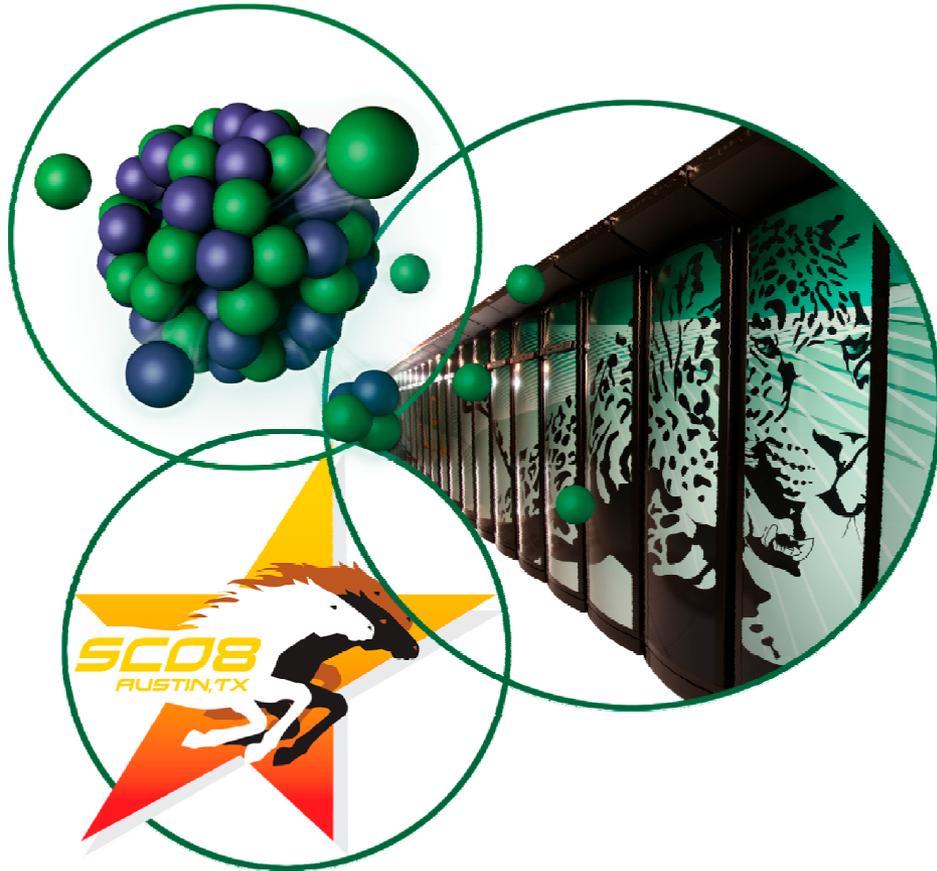


# Lustre Centre of Excellence

Presented by

**AI Geist**

Computer Science Research Group  
Computer Science and Mathematics Division



# Overview

**The Lustre Centre of Excellence is a unique resource created by SUN in 2006 at ORNL that is available to help continually improve the Lustre software.**

**The Lustre Centre of Excellence assists in the development of a centralized, scalable, Lustre file system to support the DOE and NSF petascale systems delivered to ORNL in 2009.**

**On-site SUN engineers help the ORNL Leadership Computing Facility operations staff solve Lustre problems and help application developers tune the I/O in their science codes.**

# Goals

## Lustre Centre of Excellence at ORNL:

- **Create an on-site presence at ORNL**
  - Increase CFS attention on ORNL's Lustre problems
  - On-site engineers to help science teams and support "Spider"
- **Help ORNL and Cray staff make the file system for 1 PF a success**
  - Lustre improvements to get 240 GB/s from Spider
  - Develop roadmap for taking Lustre to exascale
- **Train ORNL staff in Lustre Source**
  - Develop local expertise
  - Make ORNL less dependent on CFS and Cray staff
- **Assist science teams in tuning their application I/O**
  - Focus on 2–3 key apps initially; Document results
  - Present on-site Lustre workshops

# Lustre Centre of Excellence at ORNL Accomplishments

- **Create an on-site presence at ORNL**
  - Three permanent on-site engineers:  
Oleg Drokin, Wang Di, and Issac Huang
  - Interviewing for a fourth on-site engineer (applications expertise)
- **Help ORNL and Cray staff make the file system for 1 PF a success**
  - Eric Barton and Peter Boganic closely engaged in effort
  - Walter Poxen hired to help port and tune Lustre to Cray
  - Daily meetings between Cray, ORNL, and SUN
- **Train ORNL staff in Lustre Source**
  - CFS and ORNL hold weekly LCE telecoms
  - Bi-yearly on-site Lustre internals training
- **Assist science teams in tuning their application I/O**
  - Wang Di engaged with liaisons in Scientific Computing group
  - Yearly Lustre workshops well attended by science teams

# Contact

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