July 10: Dr. S. George Djorgovski, Big Data Science in the 21st Century: Lessons and Experiences from Astronomy

SYNOPSIS:

Astronomy, like most other sciences, has become immensely data-rich. The exponential growth of data volumes, data rates, and data complexity continues. Efficient extraction of knowledge from these massive and complex data sets and data streams poses significant new challenges, many of which are common among different sciences. Their solutions are expanding on the scientific method and toolkit. In astronomy, this transformation started with the first modern digital sky surveys in the mid-1990s, which gave rise to the Virtual Observatory (VO) framework. This framework envisioned a complete and distributed environment for astronomy with massive, complex data sets. Today, VO is effectively a global data grid of astronomy, but the astroinformatics community is still struggling with the tools for an efficient knowledge discovery. This presentation will briefly review some of the lessons learned, including successes and remaining challenges. The emergence of a bridge discipline of astroinformatics — analogous to medical or bioinformatics — as a broader intellectual and technological environment for the more data-driven science and scholarship in the 21st century will be addressed.

Session details...

BIO:

S. George Djorgovski is an Astronomy Professor at the California Institute of Technology (Caltech). After getting his Ph.D. from U.C. Berkeley, he was a Harvard Junior Fellow before joining the Caltech faculty in 1987. Dr. Dyorgovski has received numerous professional recognitions and awards, including the Alfred P. Sloan Fellowship and the Presidential Young Investigator Award. He is currently the author and co-author of several hundred scientific publications, covering the fields of astrophysics, cosmology, and computational science. Dr. Djorgovski was one of the co-founders of the Virtual Observatory framework, and chaired the National Virtual Observatory Science Definition Team. More recently, he fostered a development of the emerging discipline of astroinformatics. His current interests are largely in the areas of data-intensive and computationally enabled science, and the common challenges and methodological aspects that are pertinent to all scientific disciplines in the era of an exponential data growth.

SUMMARY:

Topic: Big Data Science in the 21st Century: Lessons and Experiences from Astronomy

Speaker: Dr. S. George Djorgovski

Date: Wednesday, July 10, 2013

Time: 11 AM – 12 PM

You are invited to watch Dr. Djorgovski's presentation via WebEx at 2W908 (West side) Training Room in the NCI Shady Grove Building on Medical Center Drive or from your location:

Presentation: A screen cast of the presentation will be available for viewing after the event here on our Speaker Series Videos page and on the NCI's 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 is a bi-weekly knowledge-sharing forum featuring both internal and external speakers on topics of interest to the biomedical informatics and research communities. For additional information, including past speaker series presentations, visit the CBIIT Speaker Series page.

Questions? Please email us at NCICBIITcomms@mail.nih.gov .

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.