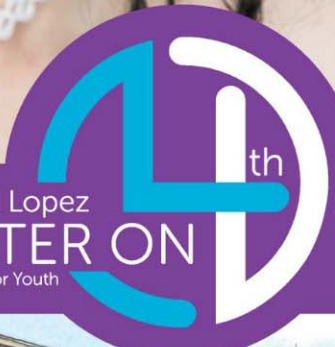


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Plan of Action

‘Diversity Produces Better Science’

by Claire Rogers



WISE undergraduate interns work with students and Manzo Elementary School to document the biodiversity in their schoolyard, using the online application iNaturalist.

The University of Arizona’s Women in Science and Engineering Program (WISE) was established in 1976 and over a 40-year history has made progress in increasing women’s representation in the STEM fields—science, technology, engineering and mathematics—both at the university and in career fields in Southern Arizona.

The program’s premise maintains that greater diversity produces better science. Evidence of that principle is Erica L. Corral, associate professor of materials science and engineering. In 2011, she was first at the UA to win the Bradley Stoughton Award for Young Teachers, awarded by ASM International (formerly known as the American Society for Metals). She has also received career recognition from the National Science Foundation and the Air Force Office of Scientific Research. In addition to teaching classes, Corral heads a research lab that develops advanced composite materials for use in high-temperature environments. Her door is always open to students interested in discussing careers in both teaching and research in materials science and engineering.

Mary Poulton, head of the Department of Mining and Geological Engineering, is the first woman to head an engineering department at the University of Arizona. In 2009, she won the American Institute of Mining, Metallurgical, and Petroleum Engineering Industry Educator Award and has testified before the U.S. Congress, on mining and petroleum industry workforce issues.

Industrial workforce preparation is one of the main drivers behind the increasing diversity of college graduates in the STEM fields, and a goal of the WISE Program. According to Jill Williams, director of the WISE Program for the last two years, Southern Arizona has many industries that need a skilled workforce of STEM graduates.

“Raytheon is hiring 2,000 more people right now,” says Williams, who is with the College of Social and Behavioral Sciences. “The Southern Arizona economy is so dependent on STEM workers. Currently, we aren’t training enough students to fill all those positions.”

According to the Alliance for Science & Technology Research in America, Arizona will need to fill 166,000 STEM jobs in 2018.

Williams points out that mentoring is key to familiarizing students with an academic environment. The WISE STEM Pipeline Mentorship Program, which started last year, involves 80-100 high school, undergraduate, and graduate women students interacting to learn academic and career success strategies while also building social networks. For example, students interested in applying to medical school learn about the process from someone who is currently applying.

The Expanding Your Horizons interactive workshops are held each spring to help Sahuarita Middle School and Amphi Middle School girls envision career options in STEM fields.

New this year in the WISE Program is the Bio/Diversity Project, a partner-



Christine Bradley, graduate student in the College of Optical Science, teaches other students how to run optical science demonstrations for outreach events.

students environmental science. One of the goals of the two-year program, funded by the Agnese Nelms Haury Program in Environment and Social Justice, is to cultivate an interest in science in underrepresented populations in Southern Arizona.

Also new to WISE this year is the Girls Who Code Club, a local chapter of a national nonprofit teaching Core4 computer science to girls in grade 8-12. The group will meet at the UA campus main library on most Saturday mornings.

Williams points out that many minority families in Tucson are not even aware that the UA campus is open to all. "Many people who work with Tucson's

low-income families in which no members have ever attended college report that these families aren't aware that high-school students can be on campus without being enrolled," says Williams. "They think that to be on campus, you must be enrolled or have event tickets." She notes that just getting familiar with an academic environment is important.

According to Marta Civil, parental involvement is also key to the success of young women entering fields of science. A UA alumna, Civil, a developer of teaching innovations designed to increase diversity of students of mathematics, is the Dr. Roy F. Graesser Endowed Chair in Mathematics at the university and does math outreach throughout the community.

Leslie Tolbert, regents' professor with the UA Department of Neuroscience and the UA's senior vice president for research, says there is still a significant need for creative measures to combat the unconscious bias that turns women away from science and engineering fields. "I see more young women entering science every day,

but it is still a challenge to keep them engaged as scientists/engineers and school teachers and university professors," explains Tolbert.

The National Action Council for Minorities in Engineering reported that in 2010, women made up only 13 percent of the engineering workforce, and about 14 percent occupied engineering faculty positions.

"The goal is to reach the critical mass that makes discrimination a thing of the past," says Tolbert.

In 2014, 47.5 percent of medical school graduates were women, the lowest percentage since before 2005, when it was 48.6 percent.

"Ask the female students in our undergraduate neuroscience courses, and they'll tell you that nothing is going to stop them!" says Tolbert.

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Claire Rogers is a local freelance writer. Comments for publication should be addressed to letters@desertleaf.com.

Congratulations to Ron Mercaldo for being named 2016 Lawyer of the Year by Best Lawyers.



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The Firm's reputation is based on proven success in the courtroom and large out-of-court settlements. Established in 1978, the Firm represents people who have suffered catastrophic injuries and the families of victims of wrongful death. Ron Mercaldo has tried more than 100 jury trials and won numerous multimillion-dollar jury verdicts and settlements for his clients. He is a fellow of the American College of Trial Lawyers, past president of the American Board of Trial Advocates and has been named a *Super Lawyer*, Top 100 Trial Lawyers, one of America's 500 Leading Lawyers, and named 2016 *Best Lawyers in America* for plaintiff's personal injury/wrongful death and 2014 Lawyer of the Year for Medical Malpractice. Carlo Mercaldo, a native Tucsonan with extensive litigation experience, joined the firm after serving as a Federal prosecutor with the Department of Justice in Washington, D.C. He has been named 2014 Rising Star by *Southwest Super Lawyers Magazine*. Marco Mercaldo, also a native Tucsonan, joined the Firm in 2013 and is licensed to practice in both California and Arizona. He is listed in San Diego and *Southwest Super Lawyers Magazine*. **PICTURED LEFT TO RIGHT:** Marco Mercaldo, Ron Mercaldo, and Carlo Mercaldo.

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