

“Working with the Lab”



Blake Thompson
Director, University
Partnerships

National labs have much to offer university faculty and students

- **Access to unique experimental facilities**
 - Designated user facilities
- **Collaborations that can expand faculty opportunities**
- **Mentoring and training of students**
 - Various programs for undergrads and for graduate students
- **Access to DOE programs**
 - Through partnerships with lab researchers
- **A research staff that is interested in working with academia**



Many opportunities exist for relationships with ORNL

- **User facilities**
- **Collaborations**
- **Joint Projects**
- **Student projects**
- **Joint Faculty**



User Facilities – 18 on ORNL campus

• Office of Science

- Californium User Facility for Neutron Science
- Center for Nanophase Materials Sciences
- High Flux Isotope Reactor
- Holifield Radioactive Ion Beam Facility
- Mouse Genetics Research Facility
- National Center for Computational Sciences
- Oak Ridge Electron Linear Accelerator
- Spallation Neutron Source
- Shared Research Equipment User Facility
- Oak Ridge National Environmental Research Park

Energy Efficiency & Renewable Energy

- Buildings Technology Center
- Cooling, Heating and Power Integration Laboratory
- High Temperature Materials Laboratory
- Metals-Processing Laboratory
- National Transportation Research Center
- Fuels, Engines, and Emissions Research Center
- Power Electronics and Electric Machinery Research Facility

Nuclear Security Technologies Program

- Safeguards Laboratory

User Agreement

- **What is it**

- Mechanism for private industry or academia to conduct research at the contractor's DOE-designated user facilities or User Research Instrumentation
- Partner conducts the activity, within framework of agreement
- Agreement (non-proprietary, pre-competitive, or proprietary) stipulates terms and conditions (including disposition of intellectual property, scope of work , costs, if any, and duration)

User agreement success

- Metalsa (heavy truck components company) came to the HTML to determine the state of residual stresses – story of a successful agreement



Scientific collaborations

- **Informal collaborations**

- Shared interest in defined area
- Joint publications
- Shared capabilities, resources



- **Formal collaborations**

- Jointly funded projects
- Shared capabilities, resources
- Opportunities from DOE, NIH, DARPA, etc.



Many opportunities for students and visiting scientists

- **Undergraduate research—summer and semester**
- **Graduate student**
- **Post-masters and post-doctoral**
- **Sabbatical leave**



Vehicles of cooperation with ORNL

Undergraduate	Graduate	Postdoctoral	Faculty
<ul style="list-style-type: none"> • Co-op program • DHS HS-STEM Internship • HERE@ORNL • Laboratory Technology Program • Nuclear Engineering Science Laboratory Synthesis Internship • Research Alliance in Math and Science • Science Undergraduate Laboratory Internship 	<ul style="list-style-type: none"> • Advanced Short-Term Research Opportunity • HERE@ORNL • Nuclear Engineering Science Laboratory Synthesis Internship • Research Alliance in Math and Science • Post-Master's Research Participation 	<ul style="list-style-type: none"> • Advanced Short-Term Research Opportunity • Eugene Wigner Fellows • Clifford Shull Fellows: Neutron science • Alston Householder Fellows: Scientific computing • Instrument Development Fellows • Postdoctoral research associates 	<ul style="list-style-type: none"> • DHS Summer Research Team • Faculty and Student Team • HERE@ORNL • NRC Faculty Research Participation • Sabbaticals and summer research 

jobs.ornl.gov

ORAU/ORISE

- **Strong relationship with Oak Ridge Associated Universities/Oak Ridge Institute for Science and Education**
- **To understand the level of interaction between the lab and students and faculty, we must credit the role of ORAU/ORISE**
- **Science education, university consortium, science agenda of the laboratory**
- **34 programs, 1,100 participants, almost 300 colleges and universities**

Day of Science

"2008 DOE Secretary of Energy
Best Practices Award Winner"

- **Scope: To facilitate a career path for college science students and mutual research collaborations with science professors**



Date: October 28-29, 2007

Attendees: 1,483

Institutions: 127 Colleges and Universities

HBCU/MEIs: 41 Colleges and Universities

DOE Labs 11

Summer Faculty Research Program

- **Purpose:** To provide opportunities for faculty and student teams to conduct research with ORNL scientists.

FY 07

Number of Participants: 15

Number of Institutions: 8

FY 08

Number of Participants: 30

Number of Institutions: 21

Number of HBCUs/MEIs 7



Joint Faculty

- **Staff shared by two institutions**
- **Based at home institution**
- **Percentage of time flexible**
- **Renewed annually**
- **Flexibility in assignment**
 - Summer support, student support, etc.
- **ORNL support from programmatic funds**

Mentor Protégé Program

- **Program Scope:**

Mentoring HBCU/MEIs by assisting in capacity building, subcontracting and collaboration of mutual interest

- **Current Protégés:**

- **Morehouse College, Atlanta, Georgia**
- **Jackson State University, Jackson, Mississippi**

Mentor Protégé Program



Morehouse College



Jackson State University

- **Questions of the Panel then a BREAK**