

Oct 10, Special Extended CBIIT Speaker Series Session: Presentations of Three Genomic Analysis Tools from the ITCR Program



This special 90-minute session of the CBIIT Speaker Series will feature demos of three tools that were developed through funding by the Informatics Technology for Cancer Research (ITCR) Program.

- Jim Robinson from UCSD and Helga Thorvaldsdottir from the Broad Institute will present the **Integrative Genomics Viewer**
- Mary Goldman from UC Santa Cruz will present the **Xena Functional Genomics Browser**
- Alexander Krasnitz from Cold Spring Harbor Lab will present the **Single Cell Genome Viewer**

Session details...

BIOS:

Jim Robinson is a Principal Software Engineer at the University of California, San Diego. His work over the past 20 years has focused on the design and development of bioinformatics and visualization software for researchers and clinicians in the biomedical community. Jim has been the architect and lead developer of the Integrative Genomics Viewer (IGV) since its inception.

Helga Thorvaldsdottir is a Software Engineering Manager at the Broad Institute. Helga holds an M.S. in Computer Science from the University of North Carolina at Chapel Hill, where she focused on interactive 3D computer graphics. After a decade developing computer graphics software for hardware companies in Silicon Valley, Helga turned her attention to software development for biomedical researchers, first at Iceland Genomics Corporation and then the Broad Institute. Helga has been a key member of the team that develops the Integrative Genomics Viewer (IGV) since before its initial release in 2008.

Mary Goldman has been working in genomics for eight years, both for the UCSC Genome Browser and the UCSC Cancer Research Group. She currently focuses primarily on UCSC Xena (<http://xena.ucsc.edu>), a visual integration and exploration tool for multi-omic data and associated clinical and phenotypic annotations. Mary engages with researchers of all skill levels through workshops, presentations, papers, posters, social media and more. She also led the user design efforts, including user testing, prototyping, and feedback.

Alexander Krasnitz and colleagues develop mathematical and statistical tools to investigate population structure of cells comprising a malignant tumor and to reconstruct evolutionary processes leading up to that structure. These tools are designed to make optimal use of emerging molecular technologies, chief among them high-throughput genomic profiling of multiple individual cells harvested from a tumor. By analyzing these profiles, Krasnitz derives novel molecular measures of malignancy, such as the number of aggressive clones in a tumor, the invasive capacity of each clone and the amount of cancer-related genetic alteration sustained by clonal cells. Krasnitz and colleagues collaborate closely with clinical oncologists to explore the utility of such measures for earlier detection of cancer, more accurate patient outcome prediction and risk assessment, and better-informed choice of treatment options.


SUMMARY:

Topics/Speakers:

- Integrative Genomics Viewer — Jim Robinson, University of California, San Diego and Helga Thorvaldsdottir, Broad Institute, UC San Diego
- UCSC Xena — Mary Goldman, UC Santa Cruz, Design & Usability Engineer, Xena
- Single Cell Genome Viewer — Alexander Krasnitz, Ph.D., Associate Professor, Cold Spring Harbor National Lab

Date: Wednesday, October 10, 2018

You are invited to listen to all speaker presentations in the NCI Shady Grove Building on Medical Center Drive or via WebEx. **All speakers will present remotely via WebEx.**

Presentation: A screencast of the presentation will be available for viewing after the event on the [NCI CBIIT Speaker Series YouTube Playlist](#) 

About the NCI CBIIT Speaker Series:

The National Cancer Institute (NCI) Center for Biomedical Informatics and Information Technology (CBIIT) Speaker Series presents talks from innovators in the research and informatics communities. The biweekly presentations allow thought leaders to share their work and discuss trends across a diverse set of domains and interests. The goals of the Speaker Series are: to share leading-edge research; to inform the community of new tools, trends, and ideas; to inspire innovation, and to provide a forum from which new collaborations can begin. For additional information, including past speaker series presentations, visit the [CBIIT Speaker Series page](#).

Individuals with disabilities who need reasonable accommodation to participate in this program should contact the Office of Space and Facilities Management (OSFM) at 240-276-5900 or the Federal TTY Relay number 1-800-877-8339.

