

## NM SMART Grid Center Webinar Series

### **High Performance Computing & Data Management for NM SMART Grid Center-Related Research**

Diana Dugas, New Mexico State University

Karl Benedict, University of New Mexico

*Date of Webinar:* Wednesday, February 26, 2020

*Time:* Noon – 1:00 PM MT

#### **Abstract**

***High Performance Computing (HPC) Presentation:*** This presentation will cover how to access high performance computing resources for your work in the NM SMART Grid Center, including NMSU's Discovery Cluster, UNM's CARC resources, and regional/national HPC resources such as Summit (CU Boulder) and XSEDE. All NM SMART Grid Center team members have priority access to 4 GPU nodes and 2 x 3TB nodes at NMSU, and data storage. The presentation will cover how Supercomputing resources can be used for research, how to set up an account to access Discovery resources, and scheduling.

***Data Management presentation:*** The NM SMART Grid Center project will produce and acquire diverse datasets over the course of the project in support of the individual and integrated research activities. Maximizing the value and impact of these data is one of the objectives of the cyberinfrastructure component of the Center. Achieving this goal requires the following: 1) ensuring that data acquisition and creation is well documented and ensures that data maintain integrity and remain accessible throughout the project; 2) that data are managed within environments that lower the barriers to integration and use within diverse computational environments, including HPC; 3) that the transition of data from active research use into long-term preservation and sharing platforms is as efficient as possible and result in the preservation of all appropriate project data, and appropriate sharing of research data in compliance with the project's data management plan. In this webinar, Dr. Benedict will describe the project's data management requirements as documented in our data management plan, highlight infrastructure to support meeting these requirements, and outline the technical support and training opportunities that are available to enable the research components to most efficiently acquire, manage, analyze, document, share, and preserve the data that they are using in support of their research objectives.

#### **Speaker Bios**



**Diana Dugas** is New Mexico State University's (NMSU's) CyberInfrastructure Architect and a trained plant geneticist, who shifted into bioinformatics. She has used various HPC/HTCs (High Performance Computer/High Throughput Computer), specifically Stampede and Bridges, both XSEDE resources. She is also an XSEDE Campus Champion. Her mission is to bring more attention and resources to the need for computational support for researchers at NMSU and the NM SMART Grid Center. She helps researchers decrease technological and computational boundaries in their research by improving access to both local and national HPC/HTCs, support granting activities, and being a general resource for campus researchers. She has a PhD from Rice University.



**Karl Benedict** is the Director of Research Services and Information Technology in the College of University Libraries and Learning Sciences at the University of New Mexico. He has over 30-years of experience developing data management systems, databases, online data discovery and access systems, and performing/supporting data intensive research in diverse disciplinary contexts including archaeology, disaster planning and mitigation, hydrologic and atmospheric modeling, and public health. His primary work and research interests are in the area of developing technical and human capacity for effective data management in support of analysis, visualization, collaboration and preservation.