Miriam Carter, Rockville, Maryland

Miriam Carter currently lives and works in Maryland in the higher education sector focusing on developing and implementing grant-funded, student-centered programs for women and minorities to increase access to engineering professions. She teaches developmental education courses for traditional and non-traditional students and a first year seminar, Introduction to Engineering, focusing on career and educational planning, academic skills building, and adjustment concerns. Her expertise is in project management, evaluation and research, and student development/retention in post-secondary education in the US and abroad. Her work in sub-Saharan Africa spanned seven years and included spearheading public/private partnerships and mobilizing international funding for STEM related workforce development projects targeting women and youth.

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Workshop Topics:

"Academic Success in Engineering" - A Summer Bridge Program for Incoming Engineering Students from Underrepresented Groups

A series of workshops focusing on social identities, college adjustment issues, career and personal awareness that includes identification of sources of support and barriers to academic achievement. Imbedded team/group development and communication skills building exercises related to the demands and realities of engineering today from a global perspective.

Audience: Participants – incoming college/university students; Program overview (content, processes, and outcomes) – STEM faculty, administrators and counselors

Format: Lecture, experiential, group work and projects
Length: 24 – 32 hours spread over 4 weeks for participants; 1-2 hours for professional development discussion presentation

Project Portal to Success in Engineering – A model transition program incorporating high school, community college, university and industry partnerships

Doubling the number of STEM graduates by 2015, a national call to action, necessitates expanding access to underrepresented groups in the education pipeline. This workshop focuses on innovative, interdisciplinary approaches to select, retain, prepare and graduate women and minorities pursuing engineering at the bachelor's level. Currently, 50 percent of all US undergraduates attend community colleges nationwide, which supports the data that over 46% of all professional engineers attended 2-year schools. Expanding on best practices and current innovations involving subject-matter exposure in high school, non-cognitive correlates of academic success for non-traditional populations, intensive peer and faculty support, and strong articulation agreements and programmatic enhancements with select 4-year engineering programs, we will look holistically at factors that promote academic success.

Audience: Faculty, administrators, policy makers
Format: Lecture/discussion
Length: 1 hour

Selected Publications:

"Project Portal to Success in Engineering", a $479,000 award from the U.S. Dept. of Education Fund for Improvement of Post Secondary Education (FIPSE) to increase the number of women and minorities in engineering education. Prepared all information and recruitment documents as well as annual reports;

"Mobile Classrooms in Engineering", a $500,000 award from the U.S. Dept. of Education.

Prepared NSF S-STEM grant proposal, "ACCESS Engineering" (**A**chieving **C**ommunity **C**ollege **E**xcellence, **S**uccess, and **S**cholarship in Engineering), focusing on supporting underrepresented engineering students through the bachelor's degree level.

"SEM Exchange" an annual series of provocative lectures on cutting edge issues in science, engineering and mathematics.

Contracts:

Montgomery County Public Schools (MCPS)
Montgomery College
Women in Engineering, Science, and Technology (WEST)
Inwelle Resource Center
United Negro College Fund Special Programs (UNCFSP) – South Africa
BAE Systems – South Africa

Projects:

Trainer and Facilitator for MCPS Study Circles program. Provide train-the-trainer workshops and facilitate study circles programs at K-12 grade levels focused on the racial and ethnic barriers to student achievement in the public school system.

Manage grant to increase number of women and students of color majoring in engineering, includes high school-community college-4-year engineering program curriculum articulation, program presentation, student recruitment and retention activities; teaching summer bridge and seminar course for first-year engineering students, developing and monitoring faculty and peer mentor and tutoring program; and project evaluation and reporting to internal and external agencies.

Coordinator of Maryland State Science Bowl competition for the U.S. Dept. of Energy.

Organized inaugural STEM Roundtable Meeting for key stakeholders from academia, industry, government, and foundations to engage in a constructive dialogue with distinguished STEM panelists about the role of community colleges in preparing STEM professionals with the goal of developing practical strategies and action plans to increase engineering/science graduates. The diverse array of participants fostered discussion of different perspectives and provided opportunities to challenge respectfully one another's assumptions about relevant issues and priorities.

Designed a holistic, comprehensive technical skills training program and developmental education curriculum for as a job creation initiative for young adults in sub-Saharan Africa. Focal areas included engineering and ICT disciplines, critical market-related fields.

Qualifications:

Master's in Business Administration, American InterContinental University
Project Management Certificate, University of Witwatersrand, South Africa
Master's Degree Studies in Counseling and College Student Personnel University of Maryland, College Park

Member:

WEpan (Women in Engineering Programs and Network Advocates)
American Society of Engineering Educators