ND EPSCOR – Training the Workforce for the 21st Century

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Lead Institution Name:	North Dakota State University
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What is the outcome or accomplishment?

Four graduate students were involved in a Cyberinfrastructure Graduate Assistantship pilot program. The program had two foci: 1) aid the students' research by providing them additional opportunities in advanced computer technologies, and 2) provide advanced computing learning opportunities/assistance to researchers at the primarily undergraduate institutions, tribal colleges, and master's college/university.

What is the impact?

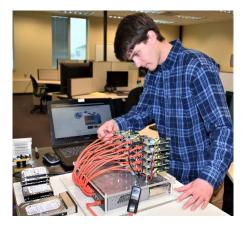
As research becomes more complex, and data sets grow in size, researchers need advanced computing tools, but many lack background and/or do not know where to begin. These four graduate students used their expanded knowledge of HPC to teach others across the state about the research benefits of HPC.



What explanation/background does the lay reader need to understand the significance of this outcome?

The graduate students were able to successfully use their expanded HPC skills to enable their own research. Each student was able to illustrate some aspect/program of HPC that was useful in their research, and to provide tutorials on how to use HPC. But more importantly, they became role models for other students and faculty who may not have considered using HPC in research.

As a collaborative effort, three students (the fourth was hired by a local business) developed a tutorial on why HPC may be helpful in research efforts, gave examples of useful



programs, and explained how to access the HPC centers (NDSU and UND) from any campus across the state. The tutorials were presented in person at the request of one tribal college, one primarily undergraduate institution, and one research university. In addition, they presented via web meeting to the EMPOWERED-ND committee, informing representatives from all Track-1 campuses (https://youtu.be/wr8FIH-y2TA).



(Footnote on photos: Top, Jingyan Fu, Electrical and Computer Engineering; Center, Jonathon Edstrom, Electrical and Computer Engineering; Bottom, Russell Hofmann, Chemistry and Biochemistry)