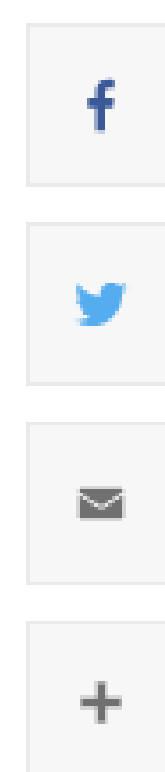


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NSF grant aims to optimize future cyberinfrastructure

October 29, 2021



Researchers at the Cornell University Center for Advanced Computing ([CAC](#)), Texas Tech University, and Indiana University are engaged in a \$298,000 NSF-funded EAGER grant designed to optimize future cyberinfrastructure projects.

For the past 10 years, the largest single cyberinfrastructure support and coordination activity funded by the NSF has been XSEDE – the eXtreme Science and Engineering Discovery Environment. The researchers will interview XSEDE staff and leadership before the project sunsets on August 31, 2022 to obtain, preserve, and disseminate insights into what made XSEDE successful and what could be improved in future large-scale cyberinfrastructure projects.

The grant is led by Richard Knepper, CAC deputy director and social network analysis researcher, and co-PIs Kerk Kee, an organizational communication researcher at Texas Tech University, and Winona Snapp-Childs, chief operating officer of the Indiana University Pervasive Technology Institute (IUPTI). Craig Stewart, who previously led the IUPTI and whose research includes studies in sustainability and return on investment in cyberinfrastructure, and IU's Harmony Jankowski round out the research team.

“This is a unique, one-time opportunity to capture how relationships between people and their functions drive scientific and cyberinfrastructure organizations forward or impede their progress,” says Knepper. “As the XSEDE project sunsets, participants are more likely to share frank insights that can help the NSF enhance the design, functions, and especially the personal relationships that are essential to the success of large-scale cyberinfrastructure and scientific organizations.”

The researchers will use the Actor-Network Theory (ANT) to discern the sociology of the XSEDE project. ANT has been used widely in studies of cyberinfrastructure organizations to explore network formation, organizational funding, recruitment, attention to stakeholder needs, and return on federal investment.

“The results of this study will increase the extent to which structure, leadership, and management of large cyberinfrastructure projects may be based on sound sociological science,” says Snapp-Childs.

Lessons learned will be disseminated in a final report and shared at national and international conferences.

The eXtreme Science and Engineering Discovery Environment ([XSEDE](#)) is an NSF-funded virtual organization that integrates and coordinates the sharing of advanced digital services – including supercomputers and high-end visualization and data analysis resources – with researchers nationally to support science.

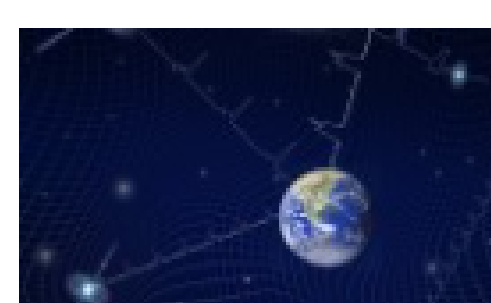
The Cornell University Center for Advanced Computing ([CAC](#)) delivers computing, consulting, and training services that increase researcher productivity and accelerate discovery. CAC research projects are preparing for the cyberinfrastructures of tomorrow.

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