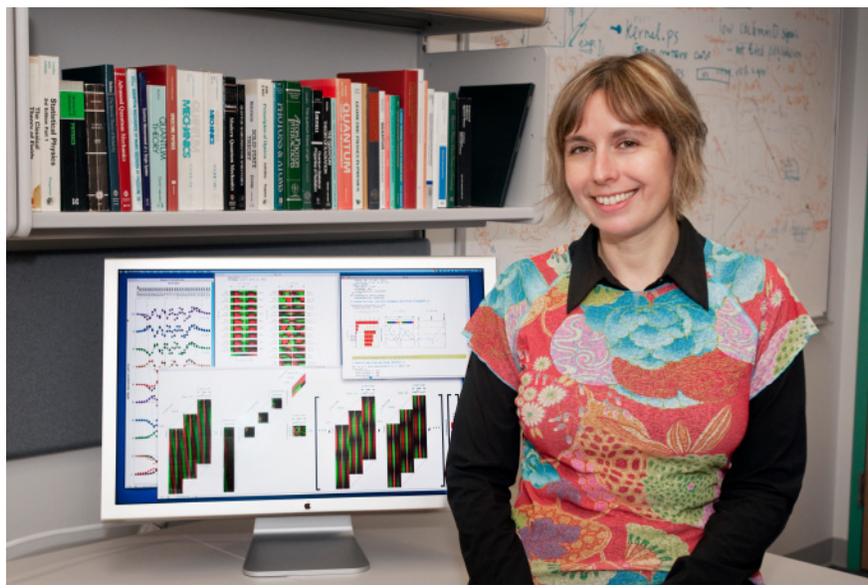


## Orly Alter Joins the Scientific Computing and Imaging Institute as a USTAR Associate Professor of Bioengineering

Orly Alter has joined the University of Utah's Scientific Computing and Imaging (SCI) Institute as a USTAR Associate Professor of Bioengineering. The SCI Institute focuses on solving important problems in biomedicine, science, and engineering using computation and is an international research leader in the areas of scientific computing, visualization, and image analysis.



believes that future discovery and control in biology and medicine will come from the mathematical modeling of these data, just as Kepler discovered the laws of planetary motion by using mathematics to describe trends in astronomical data.

In her research, Dr. Alter develops matrix and tensor computations in order to create models from large-scale molecular biological data,

The Utah Science Technology and Research initiative (USTAR) is a long-term, state-funded investment to strengthen Utah's "knowledge economy" and generate high-paying jobs. Funded in March 2006 by the State Legislature, USTAR is based on three program areas. The first area involves funding for strategic investments at the University of Utah and Utah State University to recruit world-class researchers. The second area is to build state-of-the-art interdisciplinary facilities at these institutions for the innovation teams. The third program area involves teams that work with companies and entrepreneurs across the State to promote science, innovation, and commercialization activities.

Dr. Alter joins the SCI Institute from the University of Texas at Austin, where she was an Assistant Professor of Biomedical Engineering and a Fellow of the Institute for Cellular and Molecular Biology since 2004. She was awarded an NSF

CAREER Award in 2009, and a National Human Genome Research Institute (NHGRI) R01 grant in 2007. Additional support for her work comes from the American Institute of Mathematics and Cancer Research UK. In 2005, Dr. Alter was selected to give the Linear Algebra and its Applications Lecture of the International Linear Algebra Society. She received an NHGRI Individual Mentored Research Scientist Development Award in 2000. Dr. Alter received her Ph.D. in Applied Physics at Stanford University in 1999. From 1999 to 2003, she was a Sloan Foundation and DOE Postdoctoral Fellow in the Department of Genetics at Stanford University.

Current research in Dr. Alter's Genomic Signal Processing Lab is motivated by recently developed high-throughput technologies, such as DNA microarrays, that make it possible to record the complete genomic signals that guide the progression of cellular processes. She

integrating and comparing data from different studies of cell division and cancer. Recent experimental results have verified her computational predictions, demonstrating for the first time that mathematical modeling of DNA microarray data can be used to identify previously unknown cellular mechanisms. Dr. Alter's research is cited in hundreds of publications, patents and textbooks, and is part of the academic curriculum at schools of engineering, natural sciences and medicine.

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