Computer & Information Science & Engineering
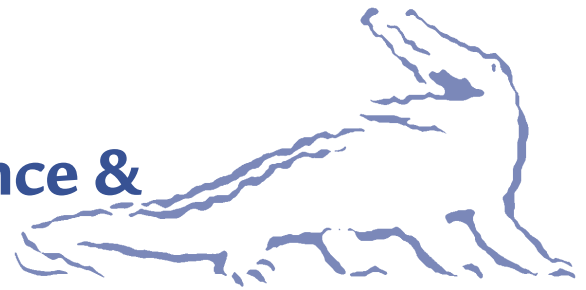
Former UF Computer Science Major Robert Cohn is Spring 2005 CoE Commencement Speaker

Robert Cohn, speaker for the College of Engineering's April 29 spring 2005 commencement ceremony, is an example of the value of a well-rounded education with a basis in mathematical sciences. Cohn leveraged his computer science and mathematics studies at UF into an MBA from Stanford and then various prestigious positions across the United States, finally bringing him to his current position as an independent advisor and investor to growing companies.

Cohn was the founder of Octel Communications Corporation, a manufacturer of equipment that provided voice mail to corporations and phone companies. While at Octel, he was the chairman and CEO of the company from its inception in 1982 until Octel was purchased by Lucent Technologies in 1997.

He then served as an executive vice president of Lucent Technologies, Inc. and retired April 30, 1999. At the time of his retirement, Octel was the worldwide leader in its field with revenues of $1.3 billion and over 150 million active users on its systems. Following his retirement, he was a partner with Sequoia Capital, a high-tech venture capital firm in Silicon Valley, from 2002-04.

Octel was highly acclaimed for its strategy, growth, culture, profitability and leading position in a very competitive market. Cohn and Octel were recognized for this numerous times by feature articles in major business publications and newspapers around the world. Cohn was one of the subjects of the book, How They Achieved: Stories of Personal Achievement and Business Success by Lucinda Watson (March 30, 2001).

An interview with Cohn is part of the PBS documentary, Silicon Valley, a 100-Year Renaissance produced by the Institute for History of Technology. He was the recipient of the Stanford Business School Entrepreneurial Company of the Year award in 1990 and the 1996 Technology Entrepreneur of the Year Award. He has lectured on entrepreneurship at the business schools of Stanford University, UC Berkeley, The Wharton School of the University of Pennsylvania and Notre Dame de Namur.

Prior to founding Octel, he held positions with McKinsey & Company, an international management consulting firm, and Banque Rothschild in France. He received a B.S. in mathematics from the University of Florida and an MBA from Stanford University.

UNIVERSITY OF FLORIDA

A Letter from Sartaj Sahni, CISE Chair

This issue of the CISE Newsletter is a tribute to our outstanding students, past and present. Since its inception in 1972, the CISE Department has awarded 4,612 bachelor's, 1,092 master's, 7 Engineer and 122 Ph.D. degrees. These numbers include the 245 bachelor's, 129 master's and 8 Ph.D. degrees awarded in the 2004-2005 school year. CISE graduates have done exceptionally well in the past. They have gone on to lead very productive lives as faculty at major universities worldwide, employees of major international corporations, entrepreneurs and so on. Most importantly, our graduates have worked for the betterment of society as a whole. I have no doubt that this year's graduating class will be every bit as successful.

The CISE department continues to enhance the educational experiences of its students and strives to continuously enhance its curriculum and degree offerings to best meet the needs of students past and present. In the recent past, we started a no-cost student-tutoring center and consolidated undergraduate and graduate advising and other services into a single office - the Student Services Center. These moves have helped increase the retention and graduation rates of majors and also have led to an increase in the number of undergraduates considering graduate studies. For the coming year, we are initiating a B.S. in Computer Science degree to be offered through the College of Engineering (see Beverly Sanders' article on page 8 for details). With the addition of this degree offering, engineering students will be able to choose between the B.S. in Computer Science and B.S. in Computer Engineering degrees offered by CISE. Both degrees provide students with a strong technical background in software and computer science. The Computer Engineering degree contains a hardware/electrical engineering oriented component while the Computer Science degree includes an interdisciplinary component in an area of the student's choice. We also are starting two online M.S. degrees - one is a general M.S. in Computer Science degree while the other allows a bioinformatics specialization (see the UF EDGE article on page 9 for details). The bioinformatics specialization is designed to meet the demands of a rapidly growing life-sciences industry.

This issue of the CISE Newsletter highlights the achievements of some of our new graduates - Laurentiu Iancu, Nely Jimenez, Jacob Edelstein, Emily Welles; the research conducted by two of our newest faculty - Professors Lok and Ho; and the recent activities of two of our student organizations - ADAM and the ACM Student Chapter. It also profiles two of our many dedicated faculty and staff - Professor Alin Dobra, recipient of the prestigious 2005 Career Award from the National Science Foundation, and Mr. Ernest Hall, who, together with our other systems staff, tirelessly keeps our computers functioning.

Congratulations to all of our new graduates! Your hard work and perseverance coupled with the support of your families has enabled you to complete the rigorous requirements of the degree you have earned. This issue honors your hard work and dedication; all 2004-2005 graduates are listed. I wish all of our graduates every success and a happy and fulfilling life!

Latest CISE NSF CAREER Award Winner
New Technologies for Approximate Query Processing

Assistant Professor Alin Dobra

Due to the growing discrepancy between the volume of information that has to be processed for applications in science, engineering and national defense, and the computational resources or communication capabilities available, there is a growing need for tools that provide good quality approximate results but require significantly smaller resources than exact methods.

The goal of this research is to develop approximate query processing algorithms that allow the efficient processing of large volumes of data under two different assumptions: data cannot be stored and has to be processed as it is produced, and data is stored or produced in multiple locations and has to be processed without moving it to a central location. Both computational models are required for realistic applications - a typical example is the processing of sensor data produced by large sensor networks. Some of the challenges in this work are to find a unifying theoretical framework that allows developing of methods that work under both assumptions and to use the developed theory to design efficient algorithms.

Alin Dobra, Assistant Professor of CISE, and a NSF Career Award Winner, was born in Romania. He received a B.S. in Computer Science form the Technical University of Cluj-Napoca in 1993. In 2001, he received a M.S. and in 2003 a Ph.D. from Cornell University. Dobra's research interests are in databases, data-mining and machine learning.

Stanley Y. W. Su Retiring after Distinguished Career

Stanley Y. W. Su received his Ph.D. in computer science from the University of Wisconsin in 1968. He joined UF in 1970 after working two years as a researcher at the Rand Corporation. He is a Distinguished Professor and the Director of the CISE Database Systems R&D Center. He has a joint appointment with the Department of Electrical & Computer Engineering.

Su's research interests and accomplishments are in the following areas: 1) database computers, 2) parallel architecture, algorithms, and processing techniques for object-oriented database management, 3) knowledge base management systems and their applications in integrated manufacturing, 4) e-business, and 5) e-learning.

In the database computer area, his work on a context addressed segment sequential memory was credited as the first intelligent secondary storage device designed to process data where it is stored. In the area of parallel processing of object-oriented databases, he is best known for his work on multi-wavefront algorithms and pipelining algorithms. In the area of knowledge base management, Su led the design and implementation of an integrated manufacturing data administration system which was a part of the Automated Manufacturing Research Facility of NBS (now called NIST). In the e-business area, he is responsible for leading the design and development of five major software systems and their accompanying graphical interface tools. His more recent research on e-learning has drawn both national and inter-national attention. He was a keynote speaker on dynamic and collaborative e-leaning at an international conference in Brazil and his paper with his student on an e-learning service system won the best paper award at the 7th IASTED International Conference on Computers and Advanced Technology in Education.

Su has published over 195 refereed journal and conference papers, one book, fourteen book chapters, and one monograph. He is the principal investigator of 49 funded research projects with a total funding of over $9 million. His awards and recognitions include IEEE Fellow, University of Florida's Distinguished Professorship Award as well as the Research Foundation's Professorship Award, Research Achievement Award and many others.

Su will retire at the end of June 2005, and has been awarded Emeritus status by UF. His future plan is to do research part time and to spend quality time with his family including four grandchildren.

Well-rounded Haskins to Retire

Lola Haskins has been with the CISE Department since 1979, and was appointed lecturer in 1982. Her teaching assignments have included classes in COBOL programming, Computers in Modern Society, Navigating the Internet and a Digital Arts and Sciences (DAS) studio class.

In recognition of teaching excellence, Haskins received a Teaching Incentive Program (TIP) award and was chosen by Warrington College of Business students as Teacher of the Year in 1997. She also served the UF Chapter of the honorary organization Phi Beta Kappa for a number of years, first as creative arts coordinator and then as president.

During her tenure at UF, Haskins has been recognized by the cities of Gainesville and Jacksonville for her contributions to the arts in Florida. She has published eight books of poetry and collaborated on projects with faculty members in art and music - most recently with Dr. James Sain, director of UF's electroacoustic music program. In addition, she wrote a libretto for Dance Alive's ballet "Mata Hari" and starred in the production as "the speaking Mata Hari." Her work has been heard often on NPR, particularly here in Gainesville on WUFT-FM, Classic-89.

Beginning in the fall, Haskins will be teaching in Pacific Lutheran University's Masters of Fine Arts program in Tacoma, Washington.

Research

Computer Vision Research

Jeffrey Ho

As the old saying goes, a picture is worth a thousand words, and indeed, an image often contains a substantial amount of information. Computer vision is a branch of artificial intelligence that studies algorithms/methods that quantify and extract information from images, with the ultimate goal of understanding them.

My research in computer vision focuses on traditional images, the kind that you find in your family album, for example. The goal of my research is to develop algorithms and concepts that can represent, quantify, categorize and classify information contained in images, with the aim of helping computers understand the complex and fascinating visual world that we all live in. At the same time, we are also constantly searching for interesting applications of these new algorithms and concepts that can further enrich our visual experiences. Some of the problems that we have studied over the years include face recognition, image clustering and three-dimensional geometry reconstruction.

Without question, one of the most interesting applications of computer vision is face recognition. For humans, face recognition appears to be effortless, thanks largely to our millions of years of evolution history. And while computer scientists have only begun to study this problem seriously in the past fifteen years, we are catching up with Mother Nature fast.

Besides its enormous potential for applications, what makes face recognition an interesting and challenging problem? The answer to this question has two parts. First, a face may look very different under different viewing conditions. Therefore, we need to model the possible variation in appearance of a human face, and this is not straightforward. Second, face recognition is not just a problem;

instead, it is a collection of problems. For instance, given an image or a video sequence, we need algorithms/ techniques that can localize the face. This requires algorithms that can detect and track faces in images. Once the face has been located, we need algorithms that can estimate the pose as well as other appearance variations due to illumination and other external factors. These subproblems require solutions using different types of techniques, and their integration into a final functioning system is often not an easy matter.

In the past few years, my colleagues and I have designed and implemented a working face recognition system that can handle a large range of pose and illumination variation, and more research is currently underway to make this system more efficient and robust.

Another interesting problem we are working on is that of geometry reconstruction from images. The goal here is to develop robust algorithms that can recover the three-dimensional geometry of an object or a scene from a sequence of video images. For example, we can put a moving (hand-held) figurine in front of a camera and reconstruct its geometry from a sequence of recorded images. This type of geometry reconstruction is much more subtle and passive than the more active methods of using a laser or ultrasound. Our idea is to design an algorithmic framework that can incorporate various types of visual information from the image sequences, such as intensity values, object silhouettes, as well as feature points. This information is exploited based on some physical model of the scene to compute the geometry. Once the geometry structure has been recovered, other important parameters such as reflectance can also be estimated. And the fun starts here, with almost

Localization and Tracking of a human face.

Image Clustering: How many individuals are present?

endless possibilities! For instance, imagine that instead of holding a figurine, you are holding your baby in front of a camera. Using our algorithm, you are now able to recover the geometry and hence render three-dimensional images of your baby. Your child's baby book will now be both digital and three-dimensional (as it ought to be)!

Jeffrey Ho is an Assistant Professor of CISE. He received a Ph.D. in mathematics from the University of Illinois at Urbana–Champaign in 1999. Computer vision and machine learning are his main research interests.

CISE Computational Neuroscience Research

Arunava Banerjee

When compared to mature fields such as Physics and Mathematics, the field of Neuroscience, and in particular its sub-field Computational Neuroscience, are relatively young. It wasn't until 1887 that Ramon y Cajal observed, for the first time, the nerve cell in a Golgi stained preparation of nervous tissue. In his own ecstatic words, "Nerve cells appeared coloured brownish black even to their finest branchlets, standing out with unsurpassable clarity upon a transparent yellow background. All was sharp as a sketch with Chinese ink." It was not long afterwards that the modern field of Neuroscience was born.

Our understanding of the anatomy and physiology of the brain has grown substantially since then. Over the past one hundred plus years, we have come to recognize that the brain is one of the most complex machines that mankind has ever encountered. Yet, in spite of all the progress made in the spheres of brain anatomy, electrophysiology and biochemistry, we continue to lack a formal and detailed understanding of how the brain works.

To appreciate the enormous complexity underlying the brain, one merely needs to consider the following facts. There are approximately one hundred billion neurons in the brain, with each neuron connected to between five and ten thousand other neurons through specialized junctions called synapses. The basic functional unit, the neuron, is itself a rather complex device that interacts with other neurons through the use of electrical impulses called action potentials or spikes. Finally, to make matters even more complex, the neurons come in an overwhelming variety of shapes, forms and functional types.

The central objective of Computational Neuroscience is to decipher how this highly complex and exquisite machine operates. Although the problem is by no means an easy one, the potential rewards of solving it are great. Not only would the solution provide a window into the human and animal mind, it would also stimulate progress in numerous related fields such as Artificial Intelligence, Computer Vision, Natural Language Processing, etc.

In my research in this area, I have provided the first formal proof for the existence of chaotic behavior in systems of spiking neurons, and have identified the precise criterion that leads to such behavior. I have also shown that it is highly likely that the dynamics of neuronal networks in the cortex (the sheet of neural tissue that lies just beneath the skull) is in fact chaotic. These revelations have led to a host of other tantalizing questions regarding the computational nature of the brain that I am presently investigating.

The graduate student in the CISE department at UF is ideally stationed to conduct research in the field of Computational Neuroscience. UF has, in recent years, placed great emphasis on multi-disciplinary research, and the results have been very encouraging. Students from the CISE department can now collaborate with researchers in several other departments at UF that are actively involved in similar research. For example, the Biomedical Engineering department is involved in research in neuron cell cultures and Micro Electrode Arrays; the McKnight Brain Institute is one of the premier research
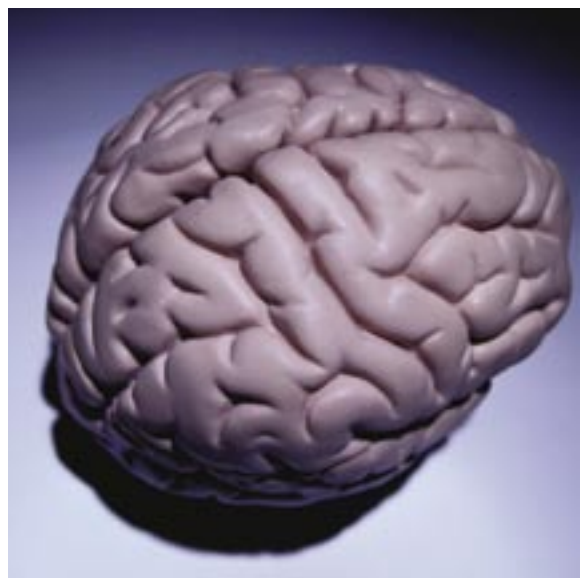
centers in the country that investigates seizures; the Electrical & Computer Engineering department is involved in neuromorphic chip design; and finally, the Neuroscience Department at the UF College of Medicine conducts research in several traditional areas in Neuroscience.

Arunava Banerjee, Assistant Professor of CISE, was born in India. He received a B.Tech in Computer Science and Engineering from the Indian Institute of Technology at Kanpur, in 1991. In 2001, he received a Ph.D. in Computer Science from Rutgers University. He was a postdoctoral fellow at the University of Rochester for two years before joining the CISE department. Banerjee's research interests span Computational Neuroscience, Machine Learning, Applied Mathematics and Computational Biology.

Whassup? With The ACM and ADAM Student Organizations

A Few Words From the ACM President

This year, we break tradition by "naming" the recipient of the ACM Teacher of the Year award. In the past, a vote of the active membership was held to establish that year's award recipient. However, the ACM Officers unanimously agreed that a different approach was warranted this year. We accomplished a great deal more than in recent years and we all readily agreed that the main reason for ACM succeeding, and, indeed, excelling this year was due to the contributions of our Faculty Advisor. Therefore, we enthusiastically name Dr. Benjamin Lok the 2005 ACM Teacher of the Year.

On top of a busy teaching schedule and his virtual environments research, he found the time to be a great faculty advisor for ACM. He has been there whenever we needed him - even when we didn't realize the need until after we benefited from his assistance. Receiving - without having to ask for - help and direction from a busy faculty member was invaluable to ACM. Lok has helped in any way he could, from running out to purchase prizes for HSPC, to helping us make valuable contacts with IAB members. We are very appreciative of his hard work and dedication to ACM. Without him we would not have been able to accomplish what we did this year. We hope that he will continue in his capacity as the ACM Faculty Advisor next year and beyond.

Mario J. Veneziano
ACM President 2004-2005

ADAM Student Organization

This has been an eventful year for the Association of Digital Arts and Media (ADAM). We have continued to create an outlet for students to supplement the education they receive at UF in the field of Digital Arts and Science. To that end, our goal this year was to have many speakers and tutorials at meetings on topics students may not normally encounter in their courses.

Kristian Damkjer and Bobby Bruckart provided two tutorials ADAM hosted in the fall. Damkjer, a DAS instructor who is an Adjunct Lecturer for the CISE Department, conducted an introduction to Maya tutorial and showed the audience basic tools needed to start using this complicated program. Bruckart, a DAS senior, accomplished Web designer and ADAM's Web master, demonstrated how to create a Web site and buy space to host it.

In spring, ADAM was fortunate to host two great speakers, Dr. Paul Fishwick and Dr. Ben Lok. Fishwick spoke about using creative 2D and 3D design to create new interfaces for educators to enhance classroom instruction and help students understand complex algorithms and systems. Lok discussed his computer graphics classes and his leadership role of the Virtual Experiences Research Group. Both presentations were well attended and served to advance ADAM's 2005 goals.

Looking toward next year, we welcome our newly elected officers for the 2005–2006 academic year, including President Bobby Bruckart. With ADAM's acceptance into the Benton Engineering Council this year, the organization will have a budget with which it can plan activities and be represented at a conference. With the promise of great leadership and the dedication of the Executive Board officers again next year, ADAM will continue to enhance the studies and experiences of the Digital Arts and Science ADAM members, as well as members majoring in other disciplines.

Alicia M. Cosenza
ADAM President 2004-2005

Artwork for the digital age by ADAM member Stephen Cano

UF ACM 2005 High School Programming Competition

The 13th Annual High School Programming Competition, sponsored by Lockheed Martin, was held Monday, April 11, 2005, and was an immense success. More than 130 high school students and their faculty sponsors attended the competition, representing 37 teams from 12 schools across the State of Florida. This represents a 19 percent increase over 2004, requiring the event to be moved to the Reitz Union Grand Ballroom to accommodate the large number of competitors.

The winner of this year's exciting competition was Miami Palmetto High School with Winter Springs High School and Pine View High School placing 2nd and 3rd, respectively. The emphasis this year was on fun and friendly competition. Prizes included iPods, web cameras, mp3 players and USB memory sticks, with additional prizes awarded for the fastest submissions on random bonus problems.

The day's events also included:
- A motivational speech from the Associate Dean for Student Affairs, Dr. Jonathan Earle.

- An academic and career advice speech from Robert Norton, software engineer at Lockheed Martin.

- Tours of the CISE Department, including demos of Virtual Reality research in the Graphics, Modeling, and Art Lab and the DAS NAVE.

The event was very well received by students and their sponsors, and was a great recruitment tool for both the University of Florida and the CISE Department.

The ACM sends sincerest appreciation and thanks to suporters from the Dean of Student Affairs Office and the CISE Department, as well as our CISE Industrial Advisory Board (IAB) sponsors: IBM, Harris, Citrix and Microsoft.

We especially thank Lockheed Martin for sponsoring the event and for their generous financial donation - allowing this year's competition to be free to all attending schools. With continued support from the CISE IAB members and alumni, this event will continue to grow in the future, benefiting all.

(Left) Participants in the high school programming competition work to complete their problems before time runs out.

(Above) UF ACM members welcome visiting high school programming teams at the sign-in table

New Undergraduate Program in Computer Science

Beverly Sanders

Computing has become ubiquitous in our society, and many different approaches to studying computing are suitable for students with different goals. Indeed, the CISE department was originally started as an interdisciplinary organization offering degrees in three colleges[1]. To offer an additional alternative to students and to complement our existing programs, CISE will begin offering a new degree program leading to a B.S. in Computer Science from the College of Engineering (EG-CS) in the fall. The new degree combines a strong engineering-oriented technical basis with a flexible interdisciplinary component and an emphasis on communication skills. This flexibility will be increasingly important in the future as computers become important tools in an ever-increasing number of fields.

Students in the EG-CS program will satisfy the same requirements for general education and obtain the same engineering pre-professional background in mathematics and science as other engineering students. The program contains a strong technical component comprising a set of required courses covering essential areas in computing and a set of technical electives enabling students to deepen their knowledge in chosen areas of computer science and engineering. In addition, the program includes a set of interdisciplinary electives in an area of the student's choice. The area may be chosen from anything the university has to offer. Students may choose an established minor, or if none meet their needs, work with an advisor to develop their own program. Thus, students will not need to wait for an interdisciplinary program to be established; they can create their own. To answer the demands of industry for employees with both technical competence and the ability to communicate effectively, the program requires communication courses beyond the usual engineering general education requirements.

With the addition of the new program, CISE will offer five bachelor level degree programs in three colleges. The other four programs are:

Computer Engineering through the College of Engineering

This is a degree offered jointly by the CISE and ECE departments and provides students with a rigorous engineering education and background in both hardware and software design. The degree offers two tracks which give students the option to specialize in either software (through CISE) or hardware (through ECE).

Digital Arts and Sciences[2] through the College of Engineering.

The CISE department offers this unique degree as a joint program between the Colleges of Engineering and Fine Arts. Digital Arts and Sciences provides students with a solid core education in computer science along with the flexibility to complement their program with art, music, theatre, etc. Many of the students in this program aspire to careers such as animation, video game design or medical applications.

Computer Science through the College of Liberal Arts and Sciences

This program allows students to obtain a liberal education while studying computer science. It offers students considerable freedom but provides less technical depth in computer science than the programs offered through the College of Engineering and is popular with students who want to double major in Computer Science and another field in CLAS such as Mathematics or Physics.

Computer and Information Sciences through the College of Business

Students receive a business-oriented education and develop skills necessary to develop software in a business environment. This program provides a strong background in business and economics.

With the addition of the new Computer Science degree, any students interested in studying computing at the University of Florida should find an appropriate program.

1 See the CISE founding chair Dr. Robert Ramey's article, "The CISE Department: How It All Started" in the Fall 2004 CISE newsletter.
2 See Dr. Paul Fishwick's article "Next Generation Computer Science" in the Fall 2004 CISE newsletter.
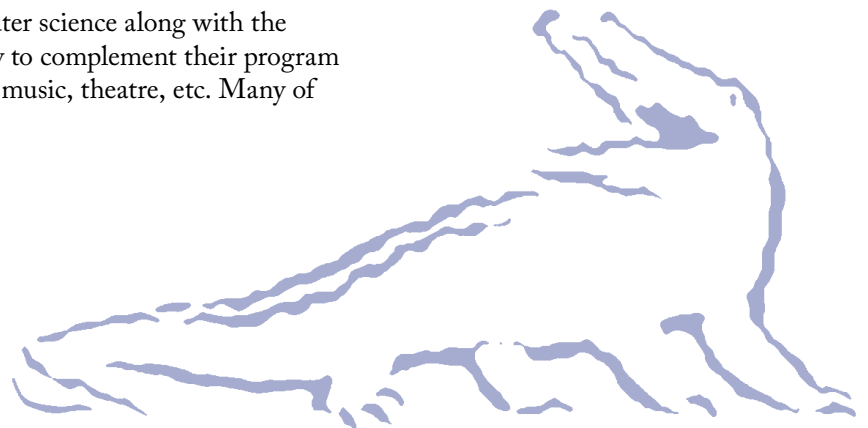
New CISE Alumni Website Launched

The CISE Student Service Center, together with the assistance of computer engineering undergraduates Laura Sheptock and Laura Momol, has developed the CISE Alumni Website. The site was the focus of Sheptocks' and Momol's senior project. The objectives were the following:

1. To keep all informed of our alumni's achievements;
2. To foster mentoring opportunities between current students and working professionals in the computer engineering field;
3. To support an on-line CISE community through the implementation of a bulletin board;
4. To provide a forum for our alumni to interact and contact each other;
5. To offer a Member Directory to find other alums and view their profiles;
6. To collect data from the Alumni Survey feature, so we can continually assess our programs;
7. To track IAB feedback from an employer viewpoint;
8. To continually assess Departmental teaching objectives and outcomes.

Momol graduated in summer 2004 and is currently pursuing a law degree from the University of Florida Levin College of Law where she plans to focus on intellectual property law. She currently resides in Gainesville.

Sheptock graduated in fall 2004 and accepted a job offer from Lockheed Martin as a software engineer designing application systems based on customer input. She currently lives in Maryland with her husband and daughter.

The Student Services Center sincerely thanks these students for creating a professional product and for enhancing the website with additional features that have made the site even useful than originally envisioned. We know both of these women will go far in their chosen careers!

Log on now and create your CISE Alumni Account: www.cise.ufl.edu/alumni

The department needs your feedback and would like to know what you are up to these days!

Give Your Career the UF EDGE

Through UF EDGE (Electronic Delivery of Graduate Engineering), you, the practicing engineering, can obtain a master's degree right where you work or live. UF EDGE programs are delivered either via streaming video or DVD directly to you. These are the same courses taught by University of Florida faculty on campus. CISE offers two degree programs via distance learning: a M.S. degree in Computer Engineering/Computer Science and a M.S. in Computer Engineering/Computer Science with an emphasis in bioinformatics. Campus residency is not required.

Admission Requirements, Costs, and Advising

Admission to graduate programs in engineering is based on academic record and Graduate Record Examination scores.

Admission processing is done through the UF Graduate School. Current information about the Graduate School is available at: www.gradschool.rgp.ufl.edu.

The responsibility for academic advisement, course instruction and other academic issues resides with the CISE faculty.

The cost of the program is $300 per semester credit hour for Florida residents. Out-of- state rates apply for non-Florida residents. However, reduced tuition rates for qualified out-of-state candidates are available.

Master's Degrees Do Pay Off

The investment of time and tuition dollars toward a master's can bring a terrific return in total income. Starting salaries for engineers with a master's degree can be $8,000 - $10,000 higher than for those with only a bachelor's degree. Over a lifetime, the income advantage of a master's degree averages more than $400,000.

Contact the UF EDGE office by phone at 352.392.9670, by e-mail at UFEDGE@eng.ufl.edu, or visit http://ufedge.eng.ufl.edu.

DAS Student Adam Verigan Faces More than Academic Challenges

Graduating with a B.S. in Digital Arts and Sciences (DAS) is a significant accomplishment for anyone, but for Adam Verigan and his family, it is a milestone that has special significance.

Adam was diagnosed at 10 months of age with a congenital heart defect known as Tetralogy of Fallot, which, if left untreated, has a 25% mortality rate by age one and a 95% mortality rate by age forty. Shortly after the diagnosis, Adam underwent his first open-heart surgery to correct the defect, allowing him to live a normal childhood for a while. He played sports like other children his age -- baseball being his favorite - until age 12 when life threw him another curve ball.

Severe lightheadedness and an irregular heartbeat landed Adam back in the hospital with what cardiologists called Atrial Flutter. Adam was prescribed medication and told his condition would not change. At age 16, he was told that his pulmonary valve needed to be replaced, so he underwent his second open-heart operation in July 1998. He did not let his condition take anything away from his life, however. He continued to play sports and lettered in baseball his junior and senior year of high school, graduating in May 2000 with college credits from both AP and dual-enrollment courses.

Adam enrolled at UF as a freshman and began his academic studies in the DAS program. In January 2001, while working-out at the SW Recreation Center, Adam experienced severe sight loss and was later told he had "regurgitation in his tricuspid valve," which would require another open-heart operation in July 2001.

In December 2004, the cardiologists asked Adam to undergo his fourth radiofrequency ablation as part of an electrophysiology study. In this process, catheters with electrode tips are inserted into leg veins and guided to the heart using a GPS-like system. The radiofrequency energy emitted from the electrodes are used to destroy carefully selected heart muscle cells in small areas in order to prevent abnormal impulses that cause rapid heartbeats. The process was such a success that Adam was able to discontinue the medication he had been dependent on for 11 years.

The influence of Adam's past medical problems is evident in his senior project. He is working with CISE Lecturer Dave Small, in conjunction with cardiologists at All Children's Hospital in St. Petersburg, where all of Adam's open heart operations have taken place, designing software that will assist in the training of Echocardiogram Sonographers.

After graduation, Adam plans to attend the University of South Florida, where he will pursue a master's in Biomedical Engineering, focusing his attention on designing and building better technology for cardiac diagnosis and surgery.

"I want to give back to it [cardiology] what it has given to me," he said.

Adam does not want to limit himself to laboratory work, but would like to expand his presence in the cardiology field to patient contact. "I would like to be able to be called in to talk to patients and family members who are going through what my family and I have gone through," he said.

Adam's desire to interact with patients and their families stems from his time in the ICU in June 2001, when he had the opportunity to interact with the nursing staff and several other patients. To this day, whenever Adam travels home to visit his family, he makes a point to visit the ICU. During that time, he bonded with an infant named Kya and her family. Through his own example, he was able to show family members that there was hope. Adam is happy to report that Kya is alive and well and is currently living the life of a normal four-year-old.

Overall, Adam believes that the person he is today is due in large part to his medical condition. "Living with this problem has given me a unique perspective on life," he said.

He attributes the success of his treatments to his family, friends and faith. Unfortunately, his health problems may not be over. He recently learned that there is evidence of leakage between the two ventricles of his heart, which may require additional surgery.

CISE congratulates Adam Verigan for his accomplishments at UF and in life - we all wish him the very best for a successful future!

CISE Undergraduate Students Honored at Commencement

We are proud to congratulate two CISE students who were recognized at their commencement ceremonies: Jacob Edelstein and Emily Welles. Both students were presented with plaques commemorating their awards.

Jacob Edelstein was honored as a spring 2005 University of Florida Outstanding Four-Year Scholar and as a College of Liberal Arts and Sciences Valedictorian. He graduates cum laude with a B.S. in Computer Science and a B.A. in Economics. He has earned a cumulative GPA of 4.0.

Born and raised in Raleigh, N.C., Edelstein toured internationally for three years as a drummer and drum technician for well-known Columbia Records band, Train, before coming to UF to pursue a double major in Computer Science and Economics.

Edelstein was previously named a McLaughlin Scholar and has received a 2004 Computer & Information Science & Engineering Department Scholarship sponsored by Lockheed Martin Corporation.

In addition to his studies, he has served as a research assistant at the Bureau of Economic and Business Research, has mentored elementary students as part of the CHAMPS program and has served as the treasurer and webmaster for the UF Actuarial Student Society. He has also completed two research projects dealing with the creation of an online order-tracking and inventory system and the development of a software metronome. Edelstein completed an internship at Microsoft in the summer of 2004 and will return for a full-time position following graduation.

Emily Welles was honored as a spring 2005 College of Engineering Commencement speaker. She graduates magna cum laude with a B.S. in Digital Arts and Sciences and minors in Business Administration and Sales Engineering. She has earned a cumulative GPA of 3.8.

Welles was awarded the Andersen Scholar of Highest Distinction in 2002 and has appeared on the President's Honor Roll and the College of Engineering Dean's List on several occasions. She has received the Snelling Engineering Scholarship, a 2004 College of Engineering Scholarship, a 2003 Computer & Information Science & Engineering Department Scholarship and the Florida Bright Futures Academic Scholarship.

She has worked with Citrix Systems on their Web development team, where she assisted in the migration and testing of their portal site to ASP. NET, and conducted software testing and worked in interface design during her two summer internships with I.B.M. Corporation.

After graduating, she hopes to work in interactive and new media design before attending graduate school to pursue a Master of Fine Arts. She aspires to someday create her own advertising and multimedia design firm.

CISE Graduate Students Get Involved

The CISE Department is proud to have two of its graduate students elected as Senators for the 2005-2006 academic year: Pedro B. Morales and Elias Baaklini.

A heavy workload and the need to focus on research in their chosen area of interest does not leave much time for graduate students to get involved in community service and student organizations. But, as second-year Ph.D. student Pedro Morales states, graduate students should be encouraged "to meet new people and do something different than academic work, whenever time allows." Morales adds that student government has a "very lively and interesting political scene…and by becoming involved in student government and other organizations, you can have a great time developing different skills while at UF."

Elias Baaklini, a graduating M.S. computer science student who plans to continue his graduate studies as a Ph.D. student, considers his senate position "as a link between graduate students and the student government, where their demands and complaints can be heard."

Baaklini was motivated to run for student government senate elections after his involvement with the Lebanese American Society (LAS) as social coordinator ('04-'05) and president-elect ('05-'06), and his involvement in the Volunteers for International Student Affairs (VISA) as secretary ('04-'05), "in order to represent graduate students in general and international students specifically."

The Student Senate is the Legislative Branch of Student Government. The purpose of the Senate, which is composed of 86 senators serving one-year terms, is to closely represent the views and ideas of the 48,000+ students that make up the University of Florida. The Student Senate performs tasks ranging from confirming Executive and Judicial appointments to passing Student Body Laws, Authorizations and Resolutions. The Senate also allocates over $10 million in activity and service fees each year.

Students

Department Spotlight on the #1 Ranked Male and Female Graduates for 2004-2005

Laurentiu Iancu receives both the M.S. and Ph.D. degrees this spring. He graduates with a 4.0 GPA, and is a six-time recipient of a UF Certificate of Achievement. Iancu joined the CISE Department as a Ph.D. student in fall 1998 and was awarded a four-year UF Alumni Fellowship in recognition of his past academic excellence and his future potential. His Statement of Purpose reflected his determination to "reach the frontier of knowledge in my field of interest, and to go beyond this frontier…. What I need is an intensive program of study and research with a leading team of experts…. I have chosen the CISE Department at UF specifically for its good reputation among the schools of computer science; I aim for the top because I feel that my successful academic experience motivates me to higher achievement when working with the best." According to Iancu, his supervisory committee, chaired by Dr. Gerhard Ritter, CISE Department Chair from 1996 to 2003, provided just that.

While at UF, Iancu coauthored a dozen publications with Dr. Ritter. Iancu's research while a CISE student culminated in his dissertation, Lattice Algebra Approach to Neural Computation. Dr. Ritter describes Iancu as "the best TA and substitute teacher I've had in my classes." Considering the several dozen TA's who have worked for Dr. Ritter over the years, this is an extremely complimentary statement.

After graduating, Iancu, who was born and raised in Iasi, Romania, will be working as a software design engineer on the Visual C++ Quality Assurance team at Microsoft Corporation.

Nely Jimenez receives the Bachelor of Science in computer engineering and a minor in French this spring. While at UF, she has maintained an overall grade point average of 3.95. In the summer of 2002, she attended the Provence Study Abroad Program in Avignon, France, and in the summer of 2004, she interned at the Los Alamos National Laboratory in Los Alamos, N.M., as part of the NASA Undergraduate Student Research Program.

Nely Jimenez was born in Havana, Cuba, and came to the United States in 1996 at the age of 14. She graduated from Avon Park High School in Avon Park, Florida, in 2001. The following fall, Jimenez came to the University of Florida on a National Merit Scholarship. She was also a recipient of the Robert Byrd Honors Scholarship and the Florida Top Scholars Award.

Jiminez plans to earn her Ph.D. at the University of Florida and will begin her graduate studies in the CISE Department this fall. Her research interests lie in the areas of intelligent systems and theory. She is the recipient of a UF Presidential Fellowship, one of the most prestigious graduate financial awards for Ph.D. studies from the University of Florida.

CISE Graduating Students 2004 - 2005

College of Engineering Major: Computer Engineering
DOCTOR OF PHILOSOPHY

Foster, Mark
Process Forensics: The Crossroads of Check Pointing and Intrusion Detection
Dr. Wilson, Chair

Iancu, Laurentiu
Lattice Algebra Approach to Neural Computation
Dr. Ritter, Chair

Kim, Hyunki
Developing Semantic Digital Libraries Using Data Mining Techniques
Dr. Su-Shing Chen, Chair

Onbilger, Oguz
A Computation Paradigm for Multiple Mobile Agent Systems
Dr. Chow, Chair

Park, Minho
Ontology-Based Customizable 3D Modeling for Simulation
Dr. Fishwick, Chair

Peng. Lu
Improving Memory Hierarchy Performance by Store-Load Renaming and Locality-Guided Parallization
Dr. Peir, Chair

Shiue, Le-Jeng
Quasi-Regular Structure in Surface Modeling
Dr. Peters, Chair

Wang, Zhizhou
Diffusion Tensor Field Restoration and Segmentation
Dr. Vemuri, Chair

MASTER OF ENGINEERING

Chung, Tony William
Frantz, Brian Jonathan
Glenn, Taylor
Harrison, Cyrus
Lambert, Travis Lee
Page, Raymond Charles
Patel, Mihir
with thesis - Ycab.net CF: Collaboration Groupware for Mobile Devices Using the Microsoft Net Compact Framework. Dr. Helal, Chair
Schuster, Brian
Shaw, William
Waikenda, Kwame

Wallace, Brian
with thesis - Automated System for Load-Balancing EBGP Peers
Dr. Wilson, Chair
Wong, Tat-Chi Stephen

MASTER OF SCIENCE

Adusumilli, Anitha
Al-Turaif, Bandar Ali
Bernsteyn, Dmitriy
Chandrasekaran, Janani
Chawla, Puneet
Cheslock, Andrew
Clark, Timothy Edward
Dandekar, Pranav
with thesis - Algebraic-Geometric Methods for Complexity Lower Bounds
Dr. Sitharam, Chair
Diot, Antoine Joseph
Fu, Xiaoou
with thesis - Implementation and Evaluation of Global Compositional Complexity for Gene Prediction
Dr. Shigang Chen, Chair
German, Brandon
Gillick, John Jr.
Grandhi, Premalatha
Huang, Shin-Jie
Iancu, Laurentiu
Iqbal, Syed Faisal
Katebi, Ataur
with thesis - Supporting Snapshots in a Log-Structured File System
Dr. Wilson, Chair
Kini, Adityashankar
Kodiakra, Kosala
Komaragiri, Vijaya
with thesis - MACE Version 2
Dr. Newman, Chair
Kumar, Mantosh
Lim, Namkyu
with thesis - RUBE QM: A 3-D Simulation and Modeling Approach for Query Systems
Dr. Fishwick, Chair
Lin, David
Mangalam, Ajay
Marin, Jeanine
McDonald, Brian Thomas
Muthusami, Padmanabhan
Myles, Ashish
with thesis - A Linear Programming Approach to Fitting Splines Through 3D Channels
Dr. Peters, Chair

Nalla, Vipan
with thesis - Anonymity and Covert Channels in Mix Networks
Dr. Newman, Chair
Nieten, Teresa
O'Rourke, John
Park, Young-Hyun
with thesis - Supporting High Productivity among Disconnected Mobile Collaborative Authors
Dr. Helal, Chair
Patel, Keyur
Patel, Roshan Jayantilal
Peterson, Robert
Puvvada, Vijay
Ratana-Porn, Karn
Russo, James
with thesis - An OSGI Based Framework for an Intelligent Sensor Network
Dr. Helal, Chair
Shen, Wen-Chuan
with thesis - Implementing a Global Anti-DOS Service Based on Random Overlay Network
Dr. Chen, Chair
Shi, Jianfeng
Shrivastava, Ravi
Suh, Hyo-Jin
Sukujo, Andiputranto
with thesis - SmartWave: An Intelligent Microwave to Help Elderly People Cook Independently
Dr. Helal, Chair
Tang, Yiwei
Thota, Jose Jagadish
Veerapuneni, Satish
with thesis - Benchmarking Smart Homes Using a Humanoid Robot Approach
Dr. Helal, Chair
Yoon, Eunjung
Zhang, Kewu

BACHELOR OF SCIENCE IN COMPUTER ENGINEERING

Ahmed Naveed
Badgley Cameron J
Beckham, Gregory*
Beloso, Jorge Luis
Billingsley Max T III*
Bjorn, Brig
Blanco, Jonathan

Bloom John P III
Boner, Mitchell*
Calderon Asha
Cardenas, Juan C.
Chilampath, Tracy*
Choi, Joon-Woo
Chou Yueh-Hsien
Colon Rebekah*
Corrochano, Denis*
Davis, Vincent
Desmarais Sebastien J**
Dimayuga Eric Aldrich
Dobzinski Adam M
Eisen Brett Farrell
Emi, Takahiro
Fantaski Tricia M*
Ferguson, Andrew
Ferriolo Nicholas
Forrester Ray Walker
Gates Andrew Lee
George, Saji
Gohil, Jay
Gorczyca, Steven
Greenwood, Brandon
Gubanov, Yuri***
Haiber Kelly Ann***
Haidar Mark Derek
Hall Scott Martin
Hann Kevin Allen
Harlow, Jason *
Harmes, Ross*
Haun, Jonathan
Helmy, Shereaf
Holmquist, Craig*
Huereca Anthony M*
Ihns Richard Michael**
Iqbal, Khuram**
Jimenez Nely*
Jones Dustin Thomas
Jones, Ian*
Jones Thomas Antonio*
Kaeowichien, Pattaya
Kennedy, Shawn M*
Kern Steven Tim Jr
Khurana Payal
King Darius Forrest
Kotkin Mitchell Paul*
Lau, Kris
Lee, Tyrone
Lei Cheok Nga
Leonard, Jamease
Leung, Eddy
Lomaskin, Todd

*Cum Laude **Magna Cum Laude ***Summa Cum Laude

Longin Michael S
Lurch Patrick Adam*
Mankus, Andrew*
Marino, Michael*
Momol, Laura G.
Moore Allison Brett
Mousseau Eric James
Ocipka Karolina*
Oumantsev Alexandre A*
Page, Raymond
Parekh, Vishal*
Patel, Amit Pravin*
Peacock, Neal
Perez, Richard
Pinchot Jared Michael   *
Pindar, Herbert
Pindar, Robert
Poelker, Lindsey
Pollock Matthew Lee*
Prado, Eduardo
Pratser, Matthew
Rasheed, Hassan*
Rao Akshay Vedvyas*
Regan Brendan David
Sadeghi, Taha
Salomon, Jeffrey
Sauers Jason Eric
Saxon, Kathryn*
Sesniak, Brenda*
Shah, Hemang*
Shaikh Marwan Elahi*
Sheptock, Laura
Shovlain, Raymond*
Silva, Michael
Singh Vikash Kumar**
Siplin, Frederick
Snyder, Gregory*
Stange Emily C
Strait Keith Allen*
Syla Modest
Sze, Paul*
Tam Tony
Tarrosa Margaret R C
Taylor Phill Iii
Thakker Dipan B
Tran, Quang*
Tran, Song
Troche, Rodolfo*
Victor, Jason
Volker-Yoblick Adam T
Worth Patrick Joseph
Zaremby, David*

Major: Digital Arts and Sciences
MASTER OF SCIENCE

Mora, George
  with thesis - Distributed Virtual Rehearsals Using an Augmented Digital Environment
  Dr. Lok, Chair
Wilson, William
  with thesis - SurgADE: A Simple, Adaptable Approach to Simulating Non-Invasive Surgery with an Augmented Digital Environment.
  Dr. Peters, Chair

BACHELOR OF SCIENCE IN DIGITAL ARTS AND SCIENCES

Ellis, Austin*
Fogel Michael Justin*
Gabrenya, William*
Montgomery David C
Reus Jonathan Chiam***
Rossen Brent Harte***
Sasson, Roy
Sucara, Justin
Verigan Adam D
Welles Emily**
Winfree Timothy M*

College Of Liberal Arts and Sciences
Major: Computer Science
MASTER OF SCIENCE

Baaklini, Elias Michel
Chung, Sung Wook
Davis, Ross
Deshpande, Ketaki
Dill, Brian Richard
Ghodke, Ninad
Jagpal, Shweta
Kaissi, Tarek
Kim, Minho
Koestline, Vahe N.
Laverick, Dustin Frederic
Li, Tang
Liu, Fenglong
Luo, Lan
Maranani, Shyam
Moon, YoungJoo
Parchani, Sonia
Patil, Manjiri Pandurang
  with thesis - Schema Exportation and Integration for Achieving Information Sharing in a Transnational Setting
  Dr. Su, Chair

Patnaikuni, Manjeera
Peng, Jinfeng
Pyon, Yoon Soo
Ravi, Prakash
Shah, Jigar
Sherman, Gavin Edward
Sun, Hsiang-Suen

BACHELOR OF SCIENCE

Adams Christopher D
Alva Miguel
Ammar, Bessam
Arries, Christopher
Assily Emil
Bass Frederick E Jr
Battistini, Luis
Cardona Juan David
Chang Andrew*
Chen-Quee Mark Steven***
Crespo Aaron Dale
Cutrono, Joseph
Davis Christina Marie
Duffey Kevin William*
Duong Christine
Edelstein Jacob B*
Elkordy Ameer Ahmed
Flagg Taylor Richard*
Folds Kathaliya Joy
Garcia Andres Jose
Guthier Allen*
Hicks, Christina
Hockman, Ron
Hower, Christopher*
Jack Brian Anthony
Jacoby, Jared A.*
Jaeh Matthew Roland
Jaramillo, Ray
Jiang Xiao
Jimenez John Paul
Johns Buddy Craig
Kraebel, Colin
Laffitte, Morgan B. III
Lopez John Bosco
Marc Logan Ross***
Mazlaghani, Mikel**
McKeon, Ryan
Osorno, Sebastian
Patel, Rupal*
Quinonez-Torres Claud
Reckard, Gary S. Jr.*
Rodriguez, Mauricio
Saintil Elliott Billy
Sirois, Christina

Vilicic, Josip
Waite, Robert
Williams, Stephen
Zemlo Adam Edward

College of Business Administration
Major: Computer and Information Sciences
BACHELOR OF SCIENCE IN BUSINESS ADMINISTRATION

Amiel Randall L**
Arguelles Mark L Lo
Aseron, Mariel*
Babcock Kevin George
Bailey Allison Marie*
Barnes Tanyah
Barrett, John
Bristow James C
Brown Chandler Stewar
Cosme Eddie
Dang Johnny
Emigh, Michael*
Espino, Bryan
Faye Souleymane
Fiore Christopher A
Floresca, Tracy*
Genser, Daniel
Gray Jeremy P
Haimo, Barry
Hay Dennis Kim
Healy Carrie Ann
Kennedy Courtney F A
Lopez Jorge Jesus**
Lane, George
Lewis, Amanda*
Manco Justin Allen
Mann, Douglas
Mcdermott Michael L
Moser, John
Reese, Blake
Rejas, Andres
Singh, Haresh
Smith James Bryant
Solano Pablo Esteban
Thomson, Elliott
Testa, Michael
Tucker David Seth
Weber Andrew Charles
Yopp James Douglas Jr

*Cum Laude **Magna Cum Laude ***Summa Cum Laude

Staff Profile: Ernest Hall, CISE Systems Programmer

Ernest Hall has been with CISE since 1997. He was originally hired to maintain the 25 Windows clients then being used by our staff employees. He is now responsible for almost 200 Windows machines, including those in 3 student labs and the majority of faculty and grad student offices. All require frequent upgrades and careful management. One might imagine that someone so busy would be difficult to approach, if you could find him at all. But just the opposite is true. He is always willing (and almost always available) to assist with even the most mundane tasks, and has a reputation for being amongst the friendliest, most outgoing, and most "service oriented" staff members in the Department.

Ernest joined the University of Florida in 1980. He has held positions at Shands Hospital, the University Police Department, Computer Network Services (formerly NERDC), and the Institute of Food and Agricultural Sciences (IFAS). His fascination with computers led him to leave the University Police Department in 1984 together with plans for a career in law enforcement. At NERDC he worked as a mainframe computer operator and was promoted to Computer Programmer when he moved to IFAS in 1988. In 1990 he enrolled at Santa Fe Community College and subsequently received his AA in Computer Science.

As personal computers grew in popularity, Ernest focused his attention toward them and away from mainframes. He completed several certification courses and became one of the first PC programmers at IFAS. After several years of programming, Ernest decided to move up to the position of Systems Programmer in 1997 when he joined CISE.

Ernest's hobbies include reading, writing, cooking, and running. He has run many road races, including the Disney Marathon, Ocala Half Marathon, the last 8 to 10 Gate River Runs, and many more.

Although Ernest has had many opportunities to go elsewhere, we are delighted that he has decided to remain an integral part of the CISE family. We hope he will stay with us until his retirement!

Undergraduate & Graduate Student Scholarships/Fellowships

The CISE Department congratulates the following recipients of 2005-2006 College of Engineering scholarships/fellowships:

Joseph Akoni	General Engineering Scholarship
Kristen Allen	General Engineering Scholarship
Amber Beutler	W. H. Chen Scholarship
Jeremiah Blanchard	Alumni Fellowship
Christopher Burns	General Engineering Scholarship
Stephen Cano	Collins Scholarship
Michael Costanza	W. H. Chen Scholarship
Robert Dickerson	Collins Scholarship
Ben Eisen	Godron Scholarship
Vincent Galluzo	General Engineering Scholarship
Weston Hutchins	Co-op Scholarship
Nely Jimenez	Presidential Fellowship
Aaron Kotranza	Alumni Fellowship
Ritwik Kumar	Alumni Fellowship
Natan Milgram	General Engineering Scholarship
Amanda Noriega	General Engineering Scholarship
Yi Lin Pei	A. C. Pound Scholarship
Jampani Ravindranath	Alumni Fellowship
Peter Sawries	General Engineering Scholarship
Jyungrun Seo	Alumni Fellowship
Oliver Stamkov	Estridge Scholarship
Lauren Stana	Engineering Dean's Scholarship
Kalin Staojev	Pound Engineering Scholarship
Rebecca Wells	Alumni Fellowship

The department also wishes to express its gratitude to the following companies for their generous contributions for undergraduate and/or graduate scholarships/fellowships:*

Boeing	Undergraduate Student Scholarship
ExxonMobil	Any educational purpose
Harris Corporation	Graduate Fellowship
Lockheed Martin	CISE scholarship

*The student recipients of these awards will be identified in our fall 2005 newsletter.

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