Innovative Design Projects Provide Real-World Solutions

Thanks in part to the ongoing support of our alumni, friends, and donors, ECE students can take part in a variety of interdisciplinary Senior Design projects and competitions that allow them to experience the practical side of learning and problem solving and work as a team to make their concepts become reality. The “ROACH” walking robot and “RAMBox” series controllers are two unique examples of projects that exemplify this type of cross-functional collaboration.

ROACH to the Rescue

On September 11, 2001, terrorists turned the city of New York into a scene of urban devastation. America’s united response to the tragedy was truly amazing, but did you know that robots also played a role in the relief effort? Maneuvering places too small for a human or search dog, robots from the Center for Robot Assisted Search and Rescue (CRASAR) helped teams search for victims and detect hazardous materials. Although no victims were found, the deployment generated much data on how robotic vehicles can be used to aid in search and rescue activities.

This May, a team of four ECE students and seven ME students will compete for the first time in the NIST/AAAI RoboCup Urban Search and Rescue Robot (USAR) Competition in Atlanta, Georgia. ROACH, the team’s wirelessly operated walking robot, will be required to traverse three arenas of increasing difficulty, while locating simulated victims in unstructured environments. Part of the team’s score is determined by ROACH’s ability to generate a map of victim locations and states. Characteristics used to identify the victims include motion, sound, heat, visual form, and carbon dioxide.

RAMBox Sets the Scene

Lights, camera, action! When it comes to organizing and directing a theatrical event, precise timing and cutting-edge technology is required to set the perfect scene. That’s where RAMBox comes into play. Working with CSU’s theatre department, a group of ECE students recently developed RAMBox series controllers to help solve one of the challenges of on-stage production: running all desired stage effects from one control board.

The theatre department’s previous system required hiring manual laborers to control additional computers, fog machines, wall outlets, and slide projectors. The ECE design team’s RAMBox series controllers, consisting of four compatible devices, allowed the department to eliminate this additional labor and begin managing more aspects of its performances from a single control board.

“Working with the theatre department helped us understand the process and challenges of devising a real-world solution for a customer,” says Matt Johnson, ECE senior. “RAMBox was first used, and worked without fail, at the 2004 productions of To Kill a Mockingbird.”

To learn more about the ways that your gift of funding or equipment can impact ECE student projects, please visit www.engr.colostate.edu/ece/alumni/giving.shtml or send an e-mail to ece@engr.colostate.edu.

Students to Showcase Projects at 2005 E Days

ECE students are putting the finishing touches on their design projects as they prepare for the annual Engineering Days (E Days) celebration on Friday, April 15. Their work will be on display from 9 a.m. to 3 p.m. in the Lory Student Center. The event, which is free and open to the public, will showcase design projects and demonstrations from electrical and computer, chemical, civil, and mechanical engineering.

Educating Students to Compete in a Global Economy

As economies around the world continue to integrate and grow increasingly competitive, the role of higher education in preparing students to live and work in a global society is more important than ever. Recognizing the sweeping impact of globalization, the ECE department is committed to providing students with a learning experience that prepares them to compete in an ever-changing marketplace.

ECE is working closely with its industrial partners to better understand current trends and develop strategies to address market demands. At the department’s last Industrial Associates Board (IAB) meeting, the group engaged in productive dialogue regarding global competitiveness and outsourcing. ECE Department Head Tony Maciejewski continued on page 5
Professor Gary Robinson Retires

After more than 20 years of service, fall 2004 marked the last term at Colorado State for ECE Professor Gary Robinson. Engineering faculty, staff, alumni, students, and friends bid Robinson a fond farewell at a retirement reception at the College of Engineering’s Internet Cafe on December 7, 2004.

“Dr. Robinson’s contributions to the ECE department have been invaluable,” says ECE Department Head Tony Maciejewski, “but what sets him apart are the relationships he has built with his students over the years.” He adds, “We wish him all the best in his retirement.”

Since arriving at Colorado State in 1984, Robinson has taught courses in circuits, electronics, semiconductors, optoelectronic and microelectronic devices, integrated circuit design, and electromechanical devices. He also held visiting research positions with Hewlett Packard Laboratories, the Perkin-Elmer Corporation, and the Naval Research Laboratory. Robinson is a Fellow of the IEEE and a member of the American Vacuum Society.

Robinson plans to spend his retirement relaxing and sailing the Pacific Ocean with his wife, Sharon.

Student News

ECE Unveils New Web Site

www.engr.colostate.edu/ece

The address is the same but the ECE department’s revamped web site has an entirely new appearance along with enhanced and growing content. Launched in October, the site’s improved navigation and functionality helps users gain quick and easy access to a host of new tools, resources, and information about the ECE department and its constituents. We invite you to visit the new site and encourage your feedback and suggestions at ece@engr.colostate.edu.

MaryAnn Stroub Joins Department as Web Administrator

The ECE department is pleased to welcome MaryAnn Stroub to the position of web administrator. In her new role, MaryAnn is responsible for all technical aspects of the new ECE web site, including content management, file maintenance, and day-to-day updates.

Prior to joining ECE, MaryAnn served as a web technologist and project manager for MITRE Corporation, where she helped design and implement the company’s corporate Intranet.

“MaryAnn played a crucial part in the launch of our new department web site,” says Tony Maciejewski, ECE department head. “We are glad she’s on board to help us continually improve and expand our web presence.”

MaryAnn holds a bachelor’s degree in business administration from Strayer University.

ECE Helps Students Explore Life After Graduation

For most undergraduate students, earning that well-deserved bachelor’s degree is the first and highest priority. But what’s next? While there are many opportunities for electrical and computer engineering graduates, sometimes students do not fully realize the options available to them. That’s why the ECE department recently developed two new events designed to help students explore their possibilities and successfully prepare for them.

Student Advising Day

A concept spawned at a meeting of the department’s Industrial Associates Board (IAB), Student Advising Day was created to provide students with a venue for networking and interacting with key industry professionals. The first event on September 16, 2004, attracted engineering representatives from Agilent, HP, IBM, LSI Logic, Plexus Technology Group, Raytheon, Sun Microsystems, Western Area Power Administration, and Woodward Governor. These individuals interacted with ECE students by sharing information about their companies, conducting one-on-one advising sessions, and offering career planning advice and resume feedback.

“I enjoyed the opportunity to meet with employers and find out first-hand what’s happening in the industry,” says Emily Shideler, ECE senior. She adds, “The input I received on my resume has been tremendously useful.”

The next Student Advising Day will be held this fall. To learn more about the ways you can become involved, contact Andrea Leland, industrial relations coordinator, at echong@engr.colostate.edu.

Graduate Study in ECE

Colorado State juniors and seniors majoring in electrical and computer engineering, math, physics, computer science, and statistics are invited to attend the second annual “Graduate Study in ECE” event, which will take place in the fall. Featuring presentations by current ECE graduate students, faculty, and alumni, the event is an opportunity for students to learn about the benefits of pursuing a higher degree in electrical and computer engineering, as well as the process for applying to graduate school at Colorado State. For more information, contact Professor Edwin Chong, ECE Graduate Committee Chair, at echong@engr.colostate.edu.
Department News

ECE Partners with PEERs to Bolster Engineering Community

Colorado is home to some of the world’s top companies in the computer and semiconductor industry. With anticipated growth in this important field, the need for talented and skilled engineers in the region will continue to mount.

Through its new Partnership for Engineering Education in the Rockies (PEER) program, the ECE department has teamed up with the Poudre School District, Front Range Community College, and Hewlett Packard to address these rising industry demands. Led by ECE Professor Tom Chen, the PEER program is helping to build an integrated educational infrastructure for workforce training and retraining, with the ultimate goal of increasing the quality of employee candidates along the Front Range.

The PEER program offers introductory electrical engineering courses at local high schools; associate degree and certification programs at Front Range Community College; industry-tailored undergraduate and graduate studies at Colorado State University; industry research opportunities in the form of summer camps; and internship opportunities with regional companies.

“This integrated program will have a significant impact on the regional engineering community,” says Tom Chen, ECE professor. He adds, “We have already seen a good level of interest from high school students. With the help of our local educational and industrial partners, I think we will begin to see more interest and participation in the field, ultimately leading to a larger, higher quality workforce.”

The PEER program is supported by the Colorado Institute of Technology and the National Science Foundation, with a combined funding of more than $800,000 for three years. To learn more about this exciting initiative, visit the PEER web site at www.engr.colostate.edu/PEER/.

Professor Louis Scharf Receives Prestigious Signal Processing Society Award

On March 19, in Philadelphia, at the opening ceremonies for the 2005 International Conference on Acoustics, Speech, and Signal Processing (ICASSP), Louis Scharf, professor of electrical and computer engineering and statistics at Colorado State University, received the Society Award from the IEEE Signal Processing Society. This lifetime achievement award, the Society’s highest accolade, recognizes those who have made important technical and professional contributions to the Society over a number of years.

In 1995, Scharf received the Society’s Technical Achievement Award for his contributions to the theory and practice of statistical signal processing, and in 1994 he was a Distinguished Lecturer for the Society. He was Technical Program Chair for the 1980 ICASSP, hosted for the first time ever in the Rocky Mountain West. In 2000, Scharf received an IEEE Millennium Medal for his contributions to the electrical and electronics engineering profession.

At CSU, Scharf teaches courses in signals, systems, and communications and guides the signal processing research of Ph.D. students, postdoctoral students, and visiting researchers. Since returning to Colorado State in 2001, Scharf has hosted two dozen speakers and visiting researchers to the CSU campus.

Assistant Professor Randy Bartels Awarded Sloan Research Fellowship

ECE Assistant Professor Randy Bartels has been selected to receive the prestigious Sloan Research Fellowship, the oldest and one of the most competitive fellow programs in the United States. The fellowships are awarded by the Alfred P. Sloan Foundation to honor and promote the science of outstanding researchers early in their academic careers.

Selection procedures for the Sloan Research Fellowships are designed to identify professors who show the most outstanding promise of making fundamental contributions to new knowledge. Thirty-two previous Sloan Fellows have won Nobel Prizes later in their careers, and hundreds have received other top research honors.

In 2004, Bartels was awarded the National Science Foundation Faculty Early Career Development (CAREER) Award and the Optical Society of America Adolph Lomb Medal.

Before joining the electrical and computer engineering department in 2003, Bartels earned his doctoral degree in electrical engineering at the University of Michigan-Ann Arbor in 2002. His research concentrates on the generation and control of short laser pulses and their use for the control of quantum and extreme nonlinear optical systems.

Message from the Department Head

Spring is here and once again ECE students are immersed in their Senior Design projects. This hands-on, interdisciplinary learning process is an integral component of our undergraduate program and we believe the experience is essential to prepare our students for the workforce. The program challenges our students to think creatively and requires them to apply the skills that our industrial partners have said are critical for success in a global market. Thanks to our alumni and friends for your ongoing support of this key program.

I would also like to extend my appreciation to our Industrial Associates Board (IAB) members for their guidance regarding the pressing topic of global competitiveness and outsourcing. As we continue to tailor our programs to meet the changing demands of the industry, I want to draw on the expertise of our corporate partners and alumni. If you have experienced firsthand the effect of globalization, I would enjoy hearing your stories, thoughts, and suggestions. Please contact me anytime at ece@engr.colostate.edu or (970) 491-6600.

Kate McDonnell (center), ECE senior, helps students learn the fundamentals of electrical and computer engineering.

Professor Louis Scharf receives the Society Award.

Assistant Professor Randy Bartels, ECE Assistant Professor Randy Bartels, receives the Sloan Research Fellowship.

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**Alumni News**

**Can You Identify These Alumni?**

**1970**

If you can identify either of the alumni featured in the above photo, contact the ECE department at (970) 491-6600 or send e-mail to ece@engr.colostate.edu with the person’s full name.

Hint: The year was 1970. Nixon was president, the Beatles’ “Let It Be” topped the pop charts, and the environmental movement was launched as America celebrated its first Earth Day.

Watch for an update in the next issue of *ECE Current News.*

**Mary and Dennis Peery Named College of Engineering Distinguished Alumni**

ECE alumni Mary Peery, ’84, and Dennis Peery, ’71, have been named as joint recipients of the Distinguished Alumni Award for the College of Engineering. Mary and Dennis will be presented with their award at the college’s Alumni Awards Dinner and Dance on April 16.

Mary is currently the senior vice president of Strategic Change Management for Hewlett Packard Company’s Imaging and Printing Group. She joined Hewlett Packard in 1984 and throughout her career held senior-level positions in divisions that focused on mass storage, digital imaging, and other leading-edge technologies.

Since her graduation from Colorado State University, Mary has remained actively involved with campus initiatives. She participated in the University’s diversity forums and the Women in Technology Conference, at which she received the Lifetime Contribution Award.

Dennis retired from Hewlett Packard in 2000 after serving 35 years in various roles throughout the company. He worked as an R&D engineer and also held management positions in the areas of manufacturing engineering, quality, customer satisfaction, and facilities. In addition to his degree from Colorado State University, he earned an associate’s degree in electrical engineering technology from Brigham Young University in 1965.

Mary and Dennis reside in Loveland, Colorado.

**Parker Stafford to Receive ECE Distinguished Alumni Award**

In recognition of his outstanding career achievements, Parker S. Stafford, EE ’59, has been selected to receive the Distinguished Alumni Award for the Department of Electrical and Computer Engineering. He will be honored at the college’s Alumni Awards Dinner and Dance on April 16.

Stafford has been involved with the aerospace industry for more than 45 years. His career highlights include serving as the vice president and chief engineer of Lockheed Martin Astronautics Division and AstroSpace Divisions and earning the NASA Public Service Award for his work on Viking Mars Lander in 1977. He completed the Harvard Advanced Management Program in 1983 and received the LMC Jefferson Cup as Manager of the Year in 1989. After retiring from LMC, he received the General Palmer Consulting Award in 1997. He is currently a consultant to NASA on several space programs.

Stafford has been a loyal volunteer to the College of Engineering for many years. He served on the Engineering Dean’s Council and led that group as president in 1993. He has been a financial supporter of the Women and Minorities in Engineering Program (WMEP) and contributed to the creation of the WMEP Conference Room.

Stafford and his wife, Sally, reside in Melbourne, Florida.

**Update**

Kevin Lewis (right), EE ’88, contacted the ECE department when he recognized his photo in the Fall 2004 issue of *ECE Current News*. Kevin, who currently teaches at the University of Wyoming’s College of Business, says he has fond memories of CSU and working with Professor Jorge Rocca in the Optoelectronics Teaching Laboratory. The other student in the photograph has not yet been identified.
Alumni News

Hall of Fame Spotlights Distinguished Alumni
As part of its web site rollout, the ECE department launched the Alumni Hall of Fame, a new feature that serves as a reminder of the successes that can be achieved with a solid education and hard work. The Hall of Fame showcases some of the department’s most accomplished alumni, including:

- **Rex Sjostrom**
  - M.E., Electrical Engineering
  - B.S., Civil Engineering
  - CSU, 1956
  - CSU, 1952

- **Bill Parzybok**
  - M.S., Business Management
  - B.S., Electrical Engineering
  - CSU, 1968
  - CSU, 1966

- **Joseph Perl**
  - Ph.D., Electrical Engineering
  - B.S., Electrical Engineering
  - CSU, 1976
  - CSU, 1974

- **Thomas Williams**
  - Ph.D., Electrical Engineering
  - CSU, 1971

- **Andy Denenberg**
  - B.S., Electrical Engineering
  - CSU, 1981

To visit the Hall of Fame and learn more about the inductees, go to the Alumni and Friends page on the new ECE web site at www.engr.colostate.edu/ece.

If you would like to nominate someone for the ECE Hall of Fame, please contact the ECE department at (970) 491-6600 or ece@engr.colostate.edu. Please include the person’s full name along with a brief description of their accomplishments to support your nomination.

Department News (continued)

Educating Students to Compete in a Global Economy (continued from front page)
presented information and statistics to show the effect on Colorado State, while board members shared their personal experiences.

Maciejewski asked the board to share their opinions about the skills future engineers should possess in order to succeed in a global environment.

In addition to strong technical and design expertise, they stressed the importance of creativity, teamwork, problem solving, and the ability to communicate with internal and external customers of different cultural and ethnic backgrounds. Perhaps most importantly, there was consensus that innovation and the entrepreneurial American spirit will allow the United States to maintain its leadership position in a competitive world. Board members believe that U.S.-educated engineers are still superior in these areas.

With an ongoing emphasis on research excellence and innovation, as well as an integrated, multidisciplinary approach to teaching and learning, ECE’s existing program focuses on many of the points highlighted during the board’s discussions. The department will continue to expand its current curriculum and educational initiatives to address the skill sets cited by the IAB. This is particularly important as ECE graduates increase their interactions with industry professionals around the world.

IAB member Jim Parker, senior engineering manager for Flextronics Corporation, is an ECE alumnus who understands what it means to work in a worldwide industry. Parker, who recently spoke to ECE’s Senior Design class about conducting business in China, is glad to see the department is staying in touch with economic trends. “We have the best educational system in the world, and we have to be the best engineers we can be,” he states. "The ECE department is doing all the right things to help educate students for competitive and successful careers in a global economy.”
Please Join us for the Alumni Awards Dinner & Dance

Please join us Saturday, April 16, 2005 for the college’s Alumni Awards Dinner & Dance. Our alumni and their guests will join engineering friends, faculty, staff, and students at the CSU Lory Student Center for a relaxed evening of dining, entertainment, and conversation. The event will provide opportunities to rekindle past friendships and make new acquaintances, all while enjoying music by Kenny Cordova and the Olde Rock Band. ECE alumnus Parker Stafford, ’59, will be honored as the department’s 2005 Distinguished Alumni Award Winner. ECE alumni Dennis Peery, ’71, and Mary Peery, ’84, will jointly receive the Distinguished Alumni Award for the College of Engineering.

ECE faculty and alumni enjoy the college’s 2004 Alumni Dinner & Dance. From left to right: Professor Jorge Rocca, Chris McMahon, Kristen McMahon, Professor Carmen Menoni, Eric Reed, Brooke Reed, Terry Plymell, and Elena Plymell.

Join ECE for the IS&T Colloquium

If you are interested in learning about Colorado State University’s research efforts in the Information Science and Technology (IS&T) field, plan to attend the IS&T Colloquium on April 13-14 at the University Park Holiday Inn in Fort Collins. Additional details are available on the event web site at ist.colostate.edu.

ECE Commencement Set for Saturday, May 14

The College of Engineering spring commencement will take place on Saturday, May 14 at CSU’s Lory Student Center. ECE graduates will receive their diplomas during the first ceremony, which begins at 1 p.m. This year’s commencement speaker is Ralph Christie, president and CEO of Merrick & Company, a multidisciplinary engineering, architectural, and construction management firm based in Denver.

Plan to Attend the 2005 Homecoming Alumni Reunions

This fall, the College of Engineering again will host reunions for engineering alumni who graduated in 1980 (25 year reunion) and 1955 and prior (50+ year reunion). The reunions will take place in late September or early October in conjunction with the University’s Homecoming celebration. Additional details will be available following the release of the 2005 Rams football schedule.

Contact the ECE Department

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Every attempt is made to ensure the information published in this section is correct. If you notice an inaccuracy, please notify us at ece@engr.colostate.edu so that we can rectify the error.

Russell W. McCrackin, ’50, is an artist-in-residence at Tumacacori National Historical Park. He spends his summers in Oregon and his winters in Arizona. Russell can be reached by e-mail at rusty@proaxis.com.

Glenn R. Smith, ’73, established a patent law firm in Orange County, California, in 1999. Prior to that, Smith received an M.S.E.E. from the University of California-Irvine, an M.B.A. from California State University Fullerton, and a J.D. from the University of California-Los Angeles.

Dr. John M. Manning, ’76, is the CEO and president of dpiX, LLC. Headquartered in Palo Alto, California, dpiX (pronounced “depicts”) provides high-resolution imaging solutions to some of the world’s most demanding medical, industrial, and military markets.

Paul D. Worley, ’81, was recently promoted to group supervisor of the Information Technologies Group at the Johns Hopkins University Applied Physics Laboratory.

Brian Arnold, ’87, is the director of Design Tools and Methodology at Vitesse Semiconductor. He currently resides in Colorado Springs and is married to Tobi-Lynn Arnold, also a CSU alumus. They have three children.

Billy H.S. Wang, ’91, ’93, currently works for BCS Custom AMS Sales.

Please share your news! Send your career and family updates to ece@engr.colostate.edu or call (970) 491-6600. Space permitting, we’ll include your news in an upcoming issue of ECE Current News!