

CI4CC Spring Workshop: The role of Academic Technology Development in Cancer Research

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What is ITCR?

A trans-NCI program to support investigator-initiated informatics technology development driven by critical needs in cancer research.

- Flexible and sustainable support for different stages of development
- Promote cross-program communication and collaboration

<http://itcr.cancer.gov>

ITCR Funding

Algorithm Development

Prototyping & Hardening

Enhancement & Dissemination

Sustainment

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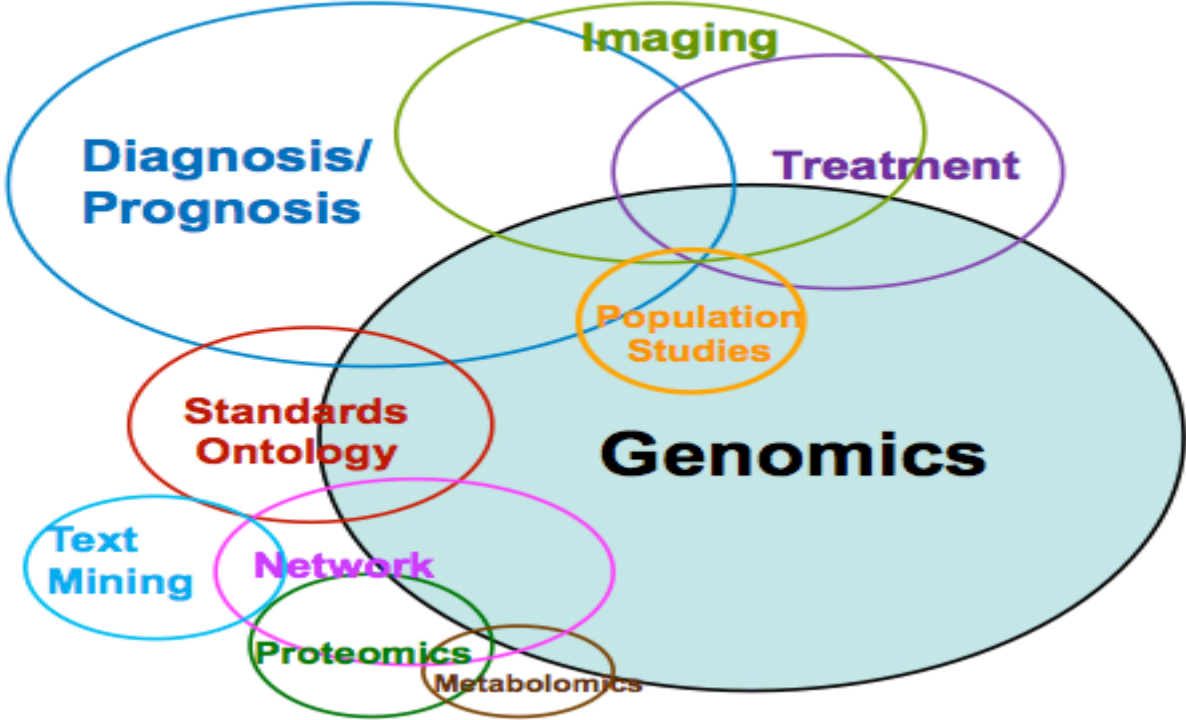
Can for-profit entities apply for funding?

Yes! Commercial organizations can submit proposals

Do I have to share source code developed previously with other sources of funding?

No! Only code developed with ITCR support is expected to be released.

Domains of Research Supported through ITCR



Informatics Tools

29 tools supporting OMICS, imaging, network biology, and clinical research

Tool Name(s)	Category	Tool Description	Relevant Links
3D Slicer	Imaging	3D Slicer is the free open source software for medical image visualization and analysis.	Code Repository Project Info
Apache Clinical Text and Knowledge Extraction System (cTAKES)	Clinical	The tool extracts deep phenotypic information from the clinical narrative at the document-, episode-, and patient-level. The final output is FHIR compliant patient-level phenotypic summary which can be consumed by research warehouses or the DeepPhe native visualization tool.	Code Repository Project Info
Bioconductor	OMICS	Bioconductor provides tools for the analysis and comprehension of high-throughput genomic data. R/Bioconductor will be enhanced to meet the increasing complexity of multiassay cancer	Code Repository Project Info
C-BIBOP	Imaging	C-BIBOP is a cloud based platform for algorithm comparisons. C-BIBOP challenges and benchmarks and to share algorithm.	
Cancer-Related Analysis of Variants Toolkit (CRAVAT)	OMICS	CRAVAT is an easy to use web-based cancer variants (missense, nons frameshift indel, splice site). CRAVAT provides a variety of annotations that assist in identifying important variants.	
Cancer Slide Digital Archive (CDSA)	Imaging	The CDSA is a web-based platform for sharing, management and analysis of pathology images. The Emory Instance currently hosts images from The Cancer Genome Atlas. The CDSA is being developed within the IT infrastructure of the National Cancer Institute as a digital pathology platform for other Institutes.	



Featured ITCR Tool



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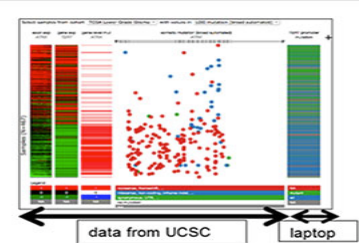
Featured ITCR Tool



UC Santa Cruz Xena

Securely integrate and visualize your private functional genomics data with data from large consortiums such as TCGA and ICGC. Xena is also integrated with Galaxy, allowing access to a myriad of bioinformatics tools.

Click on the image to learn more about Xena



Workshop motivation from ITCR: 2 parts

Public-private partnership

Both commercial and academic technology play an important role in cancer research. What are the interfaces between commercial and academic technologies?

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Technology dissemination

Users from different backgrounds have different needs. How do we reach and support these different groups of users?

Workshop Goals

Open discussion of ...

- technology development
- reaching potential new users from various communities
- user support
- funding models
- open source development
- why and how academic technology transitions into the commercial space

Workshop Structure

Three sessions: Academic, Stakeholders and User perspectives

- Each talk will be 15 min
- Limit questions after each talk so that we leave time for
- ... the panel discussion, which will conclude each session

