

DEPARTMENT OF COMPUTER SCIENCE
University of Houston
SEMINAR SPRING 2013

WHEN: MONDAY, FEBRUARY 18, 2013
WHERE: PGH 232
TIME: 11:00 AM

This seminar is mandatory for PhD students to attend.

SPEAKER: Dr. Yuriy Fofanov, University of Houston

Host: Dr. Christoph Eick

TITLE: High Throughput Sequencing and Analysis of Complex Clinical and Environmental Samples: Bioinformatics Challenges

ABSTRACT: Recently developed high throughput sequencing (HTS) platforms such as Illumina (MiSeq and HiSeq 2000) Ion Torrent (Proton 1 and 2) and SOLiD (5500 Series Genetic Analysis Systems) allow us to produce up to 2.5 billion relatively short (100-300 nucleotides long) genomic sequences (called reads) in a single experiment. The estimated quantity of raw nucleic acid sequencing data, generated over the past four years (2008-2012), is greater than 10,000,000 Tb and has doubled every 6 months. New technologies (such as nano-pore sequencing instruments) which are expected to become available over next few years will increase our abilities to generate sequencing data by at least three orders of magnitude. This talk will focus on the challenges associated with use of HTS data in variety of biomedical applications.

BIO: Dr. Yuriy Fofanov specializes in research areas of Bioinformatics, Applied Statistics, Mathematical Modeling and Information Theory. He is a reviewer for: Biophysical Journal; IEEE transactions on Biomedical Engineering; Analytical and Bioanalytical Chemistry; Biotechnology and Applied Biochemistry.

Dr. Fofanov's current memberships include: W.M. Keck Center for Computational Biology; Society for Mathematical Biology; American Association for the Advancement of Science (AAAS). His government/industry services include: NSF panel member; Biological Databases and Informatics; Biological Informatics Postdoctoral Fellowship; Pennsylvania Department of Health panel member; Bioinformatics and Infectious Diseases; Bioinformatics and Cancer.

Dr. Fofanov teaches Graduate courses: Bioinformatics, Advanced Bioinformatics, Introduction to Structured Programming and Analysis and Data Structures and Algorithms; and Undergraduate course: Programming Languages and Compilers.