

# CIS Distinguished Speaker Series

**Joel Saltz MD, Ph.D.**

Cherith Professor  
and Founding Chair,  
Biomedical Informatics,  
Stony Brook University

**February 17, 2015**

Time: 10:30am - 12:00pm Place: Trabant Theater  
A light refreshment will be served at 9:30AM in Smith Hall 102A -  
All students are invited.

## **Integrative Multi-scale Analysis in Biomedical Informatics**

**Abstract:** Integrative analyses of large scale spatio-temporal datasets play increasingly important roles in many areas of science and engineering. The recent work in this area by Dr. Saltz and team is motivated by application scenarios involving complementary digital microscopy, radiology and "omic" analyses in cancer research. In these scenarios, the objective is to use a coordinated set of image analysis, feature extraction and machine learning methods to predict disease progression and to aid in targeting new therapies. Dr. Saltz will describe methods his group has developed for extraction, management, and analysis of features along with the systems software methods for optimizing execution on high end CPU/GPU platforms. He will also describe biomedical results obtained from these studies along with extensions of the computational methods to broader application areas.

**Bio:** Joel Saltz MD, PhD, is the Cherith Professor and Founding Chair of the Department of Biomedical Informatics at Stony Brook University. He also the Vice President for Clinical Informatics for Stony Brook Medicine and Associate Director of the Stony Brook University Cancer Center. Dr. Saltz is a leader in research on advanced information technologies for large scale data analytics and biomedical and scientific research. He has developed innovative clinical informatics systems including the first published whole slide virtual microscope system and leading edge clinical data warehouse frameworks. He has spearheaded several multi-disciplinary efforts creating cutting-edge tools and middleware components for the management, analysis, and integration of heterogeneous biomedical data. Dr. Saltz broke new ground with middleware systems that target distributed and high-end systems including the filter-stream based DataCutter system, the map-

reduce style Active Data Repository and the inspector-executor runtime compiler framework. Dr. Saltz served at Emory from 2008 until joining Stony Brook in 2013. At Emory he was founding Chair of the Department of Biomedical Informatics; Professor in the School of Medicine, Department of Pathology and Laboratory Medicine; the College of Arts and Sciences, Department of Mathematics and Computer Science; and the School of Public Health, Department of Biostatistics and Bioinformatics. From 2001 to 2008, Dr. Saltz served as Professor and Founding Chair of the Department of Biomedical Informatics at The Ohio State University College of Medicine. He was also Associate Vice President for Health Sciences for Informatics, and he played important leadership roles in the Cancer Center, Heart Institute and Department of Pathology. Dr. Saltz received his Bachelors and Masters of Science degrees in Mathematics at the University of Michigan and then entered the MD/PhD program at Duke University, with his PhD studies performed in the Department of Computer Sciences. He began his academic career in Computer Science at Yale, the Institute for Computer Applications in Science and Engineering at NASA Langley and the University of Maryland College Park. He completed his residency in Clinical Pathology at Johns Hopkins School of Medicine and served as Professor with a dual appointment at the University of Maryland and Johns Hopkins, serving in the University of Maryland Department of Computer Science and Institute for Advanced Computer Studies, and the Johns Hopkins Department of Pathology. Dr. Saltz is a fellow of the American College of Medical Informatics.

**Contact:** If you want to meet Dr. Saltz, please contact M. Taufer at [taufer@udel.edu](mailto:taufer@udel.edu).