NEWS BYTES

Welcome New Faculty

Assistant Professor **Clayton S. Ferner** came to UNCW from Denver, Colorado, where he was working for the Bell Laboratories of Lucent Technologies, Inc. At Lucent, he headed a team responsible for testing and analyzing the performance and audio quality of multimedia and telecommunications projects.

Originally from the Winston-Salem area, Dr. Ferner received his B.S. from Wake Forest University. After working as a software developer for several years, he moved to Colorado where he received his M.S. and Ph.D. in computer science from the University of Denver.

Dr. Ferner's area of expertise is in high performance computing, distributed computing, and parallelizing compilers. His research involves finding better scheduling techniques for use in a parallelizing compiler. Assisted by UNCW computer science major **W. Allen Randall**, Dr. Ferner is using UNCW's Beowulf cluster of Linux computers as a test bed for further analysis to improve his findings. He hopes that the Beowulf cluster will help put his theoretical methods into use in production compilers.

Associate Professor **Gene A. Tagliarini** received his B.A. and M.A. from the University of South Florida and his Ph.D. in computer science from Clemson University. He served as a research associate/assistant professor and authored over 30 research papers in the areas of multimedia software design, biologically inspired computing, and computational intelligence. His research has been supported by both the Department of Defense and private industry.

In biologically inspired computing, Dr. Tagliarini was active in the development of networks used for classification of sonar returns, fingerprint matching, image compression, classification of minerals, combinatorial optimization, and constraint satisfaction. He developed a genetic algorithm to design chemical structures possessing specific physical properties.

He developed a graphical user interface (GUI) that enables manufacturing personnel to program a wire-harness-cutting robot directly from a description of the devices that must be connected by the harness. He supervised the development of graphical presentations that use the web to deliver the technical content of a first course in computer organization. Dr. Tagliarini designed and supervised the implementation of a signal and image processing software toolkit that enables a user to conduct research using wavelets, neural networks, and conventional signal and image processing algorithms.

Alumnus: Christopher G. Spell (B.S. '93)

Many UNCW graduates will remember **Chris Spell** from his work for the Department of Mathematical Sciences as a student assistant and as part-time systems administrator while he pursued his degree in computer science. UNCW hired Chris as the computer consultant for the department upon his graduation in 1993. Along with former UNCW librarian **Joanna Wright**, Chris co-founded Wilmington Internet Services Enterprises, Inc. in January 1995. Chris left UNCW to work at WISE full-time when the company grew to over 10 employees. In August 1999, WISE was sold to Duro Communications (another Internet provider on the east coast) where Chris is currently a senior network and systems engineer.

Chris continues to be actively involved with the department. He has hired several UNCW computer science graduates, given classroom demonstrations on wireless networking to classes, and regularly volunteers his experience and assistance in crisis situations. He was instrumental in putting together computer laboratory equipment which WISE donated to UNCW to start the upper-level student laboratory.

More Computing Power

The Department of Computer Science has a new distributed/parallel computer system called "extreme0" which is a Beowulf-class cluster of computers. Extreme0 consists of eight 166 MHz Pentiums each having 32 Mbytes of RAM, 2.1 Gbytes of disk space, and the Linux operating system. These eight computers are connected by an autosensing 10/100 managed fast Ethernet switch. Each computer can work independently or all eight can work together in parallel on parts of the same program. By

working in parallel, these computers together can solve bigger problems faster than one machine.

Beowulf-class clusters are designed to provide the best price/ performance system for parallel applications. Most Beowulf-class systems are clusters of off-the-shelf PCs interconnected by low cost local area network technology. Using Linux or other open-source Unix-like operating systems enhances this price/ performance improvement. Some of the more powerful Beowulf systems

are among the top 500 highest performance computers in the world.

Dr. Clayton S. Ferner is using extreme0 to support his research in parallelizing compilers for distributed systems, assisted by UNCW student **W. Allen Randall**. **Drs**. **Sridhar Narayan and Gene A. Tagliarini** plan to use extreme0 for their research in genetic algorithms. The department hopes to build a second Beowulf cluster for use by students in upper level classes such as parallel computing, and to install a production compiler on that cluster for classes in compiler construction.

New Computer System

The department started the new academic year with a new common computer system. The new system is named "torvalds" after **Linus Torvalds**, the main developer of the Linux operating system. For many years, almost all classes in the department used a computer system called "sol." Computer consultant **Mr. William Ellegood** noted that sol was outdated and beginning to fail. Funds to purchase the new system were extremely limited, according to department chair **Dr. Barbara-Ann Greim**.

Torvalds is a Pentium II 300 upgraded to a dual processor machine with 512 Mbytes of RAM and 67 Gbytes of disk space. It is connected to the UNCW computer network by 100 Mbps Ethernet. At last count torvalds had over 12,400 user accounts. A full range of language compilers is available. Its operating system is Redhat Linux 6.0. Locally written additions to the operating system were not ported from sol in order to force students to learn only standard Linux commands. Unlike sol, torvalds is not being used as a primary mail server since most of the faculty and students now use UNCW WebMail.

Dr. Greim notes that torvalds users like the increased speed of the new system and the improved error messages from the compilers. The department is adding an automated backup system so that students who accidentally delete their work will no longer have to redo it. For security reasons, off campus connections to torvalds must go through the UNCW VAX cluster. Direct connection is available only from on-campus computing facilities.

Faculty Publications

Dr. David Berman and **Drs. Sandra McLaurin and Douglas Smith** of the UNCW Department of Mathematics and Statistics have had their paper "Team Tournaments" accepted for publication in *Congressus Numeratium*.

Dr. Ronald Vetter presented "Distance Learning Design Model (DLD/M) Project" at the 1999 N.C. Distance Learning Alliance Conference.It was also presented at the third UNC Workshop on the Use of Technology for Distance Education It will be published in the proceedings of the workshop.

Drs. Ronald Vetter, Paul Shotsberger, Ronald Stammen, Gloria Blue, and **Edrie Greer**'s paper "Network-based Professional Development: A Comparison of Statewide Initiatives" accepted for publication in the *Proceedings of the World Conference on the WWW and Internet (WebNet 99).*

Laurie Patterson gave an invited presentation "Using HTML Forms for Education Research" at Nova Southeastern University's Summer Institute in July.

Dr. Ronald Vetter and **Yeoun Soo Kim**'s paper "An International Distance Learning Nursing Course: Nursing in the US and Japan" published in the Summer 1999 *Journal of Cultural Diversity Special Issue on International Education.*

Dr. Ronald Vetter presented "The Digital Communities Virtual University Experiment" at the Best Practices in Outreach and Public Service conference in October.

In addition, he designed and implemented a hypermedia presentation of military garment specifications as well as verbal and graphical supplements and prepared the presentation for distribution using CD-ROM technology.

An Open Letter

Dear Friends:

As I am phasing down my activities after 29 years here at UNC Wilmington, I find myself reflecting on the high caliber of students who have gone through the computer science program. In consideration of this I have decided to sponsor a scholarship for deserving computer science majors.

This past spring I established a scholarship, essentially based on merit, the *Fletcher Norris Scholarship in Computer Science*. I would like to make this a permanent ongoing scholarship award. In order to do this, a scholarship endowment must be established. This assures the continuance of the award and also assures the capability of its outreach to grow.

Establishing a scholarship endowment requires a minimum of $25,000. Well, I haven't exactly been making the "big bucks" all these years and this sounds a bit formidable. Because of this I would like to provide a

challenge. I have decided to start the endowment with a personal gift of $5,000. I am also offering a challenge gift of matching money for all gifts, dollar for dollar, up to a collective total of $5,000.

I am offering this match to all alumni and friends of the computer science program here at UNCW who decide to help. If just 200 of you friends and alumni will give just $50 each, we will be well under way to reach the goal of $25,000. Remember, your gift is tax deductible. Just make out your check to UNCW for the *Fletcher Norris Endowed Scholarship Fund*. Use the form in this newsletter to send in your gift. Let's do this together.

Keep the cards and letters a'commin'!

Fletcher Norris, Ph.D.
Professor Emeritus

● ● ● ● ● ● ● ● ●

New Contact Information

Many department members have new e-mail addresses.
Check **www.uncwil.edu/csc** for the address for your favorite professor!

● ● ● ● ● ● ● ● ● ●

To Contact the Department

phone: 910.962.7128
fax: 910.962.7457
mail: UNCW Department of Computer Science
        601 South College Road
        Wilmington, NC 28403-3297

Interim Chair Dr. Barbara Ann Greim
    greim@uncwil.edu
Assistant Chair Dr. Ronald J. Vetter
    vetterr@uncwil.edu
Secretary Mrs. Emma Kay Thornton
    thornton@uncwil.edu

Graduates:

Name: _____
     Dr./Mrs./Miss/Ms.   First   Middle   Maiden   Last   Suffix

Address: _____
     Street/PO Box   City   State   ZIP+4

Address: _____

Graduation date: _____   Degree/Major: _____   Spouse UNCW Graduate? Yes/No

Employer: _____   Position _____   Matching Gift Company? Yes/No

Spouse: _____
     Dr./Mrs./Miss/Ms.   First   Middle   Maiden   Last   Suffix

Spouse's Employer: _____   Position _____   Matching Gift Company? Yes/No

Enclosed is my gift of $_____ for the Computer Science Dept Trust Fund   **Please make checks payable to: UNCW**
                       $_____ for the Fletcher Norris Endowed Scholarship Fund

or charged to my ___Visa or ___Mastercard   Number: _____   Expiration (mm/yyyy)_____
Name as appears on card: _____

Signature: _____   Matched by my or my spouse's employer? Yes/No

Return to: UNCW Advancement Services   **This gift qualifies as a charitable donation**.
             The University of North Carolina at Wilmington   **THANK YOU** for your consideration and generosity!
             601 South College Road   News may be attached to this form, or e-mailed to the department,
             Wilmington NC 28401-3297   or submitted electronically at www.uncwil.edu/alumni

From the Chair: Enrollment Pressures

Barbara Ann Greim, Ph.D.

The first year of independence for the department was a fantastic experience. Support from graduates, friends, students, faculty, and the UNCW administration was heartwarming. We modernized the instructional computing equipment in our classrooms, replaced the outdated departmental mainframe computer, created a lab facility for upper-level students, and hired our top two choices for teaching positions. All the faculty members worked incredibly hard to establish a high quality department.

Change and growth are continuing this year. The faculty has thoroughly revised and modernized the curriculum. Beginning with the introductory programming course this fall, we are phasing in JAVA as the common programming language in our courses. Significant changes in the requirements for a degree in computer science have been approved for Fall 2000. We are conducting a national search for new faculty. If funds permit, worn-out furnishings in the student lab will be replaced. We have been challenged to raise the money for our first endowed scholarship. I hope that our graduates will help us with these last two projects.

Meeting student demand for our courses is a continuing challenge. This fall, UNCW accepted over three times as many new students planning to major in computer science as the department can currently teach. We are responding to this enrollment increase by rethinking how we schedule courses, offering more courses at night, and trying to improve our physical facilities. Finding space for faculty offices and faculty research labs is a recurring nightmare. Our future growth will be dependent on new buildings for UNCW.

We remain committed to coping with these challenges so that we can request permission to plan a graduate program in computer science in the next few years. These are busy and exciting times. I hope that you will keep up with developments between newsletters by visiting our site on the World Wide Web. Feel free to e-mail me at my new e-mail address, greim@uncwil.edu. Our contacts with our graduates are very important to us, and we all look forward to receiving e-mail from our former students.

Hurricanes

Three hurricanes, **Dennis**, **Floyd**, and **Irene**, hit UNCW this fall. There was, however, no damage to our computing facilities.

When a hurricane threatens and evacuation orders are issued for Wrightsville Beach, we begin our hurricane protection plan. All office, classroom, and laboratory computing equipment is shut down, disconnected from both electric power and Ethernet cables, and wrapped in heavy duty trash bags. It takes about 100 extra large trash bags and several hours to get all the equipment protected.

Faculty, staff, and students are barred from campus during the hurricane. The university maintains a "hurricane hot line" to provide callers with recorded information on UNCW's status. Our damage assessment team has the job of removing all those plastic bags and reconnecting most of the equipment.

Our student office assistants are becoming expert at folding and storing trash bags!

ADDRESS SERVICE REQUESTED