



Presidential Awards for Excellence in Science, Mathematics and Engineering Mentoring (PAESMEM)

**Marilyn Suiter
National Science Foundation**

**Workshop on Mentoring in Engineering
Stanford University—School of Engineering
June 21-22, 2004**

The White House established the Presidential Awards for Excellence in Science, Mathematics and Engineering Mentoring (PAESMEM) program in 1996. The program is administered on behalf of the White House by the National Science Foundation (NSF).

PAESMEM identifies outstanding mentoring efforts/programs designed to enhance the participation of groups underrepresented in science, mathematics and engineering. The awardees serve as exemplars to their colleagues and are leaders in the national effort to more fully develop the Nation's human resources in science, mathematics and engineering.

PAESMEM Portfolio

- 2003 Presidential Awards
- PAESMEM website and list serve -- D. Allan Butterfield, University of Kentucky
- Conferences and Workshops
 - Legand Burge, Tuskegee University
 - Janet Rutledge, University of Maryland, Baltimore Campus (UMBC)
 - Sam Rankin, American Mathematical Society
 - Carlos Murillo-Martinez, PAESMEM Alumni Conf., April 29-May 1 (Contra Costa Coll.)
 - Robert Gray, Stanford University, June 21-23

DRAFT DEFINITION:

Mentoring is an interaction between a more experienced person and a less experienced person; it provides guidance that motivates the mentored person to take action.

A Research Agenda on S&E Workforce Mentoring

Exploration of STEM Career Mentoring by NSF's CEOSE (Committee on Equal Opportunity in Science and Engineering), in partnership with PAESMEM, and implemented by AAAS/EHR (Yolanda George) with support from AAAS's Committee on Opportunities in Science (COOS). The project also builds on an earlier AGEP-based AAAS study group meeting. The goals:

- 1) to identify existing research (and gaps therein) in research on STEM career mentoring (a bibliography was researched and developed prior to the meeting and will be available on the project website);
- 2) develop and refine standards for career mentoring in STEM; and
- 3) discuss and develop an initial framework for assessing career mentoring in STEM.

Study Group Meeting on STEM Career Mentoring-Oct. 2003

The overall objectives for this workshop:

- ❖ **Identify research questions on mentoring**, primarily as related to STEM workforce preparation.
- ❖ Develop **guidelines as to what students should know and learn about work-based skills needed** in STEM. In this case we want to make a distinction between S&E content knowledge needed for STEM careers and skills needed in the STEM workforce.
- ❖ Identify **ways to assess if students are gaining workforce skills** along the education continuum needed to be productive and successful in the STEM workforce.
- ❖ Identify **ways of disseminating guidelines and assessment suggestions** through professional societies. One of the challenges is getting faculty and departments to develop more explicit learning objectives and assessments related to development of STEM workforce skills.
- ❖ Identifying strategies related to **how STEM workforce skills could be incorporated into courses**, curricula, and programs at the high school and college and university levels.