

Research Alliance in Math and Science

History and Overview

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Managed by UT-Battelle
for the Department of Energy



Research Alliance in Math and Science (RAMS) Program



Started in 2003 with support from the DOE ASCR office

The Research Alliance in Math and Science program is designed to provide collaborative research experiences among faculty and students at colleges or universities and DOE national laboratory researchers. These experiences will improve the U.S. competitive research edge while encouraging and promoting Science, Mathematics, Engineering, and Technology (SMET) research throughout the academic year.

From 2003-2008 the RAMS program has provided over 100 students and faculty with a rich experience to excite them about careers in science and engineering.

Targets Underrepresented Students majoring in CS, Math, Engineering, technology

RAMS Program Consists of:

- **10 – 12 weeks (of mentoring May-August)**
- **Competitive stipend/housing allowance**
- **World-class research mentors
(volunteer because they love it)**
- **Weekly technical seminars by ORNL staff**
- **Tours of major facilities (SNS, HTML, LCF, HFIR, . . .)**
- **Skills-enhancing workshops
(PERRY course, html class, poster preparation, resume writing, etc.)**
- **Oral presentation of research results (exercising their skills)**
- **Project poster sessions**
- **Project website**
- **2009 expanding program to include trip to DC**
- **Academic credit through their college or university * (if arranged)**



Continuing push from their faculty when they return to school

RAMS Participants Colleges they've come from:

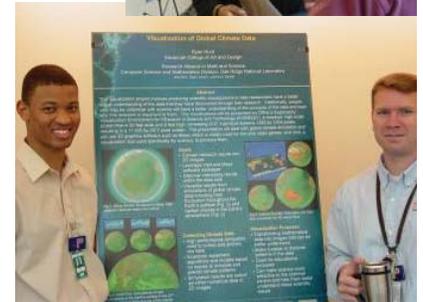


Mentors expertise provides a wide range of emerging research opportunities

- Computer Science
- Algorithms and Theory
- Artificial Intelligence
- Communications and Networking
- **Computational Biology**
- Computer Architecture
- **Data Management**
- Distributed and Fault-Tolerant Computing
- **Graphics and Visualization**
- **Human Computer Interaction**
- **Mobile Computing**
- Multimedia
- **Natural Language Processing**
- Operating Systems
- Performance Modeling and Analysis
- Stochastic Optimization
- Programming Languages and Software Engineering
- Security
- User Interface
 - Data Storage
 - Hardware Technologies
 - Mathematical Sciences
- Dynamical Systems
- **Knowledge Discovery and Data Mining**
- Mathematical Modeling
- Numerical Methods
- Operations Research
- Probability and Statistics
- **Risk Management**
- . . . **more**

Applicant Requirements

- Two faculty recommendations
- Completed on-line application
website opens in December
- Completed research proposal
students are encouraged to iterate research proposal
with his/her faculty advisor
- Official transcript
must have >2.7 GPA out of 4
- Resume
- Commitment for full participation



No qualified student has ever been turned away.
We have been able to accept and find mentors
for all qualified applicants.

Next: Highlights

Division Directors describe how RAMS has worked in their divisions.

Debbie McCoy – the heart and muscle behind RAMS, will present some highlights and success stories about our RAMS students.