



Julie Martin Trenor, Houston, TX

Dr. Julie Martin Trenor is the Director of Undergraduate Student Recruitment and Retention for the Cullen College of Engineering at the University of Houston, where she develops and teaches freshman engineering courses and is the founding director of the women-in-engineering program, WELCOME. She holds a position on the board of directors for Women in Engineering ProActive Network (WEPAN) as the Director of Communications. She is the principal investigator for several nationally funded grants related to recruitment and retention of diverse engineering students. Dr. Trenor holds a Ph.D. in Materials Science and Engineering from Virginia Tech and a bachelor's degree in the same field from North Carolina State University.

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Workshop Topics:

Recruiting and Retaining Female Students in STEM

This webinar/webcast is designed to familiarize participants with the latest recruitment and persistence research for female students in STEM, particularly engineering. The workshop will help equip participants to implement research-based best practices that are appropriate to their professional roles. Participants will gain practical ideas for recruiting and retaining female students in STEM, resources for further exploration, as well as tools to create a personal action plan for contributing to the advancement of women in STEM.

Audience: counselors, STEM teachers, administrators, project coordinators, college/university faculty and staff

Format: webinar/webcast or interactive in-person workshop consisting of mini-lectures, small group exercises and group discussions

Length: 1-1.5 hour (webinar/webcast); 3 hour workshop

Evolving Communication Strategies for the Millennial Generation: Teaching, Recruiting and Retaining Girls/Women in STEM Fields

As the Millennial generation (born 1982-2002) enters middle school, high school, and college, a unique generation gap is emerging between these students and educational personnel, most of whom are members of the Baby Boom generation (born 1943-1961) or Generation X (1961-1981). One major factor in this generation gap is the Millennial's use of technology, and specifically, the internet. The internet is being used to build and maintain relationships, and has affected the communication and learning styles of that generation. In recent years, the use of the World Wide Web has evolved from simple information retrieval to users adding value by creating content, therefore emphasizing collaboration and sharing between users—the so-called “Web 2.0”. The evolution of the internet's use in recent years has significant implications for secondary and college classes and programs. With the rapid pace of change in the use of the internet, it is no wonder that many programs coordinators, instructors, and other academic personnel serving women in STEM are having trouble keeping up. In this workshop, the presenter and participants will ways to rethink the way educational personnel can build community among students and create and maintain relationships between and with female students in STEM by meeting students “where they are” and in a environment that is comfortable to them.

Audience: Anyone who communicates with students in the Millennial generation, especially instructional personnel, counselors, program coordinators, administrators, college/university faculty and staff.

Format: webinar/webcast or interactive in-person workshop consisting of mini-lectures, small group exercises and group discussions

Length: 1-1.5 hour (webinar/webcast); 2 hour workshop

Developing an Effective Branding Strategy for Women in STEM Programs

An essential element of strategic communications for any program or organization is a strong brand identity. This presentation will discuss important considerations in branding or re-branding educational programs for women in STEM fields. The presenter, who serves as the Director of Communications for Women in Engineering ProActive Network (WEPAN), will use the recent re-branding of the organization as a case study for programs or organizations wishing to develop or strengthen their own

brand. Do-it-yourself tips as well as recommendations for selecting and working with professional consultants will be discussed.

Audience: Educational personnel who develop or administer educational programs for young women in STEM

Format: webinar/webcast or interactive in-person workshop consisting of mini-lectures, small group exercises and small/large group discussions

Length: 1-1.5 hour (webinar/webcast); ~2 hour workshop

Selected Publications:

Evolving Communication Strategies for Recruitment and Retention Programs for the Millennial Generation, Julie Martin Trenor, Katherine S. Zerda, and Rachel Danek Jones, presented at the Texas Engineering and Technical Consortium Best Practices Conference, February 2008, Dallas, TX

Recruiting Women for Programs in Engineering, Julie Martin Trenor and Chidiogo Madubike, in The College Admissions Officer's Guide, Barbara Lauren, Ed., publication date February 2008

The Relations of Ethnicity to Female Engineering Students' Educational Experiences and College and Career Plans in an Ethnically Diverse Learning Environment, Julie Martin Trenor, Shirley L. Yu, Consuelo L. Waight, Katherine S. Zerda, and Ting-Ling Sha, *Journal of Engineering Education*: in press for October 2008 issue

Investigating the Relations of Ethnicity to Female Students' Perceptions and Intention to Major in Engineering Using Social Cognitive Theory, Julie Martin Trenor, Shirley L. Yu, Ting-Ling Sha, Consuelo L. Waight, and Katherine S. Zerda, accepted to 2007 Frontiers in Education Conference, October 2007, Milwaukee, Wisconsin

Retaining Female Engineering Students by Creating an Effective Women-in-Engineering Program, Julie Martin Trenor, Frank J. Claydon, Stuart A. Long and Rachel Danek Jones, Texas Engineering and Technical Consortium Best Practices Conference, March 2007, Austin, Texas

Establishing a Women in Engineering Program at an Urban University, Julie Martin Trenor, Chidiogo Madubike, and Frank J. Claydon, Proceedings of

the 2006 WEPAN National Conference, June 2006, Pittsburgh, Pennsylvania

Influences of Family on Diverse Female Students' Decisions to Select and Persist in Undergraduate Engineering Majors, Julie Martin Trenor, Jessica Olson, Shirley L. Yu, Consuleo L. Waight and Katherine S. Zerda in preparation for submission to *Journal of Women and Minorities in Science and Engineering* (anticipated submission early spring 2008)

Contracts:

“Creating a More Diverse Engineering Workforce: Recruiting and Retaining Under-Represented Persons in Engineering Majors and Careers,” an interactive workshop for the NASA Administrators Fellowship Program, July 2007, Cleveland, Ohio

“Advancing the Engineering Pipeline at UTEP: What You Can Do to Help Recruit and Retain Undergraduates,” an interactive workshop for the University of Texas-El Paso College of Engineering, April 2007, El Paso, Texas

“Advancing the Pipeline of Women in Engineering: What You Can Do to Help Recruit and Retain Female Undergraduates,” National Engineer’s Week Foundation Global Marathon: For, By, and About Women in Engineering (webinar), March 2007.

Duke Talent Identification Program (TIP) Scholars Weekend course, “Extreme Engineering: A Design Challenge,” an intensive weekend course for gifted high school students.

Projects:

Founding Director of WELCOME (Women in Engineering Learning Community for Maximizing Excellence) women-in-engineering program at the University of Houston (www.egr.uh.edu/welcome)

Principal Investigator for National Science Foundation (NSF), “Research Experiences for Undergraduates (REU) Site: Nanotechnology at the University of Houston,” Award #EEC-0647775.

Principal Investigator for NSF Research Experiences for Teachers (RET) Site at the University of Houston: “Innovations in Nanotechnology,” Award# EEC-0742296.

Principal Investigator for Engineering Information Foundation grant, “Developing Programmatic and Pedagogical Support Mechanisms for Diverse Women in Engineering at an Urban University: An In-depth Look at Antecedents and Moderators for Their Success,” Award#EiF06.01,

2006-2007.

Principal Investigator for Texas Engineering and Technical Consortium (TETC) Innovative Strategies grant, “Retention of Female Undergraduate ECE Students at the University of Houston,” Award#00362-EE2005-2000

Co-Principal Investigator for TETC Best Practices grant, “Undergraduate Recruiting and Retention of ECE Students at the University of Houston,” Award#03652-EE2005-1000.

External evaluator for Virginia Tech Research Opportunities in Interdisciplinary Watershed Sciences and Engineering NSF program: REU Site Award#0649070, 2007-2010.

Developed and piloted curriculum for multidisciplinary, project-based freshman course (ENGI 1100 Honors) in 2005, led expansion of ENGI 1100 curriculum to four sections in Fall 2006, serving as course coordinator.

Directing college-wide recruitment of high school students for the University of Houston Cullen College of Engineering, overseeing development of print materials for prospective student recruitment as well as print and web-based content for women-in-engineering program.

Faculty advisor for Society of Women Engineers student chapter and Phi Sigma Rho engineering sorority at the University of Houston.

Qualifications:

Post Doctoral Fellowship in Bioengineering, January 2002-July 2003, Clemson University

Ph.D. in Materials Science and Engineering (MSE), 2001, Virginia Polytechnic Institute and State University (Virginia Tech)

B.S. in Materials Science and Engineering, Summa Cum Laude, 1996, North Carolina State University (NCSU)

Membership:

Women in Engineering ProActive Network (WEPAN), Board of Directors (Director of Communications)

Society of Women Engineers (SWE), member of national conference program board and Houston Area chapter

American Society for Engineering Education (ASEE), Women in Engineering,
Freshman Programs, and Educational Research and Methods Divisions
member