Development of Standards-Based Geospatial Applications at EDAC – Perspective from 10 Years of Evolution

UNM’s Earth Data Analysis Center, founded as a NASA technology transfer center in 1964, has a current focus on applied geospatial technologies and data in general. During the past 10 years, EDAC’s work in the development of web-based geospatial applications, which began within ESRI's online mapping toolkit, evolved into a tiered model based on open interoperability standards that allow for a logical separation between geospatial data storage and geospatial data services.

Dr. Benedict has worked since 1986 in parallel tracks of geospatial information technology and archaeology. He is the Director of the Earth Data Analysis Center at the University of New Mexico (UNM), and is a Research Assistant Professor in UNM’s Department of Geography.

Computation in Materials Research:
from Interpretation to Prediction

Increased computer speed and new algorithms have advanced computational materials research from a means to merely interpret experimental data to a tool for the design and discovery of novel materials. Examples illustrating this evolution will be presented that include the explanation of anomalous thermo-mechanical properties of network glasses and the development of a numerical framework for the rapid screening of organic semiconductor molecules in view of identifying the most promising candidates for photovoltaic or solid state lighting applications, before these are synthesized and tested in the laboratory.

Dr. Kieffer is a Professor of the Department of Materials Science and Engineering of the University of Michigan. His research focuses on materials for photonics, dielectrics, and structural mechanical applications.