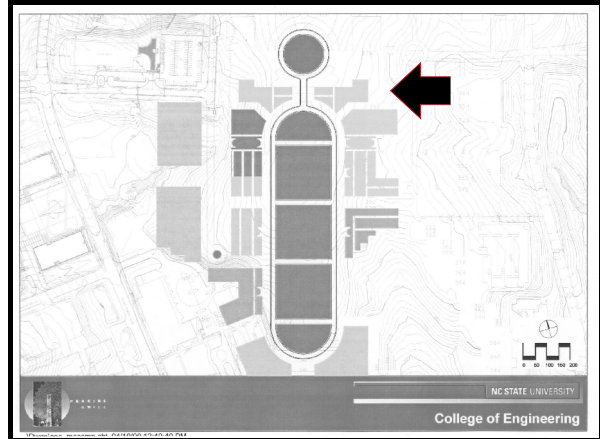




PLANS FOR NEW COMPUTER SCIENCE BUILDING ARE UNDERWAY

The citizens of North Carolina proved their commitment to higher education on November 7th by passing the \$3.1 billion bond referendum that will allow 16 University of North Carolina campuses and 59 community college campuses to construct new buildings and renovate and modernize existing buildings. The dramatic increase in enrollment across the state and our commitment to giving students the best educational experience to prepare them for jobs in the 21st century has fueled NC State's intentions to immediately start planning for renovation and expansion. The Computer Science Department is very fortunate to be a part of an early phase of the university's plan.

As part of a four phase plan to move the entire College of Engineering to Centennial Campus, a building that will house the Computer Science and Electrical and Computer Engineering Departments will be one of the first to be completed. The



Site Plan for the College of Engineering on Centennial Campus

nationally known architecture firm Perkins & Will met with the Computer Science faculty in early January to begin a year of intense planning for the design of the building. Perkins & Will is known for their exceptional work on buildings such as the NC Biotechnical Center, Burroughs Wellcome Fund, and the Fuqua School of Business at Duke.

Continued on page 2

THE NOTORIOUS NINE NSF Career Award Winners

The Department of Computer Science is proud to add three new NSF Career Award Winners to its faculty to equal a total of nine award winners in the department. The newest members to this



Dr. Michael Young, Dr. Peter Wurman, Dr. Annie Anton, and Dr. Christopher Healey are the newest NSF Career Award winners.

prestigious group include Dr. Christopher Healey, Dr. Michael Young, and Dr. Peter Wurman.

Chris Healey's NSF CAREER proposal entitled "Assisted Navigation in Large Visualization Spaces" was recommended for funding of \$370,077 for five years beginning 01/01/01. His proposal will investigate methods for assisting with the navigation of large, complex information spaces. The research will combine a detailed local display with a high-level global overview of the locations and structure of areas of interest within the dataset. The local view will use perceptual cues to harness the abilities of the low-level human visual system. Elements of interest in the global overview will be identified in a semiautomated fashion; graph construction and traversal algorithms will be used to structure the elements of

Continued on page 4

New Building: Continued from Cover

Perkins & Will plans to travel across the country visiting other universities with new computer science buildings such as the University of



CSC Building at UMASS in Amherst is being looked at as a model building.

Massachusetts at Amherst and industry facilities such as Cisco and Nortel for ideas in order to create the best Computer Science building in the nation at NC State.

Current plans have allotted \$41 million for the entire project. That amount includes paying for parking decks, sewer system, infrastructure, and architect fees. This leaves approximately \$33 million to build the actual square footage of the building which the architects estimate at being between 90-100,000 square feet.

The main goal of the faculty is to reunite the department into one single building. Currently faculty and staff occupy space in nine (soon to be ten) buildings on the Historic and Centennial Campus. While all research, graduate students, and lab space will not be able to reside in the new building, it has been made a priority that all faculty members have an office in the new building. Faculty, staff, and students have had and will continue to have opportunities to meet with the architects to discuss what they want in a new building.

The new building will be the focal point of the College of Engineering's new location. By referring to the north end of the site plan on the cover, you can locate the building at the top of the ceremonial open space that the College of Engineering will be organized around. This plan makes the building appear to be two buildings. This is one option that is currently being discussed. Another possibility is to have the building joined by a walkway that connects the two halves.

Current plans show that construction on the building will begin in January of 2003. The construction will take approximately 21 months to complete. If all goes as planned, the department will be completely moved into its new home by December of 2004. Comments and suggestions on the design of the new building are welcomed from alumni. Please give us your thoughts and ideas on the response form included in the newsletter.

Lee Named Fellowship Recipient by NCNI and Aprisma Management Technologies



FROM APRISMA MANAGEMENT TECHNOLOGIES

Dr. Wenke Lee, assistant professor of computer science at NC State, has been named one of this year's North Carolina Networking Initiative (NCNI) Graduate Fellowship recipients by NCNI and Aprisma Management Technologies. This scholarship will foster the development of next-generation applications to deploy into NCNI's high-speed network and support Internet2.

Aprisma Management Technologies, a pioneer in e-business infrastructure management solutions, has donated to the NCNI Fellowship Program for the second consecutive year. This program provides annual support to graduate students and researchers at UNC-CH, Duke, and NC State exploring advanced networking technologies.

"We are very pleased to award these fellowships to the professors and students in North Carolina," said Dr. Lundy Lewis, director of research at Aprisma.

Lee's project, Integrating Network Management and Intrusion Detection, focuses on the study of how network management information can be used by an intrusion detection system to detect early indicators of Denial-of-Service attacks before they disrupt network services. Lee will use the fellowship to support a graduate student working on this project.

"Resource allocation is critical to the continued development and early deployment of next-generation Internet technologies. The fellowship has enabled the researchers at Aprisma and NCSU to collaborate closely on research projects," said Lee.

VISIT COMPUTER
SCIENCE ON THE WEB
www.csc.ncsu.edu

ALUMNI SPOTLIGHT CHRIS CRUMP

After graduating in 1978 with a BS in Computer Science, Christopher Crump headed toward Silicon Valley, ground zero for new and emerging technology. The sunny weather, friendly people, and plethora of computer activity lured him away from North Carolina where he grew up in Charlotte. Chris sees the Silicon Valley area as being the place to be for a glimpse of how things will be in the future of computers. It is the brink where new solutions to problems often happen first.

While still in high school, Chris took part in a two week summer program at NC State for minority high school seniors interested in engineering. He got the opportunity to meet professors and use equipment on campus. This experience, along with his interest in computers throughout high school, made NC State Computer Science the perfect place to go to college. While going to college, Chris worked as a Resident Advisor in Sullivan, a grader for the Marketing Department, and a representative at the Help Desk in Nelson and Burlington Hall. What Chris liked most about his time at NC State was the way instructors provided ways for practical experience as well as education. The hands-on experience that he was exposed to gave him the added confidence necessary to be successful when entering the work force.

Chris' first job after graduating was with Hewlett-Packard working in Operating Systems Development. From there he went on to work at Corvus, the first local area networking company, in 1983 where he worked on PC land

applications. In 1987 he became a Development Engineer at Pyramid, a leading edge Unix server vendor. While working his way up to Vice President of Engineering at Pyramid, he started thinking outside of technology and thinking about how people were using the products that he was helping to create. In 1994 Chris began working at Sun Microsystems managing the internet appliance group called Netra. This was a very exciting time because the internet was just taking off and I got a chance to talk to all of the beginning players involved in the internet, he said. In 1998 Chris went to work at Brocade Communications Systems as Director of Software Engineering. While at Brocade, he was involved in managing all aspects of Software Engineering and played an important role as the company grew from 100 to 800 employees. He recently left Brocade to start his own business which will focus on helping small companies.

What makes Chris's work so exciting is the constant change that is occurring in technology.

People are always thinking of new ways to do things taking a hairball and creating a business, he said. The ability to apply technology to solve so many different types of problems is unique to this business. Along with excitement are obstacles, especially in the ever growing Silicon Valley area. Most would agree that there are too many people in the area right now, but there are still not enough people to do all the jobs. One challenge that Chris sees is that some of the new graduates of today do not have the passion and depth that their predecessors had before them. In the past, computer science majors had to have an inquisitive nature to excel, but with the wealth of

information that is available now that enthusiasm is not always present.

Chris sees our current culture as being an information-centric environment. He believes that in the future we will have the opportunity to be as connected as we want to be depending on our lifestyle choice. One essential move that Chris foresees is the convergence of our current plethora of gadgets (cell phone, pager, PDA, lap top, palm pilot, TV, stereo) into one product.

Outside of work, Chris enjoys doing a number of interesting things. He enjoys sailing, which he has done for fifteen years, and finds that it gets you away where all you need is the wind and your knowledge. He also enjoys cooking and gardening. Having recently bought a farm, he hopes to plant hops or olives and enjoy the outdoors. His favorite hobby of all is participating in community service. As a devoted member of the Kiwanis, Chris has had the opportunity to work with high school students, paint nursery schools, work at soup kitchens and food banks, and help with raising funds for area projects.

The satisfaction that comes from doing community service can be equally or more rewarding than getting a product to market, he said.

Chris's entrepreneurial spirit, inquisitive nature, and no fear attitude when taking chances are only a few of the traits that have led to his success in business. The future is bound to hold more exciting opportunities for him, and we wish him only the best.



FACULTY NEWS



Starting on November 16, 2000 Laurie Williams proposal entitled "Integrating Collaborative Programming into a Disciplined Software Process" was funded for \$65,000 as a CACC enhancement project to run through November 16, 2001 by Nortel Networks. This investigation will involve a software

development group at Nortel Networks being educated in the Collaborative Software Process (CSP) which places the use of pair-programming in a disciplined software process. Data will be collected by the software engineers in this group and analyzed to determine the effectiveness of pair-programming. Two tools will also be developed one for on-demand computer-based training of the CSP and the other a process data collection and analysis tool. A similar grant has been approved by Eyecast, Inc. for her proposal entitled Incorporating the Collaborative Software Process and was funded for \$108,107 starting in September 2000 and running through August 2001. This grant proposes that a software development group in Eyecast, Inc. is educated in CSP. Dr. Williams also had her proposal entitled, "Pair-Learning in Undergraduate Computer Science Education." funded by the National Science Foundation. The project will run from January 1, 2001 through December 31, 2003 and is funded for \$227,110.

Robert Rodman, David McAllister, and Don Bitzer have received a gift of \$25,000 to support the research efforts of the Voice Processing Group. The gift is from LIPSinc.



Dr. Annie Anton, Assistant Professor of Software Engineering was asked to serve on a panel at the NIAP Government-Industry Information Technology Security Forum in Indianapolis, IN on March 7th.

continued on page 10

Notorious Nine: Continued from Cover

interest, and to navigate the dataset in an efficient manner.

Peter Wurman has been recommended for an NSF CAREER award for his proposal entitled Automated Synthesis of Bidding Strategies for Trading Agents. The initial proposal calls for funding of \$542,770 from August 2001 through July 2006. The majority of research in the area of trading agents software programs that participate in markets assumes that the market configuration is predetermined. However, the Internet marketplace is far more fragmented; a particular product will often be offered for sale in a variety of auction formats. Peter's project will investigate approaches to building a strategy generation engine. One educational component of his proposal involves building publicly available, Web-based learning materials for e-commerce courses.

Michael Young has been recommended for an NSF CAREER award for his proposal entitled "Plan-Based Integration of Control and Coherence in Intelligent Exploratory Environments." The proposal calls for funding of \$465,695 for a period of five years. His project will develop new plan-based models for the structure of user interactions within virtual worlds. Planning techniques will be used to create novel activity within the environment that encompasses both the system-controlled characters, the virtual environment and the actions of the user. Motivated by psychological models of plans and plan reasoning, the research builds on prior work in plan generation and plan-related communication to develop an architecture for creating, monitoring and controlling interaction in intelligent exploratory environments.

These three new award winners join Dr. Annie Anton, Dr. James Lester, Dr. Injong Rhee, Dr. John Rossie, Dr. George Rouskas and Dr. Munindar Singh to bring the total number of NSF CAREER Award winners to nine in the department, an achievement unparalleled by other computer science departments.



Dr. George Rouskas, Dr. Injong Rhee, Dr. James Lester, Dr. Munindar Singh, and Dr. John Rossie have all received an NSF CAREER Award.

ALUMNI SPOTLIGHT KEITH COLLINS

NC State Computer Science is very lucky to have Keith Collins, Senior Vice President and Chief Technology Officer of SAS Institute, right in our backyard at SAS's Cary headquarters. His support and interest in the success of the department have been immensely valuable.

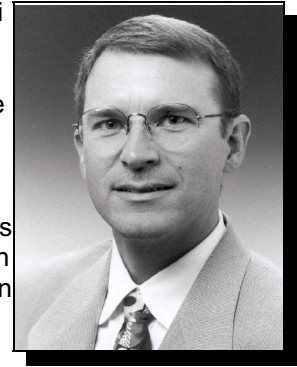
After graduating from NC State in 1982 with a BS in Computer Science, Keith spent two years at Texasgulf Chemicals where he worked as a scientific engineering programmer writing SO² emission monitors for PCs. Keith had co-oped at Texasgulf during college and went to work there under the supervision of Dr. Thomas Honeycutt, Associate Professor of Computer Science who has been with the department since 1970 except for 3 years while he was working at Texasgulf and working as an Adjunct Assistant Professor. Dr. Honeycutt played a key role in Keith's decision to become a Computer Science major. When he first came to NC State as a freshman, Keith was enrolled in another program. After having a bad run in with his advisor when signing up for the

spring semester, Keith saw Dr. Honeycutt in the hall. Dr. Honeycutt asked him what was wrong, and Keith explained that his advisor had not signed off on his schedule for the next semester, and he could not register until he got his signature. Dr. Honeycutt told him that he would never be turned away if he was in the Computer Science Department, and that is where Keith soon found his niche.

When thinking back on his time at NC State, Keith vividly remembers the colored chalk used by Dr. Alan Tharp in his CSC 311 Data Structures class. In the days before projection systems and other new technology, this is how Keith remembers learning best. "As a student, Keith was always outstanding at implementing the concepts discussed in lecture," recounts Dr. Tharp. As an alumnus working with the department, Keith's memories come primarily from being a part of the Computer Science Industrial Advisory Council. Being a founding council member has allowed him to provide input on updating the curriculum and witness the hiring of many new faculty members to add to the strength of such a dynamic faculty.

Since joining SAS in 1984, Keith has found it to be a place that gives its employees the freedom to learn, experiment, and excel. He views himself as an example of what a person can do if he takes initiative and applies his strengths and

determination to the job. He started at SAS writing ZAPs as a liaison between technical



support and a development team. He went on to run the VM/CMS Development team before being given a strategy position by Dr. Goodnight to oversee improvements that were needed in research and development. Now as Senior VP and CTO, he enjoys helping to get the most out of people and maximize production. He also likes to see others achieve satisfaction in their work. One of the more challenging aspects of his job is driving change in an always changing field and getting people to embrace change.

When asked where he sees the field going in the future, Keith responded, "We don't know and that is what makes it so fun. He sees the near future represented as a pendulum of change. The field may have to slow down while people adopt what advances have been made so quickly over the past decade. It will be important to develop for the future while keeping in mind that the customer wants a product that can work on the equipment that he or she has and that is easy to use. Keith sees voice activation and hands-free navigation as an area that is still untapped. The future holds so much potential. He plans to continue searching for the best ideas wherever they may lie because the best ideas come from the place you least expect them."



While at Texasgulf, Keith (back row/far left) worked under the supervision of Dr. Thomas Honeycutt.

DEPARTMENT WELCOMES DISTINGUISHED VISITORS

We are very honored to have the opportunity to host many distinguished individuals throughout the academic year. The computer science departments at North Carolina State University, Duke University, and the University of North Carolina at Chapel Hill have joined forces to create the Triangle Computer Science Distinguished Lecturer Series. The series, which began in the 1995-1996 academic year, is made possible by a grant from the U.S. Army Research



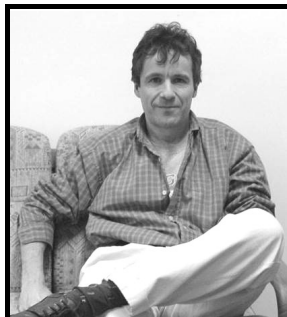
Dr. Tharp had the opportunity to meet with Dr. Pneuli while he visited NC State.

Office.

In November Dr. Amir Pneuli, from the Weizmann Institute of Science and New York University, gave a lecture titled "Verifying Reactive Systems: Taming the Infinite" here at NC State. He received his Ph.D. in applied

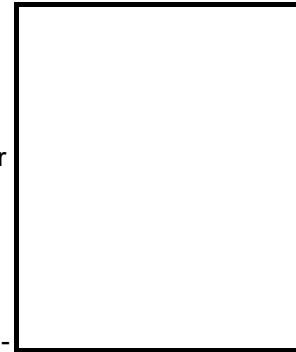
mathematics from Weizmann in 1967. He has been the head of the Minerva Center for Verification of Reactive Systems since 1998. Pneuli is mainly known for the introduction of temporal logic into computer science. His current research interests involve synthesis of reactive modules, automatic verification of multi-process systems, and specification methods that combine transition systems with temporal logic. Professor Pneuli is primarily known for the introduction of temporal logic into Computer Science.

Bernard Chazelle, a professor of computer science at Princeton University and a fellow of the NEC Research Institute, gave a lecture in November at Duke titled "The Discrepancy Method. He obtained his Ph.D. from Yale University in 1980. He is an ACM Fellow and a former Guggenheim Fellow. He founded the Princeton-Area Center for Theory (PACT). Chazelle is president of the Scientific Council for Computer Science at the



Ecole Normale Supérieure in Paris and is the former co-director of DIMACS. Currently, he serves on the editorial boards of eight scientific journals.

In January Stuart I. Feldman, Head of Computer Science Research at IBM Corporation and Director of the newly established IBM Institute for Advanced Commerce, visited NC State to deliver a lecture on Research Direction in e-



Commerce. As Head of Computer Science research, he oversees more than one thousand IBM computer science researchers located at eight labs around the world. As Director of the IAC Institute, he brings together top leaders in business and academia to research the impact of emerging technologies on the future of business and commerce. Feldman was a member of the original UNIX research team, and is best known as the creator of the Make configuration management system, as well as the author of the first Fortran-77 compiler.

Beautification of Withers Hall



New planters are a welcoming sight to Withers Hall. The planters were ordered to spice up the entrance of the main Computer Science building. Each planter weighs one ton and is filled with colorful flowers and a tree.



ALUMNI SPOTLIGHT BOBBY JOHNSON

When I think back on my time at NC State, I remember the late nights in Dabney Hall and in the Computer Center in the Textile Building working for Help, said Bobby Johnson, President and CEO of Foundry Networks. Another vivid memory involved the notorious punch cards. The number of punch cards a person carried was like a status symbol representing their year in college. Times have definitely changed.

As a senior in high school thinking about his future, Bobby Johnson wanted to find a way to combine his love of math with something that would be fascinating in the future.

Computers were fascinating to him at the time because he did not know anything about them, so computer science appeared to be a good choice.

Initially Bobby planned to attend West Point but since they only offered a general engineering degree and he wanted to specialize in computers, he decided that NC State would be the best place to attend college. In December of 1977, he graduated from NC State with a BS in Computer Science.

Bobby started his career as a Systems Network Architect and developer at IBM in the Research Triangle Park. Bobby and his wife next found their home in California, which was the halfway point between his wife's family who lived in Hawaii,

when he went to work at Hewlett-Packard. Bobby has held many management positions, including president and CEO of Tri-Data and vice president and general

manager of internetworking at Network Equipment Technologies. In 1993, Bobby spent nine months unemployed writing a business plan. After receiving funding in December of 1993, Centillion Networks was founded. As president and CEO, Bobby led the company, which built integrated ATM fan switches, to immediate success.

In May of 1995 after only eighteen months of incorporation, Centillion Networks was sold to Bay Networks for 1.5

billion. In May of 1996, Bobby embark-ed once again on forming his own company. He is currently the president and CEO of Foundry Networks, a leading provider of very high performance, cost effective strategic end-to-end switching and routing solutions for enterprises and Internet Service Providers.

Under Bobby's leadership, Foundry Networks has been honored with a number of prestigious industry awards. After having a successful IPO on September 28, 1999, Foundry raised \$134 million and set two



Bobby alongside pictures of his customers.

records: Highest Single Day Gain (525%) and Highest Technology Single Day Valuation. It is also one of Forbes 500 Top US Companies. Many awards have been bestowed on Foundry for their outstanding products including Network Week Magazine 1999 Infrastructure Product of the Year for ServerIron Switch and Network World's World Class Award for BigIron 4000.

Bobby finds the most exciting aspects of business to be the competition, personalities of business, and the camaraderie of customers and employees. These are the things he craved while away from the daily activities of business when writing business plans. Operating in a very competitive environment is both exhilarating and challenging. We are a small, fast-moving company surrounded by elephants, he said. The major ingredients that make a person successful in this environment, he continued, are luck, good teamwork, and great employees.

Outside of work, Bobby enjoys keeping up with ACC basketball, visiting relatives, and helping charitable organizations along with others in his company.

Find out more about Foundry Networks at www.foundrynet.com



Foundry Networks Headquarters in San Jose, CA

ALUMNI UPDATE

Michael, class of 1992, and **Majella Lanham** are expecting their first child in March 2001. Michael is pursuing a Masters in CSC from the University of Florida in Gainesville on a US Army full scholarship. After completing his degree, he will teach at the US Military Academy.

Cynthia Thompson, class of 1989, has taken a position as Assistant Professor in the School of Computing at the University of Utah. Dr. Thompson received her Ph.D. in Computer Science at the University of Texas, Austin, in the fall of 1998, and spent almost two years as a postdoctoral intern at Stanford University before moving to Salt Lake City.

James Schilling is currently employed as a Technical Systems Analyst for the Virginia Marketplace for IKON Office Solutions.

Calvin Tartton, class of 1994, and **Lance Lovette**, class of 1993, started a new company called DailyRating.com, Inc. in February of 2000. After initially starting in the Venture II building on Centennial Campus, DailyRating.com was acquired by Indimi, Inc. and moved to New York in September of 2000. DailyRating.com's web site has been featured on NBC-TV, USA Today, NY Times, Wired magazine, and more recently in People magazine.

Bill Boswell and his wife welcomed a new son into their family on January 26th.

ALUMNI RECEPTION IN SUNNY CALIFORNIA



Libby Krause and David Perkins catch up with Dr. Tharp.

On November 18, 2000, Dr. Alan Tharp, Professor and Head, and Carmen Brennan, Director of Corporate and Alumni Relations, hosted a reception for CSC alumni in Sunnyvale, California. The alumni were particularly interested in the new programs that are gaining popularity in the department such as networking and e-commerce. After updating everyone on the latest changes in the department, Alan and Carmen had an opportunity to hear about the exciting new things going on in the lives of the alumni. From working with start-up companies to juggling family and work, all of the alumni were busy keeping up with the fast paced life that is characteristic of Silicon Valley.

The alumni were also able to provide very valuable feedback on planning future alumni events. The department is very eager to establish a stronger relationship with its alumni. If you have any recommendations, please include them on the response form.

WHAT'S NEW WITH EPARTNERS?

The ePartners program, launched in August 2000, has made many strides this year in strengthening the already positive relationship that local and national industry has with the Department of Computer Science. The year got off to a great start when six companies joining the program at the start of the fall semester. Those companies included Nortel Networks, John Deere, Southeast Interactive, SAS Institute, ABB, and Make Systems. Students benefitted from a Career Connections Day where four of the six companies came to talk with students about job opportunities at their companies. With over 300 students in attendance, both companies and students alike found this event to be a great success.

The semester continued with the addition of three new partners: HiddenMind technology, Network Appliance, and EMC². During the winter break, a brand new projection system with 3300 lumens was installed in the main lecture hall in Withers Hall. The contributions made by our industrial partners helped to make this needed upgrade possible. Now students can clearly see the innovative things their professors are doing in class without any trouble. From presentations to student groups to working with students on senior design projects, the ePartners program has opened up many opportunities for both the students, faculty, and partner company to benefit from working together.



A student partakes of giveaways from SAS after discussing job opportunities at the Career Connection.

WOMEN IN COMPUTING

In the mid-80s, women made up fifty percent of the Computer Science student population at NC State. In the mid-90s, that number dropped to twenty percent and has now hit an all-time low of sixteen percent in the 2000-2001 academic year, despite efforts to increase that number. Many universities are suffering from a similar problem. This dilemma has left the Computer Science department asking itself why this has happened and how we can take steps to attract more females to the field of Computer Science.

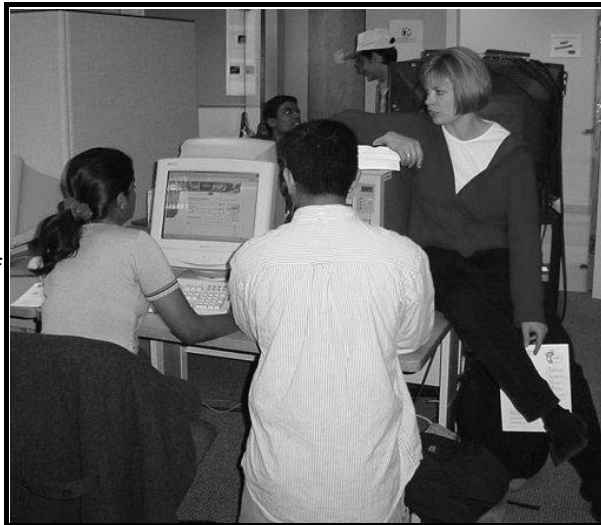
Research shows that females decide during their middle school years if they will pursue a career in the sciences. Jennifer Weant, an alumna of the department who now works with Tollbridge Technologies in Santa Clara, wholeheartedly agrees. She said, "I don't think I would have been in this field at all if my father hadn't bought and been interested in computers, taken me along with him to computer classes and game playing sessions, and given me an introduction to them in the 2nd grade.

Amanda Waite, a senior in Computer Science, was exposed to computers in elementary school but really became interested in high school where she took an AP computer science course and really enjoyed it. Tiffany Bames, a doctoral student in computer science, is currently involved with a research project called Girls on Track whose goal is to help keep girls interested in the sciences. There are also several local programs that have this same goal. The local Women and Mathematics (WAM) professional society sponsors a program in which industrial mentors are provided for 8th grade girls in Wake and Durham counties. The program coordinators include women faculty from Meredith, NCSU, NC Central, and Duke as well as women from various industries.

Ms. Carol Miller, Lecturer in the department, has worked with the program for seven years. One of the main obstacles that she and others have faced is changing the image of computer scientists in an effort to make females more interested. My personal feeling is that computer science has the image of jobs with no life no balance. Our image

is one of geeks spending long, long hours in front of the computer," Carol said. "Girls don't want to be associated with this type of career. For many reasons they want professions that are more connected to society, and they want a profession that will enable them to have a family.

Those women who do enter the field have varying experiences. Some initially faced obstacles while others had very positive experiences. Paula Flanary, a 1987 alumna, said, "I think I had to work harder to prove myself to the numerous males in my classes, who didn't always take me seriously. Once they realized I knew as much as they did, they began to view me as a colleague and started asking me to study with them



or wanted to use my notes from class. Cynthia Baldwin, an alumna who just started her fifth year at IBM, noticed that she was a minority in most of her classes but never felt that it was a problem because they treated her like a person, rather than a woman. I believe if you have a positive attitude about your abilities and are not too shy to get in there and work with the men, you

will find it challenging and rewarding," she said.

For those who do choose to leave the field during college or once already in the work force, the reasons given are common ones. Computer Science is a difficult discipline, and many students, male and female, may find it to be too hard and require too much work. The long hours and fast-paced of the technological world has led some women to leave to spend more time with their families. For each woman the reason may be different, but the point remains that something needs to be done to retain more women in the field. Some companies have made efforts such as implementing flex-time and telecommuting opportunities to make balancing work and family easier for women.

Academia must also continue to develop new ways to attract more women to computer science. Summer programs for high school students, female organizations within the department, as well as many other opportunities for mentorship and support must be put in place to combat this problem to create a more balanced future for CSC.

Faculty News

continued from page 4

STELLAR STUDENT AND ATHLETE



Dr. Mladen A. Vouk, professor of computer science, has been elected a Fellow of the Institute of Electrical and Electronics Engineers (IEEE). At its December 3, 2000, meeting the IEEE Board of Directors acknowledged Vouk's appointment with the citation, "For contributions to engineering of reliable soft-ware-based systems." The appointment is effective January 1, 2001.

On March 3rd Zach Breitenbach, a senior in computer science, defeated Clint Osborn from the University of North Carolina at Chapel Hill, 8-2, to clinch the ACC wrestling championship at 197 pounds. Zach won the title on Carolina's home turf at Carmichael Auditorium.

-----cut along line-----

ALUMNI FEEDBACK

PLEASE TAKE A MOMENT TO UPDATE US ON WHAT YOU HAVE BEEN DOING SINCE LEAVING NC STATE. YOUR THOUGHTS AND IDEAS REGARDING ALUMNI ACTIVITIES AND OUR NEW BUILDING WOULD BE GREATLY APPRECIATED.

NAME _____ CURRENT POSITION _____

ADDRESS _____

CITY _____ ZIP CODE _____ COMPANY _____

YEAR GRADUATED FROM CSC _____

EMAIL _____

NEWS _____

WOULD YOU BE INTERESTED IN ATTENDING AN ALUMNI GATHERING? YES ___ NO ___

IF SO, WHICH TYPE OF EVENT WOULD YOU PREFER?

ATHLETIC EVENT ___ RECEPTION ___ DINNER ___ OTHER: _____

WHAT TYPE OF ARTICLES WOULD YOU LIKE TO APPEAR IN THE ALUMNI NEWSLETTER?

WHAT RECOMMENDATIONS DO YOU HAVE FOR THE NEW COMPUTER SCIENCE BUILDING (I.E. SPACE DESIGN, CREATING AN IDENTITY FOR THE BUILDING, ETC.)?

Return form to: Carmen Brennan, Department of Computer Science, Box 8206, Raleigh, NC 27695.
Email address: brennan@csc.ncsu.edu

EPARTNERS INDUSTRIAL LECTURE SERIES

The ePartners program launched a new lecture series in Spring 2001 to bring leading-edge executives from industry to NC State to share their views and expertise on the ever changing world of Computer Science in the business place. Our honored speakers for this semester include Bill Glynn, Suzanne Gordon, and Erik Troan.

Bill Glynn, Partner and Director of Southeast Interactive Technology Funds, was the first to speak in January on the topic of Technology Firepower. Bill's discussion stressed the importance of having an entrepreneurial spirit and intensity that will make a newcomer to the technological world a success.

Suzanne Gordon, Director of Management Information Systems at SAS Institute and a member of the NC State Board of Trustees, discussed eCollaboration focusing on the importance that collaboration holds in business and partnerships between industry and academia.

Erik Troan, Vice President of Product Engineering at Red Hat, is scheduled to speak in March on the issues that are unique to start-up companies in the 21st century.



Suzanne Gordon speaks with a graduate student after her lecture on eCollaboration.

MULTIDISCIPLINARY TEAMING IN SENIOR DESIGN COURSES

This semester the Departments of Computer Science and Chemical Engineering are working together to establish a multidisciplinary teaming experience for the students in each department's Senior Design project course. This collaboration was made possible through an action agenda item from the National Science Foundation that is supporting the project through a grant given to the Chemical Engineering Department.

It is the intent of any undergraduate design course to provide students with an experience that serves as a transition from academic to professional life. Industry, as well as academia, stresses the importance of communication skills in conjunction with technical skills. Being able to effectively speak, write, and work as a member of a team is essential to the success of an individual in the world today.

The class consists of three teams. Two of the teams include Computer Science and Chemical Engineering students. The third team consists of students from Chemical Engineering, Industrial Engineering, and Economics. All three teams are working on projects that involve the development of systems to monitor and control Chemical Engineering processes. One CSC/CHE team is working on the production of commercial quantities of citric acid. The other CSC/CHE team is working on the overall process that will be monitored by the supervisory control software application which is a fed-batch fermentation utilizing *E. coli* to produce thioredoxin.

The course itself involves the integration of a number of key elements. Margaret Heil, from the Computer Science department, is providing the teaming module. The Campus Writing and Speaking program is providing modules on writing and oral presentation. The technical resources and advice are coming from faculty within each department as well as industrial mentors from the local chapter of the International Society of Pharmaceutical Engineering (ISPE).

With four different departments involved, the scheduling of this course can be difficult. The course web site has become an invaluable tool. It allows students to submit assignments, view class notes, note calendar changes, conduct focus groups online to assess the experiment, maintain project logs, and keep group meeting minutes. This allows course coordinators to monitor the students at all times. This helps keep the course running smoothly and all students informed.

A major component of each team's project revolves around task planning. Within each group are sub-teams established by their respective discipline. One of the key points in integrating the team and making them work as one is to identify the dependencies of the project. Once the students are aware of and have planned for their reliance on one another, the task at hand is more manageable.

While this is only the first semester of collaboration between these departments, the importance of multidisciplinary teaming is clear. All of those involved hope to include other departments within the College of Engineering in this project in the future, as well as other departments throughout the university.

SUPER EPARTNER COMPANIES WORK CLOSELY WITH THE DEPARTMENT



Orji Nduka and Dan Frink await the opportunity to discuss their Senior Design Project with interested students and business representatives at the December 2000 Posters and Pies Event, an event held each semester to showcase projects students have worked on all semester.

Super ePartner companies work with the department on a level beyond that of any other company. As a Super ePartner, a company receives three unique benefits. Those include two senior design projects, sponsorship of a departmental event, and a rotating feature page on the ePartners web site.



Students talk with John Deere representatives at the ePartners Career Connection held especially for partner companies.



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Southeast Interactive companies include BuildNet, OpenSite, KOZ.com, Nitronex, AICConnect, HAHT, Wave Systems (NASDQWAVX), Arsenal Digital Solutions and Virtus Entertainment. Southeast Interactive is the only venture fund in the country to produce a nationally branded technology conference. The national IT-focused event promotes the region and its businesses.

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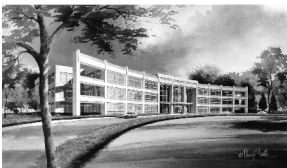
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EPARTNER COMPANIES MAKE STUDENT CONNECTIONS



Zacharia George, an NC State alumnus, from Make Systems speaks with students at the ePartners Career Connection.

ePartner companies gain the most through the recruiting assistance they receive from the program. Throughout the academic year, ePartner companies have opportunities to speak to CSC student groups, attend a members-only career connection, and access a bank of student resumes. These are only a few of the benefits that the ePartners program provides.



Students crowded the conference room in Withers Hall to meet with the ePartner companies to discuss job opportunities. Over 200 students attended the ePartners Career Connection.



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Editor: Carmen S. Brennan

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The Computer Science Department's newest NSF CAREER Award winners are (from left to right) Dr. Peter Wurman, Dr. Michael Young, Dr. Christopher Healey, and Dr. Annie Anton. The department now has a total of nine NSF CAREER Award winners, an accomplishment unparalleled of other computer science departments.