

“Because Dreams Need Doing” UCF experts seek to ‘pump up’ the public’s view of engineering through TV series

The number of women earning engineering degrees is declining, but a multi-disciplinary team of UCF experts are working together to change the trend.

According to the “Engineering & Technology Degrees” report, women earned 4.1% fewer engineering degrees in 2007 compared to the year before. Overall, the number of baccalaureate degrees awarded in engineering decreased 0.8% in 2007. The 2007 women’s share in engineering bachelor’s degree production is the smallest since 1998, and has shown a decline over the last three years: 8.6% in 2007, 19.3% in 2006 and 19.6% in 2005.

Developing, recruiting and retaining engineers are just some of the methods federal policymakers could use to create high-quality jobs according to the National Academy of Sciences special report, “Rising Above the Gathering Storm.”

UCF’s Dr. Leslie Sue Lieberman is leading a team that plans to increase the number of women engineers through a new television series, *E-Girls in O-Town*. These experts will contribute their backgrounds in areas such as science, leadership, engineering, women studies, digital media and television/film production. Dr. Lieberman submitted a proposal to the National Science Foundation in an effort to obtain \$2.5+ million for the project.

The series intends to not only promote an interest in engineering and what professional engineers do, but specifically target women and minorities by portraying main characters from such underrepresented populations as role models in engineering professions. In addition, the project will develop supplemental digital media — blogs, videos, games, audio and video podcasts — widely used by young audiences.

Andrea Wesser, a consultant for the project, received her master’s degree in mechanical engineering from UCF in 2008. Currently she works as the product line manager of micro-batteries at Planar Energy Devices.

Since 2001, Wesser has been active with the Society of Women Engineers, where she has

hosted numerous STEM events for children, parents, and teachers. She has written and produced a number of STEM educational materials for girls including books, internet science novellas and videos. Her outreach efforts have reached over 15,000 K-12 students and over 3,000 Florida educators. Her STEM educational materials were recently used by universities in Ghana and Vietnam to promote engineering to girls, ages 8-17. In 2005, she was recognized by *USA Today* for her K-12 STEM promotion endeavors.

“My role with the *E-Girls* project will be as a consultant for both subject content and ‘reality’ feedback,” Wesser says. “For years prior to meeting up with Leslie, I would advocate the need for an engineering-dominated television show. I had seen the absolute impact shows like *ER*, *Law and Order* and *CSI* had on the medical, judicial, and forensic science industries, respectively.”

After *CSI* started airing Miami and Las Vegas shows, Wesser noticed an influx of girls wanting to participate in forensic science workshops at every K-12 STEM outreach event in Central Florida. Of 30+ workshops, the forensic science workshop would max out first.

“Using gorgeous camera shots with beautiful actors/actresses, *CSI* made DNA analysis or tissue sampling exciting,” Wesser continues. “It’s time to ‘pump up’ the general public’s interest in engineering, and in turn, promote the field to more women.”

The *E-Girls in O-Town* producers hope that the series will do for engineering what shows like *CSI* have done for the forensic sciences. As a result of such programs, women now comprise 70% - 90% of undergraduate and graduate students in forensic sciences. Recently the National Academy of Engineering tested messages emphasizing the need for changing public perceptions and attitudes about engineers

and engineering. NAE’s also released a new positioning statement for engineering: “No profession unleashes the spirit of innovation like engineering. From research to real-world applications, engineers constantly discover how to improve our lives by creating bold new solutions that connect science to life in unexpected, forward-thinking ways. Few professions turn so many ideas into so many realities. Few have such a direct and positive effect on people’s everyday lives. We are counting on engineers and their imaginations to help us meet the needs of the 21st century.”

Wesser believes that engineering is a promising field because it provides numerous pathways for degree-holders. “You can become a patent attorney, become a biomedical engineering expert and get a MD, become an entrepreneur, an astronaut or a college professor. It’s a great career choice for women as you can be a mother — much design work can be done on a computer in your home,”

Wesser says. “And the job is one of the most rewarding — NASA engineers bring astronauts safely home; Medtronic biomedical engineers save the lives of diabetic patients daily; BAE Systems engineers keep our soldiers safe in the line of battle. We are hoping *E-Girls* will share the ultimate positives of the engineering career and how engineers impact thousands of lives.”

E-Girls in O-Town will use mass media delivery to reach a large public audience to change and positively impact perceptions, attitudes, and knowledge of engineers and engineering and to boost enrollments and degrees awarded in engineering disciplines. To support the series, contact Dr. Lieberman at LLieberm@mail.ucf.edu or 407-823-5142.

By: Ashley Cisneros

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By: Tison Pugh

