The IU School of Informatics offers an academic path for students from diverse backgrounds who are seeking careers that combine information technology with another area of study. Just as the discipline of informatics operates in a variety of contexts, the School of Informatics has programs on a growing number of IU campuses. The curriculum focuses on both the technical and human aspects of problem solving and emphasizes innovation and teamwork. The school understands the role of research in building a world-class faculty and in recruiting and educating outstanding students, but also places a primacy on its role in creating new knowledge and technologies for the betterment of people everywhere. The school also is firmly committed to collaboration with industry and government in order to hold up its side of the “three-legged stool” that supports economic growth and progress.
Five years of growth poises school for future impact

Five years ago, Darrel Bailey, Susan Quinn, and I attended a historic meeting of the Indiana Commission for Higher Education. It was Nov. 12, 1999, when the state formally approved the informatics degree programs for IU’s Bloomington and Indianapolis campuses. After the commission’s unanimous vote to approve informatics, we left the meeting feeling as though we should celebrate with tickertape and fanfare. We were among only a handful of people who knew that something great was under way.

At that time, 180 students were enrolled in the New Media Program. They would now become the first students in the School of Informatics. We were located in a handful of offices in the Mary Cable Building (IUPUI) and Memorial Hall (Bloomington). In what seems like one miracle after another, the school was first given annual funding by the General Assembly and then that funding was more than doubled, and we were able to begin building programs in Bloomington, Indianapolis, and South Bend. We are extremely grateful to the state and its leadership.

In a near repeat of that first founders day, this past October the Indiana Commission for Higher Education once again approved informatics degree programs, this time on four more IU campuses: East, Kokomo, Northwest, and Southeast. With funding that IU is now seeking from the General Assembly for these campus programs, we will be able to better serve students throughout Indiana.

In October, we marked another major milestone when we joined with Indiana University President Adam W. Herbert and the trustees to dedicate the new Informatics and Communications Technology Complex in Indianapolis. Herbert described the ICTC building as a gateway that will help create the future of information technology. The building, at Michigan and West streets, does literally mark the entrance to the IUPUI campus — but I prefer to think of this building as the kind of gateway we think of in computing, a router that enables communication between computer networks. As the home of University Information Technology Services at IUPUI (including the network operations centers for Internet2), the School of Informatics, the Pervasive Technology Labs, the School of Music, and the School of Journalism, the ICTC is indeed a gateway that provides communication and connection for IUPUI and the wider world.

Winston Churchill once said, “We shape our buildings, and thereafter they shape us.” We certainly hope so, given this wonderful new Informatics and Communications Technology Complex. But we might add that the people and activities we share our buildings with also shape us, for we have some wonderful companions.

Informatics has added degree programs and a building, but most important for the future of the school, we have successfully completed a landmark hiring initiative. We welcomed 22 new tenure-stream faculty to the School of Informatics. These stellar teachers and researchers are already bringing worldwide recognition to our young school. (You’ll find the names and interests of all our tenure-stream faculty, new and old, threaded throughout this issue.)

Five years ago, the Indiana Commission for Higher Education approved the School of Informatics. On that occasion IU’s then President Myles Brand gave me a bottle of champagne. This is probably the time to pop the cork.

With best wishes for 2005,
State approves informatics on four more IU campuses

At their meeting on Oct. 8, 2004, the Indiana Commission for Higher Education voted to approve the bachelor of science in informatics as a degree that can be offered by Indiana University’s East, Kokomo, Northwest, and Southeast campuses. Informatics is already available at Bloomington, Indianapolis, and South Bend.

In keeping with its mission to provide technology-related education to all of Indiana, the School of Informatics will seek to launch the degree programs as soon as possible. IU is asking the state to provide the funding for these programs in its next budget request.

Faculty bring diverse research interests to IU

A number of new faculty joined the School of Informatics this year, bringing our number to 55 tenure-stream faculty in all. This thread will introduce you to their research interests. You will find them exploring technology across the spectrum of disciplines, from physics to music.
The future of 2-D animation in the School of Informatics’ New Media Program at IUPUI may well have been born during a Techpoint meeting last year on how to incorporate technology in commercials. From this meeting the kernel of an idea bloomed into a major project for several New Media Program faculty and students, not only creating a wonderful learning experience, but also forging a bridge to the community that could pave the way for many more collaborative opportunities.

An animation team, headed by John B. Ludwick, visiting lecturer, New Media Program, worked in collaboration with Melanie Audette of the Indiana Grantmakers Alliance and Dale Ratermann of the Pacers Foundation to create “The Youth Philanthropy Initiative/Pacers Foundation Animation Project.” The 30-second spot, which features an animated Ron Artest doing a good deed for a fellow pedestrian in true Pacers style, plays on the Jumbotron in Conseco Field House during the Fever and Pacers’ seasons this year.

Dale Ratermann of the Pacers Foundation, the organization that generously funded the venture, said the project exceeded his expectations. Not only did the animation exceed Ratermann’s expectations, but it proved to be a bigger project than even the animation team could have imagined. All of the students on the project agreed it was the most comprehensive, most difficult, and most exhausting project they had ever been involved with, but they also agree that the experience was invaluable.

Commonly referred to as the “sleep deprivation exercise,” the creation of the 30-second animation required almost five months of work from participants. When asked how the project compared to real-world studio work, Ludwick said that it was harder than studio work: “We had to do everything ourselves.” This “everything” included coming up with an idea, roughing it out, storyboarding it, timing every second of action, creating an animatic, presenting the animatic to the client and making adjustments accordingly, researching motion models (which included videotaping some of the action sequences), drawing each frame by hand, inking the frames in Freehand, creating 3-D models for certain components of the animation, constructing the animation in Flash, recording audio, synchronizing and compositing everything, creating the final version, and, finally, putting it all onto a DVD.

(continued on page 4)

Left: Rob Shaw works on an animation of Ron Artest.

Right: A still shot of the Ron Artest animation.

Mu-Hyun “Mookie” Baik, assistant professor of informatics and chemistry; PhD, University of North Carolina–Chapel Hill, 2000. Chemical informatics; computational, inorganic, bioinorganic, and physical chemistry. (Bloomington)

Darrell Bailey, professor of informatics and associate professor of music, executive associate dean of the School of Informatics, director of new media; EdD, University of Illinois, 1989. Computer-based music instruction. (Indianapolis)
Even with all the work involved, Ludwick would like to see the New Media Program search for projects that would allow for longer animations. He was especially pleased with the artistic freedom the team was allowed on this project and hopes to be able to continue in this vein. He said that the clients initially would not allow the new media team to work directly with any of the talent from the Pacers or Fever, but after seeing the animatic, they changed their minds. This decision allowed the team to work directly with Artest and the Fever’s Niele Ivey, adding an element of realism to the animation that would have been very difficult to achieve otherwise. With this permission granted, Todd Kirk and Jeff Gladden helped to record video for animation reference that could then be used by the animators to analyze the action and get a feel for how the characters should move.

The new media team

- John B. Ludwick, animation director
- Dan Baldwin, art director
- Clint Koch, 3-D director
- Rob Shaw, story, ink, and paint
- Devi Haripal, style direction, ink and paint
- Danielle Sevestianos, color assistance, ink, and paint
- Jolene Kernick, ink and paint
- Matt Bell, 3-D models and animation
- Markus Creasy, head compositor
- Ricardo Laranja, sound design

To view the final animation, go to http://newmedia.iupui.edu/projects/106/index.html.

A student’s-eye view of the Pacers Foundation project

When Professor Dan Baldwin, during an N101 lecture, announced an opportunity for students to participate in a major new project that would involve the Pacers, new-media student Rob Shaw was intrigued. Backed by faculty recommendations, he followed up on Baldwin’s invitation and soon found himself in a real interview situation. He submitted his portfolio for review and was shortly called back for a second interview. Before he knew it, Shaw was part of the animation team working on the Youth Philanthropy Initiative/Pacers Foundation Animation Project. Not bad for a student in his first new-media class.

Shaw, class of 2006, became a vital member of the animation team; it was his original story idea that was chosen for the animation, and it became his job to help bring that story to life. The first task he had was to help rough out the storyboards and cut the story down to 30 seconds — a daunting feat by any standard. Over the course of this part of the project, Shaw learned valuable editing skills that will carry with him throughout his college career and beyond.

All the while, he worked closely with the project manager, John B. Ludwick, and was able to learn industry animation practices from a professional animator who also just happens to be one of the instructors in the New Media Program. Shaw’s normal workflow consisted of converting Ludwick’s original drawings to vector images in Freehand before importing them into Flash. He also worked on creating some of the 3-D elements used in the background of the animation. Shaw’s 3-D handiwork can be seen in two of the cars that zoom through the animation. This was of particular interest for him because he is currently interested in pursuing 3-D as his area of focus in the New Media Program. He found it fascinating that he could use his interest in 3-D in a 2-D animation. Shaw also had an opportunity to work on some of the post-production compositing of the various elements of the animation. In total, he worked on this project over the course of one semester plus the first month of the summer and received credit as an independent study class for his efforts.

Shaw says that the best part of the project was the opportunity to work with a very professional group in a real-world setting. He values the constructive criticism he got along the way and feels that the experience will give him a competitive edge by preparing him for intense projects in the future. When he first signed on to the project he thought, “A 30-second animation with us all working on it — this will be a piece of cake.” He now says, “I was wrong!” He was surprised to learn how much time and effort goes into a project of this scope and the value of preproduction was repeatedly proven to him. He considers that and the group experience to be the two most valuable skills he learned from this project. Shaw’s workflow on school projects reflects this new attitude, and he recommends that students budget their time and don’t wait to get started on projects.
Last June, 10 high school juniors and seniors from around Indiana received scholarships to participate in the first Informatics Summer Camp on IU’s Bloomington campus. Campers came from diverse backgrounds and levels of experience with information technology, but all shared a curiosity about computing and the new field of informatics.

Informatics campers worked on real problems and learned by doing. Informatics faculty and student counselors worked alongside campers to guide them through project-based sessions. Campers were introduced to basic computing technology, 2-D animation, data mining, Web site development, data visualization, and human–computer interaction.

The camp was designed to highlight the use of technology across a wide variety of problem domains. This breadth-wise approach to the introduction of technology is a hallmark of the informatics discipline and was interpreted by the students as extremely positive. They were excited to learn that working with information technology was “not just programming.”

“Our goal for the camp was to attract students who have historically been underrepresented in the information technology field. Such students include women, minorities, and first-generation college students,” said Dennis Groth, camp director and assistant professor of informatics. “We were successful in achieving our initial goal for the composition of the camp with the majority of our campers coming from underrepresented groups. Our goal for future camps is to increase the total number of participants to 20 students next year and 40 the following year.”

Camp was a perfect place for the students to make new friends, learn from enthusiastic faculty members, and, of course, investigate information technology. Campers lived and ate in the Bloomington residence halls and were able to immerse themselves into the college atmosphere. But it wasn’t all work — campers also had free time for swimming, movies, bowling, a cook out, and a talent night.

The next summer camp will be June 13–17, 2005, and all Indiana high school students are invited to apply. Join us for camp and

- Develop problem-solving skills using information technology;
- Learn how information technology is used in science, art, and visual communications; and
- Have fun with computers!

For more information about Informatics Summer Camp, contact Beth Terrell, co-director, Informatics Summer Camp, Indiana University, Informatics Building, 901 E. 10th St., Bloomington, IN 47408; by phone at (812) 856-5754; by fax at (812) 856-4764; or by e-mail at beterrel@indiana.edu. Also, be sure to visit our Web site at www.informatics.indiana.edu/summercamp.

Dunn named vice chair of the CRA’s IT Deans

At their meeting in July, the Computing Research Associations “IT Deans” group elected J. Michael Dunn (dean, IU School of Informatics) as their vice chair. Robert Schnabel (University of Colorado) was named chair.

The IT Deans Group was established in 2000 in an effort to provide leadership and community to emerging and established colleges of computing and interdisciplinary “IT” schools. More that 40 institutions from several countries participate in the IT Deans group. The group is organized around schools of computing, schools of information, and/or schools of information technology with heads that report directly to the provost or chief academic officer at a university.

Dan Baldwin, assistant professor of informatics; MFA, Savannah College of Art and Design, 2000. Evolution of storytelling, the relationship between narrative painting and viewer interaction via interactive multimedia. (Indianapolis)

Eli Blevis, assistant professor of informatics and cognitive science; PhD, Queen’s at Kingston, 1990. Human–computer interaction, creative reasoning systems, interactive learning. (Bloomington)

Jean Camp, associate professor of informatics and adjunct associate professor of computer science and telecommunications, associate director of the Center for Applied Cybersecurity Research; PhD, Carnegie Mellon University, 1996. Cybersecurity, social informatics. (Bloomington)
Yvonne Rogers has been named a fellow of the Pervasive Technology Laboratory, where she will collaborate on a project that will explore the design and application of pervasive technologies to promote novel forms of learning that move beyond the classroom. Ubiquitous computing and mobile technologies provide much scope for designing innovative learning experiences that can take place in a variety of outdoor (e.g., parks, city centers, woodlands) and indoor settings (e.g., museums, learning centers, labs, home). While learning activities already occur in these contexts, pervasive technologies can enable such activities to be more integrated and collaborative.

Outdoor fieldtrips and computer-based indoor learning activities are typically performed separately; for example, students may go on a field trip and observe and collect data that, on another occasion, they will input into a software simulation package back in the classroom. This separation of what are interlinked activities can make it difficult for students to see and understand the connections between what are essentially the same representations and processes being studied but in different contexts.

The project goal is to investigate how pervasive environments (wi-fi and sensor-based technologies), combined with mobile and stand-alone computational devices, can be designed to bridge more effectively informal and formal learning contexts, to enable students (and the general public) to broaden and connect their understandings, reflections, and hypotheses when in both real-world and classroom settings. A particular aim is to encourage students to carry out scientific enquiry in the context of their discovering and exploring of an environment, system, or process. The research will be carried out in collaboration with ongoing environmental, educational, and outreach programs at PTL, IUB, and IUPUI.

Rogers joined IU last summer (her former position was director of the Interact Lab and professor of computer science and AI at Sussex University, England) as a professor in informatics, information science, and cognitive science. Throughout her first year here, she has been forging links with a number of researchers at IU and throughout the United States. This has culminated in the submission of interdisciplinary research grant applications to the NSF, NIH and 21st-Century Fund in the areas of pervasive technology, learning, and interaction design. She has also been awarded a state-of-the-art interactive tabletop from MERL (Mitsubishi Research Labs) to conduct research into collaborative working. It is timely for her now to be a PTL fellow. The opportunities afforded by the fellowship will provide the connecting “glue” to bring her current and projected avenues of research together with ongoing related research projects at PTL. It could also provide a catalyst for beginning new projects with members of PTL and other research units that are interested in bridging informal and formal learning experiences in novel ways, through designing and building pervasive technologies, conducting real-world user studies, and fostering outreach programs.

Rogers plans to capitalize on her considerable expertise and experience in masterminding, steering,
and succeeding on multisite, multidiscipline collaborative projects, especially those concerned with designing extensive learning experiences using pervasive technologies (for example, see http://machen.mrl.nott.ac.uk/Projects/Digitalplay/INDEX.HTM). In particular, she sees much scope for collaborating with Kay Connelly, Polly Baker, Lenore Tedesco, Geoffrey Fox, and a number of others from IU on real-world educational applications that will create and evaluate integrated learning experiences concerned with environmental restoration, e-science, and health informatics. Such opportunities will also provide the seeding for attracting additional external funding.

The Ambient Wood Project
This ambitious indoor/outdoor project provided a learning experience in which students explored a physical woodland while accessing relevant sources of digital information. The project focused on the delivery and interaction of digital information about ecology both outdoors and indoors. Students were encouraged to talk with one another and a remote facilitator. A number of interconnected mobile and pervasive devices were designed, through which digital information appeared at various locations in the physical environment. These included PDAs, probes, a digital horn, and a periscope. Pairs of children explored different areas of the woodland and at specified times received and interacted with different forms of digital information. Subsequently, they returned to a makeshift den area in the woodland to reflect upon, revisit, and interact with their probe readings as personalized visualizations on a shared display and through using tagged tokens to represent biological processes.

Joseph Defazio, assistant professor of informatics, adjunct assistant professor of computer technology; MS, Ball State University, 1993. Multimedia production and distance education, music and recording technology, and Web development research. (Indianapolis)
McDaniel named American Academy of Nursing fellow

In August 2004, the American Academy of Nursing announced the selection of Anna McDaniel, DNS, RN, as one of its 63 new fellows. McDaniel is director of the Health Informatics Graduate Program in the Indiana University School of Informatics and an associate professor in the IU School of Nursing. McDaniel was inducted into the AAN during the AAN 31st Annual Meeting and Conference on Nov. 13, in Washington, D.C.

McDaniel, who is also evaluation director for the IU National Center of Excellence in Women’s Health, was selected based on her creativity and ability to translate research and theory into practical applications for health promotion in tobacco control and cessation. For example, she designed a computer game, titled “Escape from Nicotinia,” specifically targeted to pre-teen girls to help educate them in ways to resist the social forces to begin smoking. She designed computerized decision support systems for staff nurses and physicians to help patients quit smoking.

“Dr. McDaniel continues to do pioneering work in health informatics, consumer health, and translation science,” said Darrell Bailey, who as executive associate dean of the School of Informatics heads the informatics programs at IUPUI. “She is a master teacher with a long history of leadership in the academy and professional organizations. We are very fortunate to have Dr. McDaniel building our new program in health informatics.”

McDaniel also has been honored regionally and nationally for health communication and has been awarded more than $350,000 in grants for her research and demonstration projects by the Indiana State Department of Health and the Robert Wood Johnson Foundation, among other organizations.

Throughout her career, McDaniel has served in leadership roles in professional organizations such as the Indiana State Nurses Association; Sigma Theta Tau International, the nursing honor society; and the Midwest Nursing Research Society. She also is senior faculty member in the “Big Ten” Clinical Nursing and Health Informatics Consortium, a cooperative created in 2001 of nursing informatics leaders and world-class research institutions committed to enriching the health of individuals, families, and communities through the design, deployment, and evaluation of advanced information technologies.

AAN was established in 1973 to provide visionary leadership to the nursing profession and the public in shaping future health-care policy and practice. The academy currently comprises 1,700 fellows, who are nursing leaders recognized nationally and internationally for their contributions in the areas of education, management, practice, and research.

Chemical informatics news

David Wild has been hired as a visiting assistant professor of chemical informatics. He received a PhD from the University of Sheffield and later worked for Pfizer before starting his own consulting business in Ann Arbor. Wild took over the graduate Chemical Information Technology course and is developing a Programming for Chemical Informatics course. He has started an active research program, with participants from both the Indianapolis and Bloomington campuses.

Michael Dunn, professor of informatics, computer science and cognitive science, Oscar Ewing Professor of Philosophy, and dean of the School of Informatics; PhD, Pittsburgh, 1966. Algebraic logic, proof theory, nonstandard logics (especially relevance logic), relations between logic and computer science. (Bloomington and Indianapolis)

Anthony Faiola, associate professor of new media and associate director, human-computer interaction graduate program; MA, Ohio State, 1984. User-centered design theory and practice of interactive products. (Indianapolis)

Last fall, Gary Wiggins spent part of his sabbatical leave in Europe, attending the Sheffield Conference on Chemical Informatics and the Beilstein-Institut’s international workshop, “The Chemical Theatre of Biological Systems.” He also delivered three lectures at the Faculty of Chemistry of the University of Belgrade. He and his wife, Mia, spent a wonderful week touring Milan, Florence, Rome, and Venice before ending up at Bolzano for the Beilstein workshop. A high point of the Bolzano trip was visiting the South Tyrol Museum of Archaeology to see Utzi, the Iceman. Upon his return, Wiggins led two symposia on chemical informatics that he had arranged for the Central Regional Meeting of the American Chemical Society in Indianapolis. He also delivered a paper at the ACS meeting and another at the Biennial Conference on Chemical Education in Ames, Iowa.

To learn more about our faculty, visit http://informatics.indiana.edu/people/faculty.asp
Multidisciplinary life sciences project targets ovarian, breast cancers

Researchers at Indiana University, Ohio State University, and the University of Missouri have begun a five-year, $8 million project that will help doctors better understand the damage caused by breast and ovarian cancers.

Funded by the National Cancer Institute, the project will bring together clinical and basic science cancer researchers at the IU School of Medicine and the IU Cancer Center in Indianapolis and the Medical Sciences Program in Bloomington, as well as IU biostatisticians and biomedical informaticians who specialize in organizing biological and medical information.

Informatics professor Sun Kim is among researchers working on the project.

“The purpose of this project is to capitalize on all the human genome data and powerful bioinformatics approaches out there,” said IU cancer biologist Kenneth Nephew, who is leading one of the cancer project’s four parts. “We believe our work will lead to better therapies for ovarian and breast cancer patients.”

The researchers will study the genetic and molecular consequences of DNA modifications for the purpose of developing better predictive models for ovarian and breast cancer.

Ovarian cancer, despite its relative rarity, is the fifth-leading cause of cancer death in women. Breast cancer is the second-leading cause of cancer death in women. To speak with Kenneth Nephew or other IU project researchers, please contact Mary Hardin, IU School of Medicine Public & Media Relations, at (317) 274-7722 or mhardin@iupui.edu.

Aspray serves on task force to assess global impacts of IT outsourcing

W illiam Aspray, Rudy Professor of Informatics at Indiana University, is serving as executive consultant and a member of a high-level task force of internationally recognized computer scientists, industry leaders, economists, and social scientists to examine global job-migration trends resulting from the outsourcing and offshoring of IT jobs. The Association for Computing Machinery’s Job Migration Task Force will assess the major forces shaping the movement of IT jobs globally, with a focus on software and systems research, development, and services. Its goal is to provide a more informed context for making professional career decisions, setting future educational requirements, and understanding future employment trends. Co-chaired by Moshe Y. Vardi of Rice University and Frank Mayadas of the Sloan Foundation, the group includes representatives from North America, Europe, India, China, Japan, and Israel.

“The job migration issue is very much on the minds of ACM members and the broader computing and IT community,” said ACM President David Patterson. “We see the work of the task force as discovery study by experts who share ACM’s commitment to advancing broad understanding of the fundamental forces driving outsourcing and offshoring of IT employment opportunities. As a leading voice in the field, ACM has set high standards for this group, including a comprehensive study that is balanced in perspective and global in scope.”

(continued on page 10)
Aspray named special adviser for IU

William Aspray will take on a new role as special adviser for federal and IT professional relations in the Office of the Vice President for Research at Indiana University. He will be responsible for leadership in cultivating and reviewing federal appropriations projects and priorities, developing professional relations with IT professional organizations, and representing IU to federal organizations to explore opportunities for collaborative research projects.

Aspray is the Rudy Professor of Informatics and an adjunct professor of computer science, history and philosophy of science, and information science. He was the former executive director of Computing Research Association, an educational nonprofit that represents the doctoral-granting computing-related academic organizations and industrial and government computing research laboratories in North America. The CRA is the nation’s premier organization for computing research. Aspray holds an MA in mathematics from Wesleyan University and an MA and PhD in history of science from the University of Wisconsin–Madison. His previous experience includes teaching at Williams College, Harvard University, and Rutgers University, and research and management positions with two organizations of international standing: the Charles Babbage Institute (a historical research center) and the Institute of Electrical and Electronics Engineers.

He has published widely on both historical and contemporary issues facing the computing research community, including The Supply of Information Technology Workers in the United States (1999, with Peter Freeman), John von Neumann and the Origins of Modern Computing (MIT Press, 1990), and Computer: A History of the Information Machine (Basic Books, 1996, with Martin Campbell-Kelly, commissioned by the Sloan Foundation).

Task force (continued from page 9)

The task force will provide information to help ACM members and the wider computing community make realistic career decisions that take into account global trends. The study is also designed to enable educators to effectively shape the future of education in computing and computer science in the context of a global workforce. The task force’s final report will allow industry to fairly assess the impact of migrating tasks across global boundaries.

Scheduled for release in the second half of 2005, the ACM study is expected to be a valuable resource for understanding the global trends impacting the IT worker.

This article is excerpted from “ACM to Assess Global Impacts of IT Outsourcing,” which appeared in the September 2004 issue of MemberNet. Copyright ACM, reprinted by permission. The complete article may be found at http://campus.acm.org/public/membernet/storypage_2.cfm?ci=September_2004&story=2.

Youn-kyung Lim, assistant professor of informatics and cognitive science; PhD, Institute of Design at the Illinois Institute of Technology, 2004. Design representations. (Bloomington)

Steve Mannheimer, professor of informatics; MFA, Washington (St. Louis), 1975. New-media business concepts, imaging in digital media, art journalism. (Indianapolis)

Anna McDaniel, associate professor of informatics and associate professor at the School of Nursing, director, Health Informatics Program, and director, Evaluation for the National Center of Excellence in Women’s Health; DNS, Ball State University, 1991. Use of technology to support smoking cessation and nicotine dependence treatment. (Indianapolis)
BLOOMINGTON, Ind. — The number of people who succumb to identity thieves’ “phishing” e-mails could go way up if immediate action isn’t taken to preempt the next generation of attacks, according to Markus Jakobsson, an Indiana University School of Informatics researcher.

A report by cybersecurity expert Jakobsson describing worst-case phishing scenarios was recently cited by Howard Schmidt, chief information security officer for eBay Inc., during his testimony before a U.S. Congressional subcommittee on government reform. The report has also been presented to members of the U.S. Government Accountability Office and the Cyber Security Industry Alliance, based in Washington, D.C.

“I came up with the worst kind of attacks I could think of and then worked on how to defend against them,” said Jakobsson, who is associate director of IU’s Center for Applied Cybersecurity Research. “Phishers haven’t invented these attacks yet, but the phishing attacks that are happening now are getting more and more sophisticated.”

Today’s phishing e-mails are already pretty tricky. Many spoof legitimate companies’ domain names by linking not to legitimate domain names, such as “ebay.com,” but to misleading domain names, like “secure-ebay.com,” which are owned by phishers. Some users, encountering fake Web sites that look real, unwittingly give away vital personal information such as Social Security numbers, bank account numbers, access codes, usernames, and passwords. Another version of phishing takes advantage of the fact that many users configure their e-mail clients to display pictures and text formatting within the messages. This makes it possible for phishers to show users the name of a legitimate domain name within the body of their e-mails — while linking to a differently named Web site.

Phishing messages that appear to be sent by such trusted companies as eBay, Citibank, and others are currently duping 3 percent of the people who receive them, according to a recent survey by Gartner Inc. Aware of the threat, members of Congress are currently debating passage of the Internet Spyware Prevention Act, which would provide the Justice Department with $10 million to apprehend phishers and other online scam artists.

Jakobsson said preliminary data suggest that savvier, “context-aware” phishing attacks could have success rates as high as 50 percent. Context-aware attacks, as Jakobsson envisions them, would take advantage of users’ unique circumstances or personal relationships.

One kind of context-aware attack Jakobsson describes tricks eBay bidders into giving out identifying information by leading bidders to believe they’ve won an auction. He also explains how eBay sellers can be victimized by context-aware attacks in which false payments lure sellers to give out their passwords.

In another kind of context-aware attack, a potential victim might receive a message from a known person — for example, a friend or loved one — asking him or her to go to a Web site to update banking information. But how would a phisher know who was related to whom and how? “There are personal and business networking Web sites out there, such as orkut.com, where users’ relationships are easily seen,” Jakobsson said. “A phisher can find out whether a person in your ‘personal network’ list is a wife, a husband, a sister, or a business associate, and take advantage of that.”

In a third kind of context-aware attack, the phisher first creates a believable (but fictitious) problem with a user’s online account and then asks for a user’s personal information to fix it. By analogy, current e-mail attacks are like phone-repair personnel showing up out of the blue, claiming a potential victim’s phone lines aren’t working, when the victim can easily tell they are. “But now imagine I, the attacker, actually cut your telephone lines,” Jakobsson explained. “I wait for

(continued on page 23)
In 1997, Indiana University Vice President for Information Technology Michael McRobbie formed University Information Technology Services, the organization that provides IT infrastructure and support for the whole of Indiana University. As it grew at IUPUI, UITS was spread across the campus in substandard basement accommodations that were difficult to access and that did not take full advantage of this critical resource. McRobbie began

(continued on page 14)
... to reality
planning for a new building for IT at IUPUI soon after arriving in 1997. His vision was of a state-of-the-art technology building that would bring together all of the university’s IT assets at IUPUI in a central location that would be close to science, engineering, and the library.

From the beginning, the new structure was envisioned to be an IT-intensive building that would also house some major academic programs at IUPUI, such as the newly emerging School of Informatics.

At the same time, then-IUPUI Chancellor Gerald L. Bepko was planning for a new classroom building to replace the aging Mary Cable Building. This proposed building would provide a major auditorium and classrooms for general instruction at IUPUI — all equipped with the most advanced multimedia facilities. From the beginning, the new structure was envisioned to be an IT-intensive building that would also house some major academic programs at IUPUI, such as the newly emerging School of Informatics, the development of which was a major part of IU’s strategy to become a national leader in IT. Other programs that were heavily IT-oriented and therefore were included in the newly proposed idea were journalism and music. And so the vision for the ICTC building was born.

In an Internet article about the groundbreaking for the new building, William Plater, executive vice chancellor and dean of the faculties at IUPUI, said, “We began working on a new classroom building to replace the Mary Cable Building over 18 years ago. Since then, music technology, journalism, and informatics have all emerged as new academic disciplines. To have a building designed for these exciting new fields — as well as modern, well-designed learning environments and classrooms for all students — is a milestone in IUPUI’s emergence as one of the world’s great urban universities.”

On Oct. 16, 2001, the groundbreaking ceremony was held for the new building, which, at that point, was referred to as the Communications Technology Complex and Informatics.

**Construction on the first-floor staircase of the ICTC**

**From concept to reality**

(continued from page 13)
Informatics and Communications Technology Complex facts at a glance:

- Oct. 16, 2001 — Groundbreaking ceremony
- November 2001 — Construction commenced
- August 2004 — Construction completed
- August 2004 — Opened for classes
- Oct. 13, 2004 — Building dedication
- 208,316 gross square feet with approximately 123,815 assignable square feet
- Designed by Robert A.M. Stern Architects LLP, lead architect; Ratio Architects Inc., associate architect; Fink Roberts and Petrie Inc., structural/civil engineer; and Circle Design Group Inc., mechanical/electrical engineer
- IU Project Architect: Jerry Stuff
- The exterior of the building is Indiana limestone
- A five-story atrium that connects the academic and information technology wings
- 33 classrooms
- Two auditoriums
- 19 conference rooms
- A 24-hour Student Technology Center lab
- Many more program-specific rooms and labs
- $43.6 million total cost, of which the Indiana Legislature contributed $36 million over two budgetary cycles
- Building occupants:
  - IU School of Informatics
  - IU School of Journalism
  - IU School of Music Program at IUPUI
  - Pervasive Tech Labs at Indiana University, University Information Technology Services

Complex. For more information about the groundbreaking ceremony, visit http://www.iupui.edu/news/cttic.htm.

In November 2001, construction on the building started; it was completed in August 2004. The total cost of the building was $43.6 million. The Indiana Legislature provided $36 million over two budgetary cycles to help fund the building. In August 2004, the building, now called the Informatics and Communications Technology Complex opened to classes for the fall semester. On Oct. 13, 2004, the ICTC building was the site of the ceremony for its own dedication to a crowd of more than 200 people. The ICTC serves as a hub for telecommunications and I-Light, the optical fiber infrastructure that links IUPUI, IU Bloomington, and Purdue University to each other and to the Internet. IU also manages nationwide networks such as the Internet2 network — an advanced research and education network used by more than 200 U.S. university, industry, organizational, and government members. It also manages global higher-education network connections from the United States to the Asian Pacific and other countries. Through these major projects and the ongoing development of “smart devices” to enhance teaching, learning, and other industries, IUPUI and IU Bloomington have positioned themselves as a leading technology corridor.
President Adam Herbert and the Indiana University board of trustees formally dedicated the new Informatics and Communications Technology Complex on the IUPUI campus last October. Frederick F. Eichhorn Jr., president of the IU board of trustees, received the building from architect Robert A.M. Stern, senior partner of Robert A.M. Stern Architects of New York.

IU President Adam W. Herbert, presiding over the ceremony, called the building a gateway to the IUPUI campus that will “help create the future of information technology.” His words were echoed by Charles R. Bantz, vice president for long-range planning and chancellor, IUPUI, who noted the strong relationship between IUPUI and the city of Indianapolis. “This building is a key step in IUPUI’s coming of age,” he said.

The ICTC advances Indiana University’s commitment to higher learning, research, development, and exploration in fields of informatics, new media, journalism, and music, while providing the resources to build the state’s reputation as a leader in information technology and telecommunications. More than a physical gateway, the building is also a technology gateway, serving as a single point of access to IT training, tools, and support services to IUPUI students, staff, and faculty. Michael A. McRobbie, vice president for research and information technology, described the facility as “among the finest of its kind in the country” and said that it will “provide a remarkable environment for students to experience the very best in IT and instructional resources.”

The keynote address was delivered by Scott A. Jones, chair of Gazelle TechVentures, chair of...
Gracenote, and chair of the Indiana University Information Technology Advancement Council. During his keynote address, Jones said that the ICTC will help to “bring people together who can innovate and create.” He called the facility an “important investment in our future” and concluded, “I believe the people who work out of this building will change the world.”

The dedicatory music, *El Decameron Negro* (1981), composed by Leo Brouwer, was presented by Bret Hoag, classical guitarist from the Indiana University School of Music Program at IUPUI.

**School of Informatics’ technologies, resources available in ICTC building**

- Seven PC computer labs
- Mac computer lab featuring G5 computers
- Large 200-seat auditorium with 3-D stereoscopic projection technology and theater-quality 7.1 surround sound
- Human-computer interaction lab
- Classroom dedicated entirely to Health Information Administration
- New-media gallery
- Bioinformatics lab
- Informatics Research Institute offices and lab
- New-media audio/video production suite
- Access to the virtual-reality theater, in collaboration with University Information Technology Services
- Informatics access grid room with capabilities for synchronous and asynchronous multimedia videoconferencing to remote locations
  - Equipment checkout room
  - Informatics technology support services
  - Student services
  - Faculty offices

Included in the program was a 3-D visualization, “Painting with Electrons,” created by Albert William, visiting research associate, School of Informatics IUPUI. The visualization celebrates art, science, health, and technology. Under the technical direction of Rob Stein, Indiana University School of Informatics, the new-media presentation includes original music — *Hermes*, composed by Ricardo Laranja, visiting lecturer, New Media Program — and is narrated by Joy William. The selection was particularly relevant, as the sandal of Hermes is central on the School of Informatics crest.

Attending as distinguished members of the platform party were Darrell L. Bailey, executive associate dean, IU School of Informatics, and director of the New Media Program, IUPUI; IU trustee Erin Haag Breese; James W. Brown, executive associate dean, IU School of Journalism; Trevor R. Brown, dean, IU School of Journalism; J. Terry Clapacs, vice president and chief administrative officer, IU; IU trustee Jeffrey S. Cohen; J. Michael Dunn, university dean, IU School of Informatics; Stephen L. Ferguson, vice president of the IU trustees; G. David Peters, director, IU School of Music Program at IUPUI; Gwyn Richards, dean, IU School of Music; IU trustee Patrick A. Shoulders; and IU trustee Sue H. Talbot.

About 450 guests, students, and staff attended the ceremonies and took tours of the building as part of the celebration.

Some guests view the ceremony on flat screens in the ICTC lobby.
The IUPUI Informatics Research Institute team has traveled to many interesting places in an effort to digitally document significant cultural heritage. Their most recent trip to the former Yugoslav Republic of Macedonia complemented previous expeditions but introduced a new technology to the mix. Traveling to this centrally located Balkan country surrounded by Greece, Albania, Serbia, Montenegro, and Bulgaria, members of the IRI visited Skopje, the capital of Macedonia, to acquire 3-D digitally scanned photographic samples of artifacts at the Museum of Macedonia. Most notable among the Macedonian members of the team are Kosta Balabanov, professor of archaeology, and Vladimir Radevski, vice dean of communication sciences and technologies at the South East European University. The team from IUPUI, working with the Institute of Informatics of Ss Cyril, the Methodius University, and the communication and science technology faculty of the South East European University (all of Macedonia), undertook the first phase of a multiyear project that will digitize many of the museum’s artifacts, including pottery, icons, and sculptures dating to the Neolithic period. The project leader, Mathew Palakal, director of the IRI, and team members Skip Comer, research associate, and Susan Tennant, clinical assistant professor from the School of Informatics, captured digital scans of artifacts in the museum’s permanent collection with an OPTIX 400M 3-D scanner, producing 3-D representational digital models of the artifacts. The digital acquisitions will result in stereographic 3-D images stored in a searchable and indexed archive for showcasing this important cultural treasure through an online 3-D digital museum.

The collection and online virtual museum will be globally accessible from a portal on the museum’s Web site and on the IRI’s CLIOH project Web site: http://clioh.informatics.iupui.edu. Through their prior experience in cultural heritage preservation efforts of Uxmal, Chichen Itza (Yucatan, Mexico), and Angel Mounds (Indiana), the IRI team has developed crucial expertise and experience in this field. In addition to acquiring 3-D digital scans of artifacts from the Museum of Macedonia, the team traveled to the original site of the scanned artifacts to digitally capture and connect each artifact with its historic environment (see figs. 2 and 3).

Supported by the IUPUI International Development Fund, this collaboration will provide a digital perspective of a significant cultural treasure and the opportunity to discover the natural beauty and extraordinary antiquities of this hidden jewel. The mission of the IDF is to enhance the international focus of the IUPUI academic mission by providing venture capital to stimulate international activity.

Diverse in demographics, landscape, and heritage, the subtle influence of bordering cultures, including Orthodox Christianity and Islam, have produced a distinctive culture in Macedonia that deserves world recognition. Macedonia is a mix of medieval monasteries, crowded bazaars, Orthodox churches, and reconstructed 1950s communist architecture. It is also rich in archaeological sites, artifacts, and artisans as well as delicious Turkish-style, Macedonian and Balkan delicacies. Arriving in Skopje on a Sunday, the day of the week devoted exclusively to family, the IRI team found all stores and most restaurants closed, but parks and public places were filled with people of all ages. This was the first of many extraordinary experiences that became part of the IUPUI
Macedonian 3-D scan and digital documentation story. The country is geographically diverse and breathtakingly gorgeous; its people are hospitable and welcome visitors. Macedonia, described as the “pearl of the Balkans,” has a population of two million people, occupying 25,333 square kilometers. According to Olivera Trajkova, minister of Culture and head of the Sector for International Affairs, “Macedonia is particularly important (from an) archaeological viewpoint since archaeological sites from prehistory up to the late Middle Ages have been preserved in its territory.” There are many archaeological sites throughout the country, some still undiscovered, according to archeologist Cone Krstevski, who accompanied the IRI team as they documented archaeological sites at Skopje, Isar, Kale, Heraclea Bitola, Stobi (see fig. 4), Krivi Palanka, and Ohrid (a UNESCO protected site). The collaboration was made possible through the efforts of Vladimir Radevski, vice dean of communication sciences and technologies at the South East European University, who assisted in translating for the team at the archaeological sites and in the selection of artifacts from the museum’s collection.

During this visit, the IRI team worked closely with their Macedonian counterparts to lay the foundation for future data collection, language translation of annotations, database and interface designs, and creation of the digital museum. This collaborative effort will
- Enable museum visitors to enjoy a high-quality, vivid, virtual experience that promotes user interest about the subject of Macedonian cultural heritage;
- Encourage further curiosity and sustain interest that leads to increased attendance at the Museum of Macedonia;
- Enable a user to browse a collection to which they would not otherwise have access, whether due to physical limitations, geographical constraints, time, or budget;
- Expand the museum’s viewable collections to include augmented information and superimposed media-rich content; and
- Provide the Museum of Macedonia with the opportunity to digitize, catalog, and create a 3-D representational virtual museum and indexed archive of their collections.

The funds from IDF enabled the IRI team to travel to Macedonia to establish this important collaborative research and development project that will be beneficial to a great many individuals. The Informatics Research Institute wishes to acknowledge and thank the IUPUI IDF, without whose support this initial effort could not have been made.
School of Informatics announces scholarship recipients

Nick Noblet, a freshman majoring in informatics at IUPUI, was recently named the recipient of a scholarship through the Bepko Scholars and Fellows Program. The program is committed to developing engaged scholars who view service and learning as keys to personal growth as well as the growth and well-being of the communities in which they live. Admission is based on several factors, including strength of the academic curriculum in secondary school, class rank, standardized test results, and a demonstrated commitment to community service.

Noblet is a graduate of Speedway High School, where he participated in track and cross-country. As a member of the cross-country team, he was an All Conference Finisher, receiving the Hannah Scholastic award as well as the All-Conference Academic Award. He was named to the National Honor Society in both his junior and senior years and was a member of both the Spell Bowl and Academic Super Bowl teams during his senior year.

Noblet developed an interest in computer systems at an early age and has been able to teach himself enough about the technology to produce some Web sites for local businesses. During his time at IUPUI, he plans to focus his study on combining information technology with business and the law, and he believes that the School of Informatics is a perfect fit for him.

Noblet plans to be an active member of the student body and has many ideas for student life at IUPUI. He is already involved with the Informatics Student Government and the IUPUI Student Government.

Two other freshman students in the School of Informatics received scholarships from the Diversity Scholars Research Program. The program is aimed at attracting academically talented students pursuing an education in the research setting who will contribute to the diversity of IUPUI. Students in the program are part of a group of undergraduate scholars who benefit from the research activities, individual support, and scholarship funding. The award is made to students in a variety of majors at IUPUI and is highly competitive.

Jeremy Crowder, a graduate of Ben Davis High School, was active in the performing arts. He was a member of the marching band, pep band, and swing band, appeared in the 2004 spring musical, and performed with the Black History Program.

Crowder was also active in the Spanish Club and was named to the National Honor Society in both his junior and senior years. He has worked as a volunteer for Prevent Blindness Indiana and is a member of the Urban League.

Crowder is a freshman at IUPUI and is majoring in informatics with a cognate in new media. His career interests include video-game design and advertising.

Leon Nowlin, a freshman majoring in new media, graduated from Lawrence Central High School. He was a member of the track team, Spanish Club, Gospel Choir, orchestra, and Key Club. He was also active in SUPER — Students, Understanding, Perseverance, Education, Rights, and Responsibilities — an organization whose goals include motivating and empowering students to excel in academics and to encourage community service. Nowlin was named to the National Honor Society during his senior year.

An interest in movie special effects led Nowlin to the New Media Program. He is interested in animation and the digital creation of special effects and would like to work in the motion picture industry.

Nowlin is enjoying the diversity of the IUPUI student body. He is a member of Student African-American Brotherhood and Circle K.

Michael McRobbie, professor of informatics, computer science, and philosophy and adjunct professor of information science and cognitive science, vice president for information technology and chief information officer (Office of the President), and vice president for research; PhD, Australian National, 1979. He is a member of numerous government, research, and private-sector committees, boards, and advisory appointments nationally and internationally. (Bloomington and Indianapolis)
Franz Hernandez: Fulbright Scholar in new media

Franz Roberto Borja Hernandez is a Fulbright Scholar who is pursuing an MS in media arts and science at the School of Informatics at IUPUI. A native of Juan Aldama, Zacatecas, Mexico, Hernandez earned a bachelor’s degree in communications from Universidad Iberoamericana in Torreon, Mexico. Upon graduating, Hernandez partnered with two colleagues to establish a communication consulting firm, where he managed the electronic media division. He has also managed a resort Web site and has worked in the training division at a Coca-Cola bottler, where he developed and implemented the use of multimedia tools for employee training.

In January 2003, Hernandez applied to the Fulbright Scholarship Program and was awarded a grant. He enrolled in a pre-academic program at the University of Oregon, where, among other things, he took classes in traditional animation, sculpture, and global media and culture.

Third Elsevier fellowship in informatics awarded

The recipient of the Indiana University School of Informatics’ 2004 Elsevier MDL Excellence in Informatics Fellowship is Ms. Nidhi. A native of India, Ms. Nidhi is pursuing a master of science in chemical informatics at IUPUI. She holds a bachelor of science in chemistry from Daulat Ram College, New Delhi, India, and a master of science in computer applications from the DAV Institute of Management at Faridabad, India. Through industry internships and work experience in India, Nidhi brings extensive computer expertise to her studies here.

“My motivation to enter this graduate program stems from my deep desire to apply computation methods to tame chemical data,” Nidhi says. “While pursuing an undergraduate program in chemistry, there were times when I was overwhelmed by the staggering number, variety, and possibilities of chemical structures. I am looking forward to the opportunities offered by Indiana University and the chemical informatics program.”

The Elsevier MDL Excellence in Informatics Fellowship is awarded annually to support deserving graduate students specializing in chemical informatics or bioinformatics at IU.

Filippo Menczer, associate professor of informatics, computer science and cognitive science, adjunct associate professor of Physics; PhD, University of California–San Diego, 1994. Scalable Web text and data-mining applications; Web intelligence; Web IR; distributed information systems; adaptive intelligent agents; e-commerce; Internet security; evolutionary computation; machine learning; neural networks; complex systems; social networks; artificial life; agent-based computational economics. (Bloomington)

Mahesh Merchant, associate professor of informatics; PhD, University of Utah, 1980. Scientific data management, bioinformatics, chemical informatics, and GLP validation of laboratory informatics management system. (Indianapolis)
ArvinMeritor creates minority scholarships

The School of Informatics is committed to providing educational opportunities to students who otherwise would not typically pursue technology as a field of study.

ArvinMeritor Inc. is a premier $8 billion global supplier of a broad range of integrated systems, modules, and components to the motor vehicle industry. The company serves light vehicle, commercial truck, trailer, and specialty original equipment manufacturers and related Aftermarkets. Headquartered in Troy, Mich., ArvinMeritor employs approximately 32,000 people at more than 150 manufacturing facilities in 27 countries. ArvinMeritor common stock is traded on the New York Stock Exchange under the ticker symbol ARM. For more information, visit the company’s Web site at www.arvinmeritor.com.

Zotec Solutions donates software to School of Informatics

Zotec Solutions, Carmel, Ind., has donated a fully integrated medical-practice management software suite to the Indiana University School of Informatics Health Information Administration Program. Zotec is a national leader in medical practice management, billing, and electronic patient-records software. The donation includes Zotec’s Electronic Billing Center practice management software, as well as “ChartzOnline,” an electronic patient-records product.

The migration from the traditional paper-based patient record to an electronic system is still new but represents an emerging trend in patient care. HIA students will now have access to the latest in medical billing techniques, insurance compliance, and overall practice management tools.

“Many college-level health information programs around the nation struggle to find affordable technology that can be used with their courses, and we’re pleased to be able to help out through this donation,” said T. Scott Law, president and CEO of Zotec Solutions.

There are many facets of health information management that HIA students will need to understand, such as physician office procedures, insurance regulations, privacy laws, and the ways physician records differ from records in other settings.

“The Zotec software not only gives our students a great opportunity to get ‘hands-on’ experience with all phases of managing a medical practice, but it also affords them the opportunity to use the very latest technology in electronic medical-patient records systems,” said Danita Forgey, director of the Health Information Administration Program and clinical assistant professor of informatics at IUPUI.

“The use of the software will have the added benefit of giving students experience with scheduling and billing systems in a physician’s office, as well as the impacts of such sweeping legislation as HIPAA. This applies not only to the HIA baccalaureate degree program students, but also for students in the coding certificate program that was recently approved for the Indianapolis campus. And, the donation is enhanced by the fact that Zotec is a solid Indiana company.”
HIA graduate garners national recognition

Carol Lewis, MPH, RHIA, a 1953 graduate of the Indiana University Health Information Administration Program, has been named a recipient of the Champion Award for 2004. The award is presented by the American Health Information Management Association and honors those whose long-term and enthusiastic support of AHIMA and the health-information profession has advanced the organization’s capacity to achieve its mission and has advanced the practice of health information management.

Lewis began her professional career as the director of the health information department at LaRue Carter Memorial Hospital in Indianapolis. After two years, she joined the U.S. Public Health Service and has been involved in the work of the health information management profession on both a national and international level.

During her 20 years as a commissioned officer in the USPHS, Lewis held a variety of positions, including her work with the Pan American Health Organization in Buenos Aires and Argentina. As the regional adviser in health records (PAHO, Washington, D.C.), she served as adviser for the National Health Service and Hospital Authorities in more than 30 countries in Latin America and the Caribbean. She has also been a consultant to the World Health Organization in Geneva and the United Nations Fund for Population Activities.

Lewis has previously been recognized by AHIMA with their Distinguished Member Award, the highest honor bestowed by the organization. She currently serves as AHIMA’s director to the International Federation of Health Records Organizations and is a past president of the organization.

Recognized at the international level, Lewis is a professional whose pioneering efforts have influenced and improved the quality of life for countless people in many countries.

Phishing

(continued from page 11)

you to notice. Then I show up, claiming to be there to fix the problem. I appear legitimate and everything seems consistent, so you invite me onto your property. Whenever you get e-mails requesting personal information, no matter what the circumstances, be skeptical, even if what you’re seeing appears legitimate.”

Jakobsson admitted the scenarios may instill some paranoia, but he is joined by eBay’s Schmidt and others in his assessment that such context-aware attacks are inevitable. To combat the problem, Jakobsson believes users, online businesses, and government must get involved.

“A number of us are recommending changes in the way eBay and others display online information,” Jakobsson said. “Personal information should only be displayed publicly on Web sites if it is absolutely necessary, or if a user gives his or her specific assent, knowing the risks. Government can help by requesting or requiring these changes. And of course there must be a public awareness campaign.”

The report, “Modeling and Preventing Phishing Attacks,” is currently being considered for the International Financial Cryptography Association’s annual meeting in February 2005. Copies of the paper are available to journalists and scholars only upon request. The research was supported by RSA Laboratories in Bedford, Mass.

Jakobsson is part of a group at IU that develops technological counter-measures to phishing and other types of Internet fraud. Members of the group are currently working on authentication software that would protect users from unknowingly entering PINs, usernames, and passwords at illegitimate Web sites.

Samual A. Falk Milosevich, associate professor of informatics, interim director of Chemical Informatics Program; PhD, University of Wisconsin–Milwaukee, 1980. Quantum chemistry, high-performance computing, computational chemistry. (Indianapolis)

Javed Mostafa, associate dean for research in the School of Library and Information Science, Victor H. Yngve Associate Professor of Information Science, associate professor of informatics and cognitive science, adjunct associate professor of computer and information science (IUPUI); PhD, University of Texas–Austin, 1994. Information retrieval and adaptive interaction. (Bloomington)

Snehasis Mukhopadhyay, associate professor of computer and information science and associate director of bioinformatics; PhD, Yale, 1994. Intelligent systems, intelligent control, neural networks, multiagent systems, intelligent information filtering, bioinformatics. (Indianapolis)
Women from School of Informatics receive Leading Light Award

Three members of the School of Informatics were honored recipients of the 2004 Leading Light Award for “women of achievement in science education and technology.” The awards were presented by Women and Hi Tech in seven categories, recognizing outstanding achievements in the field of information technology:

- **Christine Page West**, senior vice president, Option Six Inc., won “Outstanding Contribution to Health, Life Science, or Ag-Science Industry.” She is a 2002 graduate of the School of Informatics at IUB.

- **Bernice Ulrich**, BS ’72, registered health information administrator and vice president, Indiana Hospital and Health Association, won “Distinguished Use of Technology by an Individual for the Government or Service Industry.” She is an alumna of the HIA program and is the chair of the HIA Advisory Board. Ulrich has made many notable contributions to the quality of health care in Indiana. She is responsible for developing the Indiana Hospital and Health Association’s Comparative Outcome Profile, a program designed to allow data-sharing of quality measures among hospitals. A large part of her role in this project was to build a database for the purpose of collecting and providing severity-adjusted-quality comparative reports for Indiana hospitals. Prior to the creation of this database and application of the severity adjustment measures, hospitals could only generate meaningful quality comparative data on a very limited basis. Through her efforts, hospitals now have a technological tool for organizing and reporting data, providing them with a wider base for comparison.

- **Barbara Howery**, an undergraduate major in informatics at IUPUI, won the Ice Miller Undergraduate Student Scholarship. Howery is the founder and two-term president of Informatics’ Women’s Organization, an IUPUI student-based organization devoted to supporting women in the fields of informatics, computer science, and computer technology. Howery is employed by IT Training and Education at IUPUI, where she is an administrative assistant and classroom assistant for computer workshops. She will receive a BS in informatics in May 2005.

Three other outstanding women with ties to the School of Informatics were nominated for awards:

- **Anna McDaniel**, director of the Health Informatics Graduate Program at IUPUI and member of the Health Informatics Program Advisory Board;

- **Polly Baker**, associate professor of informatics at IUPUI and a distinguished scientist in the IPCRES Laboratories; and

- **Julie Meek**, president of the Haelen Group and member of the Health Informatics Program Advisory Board

Women and Hi Tech was established as a nonprofit organization in July 2000. The organization was created to address the specific needs of women in high-tech industries in central Indiana and to encourage more women to consider careers in technology.
Upon graduating from the New Media Program in 2001, Niki Herron worked in IT for an Indianapolis real-estate investment firm for two years as an information technology specialist. Feeling unfulfilled, she decided to find a more altruistic way to make use of her computer skills and knowledge.

After some research, she discovered that the U.S. Peace Corps offers a new IT program in some of its participating countries. Although Herron was a bit hesitant to leave everything and everyone behind for a 26-month stint in a developing country, the program sounded like the opportunity of a lifetime. She had always wanted to live abroad, and so she put her fears aside and completed the initial application.

A year later, Herron was accepted into the Peace Corps as an IT community educator assigned to Guyana, South America. She headed for Miami with 20 other people of various ages and backgrounds and, after a two-day staging event, arrived in Guyana on June 4, 2003.

Like many, Herron first thought the Peace Corps would involve living in mud huts, existing off the land and perhaps planting vegetables and building houses. What she learned is that, although these living conditions and agricultural programs still exist and are crucial to the development of many countries, the Peace Corps has many different areas of development, including health/HIV awareness, youth outreach programs, community development, education, small business, and IT.

Guyana, meaning “land of many waters,” is nestled in South America among Venezuela, Brazil, and Suriname. It also borders the Atlantic Ocean and is actually considered a Caribbean country. Roughly the size of England, Guyana is a beautiful country whose varied geography includes low coastal areas, Amazonian rain forests, and mountainous savannahs. It is home to many vast rivers that divide and name most of the country, and it boasts one of the world’s highest single-drop waterfalls. Like its geography, the population comprises many different ethnicities, including, African, Amerindians (indigenous people), (continued on page 26)
As a secondary project, Herron has established an Enrichment Club at the college to enhance students’ lives both personally and professionally. She also plans to work with the University of Guyana on various Web sites and new-media projects, hoping to include some seminars on digital editing. She is making use of her Adobe Photoshop skills on a publication, called The Gaff, that is published quarterly to update the in-country volunteers on issues pertaining to Guyana and the Peace Corps’ work.

A fellow Peace Corps volunteer working in Georgetown is trying to initiate an internship program with the University of Guyana computer science seniors, where the students work with various nongovernmental organizations to build Web sites and assist with IT needs. Herron hopes to become a mentor on this project.

Other Peace Corps IT volunteers work in secondary schools, help write the IT national curriculum, teach computer seminars at various community centers, work as communication specialists for various NGOs, work on Web sites, maintain systems and networks, and offer any IT assistance possible. Currently, there are 64 Peace Corps volunteers in Guyana, with 11 involved in IT. Most IT volunteers live in Georgetown, while the rest are spread out over the 10 administrative regions of Guyana.

The people of Guyana often say “jus’ now,” which means that things could get done in five minutes or five years. Herron would like to see progress being made at a faster pace, but she has learned that development work is a long and arduous task. She has endured bugs, heat, and lack of material comforts. She has seen the face of poverty firsthand and struggled to communicate with a people whose background is incredibly different from her own. Through this experience, Herron has come to a true understanding and appreciation of the now-famous Peace Corps slogan, “The toughest job you’ll ever love.” As she says, “The Peace Corps has been the most amazing experience of my life, and I truly recommend it to anyone interested. There are no regrets, and I feel fortunate to be part of the Peace Corps community.” Her hope is that she has influenced at least a few students and that they will be able to use her as an example to make a difference in their own country.

A note from Niki
Fellow alumni, Peace Corps Guyana could really use your help. There are several opportunities for assistance, not only financially but with projects as well. If interested in helping PC Guyana, please first contact me at nikiherron78@yahoo.com. Clearing items through customs can be tough and costly, so please contact me before sending. For more information about the Peace Corps, visit www.peacecorps.gov.
New media graduate creates ‘super-secret, super-amazing’ games

“This is definitely one of the best jobs in the world!” says Gene Rozenburg, who received a BS in media arts and science in May 2004 and is now working for Electronic Arts as an audio specialist. He was hired in July 2004 and is the lead audio designer for “NFL Street 2.” He is responsible for the creation and implementation of all audio assets for all platform releases within the franchise and works in a support capacity for such other game titles as “Madden NFL Football,” “NCAA Football,” “NASCAR,” and other, as Rozenburg puts it, “super-secret and super-amazing game titles.”

The importance of audio design in video-game development is becoming increasingly obvious. The video-game industry is a multibillion-dollar business, now surpassing even the film and television industries. The emerging audio technology present in home entertainment consoles is about to provide game industry audio designers with unbelievable creative freedom; designers will be challenged to constantly “raise the bar” in terms of the quality of audio design. In the near future, the line between cinematic and video-game sound will be eliminated, providing game players the same aural experience as moviegoers. Rozenburg says, “Being there during the very revolution of audio design and composition for the game industry is something I am incredibly excited about.”

Even though he was aware of EA’s reputation for excellence, Rozenburg has found the caliber and quality of its audio department surprising. In the short time he has spent at EA, he has worked with award-winning film and game industry audio designers and dealt with world-renowned recording artists. It is easy to see why Rozenburg is so energized by his work.

Rozenburg credits the degree he received in new media with providing him the necessary qualifications to be considered as a candidate for employment, especially since EA prides itself on being a company with one of the highest percentages of employees who are college graduates. He believes the instruction he received in digital video editing and audio design while at IUPUI provided him with the skills to secure the position.

When asked what advice he might offer current students, Rozenburg said, “Spend your time developing a good professional portfolio and résumé. Many companies are expanding and welcome new talent. A good way to get your foot in the door is to search Web sites such as gamasutra.com for job and project openings,” he said. He also suggested that students offer their services (even if for free) to amateur and professional teams that are in need of extra help. Building a list of industry credits is a big plus for a beginning audio designer. Above all — study hard and get good grades. “It is a common misconception that companies do not look at grades when making hiring decisions,” Rozenburg said. “A good academic record and the completion of a degree will definitely help you get a job in the game industry.”

Designers will be challenged to constantly ‘raise the bar’ in terms of the quality of audio design.

Did you know that Indiana has the fifth-largest life sciences economy in the nation! At the heart of that economy is Indiana University — one of the leaders in life sciences. Learn more online at lifesciences.iu.edu

Durwin Talon, associate professor of informatics; MA, Syracuse, 1998. Visual communication, storytelling. (Indianapolis)

Haixu Tang, assistant professor of informatics and computer science, affiliated researcher in the Center for Genomics and Bioinformatics; PhD, Shanghai Institute of Biochemistry, 1998. Bioinformatics. (Bloomington)

Peter M. Todd, professor of informatics; PhD, Stanford University, 1992. Complex systems, simulation, modeling, music informatics. Joining faculty 2005–06. (Bloomington)

Alessandro Vespignani, professor of informatics and cognitive science, adjunct professor of physics, affiliated researcher, Complexity Institute, Indiana University; PhD, University of Rome, 1993. Complex systems, simulation and modeling, bioinformatics. (Bloomington)

Catherine Wyss, assistant professor of informatics and computer science; PhD, Indiana University, 2002. Database systems and theory, data mining, information and knowledge representation, supporting scientific informatics with intelligent information systems. (Bloomington)

Larry Yaeger, professor of informatics and cognitive science; PhD. Former member of Apple’s Advanced Technology Group; technical lead in the development of the neural network-based hand-print recognition system in second-generation Newton PDAs and Mac OS X’s “Inkwell.” Complexity measures of neural architectures and activities in artificial life systems. (Bloomington)

Ikuho Yamada, assistant professor of informatics and geography. PhD, State University of New York, 2004. Geographic information science and systems, spatial statistics and quantitative methods, urban transportation, public health. (Indianapolis)
Vision
Informatics studies the application of information technology to the arts, sciences, and professions, and its use in organizations and in society at large. The Indiana University School of Informatics has set as its goal to be nationally recognized as the foremost in the country for excellence and leadership in informatics programs, including undergraduate and graduate education, research, placement, and outreach.

Mission
We believe there is great need and opportunity for professionals trained in state-of-the-art information technology and science with an emphasis on creative human applications. There is an urgent need in our society for graduates with education and experience in informatics, particularly with interdisciplinary skills. The School of Informatics will be foremost in the country to graduate professionals with formal preparation in information technology with subject area expertise. To this end, we will:

• Lead the nation in the development of an innovative and successful new curriculum for information technology and its applications;
• Educate students, including those who might not traditionally consider an educational path in technology, especially women and minorities;
• Encourage interdisciplinary research projects in the field of Informatics, focusing on distributed systems technology, information theory and information management, human factors and Human-Computer Interaction, and study of the social impacts of information technology;
• Serve the state of Indiana by way of education, community participation, and collaborative research partnerships, thereby participating in the growth of an IT culture in the state and encouraging continued economic development;
• Produce graduates who become leaders in the growing information economy of Indiana and the world; and
• Develop synergistic relationships with industry to develop and advance research in information technology and its applications.
When Beth Lykins, MS’04, media arts and science, submitted her photos to a new Web site called www.morguefile.com, she had no idea it would lead to an international publication credit. Morguefile is a site where visitors can download high-quality, high-resolution images that are completely royalty free. When an artist submits images to the site, an agreement must be signed that allows users the right to use the images in commercial projects without permission or credit from the photographer.

The founders of this site decided to handle the image database in this manner in an effort to follow in the tradition of the World Wide Web. This free spirit does not, however, allow users to sell the images or claim the photos as their own. In fact, while it is in no way obligatory to do so, it is almost an unspoken rule that if a visitor downloads and uses an artist’s images, the user sends an e-mail to the photographer explaining how they intend to use the images.

It was in this way that Beth found out that a not-for-profit organization in Canada had chosen one of her images to feature on its Web site. In the e-mail, the representative from www.mobbing.ca said, “I visited MorgueFile.com and found your picture of Maple Leaf Buds. It is perfect for our Web site, which is about overcoming a form of serious workplace abuse called ‘mobbing.’ It has information relevant to all but focuses on mobbing as it relates to Canadian businesses. With the symbolism of a fresh start, new growth, and of course being Maple Leaf Buds, your photo was just what I needed to bring life to our home page. … Thank you for making your photographs available to all.”

Informatics alumni write in with news

**Bryan Allen**, BS’02, media arts and science, is the media director for Electronics Technicians Association International in Greencastle, Ind.

**Jennifer Brown**, BS’04, health information administration, is a health information management department supervisor for the Indiana Surgery Center North in Indianapolis.

**Kimberly Claytor**, BS’04, health information administration, is a diagnostic-related group coordinator for Health Care Excel in Indianapolis.

**Noah Coffey**, BS’03, media arts and science, is the webmaster for the Indiana Department of Natural Resources.

**Amber Curtis**, BS’04, health information administration, is a clinical data abstractor at Reid Hospital in Richmond, Ind.

**Kyle Evers**, BS’02, media arts and science, works in desktop support and software application development for the VX Project for Perot Systems in Newport, Ind.

**Jason Gretencord**, MS’04, is now employed by Archer-Daniels-Midland in Decatur, Ill.

**Hannah Griner**, BS’04, health information administration, is a health information management department supervisor at Westview Hospital in Indianapolis.

**Steven Hodges**, BS’04, media arts and science, is an electronic visual coordinator for the Department of Communications and Marketing at IUPUI.

**Nycole Johnson**, AS’02, BGS’02, is an information technology specialist for the Indianapolis Urban League.

**Amber Lampher**, BS’04, health information administration, is a cancer registrar at Hendricks Community Hospital in Danville, Ind.

**Heather Olibo**, BS’04, health information administration, works in the health information management department for Kindred Hospital in Indianapolis.

**Leah Sandvoss**, MS’04, attended a conference in Sheffield, England, having won a bursary to support her attendance and presentation of a poster paper. The bursary was provided by Chemical Computing Group and carried with it a one-year license for the school of their MOE software. Sandvoss is now employed as an information scientist in Pfizer’s La Jolla, Calif., laboratories.

**Courtney Vehling**, BS’04, health information administration, is working in Global Management Endocrinology for Eli Lilly & Co. in Indianapolis.

**Kenrick Vidale**, MS’04, is now working as a patent information searcher for Merck & Co. in Rahway, N.J. Both Vidale and Sandvoss worked in Mookie Baik’s laboratory at IU and also worked on the National Digital Science Library project “Reciprocal Net,” directed by John C. Huffman.

**Alexis Wright**, BS’04, health information administration, is a health information management coder for Henry County Hospital in New Castle, Ind.