

News & Notes

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

from Sitterson Hall

SUMMER 2007 • ISSUE THIRTY-NINE

Chairman's corner



Welcome to a special summer edition of News & Notes. So much is happening in the department these days, we couldn't wait until fall to let you know!

In this issue, we welcome Mike Reiter back to Carolina. Mike joins the department this summer as the Lawrence M. Slifkin Professor of Computer Science. We are very excited to have his talent and expertise on board.

We also give kudos to Steve Weiss, who was the 2007 recipient of UNC's Thomas Jefferson Award. The award is a significant honor given to a faculty member who embodies the ideals of Thomas Jefferson, and I can think of no one more deserving of that honor than Steve.

We are pleased to be bringing a new supercomputer into the department soon, thanks to a grant recently funded by the National Institutes of Health that you can read about below. Congratulations to Russ Taylor and his team on the funding of the grant.

Finally, we've included an update on the construction of the Sitterson addition. We anticipate completion of the addition before fall 2008 and will be more than ready to occupy the space when the time comes. The expansion of Sitterson is a true indicator of how much the department is growing, and a reminder that we still need your support. We hope that you will remember the department in your charitable giving plans. Your help is, as always, most appreciated. Have a great summer!

Jan F. Prins

Department receives supercomputer grant

The Department of Computer Science has received a grant in the amount of \$1.98 million from the National Institutes of Health for the purchase of a High-End Instrumentation Biomedical Image Analysis Supercomputer (BIAS).

The BIAS system will primarily support four on-campus groups (the NIH/NIBIB National Research Resource on Computer-Integrated Systems for Microscopy and Manipulation; the Institute for Advanced Materials, Nanoscience and Technology; the Biomedical Research Imaging Center; the Virtual Lung project; and the Mathematical Biology Research Laboratory) and two off-campus groups (the Renaissance Computing Institute and the NIH Resource for Macromolecular Modeling and Bioinformatics at UIUC).

Most modeling and simulation computation is done mainly by separate groups with data previously collected. By being able to conduct real-time image analysis, important additional measurements will be made during the data collection time frame which will, in turn, lead to new discoveries as compared to the less efficient "collect then model" mode now being used.

The BIAS system will be designed to support a set of targeted NIH-sponsored research projects in biomedical microscopy and medical image analysis. The supercomputer's required capabilities were determined based on the needs of specific UNC-based NIH-sponsored research projects. Target applications range from single molecule simulation of protein interactions through

clotting disorders to lung defense in Cystic Fibrosis and MRI atlas formation to diagnose disease. The presumption is that a machine designed to really solve particular problems is likely to be better suited to a wide range of actual applications than a "general purpose" design.

The system will consist of 436 general-purpose processors tightly coupled to each other and to 90 programmable graphics-processor boards that will function as image and geometry calculation accelerators, providing the equivalent computing power of over four thousand processors for image-intensive applications.

Russell M. Taylor II (Ph.D. 1994), research professor, is the principal investigator for the project.

Weiss named 2007 Thomas Jefferson Award winner

Dr. Stephen F. Weiss was recently honored with the 2007 Thomas Jefferson Award at a meeting of the UNC Faculty Council on April 27. Chancellor James Moeser presented the award.

The annual Thomas Jefferson Award recognizes a UNC faculty member who, through personal influence and performance of duty in teaching, writing and scholarship, has best exemplified the ideals and objectives of Thomas Jefferson. UNC faculty members nominate candidates for the honor, which carries a cash prize, and a faculty committee chooses the recipient.

Dr. Frederick P. Brooks Jr. wrote the citation honoring Weiss.

“Jefferson was committed to liberal education, to liberty and to a democracy based on recognizing the worth of each person and the wisdom of the common man,” Brooks said. “Steve Weiss’ manner and daily actions demonstrate his valuing of each person. His ethical standards are the highest, his motives consistently honorable.

He has consistently fought to keep our major and graduate curricula from becoming narrow and over-specialized – he believes in education, not just training.”

Weiss joined Carolina’s faculty, in the College of Arts and Sciences’ department of computer science, in 1970. He was associate department chair between 1981 and 1987 and served as chair between 1989 and 2004. During this time, Weiss developed several teacher-mentoring initiatives. He coached new faculty members on their teaching techniques and developed a Teaching Tune-Up Committee in which teams of four – two faculty members and two students – regularly visited classes of both experienced and new faculty members.

Weiss has been recognized for his commitment to teaching on the university and state levels.

In 1983, he received Carolina’s Tanner Award for excellence in teaching. In 1995, the Computer Science Graduate Students Association selected him as the

first recipient of its teaching award, although most of Weiss’ teaching was at the undergraduate level. In 1997, he received the UNC System Board of Governors’ Award for Teaching Excellence. That same year, he was named North Carolina Professor of the Year by the Carnegie Foundation for the Advancement of Teaching and the Council for Advancement and Support of Education.

A member of the UNC Academy of Distinguished Teaching Scholars, Weiss served on the academy’s board from 2003 to 2006. He was elected to the executive committee of the university’s Faculty Council between 1997 and 2003 and has been a faculty mentor for the Carolina Teaching Fellows Program since 1990.

Between 1991 and 2003, Weiss served on the Committee on Student Conduct and was committee chair from 2001 to 2002. In 2003, he received the Robert Byrd Award for Support of Academic Integrity in recognition of his work with this committee to oversee the operation of the University’s Honor Code.

With research interests in information storage and retrieval, natural language processing, communications and distributed systems, computer-supported cooperative work and hypertext, Weiss has served on the technical review panel for the National Science Foundation and has reviewed textbooks for various academic presses including Oxford University Press, Academic Press and Harper and Row, Publishers.

He received doctorate and master’s degrees from Cornell University and a bachelor’s degree from what is now Carnegie Mellon University.



(Left to right): Dr. Frederick Brooks, Dr. Stephen Weiss and Chancellor James Moeser pose for a picture following the presentation of the 2007 Thomas Jefferson Award to Dr. Weiss. (Photo credit: Dan Sears)

Computer security expert Michael Reiter joins the Department of Computer Science



Dr. Michael Reiter (B.S.M.Sci. 1989), a leading researcher in computer security, joins the department this summer as the Lawrence M. Slifkin Professor of Computer Science. Reiter is the first “Bowles Professor” in

the College of Arts and Sciences at UNC-Chapel Hill under the special Office of the President initiative to attract new world-class scholars to the UNC system.

“The importance of computer security in science and society has been growing rapidly as the world’s research, financial, and archival capabilities now depend so heavily on computers,” said department chairman Jan Prins. “We are delighted therefore to bring Dr. Reiter home to Carolina to build a major new program in computer security.”

Reiter comes to UNC from Carnegie Mellon University, where he was Professor of Electrical and Computer Engineering and Computer Science, as well as Technical Director of CyLab, the CMU center that deals with

computer security and trustworthy computing. Prior to joining CMU, he was director of Secure Systems Research at Bell Laboratories at Lucent Technologies. Reiter, who was a Morehead Scholar and graduated first in his class from UNC, earned his M.S. and Ph.D. degrees in Computer Science from Cornell University.

Reiter is widely respected, having served as program chair for flagship computer security conferences. He is editor-in-chief of the journal ACM Transactions on Information and Computer Security, and has served on numerous other editorial boards in the field of computer security. He is a member of the National Science Foundation’s Global Environment for Network Innovations (GENI) planning group and distributed services working group.

Construction underway on Sitterson addition

Sitterson Hall, which turns 20 years old this July, seems to be getting even more cramped these days, as the members of the computer science department make concessions to accommodate the construction happening on the south side of the building. Their patience will be rewarded next summer, however, when the Sitterson addition will be nearing completion and some of the residents of Sitterson Hall will be getting ready to occupy the almost 30,000 sq. ft. space.

The construction of the Sitterson addition is the culmination of a process that has been going on for a number of years. It is the first building to be constructed in phase two of the UNC Science Complex, and will be followed by the construction of a new Venable

Hall. Currently, the project is still in the early site work phase, but the steel structure of the building should be complete by the end of July 2007. Classes will be scheduled in the Sitterson addition for Fall 2008.

Three classrooms will be making up most of the space on the zero level of the addition: an 80-seat classroom with fixed seating; a 50-seat classroom with foldable tables and stackable chairs that will allow the room to be used for other purposes, such as conference poster sessions; and a 21-seat classroom sized for seminar-style classes. The additional classroom space will mean that most computer science classes will be able to be held in Sitterson or the addition, rather than elsewhere on campus.

Level one will be made up primarily of office space, but will also contain a 50-seat, three tiered faculty conference room, and a smaller chair’s conference room. There will also be a new breakroom for employees, two kitchen spaces, one of which will be a catering-style kitchen to be used for special events, and a unisex bathroom.

New laboratories on levels two and three will allow members of the department more freedom to pursue projects that might be hampered by current space restrictions. Level two will contain a huge new graphics lab. The center of level two will be one big space with heavy curtains that can be used to divide the room into three smaller spaces, if needed for research purposes. The

(continued on page 4)

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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,
AND FOR INFORMATION ABOUT OUR
PUBLICATIONS: pubs@cs.unc.edu

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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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(continued from page 3)

new graphics lab will have high ceilings and will be designed to allow for easy addition of cameras and projectors or other graphics equipment. Level two will also contain office and conference room space.

Level three will be home to a new hardware laboratory for Michael Reiter and his research group. There will also be some graduate student cubicles in the center

section of level three, as well as office space and conference rooms on the outer walls.

The building will also have a larger bike room that will be accessible from outside the building, and allow for entrance to the building directly from the bike room.

The Sitterson addition was designed by Wilson Architects of Boston.

