NJIT | INSTITUTE FOR DATA SCIENCE

Data Science Seminar Series

Building Community Resources for Structural Biology

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Date: Wednesday, December 2nd, 2020
Time: 4:00 PM – 5:00 PM EST
Location: Zoom Virtual Room
Web Link: https://njit-institute-for-data-science.eventbrite.com

The Protein Data Bank (PDB) grew from a small data resource for crystallographers to a worldwide resource serving all of structural biology. The roles played by science, technology and community in creating the PDB will be described followed by a discussion of how the wwPDB is now meeting the challenges of archiving very complex structures determined by multiple biophysical methods.

A key focus of my work has been the development and management of resources containing information about biological macromolecules. I was a co-founder of the Protein Data Bank in 1971, the Director of the Research Collaboratory for Structural Bioinformatics (RCSB) - Protein Data Bank (PDB) until 2014 and a founding member of the Worldwide Protein Data Bank (wwPDB) in 2003. Other biological data management projects include EMDataResource, a global resource for cryo-electron microscopy map, model and associated metadata, and the Nucleic Acid Database, a resource for nucleic acid structural information. Currently I am involved in developing methods for archiving structural models that have been derived using integrative methods.
In addition to developing these data resources, I have led structural and computational studies of nucleic acids, protein-nucleic acid complexes, and collagen.
Most recently, I am working on ways to use film and digital arts to communicate to a broader audience about the importance of structural biology in medicine and health. I was the Executive Producer of *Target Zero* - a documentary about HIV prevention and am now co-leading a project to create a virtual reality experience of the *World in a Cell.*