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Celebrating CSIS Students

by Dr. Susan M. Merritt



Pace University has extraordinary students and CSIS students are among the best. Our students are creative, energetic, hard-working, and very serious about their goals. They are also diverse in many ways, including ethnicity and gender as well as life experience, interests, and plans. This issue of *Communiqué* focuses upon our students.

Sloan Scholars

You will read about our Sloan Scholars who have been active in the rebuilding of lower Manhattan. With a grant from the Alfred P. Sloan Foundation, CSIS students, and students from other schools in the University, were

able to assist small businesses and not-for-profits in rebuilding Web sites, recovering databases, and redefining whole organizations. They rebuilt information technology infrastructure and recaptured data. The partnerships between Sloan Scholars and their employers were productive and satisfying.

Undergraduate Students

You will read about the extraordinary research opportunities offered to our undergraduates through federal funding. With Associate Dean Dennis Anderson, three outstanding computer science undergraduates were selected from a nationwide competition to participate in the faculty and student team project (FAST) sponsored by the U.S.

Department of Energy and supported by the National Science Foundation (NSF). Our students spent the summer at the world renowned Argonne National Laboratory in Argonne, Illinois, where they pursued research in grid computing as part of a larger national project to create a distributed supercomputing facility. Three other CSIS undergraduates received summer internships also funded by the NSF to pursue Internet 2-related research at the School's Center for Advanced Media (CAM).

National Web Projects

In an extraordinary opportunity created by Professor Mathew Ganis, students have been able to develop real Web sites for exciting

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NSF Funds Student Research

by Louise P. Kleinbaum,
Assistant Dean and Director of Communications

With funding from the National Science Foundation (NSF), six fortunate CSIS undergraduate students from the New York City campus were given the opportunity to pursue cutting-edge research over the summer.

FAST Project

Dr. Dennis Anderson, associate dean, and three outstanding computer science undergraduates were selected from a nationwide competition to participate in the Faculty and Student Team (FAST) project sponsored by the U.S. Department of Energy (DOE) and

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FAST Project (l-r) Associate Dean Dennis Anderson, Oleg Yunakov (BS/CS), Igor Diner (BS/CS), and Hector Rodriguez (BA/CS).



First Doctoral Class Graduates

by Chris Longo, D.P.S. Program Administrator

The Doctor of Professional Studies (D.P.S.) in Computing, which began three years ago in fall 1999, has come full circle and has graduated its first class. Twenty students

proudly assembled at the Westchester County Center in White Plains on Monday, May 20, to attend Graduate Commencement Ceremonies. A dinner in their honor, attended by faculty, family

and energy expended in order to complete the program and finish the dissertation in three years. Many traveled long distances to attend the resident weekends that were held four

times per semester. Because this is a new program, the question always lingered, could it really be done? Well, these students, with the help of a dedicated faculty and staff, proved that it could be.

Members of the first D.P.S. graduating class include: Eugene Annabel, Leslie Beckford, Mary Curtin, Suman Kalia, Hevel Jean Baptiste, Joseph DeCicco, Ronald Frank, Christopher Iervolino, Orson Kirk, Than Van

Lam, Jonathan Law, James Lawler, Kwang Lee, Marilyn Mead, Pauline Mosley, Stephen Parshley, Vera Rhoads, Hany Saleeb, Dennis Williams, and Patrick Wong.

Among the graduates, two received special recognition.

Than Van Lam was named Outstanding Student of the Year for excellent academic performance and **Christopher Iervolino** was given the Student Service Award for outstanding service at the doctoral level.

In addition, the University Award for Distinguished Faculty Service was presented to **Drs. Joseph Bergin, Howard Blum, Fred Grossman, Allen Stix, Charles Tappert, and Stuart Varden** last December during Employee Recognition Week in recognition of their contributions to the development and implementation of the D.P.S. in computing program. ■



Dean Susan Merritt with the D.P.S. Class of 2002.

and friends, followed in the Tudor Room in Preston Hall on the North Broadway Campus. It was with mixed feelings — the happiness of achieving their doctoral goal, and the sadness of leaving the program and each other — that the group met to celebrate graduation.

Dr. Peter Denning, a prominent computer scientist from George Mason University who has helped define Information Technology as a profession, addressed the graduates at the commencement ceremonies where he also received an honorary degree. Denning was a pioneer in the early development of operating systems. He has written seven books and 280 articles on computers, networks and operating systems.

For the D.P.S. students, all IT professionals with full-time careers, the road to earning a doctoral degree was not easy. There was a huge commitment of



President Caputo congratulates Hevel Jean Baptiste.



Dr. Peter Denning, who received an honorary degree, speaks at the Graduation Dinner.



Patrick Wong and Jonathan Law traveled from California to attend 30 resident weekends over three years.

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What's new with you? Weddings, births, career moves? You can now post your ClassNotes online as a member of the alumni online community at <http://www.pace.edu/alumni/>.

Sloan Scholars Help Rebuild Lower Manhattan

by Louise P. Kleinbaum, Assistant Dean and Director of Communications

Shortly after the terrorist attack on the World Trade Center, Dean Susan Merritt and Associate Dean David Sachs approached the Alfred P. Sloan Foundation for funding to enable Pace to contribute to the rebuilding of lower Manhattan. The Foundation, a long-time supporter of distance education initiatives in CSIS, responded quickly and generously with a grant of \$850,000. Of that \$850,000, \$350,000 was to be used to pay Pace students in the Sloan Scholar program to intern at small businesses and nonprofit organizations struggling to function and survive after September 11. The balance of the funding was earmarked for the development of 50 online courses to assist those whose education was adversely impacted by the attacks.

The Cooperative Education and Career Services office under the leadership of Executive Director Joan Mark administered the program. They identified the employers and provided them with a pool of screened applicants. Twenty-eight businesses, agencies and organizations established to help with the recovery effort benefited from the know-how of participating students. Twelve CSIS students worked for a variety of employers creating databases, developing Web sites and providing general technical support. The twelve included: Jing Yu Deng (BA/CS), Tanuja Ghare (MS/IS), Bhavuk Koul (MS/IS), Subbaiah Maneyapanda (MS/IS), Sandy Mazo (MS/IS), Muchiri Mwangi (MS/IS), Mohammed Nadeem (MS/CS), Olufemi Ojo (MS/IS), Anand Puri (MS/IS), Akarsh Sakalaspur (MS/CS), Vikas Srivastava (MS/CS), Hongyan Wang (MS/CS).

Subbaiah Maneyapanda, a graduate IS student, went to work for eSoftwareHelp.com along with an M.B.A. graduate from Lubin. eSoftwareHelp.com, a small startup company that provides online consulting, support,

and training, had lost its office space and all of its employees after September 11 and essentially had to start over. The relationship turned out to be a win-win situation for all concerned. Subbaiah, who had never held a co-op job and was eager to gain practical experience, was pleased from the beginning of his internship:

"From the first day we started

28 businesses, agencies and organizations . . . benefited from the know-how of participating students.

working on real-world projects and tasks. My colleague from Pace and I were a part of the team that contributed ideas for business plans, company strategies, business models and budgets. I was thrilled to be able to participate in these management activities. Mr. Richard Garboski, the company's founder, was very open to new ideas and encouraged the best from his interns and other employees.

"My main job responsibility is in the area of IT support. I have been consulting with clients and setting up the IT infrastructure for them. I play the role of a technical analyst, a business analyst, a system administrator, and a technical writer depending on the nature of the job.

"I also take care of technical support, training, and development using state-of-the-art technologies. Being an integral part of the organization, I had opportunities to participate in meeting with clients, technology vendors, and people in high-level management.

"My experience at eSoftwareHelp.com has been rich and rewarding and has exceeded my expectations."

Subbaiah was invited to continue on with his internship this fall and was offered a full-time position upon completion of his degree in December.

Mr. Garboski was equally as enthusiastic about the program:

"I want to express my sincere appreciation to Pace University and the Sloan Foundation for providing graduate students to assist in the rebuilding of my company, eSoftwareHelp.com. Having lost all employees shortly after September 11, I have had to . . . start over, rebuilding the company from the ground up. The productivity of both interns has been magnificent."

Tanuja Ghare, also an IS graduate student, worked for Liberty Imaging, Inc., developing a Web site. Liberty Imaging is a young company that has developed a sophisticated digital video camera for use in security and surveillance applications. Following September 11, the company lost its entire infrastructure, including its Web offer. Tanuja worked directly with the President John Weaver and CTO Tom Leedy of the company to design, develop and deploy a new Web site. Since there was no company physical site to go to, she worked at Pace over the summer using University-provided equipment and software. Dan Farkas, IS chair, provided assistance. The final site is hosted at <http://www.liberty-imaging.com>.

Tanuja said of her experience: "It was a wonderful feeling to help someone recover from their losses although it was just a small step towards building the entire infrastructure. In addition to that, the experience was beneficial to my career goals."

The president of the company was so pleased with the Web site and the professional manner in

which it was done that he awarded her a special gift at the final project handover meeting. Not only did he go out of his way to commend Tanuja, he also commended the Sloan Foundation for funding the program and Pace for administering it.

"This closes the circle on our relationship and completes a great story of a successful collaboration between Pace University, the Sloan Foundation and Liberty Imaging. All of this has been accomplished with business-like efficiency. I only wish that the government agencies responsible for assisting small business recovery were as efficient, effective and genuine as Pace University."

The Sloan Scholar Program has been a success on many levels — for lower Manhattan, for the individual businesses and organizations impacted by September 11, for the University as a whole and, of course, for the students.



Joan Mark sums it up by saying: "Thanks to CSIS for initiating the grant with the Sloan Foundation and to the Sloan Foundation for providing the opportunity for Pace students to help rebuild downtown New York. The students have contributed their skills to the workplace and in turn have gained valuable experience. They are doing well by doing good." ■

Verizon Exec Paul Lacouture Honored at NYSE

by Susan Reeves, Assistant Director of Corporate and Foundation Relations

The trading floor of the New York Stock Exchange (NYSE) provided the setting for the seventh annual School of Computer Science and Information Systems (CSIS) Award for Leadership and Service in Technology reception. Nearly 300 members of the CSIS community including faculty, staff, students, CSIS Advisory Board members, alumni/ae and representatives from the corporate IT community attended the reception on June 4 to honor **Paul Lacouture**, president, Network Services Group at Verizon.

Paul Lacouture heads up the Network Services Group at Verizon and is responsible for leading the company's Network Operations, Real Estate, Engineering and Planning, Corporate Sourcing, Technology, and Wholesale Services and Marketing organizations. With a background in the communications industry spanning over 28 years, he served in a variety of positions with Bell Atlantic, NYNEX and New England Telephone, and prior to the Bell Atlantic/GTE merger, served as president of the Network Services Group at Bell Atlantic. Paul is also active in several community, civic and business organizations, including the Council for Higher Education, and the Roundabout Theatre. Paul Lacouture holds a B.S. in Electrical Engineering from

Worcester Polytechnic Institute and an M.B.A. from Northeastern University.

The selection of Paul Lacouture as the honoree and this year's venue at the NYSE was particularly fitting in light of the events

located only a few blocks from Ground Zero. The University also benefited from Verizon's rapid efforts to reconnect the downtown area after the New York City campus suffered telephone and Internet service losses follow-

time CSIS has had the honor of holding this event on the trading floor; its 1999 award reception was also hosted by the NYSE. An hour into the reception, the formal program began with an introduction and welcome by Dr. David A. Caputo, president of Pace University. Dr. Caputo was followed by Nancy Turbe, president of the CSIS Alumni/ae Association, who welcomed the group and encouraged the alumni in attendance to become more involved with CSIS and Pace.

Susan M. Merritt, dean of CSIS, then greeted the group and thanked everyone for their support and involvement with this year's event and CSIS. She then introduced Paul Lacouture, the guest of honor, who spoke about Verizon's efforts to reconnect downtown following the events of September 11. He cited the outstanding efforts of his whole team at Verizon, and in particular, noted the efforts of **John Bell**, senior vice president of Network Operations at Verizon. John Bell then made remarks on his personal experiences following the attacks. After remarks by Paul Lacouture and John Bell, Paul was presented with a citation read by Dean Merritt and a crystal paperweight from Tiffany's to honor his outstanding accomplishments and those of his team at Verizon.

The Award for Leadership and Service in Technology is presented annually to an individual

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CSIS Students with Paul Lacouture, honoree, and Susan Merritt, dean on floor of NYSE.

on September 11. Paul and his team at Verizon played a crucial role in restoring telephone and data services to lower Manhattan in time for the reopening of the NYSE only days after the terrorist attacks. The event held special significance for Pace as well, with the New York City campus

ing the attacks. Pace is actively involved in the rebuilding and renewal of lower Manhattan and was proud to recognize the efforts of its downtown partners.

The evening began with a cocktail reception generously underwritten by the NYSE on its trading floor. This is the second

CSIS Hosts MASPLAS '02

by Louise P. Kleinbaum, Assistant Dean and Director of Communications

On Friday, April 9, the School of Computer Science and Information Systems (CSIS) hosted the Eighth Annual Mid-Atlantic Student Workshop on Programming Languages and Systems—MASPLAS '02—at the Graduate Center in White Plains.

In addition to the more than 30 CSIS graduate students who presented their research either individually or in teams, there were participants from Seton Hall University, East Tennessee State University and Western Connecticut State University.

Professor Laurie Williams of North Carolina State University gave the keynote address titled "Pair Programming: Why Have Two Do the Work of One?"

The goal of the workshop is to give students and faculty from the

Mid-Atlantic region the opportunity to share their research findings with unfamiliar colleagues from other institutions in order to hone presentation skills, provide and receive constructive criticism, and perhaps spark new ideas or promote student collaborations.

Presentations were made individually and in teams. Of the Pace presenters, most of the individual presenters, including Joseph De Cicco, Thanh Van Lam, Jonathan Law, Kwang Lee, and David Ulmer were doctoral stu-

dents. Ashima Hosalkar, a master's degree candidate, presented her master's thesis. The team presenters were mostly master's students from Dr. Charles Tappert's Software Engineering and Pervasive Computing classes.

Dean Susan Merritt and Dr. Charles Tappert cochaired the event. Drs. Fred Grossman and Allen Stix served as program cochairs. This is the second year that Pace students participated in MASPLAS and the first time it was held at Pace. ■

Students Reach for the Stars

by Matt Ganis, CSIS Adjunct and Senior Technical Staff Member, IBM

When I teach my CS 158 class in Webmaster Essentials, invariably my students ask my opinion about what they can do to increase their chances of receiving job offers upon graduation. It's a tough question. Having read literally hundreds of resumes in my job as a manager at IBM, the best answer I can give is for them to include a URL of a Web site they actually did to help show off their talents. The problem with that is that most of the sites they do are either not accessible outside of Pace or really have no function. To help address this problem, we created an independent study class where students could identify nonprofit organizations that needed help with Web projects, then once developed and completed, they would have a "real world" Web site to help showcase their skills. The project we settled on was a reservation system for a new telescope that was going to be installed on the International Space Station. It is a project being run by a nonprofit organization called the Astronomical League.

The International Space Station's Amateur Telescope (ISS-AT) is an astronomical telescope mounted on the International Space Station, which will be operated by amateur astronomers for the education and benefit of the world's citizens. The Astronomical League, a consortium of U.S. amateur astronomy clubs headquartered in Kansas City, Missouri, is responsible for all ISS-AT operations. My students, working in conjunction with

programmers from Vanderbilt University and NASA, successfully created a working worldwide registration system that allows users to sign up for telescope time, submit project proposals, and allow for the selection committee to accept or reject proposals based on their merit and scientific applicability.

The system we developed is basically a Web application written primarily in PHP. The students were responsible for installing the physical server and all system applications, including Apache, MySQL and PHP. Initially, they broke up into groups and came up with four or five Web site designs independently. Then, as a class, we chose the best aspects from each design, consolidated them, and created our final HTML-based site.

At this point, we were ready to create the application around the

HTML. The students again formed functional teams, which consisted of a Quality Assurance Team to validate that the application worked as designed (including testing with as many versions and varieties of browsers as possible), a Database Team that was responsible for the database creation and administration issues, the System Administration Team and, of course, the Application Coders. At the end of the semester, we had a working, well-designed and attractive Web application that was presented to the Astronomical League's Telescope Operation Committee. As a result of that presentation, the lead on the Web-based registration/project submission system was given to Pace University with me as the main contact and Webmaster. More than that, the Astronomical League was so impressed with our work that we

were asked to take over the Webmaster responsibilities for the main Astronomical League's Web site at <http://www.astroleague.org>.

All in all, it was very successful project. At one end of the spectrum, the students had an opportunity to work with a variety of people and institutions on a worldwide project and, at the other end, CSIS and the University gain recognition for its talented students. ■

Matt Ganis is both an Adjunct Assistant Professor of Computer Science in the School of Computer Science and Information Systems and an Adjunct Lecturer in the Chemistry/Physical Science Department in the Dyson College of Arts and Sciences where he teaches astronomy. He is currently a Senior Technical Staff Member at IBM where his focus is on advanced Internet technologies.

IT Field to Benefit as Women and Minority Members Increase

by Chris Longo, D.P.S. Program Administrator

Dr. V. Sadagopan, president of Network and Multimedia Services of Scarborough, New York, and CSIS consultant, has generously donated the seed money for the formation of a scholarship fund for women and minority students enrolled in the CSIS Doctor of Professional Studies (D.P.S.) in Computing program. It is Dr. Sadagopan's wish that with additional support from alumni, national funding agencies, and private foundations, a reserve be created to support several qualified students per year.

Dr. Sadagopan, also known as "Gopan," has been involved on a consulting basis with the D.P.S. program since its inception. He was impressed with the care and planning that went into addressing two primary concerns in computer-oriented doctoral programs on the national level: the

underrepresentation of women and of minorities. Gopan states, "It is most heartening to note that the D.P.S. program is making significant strides to address both of these issues."

Gopan, came to this country as a poor student from a small village in India. He had excellent grades but no funds to pursue advanced studies. He received a fellowship from the U.S. Government to study at M.I.T. "That fellowship...made it possible to realize my dreams and turn my life around. Hence, I have the highest regard for scholarship programs for the needy."

The three-year D.P.S. program is unique in that it allows students to earn a doctorate while working full time. In many cases, employers cover tuition. "There are a few, however, who do not have this safety net. They struggle while still driven by their intense



Dr. V. Sadagopan

desire to advance their educational goals. Many of them are women and underrepresented minorities," noted Gopan.

D.P.S. is most grateful to Dr. V. Sadagopan for his generosity and forethought. Recently, IBM has informed him that they will match his initial contribution.

If you would like further information or are interested in making a donation to this scholarship fund, please contact Chris Longo at clongo@pace.edu. ■

Alums Continue Studies at Prestigious Institutions

Masataka Nakaue (BS/CS '98) is pursuing graduate studies in computing at Stanford.

Dmitriy Lerman (BA/CS '00) is enrolled in the Graduate School of Management at Yale.

We've Moved!

CSIS Occupies New Downtown Space



After being housed temporarily for a year at 156 William Street, the New York City CSIS Offices have finally moved across the street into new, "high-tech," functional quarters at 163 William Street. The new space, which is located on the 2nd floor and accessible through its own entrance, features an open floor plan with glass-paneled offices without ceilings, is completely wireless, and has multiple teaming and conference rooms. In addition, there are three research facilities that house the Center for Advanced Media (CAM), the Intelligent Agents Lab and a Demonstration Lab as well as a tutorial lab, a small "café" and an



open area for adjunct faculty. Nancy Hale, TS chair, and Frank Marchese, CS and CAM chief scientist, are credited with designing the space and Jim

Curry, director of administrative systems, for orchestrating the move.

An open house reception is planned for December 13. ■

NACTEL GRADUATES ITS SECOND CLASS

Morton Bahr, CWA President Honored

by Pauline Waller, CSIS Consultant

The Pace University/NACTEL online learning program, an innovative effort developed by a partnership of major telecommunications companies and their unions, graduated its second class on May 20. Five of the 26 graduates traveled to White Plains to receive their associate's degree in telecommunications and to meet their professors for the very first time. They included:

Charles Blank, Jr.

Baltimore Gas & Electric
Glen Burnie, MD

Deanna Dalen-Wadley

Snellville, GA

Jesse Diaz

Verizon, Upland, PA

Phillip Nassetta

SNET, Middletown, CT

Rosalinda Perez

Pacific Bell, SBC

Hercules, CA

Kenneth Semataska

SBC, Plantsville, CT

Also in attendance was **Morton Bahr**, president of the

Communications Workers of America (CWA), who was the driving force behind the development of the NACTEL program and known nationally for his leadership in worker education and distance learning. In his words, "NACTEL is a natural evolutionary process for the industry. It's a direct result of

escalating technology, the pressures of moving into deregulation and the increasing scarcity of skilled telecommunications workers." Mr. Bahr was presented with an honorary doctorate at commencement for his vision and dedication to the labor movement.

The NACTEL program

enables individuals to take courses anytime, anywhere over the Internet. More than 600 students have enrolled in this widely recognized program since its inception in 1999. Most feel that there are benefits to learning online. For instance, **Terri Wittich**, an information specialist for Qwest and mother of two young children from Colorado Springs, Colorado, wanted to further her education without taking time away from family or a full-time job. In her words, "NACTEL gives me the freedom to do things when they're convenient for me."

Other graduates have already benefited from professional advancement. **Rosalinda Perez** attributes her steady promotions at SBC to her commitment to succeed and her participation in the program. "It's a great way to advance in the telecom industry. When I started, I was a Service Rep. Today, I'm a Regulatory and Appeals Manager and I've increased my salary by 20 percent." ■



Top (l-r): Nancy Hale, codirector of NACTEL program; Susan Kannel, executive director of NACTEL; Charles Blank, Jr. (AS/TLC); Rosalinda Perez (AS/TLC); Phillip Nassetta (AS/TLC). Bottom (l-r): Kenneth Semataska (AS/TLC); Morton Bahr, CWA president; David Sachs, codirector of NACTEL program.

Three IT Specialists Share Their Experiences in Doctoral Education

by Louise P. Kleinbaum, Assistant Dean and Director of Communications

In an ongoing effort to increase the number of women pursuing careers in the computing disciplines, the School of Computer Science and Information Systems (CSIS) in conjunction with its Doctor of Professional Studies (D.P.S.) in Computing program hosted a panel discussion “Women in Computing: Paths to Doctoral Education, Teaching and Research.” The event was held on Friday, May 10, at the Graduate Center in White Plains.

The three guest panelists included **Mary Lynn Manns**, a faculty member in the Department of Management and Accountancy at the University of North Carolina at Asheville, who was preparing to defend her doctoral dissertation “Introducing Patterns into Organizations,” the following week; **Dr. Linda Rising**, an independent consultant specializing in patterns and retrospectives, who earned her Ph.D. from Arizona State University; and **Dr. Judith Spitz**, senior vice president of e-business at Verizon, who graduated from the City University of New York with a doctorate in speech and hearing sciences. All had interesting stories to tell, and all were open, insightful and frequently humorous. None had plotted a clear path to a Ph.D., but rather arrived there via serendipitous and circuitous routes.

The fourth panelist and moderator was **Dr. Susan Merritt**, dean of CSIS, who opened the program with statistics indicating that there were not enough women in computing and then posed the question “so what?” The answer to this question, according to Dr. Merritt, is both quantitative and qualitative. Quantitative in that there simply are not enough people going into computing to satisfy the demand for the foreseeable future and increasing the number of women in the field would help solve the problem. Qualitative in that com-

puting impacts the way we live, work and play and requires the creative contributions of women as well as minority members to make it a more encompassing discipline. Furthermore, careers in computing are exciting, challenging and satisfying in that they allow women to fulfill their need to solve problems and help others. Because computing is such a young discipline, there are fewer barriers to advancement than in more established fields.



From l. to r.: Dr. Judith Spitz, Mary Lynn Manns, Dr. Linda Rising and Dean Susan Merritt.

After abandoning the notion of a college degree in home economics, Mary Lynn Manns turned to a career in banking. She started on an M.B.A. because she felt that her career was going nowhere. In graduate school as a graduate assistant in the university’s computer center, she became hooked on computing after she learned several programming languages and began tutoring. Once again she switched gears and went on to complete an M.S. in management information systems. She was later invited to pursue her doctorate at De Montfort University in England and has spent many years commuting back and forth on a regular basis.

What she likes about the field is its diversity. She said, “If you don’t like one aspect of the discipline, you can always switch to another.” As for practical advice to women embarking on doctoral study in computing, she encouraged them to stay focused, garner the support of family and close friends, and learn to work with men.

Linda Rising resisted going into computing because she did not like all of the paraphernalia it required such as machines and punched cards. Besides, she and her spouse enjoyed their lives teaching math at a Midwestern university. After coming to the realization that there were few exciting career opportunities open to women holding Ph.D.s in mathematics and observing that younger students were enthusiastic about the emerging field of computing, she decided to change directions. In her words, “Computing is infectious, it draws you in.” So she and her husband uprooted themselves and moved to Arizona where she was determined to complete her doctorate in computer science before her 50th birthday. She finished one month ahead of schedule.

Like Mary Lynn Manns, with whom she is collaborating on a book, Dr. Rising likes computing because of its diversity. The field is always changing. There is so much that is new that it is a challenge to keep up. She encourages women pursuing doctorates to “stay with it” for the rewards are many.

When she entered college, it never occurred to Dr. Judith Spitz to pursue a Ph.D. or to map out a career path for herself; however, she enjoyed learning and doing research so much that she just kept with it “for the love of the game.” Her chosen field was speech and hearing sciences. For a while it appeared that she would be an academician conducting research at CUNY’s Center for Research in Speech and Hearing Sciences and teaching at Hunter College. In 1986, after interviewing with NYNEX Science & Technology, her career took a decidedly different turn when she was invited to become a technical staff member in the company’s speech technology group. Today, as an executive of e-business for Verizon, Dr. Spitz manages more than 1,200 people. She attributes her success as a

manager to being a woman. “Women tend to be good leaders because they are open, honest, realistic, accountable and possess good listening skills.” Earning a Ph.D. was also invaluable. The skills acquired—the ability to distinguish the big picture from the details and to implement a well thought out plan—are transferable to a variety of environments. It is also important to “surround yourself with people who are smarter than you” so that you can learn from them and draw upon their expertise to make your job easier.

From the number and variety of questions asked during the Q & A that followed the presentations, it was apparent that the audience found the speakers informative, inspiring and approachable. ■

Students Inducted into UPE

On April 22, 37 exceptional graduate and undergraduate students were inducted into Upsilon Pi Epsilon, the only internationally recognized honor society for the computing sciences. The inductees include:

Alisa Berdichevskaya, Sherece N. Black, Jonas Bjorjesson, Melissa K. Carroll, Tuan-Huei Chang, Parul Chaturvedi, George Chedzhemov, Szu Chiung, James M. Daniels, Michael Fang, Dennis Holinka, Ashima A. Hosalkar, Sachin Jain, Daniel A. Kornishev, Daryl A. Miller, Yani Mulyani, Isadora Murphy, Lai Chi Kin Ng, Arunima Palchowdhury, Scott H. Palmer, Yuan Pan, Natee Panchee, Angela Plafcan, Mahbub Siddique, Irina Sirota, Vikas Chandra Srivastava, Ian Stuart, Judith Sullivan, Karen E. Thabet, Vineetha T. Varghese, Hongyan Wang, Jingliang Wang, Yunpeng Wei, Sten Westgard, Alex Wong, Rong Xie, Wei Xu.

How I Spent My Summer “Vacation”

CS Faculty Member Has a Busy and Satisfying Summer

by Dr. Mary Courtney, Computer Science

Over the summer, faculty generally make use of their additional time by pursuing their research interests, attending conferences and workshops, updating the content of their courses, and experimenting with new approaches to enhance learning. In the following article, Dr. Mary Courtney, Professor of Computer Science in Westchester, chose to share her experience as both a student and a teacher last summer and the insights she gained from each.

In spring of 2001, I signed up for a workshop on teaching object-oriented programming (OOP) at the Consortium for Computing in Small Colleges, North East (CCSCNE) at Middlebury College. I know that object-oriented programming emphasizes different skills from Pascal-like programming, and both the structure of contemporary programming courses and the instructional techniques and exercises that accompany them need to be changed. While I had become quite comfortable in my teaching of OOP to beginning programming students, I realized at this presentation that I was not teaching the event-driven aspect. What impressed me about three

presenters from Williams College who attended the workshop was that, in addition to being computer scientists, they were very interested in how students learn to program, were devoting substantial effort to developing and sharing pedagogy, and are actually involved on the front line of teaching. Drs. Kim Bruce, Tom Murtagh and Andrea Danyluk had received a National Science Foundation grant to disseminate their findings and materials to other teachers.

Unable to attend the two-day workshop that the Williams faculty were running that summer, I applied and was accepted to their four-day workshop in summer 2002. A room on the top floor of an older fraternity house was home for me during one of the hottest weeks of the summer. The other 14 participants, from colleges throughout the United States, were hard-working, eager to learn, and very concerned about the best approach for teaching programming to students. There were lectures and labs from 9:00 a.m. to 9:00 p.m. with breaks for lunch and dinner in the college cafeteria. The computer room was fascinating in that the MAC OSes were placed on five-foot-high desks, which enabled the teacher to view the computer screen and talk to students without bending over or kneeling down. The first day many of us were overwhelmed and were not able to complete the three labs that were developed for college freshmen. Happily, we were given time the following day to complete the work.

Upon my return to Pace,

Narayan Murthy, chair of the Computer Science Department in Westchester, was surprised that I was so enamored with a graphical approach to teaching OOP knowing quite well that I love solving mathematical types of problems with my students. I surprised myself, too. Perhaps I am in need of a change or, more likely, I was completely won over by the effectiveness of this new approach. When I was designing a new syllabus for my CS 121 Computer Programming I, I realized that the first five topics were the same as those in my old syllabus. So what was new? The conditional is demonstrated through a program that sorts dirty laundry; looping is taught using active objects of grass growing; and recursion is taught using stalks of broccoli. The `objectdraw` package from Williams allows students to use graphical objects with ease, solving interesting problems and bringing them closer to programming in Java than do other elementary graphic approaches. The participants in the workshop promised to use these materials in their classes; so now I am spending time rewriting the Williams College labs to fit my course at Pace. After our first two labs, the students said they were having fun. My two lab assistants are also enjoying the approach which is very different from the one they used to learn programming.

My other major summer activity involved developing and presenting an asynchronous course in Java for secondary school teachers who teach AP Computer Science. In May 2004, the high school Advanced Placement Exam in Computer Science will be using Java as the programming language rather than C++ so there are many teachers who need to learn or increase their knowledge of Java. Five years ago, Allen Stix and I prepared an online course for the high school teachers switching them from

Pascal to C++. I taught that course four times. Each time it was a struggle to bring the teachers used to programming in a procedural type language to an object-oriented language in an online course.

CSIS Dean Merritt wished to offer another course this past summer for the high school teachers. Success was ours as 15 of the 17 students (high school teachers) completed the course. This time, I wrote the materials alone and Dr. Allen Stix proofread them. His advice on teaching certain topics was invaluable. Brent Ferguson of the Pace Computer Learning Center did a fantastic job converting my Word documents, lessons and labs, and a hundred Java files into HTML files for Blackboard. The class was wonderful. There were teachers from all over the country, including Hawaii and another teacher from Canada. A few were my former students who came on board again. They were hard working and willing to help each other. My notes were written specifically for those who knew C++. This time, the students were already familiar with objects and classes. The first few labs were well tested in my onsite courses. The students appreciated the developmental approach that is given in a full course as compared to the information overload that results from short-term workshops.

My only problem was that the course was too asynchronous. Students took vacations with their families and came back to lessons 4 and 5, when the rest of the class was working on lessons 7 and 8. At the end of the course, I was honored by students requesting permission to use my labs for their own courses. The Pace Parking Garage problem is now all over the United States!

In short, I had an enlightening and rewarding summer. ■

REMINDER

Annual Fund Contribution to CSIS

Your annual gift to Pace University can now have a direct and immediate impact on CSIS. Through Pace's designated giving program you can decide to allocate your gift directly to the School of Computer Science and Information Systems Fund.

Your gift will provide unrestricted revenue that allows CSIS to direct funds where they are most needed including faculty research, student scholarships, technology upgrades, and facility improvements.

You can pledge your support or make a credit card gift by phone by calling (212) 346-1693. Be sure to ask that your gift be designated to CSIS.

CSIS Welcomes New Faculty and Staff

Ms. **Jennifer Beall** joins CSIS in the New York City Office as an academic advisor to both undergraduate and graduate students. Prior to that, she worked in the Office of Undergraduate Admission on the downtown campus as an admission counselor. A native of North Carolina, Jennifer relocated to New York from North Carolina last



October. She completed both her B.S. in psychology and her M.S. in counseling at East Carolina University. Before coming to Pace, Jennifer worked as a high school guidance counselor specializing in college counseling at Greene Central High School in Snow Hill, North Carolina. Jennifer brings a diverse background of advising, recruitment, and student advocacy to her new job.

In her spare time, Jennifer enjoys taking trips, attending plays and events, and “exploring all the exciting things this great city has to offer.” Of her position with CSIS, Jennifer remarked that she already finds her new job extremely rewarding. “I am glad to be in an environment that encourages both its staff and its students

to embrace new ideas.” She is excited to be a part of such a creative and innovative school and to be working with faculty and staff that are open to new challenges.

James “Jim” Gabberty comes to CSIS as a Lecturer in the Technology Systems department. Prior to coming to Pace, he spent 20 years working in private industry as a practitioner of applied information systems, most recently as vice president for application development at Computer Horizons, a publicly traded firm specializing in custom software solutions for financial industry applications.

Jim holds a B.S. in mathematics and physics from SUNY – Stony Brook, an M.B.A. from New York Institute of Technology and an M.S. in telecommunications from New York Polytechnic. He is currently pursuing a D.P.S. in business from the



Lubin School of Business which he expects to complete in December. During the course of his doctoral studies, he has published more than 12 articles on subjects ranging from the impact of e-commerce on the financial services industry to the compara-

tive assessments of IT usage by domestic firms operating internationally.

He is especially interested in ICT and its impact on the competitive advantage of multinational corporations. He is also keenly interested in e-commerce, ROI modeling, information econometrics, transglobal data flows, telephony regulation, international trade, e-commerce/m-commerce and their impact on international business.

When asked about becoming a CSIS faculty member, Jim said “Joining the full-time faculty at Pace ranks high on my list of accomplishments. As a former student and now faculty member, I can say with pride that the support Pace provides to both students and faculty alike is world-class. I am very proud to be associated with CSIS and know that the best is yet to come!”

In addition, Jim is fluent in French and is an active member in the Alliance Française. He is also a single dad to seven-year-old Jimmy, Jr.

Dr. Hsui-Lin Winkler has accepted an appointment as an Associate Professor of Information Systems on the New York City campus. She received her Ph.D. in geophysics from the California Institute of Technology in 1983 and returned to Carnegie Mellon a number of years later for a Mas-

ter of Information Systems.

Dr. Winkler spent the early part of her career working as a senior research scientist and more recently as a software engineer.

She contributed to the design and implementation of the Information Integration Management Tool funded, in part, by the National Science Foundation and was a senior



contributor to a Web-enabled Multimedia Integration Tool developed jointly with IBM.

She first taught at Norwalk Community College as an adjunct in fall 2000. The experience was so rewarding that she decided to redirect her career and pursue teaching full time. So far, Pace has not disappointed her. In her words, “I have been very enthusiastic about using Internet technology in education. So when the department chair John Molluzzo first discussed the IS courses with me and introduced me to the campuswide Blackboard technology, I thought that was very impressive. At Pace, we keep up with the pace of IT.”

Her area of expertise includes e-commerce application design, mathematical modeling, information analysis, Web-based software development, and applied information technology to new fields like biometrics and bioinformatics. ■

Faculty Achievements

Dennis Anderson, associate dean, was recently appointed to the Information Systems Audit and Control Association's (USACA) Education Board. The association is a recognized global leader in IT governance, control and assurance.

Joseph Bergin, Computer Science, coauthored "Understanding Object-Oriented Programming," which was published in the June 2002 issue of *ACM SIGPLAN Notices*, a monthly publication of the ACM special interest group on programming languages.

Sung-Hyuk Cha, Computer Science, spoke on the "Use of Distance Measures in Pattern Recognition" at the Korean Advanced Institute of Science and Technology. He also presented "Automatic Detection of Handwriting Forgery," coauthored with Charles Tappert, Computer Science, at the 8th International Workshop on Frontiers in Handwriting Recognition held in Niagara, Canada. The paper was published in the conference *Proceedings*.

Mary Courtney, Computer Science, spent four days in July at an NSF sponsored workshop called "Java: An Eventful Approach" held at Williams College in Williamstown, Massachusetts.

Constantine Coutras, Computer Science, presented a paper titled "Including the Effect of Bit Errors on the Performance of the HIPERLAN CAC Layer Protocol for Asynchronous Traffic" at the International Conference on Wireless Networks — ICWN '02 held in Las Vegas, NV. The paper was published in the conference *Proceedings*.

Jean-Christophe Deprez, Information Systems, successfully defended his doctoral dissertation titled "Identifying Software Functionality Affected by a Change at a Particular Location of Source Code" at the University of Southwestern Louisiana in April.

Dan Farkas, IS chair, received

the Homer and Charles Pace Award in "recognition of the leadership and creativity demonstrated as part of the University Core Curriculum Task Force in the development of a new core curriculum designed to promote active learning, student success and faculty-student interaction" at the University Convocation in October.

Susan Feather, Technology Systems, was included in the 2002 edition of *Who's Who Among America's Teachers*.

Dietrich Fischer, Computer Science, had a very productive summer. He taught a course on "Nonmilitary Aspects of Security" on the Japanese Peaceboat on a voyage from Singapore to Cairo. He also gave three public lectures, on "The War on Terrorism: Current U.S. Strategy and Alternatives," "Farewell to Arms," and "Jokes as a Tool of Conflict Resolution." In addition, he taught a course on "Peace Strategies and Nonmilitary Aspects of Security" at Landegg International University in Wienacht, Switzerland; spoke about "Cooperative Strategies to End Civil Wars, Arms Races and Destruction of the Environment" at the Summer Peace Institute in Cluj, Romania; and participated in a meeting on Peace Business in Altea, Spain. He gave a lecture on "Strengthening the United Nations as a Non-Governmental Organization Partner," at a course on Designing and Implementing Interventions for Global Change, held at the United Nations in New York City.

Ronald Frank, Information Systems, **James Lawler**, Information Systems, and **Pauline Mosley**, Computer Science, were among the first recipients of the Doctor of Professional Studies (D.P.S.) in Computing conferred by the University in June. Dr. Frank wrote his dissertation on "Regular Array Expansions in Null Arrays with Applications," Dr. Lawler's was on "A Study of Customer Loyalty and Privacy on the Web" and Dr. Mosley's was titled "The Cognitive Complexi-

ties Confronting Developers Using Object Technology."

Anthony Joseph, Computer Science, presented a paper titled "Involving a Diverse Student Population in Participatory Learning" at the 2nd Annual Symposium of Teaching and Learning in Higher Education held at the National University of Singapore.

Robert Kline, Computer Science, successfully defended his doctoral dissertation titled "Algorithms for Error-Tolerant Information Retrieval from Music Databases Using Vocal Input" at Rensselaer Polytechnic Institute in June.

Constance Knapp, Information Systems, along with Linda Anstendig of Dyson, will be responsible for planning and leading faculty development activities as the newly appointed codirector of the Pforzheimer Center for Faculty Development.

Charlene Labenda, CLOUT Director, was appointed to the Board of Directors of Helping Out People Everywhere (H.O.P.E.) Inc, a nonprofit organization that assists families in obtaining and maintaining permanent housing and becoming independent of public assistance.

Frank Marchese, Computer Science, presented papers titled "'Op-Glyph' A Tool for Exploring Op Art" at Advanced Visual Interfaces '02 held in Trento, Italy, and "A Stereographic Table for Biomolecular Visualization" at Information Visualization '02 held in London. Both papers will be published in their respective conference *Proceedings*.

Susan Merritt, CSIS Dean, chaired a workshop on "When IT Becomes a Profession" and presented "Industry Expectations of IT" at the Computing Research Association's Biannual Conference of Heads of Doctoral Granting Computer Science Programs held in Snowbird, Utah.

Pauline Mosley, Computer

Science, recently presented "Critical Success Factors in Teaching a Technologically-Enhanced Course" at the Summit Meeting on Making a Difference Through Teacher Education sponsored by Sanford University and held in Birmingham, Alabama.

Narayan Murthy, Computer Science, presented "Use of Applet and Servlet Communication Technique to Administer Online Examinations" and "Implementing an Interdisciplinary Masters Program in Internet Technology and E-Commerce" coauthored with **Dan Farkas**, Information Systems Chair, at the IT Education Conference held in Cork, Ireland.

Bel Raggad, Information Systems, presented "e-Business Content Self-Enrichment Using Data Wrap Analysis" and "Web Content Management Using DEA" at the Optimization Days 2002 Conference held in Montreal.

Over the summer, **Christelle Scharff**, Computer Science, gave a talk on formal methods titled "Formally Correct" at the Institute of Technology of Cambodia in Phnom Penh. She also participated in a working group on "Materials Development in Support of Mathematical Thinking" at the 7th Annual Conference on Innovation and Technology in Computer Education in Aarhus, Denmark, and presented a paper titled "Direct Combination of Completion and Congruence Closure" at the 16th International Workshop on Unification in Copenhagen, Denmark. More recently, she presented "Teaching Discrete Mathematics with SML" at the Conference on Functional and Declarative Programming in Education — FDFE '02 held in Pittsburgh.

Sotirios Skevoullis, Computer Science, presented "Java/Formal Methods" at the European Conference in Object-Oriented Programming '02 held in Malaga, Spain, and "Integrating Formal Methods Tools into the Undergraduate Curriculum" at the 7th Annual Conference on

Prentice Hall First to Respond to CLOUT Request

by Allison Horan, CLOUT Seminar Coordinator

The Computer•Literacy•Opportunity•University•Technology (CLOUT) program, has received a donation of 300 textbooks from Prentice Hall, a leading publisher of academic and reference books. The donation, with a retail value of approximately \$18,000, was Prentice Hall's response to a letter of request sent out by the CLOUT program in early June to over 100 corporations and foundations.

Primarily funded by grants, the CLOUT program is

enhanced by the generosity of small companies, large corporations, and private philanthropists whose contributions make it possible for CLOUT to continue to offer the high-quality, technology-oriented courses necessary to secure employment in today's technology-driven society. The program serves approximately 150 students per year between the White Plains and Midtown Manhattan locations.

"Prentice Hall has astounded us with the speed and attentiveness they have given to CLOUT's

request. This generous donation will provide 150 students with textbooks for two courses. Support such as this equips students with the tools needed to acquire marketable skills for today's workplace," said CLOUT director, Charlene Labenda.

Individuals or corporate representatives interested in providing goods, services or funding to the CLOUT program, should contact Charlene Labenda, CLOUT director, at either (914) 422-4145 or at clabenda@pace.edu. ■

MESSAGE FROM THE DEAN

(continued from page 1)

projects. One such project is the International Space Station's Amateur Telescope (or ISS-AT) which is an astronomical telescope mounted on the international space station, which will be operated by amateur astronomers for the education and benefit of world citizens. Pace students are working on the official Web site for that project.

Doctoral Students

CSIS graduated its first class of doctoral students in spring 2002. The graduates are all IT professionals. Their dissertations span current research issues in computing and in the practice of computing. Their success seems to demonstrate that the plan for our unique Doctor of Professional Studies (D.P.S.) in Computing program not only works, it works in remarkable, unanticipated ways. Community among the students and faculty is very strong, and is characterized by teamwork, mutual support, and synergy in research. The diversity, both gender and ethnic, within the D.P.S. program is rich and exceeds national levels.

You will read that CSIS has established an annual Women in Computing event, which takes place in the spring of each year. The first event occurred last

spring with three distinguished women panelists: Dr. Mary Lynn Manns, University of North Carolina, Dr. Linda Rising, author and consultant, and Dr. Judith Spitz, Verizon, all pioneers in their chosen fields.

Dr. V. Sadagopan, president of Network and Multimedia Services of Scarborough, New York, has generously provided seed money for the formation of a scholarship fund for women and minority students enrolled in the CSIS D.P.S. in computing and other programs.

The success of the annual CSIS Leadership and Service in Technology Event, which occurs each June, has enabled the school to build an endowed scholarship program. In this issue, you will see that this year CSIS has been able to support 15 good students in need as a result of that endowment

Community Outreach

In the aftermath of 9/11, CSIS discovered with sadness the death of one its students, Vanesha Rogers Richards, an energetic and successful Technology Systems student. Vanesha worked for Marsh USA located on the 101st floor of Tower 1 and perished. Vanesha's family, fellow students, friends and faculty, led by Professor Nancy Hale, in honor of Vanesha's memory, established the Vanesha Rogers Richards Foundation to empower individuals by

providing access to information by means of the computer. The first project was to collect used computers, textbooks, and materials, and deliver them to primary schools in the district of Jamaica where Vanesha grew up.

This last May, NACTEL, the online learning program, in collaboration with the major telecommunications companies and unions, graduated its second class with 26 graduates from around the United States. Morton Bahr, the President of Communications Workers of America who was in large part responsible for the development of the NACTEL program, attended the graduation, received an honorary degree, and congratulated the students on their extraordinary achievement.

The CLOUT program celebrated its tenth anniversary graduating some 150 students. Many of these students are continuing into associate degree programs. Graduates of former years are continuing into baccalaureate degree programs. The Department of Social Services in Westchester County provided the graduates with generous checks in acknowledgement of their very fine work.

This only highlights some of the many activities that CSIS students are engaged in. I encourage you to read on.

Innovation and Technology in Computer Education Conference sponsored by the ACM and held in Aarhus, Denmark.

Lixin Tao, Computer Science, presented "Parallel Programming through Application Service Providers" at the IASTED International Conference on Internet and Multimedia Systems and Applications — IMSA 2002 held in Kauai, Hawaii, where he also served as a session chair for "Internet Architecture, Languages and Tools." He published "An Effective Algorithm for Multiway Hypergraph Partitioning" in *IEEE Transactions on Circuits and Systems I: Fundamental Theory and Applications*. In addition, his book chapter titled "Application Service Provider Model: Perspectives and Challenges" appears in *Electronic Business and Education: Recent Advances in Internet Infrastructures* published by Kluwer Academic Publishers.

Charles Tappert, Computer Science, presented "Students Develop Real-World Web and Pervasive Computing Systems" at the 2002 World Conference on E-Learning in Corporate, Government, Healthcare and Higher Education held in Montreal, Canada. The paper will appear in the conference *Proceedings*.

Jennifer Thomas, Information Systems, presented "Smart E-Classrooms, Traditional Classrooms and Critical Thinking" coauthored with **Jean Coppola** (DoIT) and Barbara Thomas (Lienhard) at the 2002 World Conference on E-Learning in Corporate, Government, Healthcare and Higher Education held in Montreal, Canada. The paper was published in the conference *Proceedings*.

Six computer science faculty members, including **Paul Benjamin**, **Michael Gargano**, **Anthony Joseph**, **Narayan Murthy**, **Christelle Scharff** and **Lixin Tao** attended a workshop on "Information Assurance Basics" held at Indiana University of Pennsylvania over the summer. ■

Books, Journals, Articles and Conference Proceedings

Joseph Bergin and R. Winder
“Understanding Object-Oriented Programming,” *ACM SIGPLAN Notices* (June 2002).

Sung-Hyuk Cha and Charles Tappert
“Automatic Detection of Handwriting Forgery,” *Proceedings of the 8th International Workshop on Frontiers in Handwriting Recognition*.

Constantine Coutras
“Including the Effect of Bit Errors on the Performance of the HIPERLAN CAC Layer Protocol for Asynchronous Traffic,” *Proceedings of the International Conference on Wireless Networks —ICWN '02*.

Francis T. Marchese
“Op-Glyph” a Tool for Exploring Op Art,” *Proceedings of Advanced Visual Interfaces '02* (July 2002).
“A Stereographic Table for Biomolecular Visualization,” *Proceedings of Information Visualization '02* (July 2002).

Christelle Scharff
“Direct Combination of Completion and Congruence Closure,” *Proceedings of the 16th International Workshop on Unification* (July 2002).
“Teaching Discrete Mathematics with SML,” *Proceedings of the Conference on Functional and Declarative Programming in Education—FDFE '02* (October 2002).

Lixin Tao
“An Effective Algorithm for Multiway Hypergraph Partitioning,” *IEEE Transactions on Circuits and Systems I: Fundamental Theory and Applications* (August 2002).

“Application Service Provider Model: Perspectives and Challenges,” book chapter in *Electronic Business and Education: Recent Advances in Internet Infrastructures*, Kluwer Academic Publishers (2002).

Charles Tappert
“Students Develop Real-World Web and Pervasive Computing Systems,” *Proceedings of the 2002 World Conference on E-Learning in Corporate, Government, Healthcare and Higher Education* (October 2002).

Jennifer Thomas, Jean Coppola and Barbara Thomas
“Smart E-Classrooms, Traditional Classrooms and Critical Thinking,” *Proceedings of the 2002 World Conference on E-Learning in Corporate, Government, Healthcare and Higher Education* (October 2002).

CSIS TECHNICAL REPORTS

Krystyna T. Baliska, M. L. Gargano, L. V. Quintas, J. Rubens, M. Lewinter, and J. F. Malerba
“The Flavor of Research in Graph Theory: Four Papers at the Leading Edge,” *Technical Report*, No. 179 (July 2002).

Nelson A. Carella
“On the Theory of Integers Factorization,” *Technical Report*, No. 180 (August 2002).

Ronald I. Frank
“The Crypto-Word Game for Learning Number Systems,” *Technical Report*, No. 174 (April 2002).
“Jcreator ‘Just-In-Time’ Tips [A Reference for Jcreator Pro 2.5],” *Technical Report*, No. 181 (September 2002).

Michael L. Gargano, M. R. Gargano and W. Edelson
“The Flavor of Research in Genetic Algorithms: Four Papers on Evolving Solutions,” *Technical Report*, No. 178 (July 2002).

Michael R. Gargano
“Ant Colony Paradigms,” *Technical Report*, No. 177 (June 2002).

Scott Palmer, Nat Panchee, Judy Sullivan, Karen Thabet, and Sten Westgard
“Porting an Application to J2ME, J2SE and J2EE: Experiences with End to End Java Programming,” *Technical Report*, No. 175 (May 2002).

Hy Gia Y. Park, J. M. Pastore, Jr., and C. C. Tappert
“Wireless Technologies in Pre-Hospital Communications: An Analysis for Northern Westchester Hospital,” *Technical Report*, No. 176 (Late May 2002).

Charles C. Tappert
“Students Develop Real-World Computer Information Systems,” *Technical Report*, No. 182 (October 2002).

DOCTORAL DISSERTATIONS

Jean-Christophe Deprez
“Identifying Software Functionality Affected by a Change of a Particular Location of Source Code”
University of Southwestern Louisiana

Ronald Frank
“Regular Array Expansions in Null Arrays with Applications”
Pace University

Richard Kline
“Algorithms for Error-Tolerant Information Retrieval from Music Databases Using Vocal Input”
Rensselaer Polytechnic Institute

James Lawler
“A Study of Customer Loyalty and Privacy on the Web”
Pace University

Pauline Mosley
“The Cognitive Complexities Confronting Developers Using Object Technology”
Pace University

In the News

Susan Merritt, CSIS Dean, appeared on the front page of the *Women's News* Education Issue, which came out in early August. She wrote a feature story on “Women in Computing.”

An article featuring the School of Computer Science and Information System's **CLOUT program** titled “CLOUT Aims to Lift Student Self-Esteem” appeared in the special “A Day in the Life of White Plains” section of the *Journal News* on Tuesday, October 15.

The online **NACTEL program**, which offers telecommunication workers throughout the country an opportunity to earn an associate's degree, was featured in the Higher Education Section August 30, 2002 edition of the *Journal News*. The article was titled “Pace Classes Target Telecom Workers.”

Congratulations Are in Order!

To **Jim Curry** and wife Joan on the birth of their son Aidan Edward who was born on July 25 and weighed in at a healthy 8lbs., 9 oz.

To **Susan Downey** and husband Hugh on the birth of their second grandson, Carson Ruhland.

To **Michael Sidaras** on completion of the M.S. in information systems. His degree was conferred in September.

To **Andrea Taylor** for being honored by the National Council of Negro Women, Brooklyn Section, with the Community Service Award at their 40th anniversary celebration in October.

To **Jennifer White** on her engagement to John Wood. A May wedding is planned ■



Here are some very entertaining, yet highly informative, books of definite interest to all of those in the computing community:

Digital Biology: How Nature Is Transforming Our Technology and Our Lives

—Peter J. Bentley, Simon & Schuster, 2002.

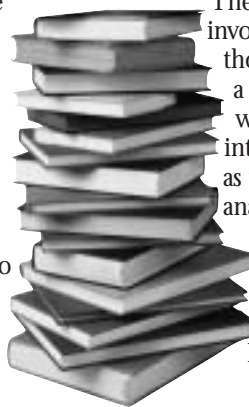
In the digital domain lurking inside our computers lies the potential world of digital biology. By creating diverse universes using computer environments stocked with digital inhabitants (or agents) that follow laws set by software, we are entering a realm of exciting and new computing possibilities. Such agents can be made to evolve, grow, and organize with emergent behavior, such as having the capability to evolve solutions for fraud detection or by creating an immune system to protect computer networks against viruses. Communities of artificial neurons can be taught to find patterns in data warehouses; colonies of ants can be used to optimize solutions to combine hard problems; a matrix of digital cells can be used to simulate the behavior of fire or some biological process. Computers are becoming the laboratories in which to study these new artificial life paradigms. Perchance through these new techniques, computers will act smarter by exploring more creative and

inventive solutions. By reinterpreting and adapting the laws of biology using computer hardware and software we are at a new threshold of what computing can accomplish.

The Laws of the Web: Patterns in the Ecology of Information

—Bernardo A. Huberman, The MIT Press, 2001.

This is a unique, engaging little book that skillfully discusses the surprising laws that emerge from the seemingly random behavior of people using the Web. These unforeseen patterns in the organization of the links and structure of the World Wide Web are methodically and analytically studied using simple language and clear logic. The rapid growth and haphazard structure of the Web and the unpredictable social and economic conventions that have evolved from it belie fascinating, underlying regularities. This book discusses how many of these patterns and laws can be predicted by utilizing well known theoretical models that are derived from sciences like mathematical physics. Surfing patterns of individuals on the WWW follow precise laws that cannot only lead to more pragmatic, productive Web usage today but



also help to plan and design the structure of the WWW for the future. The author also believes that the Web can be thought of as a vast information based laboratory that can be used to quantify human interactions and test new theories of social behavior.

How the Other Half Thinks: Adventures in Reasoning

—Sherman Stein, McGraw Hill, 2001.

This is my personal favorite. Using straightforward, elementary concepts about strings of letters over a finite alphabet, a little common sense, and some imagination, powerful theoretical results are discovered. Eight interesting topics are nicely introduced, beautifully discussed, and applied in areas as varied as computer science, communications, astronomy, sports, and biological cell growth. Each topic is presented in a leisurely and lucid manner as the author ensures that no logical steps are omitted in any of the arguments.

The reader becomes an actively involved participant in the thought process rather than just a mere spectator. This book will satisfy those who are intuitive and creative thinkers as well as those who are more analytical and algorithmic.

I thoroughly enjoyed perusing and learning from each of these books and recommend them highly. Have fun reading! ■

Verizon Exec Honored at NYSE (continued from page 4)

or company that best exemplifies leadership in the field of technology, innovation in the development and application of technology to serve people, and commitment to community service and education.

This annual award reception is the primary fundraiser for CSIS, and all proceeds from the event benefit the CSIS Endowed Scholarship Fund. The Fund is key to making a degree in technology a reality for promising students. Last year, for the first time, the School was able to award 10 students

with scholarship monies distributed from the CSIS Endowed Scholarship Fund.

This year, the Leadership and Service in Technology reception raised over \$127,000, surpassing the fund-raising goal of \$125,000 and making it the highest amount ever generated by the event. This outstanding success is attributed to the hard work of the CSIS Advisory Board and the event's Sponsorship Committee, led by Howard Medow of Modis, Inc., and Cheryl Hardy of CXO

Media, Inc., who served as cochairs. The Committee helped to bring in over 75 individual and corporate sponsors.

We hope to continue to build on the success of this event, which has evolved significantly over the past few years. We look forward to another successful reception in 2003. ■

**LST 2003
Planning for next year's event
is underway. Specifics
will be announced soon.**

CSIS Welcomes Newcomers

CSIS is pleased to welcome those who recently joined us:

Adjunct Faculty

George Baah
James Lee
Computer Science
New York

Samarjit Barman
Information Systems
New York

William Edelson
Barry Jones
Paul Neary
Roli Wendorf
Computer Science
Westchester

Gauri Ghare
Information Systems
Westchester

Teresa Ashley
Judy Chang
Mark Fletcher
Glenn Marchi
Technology Systems

Martina Blackwood
Brian Hale
Navjot Singh
Jacqueline Womack
Cecilia Lok-Man Yang
Lab Instructors

Staff

Robert "Bob" Schwartz
Program Manager
Pace Computer Learning
Center, Midtown

Jennifer Beall
Academic Advisor, New York

Student Aides

Anh Dao,
CSIS Pleasantville

Graduate Assistants

George Baah
CS, New York

Hon "Terry" Kim
Dean's Office

Sandhya Ravi
CS, Westchester

Olefmi Senbore
IS, New York

Sachin Shetty
D.P.S. Program

Pratima Vijayakumar
CIS 101

Alexis Yusov
NACTEL Program

Xuelei "Ray" Zhang
Dean's Office

The CSIS Advisory Board has grown over the last few years and several people have joined as new members. **Henry Marzullo**, a retired patent attorney in Scarsdale, New York, joined us recently in July 2002. Henry's legal expertise and experience with technology patents will be valuable to the Center for Advanced Media (CAM) as well as to other initiatives in CSIS.

In addition to adding Henry to the board in July, eight others joined the advisory board in

2001: **Roger Burkhardt**, chief technology officer and vice president for the New York Stock Exchange; **Charles Costa**, senior vice president and chief information officer for JPMorganChase; **John Danieli**, president and owner of the Computer Merchant, Ltd.; **William Friel**, senior vice president and chief information officer at the Prudential Insurance Company of America; **Michael Gabriel**, senior vice president of information technology and chief information officer of HBO, Inc.; **Dennis Goett**

founder of CrossRoads Strategy Group; **Gary King**, executive vice president for operations and the senior technology executive for Barnes&Noble.com; and **Nancy Turbe**, managing director of Bear, Stearns & Company.

The Advisory Board of CSIS provides a valuable foundation of support, counsel and leadership that is essential to advancing the mission of the School. The Advisory Board works to promote the School's core values, which include excellence in teaching, the integration of theory and

practice, community outreach and service, and attentiveness to professional and social responsibility. As leaders and managers in the industry, members of the Advisory Board advance the historically close partnership between CSIS and the business community while sharing their insights into emerging trends and needs. We welcome our new Advisory Board members and know that they will be fine additions to our group of dedicated professionals. ■

NSF Funds Student Research

(continued from page 1)

supported by the National Science Foundation (NSF). The participating students were: **Igor Diner**, **Hector P. Rodriguez** and **Oleg Yunakov**. Igor, Hector and Oleg spent the summer at the prestigious Argonne National Laboratory (ANL) in Argonne, Illinois, where they pursued research in grid computing as part of a larger national project to create a super distributed computing facility. Grid computing is defined as the process of taking scientific and engineering applications and treating them as distributed objects. The term "distributed objects" describes objects that work together while on different systems. Grid computing connects "far-flung" computers, databases and scientific instruments through the Internet or a virtual private network. The students focused their efforts on three main areas of grid technology: the CoG Kit Web site development, the setup component, and the CoG manual. They attended intensive seminars and worked with some of the top researchers in the field. Dr. Anderson, who initiated the grant proposal for the project and identified the students, also spent time at Argonne supervising the student team along with Dr. Gregor von Laszewski from ANL.

The impressive contributions made by Oleg, Igor and Hector at

ANL have helped to further the development of a powerful computing system. Hector Rodriguez describes this remarkable summer internship as "the best experience I have ever had being able to work with some of the best computer scientists on the newest technology." Igor Diner feels that his experience was "truly rewarding, a step up from theory to practice."

Internet 2 Projects

Three other CSIS undergraduates from the New York City campus received summer internships also funded by NSF to pursue Internet 2-related research at the School's Center for Advanced Media (CAM). They are **Melissa Kemp**, **Jude Ryan Mercado** and **Alex Wong**.

Specific projects included (1) developing a CommonWall system with the intention of creating a virtual informal meeting space and (2) determining the feasibility of Internet-based videoconferencing. Dr. Frank Marchese, CAM's chief scientist, supervised the CommonWall project while Dr. Dennis Anderson, and Jean Coppola of DoIT directed the videoconferencing feasibility study.

Alex Wong led the videoconferencing project, with assistance from Melissa Kemp and Martina

Blackwood, a CSIS graduate assistant. The objective was to develop a videoconferencing application that would take advantage of Internet2's high bandwidth, thereby allowing multiple users to have a meaningful videoconferencing session. Alex Wong feels that "videoconferencing has become a major factor in virtual communication. With Internet 2, the future of videoconferencing is bright and promising."

For the past few months Jude Mercado had been looking into JXTA technology. He familiarized himself with the developing technology and went to work on creating a P2P whiteboard using JXTA. This application allows users to send instant messages and simple sketches. Jude envisions a

promising future for JXTA, "There will be a point in time when everything will be interconnected. This is a prominent goal of project JXTA."

This 14-week internship program provided Melissa, Jude and Alex with the opportunity to pursue high-level research in addition to a generous stipend of \$6,000. The funding was an extension of the \$150,000, two-year NSF grant that was awarded to the University last year for the purpose of bringing Internet 2 connectivity to Pace.

This is the first time CSIS students have had the opportunity to participate in projects of this magnitude. We hope that they will have similar opportunities in summers to come. ■



Internet 2 Project
Top (l-r): Martina Blackwood, CSIS Graduate Assistant; Dean Susan Merritt; Associate Dean Dennis Anderson; Dr. Francis Marchese. Bottom Row (l-r): Alex Wong (BS/CS), Jude Mercado (BA/CS), Melissa Kemp (BA/CS).

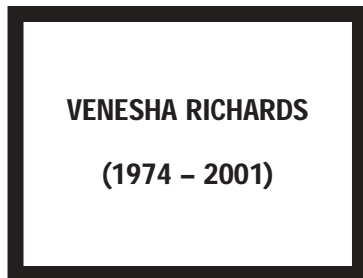
PACE HONORS 9/11 VICTIM

Venesha Rogers Richards was an energetic, intelligent young woman who successfully balanced motherhood, a challenging career and her educational pursuits. She was born to Lelith Bergen in Kingston, Jamaica on November 30, 1974, and was one of five children. She was educated in Jamaica until her family immigrated to New Jersey where she graduated from high school and earned an associate degree from Berkeley College.

Venesha worked as an analyst for Marsh McLean located on the 101st floor of the World Trade Center. In 1996 Venesha decided to continue her education and enrolled as a part-time student at Pace pursuing a Bachelor of Science in Technology Systems offered by the School of Computer Science and Information Systems. Then, in 1998 Venesha married her friend of seven years Hopetan Richards and on October 24, 2000, gave birth to a beautiful daughter, Kayla.

By fall 2001, Venesha had completed 102 credits toward her degree and maintained a 3.45 average. She registered for TS 351

PC Maintenance and Repair, one of the last courses needed for her degree. On September 10, Venesha was the first student to post a "welcome" message on the course discussion board that read "I have saved the best courses for



last. I can't wait to take this course. I look forward to working with all of you." On September 11, 2001, Venesha died.

Venesha's family, fellow students, friends and faculty wanted to do something to honor her memory. With the help of her family, the Venesha Rodgers Richards Foundation was established. The purpose of the Foundation is to empower individuals by providing access to information via the computer. To this end, the first project of the Foundation was to collect used

computers, textbooks and training materials, and deliver them to primary schools in the district of Jamaica where Venesha grew up. AT&T, Gercken Associates, Pace University and numerous individuals donated the used computers. The computers were upgraded and repaired for educational use by Pace students and staff under the direction of Matt Poli, CSIS Director of Networking and IT Support. The computers were transported by the Rotary and Air Jamaica to Montego Bay, Jamaica. The Jamaican Consulate arranged for their delivery to the Ministry of Education.

On August 22, 2002, a group from the Foundation, including Lelith Bergen, Venesha's mother, Ms. Enid Angus from AT&T, Dr. Alfred Johnson from Jon-J, Councilwoman Elsie Foster-Dublin from New Jersey and Chairperson of the Foundation, and Nancy Hale, Technology Systems chair, from Pace traveled to Jamaica to present the computers and materials to the Ministry of Education.

A presentation ceremony was held on the following day sponsored by The Honorable Burchell

Whiteman, Minister of Education, Youth and Culture; Mayor Counselor Hugh Solomon of Montego Bay; and Mr. Jasper Lawrence, Regional Director, Ministry of Education, Youth and Culture. The principals of the primary schools from Barracks Road, Glendevon, Albion, Salt Spring, Bogue Hill, Barrett Town, Somerton, and Waterford were on hand to receive the computers and materials.

The first project was an outstanding success and additional projects are planned for the future. If you are interested in learning more about these efforts, please contact Nancy Hale, nhale@pace.edu ■

IN MEMORIAM
CSIS mourns the loss of Marilyn Mead who passed away on September 9 after a long illness. Marilyn was a member of the D.P.S. Class of '02 and participated in Commencement in May.

CSIS SUPPORTS NINE STUDENTS

Over \$6,000 in School-based scholarship money was awarded to the following first time recipients:

CSIS Endowed Scholarships

Tatyana Kharchevka	MS/IS	New York City
Jeffrey Wheaton	BS/CS	Westchester
Xuelei Zhang	MS/CS	New York City

Lydia Kess Scholarship

Leena Paulose	MS/CS	Westchester
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Continued support totaling \$12,750 went to:

CSIS Endowed Scholarships

Alisa Berdichevskaya	BS/CS	New York City
Christina Clohessy	BS.TCS	Westchester
Carlos Cubas	BS/CS	New York City
James Stempel	BS/CS	Westchester

Frank LoSacco Memorial Scholarship

David Doyle	MS/IS	Westchester
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In addition, 29 undergraduates each received \$3,125 scholarships under the Computer Science, Engineering and Mathematics Scholarship (CSEMS) program sponsored by the National Science Foundation (NSF). The NSF grant was obtained through the efforts of Dr. Dennis Anderson, associate dean. ■

Use Your Computer More Effectively

by Michael S. Sidaras, PC/Network Support Analyst

Using storage.pace.edu to leverage file and graphic sharing in e-mails

E-mail continues to be a popular way to share documents. We have even become accustomed to personalizing our e-mail messages with snazzy graphics. While this is beneficial to our work process, it can also hinder productivity as well. The problem is that we have also become accustomed to saving e-mail messages indefinitely. When we do this with messages that contain graphics and/or files, we can quickly consume large amounts of hard-drive space and network bandwidth. This can cripple the e-mail system, as we have experienced in the recent past. The good news is that we can continue to share files and graphics through e-mail and minimize the problem just by changing the way we work.

First and foremost is to minimize the amount of space you consume on the e-mail server. It

may not seem like 30MB of data is a lot of information to you, but multiply that by 100 users and you suddenly have 3GB of data. We have a lot more than 100 e-mail users at the university. It is not just an issue of hard drive space that we need to be

concerned with here. How about the fact that more than 3GB of information could be shared across the network with multiple users concurrently throughout the day just for e-mail? It takes a lot of network bandwidth to handle e-mail communications.

Secondly, we can change the way we present graphics and files within e-mail. Rather than adding them as attachments, we could insert a hyperlink to the files, which would be stored one time somewhere else, such as in the storage.pace.edu Web server offered by DoIT.

E-mails with attached files, especially graphics, can become quite large. For example, someone could be sending a 20MB PowerPoint file as an attachment to 100 users in the Pace Community alone. Now this 20MB file has to be transferred along the network 100 times through e-mail at the same point in time. Even worse, these recipients will probably save the e-mail in their accounts on the e-mail server for an indefinite amount of time. Now you have 2GB of data storage on the e-mail system for one file attachment to one e-mail message!

Rather than attaching the file or graphic to the e-mail message, it would be better to save one copy of it to a network location, such as storage.pace.edu. Then you can place a link in the e-mail message to the file. Now the e-mail message is closer to 10KB than to 20MB. If all 100 users store this e-mail message on the server, it would consume 1MB of storage space instead of 2GB. It

also cuts down on the amount of network bandwidth being used to deliver the e-mail message to 100 users, thereby increasing speed of the system. The best part about storage.pace.edu is that you can customize each uploaded file with as little or as much security as you want. You can make it available to the entire Internet community, to just a specific user with an account on storage.pace.edu, or somewhere in between.

Such a small change in your working habits will help to improve the efficiency of our e-

mail system. If you are interested, contact DoIT for an account on the storage.pace.edu Web server.



Windows XP timesavers

Many people love keyboard shortcuts, yet not everyone knows about some powerful shortcuts that can be used with your Windows logo key. This section will identify some of these quick hotkeys.

Ever have numerous windows open at any point in time? Ever wanted to get back to the desktop to open another program, but you did not want to close the windows you already have open? I'm sure you have all suffered through clicking the minimize button on each of those 20 windows just to get back to the desktop. Stop doing that! There is a much easier way to get back to the desktop quickly, and it is called the minimize/restore all windows shortcut.

• **Minimize/Restore All Windows:** Windows Key + D toggles between minimize and restore features. Pressing it once will minimize all open windows so that you can get to the desktop. Pressing it again will restore all of them.

• **Run Command:** Windows Key + R brings up the Run box, which allows you to type specific commands that you want to run, such as "command," which opens up a DOS prompt command window. Usually, you would open this window by clicking on the Start button, then selecting Run, but now you can do it even faster.

• **System Properties:** Windows Key + Pause/Break brings up the

System Properties window, which can be very useful in determining settings within your computer. Some of the things you will find here include the operating system being run, the processor and memory installed, other hardware installed and the name of your computer, among other information.

• **Locking the Computer:** Windows Key + L automatically locks your computer when you want to walk away. This feature is commonly accessed with Ctrl+Alt+Del and choosing Lock Computer, but now you can do it more quickly. It is always a good idea to lock your workstation if you are going to be away from it for a while. This is distinctly different from logging off because by locking your workstation, all the programs and files you have open will remain open and ready for use when you log back in. ■



upcoming events

February

12 First Meeting of S.T.E.P. (Students for Technology and Entrepreneurial Pursuits)
Graduate Center - Room 406
5:15 - 8:15 p.m.

March

21 CSIS Faculty Council
White Plains
9:30 a.m. - 3:00 p.m.

April

11 Women in Computing Event
White Plains
1:30 - 4:30 p.m.

May

1 CSIS Faculty Research Day
New York City
9:00 a.m. - 3:00 p.m.