



## Computer Science and Software

### Message from the Chair

This is the inaugural issue of the Auburn University Department of Computer Science and Software Engineering (CSSE) newsletter. Its purpose is to provide alumni, friends and supporters a mechanism to learn more about the progress of our department. It is our hope that the newsletter will be published at least once a year in the first few years and then become a semi-annual publication. Your comments and contributions are welcome.

With a humble heart, I took the CSSE chair position on August 16, 2006. First, I would like to express my sincere appreciation to the faculty and staff for their support. Also, special thanks to James Cross, the previous chair, who has been extremely kind and helpful during the transition period.

For the past 10 years, under Dr. Cross' strong leadership, CSSE has gained significant ground. Our software and wireless engineering programs were accredited for the first time in 2005 and 2006, respectively, and the computer science program was also re-accredited in 2005. Our faculty size has grown from 13 to 19; our annual research funding has improved from under \$1 million in 1996 to almost \$4 million in 2006. Our students have been successful in competing for national scholarships. For example, 10 students were selected nationally by the DOD Information Assurance Scholarship Program in 2006, and two of those selected were from Auburn CSSE. With construction under way in front of Dunstan Hall, it looks more and more promising that we will move into the Sen. Richard C. and Dr. Annette N. Shelby Center for Engineering Technology in late 2007. This is an exciting moment for CSSE.

While celebrating our achievement, we should not be content – CSSE still has a long way to go to reach national prominence. Three fundamental areas that we, as a department, need to strive for are student body improvement, lab facility development, and faculty support. It is a known fact that Auburn receives outstanding applications for its undergraduate programs, but many choose not to attend Auburn due to the lack of scholarships. This is particularly true for CSSE, which has only one scholarship specifically designated for freshmen. The success of our programs has a strong correlation with the quality of the students we attract. Therefore, we must provide competitive offers to bring in top students. As we look forward to moving into the Shelby Center, teaching and research equipment will be needed for the new laboratories. Although research labs are typically supported by faculty grants, it will be a challenge for the department to furnish the new teaching labs with the state-of-the-art equipment. The last area for improvement is faculty support. Faculty members are the driving force of the department and their achievements are the strongest selling points of our programs. However, they must be adequately supported to conduct superior teaching and research. Compared to our peer institutions, our faculty support is on the lower end of the scale. This is especially true for our new faculty. It is no secret that it takes many elements to build up a successful faculty. The same is true for established faculty to reach higher levels of achievement.

A key factor in the success of achieving these three departmental goals will be resources. While our research funding has increased significantly,

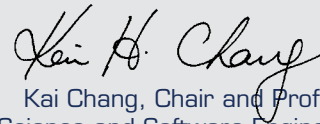


Kai Chang



research funding is typically limited to a specific project and may not benefit our department goals directly. To explore funding opportunities, CSSE is working closely with our Industrial Advisory Board (IAB), which has been a tremendous help to our success. In a presentation made by Dean Larry Benefield to the engineering faculty on April 28, 2006, most engineering departments received direct support from alumni, friends and supporters of more than \$100,000 in 2005 (many received over \$250,000.) CSSE received only \$7,310. This puts us not only in a disadvantageous position to compete within the college, but also against peer programs in this region. With the assistance of our alumni and friends, I believe we can adequately fund the needs of the department in the future.

We are at a pivotal moment of moving Auburn CSSE to the next level, and I believe, if we work together, we can do it. War Eagle!



Kai Chang, Chair and Professor  
Department of Computer Science and Software Engineering

## A new home for CSSE

During the academic year 2007-2008, CSSE will be moving into the first phase of the \$108 million Shelby Center for Engineering Technology. This will be a tremendous step forward for the department. These new offices, laboratories, and classrooms will greatly enhance our ability to recruit top undergraduate and graduate students as well as attract and retain outstanding faculty.



Recent construction  
photo of the  
Shelby Center

## ABET accredits wireless program

The Accreditation Board for Engineering and Technology has recently informed Auburn University that its wireless engineering program has been accredited. More importantly, the accreditation is retroactively applicable from October 1, 2004. The program is administered through the Department of Computer Science and Software Engineering and Department of Electrical and Computer Engineering and is the only such program in the nation.

## From the Former Chair . . .

Kai Chang officially took over as chair of the Department of Computer Science and Software Engineering on August 16, 2006. This note is both a welcome to him and a thank you from me. For perspective, the leadership in our short history includes Charlie Vick (1984-87), founding department head for Computer Science and Engineering; David Brown (1987-90), interim head; Stephen Seidman (1990-96); myself as the first elected chair (1996-06); and now Kai Chang. As I complete my second term as chair, I enjoy reflecting on our growth over the past 10 years. This was a tremendous team effort, and we can all be proud of what we have accomplished together.

When I was elected to my first term in 1996, we had 13 faculty members and a growing enrollment. Over the years, we've been able to hire additional faculty to reach our present total of 19. In 1998, we began working with the Department of Electrical Engineering (EE) on what was ultimately a winning proposal in 2000 for an Auburn University Peak of Excellence in Information Technology. From this, our department gained five faculty positions over a three-year period. During this same period, we made the decision to migrate our computer engineering degree to software engineering. In 1999, the AU Board of Trustees approved both the new degree designation and the department's name change to Computer Science and Software Engineering (CSSE). This gave Auburn the distinction of establishing the first software engineering bachelor's degree at a public university in the nation. In 2004, ours became one of only 10 ABET accredited software engineering programs in the country. Close on the heels of the new software degree was a new wireless engineering degree that we share with ECE. This new degree program, which was accredited in October 2006, is the first and still the only such degree in the nation.

A major highlight of my last term as chair has been my involvement in the planning and realization of our new building. The Sen. Richard C. and Dr. Annette N. Shelby Center for Engineering Technology is now well under way and scheduled for completion in late 2007. The new classrooms, research labs and offices will be a giant step forward for CSSE. For the first time ever we will have facilities that will enable us to compete for the best new faculty and graduate students.

I have learned a great deal over the past 10 years, and I want to give special thanks to several individuals who, through their efforts, made my job most enjoyable: Judy Aull and now Claudette Tennant for their assistance in too many ways to name; Kai Chang for his leadership as graduate program officer for many years and David Umphress his successor; Mel Phillips (retired) and Dean Hendrix for their coordination of the undergraduate program and their leadership in our ABET accreditation activities; Richard Chapman for his leadership of IMPACT; all of the staff, but especially the two who served as my secretaries, Gloria Bailey and now Sherie Vandervoort, who worked hard to keep me on course. Lastly, I'd like to thank Dean Benefield and his staff for all of their support.

I'm looking forward to devoting more time to my teaching and research. For the past 10 years, our jGRASP research project has just been plain, old fashioned fun, and now its outlook is brighter than ever. This past year we had over 100,000 downloads. The project is being used by more than 100 colleges and universities, yet I see so much more to do.

It has been a great 10 years, and I'm looking forward to the next 10. I wish Kai all the best as he leads us forward to a new level of success! Again, many thanks to all of you!



James Cross  
Former Chair and Professor  
Department of Computer Science and Software Engineering



James Cross

# Research Highlights

## Researchers work to wirelessly connect UAVs

Auburn CSSE faculty and students are currently involved in several projects related to communications systems for unmanned aerial vehicles (UAVs). **Richard Chapman** is the principal investigator for the projects, which are funded by the Army's Project Office for Unmanned Aerial Vehicles in Huntsville, Ala. The project office is part of the Army Aviation and Missile Command (AMCOM). Other Auburn CSSE faculty involved include **David Umphress** and **Drew Hamilton**, as well as John Wu (ECE), Lloyd Riggs (ECE), Gil Crouse (AE) and eight graduate students.

The team has developed and tested a wireless communication system to allow the ground system components of the army's Shadow 200 UAV to network wirelessly. The AU system replaces a set of cables which are in current use with Shadow systems fielded in Iraq and Afghanistan. The cables suffer a number of drawbacks, including heavy weight, susceptibility to damage and malfunction, and time-consuming setup and takedown procedures. In contrast, the wireless system permits longer ranges and increased reliability. The project's funding has been provided by the Army's Unmanned Systems Initiative, an effort championed by Alabama Senator Richard Shelby. Issues the AU team had to address included compatibility with the existing system, network security, latency and jitter.

The AU team is also involved in a project to allow small UAVs to participate directly in battlefield wireless networks. Current systems require all communications with a UAV to pass through a single radio modem link from the air vehicle to the operator, who must then route the video images from the UAV to the troops on the ground. The AU system would allow those troops to directly receive the intelligence from UAVs overhead.

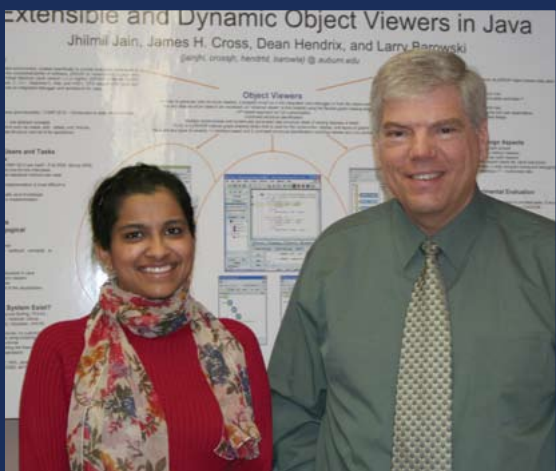
## REU attracts women, minority students

CSSE hosted the fourth summer REU program in 2006. Ten students from various regions of the country came to Auburn campus to participate in the 10-week research-intensive program on wireless technology. For the first time, the program had a majority of minority students. Among these students, three were female and, for the first time, one was from the west coast. Principal Investigator: **Saad Biaz**

## Jain places at Grace Hopper research competition

**Jhilmil Jain**, a recent doctoral graduate under James Cross, won the third place in the student research competition in the recent Grace Hopper Celebration of Women in Computing (GHC) in October 2006. The conference was the sixth in a series of conferences designed to bring the research and career interests of women in computing to the forefront. Presenters at the conference were leaders in their respective fields, representing industrial, academic and government communities. Leading researchers presented their current work, while special sessions focused on the role of women in today's technology fields.

This year GHC also featured a student research competition sponsored by ACM and Microsoft. There were a total of 75 entries, and two students from Auburn University, Jain and **Priyanka Gupta**, qualified for the top twenty-five spots to be included in the research competition. The final round of competition was on day two of the conference, with oral research presentations. Jain, along with five other students, qualified for this final day of competition. She placed third overall and was presented her award by the president of the ACM and will be entered into subsequent ACM competitions.



Jhilmil Jain and James Cross with her award-winning poster

# Academic Highlights

**N. Hari Narayanan** has recently received the 2006 National Science Foundation (NSF) Director's Award for Collaborative Integration. Narayanan was on leave to NSF from January 2005 to August 2006, serving as a program director. The recognition is given to only a few directors each year.

**John (Drew) Hamilton, Kai Chang, Gerry Dozier, Juan Gilbert and Yu Wang** have recently received a \$1.5 million grant over three years under the National Science (NSF) Foundation Scholarship for Service (SFS) Program. Auburn was one of only two universities nationwide to receive an SFS scholarship grant this year.

**Juan Gilbert** was recently elected a member to the Board of Governors of the IEEE Computer Society and appointed Editor of the new Broadening Participation in Computing Series in the IEEE Computer magazine. He was also named TSYS Distinguished Associate Professor through a gift from the TSYS Corporation in Columbus, Ga.

## Program re-designated as NSA Center

On June 6, 2006, Auburn University was re-designated as a National Security Agency Center of Academic Excellence in Information Assurance for three more years. Auburn is the only university in Alabama to be so designated. The Information Assurance Lab in Computer Science and Software Engineering (CSSE) is the main player in this effort.

## CSSE welcomes visiting scholars

**Oh Cheon Kwon**, principal researcher and team manager of Telematics Service Convergence Research Team at the Electronics & Telecommunications Research Institute (ETRI) of South Korea, has begun a one-year visit with the department in November 2006. ETRI is Korea's largest government funded research institution in information and communication technologies. He is hosted by **N. Hari Narayanan** and will be conducting research with the Intelligent and Interactive Systems Research Group.

**Juanqin Wang**, an instructor in the Computer Applications Department, College of Information Engineering, Northwest A&F University, China, is visiting the CSSE department for one year, starting in July 2006. Her mission is to learn about how instructional and research activities are conducted in the United States. She is hosted by **Kai Chang**.

## Aull retires, makes way for new advisor

At the creation of the Computer Science and Engineering Department in 1984, **Judy Aull** was the academic advisor. Students came and went through CSE (now CSSE) programs may not have vivid memory about any faculty members, but they all know Aull well. After more than 20 years of service to more than 1,300 students, Aull retired from Auburn at the end of spring 2005. Since then she and her husband have been spending most of their time in the mountains of North Carolina. They also traveled or about to travel to places like Nepal, Bhutan, Thailand, Antarctica and eastern and southern Africa. For those who know her, this is a true reflection of Aull.

**Claudette Tennant** had a six-month training period with Aull, and officially took over the academic advisor position in summer 2005. Claudette has since become a significant member of the department and is serving all the CSSE students. She comes to CSSE with a master's degree in library science and work experience with the American Library Association in technology and information policy.



Claudette Tennant



Department head Kai Chang presents Gloria Bailey with her award

## Bailey awarded Spirit of Excellence

The department celebrated **Gloria Bailey's** 20 years of faithful service on November 1, 2006. She was recently recognized by the university through a Spirit of Excellence award.

## Starting students early in IT

Auburn University Computer Science and Software Engineering faculty and graduate students are teaching programming to elementary school students this year. **Cheryl Seals, Richard Chapman** and a group of graduate students are working four times a week with technology teacher Ramona Lindsey and

four groups of Cary Woods Elementary School third, fourth and fifth graders to write programs using the Alice programming environment. The students are using the software to turn their own ideas for animations and games into running programs. Generally, while computer usage skills are developed in schools from the earliest grades, computer programming is a topic reserved for very advanced high school students, if it is taught at all below the college level. In Alabama in particular, no high school currently offers an Advanced Placement course in computer programming.

The project is supported by an National Science Foundation grant to Seals and Juan Gilbert. The grant provides \$285,000 over three years for the topic "Broadening Participation in Computing". Auburn is part of a southeastern alliance to promote diversity in computer science education, the Students and Technology in Academia, Research and Service (STARS) alliance. The STARS alliance has a hierarchical structure best described as a constellation of regional "stars" – local alliances – that include research, minority-serving and women's institutions, several K-12 schools, industry and community groups. The grant provides funding for Auburn CSSE students to mentor the elementary students, kindling an interest in computer science education and providing instruction to the kids. Other initiatives include a student leadership corps, collaborative learning and problem solving through instruments such as pair programming and socially-relevant assignments, a Web portal, a marketing and careers campaign, research experiences for undergraduates, a coordinated alliance exchange, and an annual student conference, supported with a \$10,000 gift from TIAA-CREF.

Alice, a programming environment developed at Carnegie Mellon University, combines a 3-D graphical environment containing thousands of characters, objects and bits of scenery, with a drag-and-drop program editor and an object-oriented syntax based on the Java programming language. It has been used successfully to teach programming to students ranging in age from middle school students to college-level beginning programmers. At Auburn, Alice has been used for several years to introduce engineering students to software engineering concepts in the ENGR1110 course, an introduction to engineering.

Chapman was first introduced to Alice at a workshop at Lenoir-Rhyne College in Hickory, N.C., in November 2005. At the workshop, one of the participants brought along his 10-year-old daughter, who had no trouble mastering the concepts of developing animated videos and games in Alice.



CSSE student Ashley Wachs explains the program to one of the children.

"She didn't really think of what she was doing as programming," Chapman said. "Rather, she was creating stories, and the computer was just a tool to

facilitate that. Students in the elementary grades are bubbling with enthusiasm and creativity, and Alice lets them channel that into activities that are very appealing – the 3-D animation engine in Alice creates worlds similar to what they have seen on TV and in the movies – it doesn't seem antiquated or lame. That can often be the case when a student's first computer program does nothing more than print 'Hello World' in a text box on the screen, or even worse, has to be run in the DOS command window."

After the workshop, Chapman showed Alice to his seven-year-old son, John. With help, John was able to create a short video of a turtle that travels to an alien planet, meets a robot and goes home. Chapman uses this video in introducing Alice to the Cary Woods students.

"Towards the end of the first session of Alice programming, a fourth-grade girl asked, 'Can we play longer, please?' There were three things remarkable about that question," says Chapman. "First, it was a girl asking it – we historically have had trouble interesting and retaining women in computer science. Second, she viewed what she was doing as play rather than schoolwork, and third, she wanted to do more of it after an hour and a half. If only a tiny fraction of that enthusiasm can be remembered when this young lady is ready to choose a college major or career, what we have done here will be a success. She doesn't realize it, but in the course of this one lesson she has learned the concepts of stored-program computation, sequential composition, the design-code-test paradigm, and functional abstraction. Hopefully when those concepts are presented again at a later time in her education, in a more formal way, she will remember her Alice experience and think, 'I know what is going on here – there's nothing hard about this.'"

## Student Highlights

### Almond visits New Zealand through Birdsong Scholarship

**Taylor Almond**, a promising wireless software engineering student, was awarded the prestigious Birdsong Study Abroad Scholarship for the spring and summer of 2006. Fred and Mary Lou Birdsong established the Birdsong Study Abroad Scholarship in 1989, with a vision to instill appreciation and understanding of the humanities and other cultures in engineering undergraduates who exhibit leadership and curiosity about art, history, literature, religion and philosophy. The scholarship promotes independent study and travel to theaters, museums, historical sites and cultural events.

Almond competed with several other outstanding engineering students for this opportunity. All of the applicants submitted extensive proposals which included an itinerary, budget, plan of study and travel arrangements. As you can see in the brief interview below, the Birdsong Study Abroad Scholarship provided Almond with an outstanding experience:

**Question:** Taylor, can you tell us a little about where you went and what you studied during your time abroad?

**Taylor:** I studied in Christchurch, New Zealand at the University of Canterbury. I took classes in religion, philosophy, sociology and Maori, the indigenous culture of New Zealand.

**Question:** What made you interested in the Birdsong Scholarship?

**Taylor:** What originally attracted me to the Birdsong Scholarship was the restriction that you had to study something other than engineering. I like engineering, but I am also interested in a lot of other subjects as well. This was the perfect opportunity to make quality time for those other interests, and to do this in a new and beautiful setting was incredible.

**Question:** How do you think this experience has impacted you as a person and as a wireless software engineer?

**Taylor:** It was the fastest five months of my life, yet it probably inspired



Taylor Almond

me the most. To adapt and thrive in a different environment builds a lot of confidence. Also, being on the opposite side of the world from family fosters a greater sense of independence. Basically, this experience provided me with a lot of skills that can't be explicitly taught. I learned a lot about myself and what the world has to offer. I met some incredible people, had some amazing times, and would do it again in a heartbeat.

Persons interested in the Birdsong Study Abroad Scholarship should contact Bob Karcher, director of Engineering Student Services at [karchcr@auburn.edu](mailto:karchcr@auburn.edu).

## Undergrads chosen for DOD scholarships

Two of the 10 students selected nationally by the DOD Information Assurance (IA) Scholarship Program are from Auburn University. Both **Mark Kuhr** and **Jonathan MacDonald** are completing wireless engineering degrees and will complete master's degrees in software engineering under the scholarship program. The IA scholarship program is managed by the National Security Agency and supports students enrolled in information assurance disciplines at sites designated as Centers of Academic Excellence in Information Assurance Education.



Left to right: Mark Kuhr, Jonathan McDonald and program director Drew Hamilton

## Students attend IAB picnic

On October 19, 2006, CSSE Industrial Advisory Board (IAB) sponsored a picnic for undergraduate and graduate students, faculty and staff to meet with the board members. It was held just outside Dunstan Hall, in front of the old physical plant. Barbecue and other goodies were served. IAB members told students of their Auburn experiences and gave valuable career advice. Special appreciation to Forte Corporation and Visual Numerics, Inc. for their generous contributions.



Students, faculty and staff mingle with IAB members at picnic.

## New scholarship established for CSSE

In the October 20, 2006, IAB meeting, board members contributed \$6,750 to establish an IAB scholarship fund for recruiting top students to the CSSE undergraduate programs. Two awards, \$500 each, will be distributed in fall 2007. More, larger awards are expected as the fund grows in the future. This is a giant step for the department

in recruiting top students. If you are interested in providing support for this fund, please designate CSSE Industrial Advisory Board Endowed Scholarship as the purpose of your gift to Auburn University.

## CSSE needs your support

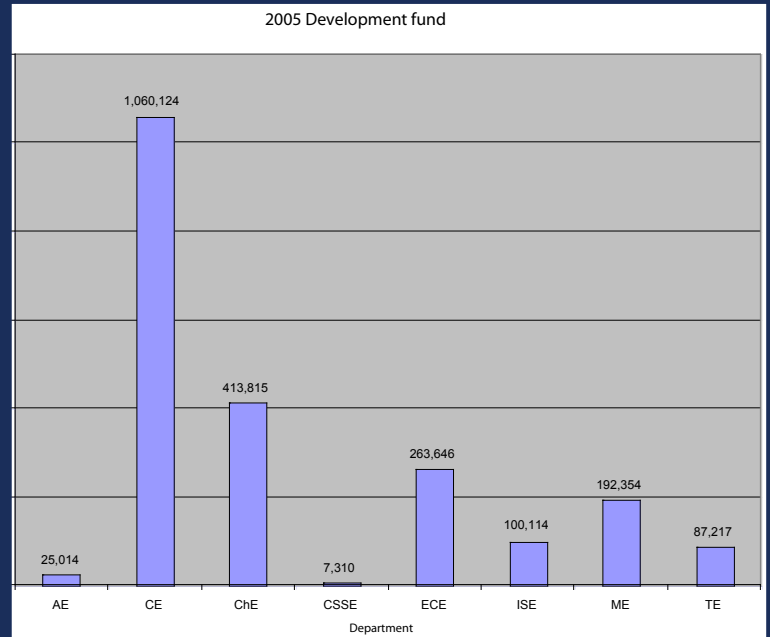
A department's success depends on many factors, including quality students, excellent teaching and research facilities, and recognition by faculty and peer institutions. While the university provides funding for the basic academic needs of the department, support further enhances the department. This additional support allows the department to offer scholarships to attract outstanding student prospects, offer competitive start up packages to top faculty candidates, update teaching and research laboratories and provide students opportunities to participate in academic competitions and activities.

The Samuel Ginn College of Engineering has embraced a vision to become one of America's top 20 engineering programs and has consequently kicked off

a \$105 million development campaign. As of March 5, 2007, the campaign has reached approximately \$85 million or 81 percent of its goal. While the fund will benefit our department indirectly, direct support for the department is desperately needed. The following table shows the development funds of various units within the college as reported by Dean Larry Benefield to the faculty in April 2006.

Our department has a vision to become one of the prominent programs in the southeast in the areas of computer science, software engineering and wireless engineering by 2010. The specific goals include excellent instructional programs and pioneering research. With the development fund support, the department will provide more merit scholarships, update instructional and research labs, encourage more national and regional student competitions, and attract top faculty members. The department has set a goal for \$100,000 development fund per year by 2010. With the strong support from our alumni, friends and constituents, this will be possible.

If you are interested in being a part of the growth of the Department of Computer Science and Software Engineering, you can pledge your support by visiting our website at: <http://eng.auburn.edu/admin/development/give-now.html>. Please remember to designate your gift to the Department of Computer Science and Software Engineering. Alternatively, a form is inserted in this newsletter for your convenience.



Departmental Fundraising, 2005



### College of Engineering Eagles Society

The Engineering Eagles Society recognizes supporters who donate \$1,000 or more each year to Auburn Engineering. There are two membership levels: Engineering Eagles and Associate Eagles. After five consecutive years of membership, Engineering Eagles are recognized in the Dean's Circle and are invited to a yearly luncheon with the dean to discuss educational trends, the college's vision for the future and strategic plans to achieve that vision.

The Associate Eagles designation was established to encourage young alumni to become society members. Associate Eagles are required to give \$500 each year and may remain at this level until they pass the 10-year mark.

Corporate matching gifts can be used towards membership. For more information about joining the Engineering Eagles Society, contact Heather Crozier at 334.844.1138 or [vannhea@auburn.edu](mailto:vannhea@auburn.edu).

# Message from the IAB



Deana Seigler

The CSSE Industrial Advisory Board (IAB) has existed for several years. In the Spring of 2006, the CSSE IAB formalized and focused its charter, its mission being to develop, expand and strengthen relationships between the department and its corporate partners. The IAB fulfills this mission with the following objectives:

- Help secure financial support for the department and its programs.
- Provide mentoring and networking for students, graduates and faculty to assist in the development of business contacts, job opportunities and career development.
- Advise the faculty and administration on industry-related trends and needs that potentially affect the curricula and academic priorities of the school.
- Review academic programs to determine if they are meeting the needs of the industry.
- Assist with student and faculty recruitment and retention upon request of the department.

The IAB members are deeply concerned about the student recruitment and retention objective. We all know that educational institutions across the nation are facing many challenges. Auburn's CSSE department is no different. The CSSE IAB believes the department's most serious challenge is student recruitment. Nationwide, enrollment in computer science and software engineering degree programs is declining, so the competition for top students is increasing. In order to enhance the reputation of Auburn's CSSE program and alumni, we must be able to encourage the best and brightest students to attend Auburn. The CSSE department is at a disadvantage due to the lack of scholarship funds to attract the best students. The department currently has only one scholarship designated specifically for CSSE students.

The IAB is taking the initiative to resolve this issue. We recently established the CSSE Industrial Advisory Board Scholarship Fund. Our goal is to establish endowed scholarships for a stable funding source to enhance the department's ability to recruit and retain the nation's top students. Each endowed scholarship requires a minimum of \$25,000 in contributions, which can be collected over time from multiple sources. At our Fall 2006 meeting, we seeded this fund with \$6,750 in pledges from the IAB members. From these funds, the IAB authorized the creation of two \$500 one-time scholarships and allocated the remainder for the endowment.

With this in mind, the members of the IAB make a sincere request to all graduates and friends of the department for your help with our scholarship endowment goal. To direct your monetary gift to this fund, you must designate that your contribution is for the CSSE Industrial Advisory Board Scholarship Fund. Your gift will help grow the reputation of the department and provide opportunities for the deserving youth our field so desperately needs. If your company matches gifts to educational institutions, please include that form as well. Even a small contribution will help realize dreams.

We thank you for your interest and consideration of this request.

War Eagle!

Deana Seigler, '06-'07 CSSE IAB Chair  
Richard Blanchard  
Burke Cox  
Philip Fraher  
Gene Fuller

Allen Greathouse  
Gene Hess  
Archie Jordan  
Chris McGraw  
Glenn Phillips  
Mark Spencer

# Alumni Reports

## Spencer named 2007 outstanding alumnus

The Department of Computer Science and Software Engineering has named **Mark Spencer**, a 2000 graduate of the computer science program, outstanding alumnus for 2007. Spencer is the founder and president of Digium, Inc. the leading provider of open-source software and hardware in support of internet telephony. Digium is located in Huntsville, Ala. Before graduation, Spencer had already started his own business, Linux Support Services, which grew into Digium with the success of Spencer's Asterisk package. According to faculty member Richard Chapman, "It is important to remember that Internet telephony was very experimental at that time – far from the 'next big thing' as it is now characterized."

Spencer was named one of the 50 Most Powerful People in Networking in 2006 by Network World magazine. "At 27, Spencer has the youth and momentum to set the network industry spinning. He became famous in 2005, as the industry took notice of Asterisk, the open source PBX system he created, and of his continued pioneering work in open source telephony. Not only is Asterisk an intriguing open source option for VoIP, but as an open source hardware product it has become the proving ground for the entire open source movement. Spencer has been as admired for his marketing skill as for his technical abilities," stated the article in Network World.



Mark Spencer

## Alumni spotlight on Phil Fraher

**Phil Fraher** is president and CEO of Visual Numerics, Inc. with overall responsibility for corporate strategy, worldwide management and operations. He has extensive experience in software applications for business intelligence, data delivery, high-performance computing and engineering in the U.S., Europe and Asia-Pacific.

Prior to Visual Numerics, Fraher served as COO and CFO at Brightmail, Inc., where he raised \$35 million in venture capital and led Brightmail's expansion into Europe and Asia-Pacific. Brightmail was purchased by Symantec. He also held senior executive level positions at Reed Business's Information Electronic Media Division and Dun & Bradstreet, facilitating ecommerce company initiatives, data partnerships, and mergers and acquisitions. Earlier in his career, Fraher was a software engineer at Exxon where he developed visualization software for oil exploration.

Fraher earned a bachelor's degree in computer engineering from Auburn and an MBA from the William E. Simon Graduate School of Business Administration at the University of Rochester. Currently, he serves on the advisory board for the department of Computer Science and Software Engineering at Auburn and on the executive advisory board at the William



Phil Fraher

## We need your information!

The department would like to use this newsletter to post the latest status of its alumni, friends, and constituents. Please send brief information about yourself, such as name, degree, year, employment status, and anything that your friends may be interested in knowing.

### Contact Information

Kai H. Chang, Chair, [kchang@eng.auburn.edu](mailto:kchang@eng.auburn.edu) 334-844-6310

Claudette Tennant, Academic Advisor, [tennacw@auburn.edu](mailto:tennacw@auburn.edu) 334-844-6313



## Shelby Center integral to the future of Auburn Engineering

The construction of the new Sen. Richard C. and Dr. Annette N. Shelby Center for Engineering Technology is progressing steadily, with the completion of the first phase anticipated in fall 2007.

The \$108 million complex is the cornerstone of the college's vision to become one of the top public engineering institutions in the country. The center will enable Auburn Engineering to recruit world class faculty, compete for the best and brightest students, and conduct innovative research.

Phase I will house the departments of Computer Science and Software Engineering and Industrial and Systems Engineering, with Phase II consisting of a new Mechanical Engineering Building and an Advanced Research Laboratory Building. The entire complex will boast modern classrooms, lecture halls and general and specialized laboratories to support a variety of disciplines. Students and faculty from every department will benefit from these technologically advanced facilities.

Sen. Richard Shelby's efforts helped secure \$65 million for the project. In addition to funding from revenue bonds and other university funds, the college is committed to raising \$15 million in private support to ensure the completion of the complex.

The support of our alumni and friends for the Shelby Center for Engineering Technology will enable Auburn Engineering to create a progressive learning and research environment that keeps pace with the emerging disciplines of today's engineering fields.

For more information on contributing to the Shelby Center for Engineering Technology, contact the Office of Engineering Development at 334.844.2736 or [www.eng.auburn.edu/shelbycenter](http://www.eng.auburn.edu/shelbycenter).

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**SAMUEL GINN COLLEGE OF ENGINEERING**

DEPARTMENT OF COMPUTER SCIENCE AND SOFTWARE ENGINEERING  
107 DUNSTAN HALL  
AUBURN UNIVERSITY, AL 36849-5338

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