

The David L. Weaver Endowed Lectures in Biophysics and Computational Biology

The University of California, Davis Genome Center
Presents



Professor Cheryl Arrowsmith

University of Toronto
Structural Genomics Consortium

"Structural and Chemical Biology of Epigenetic Regulators"

Dr. Arrowsmith's lecture will discuss how histone modifications play an important role in the regulation of eukaryotic chromatin structure and gene expression. We are taking a protein family approach to understand how human protein domains and enzymes recognize specific histone tail sequences and their posttranslational modifications. Systematic structural and biochemical analyses are revealing key features of selectivity and regulation among these factors. Using a variety of biophysical techniques together with structural studies, we are beginning to understand the mechanisms of binding selectivity for these proteins. In order to link biochemical activity of these domains with biological function, we are developing "chemical probes" to assess the cellular function of individual protein targets. Using a systematic approach, guided by structure and aided by the availability of multiple proteins within each family, we are developing potent, selective, cell permeable compounds that inhibit protein activity. Application of such tool compounds for elucidating function of methyllysine binding domains and histone methyltransferases will be presented.

Dr. Arrowsmith is a Senior Scientist at the Ontario Cancer Institute and Professor in the Department of Medical Biophysics and the Banting and Best Department of Medical Research at the University of Toronto, where she holds a Canada Research Chair in Structural Genomics. She received a Ph.D. in chemistry from the University of Toronto and carried out postdoctoral research at Stanford University in the area of protein NMR spectroscopy. Her research focuses on the use of structural biology methods for understanding the structure-function relationships of proteins and their role in cancer. She is the Chief Scientist of the Toronto Node of the Structural Genomics Consortium (SGC), a European-Canadian public-private partnership that seeks to determine hundreds of 3D structures of medically relevant human proteins and place the information in public databases for use in structure guided drug design.

Tuesday, April 24, 2012

4:00PM - 5:00PM

1005 GBSF

Reception to follow

The lecture is free and open to the community. The series honors the memory of David L. Weaver, a distinguished biophysicist and professor at Tufts University for whom the endowment was established in 2006. Its objective is to bring prominent scientists to UC Davis whose original research has been widely recognized as having a major impact in the fields of Biophysics and Computational Biology.

Please telephone (530) 754-9648 or see <http://genomics.ucdavis.edu> for further information