

# Oak Ridge National Laboratory Overview

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Industrial Assessment Centers  
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# ORNL is DOE's largest multipurpose science laboratory

- 3800 employees
- 3000 research guests annually
- Nation's largest unclassified scientific computing facility
- 18 user facilities
- Nation's largest science facility: the \$1.4B Spallation Neutron Source
- Nation's largest concentration of open source materials research
- Nation's largest energy laboratory
- \$300 million modernization in progress



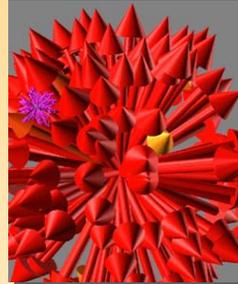
# Our research is focused around six scientific competencies



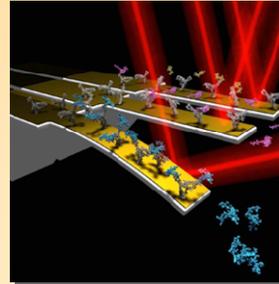
**Energy**



**Homeland/  
National  
Security**



**Neutron  
Science**



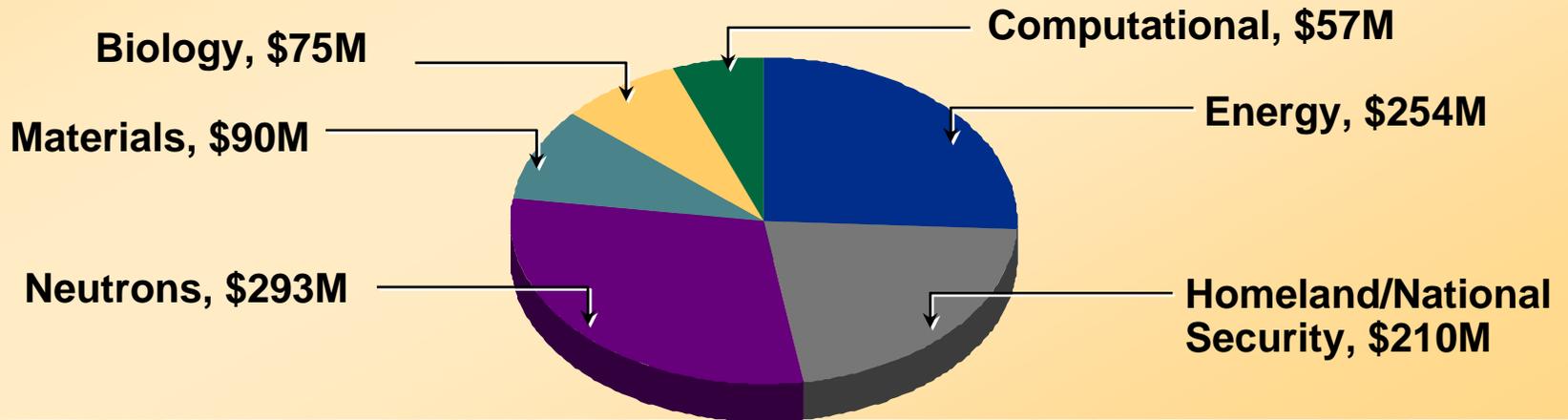
**Materials**



**Biology**



**Computing**



# ORNL will be the world's leading center for neutron science research



**The High Flux Isotope Reactor has completed a \$70 million upgrade to extend its capabilities (\$1B+ replacement cost value)**

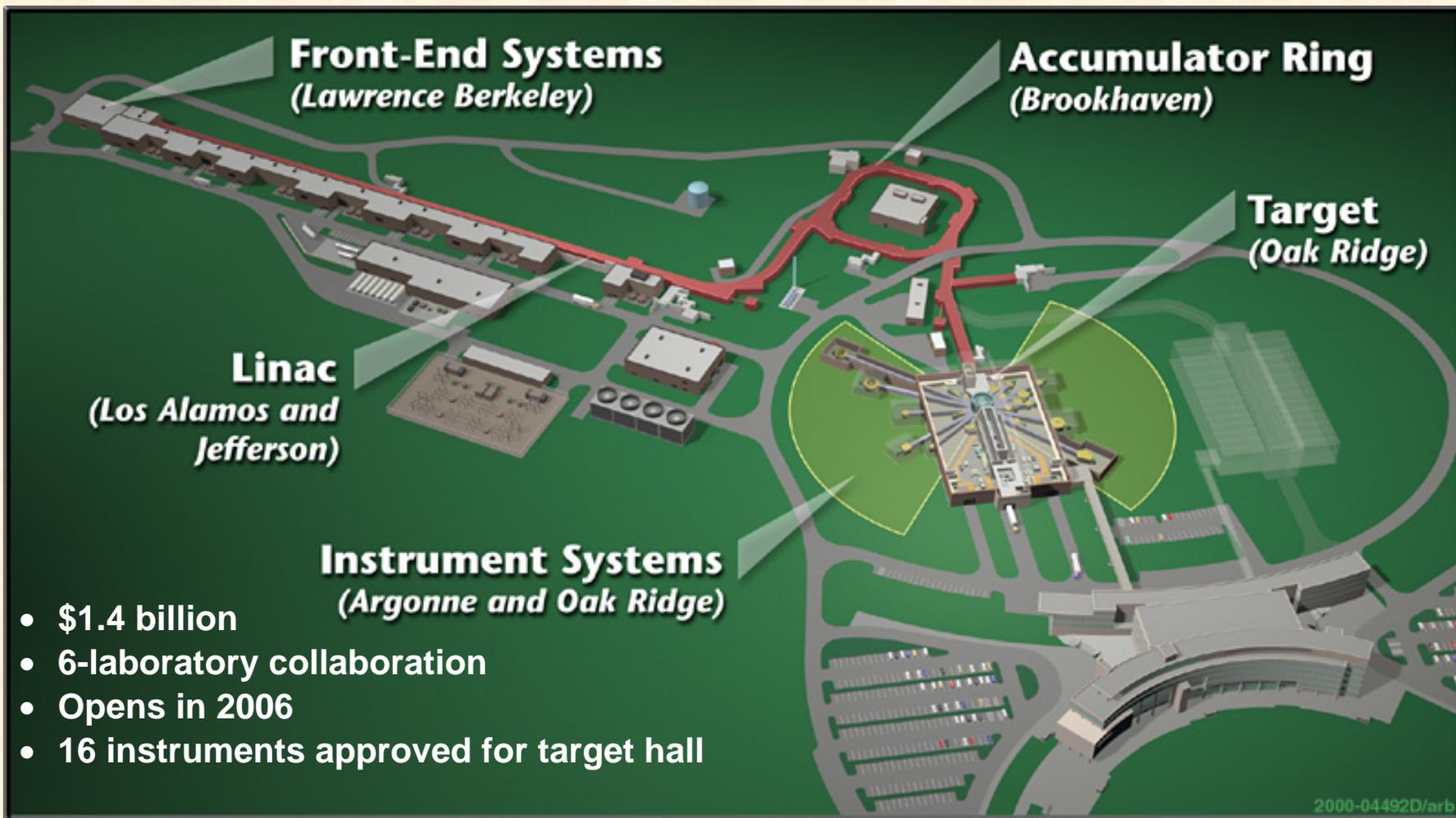


**The nation's largest science construction project will be complete in FY 2006**



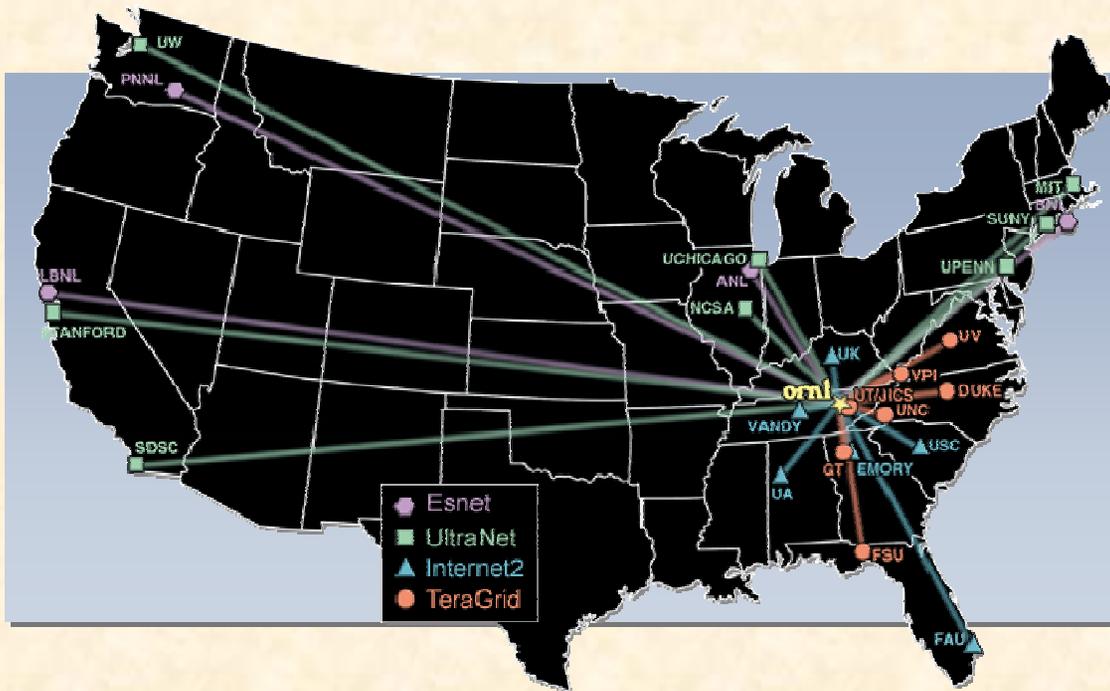
**The State of Tennessee has funded the Joint Institute for Neutron Sciences to provide access to these world-class facilities**

# The Spallation Neutron Source is the nation's largest science project



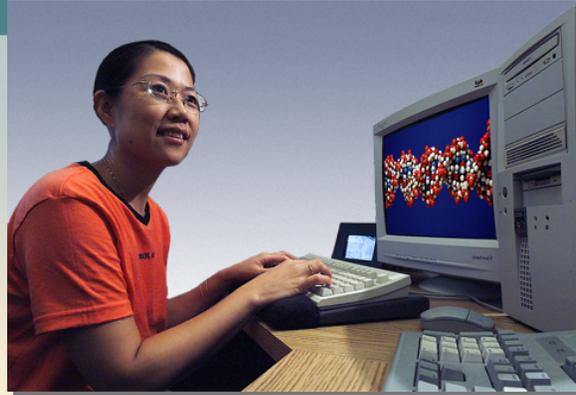
# ORNL will be America's flagship facility for high-performance computing

- We have the nation's largest unclassified computing facility
- We are on track to deliver 1000 TF by 2010



We are making our scientific resources available through high-speed networks

# ORNL has international reputation in Life Sciences

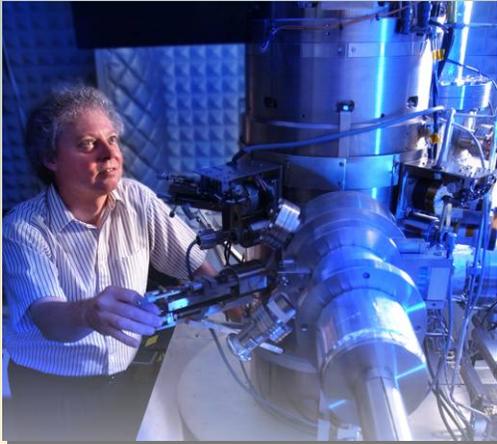


- **Environmental and Life Sciences Laboratory**
- **State-of-the-art mouse vivarium**

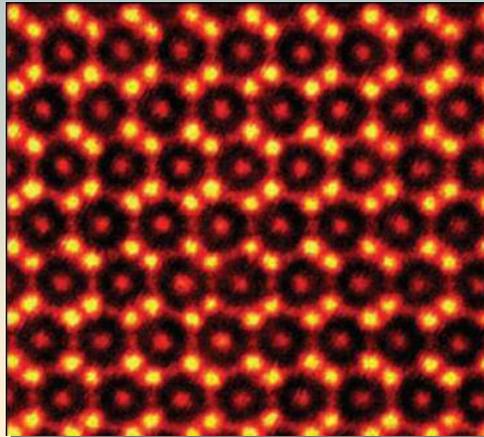
- **Leadership in microbial genomics**
- **Pipeline for protein characterization**
- **Mammalian genetics and functional genomics**

- **Joint Institute for Biological Science**
- **Construction starts 2006**
- **Biochemical engineering**
- **Computational biology**
- **Human health risk assessments**

# ORNL is committed to sustaining our leadership in material science



- **World's highest resolution STEM housed in Advanced Microscopy Laboratory**



- **Recognized forefront position in controlling functionality at the nanoscale**
- **First-rate research leadership in all primary focus areas**



- **DOE's first nanoscience center will be complete in April 2006**

# ORNL is DOE's Largest Energy Laboratory

## Generation

**Fossil**  
**Fission**  
**Renewables**  
**Fusion**



## Distribution

**Transmission technology**  
**Hydrogen**



## Consumption

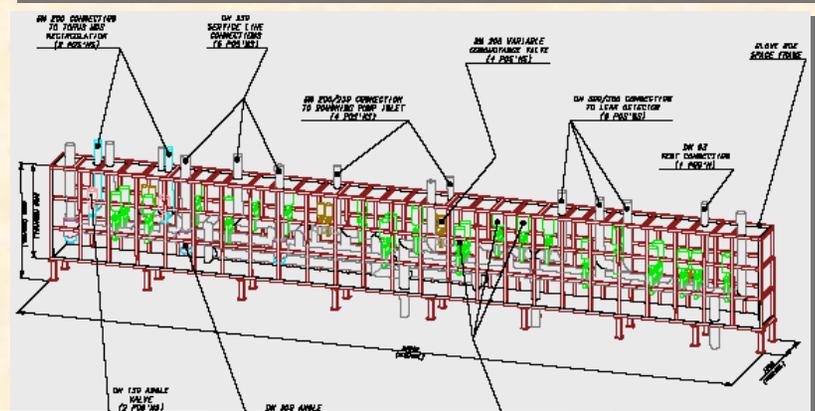
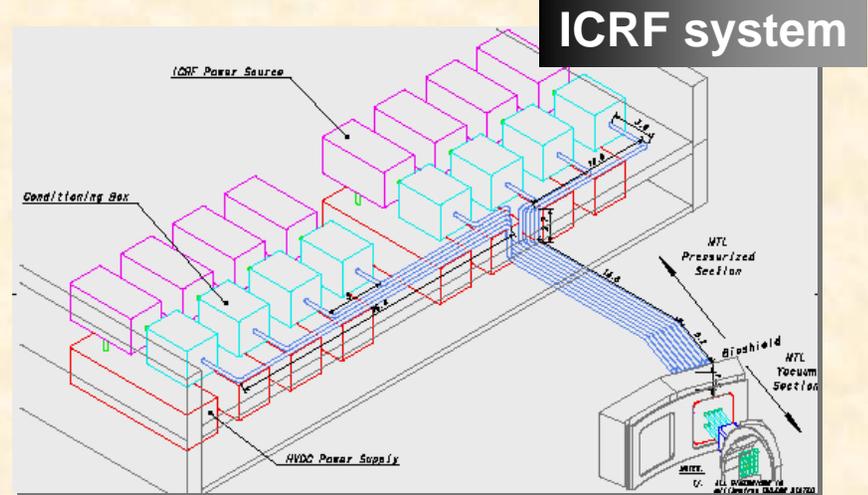
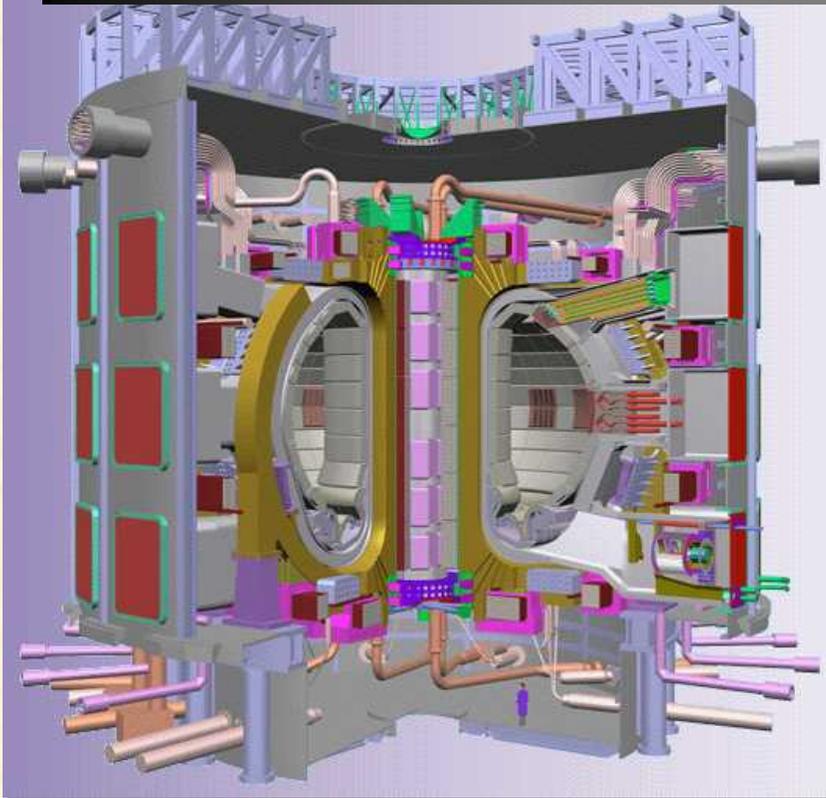
**Buildings**  
**Industry**  
**Transportation**



Supporting DOE's strategic goals  
for energy security and independence

# ORNL is teamed with Princeton Plasma Physics Laboratory to lead Project Office for U.S participation in ITER

We expect lead roles in the RF heating and plasma fueling/pumping systems for ITER



### Hydrogen Fuel Subsystem

# Our goal: to recruit, retain, engage, and develop the very best talent

## Top talent

- **Strategic hires**
- **Joint appointments with leading research universities**
- **Increasingly diverse staff**
- **Feeder student programs**

## Early-career researchers

- **Strong university recruiting**
- **Distinguished postdoctoral fellowship programs**
- **Effective use of our ORISE postdoc program**

## Research environment

- **Exciting work - strongest attractor**
- **Great facilities and infrastructure**
- **Workforce development**
- **Services for international staff**

## Research culture

- **Rigorous performance standards**
- **Demand, recognize, and reward excellence**
- **Employee engagement**

# ORISE: Student and Postgraduate Programs

- ORNL partners with the Oak Ridge Institute for Science Education (ORISE) to provide educational and research opportunities to students and postgraduates
- ORNL and ORISE bring in over 250 students to the Lab each summer through various internship programs
- There are over 200 postgraduates currently working on different research projects throughout the Lab
- For more information on student and postgraduate programs at ORNL or to apply, please visit (<http://www.ornl.gov/orise/edu/ornl/postneeds.htm>)

# ORNL has opportunities available for students from all different fields

- Engineering
- Chemistry
- Physics
- Computer Science
- Life Sciences
- Social Sciences

Careers at Oak Ridge National Laboratory									
Typical Majors	Biological and Environmental Sciences	Computing and Computational Sciences	Energy and Engineering Sciences	Physical Sciences	Spallation Neutron Source	Business and Information Services	Environment, Safety, Health and Quality	Facilities and Operations	Human Resources
Accounting						•			
Biology	•						•		
Business		•	•			•	•	•	•
Finance						•			
HR/Labor Relations									•
Health Physics							•		
Management Information Systems		•				•			
Chemistry	•	•		•					
Computer Science		•							
Biomedical/Bioengineering	•								
Chemical Engineering			•						
Electrical Engineering		•	•		•			•	
Environmental Engineering									
Materials Science Engineering				•					
Mechanical Engineering			•	•	•			•	
Metallurgical Engineering				•					
Nuclear Engineering			•		•		•		
Liberal Arts									
Mathematics		•							
Public Health							•		
Physics	•	•	•	•	•				

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 Oak Ridge, Tennessee

# Oak Ridge National Laboratory



Excellence in Science and Innovative  
Solutions to Complex Problems

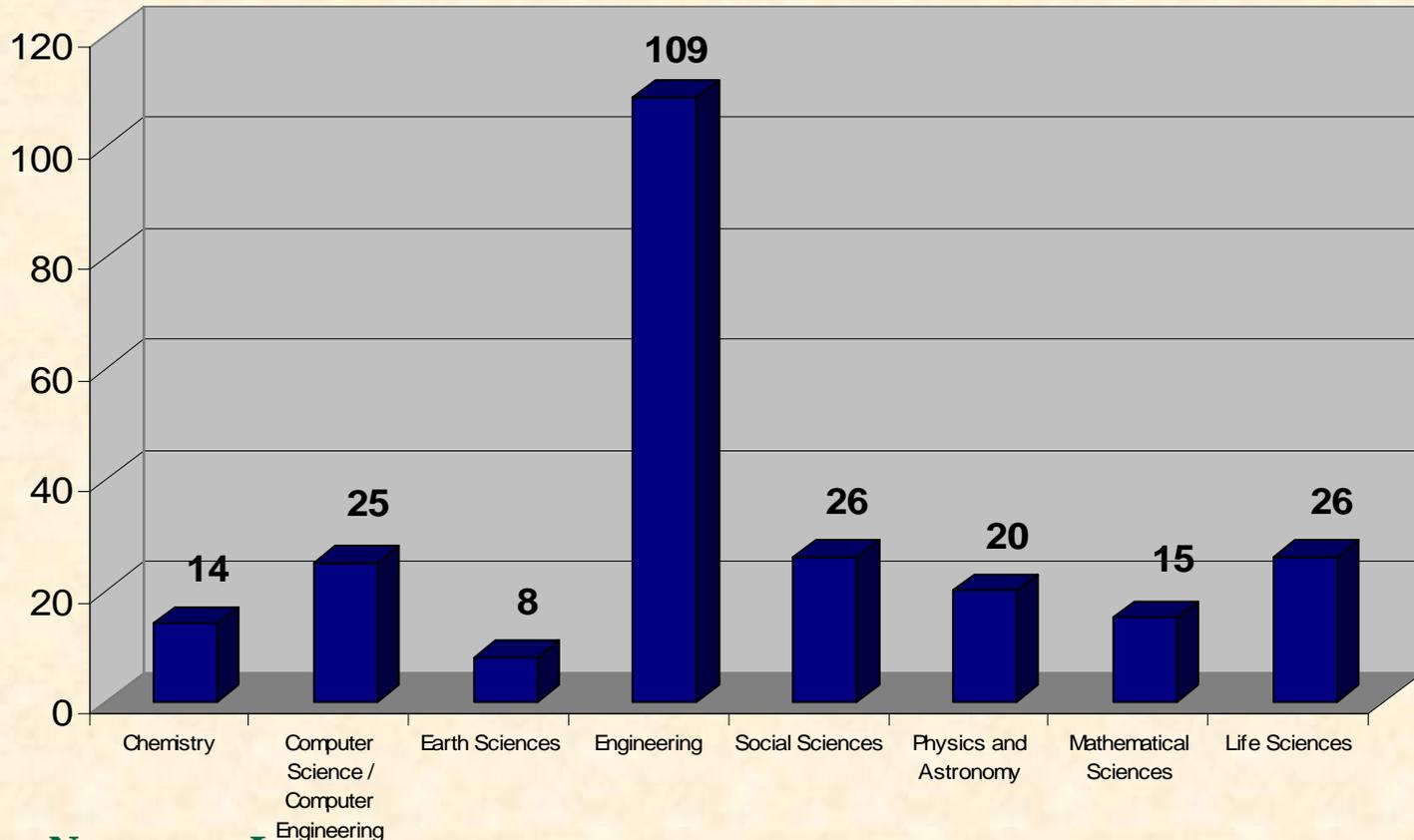
# Additional Data



**OAK RIDGE NATIONAL LABORATORY**  
**U. S. DEPARTMENT OF ENERGY**

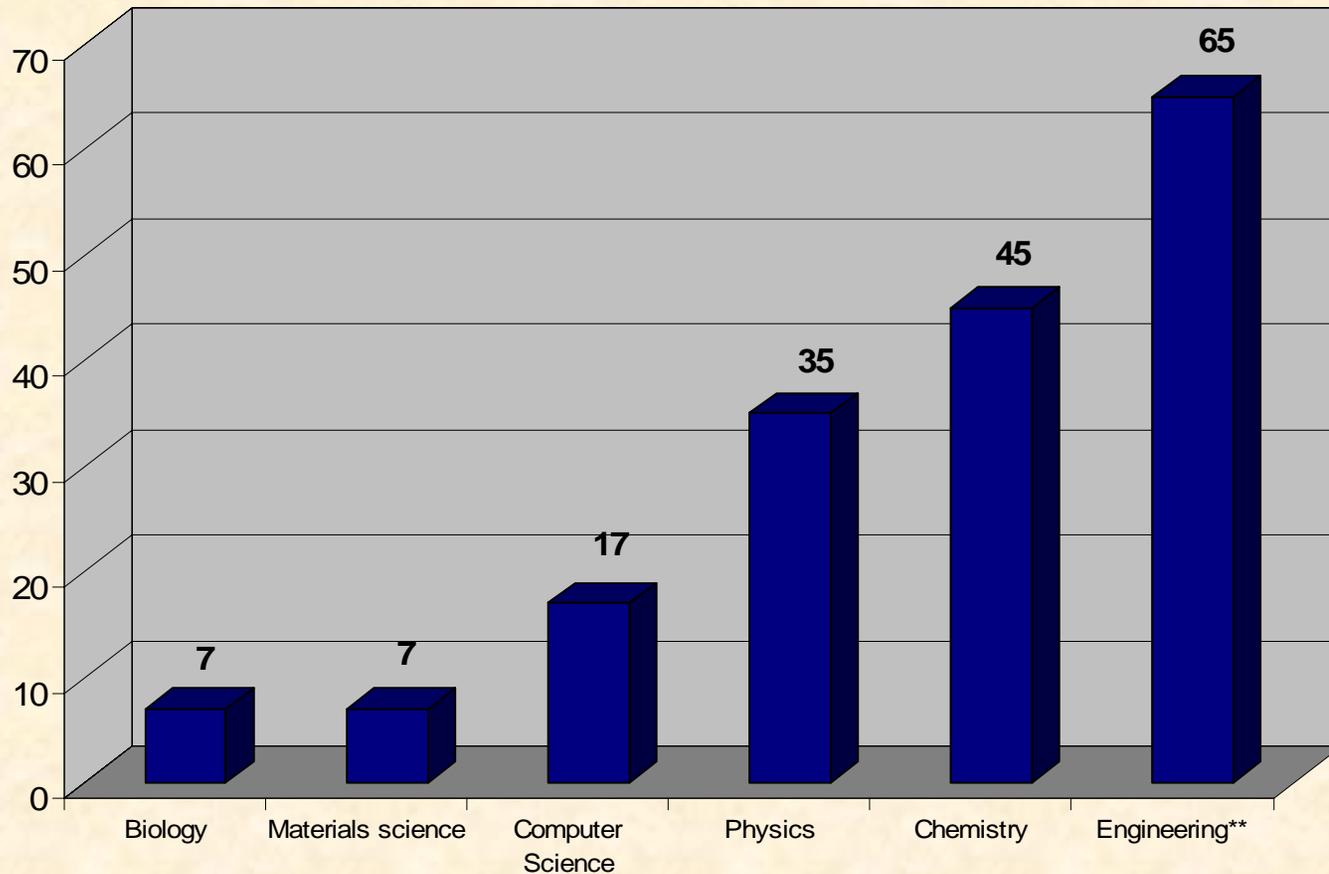
Last summer, we selected over 200 students from various academic disciplines to participate in internships at the Lab .

**Students by Academic Discipline  
(Summer 2005)**



We have approximately 200 postgraduates currently working at the Lab.

**Postgraduates by Academic Discipline  
(Top Five Areas of Study)**



The top three engineering degrees among our current postgraduates include Materials, Mechanical, and Electrical Engineering.

**Postgraduates by Type of Engineering Degree**

