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#### Meet Dean Bobby Schnabel

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Indiana Informatics is paid for in part by dues-paying members of the Indiana University Alumni Association. The semiannual publication is produced twice annually through the cooperative efforts of the IUAA and the IU School of Informatics to provide useful information and news to alumni and friends of the school.

Please direct comments and inquiries to Lisa Herrmann. Call (812) 855-4125 or e-mail Ijherrma@indiana.edu.

#### **IU School of Informatics**

Dean

Robert B. Schnabel

IUB Communications and Marketing Manager Lisa Herrmann

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#### **IU Alumni Association**

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Director of Alumni Programs, IUB Rachael Crouch

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**Editor for Constituent** Periodicals Sarah J. Preuschl

Class Notes Editor Raymond Fleischmann

# A vision to redefine modern computing education

t's a great pleasure to welcome alumni and friends of the Indiana University School of Informatics to *Indiana Informatics*. Since last July, I've had the pleasure of serving as dean of the school, succeeding its founding dean, Mike Dunn.

As everyone associated with the school knows, Mike did a superb job in conceptualizing and successfully working for the creation of the school, and in leading its first seven years. Through my participation in the national Information Technology Deans group, I've known Mike, and I watched the school's progress with admiration, like a person watching his neighbor's children grow up.

In my view, the School of Informatics holds a unique attraction and promise. When people ask me why I came to IU (after 30 wonderful years at the University of Colorado at Boulder, a locale from which one doesn't depart lightly), my answer is simple: I believe passionately in the importance of computing and information technology to the nation and world. I think the IU School of Informatics is uniquely positioned to lead the evolution of education and research in this field, and I'm honored to lead that effort.

The School of Informatics is unique in its combination of size, breadth, and environment. Our nearly 100 faculty members on the Bloomington and Indianapolis campuses and our educational and research programs encompass the wide range of computing and information technology — from science and technology to a large variety of applications and societal implications.

We are situated at an excellent research university with a premier IT infrastructure, a topranked medical school, and an exciting state economic climate complemented by the Indiana life sciences initiative. Our research emphases in areas including biological, chemical, and health informatics; data and search informatics; computer security and privacy; high performance computing; modeling of complex systems; human-computer interaction; and technology for values position the school to contribute in important ways to the world, nation, and state.

Our breadth places us in the perfect position to redefine modern computing education and to be a national exemplar in the full participation of women and underrepresented minorities in computing. This last area is a longtime passion and emphasis of mine, which is shared by many of our faculty and staff.

This fall, we conducted a school-wide strategic planning process that was appropriate for the fast-moving field of information technology: it took only 10 weeks and focused on plans



ROBERT B. SCHNABEL

## "I BELIEVE PASSIONATELY IN THE IMPORTANCE OF COMPUTING AND INFORMATION TECHNOLOGY TO THE NATION AND WORLD."

that we would begin to implement immediately. At the highest level, it asked: where does the school have the greatest potential for national and international prominence in education, research, and diversity? Working with our Deans Advisory Council of prominent alumni and friends, it also examined the school's role in economic development and entrepreneurship. I am excited to carry out the vision and recommendations in this plan. Read more about our initiatives on page 12.

Finally, I place great emphasis on meeting and working with our large family of alumni and friends and on finding ways that you can all feel our excitement and progress.

The legendary Indiana hospitality that I've received so far has been incredible, thanks to so many of you! Please feel free to contact me at schnabel@indiana.edu to introduce yourselves and to discuss how you might like to be involved in this trend-setting journey. And, for those who don't know me, the only name or title that I go by is "Bobby."

Bobby

# HAPPENINGNOW

Notes and news about Informatics today



## **IUPUI** PhD in human-computer interaction expands

To meet the ever-growing need in the field of human-computer interaction, the school has expanded the PhD program in HCI on the IUPUI campus. Students in this doctoral program explore how humans can best interact with the computers that play such a large part of our daily routine and why we navigate Web sites and software in particular ways. Students partake in a diverse curriculum that includes core courses and seminars in informatics, informatics sub-disciplines, courses in methodology and theory, electives in related disciplines, and a dissertation.

"Every company that develops software and Web sites needs to be concerned with more than quality assurance," says Anthony Faiola, director of the Media Arts and Science and HCI programs. "Beyond utility, user-centeredness and usability are vital components to highly effective products."

For more information on the program, visit informatics.iupui.edu.

## Super performance in supercomputing

In November, student teams from computer science traveled to Reno, Nev., to participate in multiple competitions at SC07, the world's largest international conference for high-performing computing, networking, storage, and analysis. This elite group of undergraduates gave a very impressive showing despite defeat by a Canadian team.

"This was a demanding exercise requiring sophisticated knowledge of cluster computing," Andrew Lumsdaine, professor

of computer science and team sponsor, said. "It included an understanding of power consumption, configuration of an operating system, and then running and benchmarking some highly technical scientific software programs. Our team was outstanding."

The Apple-sponsored IU team included six computer science undergraduate students who, along with a high-performance eight-node Apple cluster computer nicknamed "Red Delicious," were presented with huge data sets to run on six different high-performance applications.

#### ONLINE

See what's happening today in IU informatics: informatics.indiana.edu or informatics.iupui.edu. Ric Craddick/IU Photographic Services

# Entrepreneurship lives in informatics

Imagine sharing your idea for the "next big thing" in IT with leaders of some of Indiana's most successful technology firms.

That's what's happening each week with students enrolled in Entrepreneurship in Informatics, a class taught by Dean's Advisory Council member and immediate past chair, Mark Hill, managing partner of the venture capital firm Collina Ventures LLC.

Thirty students — 20 in Indianapolis, 10 in Bloomington — are enrolled in the class, allowing for extensive interaction with an impressive list of guest speakers that Hill has compiled. Each guest discusses the origin of his or her business ideas, how a management team was assembled, and how each firm was financed — with no sugar coating.

"[Students] are exploring the mistakes that were made, the big breaks that happened, and current hurdles they are facing," said Hill. His class is pictured below.



IMAGINE SHARING YOUR
IDEA FOR THE 'NEXT BIG
THING' WITH INDIANA'S
IT INNOVATORS.

# Welcome to Silicon Valley

Eleven informatics and computer science grad students step into the real world of high-tech companies.

Informatics students and the school's director of career services visited Google, Yahoo, eBay, Hewlett Packard, and Autodesk, where they talked with current software developers and user-experience professionals, toured the extensive corporate campuses, and experienced life upon graduation.

Over the two-day whirlwind of tours, meetings and networking events, they interacted with over 40 people from a wide variety of area companies. They met with an IU Informatics alumni panel at Yahoo, were treated to lunch in the deluxe cafes of Google and eBay, and were "guests of honor" at a dinner attended by IU Informatics alumni from the Bay Area.

"This trip was a definite eye opener to the real world working of high-tech software companies," student Amit Bhatia said. "It gave me insight into the company work culture, job profiles, and internship programs."

"I learned that these companies are continually finding ways to spur creativity and innovation through a collaborative and vibrant work environment," Informatics student Jason de Runa said. "I also realized IU's graduate curriculum meets the needs of the industry."



Of the 375 IU informatics and computer science alumni in California, 225 work in the Silicon Valley. This trip gave students a look at real-life experiences. But it also helped them build a network of contacts with other alumni who are willing to help. In addition, it helped the School of Informatics further build relationships with major employers.

"This trip was a great success for the students, but also for the school, as we are building stronger ties with the large tech companies that are hiring our students," said Jeremy Podany, director of career services. "Furthermore, our alumni in Silicon Valley are very willing to help current students. Their willingness to dialogue about the thrills and challenges of their work in relation to their schooling at IU provided a depth to the trip that could not otherwise have occurred."

#### Outstanding students

Informatics seniors Oliver McGraw and Katrina Panovich were each honored with prestigious awards.

McGraw was given one of five Undergraduate Research Stipends in Practical Ethics for 2007–08, presented by IU's Poynter Center for the Study of Ethics and American Institutions. An informatics major with minors in philosophy and anthropology, McGraw will use the stipend to investigate the methods and concerns of student designers as they develop systems

for a National Science Foundation-funded study concerning privacy in home computing of senior citizens.

Panovich was selected for honorable mention in the Computing Research Association's Outstanding Undergraduate Award competition for 2008. The CRA's undergraduate award recognizes students who demonstrate excellence in computing research, in academic record, and in service to community. Panovich is currently pursuing research on user interfaces for social information management under the supervision of Professor Fil Menczer.

#### SECTION FEATURE

# Women in Computing continues to Bring IT On!

In October, 19 undergraduate students and eight faculty advisors from colleges and universities around the state gathered on the Bloomington campus for the second annual Bring IT On! workshop, organized by Women in Computing at Indiana University (WIC@ IU).

Intended to teach computer science and informatics students how to develop K–12 outreach programs at their schools, participants at the three-day workshop created a model based on IU's successful *Just Be* program — a K–12 outreach road show, funded by the School of Informatics, that highlights the benefits of IT careers.

Now in its fourth year, *Just Be* grew from an attempt to address the startling lack of women and minorities who pursue advanced degrees in computing-related fields. Part of the imbalance can be attributed to the prevailing stereotype of the anti-social computer geek.

The "uncool" perception associated with computing can be particularly powerful during the formative K-12 school years, a time in which many children are especially concerned about how they are perceived by their peers. Students who avoid math and science in high school sometimes feel that it is too late to pursue a college degree in computer science or informatics, or they may have a narrow "Dilbert"-esque perception of such fields. *Just Be* is presented to college students to educate them about the wide-open possibilities and the true social nature of computing.

In 2007, IU students presented *Just Be* to approximately 500 children and 650 college students in southern Indiana communities. The Bring IT On! initiative strives to magnify the impact of *Just Be* by "training the trainers" and thereby propagating the message beyond our limited geographic area.

"By helping other universities create their own programs, we are helping reach more children throughout the state. Technology fields are facing a severe shortage of workers, and we need to attract as many young people as we can into these lucrative and rewarding careers," said Kay Connelly, assistant professor of computer science and Bring IT On! co-chair.

Critical to achieving the maximum effectiveness of the program and propelling its future success is communication among schools, including sharing challenges and successes to strengthen the program. Bring IT



Paticipants in the second annual Bring IT On! workshop learned how to develop K-12 programs that encourage women and minorities to pursue advance degrees in computing. The program is made possible, in part, by a generous grant from Cisco Systems.



On! participants reconnected on April 12 for a one-day summit meeting at the IUPUI Conference Center in Indianapolis, thanks to an Avon *Hello Tomorrow* grant presented to Bring IT On! co-chair Suzanne Menzel.

For one year, Avon Products Inc. has awarded \$5,000 cash each week to initiatives that support and empower women. Bring IT On! won for the week of Dec. 4. The summit reunion was meant to bring past participants

together to learn from one another's progress and challenges. Attendees emerged with tools to build stronger and even more successful future programs.

To learn about WIC@IU and *Just Be*, see www.cs.indiana.edu/cgi-pub/wic. Or, for more information about Bring IT On!, visit www. cs.indiana.edu/bringiton.



#### [NATIONWIDE]

To reach an even broader audience, Suzanne Menzel is working with Chris Stephenson, director of the Computer Science Teachers Association, to develop a version of 'Bring IT On!' for 25 schools across the nation. The workshop is May 29–30 at Google's Mountain View, Calif., campus.

#### A CONVERSATION WITH ...

# Dean's Advisory Council members Don Aquilano and Jane Niederberger





by Lisa Herrmann Aquilano Niederberger

he Dean's Advisory Council is a group of local businessmen and women who serve as a "touchpoint" between the School and the business world. We recently asked incoming chairman Don Aquilano and long-time council member Jane Niederberger about their ties to, and goals for, Informatics.

Aquilano is a partner at Blue Chip Venture Company and managing director of Gazelle TechVentures, a venture capital firm based in Indianapolis. He says he's always liked entrepreneurship and technology, having co-founded a valet parking business while still in high school, an apparel business when in college, and two software companies in the 1990s. After helping a group of friends get WebMD off the ground and financed in 1998, he began easing into venture capital and, in 1999, landed with Gazelle.

Niederberger is former CIO of Anthem Inc. She began her career as a nutritionist, then moved to working for an HMO where she learned all aspects of the health-care business. That extensive knowledge of healthcare brought her to Indiana, where she served as the chief information officer of Anthem.

# Tell me about you and about your connection to IU and the School of Informatics.

Don: Gazelle was conceived by a group of community leaders, including the likes of Mayor Goldsmith and Scott Jones, back in 1999 as a way to help close Indiana's capital formation gap. Scott Jones is passionate about IU, and passionate about information technology, and was asked to serve on the Dean's Advisory Council. I was honored to be recommended by Scott for inclusion and have been involved ever since. Being a founding advisory member of IU's first new school in 20 years has been quite rewarding. To me, the School is similar to the business "start-ups" we at Gazelle and Blue Chip fund as part of our venture capital businesses. In fact, I led the charge from the DAC to help secure the school's first-ever legislative line-item budget to effectively launch the school in a big way. In a way, it was analogous to a company's first institutional round, or "Around" as we say in VC circles.

Jane: I had no prior connection to IU, having grown up and attended college in Massachusetts. I moved to Indiana nine years ago when I went to work for Anthem. Shortly thereafter, I was invited to be on the School of Informatics Dean's Advisory Council. My role on the DAC became more "real" to me after having worked with Informatics students.

# What do you see are the school's challenges going forward? Its strengths?

Jane: I see recruiting as an ongoing challenge, particularly recruiting women into technology fields. The practicality of the field is a strength, the fact that it is so applied.

Don: One of the school's current challenges is to leverage its national prominence and growing scale to strengthen its research footprint and associated research funding. Additionally, I know Dean Schnabel is working to make strides in diversity; something he was known for back in Colorado. As far as strengths, we are a true pioneer

in this field and represent the largest and broadest school of informatics in the U.S. That alone is a huge strength.

# What do you hope will be the DAC's biggest contribution to the school?

Don: Helping to bridge the business and academic worlds in order to help fulfill the true vision of the School of Informatics. Our DAC provides real-time, real-life business context for staff, faculty, and students and works to engage with those students for internships and jobs. This reinforces the combined theme of IU and the school: "Excellence in education." When we graduate business-ready students for the real world, everyone wins.

Jane: It's really the same as Don's. I see the DAC as a vehicle to ensure transferability for the students — that what we're teaching is really what's needed out in the business world. It's a link, or virtual bridge, for the school to help keep the program current with the needs of the business community.

# How do you envision the school down the road — in five years? 10 years?

Jane: My vision includes the IU School of Informatics being a model for other universities as they start similar schools. If imitation is the highest form of flattery, we would be honored to serve as a model for other institutions. I also see us serving as a resource to businesses — when a company has a problem that needs solving, I want them to think, "We don't know how to do that; let's contact the IU School of Informatics. They'll have a solution for us!"

Don: I continue to see IU Informatics as a pioneer with everexpanding partnerships with other universities, associations, and business communities. I'd also like to see a much stronger role with economic development and entrepreneurship. The DAC has already begun work with the dean to support his desire to make meaningful contributions.

# Advisory board named for IUPUI Media Arts and Science Program

The School of Informatics at IUPUI has tapped a red-letter group of media professionals to serve as members of the Media Arts and Science Advisory Board. The 16-member board represents an impressive cross-section of creative talent. These advisors will provide the school with a deeper understanding of job skills needed by Media Arts and Science graduates and the best ways to tailor curriculum development in order to meet those needs.

Appointees include: Brice Bowman, owner/engineer, Earshot Audio-Post; Norman Cosand, CEO, The Jackson Group; Sally Fillbrunn, director of sales & marketing, Inside Indiana Business; Frank Friedman, senior vice president & managing director, Optimedia; Mike Fritsch, president, Zoom Information Systems; Bryan Gray, CEO, MediaSauce; Rebecca R. Hendricks, president, Mirror Consulting; Steve Katzenberger, president, Creative Street Media Group; Lou Lenzi, senior vice president of product management, Audiovox; Robert Massie, CEO, Marketing Informatics, Inc.; Conrad Piccirillo, president,

Innovative Edit; **Doug Rammel**, vice president of information system & technology planning, Group Athletica; **Larry Regan**, COO, The Sanders Group; **Brien Richmond**, general manager, Ideavenue; **Dennis P. Stolle**, president, Theme Vision LLC; **Dave Smith**, chairman, Creative Street Media Group.

The Media Arts and Science Advisory Board will meet quarterly with Anthony Faiola, associate professor and director of the Media Arts and Science Program and Human-Computer Interaction Program.

# IUPUI students work with American Legion

A team of IUPUI students, including two undergrads from the school's Media Arts and Science Program, worked with the American Legion to produce a promotional DVD aimed at changing the face of the American Legion, especially as it relates to teens.

Junior Kevin Locke and sophomore Kyla Prows were part of the group that completed extensive research to determine the best ways to communicate with teens. They then put together a fast-paced animated DVD that will be distributed to thousands of high schools and American Legion posts throughout the country.

# Chris Meyer/Indiana University

The Center for Systems Biology and Personalized Medicine and the Android Science Center, both signature centers, will be housed in Indianapolis.

## IUPUI professors to lead prestigious signature centers

Two proposals by IUPUI Informatics faculty members were among ten selected to receive funding to establish Signature Centers—IUPUI's premiere, highly selective research initiative — on the IUPUI campus.

Professor Karl MacDorman, with coinvestigators from the Purdue School of Engineering at IUPUI, will head up the Android Science Center, the first of its kind in the United States. Scientists will build and test androids, as well as examine human-android interaction.

The Indiana Center for Systems Biology and Personalized Medicine, led by Professor Jake Chen, will encourage research that brings new discoveries in biology to clinical applications.

The Center will connect researchers with clinicians and surgeons treating diseases such as lung or breast cancer in order to speed the latest advances in understanding disease biology into cost-effective, personalized diagnosis and treatment of patients. Informatics faculty members Yaoqi Zhou, Narayanan Perumal and Pedro Romero are co-investigators, as well as faculty from the IU School of Medicine.

#### [HOME SWEET HOME]

#### **New headquarters for IUB Informatics**



919 E. Tenth Street in Bloomington

In March 2008, the administration of the IU School of Informatics and a portion of the Department of Informatics moved into a spacious new facility at 919 E. 10th Street.

The building, which was the former Beta Theta Pi fraternity, is adjacent to Informatics' current administrative/ classroom facility at 901 E. Tenth Street. That facility houses the remainder of the department.

Together, the two buildings provide nearly 60,000 square feet of space for Informatics, including offices and classrooms. In addition, the Department of Computer Science continues to occupy Lindley Hall, one of IU's original buildings on the "Old Crescent." Dean Robert Schnabel insists that friends and colleagues call him "Bobby."

A calming familiarity is the perfect compliment to his bold, broad goals for the school.

# Q&A with

# BOBBY

Interview by Neal Moore

#### Q: Tell us about your background.

A: I'm a first generation American — my parents grew up in Germany and Austria. I was born and raised in Queens, N.Y., although I didn't turn out to be much of a city person. I went to Dartmouth College and majored in mathematics.

It's interesting how things go in life. I got into computer science because it was sort of like math, and it was sort of applied, and I liked the idea that if I got a PhD, I could teach in college.

# Q: Did you envision a career as an academic?

A: I didn't come from a family with any particular exposure to that so, no. I remember a time in third grade when they asked what you wanted to be, and I said I either wanted to be the second baseman for the New York Yankees or a mathematician — and the first one was not really an option!

# Q: Tell us about your time at the University of Colorado at Boulder.

A: I got my PhD in 1977, went straight to the University of Colorado, and had a wonderful 30-year career there until I came to IU.

In my last 10 years there I founded and led a multidisciplinary institute called ATLAS — Alliance for Technology, Learning, and Society — which has much in common with the School of Informatics. It was through the ATLAS position that I got involved with the national IT deans organization that I now lead and got to know the School of Informatics.

# Q: You were in a leadership position during the so-called "golden years" of the Internet's development; it must have been exciting to see it develop, to know where it was all headed.

A: I'll agree with half of what you said. It sure was exciting. It was all happening so fast. I can remember a time when people said "I want to learn a little about computing," and they would take one or two courses and somebody would hire them. We're not far from that today. There's way more demand for our students than we can fulfill.

I remember people like John Kemeny, the co-inventor of BASIC and president of Dartmouth, predicting this personalized computing way back in the late 1960s. So, in a certain sense we knew it was coming. In another sense, the way we're using the Internet now — walking around with devices in our pockets

that connect us with anywhere in the world — I don't know that any of us predicted that it was coming that way. And, it's changed our entire society.

# Q:What has been your most surprising discovery about the School of Informatics?

A: That's a good question. I knew the school somewhat as I joined it, so the basic characteristics haven't been big surprises. Friends of mine whom I've known for years will ask me the same question. I usually answer with two things. One is the receptivity of the people here to continuing to change and evolve. It's a wonderful atmosphere that way. It's not easy for human beings of any sort (and some would argue even less for academics) to do that. And, there's great energy in the school.

The other is the autonomy of the schools at IU. We have a budget model that gives us autonomy as far as the revenue and the expenses, and I find that to be a really refreshing work environment. It's entrepreneurial, and that's what you want in a field like this. The freedom encourages people to think of new ways to do things and to change more quickly. The impact of that was probably the biggest surprise.



# Q: How does IU Informatics differ from peer institutions?

A:This School is unparalleled nationally in the combination of three things. One, its breadth — and that's really important — all the way from technical computer science, to a wide variety of applications, to looking at the societal implications of information technology.

The second is the school's size. When you look at the two campuses, you're looking at nearly 100 tenure-track faculty members and quite a number of non-tenure track; 1,500 students. That's a very significant organization.

The third is the presence of those two things in a really first-rate institution. IU is a premier university with a great medical school and IT infrastructure. Put those elements together and there is an unparalleled opportunity to help in redefining computing.

#### Q: Define "informatics."

A: I'm less interested in what that word happens to mean than in how we define the School of Informatics. What I tell people, if I have 20 words to do it – "it's the broad range of computing and information technology from the science and technology, to the applications and implications."

The even simpler definition is "computing, technology, and applications." That's what Informatics is about.

I do think the word has a buzz to it right now. It's new, and people are excited about it, even if they don't quite know what "informatics" means. Our job is to channel that excitement.

# Q: Address the misconception IT jobs in the U.S. are declining, and that most future ones are headed offshore.

A: In today's lingo, that is *so* not the case! It never has been. The absolute "downest" time — to use a word that doesn't exist — in the information technology business right after the "dot bomb" probably got us to the point where the ratio of graduates to jobs was only about one-to-one. Our graduates were still getting jobs, but there was a time when they weren't getting three to five offers each.

We're back to that now. That's how good the job market is. If you look at the National Bureau of Labor Statistics projections, by far the biggest shortfall is the supply of graduates vs. demand for them in the IT fields. And, they're exciting jobs. It would be less fulfilling if there were a lot of jobs but they weren't ones we really wanted to encourage people to pursue. These are really good jobs!

# Q: Should we define a student's college experience by the kind of job opportunities likely to be available upon graduation?

A:I may be old fashioned, but I still believe very strongly in a general liberal education. One of the things I like about the education that students get in informatics and computer science is that it permits that. It's an education with a certain amount of leeway, so that students can get a well-rounded education. We know that, these days, we are educating people who are going to have on average three, four, five careers, so we serve them best by giving them that broad background.

# Q: Explain the school's role in Indiana's economic development strategies and within the life science initiatives of the state and university.

A: My sense is that the success of the IT industry in the state of Indiana and informatics at IU are closely linked.

It's one of those "a rising tide raises all ships" phenomena. If the industry is flourishing, it's going to raise the excitement about pursuing this discipline at IU. If IU is excelling in education and research, the supply of people

and ideas will raise the industry. So, I put a real emphasis on the school being a partner in Indiana economic development, working with corporations, and having a spirit of entrepreneurship within the school.

As for the life sciences, IU and the state of Indiana are well-positioned for national and international prominence in research and applications, and informatics research in the life sciences is an important component. This includes bioinformatics at IUB and IUPUI, health informatics at IUPUI, and complex systems at IUB. The revolution these fields are going to participate in is huge.

# Q: Share with us diversity's role in the school.

A: This is an area of great importance to me, and one in which I've been very active. As I thought of what really great things this school can do, the ability to be a national exemplar in the diversity of this field was high up there. It's linked to redefining how education is done in the fields of computing and informatics. We have a considerably higher participation of women than computer science programs do in general. We have the ability to do so much more, and in so doing, become a national model. We have a faculty that is very receptive to that, and we already were quite a leader in diversity programs before I came here, so it's a very natural fit.

# Q: What challenges does Informatics face?

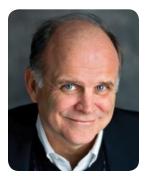
A: The greatest opportunity we face is that computer science and informatics in Bloomington and informatics at IUPUI have only just started to come together as one.

Our research funding and external fundraising are not where we want them to be. That's part of being a new institution. And, while we have a wonderful new building in Indianapolis and an assortment of nice buildings in Bloomington, to really reach our potential we need to raise the funds for and build one building for the entire Bloomington portion of the school.

#### Q: Tell us about you.

A: My wife, Edie Stevenson, and I have two children who each were adopted from Korea as infants, Heidi (23) and Cory (21). Edie started her career as a math professor and now is a massage therapist. She is also a national agegroup champion distance runner. I have lots of interests outside the job, not all of which get enough time. I enjoy sports and running, I love to garden, and I like photography and music.

# Informatics' Strategic Plan: a whirlwind that's working



Jim Shea
Director of Planning

It all began with a phone call from a colleague. "Informatics has a planning job that sounds like it might fit your skills," he said.

After surviving a committee interview, I met with Dean Bobby Schnabel, who had come to Indiana less

than a month earlier from the University of Colorado at Boulder. Five minutes into our interview, he struck me as an energetic leader, and I decided I really wanted the job. A week later (light-speed in university terms), I got a call with the offer.

During my first week, I got a look at Bobby's document, which would shape the strategic plan. I was impressed. He had well-developed questions for five key areas of the school — undergraduate education, graduate education, research, faculty development, and diversity. A sixth charge, economic development issues, would fold in our Dean's Advisory Council.

I saw just one hitch. He planned to start the full process just after Labor Day and expected final reports before Thanksgiving. I told him in my interview that I valued honesty, so here was my first opportunity. "Bobby, your schedule is too ambitious for faculty who are already fully engaged," I said.

"Thanks for your input, but we're sticking to that schedule" was his friendly, but firm, response. OK, I thought, but it'll be a miracle if this happens in that timeframe. Off we went.

#### The pitch

The three departments of the school of Informatics include computer science and informatics in Bloomington and informatics at IUPUI. Bobby and the school's Leadership Council selected faculty co-chairs from these areas for each of the strategic-planning committees.

In a spirit of collaboration, we planned a kick-off meeting with the committee chairs

between Indianapolis and Bloomington, at Martinsville Public Library. The meeting was held at 9 a.m. on Sept. 4, the first day after the Labor Day weekend. The date and time sent a clear message: this is serious.

The committee chairs received their charge to form groups of faculty from the three departments; get faculty members acquainted and comfortable; and conduct a SWOT (strengths, weaknesses, opportunities, threats) analysis of your area. Address the questions outlined by Bobby and the leadership council, plus any questions added by the committee. Each group was to provide an interim report by Oct. 10 and final reports by Nov. 15.

I was impressed with the vigor with which these senior faculty undertook their mission. No one questioned the schedule, and I'm glad Bobby didn't remind me of my initial reluctance.

#### Making it happen

The next two months became a whirlwind of committee meetings. I made the rounds — the informatics building in Bloomington; computer science in Lindley Hall, at the heart of the Bloomington campus; the 10th floor of Eigenmann Hall in Bloomington, with its arresting view of campus; and the informatics building at IUPUI, with an equally commanding view of downtown Indianapolis.

Each committee used its own methods. The undergraduate committee did considerable data mining, the graduate committee looked to other universities for their approaches; the research committee conducted a survey of faculty along with data mining; and the faculty development committee looked to the work of Buckingham and Coffman as a resource for workplace satisfaction. All of the interim and final reports came in on time; some were early. If it sounds like university faculty walking their own talk, it was.

Beyond the process and the people, the plans are what matter. And so, what follows here is a brief summary of what we'll be implementing going forward. It's the meeting of many minds honed in on a common goal that makes IU Informatics a great place to be. It's been a challenging, but rewarding process for everyone involved, me included.



Primary opportunities for national & international prominence

- 1. Establish a new model for undergraduate education in computing and informatics that spans the breadth of this discipline, from scientific and technical aspects, to a broad array of applications and consideration of societal implications.
- 2. **Develop a novel PhD** that reflects the breadth of the school and the discipline of informatics and computer science.
- 3. **Develop the premier professional master's degree** in selected areas within the school, such as human computer interaction/design.
- 4. Establish prominence in key research areas such as complex systems; data, information, and search; human computer interaction/ design; high performance computing and e-science; life sciences; technology for values; and trust and privacy in cybersecurity.
- 5. **Develop selected large-scale funded research program**s that capitalize not only upon the breadth and strengths of the school, but also upon strengths of IU and collaborators at other organizations. Identification of these leading, large-scale research opportunities is ongoing.
- 6. Become a national example of how the broad view of informatics and computing embodied in the school can lead to greatly increased participation and leadership by women and underrepresented minorities, as students and faculty.

# [CUTTINGedge]

News on faculty research and publishing



# Innovation through collaboration

# IU Center for Data and Search Informatics takes on the digital-data questions of the future

The amount of new digital data — that includes Internet content, music, e-mails, sensor networks, and scientific data — generated each year skyrocketed since 2003. Research firm IDC reports that in 2007 about 161 billion gigabytes worth of data was added to the world's stockpile. Researchers predict that this growth will continue at 57 percent annually. How can society handle, and effectively use, all of these data?

The IU Center for Data and Search Informatics was recently established to address the research and educational challenges in large-scale data and search. This highly interdisciplinary area requires expertise in virtually all aspects of the field — from databases and privacy algorithms to information retrieval.

The idea was born with a small group of informatics and computer science faculty discussing research challenges in the important area of data and search. The move of the computer science department into the School of Informatics in 2005 added depth to the conversations, because it opened the opportunity to include meaningful curriculum for a new generation of technologists savvy in the ways of large-scale data.

"We realized very early on that we had something with a unique 'School of Informatics' stamp. One of our most important jobs is to turn activities of the DSI into career opportunities for our students," Beth Plale, director of the center and School of Informatics associate dean of research, said.

DSI recently acquired roughly 1,280 square

feet in the Bloomington Informatics building. That space is now being transformed into a state-of-the-art, collaborative studio that will allow researchers and students to develop, apply, and visualize search algorithms and search-related systems.

The lab will featurew high-resolution display screens, a Smart Board, and open, flexible space. The studio will access a data center that layers cyberinfrastructure over diverse data sets in order to facilitate the research of multiple faculty members simultaneously.

"Where an individual might be able to host a several gigabyte database," said Felix Terkhorn, staff technologist for the lab, "We can host terabyte collections, giving faculty an opportunity to carry out activities like performance experiments on a much larger scale."

#### Industry partners

The DSI works closely with industry partners in a National Science Foundation program called Industry/University Cooperative Research Center.

Partners, including Eli Lily & Co., MuseGlobal, and Microsoft, form an Industrial Advisory Board and attend twice-yearly meetings to interact with students and faculty. Most partners are working with DSI on specific pre-competitive research problems.

# Selective IARP program honors IUPUI professor

A research proposal submitted by Gunther Schadow of the IU School of Informatics at

IUPUI is one of five projects selected for funding by the Intercampus Applied Research Program Awards. IARP is a collaborative effort between IUPUI and Purdue University to support practical, world-class



Schadow

research. In a rigorous peer review process, 21 proposals were considered. Only five are selected each year to receive IARP funding.

The project, "Interfacing Biological Knowledge and Statistical Analysis for Rapid Interpretation of Clinical Proteomics Experiements," will develop structures and statistical methodology for interpretation of clinical proteomic data.

"This project will streamline the connection between interdisciplinary research teams, including clinical researchers, informaticians, and statisticians," said Schadow.

Ultimately, these collaborative projects will accelerate discoveries that have the potential to change people's lives.

#### [OF NOTE]

Schadow's interdisciplinary proposal was one of only five Intercampus Applied Research Program Awards.

(section continued on p. 14)

# Professors land grant to open innovative lab

Professors Jeffrey and Shaowen Bardzell were awarded the use of a neurological/physiological user engagement research lab by Boston-based One to One Interactive. The lab, valued at \$65,000, will have capabilities to measure media and user engagement in real time, allowing researchers the ability to pinpoint subtle changes in the environment. As part of a multi-year funding agreement, the professors will also receive additional funding at more than \$50,000 per year to support research.

"User engagement testing in human-computer interaction is a hot field right now with significant demand in both the academic and commercials worlds," Jeffrey Bardzell



Shaowen Bardzell

said. "This kind of lab is very new. I don't know any other university that can test in so many ways with a single system like this."

The lab uses a data-monitoring "lifeshirt" worn by test subjects. A wireless PDA device captures research information, and subjects are fitted with a head device that measures EEG waves and finger rings that monitor physiological reactions. The lab includes a computer monitor outfitted with video cameras and infrared sensors for facial recogni-

USER-ENGAGEMENT TESTING IN HUMAN-COMPUTER INTERACTION IS A HOT FIELD, WITH SIGNIFICANT DEMAND IN THE ACADEMIC AND COMMERCIAL WORLDS.

tion and tracking eye movement. Lab scientists can measure responses in five areas — physiological (heart and respiratory rate), neurological (EEG waves), behavioral (eye movement, gaze tracking), facial recognition (facial expressions and body language), and traditional interviews or surveys.

"This holistic approach provides a comprehensive understanding of research participants' engagement with today's interactive experiences, and such results are highly valued in business, telecommunications, and other fields," Shaowen Bardzell said.

Jeremi Karnell, president and co-founder of One to One Interactive believes that, "by combining IU's School of Informatics research strengths with One to One's research lab, this collaboration will deliver much needed insights into human emotional response to digital media and will provide the strategies and subsequent tools needed to optimize dialogues with consumers."

# NIH funds data research by IUPUI professors



**Jones** 

Mahoui

Malika Mahoui and Josette Jones, both assistant professors with the IU School of Informatics at IUPUI, know that the secrets to medical discoveries and health care improvements might be buried in the mountains of digital data generated daily by hospitals, clinics, doctors, and nurses. Thanks to a funding grant from the National Institutes of Health, Mahoui and Jones are helping Dr. Patrick Jamieson, Logical Semantics Inc., build computer tools to mine those data.

"These scientific innovations will revolutionize the ability of health care researchers to analyze vast repositories of clinical information currently locked up in electronic medical records, and correlate this data with new biomedical discoveries in proteonomics and genomics," explained Jamieson, the project's principal investigator.

Using a text-mining tool called DataMiner, the research team has already developed

new statistical and machine learning methods. Eventually, the researchers will build a commercial version of the DataMiner software and test its functionality using researchers at the Regenstrief Institute, an affiliate of IU's School of Medicine.

## Medina earns prestigious IEEE prize for research on Chilean political shift



Medina

Assistant Professor Eden Medina was awarded the Institute of Electrical and Electronics Engineers (IEEE) Life Members Prize in Electrical History for 2007 for her paper, "Designing Freedom, Regulating a Nation: Socialist Cybernetics in Allende's Chile."

The paper examines the evolution of the Cybersyn Project, an early computer network developed

around the same time as the U.S. ARPANET, the predecessor to today's Internet. The Chilean system was used to manage Chile's economic transformation from capitalism to socialism during the government of Salvador Allende.

According to the prize committee, the article placed the project in a wide international context, "was "ambitious and superbly researched," and "weaves technological and political history within an under-studied Latin American context."

Download the paper at informatics.indiana.edu/edenm/EdenMedinaJLASAugust2006.pdf.





# Research lab receives \$1.69 million to develop scientific research gateway

IU's Pervasive Technology Lab, along with the School of Informatics, received a grant totaling more than \$1.69 million from the National Science Foundation. Professors Marlon Pierce, Dennis Gannon, Geoffrey Fox, and Beth Plale lead the project, "Open Grid Computing Environments (OGCE) Software for Science Gateways." The group seeks to develop software that will allow scientists everywhere better access to some of the world's most advanced supercomputers and large data storage facilities.

"Scientists studying climate change or searching for new drugs to treat illness benefit greatly from grid computing resources, but they are not usually experts in the complex software that powers these resources and binds them together," Pierce, the project's principal investigator, said. "They need tools that will make this technology easy to use, so they can remain focused on their science."

# Blevis' paper receives "Best of CHI" honors at conference



Blevis

Professor Eli Blevis' paper on sustainable interaction design was one of only six papers to receive top honors at the 2007 Computer/Human Interaction Conference. The "Best of CHI" awards recognize outstanding work in the field of human-computer interaction by selecting and honoring exceptional technical papers and notes submitted to

the annual conference, widely recognized as the premier conference in the field.

Papers recognized this year examined a diverse set of research topics, from Blevis' sustainable interaction design, to the use of digital devices to supplement human memory, to how people interact with video on mobile devices. In addition, a wide range of universities and industrial research labs were represented — from IU to Stanford, Sheffield University in the United Kingdom to the Hewlett Packard Labs.

## Associate deans appointed

Professors Dennis Groth and David Leake have been appointed associate dean of undergraduate studies and associate dean of graduate studies, respectively, for the Bloomington campus. Professor Beth Plale was named associate dean for research for the School. At IUPUI, professors Sara Anne Hook and Matthew Palakal are sharing leadership duties.

Groth received his PhD from IU in 2002 and is the winner of several teaching excellence awards in both informatics and computer science. Leake has been a faculty member at IU since 1990, arriving after completing his PhD at Yale University. Plale received her PhD in computer science in 1998 from SUNY Binghamton and has been on the IU faculty since 2001.

Each of the new associate deans will lead key initiatives for their areas, oversee staff,



Palakal



Groth



Plale



Hook



Leake

Each appointee will lead key initiatives, oversee staff, and participate in the school's Leadership Council.

and participate in the school's Leadership Council. One of the most sizeable new initiatives for Groth and Leake is to lead significant examination of undergraduate and graduate degree programs, respectively, based on the findings of the School of Informatics' recently completed strategic plan. Plale is responsible for planning, fostering, and maintaining research excellence in the school, with a particular emphasis on enhancing research funding.

Hook holds a JD from the IU School of Law–Indianapolis, an MBA from IU's Kelley School of Business, and an MLS from the University of Michigan. Prior to joining the IU School of Informatics, she was associate dean of the faculties for IUPUI. Palakal holds three degrees, including a PhD from Concordia University in Montreal, Canada. He has been on faculty at IUPUI since 1988.

Hook and Palakal assumed leadership roles at IUPUI upon the departure of former executive associate dean Darrell Bailey from this role. Hook concentrates on faculty affairs and undergraduate education while Palakal emphasizes graduate education and research and budgetary management.

#### [BOOKSHELF]

# New book examines identity theft, Internet privacy



L. Jean Camp, associate professor of informatics, published a new book on the ever-growing challenge of identity theft and how to protect personal privacy in the Internet Age. *Economics of Identity Theft: Avoidance, Causes and Possible Cures* is an analysis of identity management, and how individuals and organizations can do a better job of protecting financial and personal data.

# [ALUMNInews]

Accomplishments, events, and life changes

# **Connecting Informatics alumni**

The IU School of Informatics Alumni Association offers a strong network, events, and more. You're invited to link up.

The IU School of Informatics Alumni Association is an organization dedicated to serving the School and its growing alumni base. Whether it's a football tailgate, a wine tasting in Brown County, Ind., or the annual commencement dinner, the IUIAA connects alumni, faculty, staff, and friends of the School.

Powered by the resources and energy of the Indiana University Alumni Association, the IUIAA is a duessupported membership organization. It relies on alumni volunteers to plan and execute all programs, and your support is vital to its success.





Spring 2007 Indiana Health Information Management Association Conference attendees.



Computer Science Department Chair Andy Hanson, above, enjoys an IUB football tailgating event at the DeVault Alumni Center. At right, Rich Edwards, assistant professor in IUPUI's Media Arts and Science Program, presents a workshop during IUAA's Winter College in Ft. Meyers, Fla.







# Get involved.

For more information on how, contact Danny Kibble at (317) 274-2289 or Rachael Crouch at (812) 855-3575.

# class notes

# 1970s

Robert E. Kinicki, MS'75, is a professor of computer science at Worcester Polytechnic Institute in Massachusetts. A member of the WPI faculty since 1978, he served as interim head of the Computer Science Department in 1986–87 and as department head from 1988–98. Active in faculty governance, he now serves as secretary of the WPI faculty. Kinicki has published more than 30 peer-reviewed papers and nearly 30 technical reports based on his research in the areas of electronic commerce, computer network performance, network management, and multicast routing.

John A. Rose, BA'78, was promoted to general manager of the Enterprise Resource Planning project for U.S. Steel Corp. in Pittsburgh. He is responsible for global project management and coordinates ERP project implementation. Rose began his career with U.S. Steel in 1979 as a process-control engineer.

## 1980s

Donald A. Aker, BS'83, is a technical-operations manager at the Naval Undersea Warfare Center Division Newport (R.I.). The Society of Women Engineers recognized Aker with a 2006 Rodney D. Chipp Memorial Award for his efforts to enhance opportunities for women pursuing engineering and technical careers.

Kevin R. Erdman, BS'84, is a partner at the Indianapolis law office of Baker & Daniels, where he practices in information, Internet, and intellectual property law. He presented "Data Privacy Concerns in the Mobility Supply Chain" at the 2006 Global Workforce Symposium in Dallas. He lives in Indianapolis.

**Paul A. Horan**, BS'84, is a principal architect with the federal-solutions group of Sybase Inc. He recently moved from Buffalo, N.Y., to the Washington, D.C., area.

Scott A. Jones, BS'84, ScD'02, of Carmel, Ind., is a Kelley School of Business Distinguished Entrepreneur and founder of many

Ind., is a Kelley School of Business Distinguished Entrepreneur and founder of many companies. His most recent successes include Gazelle TechVentures Inc. and the Scott A. Jones Foundation. Indv Men's Magazine featured Jones with his car of the future on the November 2005 cover and devoted several pages to an interview with the man who has repeatedly "remade a piece of [himself] or that piece of the company to do better." Jones's philosophy is to find what you love to do and success will follow. Through his company, Jones is developing Indiana's Robotic Vehicle as a possible niche for an autonomous vehicle for the military, or perhaps just a robotic lawnmower or snowblower. Whatever the result, he's doing what he wants to do.

In 2006, John L. Blue, BS'85, MS'92, launched Truffle Media Networks, a company that provides podcast expertise and concept development for businesses and organizations, and InnovationCreation, an Indianapolis-based innovation firm that helps companies and organizations put in place innovation tools, process, and culture to guide those organizations toward products and services their customers really want. He writes, "I also started the podcast Bits of Informatics, bits of conversations with IU School of Informatics alumni (IUInformaticsAlumni.org). Informatics grads: send a note to podcast@ IUInformaticsAlumni.org if you want to be interviewed." Blue is vice president of the board of directors for the IU School of Informatics Alumni Association. Formerly with Eli Lilly & Co., Blue lives and works in Indianapolis.

## 1990s

Manjit Singh, MS'93, has been promoted to chief information officer of Chiquita Brands International, headquartered in Cincinnati. In this role, he serves on the company's management committee. Singh

May 2 • IUB commencement dinner, Indiana Memorial Union

**Upcoming Events** 

May 9 ● IUPUI commencement dinner, Meridian Hills Country Club

**June 26 •** Chicago networking social. Location TBA

**July 24** • Central Indiana Informatics alumni networking social, the Rathskeller, Indianapolis, 5:30 p.m.

is responsible for all facets of Chiquita's global commercial and innovations systems, infrastructure and application services, master planning and architecture, Web applications, and information delivery.

"After living nearly 10 years in the eastern United States, my family and I relocated to Bloomington, Ind., about three years ago. Thank you, Bill Cook! [LLD'93]" writes Esther M. Brooks-Asplund, BA/ BS'94, an I-Woman who lettered in cross country and track and field. "The sweet memories of the significant people who were a part of my undergraduate life are now as vivid as ever and a part of my daily life. Nearly two years ago, I left corporate America and started my own freelance medical-writing business, which I do on a very part-time basis. The majority of my time is spent managing my three young children (John, Michael, and Anna), which is similar to my previous job, but they are much younger and cuter! All friends are welcome to visit when in town!"

Alan R. Meiss, '96, was featured in *The Indianapolis Star* article, "Academic All-Stars: Looking back and forward, '87 graduates tell where their lives and aspirations have taken them." He is a civilian employee at Wright-Patterson Air Force Base in Dayton, Ohio, where he began working in 1999.

William V. West, BA'96, and his wife, Christine (Page), BS'02, are the founders of Option Six Inc. in Bloomington, Ind. He is president and she is senior vice president of the e-learning company. They have completed training-development standards for Microsoft's sales, marketing, and service group, known as SMSG. The standards establish the look, feel, and design process for all online and classroom training developed by Microsoft's SMSG vendors. Automobile company Toyota selected Option Six as development partner for all training in its materials-handling division.

(continued on p. 18)

**Matthew T. Boren**, BS'97, BA'00, of Fishers, Ind., is a systems administrator at Sallie Mae Inc.

Hans-Joerg Tiede, MS/PhD'99, writes, "I was granted tenure in the Department of Mathematics and Computer Science and promoted to associate professor of computer science at Illinois Wesleyan University, Bloomington, Ill. I live with my wife, Moreena (Bond), MA'98, and our daughters, Annika and Franciska, in Normal, Ill. My most recent publication, a survey of applications of modal logic in linguistics, is to appear in the *Handbook of Modal Logic*. The chapter was co-authored with my IU PhD advisor, Larry Moss."

## 2000s

**Patrick T. Bohannon**, BA'02, works at Cisco Systems in Research Triangle Park in North Carolina. He and his wife, Adrienne (Myer), MA'05, live in Raleigh.

In 2007 the Indiana Geographic Information Council recognized three IU Bloomington staff members for developing an online system that allows users to download multiple files from the Indiana Spatial Data Portal, a large repository of Indiana geospatial data. The staff members were **David W. Heald**, MS'03, a database analyst for IU Information Technology Services; Stephanie L. Snider, BS'96, MPA'03, a GIS/database specialist for IU Information Technology Services; and Nathan K. Eaton, MS'97, information services manager for IUB's Geological Survey.

Kenny M. Daily, BS'04, MS'06, is a graduate student researcher on bioinformatics and cheminformatics projects at the University of California, Irvine, where he is pursuing a doctorate in computer science. He is the recipient of a biomedical-training grant from the National Library of Medicine — National Institutes of Health. Daily lives in Irvine.

Geoffrey W. Morris, BS'05, received the Edward C. Von Tress Award for Commitment from the Indiana University Foundation in Bloomington. The award is presented to a staff member who demonstrates outstanding dedication and diligence. Morris is an application systems analyst in the information-technology systems department.

Adam J. Snetiker, BS'05, works for icandy interactive in Universal City, near Los Angeles. He produces DVDs for games and feature films. Snetiker lives in Porter Ranch, Calif. ■





## [WHAT'S NEW WITH YOU?]

The IU Alumni Association is charged with maintaining records for all IU alumni. In addition to providing us with your class note, this information keeps IU's alumni records accurate.

Publication carrying this form: <u>Indiana Informatics magazine</u>		
Name		Date
Last name while at IU		
IU Degree(s)/Yr(s)		
Home address		
City		
Home phone		
Business title		
Company/Institution		
Company address		
City		
Work phone		
* E-mail		
Mailing address preference: O Home	) Business	
Spouse name		
Last name while at IU	IU Degree(s)/Yr(s)	
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