

Engineers' Council Year in Review

The Engineers' Council at NC State University is a governing body for engineering student organizations. Every year we plan and host several events for engineering students and organizations. Some of the events that we plan are the Engineering Career Fair, Engineers' Week (E-Week) and the Senior Awards Banquet. In addition to planning events, the Engineers' Council also appropriates the student fees to various student organizations. These organizations take the fees and use them toward their events that they plan throughout the year.

This past year has been an amazing year for the council as we have grown and become more involved within the college. The first project the council took on this year was to host the regional conference for the National Association of Engineering Student Councils (NAESC). This conference took place October 15-17 this past fall on campus. Students from Pittsburgh University, The University of Maryland and Virginia Tech attended the conference. Through the various conference workshops, we all shared ideas on how to best run the council and our NAESC region. The conference was a blast for every student involved, and we look forward to attending the national conference in St. Louis this April and the regional conference in Pittsburgh next fall.

The major event put on annually by the Engineers' Council and the College of Engineering was the Engineering Career Fair. This event, held February 3, 2005, drew more than 120 companies from all over the country, including representatives from the CIA, Dell, Hewlett Packard, Duke Energy, Lockheed Martin, Northrop Grumman Corporation, Boeing, and the US Navy. This year's career fair turned out to be one of the largest career fairs put on by any engineering school. The career fair serves the engineering students as an excellent tool for obtaining employment positions, summer internships and co-ops.

One of the council's most important legacies this year was to add three more endowed scholarships to the Engineers' Council Endowment Fund. This year the council is giving \$25,000 to the College of Engineering to add three more endowed scholarships for engineering students. This donation will generate two \$500 scholarships to engineering students who wish to study abroad during their time at NC State. The endowment will also give a \$500 scholarship to a freshman engineering student who serves as the Engineers' Council freshman representative. These three scholarships will add to the E-Council endowed scholarship that is given to a junior or senior who demonstrates merit, service and leadership qualities within the college.

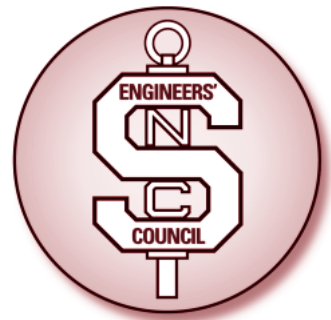


This photo was taken at the closing dinner for the NAESC Regional Conference hosted by E-Council. Pictured are (centered) Andrew Barnes, (top left to right) Paul Antalik, Scott Shore, Tyler Schweitzer, Daniel Jones, Jessie Stewart, and Andre Hargrove.

Along with setting up the endowed scholarships, this year the Engineers' Council had the privilege of sponsoring six students participating in the International Technology, Innovation and Leadership Conference, also known as INNOVATE. Each of these students received a \$500 scholarship to travel to Singapore and Japan over spring break. During their trip they learned how technology is intertwined with academics, government and industry in these two countries. These students participated in meetings with key business, academic and government leaders as well as attended professional tours of several well-known companies.

To end our year the council has planned several events to celebrate Engineers' Week. These events were geared to bring the engineering students and the engineering student organizations together in a healthy competition to raise money for charity. Students were able to participate in several events such as tug-of-war, blood drive, penny wars and a poker tournament. The tug-of-war event was sponsored by the Society of Women Engineers (SWE) and the National Society of Black Engineers (NSBE), while the blood drive was sponsored by the American Institute of Chemical Engineers (AIChE). The organization that had the most student

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E-Council members pose with a new friend, Hieu Nguyen from Texas Tech University, in front of the Jefferson Memorial and the St. Louis Arch at the NAESC National Conference. Pictured are (front left to right) Carole Williams, Hieu Nguyen, (back left to right) Andrew Barnes, Paul Antalik and Tyler Schweitzer.

Year (cont. from front)

involvement was able to donate all of the proceeds to a charity organization of their choosing. To kick off the week, CTO of Red Hat Michael Teiman gave a presentation to engineering students about his experiences. The last event of the semester will be the Senior Awards Banquet. During this time seniors who have demonstrated excellence and achievement within the college will be honored.

In all, this has been one of the most successful years for the council, and I would like to thank every member and officer who helped to make this year a success!

Tyler Schweitzer

Chair of Engineers' Council

Officers

Chair	Tyler Schweitzer
Vice-Chair	Jessie Stewart
Treasurer	Andre Hargrove
Secretary	Kenneth Ritchie

Members

NE	Randy Lloyd
PSE	Sara Welter
MAE	Carole Williams
CSC	Andrew Barnes
CE	Paul Antalik
IE	Kristen Beatty
CE	Grady McCollum
BAE	Scott Shore
BE	Sindhu Chandramouleeswaian
TE	Andy Coughlin

Engineers' Council Appropriations - Fall 2004 - ACM/AITP Usage

All engineering students pay student fees to their college. As a part of those student fees, a certain percentage is given to the student council of that college to distribute for student activities. Many student activities occur through student organizations, and each organization is eligible to apply to the Engineers' Council for funding of their activities. ACM/AITP (Association for Computing Machinery/Association of Information Technology Professionals) was fortunate to receive the following amounts in fall 2004:

Programming Competition	\$140.63
Computer Donations	\$39.38
	<hr/>
	\$180.01

Programming Competition Details

ACM requested funding to sponsor five teams at the annual ACM Programming Competition. This activity provides college students with an opportunity to demonstrate and sharpen their problem-solving and computing skills. The competition is a well-known national event and is closely watched by academia and industry alike. Attending students had the opportunity to compete against other regional Universities. The competition fostered both a sense of teamwork and a heightened ability to program. No single student can easily come up with a solution, but a team of students can. Once the solution is found, the team must also work together to code the solution efficiently.

Through E-Council funding, ACM was able to register an additional team that would not have been able to go otherwise. A total of three teams traveled to Duke University on November 13. Of the more than 150 regional teams, the three NC State teams placed 32nd, 39th, and 40th, respectively. Many of the participants enjoyed the competition and plan to compete again next year. Until then, they have plenty of time to sharpen their skills and drive the Wolfpack to the Number 1 seed in the Mid-Atlantic Region.

<http://www.cs.duke.edu/~rodger/progcontest/>

<http://midatl.cs.vt.edu/contest/board/full.html>

Computer Donation Details

AITP requested funding for expenses relating to computer donations. Last year we took 30 computers (donated by GoodWill) to a Henderson, NC, middle school in need of equipment. According to Larry Webb, assistant principal of the school, the computers were to be set up in two separate labs for students assigned to in-school suspension. Accelerated Plus computer programs in math and reading, provided by state bonds, would allow students to enrich their experiences while in suspension by using that time in a productive way.

The NCSU ACM/AITP chapter is planning another such donation this year.

Unfortunately, due to unforeseen circumstances and the urge to deliver the computers hastily, 9 of the 30 donated computers were delivered unusable. Many of the machines had hardware problems that could have been fixed inexpensively, had funding been available to do so. With the expectation of similar problems arising this year, ACM/AITP requested funding that would allow simple repairs.

http://www.acm.org/chapters/stu/2004_awardCommunity.html

http://www.forbetterlife.org/news/news_story.asp?newsID=661

Aerial Robotics

Over the past six years, Aerial Robotics has represented NC State's engineering program at international Unmanned Aerial Vehicle (UAV) Competitions and has placed in the top five at every competition. Our UAV has a smart computer system that flies the vehicle autonomously and a wireless video system that sends back quality video to a ground station for the judges. This complex array of hardware, software and flight vehicles brings together ECE, MAE, and CSC students to work toward a common goal in a business-like environment.

With support from our sponsors in fall 2004, Aerial Robotics has acquired a new test airframe, high-resolution video camera, long-range wireless video equipment and updated ground station hardware. This new equipment has helped simplify systems using commercial off-the-shelf (COTS) parts, allowing team members to focus on hardware integration and software development. The Aerial Robotics test airframe is currently 100 percent autonomous with two onboard real-time pan-tilt video transmission systems. A grid-overlay software program is under testing that will further expand our aerial imagery capability. Aerial Robotics prepares to compete in the Association for Unmanned Vehicle Systems International (AUVSI) 3rd Annual Student UAV Competition in summer 2005.

Aerial Robotics is proud to represent NC State Engineering and is thankful for support from the NCSU Engineers' Council, Boeing, Square D, Hobby-Lobby, Black Widow A/V, Space Age Controls, Cloud Cap Technology, PNI Inc., NCSU student government and private donors.

Dan Edwards
President
Aerial Robotics

American Institute of Chemical Engineers (AIChE)

The American Institute of Chemical Engineers (AIChE) student chapter had a very active agenda for the fall. One of our strongest events, our luncheon program, was a success. Companies would arrive on campus and sponsor lunch, give an overview of their company along with possible job opportunities, and give AIChE members a chance to network with the professional world. During the luncheon, AIChE presented a book of resumes along with a CD that contained our members' resumes in an effort to help the chapter members find employment. Along with over 20 luncheons, we also hosted a dinner/resume work-

shop with a representative from Framatome-ANP. Joining with three other organizations, IEEE, ANS, and ASME, students and the representative discussed resumes, interviewing skills and recruiting for over four hours. Other activities included social events, ranging from karaoke nights to a game night at FunWerks for AIChE members.

One of the main events of the fall is the AIChE National Conference. The conference was held in Austin, and chapters came from all over the country to learn more about chemical engineering, how to expand their careers, and to meet other

(see *AIChE*, page 4)

American Indian Science and Engineering Society (AISES)

First, as president of the NCSU chapter of the American Indian Science and Engineering Society (AISES), I would like to express our gratitude towards the Engineers' Council for bestowing funds to support our activities.

We realize that this is a step of faith and hope that, through this report, you will find that we utilized the money as you would expect of trustworthy and honorable students.

Native American Recruitment, held during February 17-19, was a huge success. We had over 20 students to attend, representing six tribes from nine counties. With scheduling support and planning from the Multicultural Student Affairs office, recruits were given an opportu-

nity to hear from current students about the university, attend a discussion with both admissions and financial aid, engage in several enrichment activities (i.e., bowling and a movie), as well as, what I feel was a highlight for the event, an invitation to attend the William C. Friday Award presentation honoring our own Arlinda Locklear. For this event we sponsored bowling, hosted students and took these students with us to our classes.

Related to this recruitment was the reception honoring Ms. Arlinda Locklear, an attorney working in tribal law and policy in Washington, D.C. Her most notable work, yet many times overlooked, is that she was the first Native American woman to present a case before the Supreme

Court and win. Her recent works include working on behalf of the Lumbee Indians of North Carolina to pass bills through Congress so that the tribe will gain federal recognition, a process that has endured over 125 years.

During this reception, Native American organizations were invited to attend, and because of the scheduling, so were the recruitment participants. There we honored Ms. Locklear with a traditional Lumbee pine needle basket and a spiral coral bracelet.

Other events included the Native American Student Awards (NASA) Banquet and the 15th Annual NASA and AISES Pow Wow held April 1 and 2, respectively.

Sincerely,
Nina Chavis
AISES President, 2004-05
Senior, Chemical Engineering

AIChE (cont. from page 3)

students, professors and professionals in the field. With the gracious support of many companies, the Department of Chemical and Biomolecular Engineering, the Engineers' Council and fund-raising efforts from AIChE members, we were able to send close to 30 students from our chapter to represent NC State University. Events at the conference included seminars on the various fields in chemical engineering, workshops on how to expand local student chapters, an awards banquet and various competitions. Students met with graduate school representatives and company representatives to further their career. Professors from NC State and other universities talked with our student members about their experiences as undergraduates and their careers. The NCSU student chapter was among the larger represented groups, and the feeling leaving Austin was of joy.

Using information gathered from the national conference in Austin, our local chapter has made an effort to expand. AIChE has created a new website that is gaining in popularity with up-to-date information and current contact information for various companies. We have generated new ideas for fundraising in spring. Some members have decided on what to specialize in after hearing speakers on different seminars. Finally, our members had a chance to really interact with each other outside the classroom and allow friendships to grow. Without the support of organizations like the Engineers' Council, our chapter would not have grown to what it is now.

Paul Antalik
AIChE – Chapter President

American Nuclear Society (ANS)

The American Nuclear Society (ANS) Student Chapter has continually attended the annual National Student ANS Conference. Again this year, the NC State University chapter attended the conference, held April 14–16 at Ohio State University.

This conference aims to provide a forum for nuclear engineering students to share their university contributions to current cutting-edge research. The spotlight will be on young nuclear professionals as the future stewards of nuclear technology. Students will interact with fellow nuclear engineering students and today's industry leaders. From my personal experience, I can assure you that the forums are very impressive and cutting edge. The career fair is quite large and provides nuclear engineering students with very

valuable contacts strictly within the nuclear field, which is difficult to obtain at most other career fairs.

The conference is an invaluable career opportunity as well as an excellent place to share knowledge that pertains to all aspects of the nuclear field. The American Nuclear Society, NCSU Student Chapter is very thankful for the support of the Engineers' Council.

Brandon Clark

President

ANS - NCSU Student Chapter

American Society of Agricultural Engineers (ASAE)

This semester the American Society of Agricultural Engineers (ASAE) Student Chapter has begun the fabrication of the 1/8-scale tractor. The tractor will be taken to East Moline, Illinois, to participate in the competition over the June 4th weekend.

A traditional four-tire design has been decided upon, and the tractor is being designed with four-wheel drive. Currently the frame is nearing completion. Parts are still being obtained.

The other major activity this semester for the ASAE is the regional rally. NC State will host the Southeast Regional Rally for other student ASAE branches. The rally took place April 7-9. The rally included tours of local biological industry and activities. The tours helped to show different opportunities that exist in the Raleigh area.

The trip for the international ASAE meeting in July is not yet organized due to the large effort necessary for the regional rally.

John M. Long

President

ASAE - NCSU Student Chapter

American Society of Mechanical Engineers (ASME)

The student chapter of the American Society of Mechanical Engineers (ASME) at North Carolina State University has historically been one of the most active in the United States and the world. We have won the ASME Most Active Section Award three of the past four years, and this year we sent our second straight design team to the International Mechanical Engineering Congress and Exposition (IMECE) to compete against the brightest mechanical engineering student minds in the world.

Thanks in part to the support of the Engineers' Council, ASME was able to send 13 people to the IMECE in Anaheim, California. During the course of our five-day stay in Anaheim, we packed as much education and entertainment as possible. We attended a Young Engineer's Forum, where we learned about leadership and team building, as well as multiple technical sessions debuting the latest mechanical engineering technologies and discussing cutting edge techniques and theories. The design team competed well; however, a technical difficulty limited our robot's effectiveness and relegated us to a tenth-place finish.

It was not all work and no play, however. We took an afternoon to tour Hollywood and watched the sun set from the Santa Monica Pier. On Saturday we traveled to Pomona Raceway Park and watched the qualifying for the National Hot Rod Association's final race of the season. While books and equations can teach us the theory of force and motion, watching (and feeling) a Top Fuel dragster flex, vibrate and cut through the air certainly cemented both our understanding and our desire to complete our curriculum. In addition to all the knowledge we gained and the fun we had, the trip was a fantastic bonding experience for the entire group. Without the graciousness of the Engineers' Council to help make the trip affordable for more of our members, the dynamic simply would not have been the same.

Jason Giaquinto

NC State ASME - Chair

Biomedical Engineering (BME) Society

For the second consecutive year, the Biomedical Engineering Society at North Carolina State University attended the Biomedical Engineering Society National Conference held in Philadelphia, Pennsylvania, October 13-17, 2004. Our chapter was able to send 18 students to this conference, which was an increase from the 13 we sent to Nashville, Tennessee, in 2003. Students attended lectures on various topics, including tissue engineering, rehabilitation engineering, bioinstrumentation and neural engineering. Workshops, information sessions on graduate programs and a mini-career fair were also available to students during the conference. It was a wonderful experience, and we hope to continue to send students to future conferences. The knowledge they gained and opportunities made available to them at the conference are ones that would otherwise pass them by.

The Biomedical Engineering Chapter at NC State has continued to hold monthly meetings in which representatives from industry come in to speak to our students. This year alone we have had presenters from multiple medical device

(see *Biomedical*, page 6)

Biomedical (cont. from page 5)

companies, a consulting firm and a medical imaging company. The chapter has held fundraising and social events as well. We have also established a chapter library for students to use while on campus doing research or homework. It is a valuable tool for our students.

The proudest achievement for the Biomedical Engineering chapter is the numerous service activities we have performed. A canned food drive was held in November for the Raleigh Food Bank in preparation for Thanksgiving. In December we sponsored a family of seven for Christmas. Money was collected and gifts were purchased for this family.

For the month of February we collected stuffed animals for the Raleigh area police and fire departments, who give the stuffed animals to children who are suffering a traumatic experience in which the fire or police departments have responded. We will wrap up the semester by participating in Habitat for Humanity and Service Raleigh.

Nicholas Jardine

President

Biomedical Engineering Society -
NCSU Student Chapter

NC State University is dedicated to equality of opportunity. The University does not condone discrimination against students, employees, or applicants in any form. NC State commits itself to positive action to secure equal opportunity regardless of race, color, creed, national origin, religion, sex, age, or disability. In addition, NC State welcomes all persons without regard to sexual orientation.

Textile Engineering Society (TES)

The Textile Engineering Society (TES) requested funds for our Annual Senior Banquet. This event takes place each year for our graduating seniors and provides faculty, students and parents the chance to interact. Each year at this event, food is catered, gifts are presented to graduating seniors and guest speakers present lectures.

At the time of this writing, we have yet to hold this banquet and have not used the money appropriated to us. Also, we have yet to receive these funds because we requested to receive the money in March.

President: *Andy Bivins*

Secretary: *Naomi DeBord*

Textile Engineering Society

Engineering Career Fair

Human resources manager, Kimberly Storey, discusses the opportunities at Plexus with Demetrius Harrison, a sophomore in electrical and computer engineering, at the 2005 Engineering Career Fair. (Photo: *Jennifer Weston*)



<http://students.engr.ncsu.edu/e-council/>

About the E-Council

The Engineers' Council is the representative assembly for the engineering undergraduate student body. The Council meets regularly and addresses issues of concern to engineering students and to appropriate funds to Engineering organizations. The Council is also involved in the organization of events and activities for engineering students, including the Engineering Career Fair and E-Week.



Carole Williams takes a picture of (from left to right) Paul Antalik, Andrew Barnes and Tyler Schweitzer underneath the St. Louis Arch at the NAESC National Conference.

Technical Association of the Pulp and Paper Industry (TAPPI)

TAPPI represents the Technical Association of the Pulp and Paper Industry. The NCSU TAPPI Student Chapter operates by an elected body of student officials with support from a faculty advisor. The purpose of this organization is to promote involvement in professional, educational and social activities to students. TAPPI also strives to be an ambassador for the Department of Paper Science and Engineering and the colleges of Engineering and Natural Resources.

The NCSU TAPPI Student Chapter attended the National TAPPI 2004 Engineering and Pulping Conference in Atlanta, Georgia, October 31–November 2, 2004. Thirteen students attended: seven seniors, two juniors, two sophomores, and two freshmen. Members had the opportunity to interact with national TAPPI members from around the world. The conference included technical presentations entitled “Black Liquor Gasification,” “Pulping Eucalyptus and Acacia Trees,” “Strategic Design of Global Supply Chains,” “Effective Asset Management,” and more. The closing session was a New Technology Showcase where chemical and equipment suppliers presented solutions to industry problems using advanced technological developments.

TAPPI’s Annual Engineering and Pulping Conference is one of our chapter’s most anticipated events. The students look forward to the networking opportunities and technical presentations at the conference.

Thanks to the Engineers’ Council, we were able to attend this event that widens our academic and professional horizons.

National TAPPI, our parent organization, is organized into local sections. The NCSU chapter is associated with the Virginia–Carolina local section. This section held a spring conference in Rock Hill, South Carolina, February 17-18, 2005. Sixteen students from our chapter attended this conference. This group comprised 9 freshmen, one sophomore, one junior and five seniors.

The conference was held at the Hilton Garden Inn in Rock Hill, South Carolina. The conference, entitled “Energy Solutions for Diverse Mill Applications,” focused on ways to reduce energy cost and consumption throughout various types of paper mills. Students attended technical sessions regarding steam savings, recausticizing area improvements, pump efficiencies and more. Students were also able to network with industry professionals during a conference social.

The conference included a mill tour of Bowater Inc.’s Catawba facility. This mill has recently installed a new fiber line utilizing some of the newest pulping and bleaching technology in the industry. The Catawba mill also operates the third largest paper machine in the world. This was an amazing opportunity for our students to see cutting-edge technology in the paper industry — usually only read about in our textbooks!

NC State Hosts Successful 2005 Engineering Career Fair

The College of Engineering at North Carolina State University hosted its annual Engineering Career Fair on Thursday, February 3, from 9:30 a.m. to 4 p.m. in the Jane S. McKimmon Center. The largest career fair held for engineering students at NC State, the event attracted more

than 100 companies to the campus and more than 1,800 students attended. The annual event provides an opportunity for prospective employers to meet with students interested in working for their companies.



Swati Patel, a senior in electrical and computer engineering, talks with Scott McCoy, senior engineering manager for Harris Corporation, at the 2005 Engineering Career Fair. Harris Corporation brought its NC State alumni and used a beach theme to attract attention at the event.



Maurice Watkins, a student in industrial engineering, gets information from Reggie Bunn of International Paper at the 2005 Engineering Career Fair. (Photos: Jennifer Weston)

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