CGrADS Outreach

Innovations Built on Experience

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Innovations Built On Experience

- **Presentation Outline**
  - —Proposed CGrADS mission and goals
  - —Experience
    - – Lessons learned from CRPC experience
    - – Current programs and relationships
  - —CGrADS programs
  - —Presentations from key players

Proposed CGrADS Outreach Mission

To build communities of a broad and diverse population in order to develop their understanding and use of information technologies

Proposed CGrADS Goals

•To create an integrated community of CGrADS researchers and staff, university and K-12 students, teachers, and parents who are dedicated to developing and supporting one another's understanding and use of information technologies

•To leverage current and former initiatives and relationships to create new CGrADS programs of the same high-quality, high-impact

•To develop, evaluate, and modify new programs to sustain and scale beyond CGrADS.

Building on Experience -CRPC Programs

Could not have accomplished what we did without the center because the center provided resources.

- Spend a Summer with a Scientist (SaS)

- GirlTECH/TeacherTECH

- National Minority Conferences

Exemplary Product - SaS

In the Spend a Summer with a Scientist (SaS) program, undergraduate and graduate students participated in community activities and worked for the summer under the guidance of center researchers.

- Produced 18 new minority SMET Ph.D's over 5 years

- Supported 60 students multi-years

- Program's Diversity --Black, Brown, Male, Female

- Program's Centerpiece --Support community

- Focused on Recruitment and Retention

Exemplary Product - GirlTECH
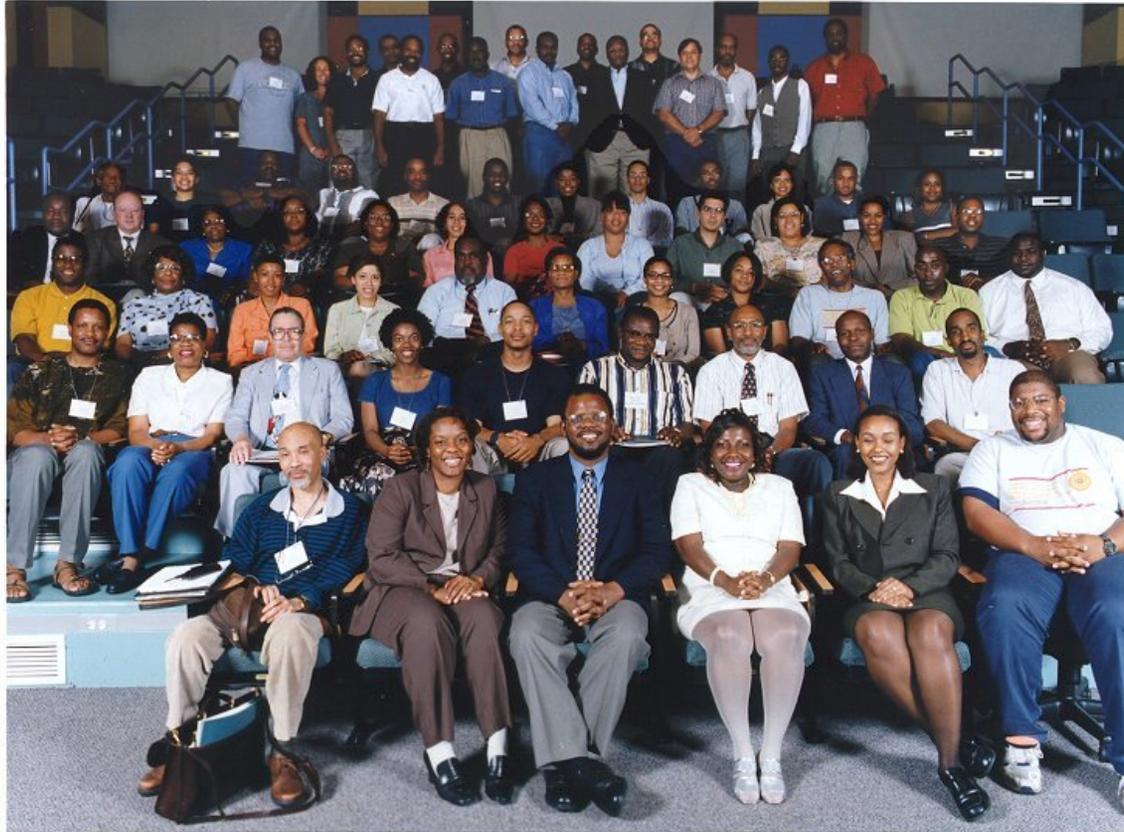
Teacher professional development program designed to

— Equip teachers with knowledge and strategies that encourage all students' full participation in computer technology, especially in scientific computing and

— Enable teachers to effectively use and produce web resources that support student learning.

- Long-term professional development

- Maintain network of 380 teachers

    — Participants remain active, even since '95

- Web technologies attract those who wouldn't come otherwise to Gender/Ethnic Awareness Training

Exemplary Product - Conferences

Center infrastructure allowed us to support and build national communities

CAARMS4 - 1998

Exemplary Product - Conferences

SC-Cosmic/ADMI - 1998

Exemplary Product - Conferences

Topics

—Minority Representation: How Far Have We Come?

— Recruiting, Assessing, and Admitting

—Mentoring

—Fostering a Cultural Shift in Majority Institutions

—Placing Graduates into Careers (especially Academic)

SLOAN Engineering and Science Underrepresented Minority Ph.D.s Recruitment and Retention Conference - 1999

Exemplary Product - Conferences

Report:

Promoting National Minority Leadership in Science and Engineering

http://ceee.rice.edu

NSF Summit Meeting on Promoting National Minority Leadership in Science and Engineering - 1999

Programs Bigger and Better than Ever

- **Both SaS and GirlTECH sustained and scaled beyond CRPC**
  - **SaS Strongly Impacted University - Changing university culture**
    - **Institutionalized SaS across all of Science and Engineering (Alliances for Graduate Education and the Professoriate)**
    - **Major funding from Rice supports 24 diversity fellowships**
    - **Support of Rice administration -- President, Provost, Vice Provost for Research & Graduate Studies, and Deans**
    - **Outreach to University of Wisconsin-Madison**
  - **Excellent example of how NSF STC can affect culture of participating universities**

  - **GirlTECH/TeacherTECH scaling across country through EOT-PACI**
    - **5 sites '02 – Boston, Chicago. Houston, D.C., and San Diego**

Current Programs- Legacy of CRPC

- **Leveraging**
  - —Center for Excellence and Equity in Education
  - —Leading EOT-PACI

- **Developing New Partnerships**
  - —TX NSF Initiatives
  - —Institute for African American E-culture

- **Creating new Programs**
  - —Rice Hispanic Heritage Month Celebration
  - —TX Computational Leadership Consortium

- **Developing K-12 Curriculum**
  - —Mathematician (Accuracy)
  - —Mathematics Teacher (Accessibility)
    - http://math.rice.edu/~lanius/Lessons

Dr. Hector Ruiz President and COO of Advanced Micro Devices (AMD), Speaks to 200 on "Ingredients for Success: Self Worth, Education, and Access to Technology"

Proposed CGrADS Innovations

- Developing Minority undergraduates at majority institutions

- Developing Undergraduate courses to be exported to other institutions, esp. msi's and partnering institutions

- Revamping The South-Central Computational Science in Minority Institutions Consortium (SC-COSMIC) initiative

- Updating Teacher professional development to include information technology architectures and other technologies

- Engaging Minority Parents

- Working with FIRST to increase minority participation

Proposed CGrADS Innovations

- **Developing Minority undergraduates at majority institutions**
    - —Learn from Minority institutions how to promote graduate studies

    - —Minority students at Rice and other partnering institutions are very talented, but not encouraged to pursue graduate studies

    - —CGrADS will change that.

Proposed CGrADS Programs- New Courses

- **Developing Undergraduate course "Information Technology Architectures" to be exported to other institutions, esp. minority serving institutions**
    - —letter of support from TSU

- **Revamping The South-Central Computational Science in Minority Institutions Consortium (SC-COSMIC) initiative**
    - —letter of support from UH-D
    - —Vehicle to support exportation of courses

- **Updating TeacherTECH to include material adapted from Information Technology Architectures**
    - —Must keep curriculum cutting edge

Proposed CGrADS Programs

- **Engaging Minority Parents**

  —**Attacking Digital Divide and Educational Divide**

  —**The Telecom Opportunity Institute**

    – **Brian Stevens, Executive Director, TTOI**

Proposed CGrADS Programs

- **Working with FIRST to increase minority participation**

  —**For Inspiration and Recognition of Science and Technology**
  - **Ken Kennedy**

K-12 Successful Relationships

- **Working with Houston Independent School District**
  - **Kaye Stripling, Superintendent**

- **TeacherTECH Participants**
  - **Judy Woods, Drew Academy, Aldine ISD**

  - **Susan Boone, Westside High School, Houston ISD**

Higher Education Success Stories

- **Students**
  - Ebonii Anderson, CAAM
  - Nancy Glenn, Statistics
  - Luis Melara, CAAM
  - Amanda Mosola, Geology
  - Victor Udoewa, MSME
  - Ricardo Vargas, ECE