Over the past few years, the open-source web applet Jmol (http://jmol.sourceforge.net) has become the principal means of communicating molecular structure over the web in an interactive 3D manner. In this presentation the speaker will introduce the problem -- efficient web-based delivery of complex 3D information, including surfaces, in a highly interactive and generally accessible format -- and discuss some of the accomplishments made in areas such as chemistry, molecular biology, crystallography, mineralogy, material science, and mathematics. The speaker will show how the combination of a vibrant user community and a dedicated scientist/programmer/educator team can work together to provide novel solutions to difficult communication/visualization challenges. This presentation will get workshop participants thinking about how the lessons learned -- or even the Jmol applet itself -- might be applicable to their own areas of interest.

Bio

Robert M. Hanson is a professor of chemistry at St. Olaf College, in Northfield, Minnesota. He is the principal developer of the open-source Jmol applet and Project Director for the Jmol Molecular Visualization Project. Over the course of the past five years, Hanson has been integral in the transformation of Jmol into a powerful web-based visualization and analysis tool used by a broad interdisciplinary community of scientists and educators, including mathematicians, physicists, biologists, chemists, crystallographers, and materials scientists representing the full range of activity from K-12 education to Ph.D. level research. In collaboration with the Nanobiotechnology Center at Cornell University, Hanson has designed a Jmol-based exhibit for the Epcot theme park in Orlando, Florida called Touch a Molecule, which opened February, 2010, and is expected to have approximately 3,000,000 interactive visitors.