.cancer.gov/resources-current_funding.asp
- NCI:http://www.cancer.gov/researchandfunding/funding/announcements
- NIH: http://grants.nih.gov/grants/guide/

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Thank You!

Questions?

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