The NCI Informatics Technology for Cancer Research (ITCR) Program Renewal

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Presentation to BSA & NCAB
December 3, 2024

Motivation for ITCR

- Informatics tools are essential to all areas and aspects of cancer research.
- Evolving needs and trends in cancer research and informatics require ongoing software innovation to keep pace with and enable research priorities.
- Technology development projects require specialized funding opportunity announcements and review, especially at the enhancement and maintenance stages.
- Many software tools are relevant across cancer research areas, requiring a cross-NCI approach to program coordination.

ITCR Program Goals

- Provides focused support for the development of open source computational methods, software tools, and informatics resources that are driven by cancer research needs and can broadly benefit the cancer research community
- Supports the lifecycle of informatics tool development
- Enhances the value of these investments by incentivizing collaborations to enhance functionality and interoperability

ITCR Program Structure

R21: $275k direct over 2 years

10% annual budget set-aside for collaborations to promote adoption and interoperability

U01: $300k direct per year for 3 years

U24: $600k direct per year for 5 years

U24: no cap, up to 5 years

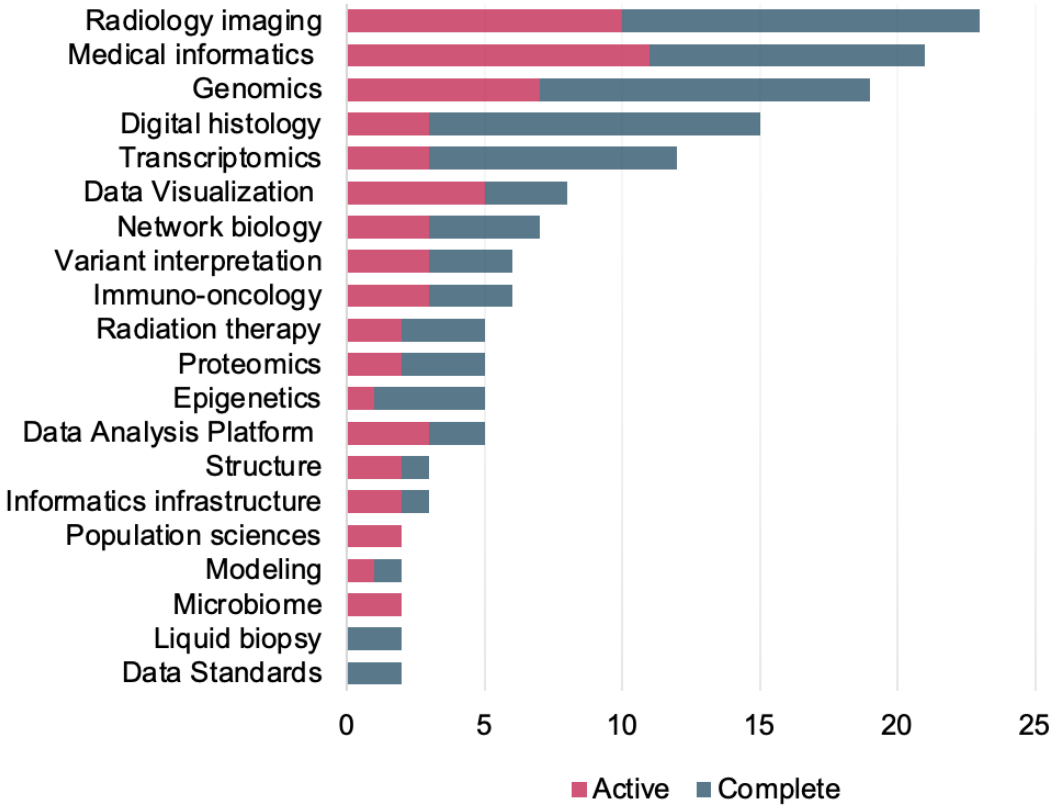
Two receipt dates per year
Clinical Trial Optional

ITCR Program Impact

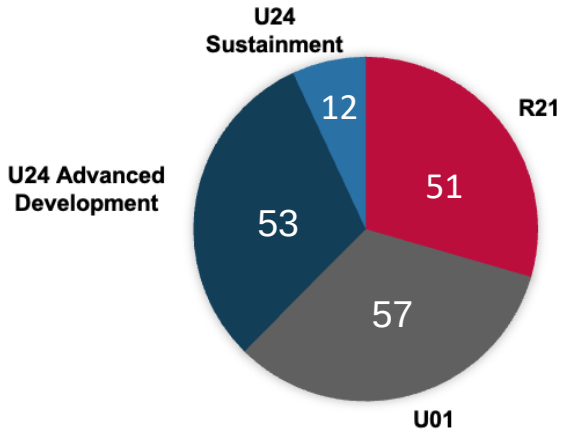
- Support for emerging and widely-used informatics tools
- Supporting advances across the cancer research continuum
- Emphasis on collaboration and interoperability
- Improved adoption and citation of ITCR tools
- Enhanced outreach and training

Tool	Purpose	Usage
cBioPortal	Visualize, explore, and analyze cancer genomics data	>30,000 users/month >86 installations
DepMap	Visualize and analyze cancer dependency data	~11k users/week
pVACtools	Identify and prioritize cancer neoantigens	>100,000 downloads Supporting 11 clinical trials
QIIME-2	Microbiome bioinformatics and data science platform	>46,000 citations
Galaxy	Scientific workflow platform	>500,000 registered users
ARCHS4	Provides access to uniformly-processed RNA-seq data	>50,000 unique users monthly
XNAT	Extensible imaging informatics platform	Installed at >200 institutions
XCIST	X-ray/CT simulation toolkit for cancer imaging and dosimetry research	>500 users

ITCR Funded Projects, though FY24



Distribution by mechanism



Summary: Evaluation Panel Feedback

- ITCR has been crucial to the cancer informatics ecosystem and should continue to be supported
- Emphasize emerging technologies to keep pace with advances in cancer research
- Advance areas under-represented in the portfolio through outreach and programmatic judgement
- Examine the alignment of the R21 with program goals
- Explore approaches to increase engagement of ITCR teams with education and training opportunities

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Continue RFAs as Clinical Trial Optional
2 receipt dates/year

- *Strongly emphasize the innovation priority for the R21*
- *Balance early and late stage development funding through program team prioritization*
- *Administrative supplements to funded investigators for cancer informatics courses and workshops*

Proposed budget for renewal, new awards

	DC per award per year	Est. awards per year	Year 1 total cost
R21	$137,500	6	$1.20 M
U01	$300,000	5	$2.25 M
U24 Advanced Dev	$600,000	3	$2.70 M
U24 Sustainment	$600,000	2	$1.80 M
Training supplements	$10k - $50k	7-10	$0.40 M
		TOTAL	**$8.35 M**

Request reissuances for funding in FY26, FY27, FY28

BSA Subcommittee

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ITCR Program Team


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