

Managed by Iowa State University for the U.S. Department of Energy

**Ames Laboratory's mission** is to conduct basic and applied research in support of the Department of Energy's mission and vision, transfer technologies to improve industrial competitiveness and educate the next generation of scientists and engineers.

## Shaping Science for 60 Years

Ames Laboratory was established in 1947 following work to produce purified uranium for the Manhattan Project. The Laboratory is an international leader in materials research with core competencies in advanced materials synthesis, characterization and processing, chemical and analytical sciences, and computational and theoretical sciences.



Ames Laboratory is located in Ames, Iowa.



## Laboratory Director

Alex King became the director of the Ames Laboratory on Jan. 1, 2008. Prior to that, he was a professor and head of the School of Materials Engineering at Purdue University from 1999 to 2007. He was a faculty member in the Department of Materials Science and Engineering at the State University of New York at Stony Brook from 1981 to 1999 and served as Vice Provost for Graduate Studies at Stony Brook from 1987 to 1992. King holds a B.Met. in physical metallurgy from the University of Sheffield, England, and a D.Phil. in metallurgy and the science of materials from the University of Oxford. He is a fellow of the American Society of Materials and the Institute of Materials of the United Kingdom. He was a visiting fellow of the Japan Society for the Promotion of Science in 1996 and a Jefferson Science fellow in the U.S. Department of State from 2005 to 2006.

## Laboratory Basics

Ames Laboratory employs more than 400 full- and part-time employees, including more than 230 scientists and engineers. The Laboratory's workforce also includes more than 280 non-paid associates in departments throughout Iowa State University. Students make up more than 20 percent of the paid workforce. Ames Lab's estimated 2008 budget is \$30 million. The Lab has an annual payroll of approximately \$17 million and supplies roughly 18 percent of the federal sponsored funding awarded to ISU.

## Specialized Research

The **Materials Preparation Center** provides high-purity materials and unique characterization services to scientists at university, industry and government facilities. **Company Assistance** is a specialized service of the MPC that provides technical assistance to Iowa companies with materials problems.

## Selected Scientific Achievements

- Significant advancements in research on left-handed materials, also known as metamaterials, could lead to the development of a flat superlens with the power to see inside a human cell.
- Patented a lead-free solder formula now licensed by more than 60 companies worldwide to help meet restrictions banning lead from consumer products.
- Using Raman imaging to study plant cell structure to determine the best plants for conversion to ethanol.
- Developed a software program that can quickly analyze and detect altered computer images.

## Science Education

Ames Laboratory's education programs consist of the **High School and Middle School Science Bowls**, which will celebrate their 18th and 5th years in 2008, respectively. In 2005, the Laboratory began hosting the **Science Undergraduate Laboratory Internship** program. In 2007, it added the **Academies Creating Teacher Scientists** program. Graduate and undergraduate students make up approximately 20 percent of the Laboratory's workforce.

## Awards

Ames Laboratory scientists have won 16 prestigious R&D 100 Awards since 1984. The latest award was in 2006 for the development of a novel software engineering tool that greatly eases the problem-solving and decision-making process for engineers. Ames Laboratory was named the Federal Laboratory Consortium's 2007 Outstanding Laboratory for the Mid-Continent Region.

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