



# CYBER-ShARE

Center of Excellence

Sharing Resources to Advance Research and Education through Cyberinfrastructure

## The Cyber-ShARE Center

Created in 2007, the Cyber-ShARE Center brings together experts in computer science, computational mathematics, education, earth science, and environmental science. The team addresses the challenge of providing information to scientists and other users of CI that allows them to make informed decisions about the resources that they retrieve and to have confidence in using results from CI-based applications. The Cyber-ShARE team conducts innovative research to facilitate the development of CI-based applications and increase their use by scientists by enhancing CI results with provenance information, trust recommendations, and uncertainty levels (areas that are recognized as essential for the success of CI); by creating scientist-centered tools and artifacts; and by contributing CI resources to appropriate CI portals.

## Mission

The mission of the Cyber-ShARE Center is to advance and integrate education and research in uncertainty, trust, and optimization in support of cyberinfrastructures to:

- Develop and promote scientist-centered software services and middleware and tools that help scientists use technologies such as provenance, ontologies, and workflows.
- Promote collaborative and interdisciplinary research approaches to advance the state of the art in earth and environmental sciences.

## Goals

The Cyber-ShARE Center has four goals:

- Develop an approach based on provenance, trust and uncertainty computation that inspires confidence in results obtained with CI.
- Create a CI-enabled synergistic environment to support advances in earth and environmental science.
- Train and educate a new generation of computer and interdisciplinary scientist who can effectively use CI-based software services and middleware and tools to advance science, mathematics, and technology.
- Contribute CI resources to appropriate portals in the discipline areas that are supported by the Center.

## Core Values

The Cyber-ShARE Center embraces these core values:

- Champion diversity by actively recruiting and involving students, teachers, and faculty from underserved groups in the Center's research and activities.
- Excel in cyberinfrastructure research with integrity and accountability.
- Promote cooperation among people from different backgrounds and disciplines.
- Serve as a catalyst of change.

## Cyber-ShARE Center Projects

- CS** The Quest to Understand and Trust Scientific Results
- GEO** Effective Development of 3-D Models of Earth Structure
- ES** Advancing the Utility of CI in Environmental Science

## On the Web

For more information about the Cyber-ShARE Center, please visit our website at:

[www.cybershare.utep.edu](http://www.cybershare.utep.edu)

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