

Spring 2002, Number 14

Click on headline to jump to article.  
Click on last line of article to return to headlines.

3

Reminder:  
CSIS Annual Fund

Verizon Exec  
Lacouture Honored

4

\$850,000  
Sloan Foundation  
Grant Awarded

5

Writing Helps  
Programming

6

Fulbright Scholar  
Trabelsi Hosted

7

10 Years of CLOUT  
Celebrated

8

Pioneering Women  
of Computing  
Recognized

MESSAGE FROM THE DEAN

## Women in Computing: Making Strides

by Dr. Susan M. Merritt



Many of the greatest pioneers in computing were women.

For example, the well-known Dr.

Grace Murray Hopper made significant contributions to the new and emerging field for decades. Another notable woman in computing, IBM Fellow Dr. Frances Allen, is a member of the CSIS Advisory Board (see more inside about Hopper and Allen). The young and vibrant field attracted the creativity, vision and intellectual talent of women and men alike, and appeared to emerge as a field empowered with the giftedness of both. But sadly that has changed.

Last year the number of doctoral graduates in computer science across the United States was about 900. These are the

people who will become the university professors and researchers who forward the boundaries of the field and teach the next generation. The number of those graduates who are women is about 14 or 16 percent, down from an all-time high of 18 percent in 1989. The number of women among master's graduates is 27 percent and of baccalaureate, 20 percent. These numbers represent a significant part of the continuing workforce shortage in information technology. They also represent a loss of talent, perspective and contribution in a critically strategic part of the U.S. economy, society and culture.

On a national level, this shortage of women in computing is being addressed in a variety of ways. In 2001 the Computing Research Association (CRA) published Recruitment and Retention of Women Graduate

Students in Computer Science and Engineering. I was pleased to be a part of the "thinking group" that preceded the publication. It offers strategies for institutions, including building community, offering alternative entrance paths, enabling education along with work and family responsibilities. CRA, which serves the national computing research community, also has a women's research organization called CRA-W, or CRAW.

CSIS does better than the averages. The percentage of women in our doctoral program is 27 percent. In other CSIS programs it is 37 percent, at least 10 percent better than the national average. Because we are leaders in this area, we have begun to assess our success as well as to build upon it in new ways.

Our first initiative was a fall 2001 dinner for all D.P.S. women students and CSIS women faculty.

(continued on page 3)

## Doctoral Program Shows Support for Women

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

As mentioned in the dean's message above, the number of women in this country pursuing doctoral degrees in computer science and information technology consistently lags far behind that of men. In the CSIS Doctor of Professional Studies (D.P.S.) in Computing program, we have been making a deliberate effort to reverse this trend. Although the number of women in the first two D.P.S. classes totals 7 out of 39 or 17 percent, this is impressively large considering that they are all in one program. This year, our third class, the Class of 2004, has 16 students and 8 of them are women. That's a whopping 50 percent! It brings the total number of women enrolled in the entire program to 15, which translates into an exceptionally high 27 percent. This is a milestone we can certainly be proud of, and we will strive to at least maintain and optimistically improve upon.

(continued on page 2)



(left to right first row) Karina Iderandez '04, Jean Barbera '04, Donna Clapsaddle '04, (back row) Clara Chan '04, Cynthia Chan '04, Stella Konstantinon '04, Dr. Mary Courtney, Computer Science,

## Doctoral Program Shows Support for Women

(continued from page 1)

Another goal of the program has been to increase diversity across the entire student body. Among the 15 women in the three D.P.S. classes, almost half are minority members: three are African-American, two are Asian, and one is Hispanic. They were educated at a wide range of institutions, including Pace, New York University, University of Tulsa, Farleigh Dickinson, Dartmouth, Rutgers, and California State. They work full time at organizations, such as MetLife, Fannie Mae, AT&T, NY Housing Authority, Jacobi Medical Center, JPMorgan-Chase, IBM, Becton Dickinson, Misericordia College, and the Hackley School. Although all lead very busy personal and professional

lives, they are still managing to pursue doctoral degrees.

We have been asking ourselves what else can be done here at CSIS to provide additional support to the women currently enrolled in the doctoral program and to increase the number of female applicants in the future? We began last fall by hosting a dinner at the Graduate Center in White Plains for 30 women from both the CSIS faculty and the D.P.S. program. The purpose of the get-together was multifaceted: to hear the students' experiences to date as women in our program; to have the faculty share their personal experiences as women in computing; and to commit to the long-term goal of sharing these experiences with a

broader audience through publications, grants, and other outlets. The real first step, however, was to become better acquainted.

At the dinner hosted by Dean Susan Merritt, the students first introduced themselves and told the group about their professional and academic experiences, what initially brought them to the D.P.S. program, and their experiences to date. The faculty introduced themselves and then spoke briefly about their research interests and their individual experiences in pursuing doctoral education. They promised to be available to the students for help on many levels—to guide their research, to assist with structuring their dissertations and to provide general support during

this uniquely trying experience—and encouraged the students to contact them. E-mail lists were later distributed to facilitate communication.

It was a successful evening that engendered a strong sense of community. One concrete outcome was agreement to plan an event about women in computing, that would include a wider audience. Since then a panel discussion on “Women in Computing: Paths to Doctoral Education, Teaching and Research” has been scheduled for Friday, May 10, 2002, at the Graduate Center in White Plains. Read about it in the article below. ■

## Register Now! Women in Computing: Paths to Doctoral Education, Teaching and Research

The School of Computer Science and Information Systems with its Doctor of Professional Studies in Computing program will hold a panel discussion, “**Women in Computing: Paths to Doctoral Education, Teaching and Research**” on **Friday, May 10**. The program will be held at the Graduate Center in White Plains, from 1:30–4:30 p.m.

A distinguished panel of women in the computing field, led by Dean Susan M. Merritt, will share their experiences in pursuing doctoral education. The panelists will discuss what inspired them to pursue a doctorate, what their individual paths were, and how their experiences can benefit others.

### Guest Panelists

**Dr. Linda Rising** is an independent consultant specializing in patterns and retrospectives. She has published numerous articles and three books: *The Patterns Handbook*, *The Pattern Almanac*, and *Design Patterns for*

*Communications Software*. She is currently working on another book with Mary Lynn Manns, “Introducing Patterns (or any innovation) into Organizations.” She received her Ph.D. from Arizona State University in the area of object-based design metrics. Her background includes university teaching as well as work experience in industry in the areas of telecommunications, avionics, and strategic weapons systems.

**Professor Mary Lynn Manns** is a member of the Department of Management and Accountancy faculty at the University of North Carolina at Asheville where her area of specialty is management information systems. Previously in the Computer Science Department, she has taught courses in various programming languages, research methods, analysis and design, methodologies, microcomputer applications, systems and project management, and object-oriented technology. Mary Lynn is currently working on her Ph.D. at De Montfort University in Leicester, England. The topic of her dissertation is

“Introducing Patterns into Organizations.”

**Dr. Judith Spitz** is the Senior Vice President of Verizon Information Technology Organization and a member of the CSIS Advisory Board. At Verizon, she has responsibility for the design, development, delivery and support for the company's Network Systems and National Operations Systems. She began her corporate career at NYNEX Science & Technology in 1986 as a member of the technical staff in the Speech Technology Group. Before joining the telecommunications company, Judy was a research associate at C.U.N.Y.'s Center for Research in Speech and Hearing Sciences and served as an adjunct professor at Hunter College for six years, teaching courses in acoustic-phonetics, speech science and research methods. Judy holds her Ph.D. from the City University of New York's Graduate Center in Speech and Hearing Sciences.

Please plan to join us on the afternoon of May 10 for this panel discussion and refreshments. There

is no charge to attend, but registration is required. For more information or to register, contact Chris Longo at [clongo@pace.edu](mailto:clongo@pace.edu) or (914) 422-4447, or visit [www.csis.pace.edu/wic2002](http://www.csis.pace.edu/wic2002). ■

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# Verizon Exec Paul Lacouture to Be Honored

by Louise Kleinbaum, Assistant Dean and Director of Communications

The School of Computer Science and Information Systems will honor **Paul Lacouture**, president of the Network Services Group at Verizon Communications,



at the Seventh Annual Award for Leadership and Service in Technology reception. This year's event will be held on June 4 on the floor of the New York Stock Exchange (NYSE).

In light of the events of September 11, it is particularly fitting that Paul Lacouture was selected to be this year's honoree and that the Stock Exchange was offered as the venue. In addition to Lacouture's numerous accomplishments and respected leadership in the communications arena, he was cited in the October 15 issue of *Fortune* for his crucial role in Verizon's herculean effort to restore telephone and data services to lower Manhattan in time for the reopening of the NYSE following the World Trade Center attack. He was quoted as describing the scene as the worst he has ever seen in 29

years in the business. "I've gone into our buildings after fires. I've restored our networks after floods and earthquakes. This was a combination of all those things, times a factor of three or four."

Catherine Kinney, executive vice president of the NYSE and former CSIS Advisory Board Member, and Roger Burkhardt, chief technology officer and a current Advisory Board Member, graciously made the NYSE available for the event for the second time in three years out of appreciation for Lacouture's accomplishments.

The selection of both Paul Lacouture and the NYSE are also of special significance to Pace. Located in lower Manhattan only a few blocks from Ground Zero, the New York City campus suffered substantial fallout following the attack and suspended classes for two weeks, but benefited from the rapid restoration of telephone and Internet service attributed to Lacouture's efforts. The University is actively committed to the rebuilding of New York City and views the upcoming celebration as a sign of strength and renewal.

In his role as President, Network Services Group, Paul Lacouture is responsible for sales and service to wholesale customers as well as network operations, technology, engineering and procurement for Verizon's U.S. wireline network. His group designs, builds, and delivers network solutions—ranging from voice digital phone to high-capac-

ity data services.

Lacouture's background in the communications industry spans 28 years. He began his career at New England Telephone in 1972 where he served in numerous positions of increasing responsibility until he was named vice president of engineering and construction in 1991. He then joined NYNEX in the same capacity and rose to the position of chief technology and engineering officer when NYNEX merged with Bell Atlantic in 1997. Prior to the new Bell Atlantic's merger with GTE, Lacouture was elevated to president of the Network Services Group and currently retains that position with Verizon.

NYC campus benefited by Lacouture's rapid restoration of phone and Internet service after 9/11.

Lacouture graduated with a B.S. in Electrical Engineering from Worcester Polytechnic Institute in 1972. He received an M.B.A. in 1984 from Northeastern University.

In addition, he has been active in numerous community, civic and business organizations, including the Vermont Business Roundtable, the United Way, the Council for Higher Education, and the Advisory Boards of CUNY, Pace

University, and Worcester Polytechnic Institute. He is also on the board of directors of the Roundabout Theatre.

The Award for Leadership and Service in Technology that the honoree is to receive is presented annually to an individual 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.

The event is being organized by the Award for Leadership and Service in Technology Sponsorship Committee, chaired by Howard Medow of Modis, Inc., and Cheryl Hardy of CXO Media, Inc., both members of the CSIS Advisory Board.

The proceeds from each year's reception benefit the CSIS Endowed Scholarship Fund. Scholarship monies generated by the fund were awarded to deserving undergraduate and graduate students for the first time during the current academic year.

All members of the Pace and IT communities are invited to attend. For additional information about the event, please contact Jennifer White, assistant dean for research and external relations, at (212) 346-1689 or [jwhite@pace.edu](mailto:jwhite@pace.edu), or Sue Reeves, assistant director of corporate and foundation relations, at (212) 346-1860 or [sreeves@pace.edu](mailto:sreeves@pace.edu). ■

## Women in Computing

(continued from first page)

Faculty and students shared doctoral experiences and career aspirations.

We are planning a larger event in spring 2002. On May 10, three women will join me on a panel titled "Women in Computing: Paths to Doctoral Education, Teaching and Research." The panelists are Dr. Linda Rising from Arizona State University, Professor Mary Lynn Manns (to be

Dr. Manns by the time of the event) from the University of North Carolina at Asheville and Dr. Judith Spitz from Verizon. The program is open to the University and to the public.

We look forward to making an active contribution to the national effort as we go forward as leaders in the education of all, including appropriate representation of women in computing. ■

## Reminder CSIS Annual Fund

Please note that your Annual Fund gift can now be designated for CSIS.

Total funding that exceeds the School's previous average (based on undesignated alumni/ae gifts) can be used by CSIS for important needs, including student aid, instructional and research equipment, promotional material and publications. Annual Fund gifts designated for specific funds other than "CSIS" cannot be counted toward the CSIS total.

We are counting on our alumni/ae and friends to once again take us "over the top" through their generous support.

# Sloan Foundation Grants \$850,000

by David Sachs, Associate Dean

In December 2001, the Alfred P. Sloan Foundation awarded two grants, totaling \$850,000 to Pace University. The focus of the grants is on rebuilding New York City after the September 11 attack on the World Trade Center.

Money will aid struggling businesses in lower Manhattan through co-op support and enable the development of new online courses.

Part of the grant money, \$350,000, is being used to support 70 Pace University students who will participate in the Cooperative Education Program in spring, summer and fall of 2002. These co-op students will be able to work for small and medium-sized businesses and nonprofit organizations; their salaries will be paid for by the grant.

The remaining grant money,

\$500,000, is enabling the University to develop at least 50 courses online so that they may be taught by September 2002. The grant was awarded to Dr. Susan Merritt and Dr. David Sachs, dean and associate dean of the School of Computer Science and Information Systems, respectively. Dr. Sachs is the principal investigator for the grant. To date, close to 80 courses from the Lubin School of Business, the Dyson College of Arts and Sciences, and the School of Computer Science and Information Systems have been identified for conversion to an online format. Staff members who are affiliated with CSIS and CIT (the University's Center for Instructional Technology), are assisting faculty members in this effort.

By the fall, undergraduates and graduates will have a greatly expanded array of options available to them. Complete information about the online course offerings is located at <http://online.pace.edu>. The Web site is being completely revised in light of the significant

new course offerings. It will provide students with an introduction to online learning, the opportunity to apply online, access to advisors and library services as well as a database driven Web site that will provide complete and up-to-date information.

Initially, there will be a limited range of courses and some certificates available. However, it is anticipated that once these courses are in place, additional course development will continue. In some instances, these additional courses will result in complete degrees being available online.

Enhanced student support services are an important part of successful online instruction. Work in that area is taking place; it is envisioned that students should be able to find all necessary support services online, just as they would find them on campus.

These new Sloan grants are a meaningful way for Pace University to become actively involved in the campaign to rebuild New York City.

The efforts of 70 students in the co-op program should greatly assist some of the many businesses, and organizations that were adversely impacted by the World Trade Center attack. The ability to take courses online should provide Pace University students with many new options for their studies. Not only will students have more flexibility with their schedules, but they will also have more courses to choose from. Having courses online may mean that they can be offered more frequently to students located in both New York City and Westchester. The courses may also appeal to students studying at other universities who were displaced by the events of September 11.

Clearly, putting so many courses online means that many individuals will be working very hard during the months to come. However, all involved seem to be excited at the opportunities that these two grants are affording Pace University faculty and students. ■

## IS Program Seeks Accreditation

by Bernice J. Houle, Assistant Dean and Director of Academic Affairs

The Bachelor of Science in Information Systems Program at Pace University had the distinction of being the first program ever to be reviewed for a new Information Systems Accreditation through the Computing Accreditation Commission (CAC) of the Accreditation Board for Engineering and Technology (ABET). ABET is the primary organization responsible for monitoring, evaluating, and certifying the quality of engineering, engineering technology, and engineering related education in the United States. CAC, responsible for computer science programs and now overseeing the accreditation of information systems programs, currently consists of 171 accredited programs at 164 institutions. The Bachelor of Science in

Computer Science at Pace University has been accredited by CAC/ABET since 1986.

According to ABET, the objectives of program accreditation are to:

- Assure that graduates of an accredited program are adequately prepared to enter and continue the practice of computing
- Stimulate the improvement of computing education
- Encourage new and innovative approaches to computing education and its assessment
- Identify accredited programs to the public

During the spring and summer, Dr. Allen Stix, the CSIS assessment coordinator and a task force con-

sisting of information systems faculty led by Dr. Fran Gustavson prepared an extensive self-study report that included objectives and assessments of the program, statistics and assessments of students, faculty information, curriculum, technology infrastructure, institutional support and financial resources, and program delivery. During the spring, the IS faculty supplied the School with copies of a range of graded student assignments and projects from their courses taught that term. These assignments, along with other supporting documents, were on display for the team to review during the visit.

The Accreditation Team, chaired by Dr. David Feinstein, Dean of the School of Computer and Information Sciences at the University of South Alabama, and

assisted by Dr. Gayle Yaverbaum, School of Business Administration at Penn State and Dr. Robert Zant, Department of Applied Computer Science at Illinois State University, visited the University from Sunday, October 7 through Tuesday, October 9, 2001. In February, the IS Curriculum Committee had an opportunity to respond to a Draft Statement that presented the findings of the evaluation.

The Draft Statement with the response from the IS Department along with the recommendation from the team chair will be voted upon by CAC and forwarded to ABET for a final statement at the July 2002 CAC Annual Meeting.

It is anticipated that for at least a year, the B.S. in information systems offered through CSIS will be the first and only accredited program of its kind in the country. ■

# Faculty Member Poses the Question: Does Writing Enhance Programming?

by Pauline Mosley, Lecturer, CSIS

When Dean Dennis Anderson and my department chair, Dr. Paul Benjamin, inquired about my interest in becoming a member of the Writing-Enhanced Course (WEC) pilot program and suggested that I work on CS 122 Computer Programming II, I was very, very skeptical. This course, a second semester programming course, requires students to look at problem spaces and design solutions based on entirely different frames of reference using abstract concepts. I wondered, would including writing help or hinder these objectives? However, since I am always searching for new and innovative pedagogical strategies that present programming effectively, I decided to join the pilot program. Thus began my challenging journey of incorporating writing into a programming course.

My first challenge was selecting several appropriate writing assignments for the course that would not only satisfy the WEC initiatives, but would also be meaningful to the students. I did not want to hear students tell me that “this is not an English class.” Therefore, the assignment I chose had to be relevant to the course while improving students’ technical writing skills. The writing assignment selection process involved not only meeting with Dr. Shannon Young, my writing consultant from Dyson, but with other faculty within the pilot program, as well. This proved to be most fruitful because we were able to share experiences of how we obtained the “ideal” writing assignments for our courses.

We chose two “formal” and one “informal” writing assignment to be included in the course. The two formal writing assignments consisted of producing a technical manual and a well-documented program accompanied with a program design sheet.

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“Selecting appropriate writing assignments was key. I did not want students to tell me, ‘This is not an English class.’”

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These assignments gave students the opportunity to document a program design, prepare code with comments, and create a user’s guide. In the Programming Project assignment, students apply course concepts, performing all the steps necessary for developing a working graphical user interface. Through writing, computer science majors achieve a better understanding of problem solving, improve their technical writing skills, enhance their analytical ability, and develop programming skills in a simulated environment.

The informal writing assignment consisted of each group submitting a weekly progress report as well as using Course Info to post questions, meetings, or anything relating to the project. The use of technology promoted an active learning environment enabling students to share ideas freely as well as fostering collaborative efforts between students.

My next challenge was presenting the assignments to the class. I felt that if the students understood the importance of writing and its pragmatic value they would embrace it. So, I asked my class a significant question: How many of them had tried to read a technical manual and couldn’t follow the instructions? Many of the students nodded their heads in agreement. Several wanted to tell me their stories of frustration. I proceeded to talk about the importance of good

technical writing and discussed the assignment, which was then well received.

Shannon suggested that students be given a “model” technical manual depicting good wording, spelling, punctuation, and clear directions on how to utilize the program. Because a majority of the students had little experience with this type of writing, she also suggested that the technical manual go through a series of revisions and a peer review process before grading the final product.

The ability to comprehend program code is a vital cognitive skill in programming, and program maintenance depends, in part, on comprehension. Therefore, assimilating writing into this cognitive process was challenging; however, the benefits were numerous. Shannon and I were able to develop writing projects of appropriate scope and complexity and methods to assess their effectiveness for a computer science curriculum, without sacrificing content. I found that the writing component complemented the course and that the students’ programs were better structured and formulated than they were in those courses where writing was not emphasized.

Many technical professionals struggle with conveying technical concepts simply. The pedagogical benefit of the use of writing exists for students of all learning styles and programming levels. Regardless of how well or how poorly a student programs, the ability to communicate what one’s program does is a vital skill for all students. One student enthusiastically told me, “Professor Mosley, I am going to take my technical manual with me on my job interview!” As a professor, this has been a wonderful learning experience, and I intend to utilize writing exercises again in my future programming courses. The answer to the question posed is a resounding “Yes”! ■



**Pauline Mosley**

is an African-American woman who teaches for both the Computer Science and Information Systems departments. She shared her professional experience with developing a Writing-Enhanced Course by presenting “A Computer Science Professor’s Perspective on the WEC Program” at the Fifth Writing Across the Curriculum Conference on Writing, Teaching and Learning in New Contexts held at Indiana University last June. She has led a workshop on “Writing Becomes Teaching in Programming” at the 21st Annual Lilly Conference on Teaching held in Miami, OH and has also co-authored “Writing, Thinking, and Learning in the Disciplines: Developing a Writing-Enhanced Course Program,” which will appear in the *WAC Journal* published by Plymouth State College in New Hampshire. She is currently a doctoral candidate in Pace’s Doctor of Professional Studies (D.P.S.) in Computing program and is writing her dissertation on “Effective Programming and Concept Progression—Activities by Novice 0-0 Programmers.” She expects to receive her degree in June.

# CSIS Hosts Fulbright Scholar Dr. Zouheir Trabelsi

by Tricia Brogan, Academic Advisor, Westchester



Dr. Trabelsi recently had the opportunity to speak with Zouheir Trabelsi, a Fulbright recipient who is at Pace this year as a Visiting

Scholar. Dr. Trabelsi was born in Tunisia where he received both his undergraduate and graduate degrees. Shortly after completing his master's in computer science, Zouheir was offered a scholarship by the Japanese government to pursue his Ph.D. in Japan. During his first six months in Japan, Zouheir concentrated solely on learning the Japanese language. He then took a year as a research student studying user interface design and computer security. Upon completion of his research, he began his doctoral studies in computer science, which he completed three years later. He then went to work for Hitachi Central

Research Laboratory in Tokyo as a CS researcher. After four years there, Zouheir returned to his home country where he joined the Tunisian Internet agency as vice president of technical management, responsible for computer security.

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**"The need was urgent to help developing countries defend their networks and information systems."**

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In September 2000, Zouheir contacted Dr. Raggad to write a joint grant for a possible Fulbright Scholarship at Pace University on adapting Intrusion Detection Systems for use in developing countries. Currently, these systems are very expensive and not

designed to solve network security problems in a developing country like Tunisia. According to Zouheir, "The need was urgent to start working on such a project to help developing countries defend their networks and information systems."

Dr. Trabelsi came to Pace in November 2001 with the intention of developing a cost-effective Intrusion Detection System for developing countries. This system will be designed to detect malicious activities on computer networks and help prevent hackers from accessing confidential information from such networks. This research will be completed in four phases. The first phase is the discovery phase. As Zouheir explains, "This phase is the most important one and is intended to study a country's vulnerability using tools that are only easily available in the United States." Drs. Trabelsi and Raggad will try to identify cost-effective ways to protect

developing countries from cyber terrorism. The three other phases consist of design, evaluation, and implementation of the system. Once these four phases of research are completed, Zouheir will prepare a report and publish a paper titled "Cost Effective IDS for Developing Countries." This research will also be included as a chapter in Dr. Raggad's book on cyber terrorism.

Zouheir intends to complete his research by the end of July and then return to Tunisia where he will present it. The research done here in the States will provide opportunities for advancement in his home country. Zouheir has yet to decide if he would like to stay in Tunisia or ultimately return to this country. He said, "If given the opportunity to return to the USA again for a position, I would strongly consider it." ■

## Security, the Focus of New Offerings

by Babette Kronstadt, Director, Pace Computer Learning Center

The Pace Computer Learning Center (PCLC) is expanding CSIS initiatives in the area of computer and network security. This spring, the Center is scheduling a range of new offerings, including free seminars, hands-on workshops for end-users and technical two- to five-day workshops for IT professionals. A longer certificate program is also under consideration.

PCLC is beginning its initiatives with a free breakfast seminar titled "Protecting Your Network," to be held at the Midtown Center on April 19. Eric Cole, a student in the Doctor of Professional Studies (D.P.S.) in Computing program at Pace and the author of *Hackers Beware*, will be the guest speaker.

Eric will raise questions and provide answers in this security overview. He will address the issues of intrusion detection, how hackers grab passwords and hijack information from servers and clients, denial of service attacks, Trojan horses, viruses, worms, holes in widely deployed software, and what can be done to defend the integrity and privacy of your data. Some hands-on demonstrations should enhance the session.

Beginning in May, the PCLC will also offer Essentials of Computer Security, a one-day, hands-on overview to help participants understand how every computer user is at risk from hard-to-detect covert attacks. It will show participants how to keep

data and personal information safe; illustrate weak spots or holes in Internet connections, instant messaging systems, graphics captures and e-mail systems; and provide information about virus scanners, firewall and e-mail protection.

Technical workshops for IT professionals are in the planning stage. They will focus on the types of risks to network security and will provide information and lab experiences on protecting Unix and Windows networks from intrusion. These two- to five-day seminars will include topics on networking basics, types of attacks and vulnerabilities, encryption and authentication, firewalls and issues specific to the Windows and Unix platforms.



We hope that these activities will complement CSIS's credit-bearing endeavors to make Pace a local leader in computer security education and training. ■

# 10 Years of CLOUT Celebrated

by Allison Horan, Seminar Coordinator, CLOUT Program

In 1991, Pace University's School of Computer Science and Information Systems partnered with the Westchester County Department of Social Services (DSS) to offer an Associate in Science in Office Technology to qualified AFDC (Aid to Families with Dependent Children) recipients. This unique collaboration resulted in the creation of CLOUT (Computers•Literacy•Opportunity•University•Technology). Since the implementation of the program, CLOUT has expanded and changed to meet the needs of its target population and funding partners. Currently, CLOUT offers four programs between two campuses, three at the Graduate Center in White Plains and one at the Midtown Center in Manhattan. Now, ten years and over 400 graduates later, the CLOUT Program continues to provide its students, mostly women, with high-quality technology-oriented education, and training and support services necessary to secure and maintain meaningful employment.

On December 18, 2001, CLOUT graduated 52 students who received either an 18-credit Personal Computer Applications

for the Workplace Professional Certificate or an Associate in Science in Applied Information Technology at the Closing Ceremony. The students enter the program with varied degrees of education, ranging from those who have not yet earned a high school diploma or equivalent to those with some college. Yet, all students in the program have a common goal—obtaining skills that will enable them to find full-time employment and to become self-sufficient. In her opening remarks at the Closing Ceremony, CLOUT Director, Charlene Labenda, said, "Whether they enter the program never having touched a mouse or with limited computer knowledge, each graduate leaves Pace University with a well-developed set of marketable skills." These skills have resulted in a nearly 85 percent employment rate for graduates in organizations, such as the Westchester County Association, Morgan Stanley, the Yonkers Community Action Program, Sony Music, and Cambridge University Press.

Kevin Mahon, Commissioner of DSS, joined the students and other notable guests including Provost and Executive Vice President for Academic Affairs

Marilyn Jaffe-Ruiz, Senator Suzi Oppenheimer, Assemblywoman Amy Paulin, White Plains Mayor Joseph Delfino, and Legislator Lois Bronz, along with former graduates from CLOUT. For the first time since the program's inception, Commissioner Mahon presented graduates with cash awards from DSS. Certificate graduates received \$250, and Associate degree graduates received \$500.

Susan Contreras, a member of the first class to graduate from CLOUT, also spoke at the ceremony. She said, "Graduates, I want you to know that many doors will open for you when you are finished here. Then, a whole new world begins. One that will make you proud of yourself, as I am of myself." Susan is currently employed at the Westchester County District Attorney's Office. She is one of the many successful CLOUT graduates who have developed, along with technological skills, a stronger sense of self-worth and confidence than she had before.

The personal growth of the students is encouraged and cultivated through both education and personal exploration. Along with traditional training and credit-bearing courses, support services

and supplemental seminars are incorporated into the program. Through these resources, students come to realize their strengths and weaknesses. This benefits not only the students, but also their families. Often, students remark how their educational endeavors not only provide their children with a stronger sense of the value of education, but also positive behaviors and attitudes to model themselves after. This is a testament to the far-reaching effect of the CLOUT Program.

Above all, the program provides students with the one thing they desire above all else: power. In a speech to her fellow graduates, Anita Bell-Brown said, "For the first time in my life, I am independent, not dependent. I am sure of myself, instead of questioning everything I say and do, and I can negotiate for what I want, instead of accepting what someone wants to give me."

All of those associated with CLOUT over the years are proud that they have contributed to the empowerment of so many who, at one time, thought that their future and the future of their children was inevitably bleak. ■

## Not-for-Profit Technology Forum Held at Pace

by Sylvia Russakoff, Associate Director, Pace Computer Learning Center

Babette Kronstadt and Sylvia Russakoff, of the Pace Computer Learning Center and the Technology Center for Education and Community Empowerment, participated in the first "Westchester Not-for-Profit Technology Forum" on March 20 at the Graduate Center in White Plains. The forum was sponsored by the United Way/Pace University Not-for-Profit Management Center and the Pace University Center for Community Outreach, and was attended by 60 participants who represented not-for-profit organi-

zations in Westchester, Rockland and Putnam counties, encompassing the social service, arts and culture, and health sectors.

Ms. Kronstadt participated in the plenary session that opened the forum, presenting the "Local Landscape of Not-for-Profits and Technology." The information in her presentation was drawn from a survey conducted last year by the Technology Center, and funded by a grant from Texaco, Inc. Later in the forum, she and Sylvia Russakoff presented a workshop on Training Directions: Needs and Solutions with Mary Ann Luna

of United Way. Other workshops covered such topics as Tools for the Accidental Techie, Using Technology in Everyday Activities, and Funders Perspective on Technology Grants.

The forum planners understood and responded to a significant problem in Westchester as organizations in the not-for-profit arena attempt to utilize technology effectively in spite of limited budgets and overburdened staff. Participants welcomed the forum and requested additional workshops in technology and technology management, tools for

communicating and sharing ideas with each other, and ways to locate the resources they need. In addition, representatives of a number of local not-for-profits expressed interest in taking leadership roles in developing strategies to address the technology needs of the not-for-profit community. The Technology Center looks forward to working with the United Way, other groups at Pace, and local not-for-profit agencies in a collaborative effort to address these problems. ■

# Pioneering Women



## Ada Byron King, Countess of Lovelace

(1815-1852)

Ada Byron King, daughter of Lord Byron, the poet, and a brilliant mathematician in her own right, is credited with writing the first computer program for Charles Babbage's "analytical engine." ADA, a programming language used for software development, was created by the U.S. Department of Defense and named in her honor.

## Edith Clarke

(1883-1959)

Edith Clarke, the first woman to ever receive an M.Sc. in electrical engineering from the Massachusetts Institute of Technology, was a pioneer for women in both engineering and computing. She trained and directed a group of *computors* (skilled mathematicians) for AT&T; filed a patent for a "graphical calculator" while working for GE; and was the first female professor of electrical engineering at the University of Texas, Austin. A *New York Times* article printed in February 1956 said, "She believes that women may help solve today's critical need for technical manpower."

## Rósa Péter

(1905-1977)

Rósa Péter, a professor of mathematics in Budapest, Hungary, was a leading contributor to the theory of recursive functions. Her book *Recursive Functions* (1951) became the standard reference in the field. From the mid-fifties on, she applied function theory to computers, which culminated in her final publication *Recursive Functions in Computer Theory* (1976).

## Alexandra Illmer Forsythe

(1918-1980)

Alexandra Illmer Forsythe is credited with writing the first computer science textbook—*Computer Science: A First Course*—in the late 1960s. After that she co-authored a series of other widely used texts in the field published by Wiley & Sons and Academic Press.

## Grace Murray Hopper

(1906-1992)

Grace Hopper, the first woman to earn a Ph.D. in mathematics from Yale, left a teaching position at Vassar to join the U.S. Naval Reserve in December 1943. She remained in the Naval Reserve for 43 years, being recalled after her initial retirement in 1966 because the Navy determined that "her services would be needed indefinitely." She was ultimately promoted to rear admiral in 1985.



It was in the Navy that she became the first modern-day computer programmer working on the Mark I machine. In 1949, while released from active duty, she joined the Philadelphia-based company that eventually became Sperry Rand where she designed the first commercial large-scale electronic computer called UNIVAC I. She later revolutionized the practice of programming by developing COBOL (common business-oriented language), which

enabled programmers to work with words rather than numbers. She is also credited with coining the term "bug" when she traced the cause of a computer malfunction to a moth trapped in the hardware. Since then, a computer problem is referred to as a bug.

The Navy named its combined data processing, training and telecommunications facility in San Diego, CA, the Grace Murray Hopper Service Center in her honor as did Brewster Academy in Wolfeboro, NH, where the Grace Murray Hopper Center for Computer Learning stands. She also earned numerous honorary degrees and awards during her lifetime including the [Wo]Man of the Year award from the Data Processing Management Association (DPMA) in 1969 and the National Medal of Technology in 1990. The U.S. Navy even named a ship in her honor—the USS Grace Hopper. Grace Hopper was ultimately laid to rest with full military honors in Arlington National Cemetery.

# of Computing

## Frances Allen

Fran Allen, at the age of 24, was charged with the daunting responsibility of teaching FORTRAN, a newly developed high-level programming language, to IBM programmers steeped in assembly language and succeeded. She then went on to write software for the National Security Agency's Harvest super-computer, a machine used for communications surveillance and code breaking during the Cold War, and later became widely recognized for her innovative work in compiler optimization. Recently, she has been working on IBM's Blue Gene supercomputer on a cutting-edge project in computational biology involving the basic life process of protein folding. Fran Allen has the rare distinction of being named an IBM Research Fellow. She has also been named a fellow to numerous prestigious professional organizations, including the National Academy of Engineers, the American Academy of Arts and Sciences, the Association of Computing Machinery and the Institute of Electronics and Electrical Engineers, and serves on the National Computer Research Association Advisory Board.



## Susan M. Merritt

Susan M. Merritt was the first woman in the United States to be appointed dean of a school of computing. She has been Dean of the School of Computer Science and Information Systems at Pace University since its inception in 1983.

## Female "Computers" and Other Notables

Numerous female mathematicians were employed as "computers" by the University of Pennsylvania's Moore School of Engineering during World War II to calculate firing and bombing trajectories for the military. The effort was so time-consuming—requiring 30–40 hours of working with paper and a calculator to compute just one trajectory—that the need for a faster means of computation prompted the development of ENIAC, the world's first electronic digital computer. These female mathematicians whose ranks included **Alice Burks** and **Kathleen McNulty** were called "computers" because not only did they do the necessary arithmetic, they also made decisions on what to do next based on the results of their computations. Kay McNulty was quoted as saying "ENIAC made me, one of the first 'computers,' obsolete." Most of the original "computers" went on to program ENIAC and **Adele Goldstine**, made a significant contribution by writing *Manual for the ENIAC*, the original technical description of a very complex machine. Other leading lights in the computing arena are **Jean Elaine Sammet** (IBM) known for her pioneering work in programming languages; **Dorothy Denning** (Georgetown University) for her work in information and computer security and **Mary Shaw** (Carnegie Mellon) for her contributions in software engineering.

## Evelyn Boyd Granville

Evelyn Boyd Granville was one of the first African American women to earn a Ph.D. in mathematics (Yale '49). During the course of her career, she developed computer programs that were used for trajectory analysis in the Mercury Project that sent the first manned mission into space and for the Apollo Project that sent U.S. astronauts to the moon.

## Erna Schneider Hoover

Erna Schneider Hoover received her Ph.D. in philosophy and the foundations of mathematics from Yale. After teaching at Swarthmore for a number of years, she joined Bell Labs where she distinguished herself by developing a computerized switching system for monitoring telephone call traffic thereby replacing outdated hard-wired mechanical equipment. She received one of the first software patents ever issued for her creation. Erna Hoover was also the first female supervisor of a technical department at Bell Labs.



## Faculty & Staff Recognized

During Employee Recognition Week, CSIS staff and faculty walked away with the lion's share of Outstanding Achievement Awards in nearly every category. These awards, which are presented at the holiday parties on each campus every December, are given to those whose commitment to the values and goals of Pace Quality has enhanced the University's learning and working environment.

This year's CSIS awardees include:

### Change Agents CLOUT TEAM

Charlene Labenda, Director  
Lynne Larkin, Program Administrator  
Christina Pocchiarri Marie Iadavaia  
Faith Faulk Erin Rein  
Helena Guerin Lizzette Rodriguez  
Linda Hand

### Innovation and Teamwork NACTEL TEAM

Nancy L.Hale, Co-Director  
David Sachs, Co-Director  
Tricia Ahern Paulette Muller-Girard  
Bernice Houle Matthew Poli  
Fred Dreyfus Alex Skiadas  
Darshan Desai Lisa Slingerland  
Brent Ferguson Nancy Treuer  
Shreenanth Laxman Nancy Uhl  
Tom Lombardi

### Leadership

Bernice Houle, Assistant Dean and Director of Academic Affairs Pleasantville  
Matthew Poli Director, Networking and IT Support White Plains

### Teamwork

Susan Downey, Budget Director

In addition, a team of dedicated faculty was awarded the University Award for Distinguished Faculty Service in recognition of their contributions to the development and implementation of the innovative Doctor of Professional Studies (D.P.S.) in Computing program first offered in 1999. The award was presented on the New York City campus.

### Team members include:

Joseph Bergin, Allen Stix, Howard Blum  
Charles Tappert, Fred Grossman,  
Stuart Varden

Also recognized annually at the holiday parties are those employees who have reached five-year milestones in their service to the University. CSIS employees recognized this year include:

### 5 years

Susan Feather, Fran O'Gara Schwartz,  
Bel Raggad

### 15 years

Ronald Frank, Babette Kronstadt, Carol Wolf

### 20 years

Howard Blum, Stephen Choolfaian,  
Joseph Malerba

### 30 years

Frances Gustavson, Richard Scorce

With the unprecedented growth that CSIS has experienced over the past few years, the School could not have emerged as strong as it is today without the leadership, creativity, teamwork, and stability of its committed faculty and staff. Thanks to all!

## E-Teams Explore Pervasive Computing

by Sten Westgard, CS Graduate Student

During the last two decades, the PC has become a fixture on desktops around the world, but in the decades ahead, computers will move off the desktop and into homes, cars, phones, appliances, clothing—even into the human body. As devices become smaller, more powerful, and more connected, computers will be everywhere, and networking and wireless technologies will enable them to be unobtrusively and continuously connected to the Internet. Much as the PC changed the world in the 1980s and 1990s, pervasive computing will have a profound impact not only on how business is done, but also on how life is lived in the twenty-first century.

This semester, Dr. Charles Tappert, Computer Science, is teaching a new course in Westchester—CS 631Q Special Topics: Pervasive Computing—to prepare CS graduate students for this new world. The pervasive computing course places students in E(ntrepreneurship)-Teams to design and build innovative real-world information systems. The goal of each of these teams is to demonstrate the feasibility of potential commercial products.

Twenty students in six teams tackled such projects as: an integrated voice-, face-, and signature-recognition system; an automated system to evaluate, grade, and value rare coins; a wearable clinical device that can wirelessly report a patient's vital signs; an application development system for both Voice XML and InkXML; a wireless information system to allow better data communication between ambulances and emergency rooms; and a wireless handheld information system for nurses. Each of these projects required students to investigate, learn, and program in new languages using new technologies. Students worked closely with mentors and clients to develop the requirements and specifications for their projects, and reported their progress to the entire class as the semester progressed. In addition to the creation of prototypes, students will present findings at the MASPLAS (Mid-Atlantic Student Workshop on Programming Languages and Systems) conference on April 19.

In addition to the strong focus on practical programming experience, the pervasive computing course included a number of cross-disciplinary guest speakers. Faculty such as Dr. Joseph Pastore (Lubin School of Business) and Professor Barbara Thomas (Lienhard School of Nursing) as well as Professor Jean Coppola (DoIT), Dr. Sung-Hyuk Cha (CSIS), and Dr. Zouheir Trabelsi, a visiting Fulbright Scholar from CSIS, not only added their unique advice and experience, but also served as consultants to students on the development of their prototypes.

As innovative as the subject matter is, the pervasive computing course provides students the equivalent of a real-world internship, a business and entrepreneurial workshop, and a traditional computer science course. Hopefully, future offerings of this course will include projects on Internet 2 applications, wearable computer devices, and more. ■



## CSIS Welcomes New Arrivals

CSIS is pleased to welcome those who recently joined our ranks:

### Administration

Director of Administrative Systems,  
James Curry, Jr.  
Assistant Dean for Research and  
External Relations, Jennifer White, Ph.D.

### Full-Time Faculty (New York City)

James Lawler IS Cynthia Moody TS

### Adjunct Faculty (New York City)

Joel Lanz IS Arthur Phidd IS  
Cathy Zura CS

### Adjunct Faculty (Westchester)

Paul Anavian CS Walter Faulk CS  
Rayal Johnson CS Jennie Lyons IS  
Joseph Milukas CS  
Christopher Tompkins TS

### Staff (Westchester)

Program Support and Web Programmer,  
Darshan Desai (part-time)  
Staff Assistant, Dean's Office,  
Greni Francisco  
Seminar Coordinator CLOUT Program,  
Allison Horan  
Web Programmer,  
Shreenath Laxman (part-time)  
Staff Assistant to the Budget Director,  
Bernice Tracey

### Staff (New York City)

Administrative Assistant,  
Soo Whan Lee

### Student Aide (Westchester)

Ann Geeverghese CSIS Pleasantville

### Student Aides (New York City)

Aaron Labiaga CSIS  
Ilyas Pinkhasov CSIS  
Sarah Sweeney CSIS

### Graduate Assistants (Westchester)

Christine Fang PCLC  
Vinay Gaonkar NACTEL  
Eric Heinen Sloan Grant  
Jennifer Lawler Sloan Grant  
Vikas Srivastava NACTEL

### Graduate Assistants (New York City)

Hui Chen CS  
Kushan Maskey CS  
Yi Pan CAM  
Phanisree Ravi CS  
Sawipa Sakulchareon CS  
Caroline Wainaina TS

### ...and Regrets Departures.

The following long-term CSIS employees have left the University: Dr. Jeanine Meyers, formerly of the information systems department in New York City, has joined the faculty of SUNY-Purchase.

Ken Norz, former assistant dean for academic systems in New York City, has assumed the position of director of academic affairs for curriculum at New York Law School in Manhattan. Sue Montanti, former office assistant in the Dean's office, currently holds part-time employment at AIG.

# CAM Holds First Research Day

by Dr. Frank Marchese, Chief Scientist

The Center for Advanced Media (CAM) held its first research day on March 1, 2002, at the Chemists Club in midtown Manhattan. Pace faculty, alumni, doctoral students, members of the CAM Steering Committee, and CSIS Advisory Board were on hand for presentations by CAM members on topics encompassing pervasive computing, image understanding, and Web-based education.

Dr. Richard Velayo of Pace's Psychology department led off the presentations with his research on students' use of the Blackboard system, an online tool for distance learning. Dr. Sung-Hyuk Cha followed with his research on a new pattern recognition method for comparing images that can be applied to the automated screening



CAM Research Day Participants (left to right): Dr. Sung-Hyuk Cha, Dr. Charles Tappert, Dr. Frank Marchese (CAM Chief Scientist), Dr. Susan Merritt (CSIS Dean), Dr. Richard Velayo and Dr. Dennis Anderson (CSIS Associate Dean).

of histological pathologies. Dr. Charles Tappert was the final speaker. He reviewed the work of his pervasive computing laboratory, and demonstrated how an individual could update the contents of a

database by telephoning into a voice activated XML application.

Dr. Frank Marchese, CAM's chief scientist, presented a brief history of the Center. During his talk, he outlined the process by

which the National Science Foundation Internet 2 grant will bring high speed Internet access to Pace by the end of the spring semester. He also discussed the two CAM research projects that are the foundation of the NSF grant: Common Wall and the Collaborative Virtual Reality Desk. More information about these projects may be found at the CAM Web site (<http://csis.pace.edu/~cam>).

Finally, Dr. Marchese talked about the future home of CAM at 163 William Street where there are plans to construct a large-screen projection wall for viewing computer-supported artwork. The Center will use this as one tool in its collaborations with computer artists inside and outside the Pace community. ■

# President Caputo and Provost Jaffe-Ruiz Attend CSIS Presentation

by Bernice Houle, Assistant Dean and Director of Academic Affairs

The School of Computer Science and Information Systems hosted President Caputo and Provost Jaffe-Ruiz for two days of information sharing, demonstrations, and faculty-student collaborative presentations. The visit was held on December 17-18, 2001.

Over 25 CSIS faculty, staff, and students, in addition to our two guests, were in attendance each day. The program began with a few remarks from Ms. Martina Blackwood (BS/CS '01), a graduate student pursuing an M.S. in telecommunications. Dean Susan Merritt, who welcomed everyone and provided an overview of CSIS, followed her. Dr. Allen Stix gave an informative summary of the extensive assessment procedures in place throughout CSIS, and Director Babette Kronstadt outlined a brief history and timeline of the Pace Computer Learning

Center and how it evolved from initially offering on-site PC training to IBM employees in 1984 to having taught over 14,000 students and 2,600 public class days since 1993.

The next four presentations focused on the classroom experience and innovative student involvement. Professor Kitty Daniels spoke about the Computers for Human Empowerment course and the wonderful service learning component that students experience as part of the course; Dr. Susan Feather spoke about the Group Support Systems software and the research that students performed and presented to visiting prospective students and their families; the focus of the presentation made by Dr. Jennifer Thomas was research and innovation using various teaching methods and technological tools in the classroom; and Professor Pauline Mosley spoke

eloquently about the use of writing in teaching a beginning programming course.

Additional faculty, students and advisory board members joined in for lunch in the Schimmel Lobby prior to the last presentation of the day, an interactive demonstration of a research project by Dr. Frank Marchese, Chief Scientist of the Center for Advanced Media.

On the second day of the President's visit, which took place at the Graduate Center in White Plains, the focus was more on special programs. Director Charlene Labenda and two students gave moving presentations about the CLOUT program; Professor Nancy Hale and Dr. David Sachs spoke about the online NACTEL program; Drs. Fred Grossman and Chuck Tappert, along with a few doctoral students, gave an overview of the D.P.S. program; and Dr. Tappert gave a demonstration of a Voice XML project that he and

several students were researching with support from the Hudson Valley Center for Emerging Technologies (HVCET).

Professor Daniel Farkas gave an overview of Introduction to Computing, a general education course in the University, and described a revised format that is currently being piloted in Westchester. Once again, lunch included additional CSIS faculty, students, and advisory board members. The day ended with a brief video and display of robots created by students in Dr. Mehdi Badii's Artificial Intelligence course.

Although the two days were designed to educate President Caputo and update Provost Jaffe-Ruiz about CSIS, everyone in attendance walked away with considerably more insight as to what their colleagues were doing. It was quite an impressive two days! ■

## CSIS Faculty Lauds Peers

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

The annual faculty awards for Excellence in Teaching, Excellence in Service and Excellence in Research were awarded at the spring Faculty Council meeting held on March 22 at the Graduate Center in White Plains. Each year a committee comprised of the award recipients from the previous year is charged with the responsibility of selecting the new awardees. This year's selection committee members were Dr. Namchul Shin, Dr. Sotirios Skevoulis, and Dr. Joseph Bergin who announced the recipients. They were:

### Excellence in Teaching

Dr. Nanda Surendra  
Information Systems  
New York City

### Excellence in Service

Professor Nancy Lynch Hale  
Chair, Technology Systems

Dr. David Sachs  
Technology Systems  
and Associate Dean

### Excellence in Research

Dr. Francis Marchese  
Computer Science and  
Chief Scientist,  
Center for Applied Media  
New York City

In addition, a Special Service Award was created this year at the committee's initiative and bestowed on **Dennis Anderson**, Associate Dean, New York City, and **Bernice Houle**, Assistant Dean, Pleasantville, for their extraordinary efforts in helping to provide stability and support to CSIS faculty, students and staff in the aftermath of September 11.

# Faculty Achievements

**T**hree faculty members recently received promotions. **Dennis Anderson**, Technology Systems, and **David Sachs**, Technology Systems, were both promoted to the position of Associate Dean. **Susan Feather**, Technology Systems, was promoted to full professor effective next fall and granted tenure, which becomes effective in fall 2003.

**Sung-Hyuk Cha**, Computer Science, presented "Establishing Handwriting Individuality Using Pattern Recognition Techniques," "A priori Algorithm for Sub-category Classification Analysis of Handwriting," and "Individuality of Handwriting" at the 6th International Conference on Document Analysis and Recognition held in Seattle, WA. The papers will appear in the conference *Proceedings*.

**Constantin Coutras**, Computer Science, presented "The Effects of Hidden Nodes and Capture on the Performance of HIPERLAN CAC Layer Protocol" at the 5th Annual Conference on Systemics, Cybernetics and Informatics held in Orlando, FL. The paper was published in the conference *Proceedings*.

**Kitty Daniels**, Technology Systems, **Susan Feather**, Technology Systems, and **Stuart Varden**, Information Systems adjunct, presented "Building a Winning Infrastructure for Distance Education: A Case Study" at the 21st Annual Organizational Research Conference—Gateway to the West: Information Highway to the World held in St. Louis, MO. In addition, Kitty Daniels and Susan Feather presented "Incorporating Collaboration into an Asynchronous Online Course" at the 7th Sloan-C International Conference on Online Learning: Emerging Standards of Excellence in Asynchronous Learning in Orlando, FL.

**Susan Feather**, Technology

Systems served as chair of a session on distance education at the National Business Education Association convention held in Philadelphia, PA. She also spoke on "Adult Learners and Technology: Challenges in Training" as a guest lecturer at New York University.

**James Gabberty**, Information Systems adjunct, presented "Modeling Determinants of Debt Default in International Finance" co-authored with Robert Vambery (Lubin) at the International Academy of Applied Business Research Conference held in Puerto Vallarta, Mexico. The paper was recognized as the best paper to emerge from its session and will appear in the conference *Proceedings*. He was also selected to receive a Center for International Business Education and Research (CIBEAR) Faculty Registration Award by the faculty of the Marshall School of Business to attend the 15th Annual Asia/Pacific Business Outlook Conference sponsored by the University of Southern California and held in Los Angeles.

**Michael Gargano**, Computer Science, presented "An Edge Partition Problem Concerning Perfect Matchings" co-authored with L.V. Quintas (Dyson) and E. Farrell, visiting professor, at the 33rd Southeastern International Conference on Combinatorics, Graph Theory and Computing sponsored by Florida Atlantic University and held in Boca Raton, FL. He also accompanied Joseph De Cicco (D.P.S. '02), who presented "Analysis of the Sensitivity of a Time Dependent Minimal Node Base Directed Communication Network Application Solved by Genetic Algorithms," which they co-authored along with W. Edelson (Professor Emeritus, L.I.U.). Both papers will appear in the conference *Proceedings*.

**Anthony Joseph**, Computer Science, attended a workshop on Inquiry Based Collaborative Learning at Hampshire College

in Amherst, MA. At Northern Kentucky University, he chaired a session on "Managing Large Classes" at the 33rd Annual SIGCSE Conference.

Another CSIS doctoral student to present at a professional conference was **Thanh Van Lam** (D.P.S. '02). He delivered a paper titled "Software Components Growing to Component Software with the CRIB" co-authored with Lixin Tao, Computer Science, his dissertation mentor, at the SSGRR 2002 International Conference on Advances in Infrastructure for e-Business, e-Education, e-Science and e-Medicine on the Internet held in L'Aquila, Italy.

**Susan Merritt**, CSIS Dean, recently attended the semiannual Summit of Deans of Schools of IT sponsored by the Computing Research Association and held in Arlington, VA. She was also cited for her contribution to *Recruitment and Retention of Women Graduate Students in Computer Science and Engineering* organized by the Computing Research Association's committee on the Status of Women in Computing Research.

**John Molluzzo**, Information Systems, obtained a development software grant for the New York City Information Systems department from Microsoft in the amount of \$48,000. The grant will be used to purchase software in support of teaching and faculty research.

**Pauline Mosley**, Computer Science and Information Systems, presented a workshop on "Writing becomes Teaching in Programming" at the 21st Annual Lilly Conference on College Teaching held in Miami, OH.

**Namchul Shin**, Information Systems, presented "The Impact of IT on e-Business Value" and "Assessing the Impact of IT on Diversification" at the IS One World Conference and International Symposium on Research Methods held in Las Vegas, NV. He also served as editor of the first online issue of the

# Student Achievements

## Professional Presentations

**Joseph De Cicco**, a student in the Doctor of Professional Studies in Computing program, presented "Analysis of the Sensitivity of a Time Dependent Minimal Node Base Directed Communication Network Application Solved by Genetic Algorithms," which he co-authored with Dr. Michael Gargano, Computer Science, and William Edelson (Professor Emeritus, L.I.U.) at the 33rd Southeastern International Conference on Combinatorics, Graph Theory and Computing. The paper will appear in the conference *Proceedings*.

Another CSIS doctoral student to present at a professional conference was **Thanh Van Lam**. He delivered a refereed paper titled "Software Components Growing to Component Software with the CRIB" co-authored with Lixin Tao, Computer Science, his dissertation mentor, at the SSGRR 2002 International Conference on Advances in Infrastructure for e-Business, e-Education, e-Science and e-Medicine on the Internet held in L'Aquila, Italy. His paper was published in the conference *Proceedings*.

## CSIS Endowed Scholarship Recipients

**Carlos Cubas** CS  
New York City

**Muchiri Mwangi** MS/IS  
New York City

**Caroline Wainaina** MS/IS  
New York City

## Ata C. Omid Scholarship Award— 2nd Place

Sponsored by the NY Chapter of the Information Systems Audit & Control Association (ISACA)

**Nathifa St. Louis** BA/IS  
New York City ■



## Faculty Achievements (continued)

*Journal of Electronic Commerce Research* located at <http://www.csulb.edu/journal/>. His article, "Strategies for Competitive Advantage in Electronic Commerce," appeared in the publication.

CSIS was awarded \$74,000 under the Course Curriculum and Laboratory Improvement Program sponsored by the National Science Foundation for a proposal titled "Integrating Formal Methods Tools into the Undergraduate Curriculum." **Sotirios Skevoulis**, Computer Science, served as principal investigator on the proposal supported by **Dennis Anderson**, CSIS assistant dean, and **Paul Benjamin**, Computer Science, as co-investigators. The Program Officer of the National Science Foundation later notified Sotirios Skevoulis that this proposal was ranked third out of approximately 100 proposals submitted for consideration by computer science reviewers.

Additionally, **Sotirios Skevoulis**, participated in a panel discussion on "Graduate Software Engineering Education" at the

Conference on Software Engineering Education and Training held in Covington, KY. While he was there, he also attended an NSF workshop at the SIGCSE Conference on Computer Science Education to discuss issues relating to the NSF grant he recently received.

Earlier in the year, he also co-authored a paper titled "Working with a Formal Methods Based Static Analysis Tool to Detect Errors in Java Programs" with Maria Falidas (primary author), a student from Queens College. The paper was presented at the Richard Topia Celebration of Diversity in Computing Symposium sponsored by the Association for Computing Machinery (ACM) and published as an abstract in the conference *Proceedings*. As a result of the quality of her research, Ms. Falidas received a scholarship to attend the conference, which was held in Houston, TX.

**Sylvester Tuohy**, Computer Science, presented a paper titled "Logical Format of a Floppy Disk" at the 17th Annual Eastern Small College Conference held in

Shepherdstown, WV. The paper will appear in the conference *Proceedings*.

For the second year in a row, CSIS faculty were a major presence at the Information Systems Education Conference—ISECON '01 chaired by **Stuart Varden**, Information Systems adjunct, who was chairing the event for a second time. The conference was held in Cincinnati, OH. **Susan Feather**, Technology Systems, served as associate papers chair for the entire conference. Among the papers presented were "The Doctor of Professional Studies in Computing: An Innovative Professional Doctoral Program" co-authored by **Susan Merritt**, dean, **Fred Grossman** (presenter), Information Systems and D.P.S. program chair, **Charles Tappert**, Computer Science, **Joseph Bergin**, Computer Science, **Howard Blum**, Computer Science, **Ronald Frank**, Information Systems, **David Sachs**, associate dean, **Allen Stix**, Computer Science, and **Stuart Varden**, Information Systems, adjunct; "The Crypto-

Word Game for Learning Number Systems" by **Ronald Frank**, Information Systems; and "The Effect of Technology Integration on Critical Thinking Skills in a Graduate Introductory Information Systems Course" co-authored by **Jean Coppola**, Technology Systems adjunct, **Jennifer Thomas** (presenter), Information Systems, and **Barbara Thomas**, Lienhard. **Pauline Mosley**, Computer Science and Information Systems, served as a panelist on "The Challenge of Plagiarism in Programming Classes" moderated by **Catherine Dwyer**, Computer Science and Information Systems. All presentations appear in the electronic conference *Proceedings*.

**Jennifer Thomas**, Information Systems, was recently asked to serve on EDSIG, the education special interest group of the Association of Information Technology Professionals, which is responsible for organizing ISECON. She will be involved in the planning of next year's event. ■

## New CSIS Faculty and Professional Staff

by Marion Viray, Academic Advisor, New York City

Two new professional staff members, and three faculty joined our ranks this spring. **Dr. Jennifer**



**White**, Assistant Dean for Research and External Relations, comes to CSIS from the School of Education where she served as Director of External

Relations and Continuing Education. She brings expertise in the areas of Internet use policies, academic policies, development and alumni/ae relations, and grant writing to her new position. Prior to coming to Pace, Dr. White held positions at Seton Hall University and at the University of Virginia where she earned her Ph.D. in Higher Education Administration. After only a few weeks with CSIS, she stated firmly that she was "very excited to be part of such a dynamic, innovative school. The faculty are extremely productive and their work will help shape the landscape of technology for years to come. I have the greatest respect for Dean Merritt and her staff and I am delighted to be part of the team." Dr. White is based in New York City. In her spare time, of which she has little, she enjoys fine dining and gourmet cooking.

**James Curry, Jr.**, the new Director of Administrative Systems in New York City, also comes to us from elsewhere in the University. Prior to joining CSIS, he worked in the Office of Graduate Admission on the downtown campus for five years where



he last held the position of Associate Director. His considerable background in student recruitment, previous knowledge of CSIS from an admission perspective, and expertise using technology in creative ways will strongly benefit the School.

Jim, as he is generally known, holds a B.A. in philosophy and is

currently completing an M.A. in liberal studies, both from CUNY—the College of Staten Island. He is also taking information systems course and will soon matriculate in the M.S. in information systems program. In his spare time, Jim races with professional caliber bicyclists as a U.S. Cycling Federation Licensed Category 2 bicycle racer and has recently started a salt-water reef and fish aquarium. As for his feelings regarding CSIS, he was attracted to the School because it is always "on the edge of change" and by his new colleagues for "their vision and excitement about computing as a career as well as their unmatched student focus."

**Ron Frank** continues a second career this spring as an associate professor in the Westchester information systems department. With 35 years of experience from IBM Research where he worked as a staff member, manager and the spokesperson for the scientific PC, Ron



brings a wealth of knowledge to the classroom. He was also the chair and CEO of a software R & D company and the principal investigator for an NIH grant for the development of virtual reality tools.

This career change has not been abrupt as he has been transitioning into teaching for a number of years. He began his teaching career at Pace as an adjunct instructor in 1985 and advanced to the position of lecturer on a full-time basis in 1999. In recent years he has been teaching data analysis and design, business telecommunications, and computer organization on the graduate level and distributed computing systems and Java programming on the undergraduate level.

Ron holds a B.A. from Rutgers University and an M.S. from New York University. His academic

interests are in array theory, software engineering and graphical computer education techniques. As a third-year student in CSIS's Doctor of Professional Studies in Computing program, he is writing a dissertation on "Decompositions of Regular Arrays to Null Arrays and Their Applications." He expects to receive his degree in May.

Another new full-time faculty member with a long term affiliation with CSIS is **James Lawler**



who was recently named assistant professor in the information systems department in New York City. Professor Lawler earned an undergraduate degree in management from St. Francis College and an M.B.A. in finance from Pace. He is currently enrolled in Pace's D.P.S. in computing program which he expects to complete in May. His dissertation topic is "Website Personalization and Privacy." Other areas of research interest include client/server systems, Internet/intranet technologies, data warehousing, multimedia technologies and training technologies.

Since 1983 when CSIS was first established, Professor Lawler has been enriching his classes as an adjunct professor with his considerable experience in management, systems, and e-Commerce gained from employment at established organizations, such as Merrill Lynch and AXA Financial. He has taught information systems principles and systems design as well as timely special topics courses in Knowledge Management Systems, e-Commerce: Design, Development and Implementation Methodologies, and Customer Relationship Management. In 1999, he worked briefly for CSIS as assistant to the dean on special projects and has been a contributor to the *CSIS Communiqué*.

When he is not teaching, playing the stock market, grading tests, or pursuing his doctorate, he loves to travel, play and watch hockey and baseball, and attend the opera.

**Cynthia Moody** was recently appointed full-time lecturer in the technology systems department



and is based in New York City. She holds a B.S. in business education and an M.S. Ed. in curriculum and instruction, both from Pace. Prior to

her appointment, she was an adult computer literacy instructor with the America Reads Program and taught for the School of Education as an adjunct instructor in the Outreach Technology Program, a partnership between Pace and School District #1 in lower Manhattan and later as an adjunct for CSIS. In 2000 she was appointed coordinator and staff instructor for CIS 101, the introduction to computing course required of all undergraduates across the University.

Born and raised in Brooklyn, Cynthia spends a lot of time in North Carolina "sitting on the porch, looking over the 100+ year old pecan trees." When she accepted the coordinator position, she viewed Pace as a university that "sets the pace for innovative initiatives" and CSIS as a "forerunner of change." She finds her new role challenging and exciting, a job that "signifies a commitment to a student-centered approach." With new technology surfacing constantly and the economy frequently in flux, "we need to stimulate our students with knowledge, make them aware of the world in which they will be working, and create new and better opportunities for them. CSIS is clearly the school that plays a major role in this process." ■

## BOOKS, JOURNALS, ARTICLES, and CONFERENCE PROCEEDINGS

### Sung-Hyuk Cha

"Establishing Handwriting Individuality Using Pattern Recognition Techniques," *Proceedings of the 6th International Conference on Document Analysis and Recognition* (September 2001).

"Apriori Algorithm for Sub-category Classification Analysis of Handwriting," *Proceedings of the 6th International Conference on Document Analysis and Recognition* (September 2001).

"Individuality of Handwriting," *Proceedings of the 6th International Conference on Document Analysis and Recognition* (September 2001).

### Constantin Coutras

"The Effects of Hidden Nodes and Capture on the Performance of HIPERLAN CAC Layer Protocol," *Proceedings of the 5th Annual Conference on Systemics, Cybernetics and Informatics* (July 2001).

### James Gabberty and R. Vamberg

"Modeling Determinants of Debt Default in International Finance," *Proceedings of the International Academy of Applied Business Research Conference* (March 2002).

### Michael L. Gargano, L. V. Quintas and E. U. Farell

"An Edge Partition Problem Concerning Perfect Matchings," *Proceedings of the 33rd Southeastern International Conference on Combinatorics, Graph Theory and Computing* (March 2002).

### Michael L. Gargano, K. T. Balinska and L. V. Quintas

"An Edge Partition Problem Concerning Hamilton Paths," *Congressus Numerantium*, 152 (December 2001).

### Michael L. Gargano and W. Edelson

"Optimal Sequences Matroid Bases Solved by Genetic Algorithms with Feasibility Including Applications," *Congressus Numerantium*, 150 (December 2001).

### Michael L. Gargano, Marty Lewinter and Joseph F. Malerba

"Printable Graphs," *Congressus Numerantium*, 148 (December 2001).

### Anthony Joseph, A. Brodzik and R. Tolimieri

"Under-sampled Weyl-Hensenberg Expansions via Orthogonal Projections in Zak Space," *Signal Processing* (November 2001).

### John Molluzzo

"A Robot Model of Function Behavior," *Journal of Computer Science Education* (February 2002).

### Namchul Shin and D. F. Jamella

"Creating Value with Information Technology Investments: A Five Step Leadership-Based Change Management Approach," *Proceedings of the 8th European Conference on Information Technology Education* (September 2001).

### Sotirious Skevoulis and M. Falidas

"Working with a Formal Methods Based Static Analysis Tool to Detect Errors in Java Programs," abstract published in the *Proceedings of the Richard Topia Celebration in Diversity in Computing Symposium* (October 2001).

### Sylvester Tuohy

"The Logical Format of a Floppy Disk," *The Journal of Computing in Small Colleges*, 17:3 (February 2002).

## CSIS TECHNICAL REPORTS

### Sung-Hyuk Cha

"Histogram Based Image Indexing and Retrieval," *Technical Report* No. 173 (March 2002).

### Michael L. Gargano, Z. Chen, H. Zhang

"Evolving Optimal Reliability Networks Subject to Budget Constraints Using Genetic Algorithms," *Technical Report*, No. 169 (November 2001).

### Namchul Shin

"Strategies for Competitive Advantage in Electronic Commerce," *Technical Report*, No. 172 (February 2002).

### Sylvester L. Tuohy

"The Logical Format of a Floppy Disk," *Technical Report*, No. 170 (December 2001).

### Carol E. Wolf

"C++ for Java Programmers," *Technical Report*, No. 171 (January 2002).

## ELECTRONIC PUBLICATIONS

### Namchul Shin

"Strategies for Competitive Advantage in Electronic Commerce," *Journal of Electronic Commerce Research*, 2:4 (2001) available at <http://www.csulb.edu/journal/>.

### Jean Coppola, J. Thomas and B. Thomas

"The Effect of Technology Integration on Critical Thinking Skills in a Graduate Introductory Information Systems Courses," *Proceedings of 17th Annual Information Systems Education Conference—ISECON 2001* on CD-ROM.

### Ronald Frank

"The Crypto-Word Game for Learning Number Systems," *Proceedings of 17th Annual Information Systems Education Conference—ISECON 2001* on CD-ROM.

### Susan Merritt, Fred Grossman, Charles Tappert, Joseph Bergin, Howard Blum, Ronald Frank, David Sachs, Allen Stix, Stuart Varden

"The Doctor of Professional Studies in Computing: An Innovative Professional Doctoral Program," *Proceedings of 17th Annual Information Systems Education Conference—ISECON 2001* on CD-ROM.

## STUDENT PUBLICATIONS

### Joseph DeCicco, M. Gargano and W. Edelson

"Analysis of the Sensitivity of a Time Dependent Minimal Node Base Directed Communication Network Application Solved by Genetic Algorithms," *Proceedings of the 33rd Southeastern International Conference on Combinatorics, Graph Theory and Computing* (2002).

### Thanh Van Lam and L. Tao

"Software Components Growing to Component Software with the CRIB," *Proceedings of SSGRR 2002 International Conference on Advances in Infrastructure for e-Business, e-Education, e-Science and e-Medicine on the Internet* (January 2002).



## Use Your Computer Effectively

by Michael S. Sidaras, PC/Network Support Analyst

### FAILED POWER-DOWNS

At one time or another, you will probably have a computer crash on you...especially if you are using Microsoft Windows. When that happens, life can quickly become frustrating. Some crashes are so bad that you have to reboot the computer, but no matter what you do, it won't respond to the shutdown command. This is the time when you need to physically turn off the computer by pressing the power button. To your surprise, that doesn't seem to work either. As a last resort effort, you pull the plug on the unit to get it to turn off, while sharing a few not-so-nice words with your electronic servant. You might wonder, "Why can't this dim-witted computer even turn itself off when I press the power button? What is this?"

Believe it or not, there is rhyme and reason to this madness. With newer computers, not only in Dell Systems, there is an "Accidental Power-Down" Protection in place. The reason the computer doesn't turn off right away is because there is a deliberate built-in delay. The last thing you want to do is turn off a computer before its been properly shut down, unless you have no other choice. Yet, sometimes it's possible to accidentally hit the wrong button. So, to protect your computer, the manufacturers require you to hold the power button for at least 5 seconds. Doing so should cut the power from the unit and the computer will turn off.

### POWERPOINT AND PRINTING ISSUES

Recently, I came across a problem printing slides from a PowerPoint Presentation on a Hewlett Packard LaserJet 2200 printer. The computer seemed to hang while loading the print job into the printer queue. The problem was the background theme being used: Network Blitz. This is a blended dark blue background. The LaserJet 2200 is a Black & White printer that is not capable of printing in color. Each time you print a color document, the printer driver software must resolve those colors to an appropriate shade of gray. This takes up processing time and memory. Remember that these backgrounds are graphical images.

In the LaserJet 2200, there is a manual checkbox that must be selected to print in Grayscale Mode. That checkbox was not checked, so the printer driver software had tremendous difficulty resolving such a complex, dark image into shades of gray. When we checked the Grayscale Box, the document printed successfully and quickly.

This checkbox can be found on the Printer Dialog Box that pops up as soon as you print a slide.

If you are going to print colorful backgrounds on a black and white laser printer, I would recommend you always check that Grayscale Box, if it exists for the driver you are using. This is probably not just a problem for the LaserJet 2200 printer, but one that will occur on any computer where grayscale printing is not automatic.



"First, they do an on-line search."

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### NETSCAPE MESSENGER SETTINGS

At Pace University, Netscape Messenger is the e-mail client software being supported by DoIT. There are some integration issues between this client software and the University's FMail e-mail server. Unsuspecting users could do lasting damage to their e-mail account if they are unaware of potential problems. You do not want your e-mail to be out of commission for a week, while DoIT repairs a corrupted inbox.

A major problem that has been plaguing the University is a matter of User Habit with using folders to file messages. In Windows, we have become "trained" to the benefits of creating folders with large names, often utilizing spaces in the naming convention. Additionally, for years we have been taught to work in an organized and structured format, creating many layers of subfolders for filing away our documents. This works very well in Windows and should continue to be used.

However, it often fails in integration between Netscape Messenger and the FMail server.

When working with e-mail in Netscape Messenger, users need to "re-train" themselves a little bit. They should follow two general rules listed below and to avoid some very undesirable e-mail downtime:

1. NEVER use spaces in folder names for e-mail! Try using the (underscore) or - (hyphen) character as a creative alternative.

2. NEVER create subfolders for your e-mail! Get into the habit of creating only one level of folders for use on FMail.

If you have discovered any useful Tips or Tricks that you would like to share with others, please provide me with a description of the problem and the solution so that I can include them in a future column.

## upcoming events

### April 2002

- 19 Mid-Atlantic Student Workshop on Programming Languages and Systems – MASPLAS '02  
Graduate Center
- 22 UPE Computer Honor Society Induction  
Graduate Center
- 23 CSIS/Lubin Alumni/ae Event  
Graduate Center

### May 2002

- 1 CSIS Research Day  
Midtown Center
- 10 Women in Computing: Paths to Doctoral Education, Teaching and Research—A Panel Discussion  
Graduate Center
- 14 Westchester Awards Ceremony  
Pleasantville
- 20 NACTEL Graduation Brunch  
Graduate Center
- Westchester Commencement Undergraduate 1:00 p.m.  
Graduate 5:00 p.m.  
Westchester County Center
- D.P.S. Graduation Dinner  
Graduate Center
- 21 New York Awards Ceremony  
New York City
- 23 New York Commencement  
Radio City Music Hall

### June 2002

- 4 Annual Award for Leadership & Service in Technology Reception  
New York Stock Exchange