Meet Our New WE²ST Students:

Graduate Fellows...

The ConocoPhillips WE²ST Center welcomed three new Graduate Fellows this fall. Kevin Chan comes to us with a M.S. in Civil and Environmental Engineering and a B.S. in Environmental Engineering, from CSM. He is working under the guidance of Dr. John Spear to explore the biological aspect of treatment options for oil and gas wastewater. Kara Marsac comes to us with a B.S. in Geoscience from Eastern Michigan University and a M.S. in Geology from University of Nevada Las Vegas. She is pursuing a Ph.D. in Geochemistry under Dr. Alexis Navarre-Sitchler focusing on recycling processed water for oil and gas activities. Karl Oetjen joins us with a M.S. in Environmental Engineering and Science from Syracuse University and a B.S. in Geology and Environmental Science from SUNY Plattsburgh. He is currently working on a Ph.D. in Hydrology with Dr. Chris Higgins developing characterization methods and assessing the efficiency of treatment methods for produced waters.

...and Undergraduate Scholars

Five new Undergraduate Scholars were selected to join the WE²ST student cohort this fall. Kaylie Haynes is a junior in Chemical Engineering; she is working with Dr. Andrea Blaine to study irrigation of crops using produced water. Micaela and Michelle Pedrazas are twins from the Geophysical Engineering department. Micaela is working with Dr. Terri Hogue on impacts of oil production and wastewater injection on the GRACE signal. Michelle is working with Dr. Alexis Navarre-Sitchler on the spatial distribution of subsurface water chemistry in the Permian Basin. Taylor Poynor is a junior majoring in Environmental Engineering; she is working with Dr. Tzahi Cath to study the fouling characteristics of two different forward osmosis cellulose triacetate membranes. Holly Stuart is a junior in Chemical and Biochemical Engineering who is working with Dr. John Spear to characterize microbial communities associated with oil and gas production. Our new Scholars have all stepped in and done a fabulous job this fall!
Undergraduate Scholar Training

Each semester all Undergraduate Scholars receive more than eight hours of professional development training. Scholar Trainings are developed by Dr. Andrea Blaine and facilitated by the WE’ST admin team; they are held each month and include dinner, business, and both professional and research skill building. Some of the topics include oral communication training, development of personal/career value statements, social etiquette training, and personality effects on teamwork, communication, leadership and conflict resolution. In addition, this fall, all Scholars developed written research proposals and received extensive feedback from their instructors and peers. Scholar Trainings also provide additional collaboration time for Scholars to discuss their research efforts and make valuable connections with their colleagues. This specialized training program has resulted in the development of intangible professional and leadership skills that help make our WE’ST Scholars a cut above the rest!

This fall, WE’ST hosted two campus-wide seminars. On Oct. 28th, Dr. Jeffrey Balmer, Ms. Sophia Holtsnider, and Mr. Patrick Sullivan from Encana delivered a presentation highlighting some of the water-related challenges they have encountered and the solutions they have implemented to develop oil and gas in a responsible way. On Dec. 2nd, Dr. Kyle Murray from the Oklahoma Geological Survey and the University of Oklahoma delivered a seminar titled, “Synthesizing Petroleum and Water Management Trends with Market Forces and Seismic Activity in Oklahoma.” After both seminars, students and faculty had the opportunity to join the speakers for happy hour. This informal setting allowed for individual conversations with the speakers. The WE’ST Seminars are always well attended by students and faculty across all disciplines at CSM.

WE’ST Fellows and Scholars hard at work – the new center space provides plenty of room for collaboration

Dr. Kyle Murray from the Oklahoma Geological Survey delivers a WE’ST Seminar

Students pose for a picture at the ‘Who’s Who in the WE’ST’ Breakfast

Ella Walker, a WE’ST Fellow, introduces the seminar speaker

Scholars having some fun with a scavenger hunt during Scholar Training

Returning Scholars, Austin Shaffer and Kate Newhart, give an overview of WE’ST Research at Scholar Training

WE’ST Graduate Fellows and Undergraduate Scholars

WE’ST provides more than 8 hours of professional development and leadership skill training each semester to all Undergraduate Scholars!
Students in the WE²ST Center got to know one another a little bit better thanks to an all student breakfast in October. A team of Graduate Fellows planned the event to include a photo competition and a ‘fun fact’ guessing game. Students submitted both research and personal photos for the competition. They also submitted anonymous facts about themselves. At the breakfast, students voted on the photos and tried to match facts with people. (Check out some of the student photos on page 4!) In December, students attended another fun event in the form of a holiday dinner. Students received etiquette training and competed in teams to set a proper business dinner place setting in the fastest time. The dinner also provided a time to celebrate the first WE²ST Graduating Fellow! We are proud to welcome Liz Bell as our first WE²ST Alumna!

WE²ST Students Shine in the Limelight

Students in the public eye quite a bit this fall receiving awards and presenting at conferences. Aspen Anderson, a WE²ST Undergraduate Scholar, received an ARCS (Achievement Rewards for College Scientists) Foundation research scholarship. In addition, 4 Graduate Fellows attended and/or presented at the American Water Resources Association conference in Denver, and 4 WE²ST students presented research at the American Geophysical Union conference in San Francisco.

Shelton Elementary Gives Students an Opportunity to Communicate Science

The Education and Outreach efforts of WE²ST, led by Amy Martin, involved hosting a Math & Science Night at Shelton Elementary School as well as providing WE²ST students to help facilitate Shelton science labs on a regular basis. The theme of Shelton’s Math & Science Night was “Wild West”; it focused on the unique challenges that the West faces, especially with regard to water and energy. WE²ST Students led 9 different hands-on research stations which gave them numerous opportunities to share their science knowledge and current research. Parents and students alike valued this event; WE²ST received many compliments from Shelton’s staff and community members. Link to full story: http://www.minesnewsroom.com/news/mines-leads-hands-science-demos-k-6-students
The ConocoPhillips Center for a Sustainable WE²ST at Colorado School of Mines was formulated to promote the joint sustainability of unconventional energy production and water resources through education of water-energy literate graduate and undergraduate students and by conducting world-class research on critical topics in the field.

Leadership Team:
Terri Hogue, Director
John McCray, Deputy Director
Andrea Blaine, Assistant Director
Jessica Smith, Community-Corporate Relations
Amy Martin, Education & Outreach Specialist
Jackie Randell, Cassie Aungst, Administrative Assistants

New WE²ST Team Members
WE²ST welcomes Amy Martin as our Education and Outreach Specialist. Amy comes to us with a background in Civil Engineering; she previously worked for HDR as a consultant in Walnut Creek, CA. Amy has done a terrific job engaging the students in K-12 outreach activities. She is also serving as the Program Manager for the newly funded National Science Foundation Research Experience for Teachers—WE²NG Program led by Terri Hogue and Andrea Blaine. Jackie Randell has done a phenomenal job helping to get WE²ST up and running but is now moving to France. We welcome Cassie Aungst who will be replacing Jackie as our WE²ST Administrative Assistant. Cassie comes to us with a background in banking and insurance and adds great energy to our staff!

Stay tuned to hear about our upcoming trip to visit ConocoPhillips in Houston. The visit will include presentations from both ConocoPhillips employees as well as representatives from WE²ST leadership, faculty, and students.