Current Student gives to the Occupational Safety Department

Skyler Wheeler, a current occupational safety student from Idabel, Oklahoma, recently donated several materials from the Centers for Disease Control to the department, including cases of items regarding investigation and HAZMAT tools. Also, donated were several boxes of items such as Investigations of Temperature Rise in Mobile Refuge Alternatives, Coal Dust Explosibility Meter Evaluation and Recommendations for Application guides, National Survey of the Mining Population, NIOSH pocket guide to Hazard Chemical, and Radiological Terrorism Test Kits. “Skyler is an amazing young man with strong initiative and is always eager to help out our department. We’re fortunate to have him as part of our team,” stated Dr. Wayne D. Jones, department chair.

Math Graduate Receives Math Award

Southeastern mathematics major Birch Bryant is graduating in May, 2016, and he will begin working on a Ph.D. in mathematics in the fall at Florida State University. He has accepted a teaching assistantship, tuition waiver, and the DeWitt Sumners Fellowship Award at Florida State, which is given to only one incoming graduate student.

For fun, Birch recently completed construction of a multirotor helicopter. Components were ordered from various online sources. The interesting stage was optimizing the motor thrust to amperage pull, as the relation of thrust to amps is exponential. Varying amperage pull of the motors changes the battery requirement, and increasing pull increases the C-rating of the battery. The C-rating corresponds most significantly to the weight of the battery which then increases the thrust needed. After the assembly process, the on-board computer must be taught how the motors are oriented with respect to the three gyroscopic sensors and the PID controller must be tuned. In short the PID is an error correction function represented as a finite sum with three summands accounting for present, past and future error.

Mathematics major Birch Bryant with his self-made quadcopter drone

Pictured are Dr. Chris Bradshaw and Skyler Wheeler

“SE is an Affirmative Action/Equal Opportunity Institution.”
Fisheries and Wildlife Major Places Third at Research Day at the Capitol

Megan Knight, Fisheries and Wildlife major in the Department of Biological Sciences, was selected as Southeastern’s representative for Research Day at the Capitol, which was held March 29 at the state capitol in Oklahoma City. Megan presented her research to a panel of judges, and to various state legislators, as well as other interested parties. She placed third in the competition among all of the regional universities and community colleges in Oklahoma. Her poster was titled “Periphyton Assessment and Growth in a Restored Stream in Stillwater, Oklahoma.” This work is the culmination of a National Science Foundation - Research Experience for Undergraduates (REU) award and the internship that Megan completed during the summer of 2015. Megan’s research mentor and advisor is Dr. Tim Patton, Department of Biological Sciences.

Southeastern Hosts Computer-focused Native-American Conference

On April 8 to 10, 2016, Southeastern hosted the Oklahoma Native American Students in Higher Education (ONASHE) conference. Native-American students from around the state converged to the SE campus and attended various workshops and talks about opportunities available to them at the university level.

On Saturday the legendary (at least in the High Performance Computing community) team of Karl Frinkle, Department of Mathematics, and Mike Morris, Department of Chemistry, Computer, and Physical Sciences, assisted Southwestern Oklahoma State University computer science professor Jeremy Evert and his protégé Charles Sleeper in the presentation of the conference’s “Opportunities for Native American Students in High Performance Computing (HPC)” workshop.

The workshop consisted of information about the HPC infrastructure in Oklahoma as well as a Q&A session that enjoyed active involvement with the attending students. A side benefit of this event was the formation of future HPC activities involving SE and SWOSU that will potentially involve other regional universities.
Chemistry, Computer and Physical Sciences Host Science Olympiad Invitational Tournament

More than 170 middle school and high school students from 15 school districts across the state came to Southeastern on Saturday, February 6, to participate in the Oklahoma Science Olympiad Invitational Tournament hosted by the Department of Chemistry, Computer, and Physical Sciences. The students competed in two- to three-person teams in one or more of 23 events that included most areas of Science, Technology, Engineering, and Math (STEM).

Oklahoma has been involved in Science Olympiad for 15 years. Science Olympiad competitions are similar to academic track meets, consisting of a series of 23 team events in each division (Division B is middle school; Division C is high school). Each year, a portion of the events are rotated to reflect the ever-changing nature of genetics, earth science, chemistry, anatomy, physics, geology, mechanical engineering, and technology. By combining events from all disciplines, Science Olympiad encourages a wide cross-section of students to get involved. Emphasis is placed on active, hands-on group participation.

Teamwork is a required skill in most scientific careers today, and Science Olympiad encourages group learning by designing events that forge alliances. In Elevated Bridge, an engineering whiz and a student from wood shop can become gold medalists. Similarly, a talented builder and a student with a good science vocabulary can excel in Write It Do It, one of Science Olympiad’s most popular events.

Schools from Bethany, Broken Arrow, The Colony (Texas), Jenks, Norman, Oklahoma City, Piedmont, Tishomingo, and Warr Acres were among the entries.

A grant from the Presidential Partners scholarship fund provided a pizza lunch for the more than 225 students and volunteers who participated in the Olympiad. Faculty and staff from the department of biological sciences, mathematics, and chemistry, computer, and physical sciences volunteered to design events, write and grade exams, and provide the support to make this event happen.

Record Number of Occupational Safety Graduates

Eighty-one Southeastern Oklahoma State University occupational safety seniors took the senior exit exam. Those undergraduate students, 71 on the Durant main campus, six in Ardmore, and four in Van Alstyne, combined with 11 online master’s degree students, equaled a record 92 spring/summer 2016 graduates in occupational safety and health!
Occupational Safety Students Awarded Scholarships

March 24 was a good day for Southeastern Occupational Safety & Health students as two $500 scholarships were presented to SE Safety students. Mr. Johnny Srader, OHS Officer of Tetra Pak, Inc. in Denton, Texas, presented the ASSE Ft. Worth Chapter safety scholarship check to Christian Tollett. Srader also presented the ASSE Skipper Kendrick safety scholarship to Benito Bocanegra. Congratulations, students, for your accomplishments and thank you to the ASSE Ft. Worth Chapter and Mr. Skipper Kendrick for investing in our Southeastern safety students! The American Society of Safety Engineers (ASSE) is the largest occupational safety advocacy organization in the world with almost 40,000 members, and is a vital and strong partner with Southeastern Oklahoma State University’s Department of Occupational Safety & Health.

Dr. Chris W. Bradshaw Attends Hearing Loss Prevention Seminar

Dr. Chris W. Bradshaw (pictured) recently attended the Hearing Loss Prevention Seminar sponsored by 3M in Oklahoma City. Various solutions for preventing occupational hearing loss were presented along with a demonstration of the new E-A-RFIT tester. As a result of Bradshaw’s attendance, 3M has graciously donated the E-A-RFIT system to the Department of Occupational Safety and Health at Southeastern Oklahoma State University. The E-A-RFIT system is a new way of accessing the attenuation provided, in real time, by hearing protection devices worn by employees. The system is a fast, direct test method that measures sound level outside and inside the ear at the same time. This process allows a real time noise reduction rating for the type of hearing protection worn. Employees do not have to respond during the test, but the test gives valuable information such as proper placement of hearing protectors and the real attenuation provided. The donated system will allow students in the Occupational Safety and Health program, and more specifically Dr. Bradshaw’s Acoustics, Vibrations, and Noise Control class, to gain hands-on experience by performing testing of various hearing protection devices.
Bomb Disposal Safety Presentation

On February 8, 2016, the ASSE/SE Student Section met on campus with personnel from the Defense Ammunition Center, under the United States Army Technical Center for Explosives Safety. Presenters included Ms. Theresa Smith, Mr. Paul Looney, Mrs. Amanda Baker, and Mr. Blaine Smith. The presentation covered an Explosive Safety Overview, and included many tips for how to obtain an internship with this and many other U.S. Government organizations.

Additionally, we were honored with the presence and assistance of Mr. Quinton Picone, an Iraq war veteran and double amputee. Picone’s assistance with the coordination of their presentation proved invaluable, and the student members showed great interest in the program. Specifically, the presentation consisted of the history of explosives safety, regulations/laws, hazard classes, opportunities outside the box, pathways for students, and resources, followed by a question and answer session. A total of 67 student members were in attendance, and interest from our student body remained high in the days following the presentation. The professionalism exhibited by the team was exceptional, and we hope to see much more of them on our campus for future presentations to our ASSE/SE Student Section.
Matt Maxwell: SACNAS Conference Awardee

Matt Maxwell of Southeastern Oklahoma State University received a Student Presentation Award at the 2015 SACNAS (Society for Advancement of Chicanos/Hispanics and Native Americans in Science) National Conference in Washington, D.C. His presentation was titled, “Effect of Enzyme Loading on Extrusion and Alkali Extrusion Pretreated Sweet Sorghum Bagasse.” Maxwell performed this research project in the summer of 2015 at Oklahoma State University.

Maxwell is a Chemistry/Biology major (Medical Sciences track) from Durant. Dr. Tim Smith, Chair/Professor of Chemistry, Computer, and Physical Sciences serves as his academic advisor. Maxwell also credited his Choctaw Success Coach at Southeastern, Wakaya Wells, and the Choctaw Nation of Oklahoma College Career and Retention Program for their assistance. The SACNAS conference was held Oct. 29-31, 2015. Maxwell was selected as a standout among 1,000 undergraduate and graduate student presentations.

Physics Laboratory Improvements

The Department of Chemistry, Computer, and Physical Sciences (CCPS) is in the process of upgrading its General Physics Laboratory. The upgraded labs utilize a variety of sensors to collect data with high precision allowing for more accurate software-based data interpretation using Pasco equipment. The laboratory experiments are being redesigned by new Physics instructor, Mr. Alexander Spahn, who joined the department in the Fall of 2015. The improvements were made possible by a Title III grant for Native American Serving Non-tribal Institutions written by Dr. Tim Boatmun and Mr. Chris Wesberry providing over $7,000 in equipment purchases. These purchases were supplemented by an additional $6,000 from CCPS funding sources. Student feedback on the utilization of new Pasco sensors for data collection and data analysis has been very positive at this point. As funding allows, the department hopes to purchase another set of sensors and physics apparatus that would allow for the complete redesign of the General Physics laboratory in the

Seeing Singularity

Dr. Colin Heyes from University of Arkansas’s Department of Chemistry addressed a large crowd the departmental seminar on Tuesday evening, April 19. Students and faculty came to hear Heyes’ presentation over single molecule detection and its uses in understanding how biomolecules fold. Heyes has published more than 20 journal articles and has seven graduate students in his current research group at the University of Arkansas. Heyes and the students had a good discussion about what the graduate school experience would be like, and he presented an overview of his research in single molecule detection. Heyes also discussed opportunities for freshmen and sophomores to come to the University of Arkansas to participate in a mini-summer research experience. Thanks Dr. Heyes!
Southwestern Oklahoma State University

Southeastern Travelers Tour the British Isles

A group of forty-seven faculty, staff, students, alumni, and a private family group embarked on an eleven-day spring break journey to the British Isles (Ireland, Wales, England). For many of our group, it was the first time to travel abroad or even on a plane. We began our journey with an eight-hour flight from Dallas to London’s Heathrow Airport and from there we flew to Shannon, Ireland. A quick hop across the Irish Sea and our adventure began.

Our first stop on the tour was the 800-year-old village of Adare on our way to a two-day stay in Killarney. While there, we saw the Kerry Bog Village, traversed the Ring of Kerry, and enjoyed some amazing food. Our next stop was Blarney Castle. We also had an opportunity to see the Choctaw Memorial in Middleton, Ireland, thanks to Dr. Meg Cotter-Lynch who contacted the sculptor and arranged for us to see the memorial.

We arrived in Dublin just in time for St. Patrick’s Day. We were given an early tour of the city including Phoenix Park, St. Patrick’s Cathedral, and Trinity College, which houses the Hall of Books and the Book of Kells. We were then free to wander the city and enjoy the parade. The next day we departed Dublin via ferry for Wales.

In Wales, we travelled through the mountains of Snowdonia National Park. We visited Castle Beaumaris, one of the castles built by Edward IV of England, better known as Longshanks of Braveheart fame. The next stop was Stratford-Upon-Avon, birthplace of William Shakespeare. After touring his birthplace, we separated into smaller groups and explored Shakespeare Park and Christ’s Church, the final resting place of Shakespeare and his family. The next stop was Oxford, England’s quintessential university town.

In London, one of the safest cities in the world, we were able to explore the city according to interest, seeing sights such as St. Paul’s Cathedral, Shakespeare’s Globe Theater, the Imperial War Museum, the British Library, and other wonders around the city. Some of our group traveled only for nine days, but those of us who remained were treated to a day trip to Bath, where we enjoyed a tour of Stonehenge. We ended with a free day in London to sightsee, museum hop, and eat. For some of our travelers, the food was the best part of the trip.

We are hopeful that international travel will become a bi-yearly event here at Southeastern. Anyone up for an adventure in Italy?

Bann Draws a Full House

Professor Jim Bann from Wichita State University Department of Chemistry addressed a full house on the evening of Thursday, April 14th, in the Department of Chemistry, Computer, and Physical Sciences. More than 50 students and faculty came to hear the presentation. Bann presented his research over how anthrax protective antigen forms a pore in a cell membrane. Thanks Dr. Bann!

Dr. Jim Bann (far left) addressed the audience during chemistry seminar.
### Occupational Safety and Health Alumni Assist Tornado Victims

During the recent tornado in Garland, Texas, Southeastern occupational safety alumni Brian Lauer (left) and Jason Cole (right) clean up debris for a Baylor Medical Center employee who lost a home. Both Lauer and Cole are safety managers for Baylor Medical Center in Dallas-Fort Worth and are frequent guest speakers on the Southeastern campus.

### SE ACS Parents Day Cupcakes

At Parents Day 2015, the SE American Chemical Society chapter hosted a table where kids of all ages could learn a little science while creating a decorated plastic foam “cupcake.” After hearing the basic instructions and donning protective gloves and safety glasses, visiting children and parents made about 90 cupcakes. Some of the supplies were funded by the SE Office of Student Life.

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Pictured (left to right): ACS Treasurer Katy Gaskill, Vice President Elizabeth Landers, Angela Heath, Secretary Mariah Madewell, and Chapter Advisor Dr. Nancy Paiva.