

UCD Computer Science Seminar

November 10, 11:00 am at NC 1533

3R Systems for Biomedical Discovery Acceleration

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Abstract: The profusion of high-throughput instruments and the explosion of new results in the scientific literature, particularly in molecular biomedicine, are both a blessing and a curse to the bench researcher. Even knowledgeable and experienced scientists can benefit from computational tools that help navigate this vast and rapidly evolving terrain. However, effective design and implementation of computational tools that genuinely facilitate the generation of novel and significant scientific insights remains poorly understood. In this talk, I will describe a set of efforts that combines natural language processing for information extraction, graphical network models for semantic data integration, and some novel user interface approaches into a system that has recently played a pivotal role in making a significant biomedical discovery.

Short bio: Dr. Lawrence Hunter is the Director of the Computational Bioscience Program and of the Center for Computational Pharmacology at the University of Colorado Denver School of Medicine, and an Associate Professor in the departments of Pharmacology, Computer Science (Boulder), and Preventive Medicine and Biometrics. He received his Ph.D. in computer science from Yale University in 1989, and then spent more than 10 years at the National Institutes of Health, ending as the Chief of the Molecular Statistics and Bioinformatics Section at the National Cancer Institute. He inaugurated two of the most important academic bioinformatics conferences, ISMB and PSB, and was the founding President of the International Society for Computational Biology. Dr. Hunter's research interests span a wide range of areas, from cognitive science to rational drug design. His primary focus recently has been the integration of natural language processing, knowledge representation and machine learning techniques and their application to interpreting data generated by high throughput molecular biology.