MRSEC Facilities Workshop
November 1-2, 2011

NSF Division of Materials Research
Mary Galvin, Sean Jones, Thomas Rieker, and Charles Ying
High Visibility / High Impact

27 MRSECs
- 71 Interdisciplinary Research Groups (IRGs)

910 Faculty participants
- Physics, Chemistry, Materials Science, Engineering, Bio, Math

Annual Science Output
- 224 Ph.D.s awarded
- 129 Post-docs completed
- 1500 publications
- 76 patents issued
Broader Impacts

**Extensive Education Programs**
- REU (459), RET (96)
- 10,000’s impacted by K12 + Outreach

**Broadening Participation**
- Diversity Strategic Plan
- PREM

**Extensive Collaborations**
- 1400 Academic
- 273 Industry
- 274 National Labs
- 166 International w/ 32 countries

**Research and Education Infrastructure**

**Building a National Network**
- Annual Directors’ Meetings
- Education Coordinators Network
- Materials Research Facilities Network
Infrastructure

Users of MRSEC Facilities
- 2000 Academic
- 578 Industry
- 107 National Labs
Resulting in 530 Publications

Support for:
- Technicians
- Administrative staff
- Instrument Development
National Academy Reports

2005

Midsize Facilities
The Infrastructure for Materials Research

2007

The National Science Foundation's Materials Research Science and Engineering Centers Program
Looking Back, Moving Forward
The Materials Research Facilities Network (MRFN) has recently been established and is currently in operation at ca. 50% of MRSEC sites. The goal of the MRFN is to maximize the usage of MRSEC facilities and is directed towards the efficient and strategic development of materials characterization within the United States. By providing easy access through its wide geographical distribution to small and large universities not in the MRSEC program, the MRFN will substantially contribute to the education and mentoring of a wide diversity of students and further promote collaborative research in materials.

A National Research and Education Resource

Anika Odukale, Craig Hawker
MRSEC Expenditures 2010-2011 as % of Total Budget, ~ $54 M/yr

- IRGs: 11.0%
- Seeds: 12.5%
- Industry: 9.9%
- Shared Facilities: 1.4%
- Education: 5.1%
- Administration: 60.0%
Questions?
Materials Research Facilities Network (MRFN)
Virtual Instrumentation Partnership (VIP)

A. A. Odukale, C. J. Hawker

DMR05-20415

Initiative provides access to analytical instrumentation instruction to Minority Serving and Primarily Undergraduate Institutions through virtual experiences

- User institution selects technique
- Class can access manuals, laboratories, and view training videos at www.mrfn.org
- Live session through Skype
- MRFN scientist explains theory and manipulates instrument
- Real time sample analysis
- Students dictate instrument parameters
- Real time question and answer dialogue
- SEM with students from Florida A&M University (below)