

# Welcome to the OLCF



# Feedback Mechanisms

- We welcome and value your feedback and input throughout the year:
  - Tickets
  - Quarterly Reports
  - Survey
  - User Con Calls, Workshops, and Training Events

# OLCF Quarterly Reports

Principal Investigators of current INCITE and ALCC LCF projects must submit quarterly progress reports. The quarterly reports are essential as the OLCF must track and report the use of the center's resources.

- Achievements
- Milestones
- Report Publications
- Important Center Feedback

DD Projects are requested to provide closeout documentation.

# OLCF Survey

- Annual OLCF Survey is usually released in the Sept/Oct timeframe
- We urge every member of every project to participate
- Past survey results can be found on the OLCF website under the reports section

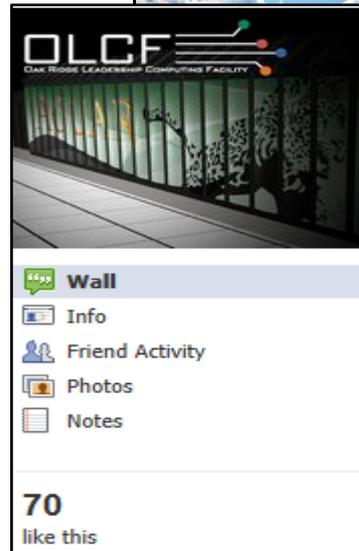
# User Con Calls, Workshops, and Training

- Monthly OLCF user con calls are held the first Tuesday of every month
  - Your participation is desired
  - Recent topics include data transfer, EOS, and Rhea. We welcome suggestions from users for topics for the monthly call.
- Training events include:
  - In-person
  - Webcast events
- 2014 OLCF User Meeting to be held in the spring

# Outreach

Outreach team works to highlight the research of OLCF facility users through several activities including:

- Science highlights
- DOE snapshots
- Press releases
- Quad charts
- Close out reports
- Fact sheets
- Posters



**Game-changing research results**

The OLCF's sponsor is the DOE Office of Science, which is America's single largest supporter of basic research in the physical sciences and is working to address some of the world's most pressing challenges. Instrumental in breakthroughs in biology, chemistry, salmonology, engineering, energy, and other fields, OLCF simulations have improved the safety and performance of nuclear power plants, turbomachinery, and aircraft; aided understanding of climate change; speed development of new drugs and advanced materials; and guided design of an international fusion reactor. They have explored supermoons, hurricanes, biofuels, neurodegenerative diseases, and clean combustion for power and propulsion. Research challenges remain, and Titan can help.

Titan will launch a new era for science and engineering as computing approaches exascale—1,000 times faster than petascale.

**Expertise to support users**

In 2012 more than 1,000 researchers from industry, academia, and government used the OLCF to push their research frontiers. To help users make the most of premier supercomputers and data storage, analysis, and visualization facilities, the OLCF offers an army of experts.

User support specialists provide training and troubleshooting. OLCF scientists and technologists work with users to maximize their research output through code development and scientific collaboration. Analysis and visualization specialists help turn data into insight.

OLCF experts administer and configure systems and insure cybersecurity. During hardware installations and upgrades, staff members rigorously test and continually monitor systems. Specialists update and integrate networks, file systems, and archival storage into OLCF computing systems. As the resources continue to scale up, experts develop tools for compiling, debugging, and performance analysis.

Experienced at deploying world-class systems to meet the needs of researchers, OLCF managers guide the overall vision of the center and manage its daily operations, supervising system installations and upgrades, overseeing research on the supercomputers, and planning future systems.

**For more information**

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**OAK RIDGE**  
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play **CNN Money** 19 comments

**supercomputer**

By David Goldman @CNNMoneyTech November 14, 2011: 9:58 AM ET

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**Meet America's fastest supercomputer**

OAK RIDGE, TENN. (CNNMoney) -- I flew to Oak Ridge National Laboratory in Oak Ridge, Tenn., last week to "meet" Jaguar, the world's third-fastest supercomputer.

# Outreach Continued

- Brochures
- External media and trade publications
- Annual Report
- Special Reports
- Videos
  - Researcher success stories
  - YouTube
  - Titan video
- Conferences
- Social Media
- Tours

**OLCF**  
OAK RIDGE LEADERSHIP COMPUTING FACILITY

**Oak Ridge Leadership Computing Facility**

With its language of science, and computation, its workforce, and its acceleration answers in science and engineering, the Oak Ridge Leadership Computing Facility (OLCF), a national user facility at Oak Ridge National Laboratory, provides the open scientific ecosystem access to the world's fastest, most powerful supercomputer to address grand challenges of our time, such as improving the safety and performance of nuclear power plants and understanding climate dynamics. Titan, a Cray XC7 high-performance computing (HPC) system at the OLCF, debuted atop the list of world's fastest supercomputers in November 2012 with a calculating speed of 17.39 petaflop operations. Breaking point operations per second. This blueprint for supercomputer will decrease time to solution, increase complexity of models, and improve realism of simulations of subjects ranging from development of advanced materials to cleaner combustion of fuels.

In 2012, more than 1,200 researchers from industry, academia, and government used Titan's predecessor, the OLCF's 3-petabyte Jaguar—the world's fastest supercomputer from November 2009 to November 2010—to push frontiers of research and solve U.S. competitiveness in a global economy. Shipped from leading businesses that get people and property at risk to stimulating combustion instabilities that threaten the performance of power plant turbines and vehicle engines. In October of 2012, an upgrade transformed Jaguar, a machine that employed traditional overall processing units (CPUs) from AMD, into Titan, a hybrid with both CPUs and graphics processing units (GPUs)—energy-efficient, high-performance chips that NVIDIA originally developed for gaming systems. When CPUs may have up to 16 cores, GPUs have hundreds, allowing Titan to achieve 10 times the speed and 5 times the energy efficiency of Jaguar in the same physical footprint.

Titan provides a great "Bop-pee-aw" value for energy-efficient calculations in physics, chemistry, biology, atmospheric, engineering, and more. With the power of GPUs to exploit massive parallelism of computing power, Titan's hybrid architecture will revolutionize the world's leading businesses of energy, scientific research, and more. Titan's power of GPUs to exploit massive parallelism of computing power, Titan's hybrid architecture will revolutionize the world's leading businesses of energy, scientific research, and more.

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The OLCF is home to Titan, the world's most powerful supercomputer for open science with a phenomenal peak performance exceeding 20 million operations per second. That kind of computational capability—only available on a par with some of the world's fastest people being able to carry out a single operation per second—helped discover Oak Ridge National Laboratory.

**OAK RIDGE NATIONAL LABORATORY**  
U.S. DEPARTMENT OF ENERGY  
Office of Science



**Who's been working with us?**

- Boeing
- Campbell
- Carling
- FSI Global
- Ford
- GE Global Research
- GlobalFoundries
- GM
- Pratt and Whitney
- Procter & Gamble
- Range Power Systems
- ShellTech Systems
- United Technologies Research Center
- KBR LLC
- Haver Brook LLC
- Swell America
- SIMULA

**How to get started**

For more information on how your firm can participate in this program, contact:

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Computing and Computational Sciences

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Email: rktebeaux@ornl.gov

**ACCEL**  
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