



Science, Technology and Engineering Overview

**Presentation to the New Mexico Science,
Technology & Telecommunications
Legislative Committee
September 2, 2009**

**Julia Phillips
Director**

Physical, Chemical, and Nano Sciences



Sandia is a multiprogram laboratory operated by Sandia Corporation, a Lockheed Martin Company, for the United States Department of Energy's National Nuclear Security Administration under contract DE-AC04-94AL85000.



Sandia has served the United States since 1949

“Exceptional service in the national interest”



THE WHITE HOUSE
WASHINGTON
Mar 18, 1949

THE WHITE HOUSE
WASHINGTON
Sep 15, 1949

Dear Mr. Wilson:

I am informed that the Atomic Energy Commission intends to ask that the Bell Telephone Laboratories accept under contract the direction of the Sandia Laboratory at Albuquerque, New Mexico.

This operation, which is a vital segment of the atomic weapons program, is of extreme importance and urgency in the national defense, and should have the best possible technical direction.

I hope that after you have heard more in detail from the Atomic Energy Commission, your organization will find it possible to undertake this task. In my opinion you have here an opportunity to render an exceptional service in the national interest.

I am writing a similar note direct to Dr. G. S. Bostley.

Very sincerely yours,
Harry Truman

Mr. Leroy A. Wilson,
President,
American Telephone and Telegraph Company,
195 Broadway,
New York 7, N. Y.





National Security Mission Space

Nuclear Weapons

One Management Unit

- Nuclear Weapons



Integrated Technologies and Systems

Three Management Units

- Defense Systems and Assessments
- Energy, Resources, and Nonproliferation
- Homeland Security and Defense



Laboratory Transformation

Two Management Units

- Integrated Enabling Services
- Science, Technology, and Engineering





Science, Technology & Engineering at Sandia

Secure America's future through discovery and innovation at the interface of science and engineering

1. Nurture the Core

- Sandia's ST&E must be defining the cutting edge of science and engineering.
- Sandia must be attracting the best and brightest our country has to offer.

2. Enable the Missions

- Sandia's ST&E must be intimately and seamlessly connected to the missions.





Sandia's strategic capabilities are underpinned by 6 research foundations

Strategic Capabilities



High Performance Computing & Simulation

Nanotechnologies and Microsystems

Extreme Environments

Computer Science

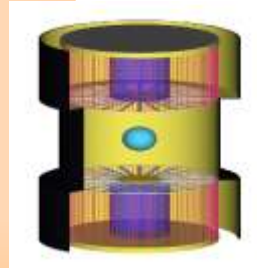
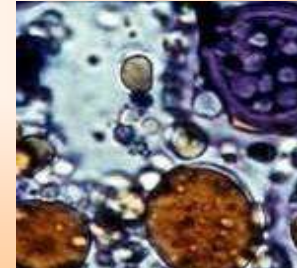
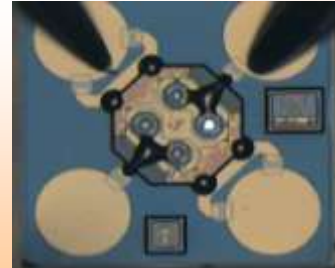
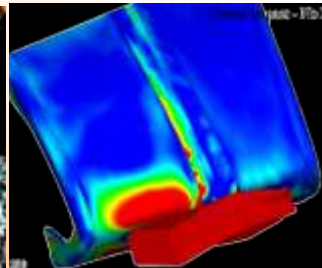
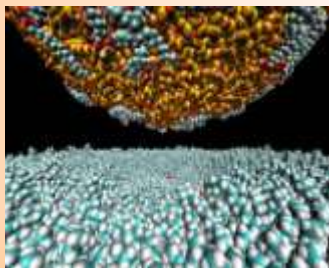
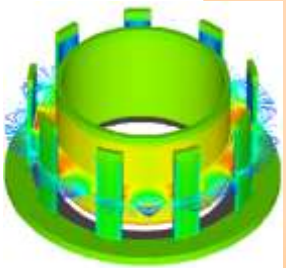
Materials

Engineering Sciences

Micro Systems

Bioscience

Pulsed Power



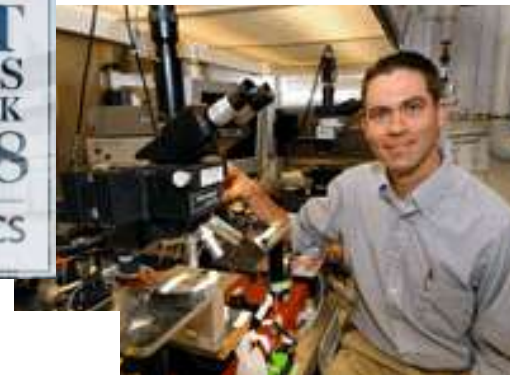
Research Foundations



Engagement with broader scientific community helps us maintain a vital workforce



Center for Integrated Nanotechnologies



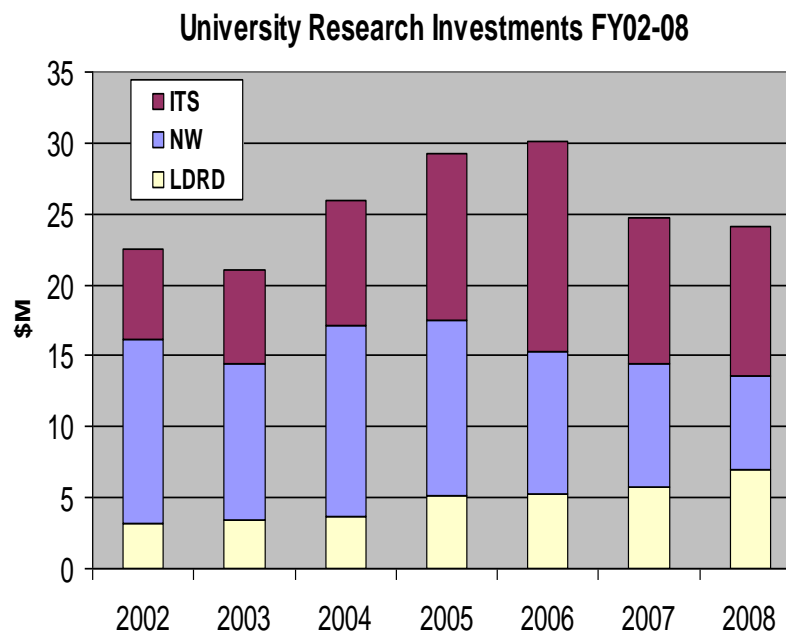
Truman Fellows



Computer Science Research Institute



Combustion Research Facility



Student Interns



We use our Users Facilities extensively to engage researchers internationally

Center for Integrated Nanotechnologies



Center for Integrated Nanotechnologies (CINT):

- Provides access to tools and expertise for the research of nanoscience integration
- 362 user projects currently active (36 states, 15 countries)
- Current number of users > 400
- ~50% of the users are foreign nationals

Combustion Research Facility (CRF):

- Worldwide recognized R&D facility for combustion chemistry and turbulent flame research
- Develop applied science supporting industry



Computer Science Research Institute



Computer Science Research Institute (CSRI):

- On-site joint research in computer science, computational science and mathematics
- 48% of visitors are foreign nationals

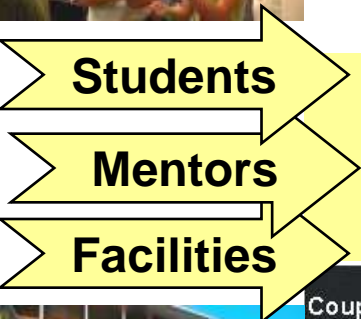


Discovery Science & Engineering Innovation Institutes accelerate innovation



A Sandia-University-Industry Consortium

- Multi-disciplinary projects
- Future leaders development
- Value to the nation



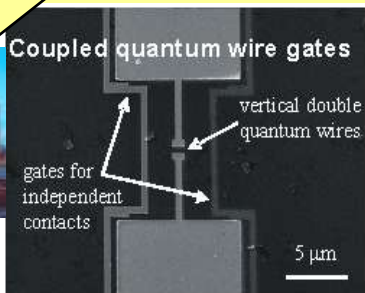
Technical Depth

Leadership

Global Innovation Leaders

Teamwork

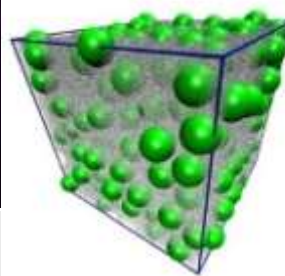
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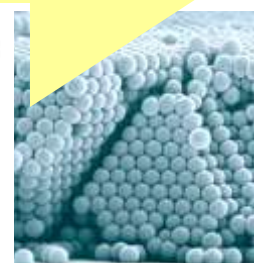
Next-generation Nanoelectronics



Nano for Energy



Computation & Modeling



Nano Materials



2007 NINE Summer Class





Sandia's Innovation Corridor opens Sandia to greater interactions

