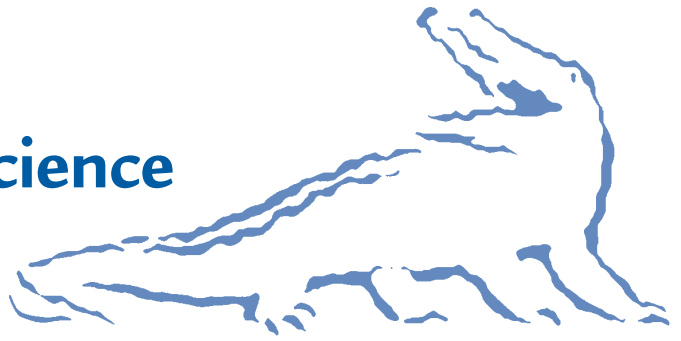


Computer & Information Science & Engineering

Fall 2006

www.cise.ufl.edu



From left to right: Daniel Soffer, James "J.C." Jones, Zak Kline, Ross Friedberg, Josh Hartman, Warren Moore, Dave Small, Kyle Fleming, Miorel Palii, and Tim Smith

Programming Team - ACM

On Saturday, October 28, three teams from UF competed in the 2006 Association for Computing Machinery Southeast USA Programming Contest in hopes of qualifying for the international contest. When the results were tallied, two University of Florida teams finished in the Top-10 out of 65 registered teams. Team *127.0.0.1*, Kyle Fleming, Josh Hartman and Miorel Palii, finished fifth. They achieved seven out of 10 correct solutions. *A Series of Tubes*, James "J.C." Jones, Warren Moore and Tim Smith, finished ninth. The team had five correct solutions. The third team, *Slinky+Escalator=Infinite Fun*, Ross Friedberg, Zak Kline and Daniel Soffer, finished 44th with a score of two correct solutions.

Although team members had a very successful run this year, they continue to work hard and are trying to build upon the success of fall 2005, when UF's teams finished third, eighth, and 11th out of 66 registered teams. Fortunately, with great leadership and coaching from Dave Small, we can expect the team to be successful in competitions to come. Small has been coaching the team since the fall of 2004 and is very proud of the hard work and dedication the students have put into preparing for the competition. This fall the team members met for three two-hour practice sessions a week. Exceptional leadership, dedication and organizational skills from the captain, Jones, WERE valuable to the team's success.

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As I write this letter, we are rapidly approaching the midway point of the 2006-2007 academic year, and I am happy to report that all indicators suggest that it will be among

the most successful in our history.

We were very fortunate to hire four outstanding faculty members this year: associate professor Ahmed Helmy, assistant professor My Thai, and lecturers Seema Bandyopadhyay and Rong Zhang. Helmy received his Ph.D. from the University of Southern California in 1999 and his research interests include mobile ad-hoc networks and wireless sensor networks. Thai received her Ph.D. from the University of Minnesota in 2005, and works in the areas of combinatorics, optimization, algorithms, computational biology and networks. Bandyopadhyay received her Ph.D. from Purdue University in 2004 and her research interests are in computer networks, including wireless sensor networks. Zhang earned her Ph.D. from Rutgers

University in 2006 and her research interests are in supervised learning. In addition, eight staff members have joined us.

Two distinguished faculty members will be retiring from CISE in December, but will continue their involvement with the Department as emeritus faculty. Professor Gerhard Ritter, who was chair of CISE from 1994 to 2001, joined the Department in 1985. His research contributions have spanned the areas of artificial neural networks, applied mathematics, pattern recognition, image processing and computer vision. Professor Su-Shing Chen joined the Department in 2002 after serving as James C. Dowell Research Professor and Chair from 1997-2001 in the Computer Engineering & Computer Science Department at the University of Missouri-Columbia. Chen's research contributions have been in the areas of flexible dynamic workflow design, digital libraries, agent-based learning systems and computing, and data archiving and information preservation. An article which briefly describes their many contributions to the field and the Department can be found in this Newsletter.

The cover article of this edition of the CISE Newsletter exhibits the continued success of our ACM Student Program Teams.

We are extremely proud of the students' accomplishment and I wish to congratulate the team on behalf of the Department.

CISE graduate students took an important step forward this year by forming the Association of Graduate Students in Computer and Information Science and Engineering. ASCIE was formed to provide a forum for the expression of views and interests of CISE graduate students. The organization has already made several significant contributions to its members and to the Department as a whole, including the hosting of a very successful new graduate student orientation program. We are very fortunate to have such an enthusiastic and energetic group of students.

Once again, I want to thank all of our generous supporters. I encourage anyone considering a donation to the Department to look into gift matching opportunities through his or her employer. More information on corporate gift matching can be found through your human resources department or at the University of Florida Foundation web site, www.uff.ufl.edu.



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Programming Team - ACM A Glimpse of the Team

Daniel Soffer, junior, is majoring in computer engineering with an emphasis on software. He loves programming and problem solving, and in the programming team he is able to do what he loves.

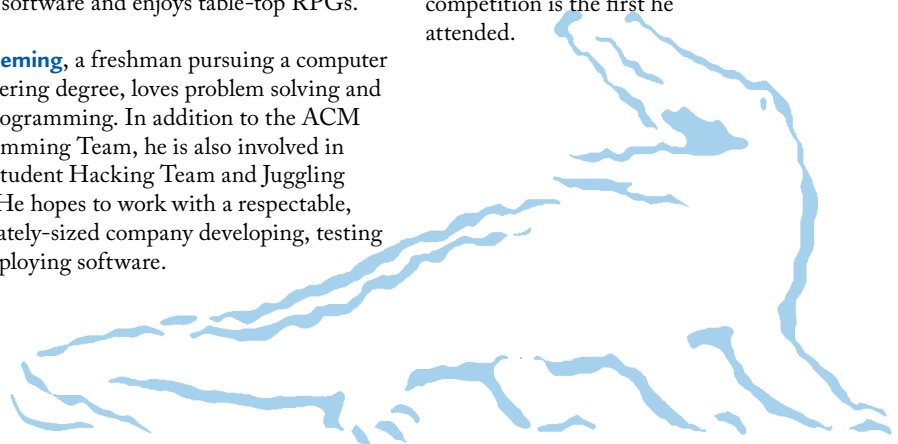
"Statesboro was a fun time," Soffe said. "This was my first ACM competition and it was a really good learning experience. The UF programming team will keep-at-it until we reach the world finals, hopefully next year."

Warren Moore, a computer engineering junior, has participated in the last three southeastern regional contests. He has entrepreneurial plans for the future and would eventually like to be an "angel investor," helping small, promising tech firms reach their potential by providing start-up funding. In the meantime, he says he enjoys working on web applications and simulations involving real-time 3-D computer graphics.

J.C. Jones is a graduating master's student in computer science. Jones has served the last two years as captain of the programming team. He first became involved with the team in 2004 to hone his problem-solving skills and the thrill of competition inspired him to stay on the team. In his free time, Jones writes open-source software and enjoys table-top RPGs.

Kyle Fleming, a freshman pursuing a computer engineering degree, loves problem solving and Java programming. In addition to the ACM Programming Team, he is also involved in UF's Student Hacking Team and Juggling Club. He hopes to work with a respectable, moderately-sized company developing, testing and deploying software.

Miorel L. Palii is a first year physics major who programs as a hobby. Palii says he enjoys speed-solving the Rubik's cube and playing chess and sees himself entering academia to do research. This year's competition is the first he attended.



CISE Student/Faculty Research Groups

The Virtual Experiences Research Group

The Virtual Experiences Research Group includes faculty, graduate students, and undergraduate students involved in computer graphics, virtual reality, and human-computer interaction research. The group works on projects that span the spectrum from virtual reality — where everything is virtual, to mixed reality — a mix of real and virtual objects.

Led by assistant professor Benjamin Lok, the group focuses on developing, understanding and evaluating experiences within virtual worlds. The research focuses on studying how the interface to virtual worlds impacts how the user perceives, behaves and learns. A series of projects are underway to examine these research questions.

In the Mixed Reality Anesthesia Machine project, a tracked TabletPC is used as a 'magic lens' to view an abstract representation of a complex anesthesia machine. The Magic Lens TabletPC is a combination of camera based trackers, 3-D computer graphics, simulation and modeling, and a natural handheld interface. The device will help anesthesiology residents better understand how to effectively use and troubleshoot the complex machinery of an anesthesia machine.

In the Mixed Reality for Engineering Review and Design project, the goal is to improve the effectiveness of virtual reality worlds through enhancing the interface. The MERGED system allows the user to handle real objects within the virtual world. Basic research is being conducted on how the presence of real objects impacts the users' perception and behaviors with virtual objects.

The Virtual Patients project aims to improve how people interact with others through providing practice with virtual people. To accomplish this lofty goal, students and faculty, are developing new technologies to render, interact, visualize and learn from virtual humans. Their target application is to provide medical students additional opportunities to practice with virtual patients. Through repeated interactions with virtual patients medical students will improve



A life-sized virtual patient, DIANA, is complaining of abdominal pain. A medical student needs to gesture and speak to her to practice doctor-patient communication skills.

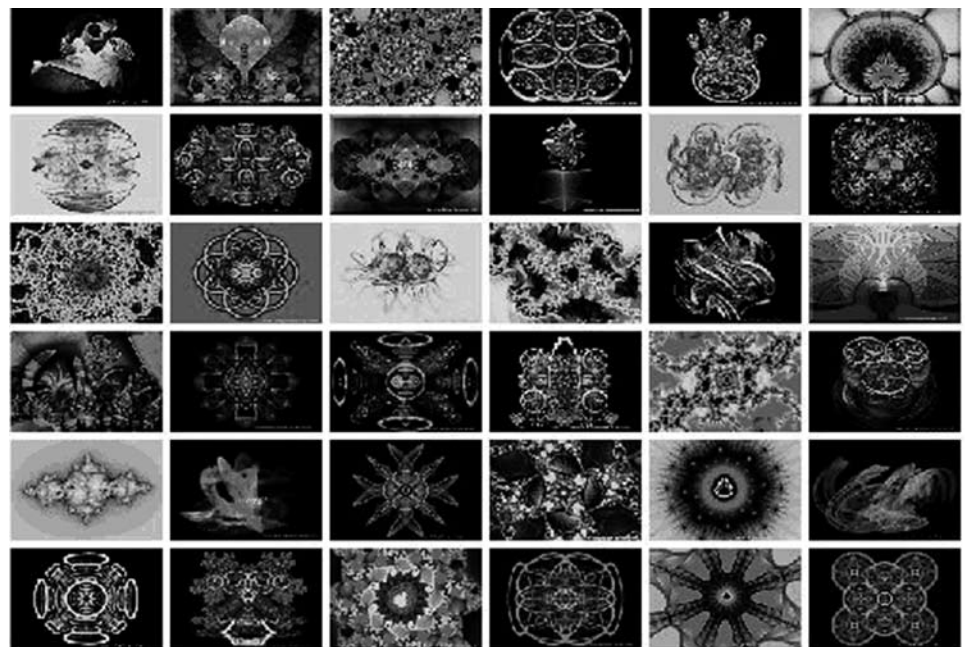
communication, diagnosis, and procedural skills. Studies have been conducted to validate the system. These studies investigate how interacting with a virtual person is similar to interacting with a real person as well as explore issues of race and ethnicity while seeking to understand how technology impacts learning, behaviors, and effectiveness.

Center for Operating Systems, Networks and Security

The Center for Operating Systems, Networks and Security (CONS) research group is headed by assistant professor Richard Newman and is engaged in cutting-edge research in temporal/spatial access control, distributed collaboration systems, JPEG steganography, anonymity, designing smart firewalls that defeat DDoS attacks on modern IP networks, increasing reliability of VoIP, and making human passwords more secure.

A major security software release last semester from CONS was the University of Florida Image Based Authentication tool, used as a default authentication mechanism by the students of the graduate level operating systems course in the Fall. This alternative authentication mechanism

Text uses selection of fractal images instead of text as passwords. It has benefits over text-based systems such as higher entropy, higher recall rates, lower susceptibility to dictionary attacks and inherent immunity to key loggers. Initial usability results are very promising,



and testing continues. A demo site can be accessed at www.cise.ufl.edu/~pharsh/iba/. Access the paper presented at the Annual

IEEE Carnahan Conference on Security Technologies here: www.cise.ufl.edu/~nemo/papers/Carnahan2005.pdf

G2V2

Geometry, Graphics, Vision, Visualization (and visual simulation) - G2V2 for short - is a weekly CISE seminar that covers a wide spectrum of areas to keep students and faculty up-to-date on related projects in and outside the CISE department. The main motivations sustaining this effort since its inception in Spring 1999 are:

- 1) Providing a regularly running forum for this group, keeping up-to-date on each others research.
- 2) Providing an informal setting where possible collaborators from outside or from other departments at UF can be given an opportunity to talk.
- 3) Through this collaboration, research or grant proposals can be achieved in a quicker and more natural fashion.
- 4) Cross-listing and announcing talks from other UF colloquia/seminars, including our own relevant departmental colloquium and Barr Lecture Series.
- 5) Graduate students in these areas are provided a nurturing environment somewhat larger than their immediate

group. Graduate students are kept informed of research in the department and at the University, they have a peer group with common interests and they have a friendly forum to present their work.

In keeping with these motivations, the schedule usually includes talks by faculty from other departments of UF, and researchers from other universities and institutions. Most frequent UF visitors to the G2V2 seminar are from the Departments of Mechanical & Aerospace Engineering, Electrical & Computer Engineering, Materials Science & Engineering, Mathematics, and Biochemistry and Molecular Biology. A recent example was a talk given by B.J. Fregly, professor of Mechanical & Aerospace engineering, which surveyed application problems related to knee surgery, including geometric modeling of the knee and building a collision-free dynamic X-ray environment for tracking a patient in motion. Another recent talk was by Henry Hess, professor of Materials Science & Engineering, who described his research on biomolecular motors, which play a central

role in transport and assembly processes in nanotechnology. Research challenges in this domain include synthesizing geometrically regular structures that act as molecular motors with high functionality.

The talks often end with informal and friendly discussions which foster an exchange of ideas and result in mutual learning. While some of the challenges raised by the speakers can be addressed with existing methods developed by computer scientists, the others lead to formulation of new theoretical problems. Often, students from the groups of these researchers are well represented in our G2V2 related graduate classes such as graphics, vision, algorithms and computational geometry. Last but not least, some of the talks have led to new collaborations and to funded projects.

The seminar is coordinated by Alper Ungor and Meera Sitharam. However, almost a third of the CISE faculty has been involved in the G2V2 seminar.

For more information visit www.cise.ufl.edu/~ungor/G2V2

Faculty News

Timothy Davis, associate professor, has received a \$460,000 award with William Hager, Department of Mathematics, entitled "MSPA-ENG: Scalable Sparse Matrix Algorithms" from the National Science Foundation. Davis has also authored a new book, *Direct Methods for Sparse Linear Systems*, published by the Society of Industrial and Applied Mathematics. (See www.ecse.ufl.edu/~timdavis/engspma/).

Paul Fishwick, professor, has been appointed to the editorial board of the *Journal of Visual Languages & Computing*. He was recently awarded a \$250,000 grant with Jose Sepulveda and Luis Rabelo from the University of Central Florida. The grant is entitled, "A Framework and Taxonomy for the Simulation of Spaceport Launch Operations," sponsored by UCF/UF's Florida Space Research Institute (SRI). Fishwick also received a research contract for \$96,857 entitled, "Dynamic Mission Tasking for Mixed Human and Unmanned System Teams" from the Army Research Lab through the

Institute for Simulation and Training at UCF.

Ahmed Helmy, associate professor, served as the international chair for the ninth IFIP/IEEE International Conference on Management of Multimedia and Mobile Networks and Services (IFIP/IEEE MMNS), in October. Helmy was also appointed as the 2006-2007 Workshop Chair/Coordinator for ACM's SIGMOBILE (Special Interest Group on Mobility of Systems, Users, Data and Computing), with responsibility for workshops at ACM's conferences on wireless and sensor networks (ACM Mobicom, ACM Mobihoc, ACM Mobisys and ACM Sensys). He served as the technical committee vice-chair for the Wireless/Mobile/Sensor Networks and Computing track of the 12th IEEE International Conference on Parallel and Distributed Systems (IEEE ICPADS2006), and was invited to chair the wireless sensor networks track of the International Conference on High Performance Computing (HiPC) to be held in India, December, 2007.

Christopher Jermaine, assistant professor, has received a \$594,836 award with professor Sanjay Ranka and Lennox Archibald from the College of Medicine entitled, "SEI: Data Mining for Multiple Antibiotic Resistance," from the National Science Foundation.

Sanjay Ranka, professor, has been elected as a Fellow of the AAAS, American Academy of Arts and Sciences, for distinguished contributions to the theory and practice of parallel and distributed computing. Ranka is also a Fellow of the IEEE, Institute of Electrical and Electronics Engineers.

Sartaj Sahni, distinguished professor & chair, has received a \$26,000 contract from Advanced Algorithms and Systems with professor Sanjay Ranka for the project, "FHTCC: Dedicated Channel Reservation in Ultra Science Net." In conjunction with algorithm project, Sahni received a \$26,000 in matching funds from the Florida High Tech Corridor Council. Sahni also received a \$200,000 contract entitled,

"Sensor Deployment," from the U.S. Department of Energy sponsored by UT-Battelle.

Meera Sitharam, associate professor, has been awarded a \$300,000 grant with Oscar Boykin, assistant professor of electrical and computer engineering entitled, "EMT: Quantum Complementarity and its Algorithmic Implications," by the National Science Foundation.

Stanley Su, distinguished professor, has received a \$462,000 award with Howard Beck from agricultural & biological engineering entitled, "Processing Dynamic Event Data and Multifaceted Knowledge in a Collaboration Federation," by the National Science Foundation.

Baba Vemuri, professor, has received a \$1.3 million award with Drs. Thomas Mareci, Biochemistry and Molecular Biology, and Paul Carney, Pediatrics entitled, "CRCNS: Automatic Prediction of the Onset of Epilepsy," by the National Institutes of Health.

Neuro-Image Analysis

By Baba Vemuri

Neuro-image analysis is a field involving the study of the brain through various forms of imaging methods. The purpose of this study may vary widely – for example, detection of lesions, trauma or simply for studying function. The most widely used non-invasive imaging mechanisms include magnetic resonance imaging or MRI, computerized tomography or CT, fMRI or functional MRI, and positron emission tomography or PET. MRI and CT are imaging techniques used to visualize the anatomy, while fMRI and PET are functional imaging techniques. In our group, which is in part funded by NIH, we focus on developing computational methods for the automatic analysis of neuro-images. Though the methods developed are general enough to be applicable to other anatomical structures as well.

Within neuro-image analysis, we are tackling several problems including model-based 3-D shape segmentation, construction of neuro-anatomical atlases, co-registration of images from a single subject taken over time while studying disease progression or remission, or from a population of control, or normal subjects. Atlas construction is a challenging and important problem encountered in many medical image analysis tasks. An atlas is a representative of a population of, say, control data sets. This representative is usually taken to be an average of some sort. For example, if the population consists of human brain MR scans then the atlas could be taken as an “average” of the aligned brain scans. One of the research problems we are involved in is to define this “average” in the most meaningful way. Sophisticated mathematical methods involving statistics and differential geometry of manifolds can have bearing on defining meaningful “averages.” Researchers in our group are involved in developing mathematical models and associated algorithms for estimating this “average” in an unbiased way. It can then be compared to pathologies to quantitatively assess the extent of changes due to the pathology. Another application is in neuro-anatomical shape classification where each class may be represented by the cluster centers/averages.

In another project, we are developing mathematical models and efficient algorithms for analyzing matrix-valued images obtained using a nascent MR imaging technology called

Diffusion Tensor MRI or simply DT-MRI. In DT-MRI, the MR signal is made sensitive to diffusion of water molecules in tissue *in vivo* or *in vitro*. The signal measurement is then modeled by an exponentially decaying function whose decay constant can be approximated by a spatially varying tensor. The goal is to estimate this tensor (which is symmetric positive definite) at each lattice point in a volume lattice given the noisy signal measurements. Once the tensors over the field are estimated, our goal is to follow the dominant Eigen directions – that represent the dominant direction of anisotropic flow of water, which correspond to axonal rich pathways in the tissue. Various visualization techniques may be employed to visualize this anisotropy. Figure 1(a) depicts a sagittal slice of the MRI data rendered using a line integral convolution of the dominant Eigen vector field with a noise texture to create the perception of a flow in the noise texture. The RGB colors correspond to the X,Y,Z directions with X,Y corresponding to the plane of the paper and Z going into the paper. Our group has made significant state-of-the-art contributions in solving this problem. Figure 1(b) depicts a coronal view of the LIC rendering.

Neurological disorders such as epilepsy, Alzheimer’s, stroke, etc. disrupt normal axonal pathways in marked ways and may be detected by comparison to the control atlas. One drawback of the diffusion tensor approximation of the water molecule diffusion is that it is incapable of modeling diffusion occurring through complicated tissue geometries such as when a voxel contains crossing axonal fibers. An alternative imaging technique called “high angular resolution diffusion weighted MRI” is the solution. Once again, using sophisticated

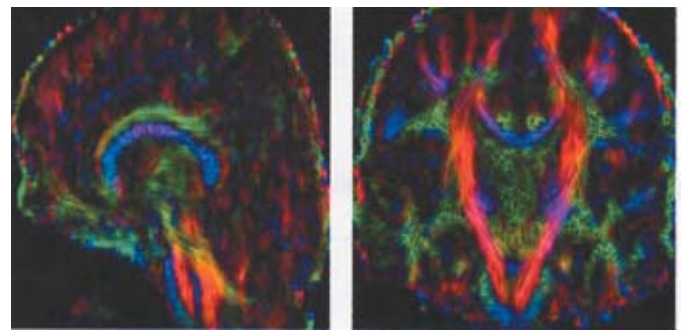


Figure 1: (a) (b)

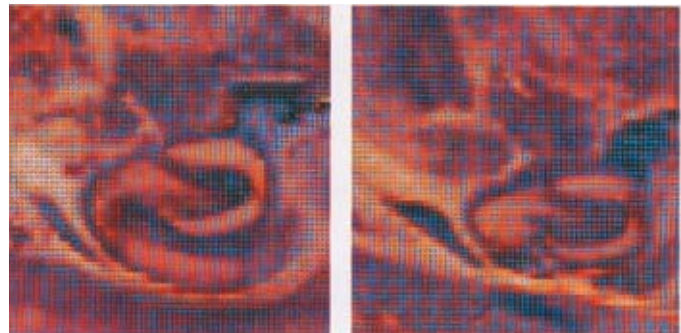


Figure 2: Probability surfaces: (a) Control rat brain (b) epileptic rat brain

mathematical models that involve modeling of probability distributions on the space positive definite matrices, one can come to grips with modeling complicated local geometries of tissues. Figures 2(a) and 2(b) depict the rendering of the probability surfaces of water molecule diffusion corresponding to a normal rat brain and an epileptic rat brain. The disruptions in the organization of these surfaces are obvious from the two figures. Our work in this direction holds tremendous promise in making such inferences possible in the near future in a clinical setting.

Research work described in this article was carried out in collaboration with Baba Vemuri’s Ph.D. students Bing Jian, Tim McGraw, 05’ and Fei Wang, 06’ and several collaborators including, Anand Rangarajan, Jeff Ho and Arunava Banerjee from CISE, Dr. Thomas Mareci, Department of Biochemistry and Microbiology; Dr. Paul Carney Department of Pediatrics and Biomedical Engineering; and Dr. Stephan Eisenschen Department of Neurology.

Two CISE Professors Retire in December



Professor Gerhard X. Ritter, Chair of CISE from 1994 to 2001 retired in December with emeritus status

Ritter received the Ph.D. in mathematics from the University of Wisconsin-Madison in 1971. He joined UF in 1971 as an assistant professor of mathematics and began a joint appointment with the Department of Computer & Information Science & Engineering as an associate professor in 1985. He received a Florida Blue Key Distinguished Faculty Award, which is given to faculty who excel

in teaching, research and publication. He was a founding member and the first Chair of the Activity Group in Imaging Science of the Society of Industrial and Applied Mathematics. He is the editor-in-chief of the *Journal of Mathematical Imaging and Vision*, a chief editor of the Ibero-American journal *Computacion y Sistemas*, an area editor for the *Journal of Electronic Imaging*, and is a member of the editorial board of several other journals.

Ritter's research accomplishments are equally impressive. His interests span the areas of artificial neural networks, applied mathematics, pattern recognition, image processing, and computer vision. As a principal investigator or co-PI, Ritter received more than \$14 million in research grants and contracts the past 17 years. During his tenure as chair, the CISE Department expanded tremendously and became the largest department on campus — in terms of undergraduate majors. He was also instrumental in obtaining major donations from various industrial sponsors for the Department. These donations included funding for the renovation and establishment of several laboratories, class rooms, and conference rooms as well as hardware, software, furniture and equipment donations contributed by the members of the Industrial Advising Board. The board includes members from Exxon, Oracle, Microsoft, Dell, Harris Corporation, Gartner Group Undergraduate Laboratories and others — together their donations exceeded \$6 million.

Apart from his research, teaching and service to the Department, Ritter was active as a member of various UF and Florida state committees. He was a member of the UF High performance Computing Committee from 2001 to 2005. He also served as chair of the graduate curriculum and research committee of the Florida Digital Media Education Coordinating Group from 2000 to 2001. As chair of the CISE Department, Ritter was the lead in establishing the Digital World Institute as well as creating the new M.S. and B.S. degrees in Digital Arts and Science. Through Dr. Ritter's hard work and dedication, he established the first wireless classroom and computing building in Florida — CSE building — through the Harris Corp.

Ritter is a Fellow of the International Society for Optical Engineering and is a member of the European Academy of Sciences and the New York Academy of Science.

He received the International Federation for Information Processing Silver Core Award and, together with Joseph Wilson, won the General Ronald W. Yates Award for Excellence in Technology Transfer from the Air Force Research Laboratory in 1998. He was the recipient of the University of Florida Research Achievement Award from 1990-1993, and has authored or co-authored 2 books and more than 125 referred articles.

After his retirement, Ritter plans to continue his research, working on another book of his own as well as co-editing others. He is also looking forward to spending quality time with his family and sailing to the Caribbean and other exotic places.



Professor Su-Shing Chen retired in December with emeritus status

Professor Su-Shing Chen is also retiring from UF in December with emeritus status.

Chen received the Ph.D. in Mathematics from the University of Maryland in 1970. He joined the CISE Department in 2002 after retiring from the University of Missouri-Columbia where he was James C. Dowell Research Professor and Chairperson from 1997-2001 in the Department of Computer Engineering & Computer Science. Chen currently serves on the Executive Committee of the UF Genetics Institute and is an advisory professor at Shanghai Jiao Tong University in Shanghai, China.

Chen's research interests are in the areas of flexible dynamic workflow design, digital libraries, agent-based learning systems and computing, and data archiving and information

preservation. Since 1999, Chen has been the PI or co-PI for 10 grants. He has published more than 171 journal and conference papers and seven books. His awards and accomplishments include an NSF Graduate Fellowship, 1996; an NSF Outstanding Performance Award, 1985; a George Mason Graduate School Visiting Fellowship, 1989; an NSF Directorate of Engineering-Cooperative Team Effort Award for Intelligent Control, 1993; an NSF Team Effort Award for Digital Libraries, 1995; an NSF Division of IRIS- Recognition for Outstanding Contributions, 1991-1995; and the Distinguished Accomplishment Award from the Midwest Chinese-American Association, 2000.

Chen will be continuing his research after retirement both at UF and at Shanghai Jiao Tong University in China.



Seema Bandyopadhyay, Ph.D.

lecturer

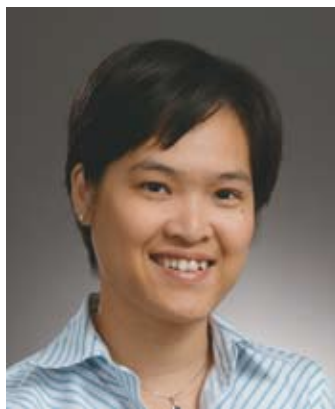
Seema Bandyopadhyay received a Ph.D. degree from the School of Electrical and Computer Engineering, Purdue University, West Lafayette, in 2004. She received a bachelor's degree in computer science and engineering from the Institute of Technology, Banaras Hindu University, India, in 1991 and a masters degree in Computer Science and Engineering from the Indian Institute of Technology, Delhi, India, in 1997. Before joining UF, she was a visiting assistant professor in the School of Electrical Engineering and Computer Science, University of Central Florida, Orlando. Her research interests include the design and performance analysis of wireless sensor networks, optimization of computer networks, and game theory applied to the design of computer networks.



Ahmed Helmy, Ph.D.

associate professor

Ahmed Helmy received a Ph.D. in computer science from the University of Southern California in 1999. He conducts research on design and analysis of mobile ad hoc networks and wireless-sensor networks, in addition to protocol testing techniques. He has three active National Science Foundation projects; MARS, ACQUIRE and STRESS. In 2002, Helmy received the NSF CAREER Award for his research on 'Resource Discovery, Query Resolution, Rendezvous and Mobility Modeling in Large-Scale Wireless Ad-Hoc and Sensor Networks', also called MARS. His research interests lie in the areas of modeling and analysis of mobile wireless networks, robust protocol design for ad-hoc and sensor networks — geographic routing and efficient query resolution, network security and systematic design and stress testing of networking protocols.



My Thai, Ph.D.

assistant professor

My T. Thai received a BS degree in computer science and a B.S. degree in mathematics from Iowa State University in 1999. She obtained a Ph.D. degree in computer science from the University of Minnesota in 2005. Her main research interests include combinatorics, algorithms, wireless networks and computational biology. In particular, she is interested in developing and analyzing algorithms for many computationally hard problems in computer networks and computational biology. Her work has covered many areas of wireless networks and computational biology, including routing protocols, coverage in sensor networks, broadcast trees, virtual backbones, non-adaptive group testing and non-unique probe selection. She is a member of the IEEE.



Rong Zhang, Ph.D.

lecturer

Rong Zhang received a Ph.D. in computer science from Rutgers, the state university of New Jersey in 2006. Her primary research interests are computer vision, robust statistical learning, biomedical imaging and image analysis. Her research focus includes gait recognition, motion tracking, motion layer segmentation, image categorization and statistical methods for computer vision.

ASCIE: Association of Graduate Students in Computer & Information Science & Engineering

By Padmavati Sridhar and Seema Degwekar



ASCIE is a student organization formed with the aim of providing a forum for the expression of views and interests of graduate students in CISE.

The idea to create such an organization was born out of the discussion between graduate students and Sahni, Thebaut and Peir at the Ph.D. town meeting in Spring 2006. Faculty members underlined the need for a representative organization for CISE graduate students. The idea was welcomed with great enthusiasm and set out to draft the constitution during Summer 2006. ASCIE was set to launch by the end of summer and our first officer elections were held in August 2006.

The officers for the academic year 2006-2007 are:

Advisors: Stephen Thebaut
Amy Ladendorf

President: Seema Degwekar
Vice President: Raazia Mazhar
Secretary: Padmavati Sridhar
Sameep Solanki

Treasurer: Andres Mendez-Vazquez
Historian: Alina Zare

To start the semester, ASCIE hosted an informal, interactive session for the new graduate students at the Fall 2006 departmental orientation program. Our orientation activities included an academic session for guiding new students on balancing course workload and advice on courses to take during the first year. We also hosted a general information session to help students get familiarized with UF and CISE. Additionally, we had an interactive Q/A session where new students had the opportunity to speak to current students about specific concerns. Other attractions of the day included an ice cream social and the giving away of brand new CISE

t-shirts designed by ASCIE. This event was a huge success and it provided the new students a warm welcome from their peers.

One of the early issues addressed by ASCIE involved the teaching assistant appointment policy for graduate students. In the past, graduate students have not always known if they would receive a TA appointment until a few weeks before the start of the semester and this uncertainty could be disconcerting. ASCIE representatives voiced this concern to the Department, and a subsequent discussion between students and the administration was instrumental in formulating a more transparent appointment process.

Our meetings have attracted a diverse student audience, from master's students looking at job prospects in industry to PhD students considering academic careers. Just before the Fall 2006 UF Career fair, ASCIE hosted a special career guidance session for master's students. The sessions had presentations on interviewing and resume preparation, internships and full-time positions by members who had internships in the summer of 2006.

ASCIE also hosted an information session for VMware, Inc., which helped students learn about the company and provided info regarding internship and full-time employment opportunities.

Later in the fall semester, we requested CISE faculty members to host a seminar session to educate our graduate students about job opportunities in academia. Department chair Sartaj Sahni, professors Christopher Jermaine and My Thai offered valuable insights on the application process for a faculty position. They elaborated on the application and interview timeline, and the preparation required for successful interviews. Graduate students learned about the importance of research publications, research internships and teaching experience during their graduate studies. Students were encouraged to apply early, and given insights on post-doc positions. Sahni described the selection process for new CISE faculty, as an example of what students could expect.

In November, ASCIE hosted a social at a local apartment complex. Around 40 students attended the event. It was a great way for CISE graduate students to interact with each other in an informal setting, and new graduate students

especially benefited from networking with current students. Highlights of the social were a potluck contest with prizes and a special cake to celebrate the occasion.

ASCIE has had a wonderful first semester. It has established itself as the prime forum for graduate students to interact with each other as well as with the faculty and staff. It has enjoyed great support and we encourage everybody to send their suggestions and comments regarding future events and endeavors that you would like ASCIE to take up. We hope to continue to address the issues and concerns of CISE graduate students for many years to come

Visit the ASCIE www.cise.ufl.edu/dept/ascie

ADAM

The Association of Digital Arts and Media, or ADAM, had an interesting and active 2006 fall semester. In August the club held a Halo 2 tournament to attract new members. The Digital Worlds Institute and James Oliverio in their state-of-the-art Research Education and Visualization Environment hosted the contest. About 20 players competed and the winners were awarded prizes.

Club meetings this semester have included an overview of ADAM and the Digital Arts and Sciences program, a screening of various animated shorts, and a series of lectures on the open source 3-D modeling and animation package Blender by James Pence and Matthew Everhart.

ADAM has participated in the Benton Engineering Council this semester by volunteering to build their E-Week website. Thanks to Matt Carroll's efforts, this is progressing very well. In addition, ADAM members have been using the skills they learned in the Blender lectures to start production of a short film that they hope to finish in time for a debut at E-Week in February.

From websites to short films, this semester has been full of fun opportunities to learn new skills and put them to use in creating something the whole membership can be proud of.



Success of Workshop for Young High School Women Continues

During July of the summer of 2006, the CISE department hosted its third workshop for young high school women. This conference was created to introduce female high school students to the many opportunities and diversity of computer science and engineering. The four-day workshop of learning and fun consisted of lab projects, problem solving puzzles, faculty research demonstrations, robot building and programming, and an exciting and informative visit to Walt Disney World. Visiting guests introduced innovative technology, presented thought-provoking computer topics, shared their visions for the future of “high-tech,” and discussed possible career paths and options.

The number of young women attending this year’s workshop increased to 75 from 40 from 2005. Forty percent of the young women were returning students and were from the Gainesville area. However, we experienced a significant increase in the number of students from the surrounding area. Word-of-mouth plus two sponsorships by Harris Corp. contributed significantly to the increase.

Highlights: Students were introduced to DIANA, the Digital Animated Avatar project, a virtual woman used to train

medical students. They also got to see the “Subjugator”, a two-time winner of the International Autonomous Underwater Vehicle Competition. The young women were able to learn to use an object oriented programming language called ALICE, create Web pages, design Fractals, program a computer game, view a demonstration consisting of a haptic-enabled tool that is used to illustrate surgery procedures and treated to a customized behind the scenes tour at Walt Disney World. They interacted with CISE students and professors and participated in our question and answer session consisting of persons from academia and industry.

The CISE Department would like to thank several members of our Industrial Advisory Board for their generous contributions and departing gifts: Susan Chong of Lockheed-Martin, Martha Barneswell of Progress Energy, Jack Needam of Harris Corporation, Jan Jackman of IBM, Brandon McMillan of Microsoft, and John Shellenberger of Exxon..

Special thanks to Sartaj Sahni, Ben Lok and Jorg Peters for their support.



Students and Faculty from Ecuador Visit CISE

For three days in November, a group of 22 students and three faculty members from the Universidad Espíritu Santo en Guayaquil, Ecuador, visited the CISE Department. Leading the group was M.Sc. Antonio Beltrán, former Dean of engineering at the Universidad Católica in Guayaquil, and a UF graduate. Hosting the three days of research presentations and demos was Manuel Bermúdez, associate professor and Latin American Outreach Coordinator.

The goals of the visit were to familiarize the participants with the UF campus, and with the academic and research environment in the CISE Department. The students attended presentations and demonstrations of some of the most interesting and cutting-edge research activities in the CISE Department.

The Ecuadorian visitors were welcomed on their first day by Associate Dean for Student Affairs Jonathan Earle, and by CISE Department Chair Sartaj Sahni. They were also given a “recruiting” presentation by professor Jih-kwon Peir, graduate coordinator, on admission requirements and opportunities for graduate studies in the CISE Department.

Overall, the visitors were very impressed with the depth and breadth of research in the CISE Department. Several of the students expressed interest in applying for graduate studies here.

Industrial Advisory Board

The Industrial Advisory Board, a partnership between CISE and industry, provides a vital bridge between the Department and an innovation-driven computer science and engineering industry. The partnerships began in 1998, and since then board members have provided support to the CISE Department through monetary, software, and equipment donations, and have provided expert input on current industry trends. This input keeps the Department up-to-date on the latest trends, helps to focus its curriculum, and better prepares graduates for a constantly changing industry. Moreover, board members also benefit through networking with peers, cooperative research and interaction with students who may become interns and/or future employees.

At the IAB's most recent meeting on November 2, members set their sights on a new objective: helping to increase the number and quality of CISE students through mentoring and by sponsoring additional internships. Board members discussed ways to help influence high school and entering UF students to choose computer science and computer engineering related majors.

The November meeting also featured presentations by graduate students Seema Degwekar and Mohammed Tariffi. Degwekar introduced ASCIE, the new graduate student association in CISE, while Tariffi provided student perspective on the benefits of internships.

IAB members who participated in the November meeting include:

Susan S Chong
Campus Relations Manager
Lockheed Martin

Jonathan Goding
Technology Director
Raytheon

Kirk Daniel Haller
Director of Research
Solidworks

Christopher E. McLendon
Industry Technology Strategist
Microsoft

Vic S. Moore
DE
IBM

Darla J Morse
Vice President – IT
Walt Disney World

Jack M. Needham
Engineering Manager
Harris Corp.

Doug Pace
COO
Baysshore Solutions

John W. Shellenberger
Manager, Security and Controls
ExxonMobil

More information on the IAB can be found at its website: www.cise.ufl.edu/iab

Undergraduate Engineering Scholarships Recipients 2006-2007

Congratulations to the undergraduate recipients of the undergraduate engineering scholarships for the 2006-2007 Academic year:

The Department and College would like to thank the faculty and staff for their assistance with the process.

Joseph Akoni
David Boerner
John Bukowski
Stephen Cano
Allison Corey
Michael Cugini
Jia Cui
Bhavya Daya
Ben Eisen
Doris Fang
Philip Freo
Michael Gostanza
Joshua Horton
Malachi Jones
Jacqueline Mullings
David Nash
Michael Seifert
Oliver Stamkov
Ryan Stonebraker
Luis Vega
Patrick Wheeler
Keith Wilson

New Staff

Front row: Robert Vanover, Aleesa Anderson, Rachel Ngai, Joan Crisman, Gina Janica,
Back row: Matt Williams, Karl Weismantel, Carlos Manosalva, Naomi Castillo

Aleesa Anderson

senior secretary

Anderson joined the Department in September 2006. She assists faculty in many different areas including: travel authorizations, expense reports and textbook adoptions. A native of the Gainesville area, Anderson graduated from FSU with a B.S. in food, nutrition, and exercise science with an emphasis in dietetics. She and her husband, Joe, have a two-year old daughter, Abigale-Grace Anderson.

Naomi Castillo

coordinator of administrative services

Castillo joined the CISE staff as coordinator of administrative services in July 2006. In this position, Castillo manages the state, general revenue and all research grant funds. Castillo provides administrative oversight of personnel, payroll and purchasing issues and prepares academic faculty reports. She recently implemented a new reporting system for all research and residual/overhead accounts.

A native of Houston, Texas, Castillo attended Dallas Baptist University where she earned a business degree in 2002 before moving to Gainesville. Before joining CISE, Castillo worked in the Nephrology section of UF's College of Medicine for three years.

Joan Crisman

Graduate Program Assistant

Crisman joined the department just before Christmas of 2006. She is part of the graduate student services team and deals primarily with graduate admissions. Crisman was raised on a farm in the heart of Illinois and attended University of Illinois, earning a B.S. in Biology teacher training and an M.S. in paleobotany. She has worked for UF for over 15 years, most recently at the Physician Assistant program for 10 years. She and her husband, John, have three grown children.



Gina Janica

grants specialist

Janica is a true gator at heart. She graduated with a bachelor's degree in finance from the University of Florida in 2005. Before joining CISE this fall as a grants specialist, Janica worked with Publix Supermarkets for seven years in retail and manufacturing sectors.

Janica's job involves assembling grant proposals. An important part of the job is also her favorite – preparing proposal budgets, as she has been interested in budgets for quite some time.

Carlos Manosalva

office assistant

Manosalva joined CISE in August – right after graduating from UF with a Bachelor's in Finance and a minor in Latin American Studies. As an office assistant, he is responsible for handling graduate assistant appointments, payroll transactions, creating various budget reports and he serves as editor of the Department's newsletter.

Before joining the Department, Manosalva worked as a mathematics tutor and served as a teaching assistant for economics and statistics courses at UF. He has also worked as a financial analyst intern in large and small companies, and as a budget consultant intern with the Gainesville Chamber of Commerce.

Rachel Ngai

senior fiscal assistant

Ngai recently joined the Department as a senior fiscal assistant. Previously, she was a senior secretary in UF's Department of Materials Science & Engineering.

Ngai is responsible for processing purchase orders and invoices, P-card reconciliation and fund transfers for the Department.

A native of Hong Kong, Ngai moved to the U.S. in 1992 with family. She earned a B.A. in fine arts specializing in graphic design from UF in 2005. She has lived in Gainesville for nine years.

Robert Vanover

academic support services

Vanover, recently joined CISE as an undergraduate adviser. New to both UF and Florida, he and his fiancé recently moved to Gainesville from Boston after they completed master's degrees in religious studies at Harvard University. While pursuing his master's, Vanover worked as both a resident assistant and an academic adviser for undergraduate students at Harvard. Ross is a native of Montana.

Karl Weismantel

IT specialist

Weismantel joined CISE in April of 2006 as an IT specialist. He has been supporting and enhancing the Department's teaching assistant application system,

the faculty recruiting system, and other critical CISE Web applications.

Weismantel graduated from the University of North Florida in 1991 with a B.A. in jazz performance and arranging. In 1996 he moved to Atlanta and worked in healthcare and music until 1998 when he took a job at Mindspring, an internet service provider, which later became Earthlink. Weismantel earned a master's in jazz performance from FSU in 2005, and then he returned to Gainesville.

Matt Williams

academic support services

Williams has been working in the Department since January 2006 as a program assistant helping with graduate admissions. He recently assumed the position of undergraduate adviser and is excited to have an opportunity to work with our undergraduates.

Williams was born in Birmingham, Ala. He graduated with a B.A. in English and geography from the University of Alabama in 1998. After graduation he worked with the Americorps national service program where he provided reading and math tutoring in public schools. In 2004 he received a Masters of Management from UF's Warrington College of Business Administration.

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