

News & Notes

The University of North Carolina at Chapel Hill
Department of Computer Science

from Sitterson Hall

SPRING 2008 • ISSUE FORTY-ONE

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**The 2008
SIGGRAPH
UNC Reunion is
coming...**

**and we want to make
sure you don't miss the
official announcement!**

**Please send an email to
siggraph08@cs.unc.edu
to make sure you are on
our email list.**

Thanks!

Chairman's corner



Welcome to the final edition of "News & Notes from Sitterson Hall." Starting with the fall 2008 issue, the department will no longer be solely located in Sitterson Hall, so we'll take the opportunity to change both the name and the look of the newsletter. This redesign will also coincide with the launch of a new and much improved Department of Computer Science Web site.

One of the most notable pieces of news I'd like to share is that the Frederick P. Brooks Jr. Computer Science Building is still on schedule for occupancy starting this fall. As I mentioned in the previous newsletter, we will be holding a dedication ceremony for the new building mid-fall, with the final date still under discussion. We will let you know as soon as the date is finalized, so that you all can plan to join us. We are excited about the impending opening of the new building, with its new classrooms, faculty conference room, laboratories, and research space.

Speaking of all that space, it is not too late to secure naming rights for various areas and rooms in the F.P. Brooks Building. By making a qualifying donation, you could choose to have your name grace a conference room,

for example, or you could honor a former professor who had a positive influence on your life and career. Your donations will help further the goal of making UNC Computer Science a truly world-class research and teaching facility. Contact me if you are interested.

At the start of the spring semester, the department welcomed new faculty member Marc Niethammer, assistant professor in both the Department of Computer Science and the Biomedical Research Imaging Center (BRIC). Marc joins the department from Harvard Medical School, Brigham and Women's Hospital, where he was a research fellow. He holds a Ph.D. from Georgia Tech.

We will also be welcoming computer security researcher Fabian Monrose to the department this summer as an associate professor. Fabian is joining us from Johns Hopkins University, where he is an associate professor in the department of computer science and a member of the JHU Information Security Institute. Fabian works in the areas of biometrics, cryptography, and network security, and is a terrific addition to the new computer security research group. Look for more information on him in the fall newsletter.

I hope to see you at this fall's Brooks Building dedication!

Jan F. Prins

2 Welcomes and farewells

Welcome to...

NEW FACULTY

Marc Niethammer (Ph.D. 2004, Georgia Institute of Technology), Assistant Professor in Computer Science and the Biomedical Research Imaging Center (BRIC). Marc joins the department from Harvard Medical School, Brigham and Women's Hospital, where he was a research fellow in psychiatry and radiology.

VISITING RESEARCHERS

Suriyati Chuprat, Visiting Scholar working with **Sanjoy Baruah**. Since 1997, she has been a lecturer at the University of Technology in Malaysia.

Dwight Makaroff, Visiting Scholar working with **Ketan Mayer-Patel**. Dwight is an associate professor at the University of Saskatchewan.

Christopher Zach, postdoctoral research associate working with **Jan-Michael Frahm**, who joins the department from VRVis Research Center for Virtual Reality and Visualization, Vienna, Austria, and the Institute for Computer Graphics and Vision, Graz University of Technology, Austria.

Thanks and farewell to...

FACULTY AND STAFF

Fred Jordan, who retired in December 2007 with nearly 28 years of state service.

Congratulations to...

FACULTY AND STAFF

Gary Bishop, who has been named one of the first Faculty Engaged Scholars at UNC. In this two-year program, Faculty Engaged Scholars will apply their skills to make a difference in a particular community as they connect their work with the needs of the community. Each scholar

receives a financial stipend of up to \$7,500 per year for each of the two years. The program is a new initiative of Carolina Center for Public Service and the Office of the Vice Chancellor for Public Service and Engagement to advance faculty involvement in the scholarship of engagement.

Ming Lin, who was recently named the faculty scholar for the spring 2008 semester by the Carolina Women's Center. Ming will work on a project that responds to the disproportionately small presence of women in computing, and she will design a new course to integrate cutting-edge research into the undergraduate classroom and include women undergraduates in research opportunities. Ming will also be working to engage in outreach to area middle schools as an early recruitment strategy, and to enhance mentoring and advising efforts in her department. The Faculty Scholars program is funded through the Office of the Provost and provides course replacement money for one course during the award semester.

GRADUATE STUDENTS

Sasa Junuzovic, who was the recipient of one of the twelve Microsoft Research Fellowships given this year.

Avneesh Sud, Russell Gayle, Stephen Guy, Erik Andersen, Ming Lin and Dinesh Manocha, who received a Best Paper Award for their paper, "Real-time Navigation of Independent Agents Using Adaptive Roadmaps," at ACM

Symposium VRST 2007.

Xiang Zhang and Feng Pan, who won the best student paper award of the 24th IEEE International Conference on Data

At OOPSLA '07 in Montreal, a panel on the 20th Anniversary of **Fred Brooks's** software paper, "No Silver Bullet—Essence and Accident in Software Engineering," featured the swift transformation of panelist **Martin Fowler** into a werewolf, whose comments enlivened and enlightened the whole panel. Brooks and former UNC faculty member **David Parnas** were among the untransformed (but unharmed) panelists. The January-February 2008 issue of IEEE Software has a description (pp. 91-94).

Brooks, on Research Leave during 2007-2008, has given lectures or colloquia at Cambridge and at a sd&m Design Conference in Berlin. During January and February, he gave colloquia at Manchester and Oxford.



In February 2008, Greg Welch and Henry Fuchs attended the National Academy of Engineering banquet where Rudolph E. Kalman, for whom the "Kalman filter" is named, received the NAE Draper Prize. Above: Greg, who maintains a web site on the Kalman filter, is pictured with Kalman.

Engineering (ICDE) this year for the paper entitled "CARE: Finding Local Linear Correlations in High Dimensional Data," by Xiang Zhang, Feng Pan, and Wei Wang.

Grants, Contracts & Patents

3D Worlds for Location-based Warfighter Assistance. Jan-Michael Frahm (PI), Marc Pollefeys (Co-PI), Svetlana Lazebnik (Co-PI). US Defense Advanced Research Project Agency.

Accountability for Information Flow via Explicit Formal Proof (243). Michael Reiter (PI). Carnegie-Mellon University.

Behavior Analysis and Synthesis for Intelligent Training – BASE-IT. Henry Fuchs (PI), Gregory F. Welch (Co-PI). Office of Naval Research.

Collaborative Research: CRI: CRD Synthetic Traffic Generation Tools and Resources: A Community Resource for Experimental Networking Research. Kevin Jeffay (PI), F. Don Smith (Co-PI). National Science Foundation.

CRI: IAD Integrated Projector-Camera Modules for the Capture and Creation of Wide-Area Immersive Experiences. Henry Fuchs (PI), Gregory F. Welch (Co-PI), Leonard McMillan (Co-PI), Mary C. Whitton (Co-PI), Svetlana Lazebnik (Co-PI). National Science Foundation.

CyberTrust Center: Security Through Interaction Modeling (STIM). Michael Reiter (PI). National Science Foundation.

Evaluating the Performance of Distributed Synchronous Collaboration Architectures. Prasad Dewan (PI). National Science Foundation.

Image Compression for L1 Splines. Ketan Mayer-Patel (PI), John Lavery

Family matters

Ransom Murphy (M.S. 1993), and his wife, **Bridgett**, welcomed a daughter, **Laura Katherine**, on August 2, 2007. (*gmurphy@alcatel-lucent.com*)

Claudia and Juan Valiente (M.S. 1989) welcomed a son, **Juan Ángel**, on August 15, 2007. (*juan@futurekids.com.sv*)

Randy Brown (M.S. 1990) was married to **Allison Blakebrough** on September 29, 2007, on the Outer Banks, N.C. and spent the week afterward in Duck with Randy's entire family and nine nieces and nephews, and the following month recuperating back in Hillsborough, N.C. with his new bride. (*Randy.Brown@virtualheroes.com*)

Roger M. Rice (B.S.M.Sci. 1998) and his wife, **Taquisha**, welcomed a daughter, **Cadence**, on October 19, 2007. Cadence joins big brother, **Chance**.

Graduate student **Russ Gayle** married **Sarita Gupta** on October 27, 2008 in San Antonio, Texas. (*gayle@cs.unc.edu*)

Graduate student **Ilknur Kabul** and her husband, **Mustafa Onur Kabul**, welcomed a daughter,

(Co-PI). Army Research Office.

POLLUX: Enhancing the Quality of Service of the Global Information Grid. Michael Reiter (PI). Vanderbilt University Medical Center.

SBIR Deployable Intelligent Projection Systems for Training. Henry Fuchs (PI). Renaissance Sciences Corporation.

STTR Deployable Intelligent Projection Systems for Training: Enhanced Integrated Pose Estimation Technologies. Henry Fuchs (PI). Renaissance Sciences Corporation.

Nilufer, on November 26, 2007. (*ilknurk@cs.unc.edu*)

Vincent Scheib (M.S. 2002) and his wife, **Ellen**, welcomed a son, **Thomas Alton**, in December 2007. (*scbeib@cs.unc.edu*)

Jenni Styron Clark, research support and communications specialist, and her husband, **Scott**, welcomed a daughter, **Elise Neal**, on February 20, 2008. (*jsc@cs.unc.edu*)

Graduate student **David Gallup** and his wife, **Karen**, welcomed a son, **Elijah David**, on February 25, 2008. (*gallup@cs.unc.edu*)

Kirstin Williams (M.S. 2007) married **Matthew Morrison** on March, 15, 2008. (*kirstin.lyn.williams@gmail.com*)

Brian Cornell (Ph.D. 2007) and graduate student **Christina Villarruel** will be married on May 24, 2008, in Plymouth, Mich. (*brian@cs.unc.edu, crvillar@cs.unc.edu*)

TRUST SA. Michael Reiter (PI). University of California at Berkeley.

The Real-time Systems group is receiving support from IBM for the project "A Real-Time Linux for Multiprocessor Platforms."

Sun Microsystems is donating a Niagara system to the Real-time Systems group to use in their work on multicore systems.

Patent: 7,305,319, "Methods and systems for three-dimensional motion control and tracking of a mechanically unattached magnetic probe," Leandra Vicci and Richard Superfine.

M.S. AND PH.D. ALUMNI

Rodger Blair, (M.S. 1969), is a Lead Systems Analyst with McKesson Corporation. He is also a Certified Scrum Master and a Certified Six Sigma Black Belt, and is working towards becoming a Certified Six Sigma *Master* Black Belt. Rodger says hello to Dr. Brooks and reports: "We are currently planning our annual vacation to Topsail Island -- a 20-year family tradition. Ryan, our adult son, and his wife have joined us last summer; we believe they will do so again this year. Lauren, our daughter and family, moved to Los Angeles in July 2007 and will not be joining us at Topsail Island this summer. Topsail Island is a great North Carolina secret but is becoming well-known up here in Pittsburgh!!" (rcblair@hotmail.com)

Michael Capps, Ph.D. (B.S. 1994, M.S. 1996) is still happily employed as President of Epic Games in Cary, NC. After an award-winning year for Gears of War, Epic Games has just released Unreal Tournament 3 on PC and PlayStation 3. It's the first game to be released on a console platform with user modification tools, so users can make levels or write gameplay code on PC, and then release them to the PS3 community. Epic's game engine technology, Unreal Engine 3, was recently named *Game Developer's* Front Line Award winner in the game engine category for the third straight year. (Mike.Capps@epicgames.com)

Mike Carr (M.S. 1991) has been promoted to Director of Identity Services at Amazon.com. (mmvc67@hotmail.com)

Ritu Chadha (Ph.D. 1991) published a book entitled *Policy-Driven Mobile Ad Hoc Network Management* (with co-author Latha Kant) in December 2007. The publisher is John Wiley & Sons. The book discusses the

management challenges associated with ad hoc networks, and provides an in-depth description of how policy-based network management can be used for increasing automation in the management of mobile ad hoc networks. The book features a foreword by **J.**

Christopher Ramming, who was a program manager at DARPA at the time, and is also a UNC CS alumnus. (chadha@research.telcordia.com)

Marc Levoy (Ph.D. 1989), Professor of Computer Science and (jointly) Electrical Engineering at Stanford University, was named an ACM Fellow in December 2007. (levoy@stanford.edu)

Robert Lewis (M.S. 1981), professor of mathematics at Fordham University, recently published the following: "Heuristics to Accelerate the Dixon Resultant," in *Mathematics and Computers in Simulation* (2007); "Algorithmic Search for Flexibility Using Resultants of Polynomial Systems" (with E. Coutsias), in *Automated Deduction in Geometry: 6th International Workshop, Lecture Notes in Computer Science*, Vol. 4869, Springer, Berlin, 2007. (rlewis@fordham.edu)

Alan Liu (Ph.D. 1998), along with his colleague Mark Bowyer, was the recipient of the 2008 Satava Award at the 2008 Medicine Meets Virtual Reality (MMVR) Conference in Long Beach, Calif. The award is presented to an individual or research group demonstrating unique vision and commitment to the improvement of medicine through advanced technology. Alan works for the National Capital Area Medical Simulation Center.

Rob McCauley (B.S.M.Sci. 1999) will receive his MBA from Duke's Fuqua School of Business this year. He reports that there have been no new babies this year, but there have been four since his graduation from UNC, bringing

the total to five and holding. (robmccau@yahoo.com)

Jaideep Mirchandani (M.S. 1992) moved to Chennai, India in 2006, to set up and run the India Operations for Relativity Technologies, a Raleigh-based software company. The India Operations supports the deployment, adoption and commercial success of Indian Services companies in the use of Relativity's products. In India, Jaideep is in contact with **Rajaraman Krishnan** (M.S. 1993) as well as Subodh Kumar. (jaideep.mirchandani@fuqua.duke.edu)

Yen-Ping Shan (Ph.D. 1990) founded a company, iSource Technologies, and is serving as the CEO. The company provides high quality and low cost IT and Business Process Outsourcing (BPO) services to small and midsize businesses utilizing capacities from China and Asian countries. (ypsshan@bizwob.rr.com)

Josh Steinhurst (Ph.D. 2007) published the following paper with **Anselmo Lastra** and **Greg Coombe** (Ph.D. 2007): "Reducing Photon-Mapping Bandwidth by Query Reordering," J. Steinhurst, G. Coombe, and A. Lastra, IEEE Transactions on Visualization and Computer Graphics, 14(1) pp. 13-24, Jan/Feb, 2008. (j4@steinhurst.net)

Kirstin (Williams) Morrison (M.S. 2007) has been teaching middle and high school math at Woods Charter School in Chapel Hill as a lateral entry teacher since the beginning of the 2007-08 school year, and says she is really loving it! (kirstin.hyn.williams@gmail.com)

UNDERGRADUATE ALUMNI

Aaron Fulkerson (B.S. 2004), CEO of MindTouch Inc., reports that the company is now enjoying 30,000 downloads a month of its Deki Wiki open source software, and had more than

100,000 downloads in 2007. In addition, MindTouch is providing professional support to hundreds of clients, including Mozilla, the City of Los Angeles, EMC, Expedia.com and FedEx. Wiki.mindtouch.com (aaronf@mindtouch.com)

Tom Galloway (B.S.M.Sci 1981) left Google after 4.5 years in October, and is enjoying time off including moving to Las Vegas. He's applied for an Master of Science Writing program at MIT for fall 2008, and will know by April if he's been admitted. (tom.galloway@gmail.com)

Mark Snyder (B.S. 2004) recently received his master's degree in computer science with honors at the University of Kansas, developing a modular paramorphic type checker for a new language called Rosetta. (muddsnyder@gmail.com)

Recent publications

Allman, M., V. Paxson, and J. Terrell. "A Brief History of Scanning," *Proc. of the 7th ACM SIGCOMM Conference on Internet Measurement (IMC)*, October 2007, pp. 77-82.

Anderson, J., V. Bud, and U. Devi. "An EDF-based Restricted-Migration Scheduling Algorithm for Multiprocessor Soft Real-Time Systems," *Real-Time Systems*, Volume 38, Number 2, pp. 85-131, February 2008.

Curtis, S., R. Tamstorf, and D. Manocha. "Fast Collision Detection for Deformable Models using Representative-Triangles," *Symposium on Interactive 3D Graphics and Games*, 2008.

Devi, U. and J. Anderson. "A Schedulable Utilization Bound for the Multiprocessor EPDF Pfair Algorithm," *Real-Time Systems*, Volume 38, Number 3, pp. 237-288, April 2008.

Devi, U. and J. Anderson. "Tardiness

Bounds under Global EDF Scheduling on a Multiprocessor," *Real-Time Systems*, Volume 38, Number 2, pp. 133-189, February 2008.

Gamblin, T., R. J. Fowler, and D. A. Reed. "Scalable methods for monitoring and detecting behavioral classes in scientific codes," *Proc. of the International Parallel and Distributed Processing Symposium (IPDPS)*, April 14-18, 2008. To appear.

Kwatra, V., P. Mordohai, R. Narain, S. Kumar Penta, M. Carlson, M. Pollefeys, and M. C. Lin. "Fluid in Video: Augmenting Real Video with Simulated Fluids," *Computer Graphics Forum (Proc. of Eurographics)*, 10 pages, April 2008. To appear.

Le, L., J. Aikat, K. Jeffay, and F. D. Smith. "The Effects of Active Queue Management and Explicit Congestion Notification on Web Performance," *IEEE/ACM Transactions on Networking*, Vol. 15, No. 6, December 2007, pp. 1217-1230.

Lifschitz, V., L. Morgenstern, and D. Plaisted. "Knowledge Representation and Classical Logic," *Handbook of Knowledge Representation*, F. van Harmelen, V. Lifschitz, and B. Porter, eds., Elsevier-B.V., 2008, pp. 3-88.

Niethammer, M., P. A. Vela and A. Tannenbaum. "Geometric Observers for Dynamically Evolving Curves," *IEEE Transactions on Pattern Analysis and Machine Intelligence*, 2008. To appear.

Nyland, L., M. Harris and J. Prins. "Fast N-Body Simulation with CUDA", in *GPU Gems 3*, H. Nguyen, ed., Addison Wesley, 2007.

Pan, F., X. Zhang and W. Wang. "A general framework for fast co-clustering on large datasets using matrix decomposition," *Proc. of the 24th IEEE International Conference on Data Engineering (ICDE)*, 2008.

Raghuvanshi, N., N. Galoppo, and M. C. Lin. "Accelerated Wave-based Acoustic Simulation," *Proc. of*

ACM Symposium on Solid and Physical Modeling, 2008. To appear.

Rewaskar, S., J. Kaur, and F.D. Smith. "A Performance Study of Loss Detection/Recovery in Real-world TCP Implementations," *Proc. of the IEEE International Conference on Network Protocols (ICNP'07)*, Beijing, China, October 2007.

Sud, A., E. Andersen, S. Curtis, M. Lin, and D. Manocha. "Real-time Path Planning in Dynamic Virtual Environments Using Multi-agent Navigation Graphs," *IEEE Trans. on Visualization and Computer Graphics*, 2008. To appear.

Tang, M., S. Curtis, S-E. Yoon, and D. Manocha. "Interactive Continuous Collision Detection between Deformable Models using Connectivity-Based Culling," *ACM Solid and Physical Modeling Symposium*, 2008.

Van den Berg, J., M. Lin, and D. Manocha. "Using Reciprocal Velocity Obstacles for Real-Time Multi-Robot Navigation in Dynamic Environments," *Proc. of IEEE Int. Conference on Robotics and Automation*, 2008. To appear.

Van den Berg, J., S. Patil, J. Sewall, D. Manocha, and M. Lin. "Interactive Navigation of Multiple Agents in Crowded Environments," *Proc. of ACM Symposium on Interactive 3D Graphics and Games*, February 2008.

Zhang, L., and D. Manocha. "An Efficient Retraction-based RRT Planner," *IEEE International Conference on Robotics and Automation (ICRA)*, 2008.

Zhang, M., W. Wang and J. Liu. "Mining approximate order preserving clusters in the presence of noise," *Proc. of the 24th IEEE International Conference on Data Engineering (ICDE)*, 2008.

Zhang, Q., J. Liu and W. Wang. "Approximate clustering on distributed data streams," *Proc. of the 24th IEEE International Conference on Data Engineering (ICDE)*, 2008.

Geeks making the world a *bit* better for visually impaired kids

The halls of Sitterson get a little rowdy on a certain day each year. This year, that day will be April 30, when approximately 70 visually impaired children, in grades kindergarten through high school, along with their parents and teachers, descend upon the Department of Computer Science for fun and games created just for them.

The brains behind all this mayhem is Gary Bishop, professor and department alumnus. Calling himself a “geek making the world a *bit* better,” Bishop, along with his students, is developing free software for people with special needs. This research focuses on utilizing commodity computer hardware so that the tools and toys will be accessible to as many people as possible.

During the Maze Day event, the children get to sample some of the software Gary and his students

have created, such as Braille Twister, a game which teaches children the Braille alphabet while helping them develop upper body strength, and SonicZoom, a racing game that can be played either visually or using sounds with varying pitch and spatial positions.

Maze Day also lets the children experience several kinds of mazes: conventional tactile mazes, computer-based mazes that combine 3D sound and haptics, and a room sized real maze constructed with large foam blocks. Other planned activities for this year’s event include: composing music on a



Graduate student Keith Lee helps a Maze Day participant play Braille Twister using a Dance Dance Revolution pad as the Twister board.

Dance Dance Revolution (DDR) pad; a two player Simon game combined with an upper body workout; Guitar Hero made accessible; virtual tennis; light saber practice; and Carolina Beat, an accessible version of Dance Dance Revolution for a good exercise workout to music.

For more information about enabling technology research being conducted in the Department of Computer Science, please see: www.cs.unc.edu/Research/assist. If you would like to become one of the “geeks making the world a *bit* better” through funding, talent or technology, email the CS Research Support and Communications group (rsac@cs.unc.edu) to see how you can get involved!



David Borland (Ph.D. 2007) shows Maze Day participant Dominik how to use a PHANToM desktop device to experience the Haptic Cell demonstration.

Computer Services Update by Brian White

There have been a variety of changes in Computer Services since our last newsletter update, and there are changes in what we support and how we do it. William Jiang took a promotion into the campus Windows server group last summer, and Fred Jordan retired at the end of 2007. These changes set in motion several shifts in our group, the most recent of which is merging our communications and hardware groups, with Bil Hays serving as interim manager of that group. We still have two positions to fill, and we currently have two folks out on medical leave, but we expect to be fully staffed before summer arrives and we start moving into the Brooks Building.

We currently support over 800 computers in Sitterson. The majority of these run Windows, mostly XP, with servers running Windows 2003 Server. We also have 100+ systems, including many of our servers, running Red

Hat Enterprise Linux (RHEL), mostly version 5. In addition, the Distributed Real-Time research group runs FreeBSD on some 200 systems in their lab, and we support about 50 Macs, running OS/X. These numbers don't include the new BASS (Biomedical Analysis and Simulation Supercomputer, pronounced "base") system, which includes 63 nodes running RHEL and one running Windows 2003 Server. The minimum student desktop systems are currently 933 MHz with 512 MB of RAM, but most are considerably more powerful; we continue to provide a better pool of computers for our students each year.

We are always looking at new services and new ways of providing ongoing services. Over the last couple of years we have taken on support of projectors throughout the building, including multiple projectors in many

faculty offices; cvs revision control system for recording the history of source code and documents; digital signage in the Sitterson lobby and soon to be in the Brooks lobby; administrative database development; backups for Linux desktops; and, most recently, support for the BASS supercomputing cluster. Things we do differently include recording talks and events to digital media, as well as a recent change of our password system to provide a single location for password changing and better security. Upcoming changes will include moving department backups onto the large tape library that is part of the BASS system and will provide increased capacity; moving the department's web space into a Drupal content management system; upgrading building access and video security systems; and of course taking on support of the Brooks Building infrastructure.

OC Disabilities Awareness Council project by J.M. Walsh

A number of students, staff, and faculty at UNC-Chapel Hill have formed a small volunteer grassroots organization whose main purpose will be to provide help to members of the Orange County Disabilities Awareness Council (DAC) with their information technology needs.

DAC is an all-volunteer, non-profit organization whose membership and board is largely composed of persons with disabilities, their families, and friends. DAC serves as an education and advocacy group whose primary mission is to help to implement the Americans with Disabilities

Act through education, training, and other efforts. The aspect of its governance is to observe the basic principles of the ADA: that persons with disabilities are persons with abilities, contributing citizens, and potentially valuable employees.

The group initially hopes to provide to DAC's board members a wide range of technical and instructional support services, which will range from hands-on training with popular software applications, to installing enabling technologies such as screen readers, to troubleshooting a faulty DSL connection or hard drive.

The ultimate goal of the DAC board is to develop a comfortable level of IT fluency so that they, in turn, may be able to provide other disabled members of our community--including high school students, senior citizens, and more -- with similar training classes and I.T. support services.

If you are interested in volunteering, please contact J.M. Walsh (walsb@cs.unc.edu). Participation is not limited to UNC -- we hope to involve as many people in our community as possible.

News & Notes

from Sitterson Hall

DEPARTMENT OF COMPUTER SCIENCE
COLLEGE OF ARTS & SCIENCES
THE UNIVERSITY OF NORTH CAROLINA
CB# 3175, SITTERSON HALL
CHAPEL HILL, NC 27599-3175

EDITOR

KELLI GASKILL
gaskill@cs.unc.edu

GENERAL INFORMATION

VOICE: (919) 962-1700
FAX: (919) 962-1799
E-MAIL: info@cs.unc.edu
WEB: www.cs.unc.edu

ADDRESS CORRECTIONS, SUBMISSIONS,
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Throughout News & Notes, we list degree information for all our B.S., M.S., and Ph.D. Computer Science and Math Sciences alumni.



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Meet BASS: NIH-NCRR and UNC-Chapel Hill Funded Biomedical Analysis and Simulation Supercomputer



Research professor and alumnus Russell Taylor poses next to the BASS system, which consists of 452 general-purpose processors tightly coupled to each other and to 102 programmable graphics-processor boards that function as image and geometry calculation accelerators (providing the equivalent computing power of over thirteen thousand processors for image-intensive applications) connected by an Infiniband network.