



SCHOOL OF INFORMATICS AND COMPUTING

SUMMER 2015
Vol. 12, No. 1

INnovations

Building the future





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INnovations

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This semi-annual publication is produced by the IU School of Informatics and Computing to provide useful information and news to alumni and friends of the School.

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Building the future

The School of Informatics and Computing in Bloomington has been thinking and talking about a new building ever since it was established in 2000. Due to the incredible generosity of supporters of the School, the wonderful support of the IU administration, and the incontrovertible case for space that the growth of the School has made, it is about to happen!

Beginning in very early 2016, construction of a 124,000-square-foot building for the School will begin on the block that is immediately north of the School's current 70,000-square-foot complex at the corner of 10th Street and Woodlawn Avenue. The building will sit on the block bordered by Woodlawn on the west, Cottage Grove on the south, Forrest on the east, and 11th Street on the north. When construction is completed in late 2017, the School will vacate its spaces in Lindley Hall and the Wells Library, and will retain the 10th and Woodlawn complex, resulting in a unified location for the School with just a tiny separation between its two portions.

Some buildings simply provide space; others transform organizations. The new SoIC building will do the latter, for SoIC and IU, in several important ways.

First, the building will encourage and foster the atmosphere of collaboration and community that is at the heart of our multidisciplinary school. So much of what goes on in education and research in our School is predicated on the combination of technology, applications, and human and societal implications; now all of the people who work in those different aspects will be within a couple minutes of each other. Abundant conference and meeting spaces throughout the building, a student community center at the entrance, and a café on the first floor all will foster planned and serendipitous interactions.

Second, the building will support the culture of innovation and entrepreneurship that permeates and defines the tech world. A marquee feature of the building will be an innovation center on the second floor that will house existing and aspiring tech entrepreneurial projects and start-up companies coming out of IU and the region. The innovation center will be supported by a fabrication lab in the lowest floor of the building with the latest equipment that supports a "maker" orientation.

Finally, the building will be the initial element of the next great IU Bloomington corridor, along North Woodlawn Avenue. As defined in the IU facilities master plan and soon to be a reality, North Woodlawn will extend uninterrupted from the Indiana Memorial Union to the athletic complex. The stretch between 10th Street and the railroad tracks several blocks to the north will be a new academic area, and the new SoIC building will lead the way and set the stage. We have been privileged to work with wonderful architects who have instantiated the vision of a building that combines traditional IU features with a modern look that will share the life of the building with passers-by and beckon them in.



Dean Bobby Schnabel

SOME BUILDINGS SIMPLY PROVIDE SPACE; OTHERS TRANSFORM ORGANIZATIONS. THE NEW SOIC BUILDING WILL DO THE LATTER, FOR SOIC AND IU, IN SEVERAL IMPORTANT WAYS.

On October 2, we will hold a groundbreaking ceremony for the new building where we will announce an incredible naming gift for the building and another extremely generous gift to name its innovation center. In addition, we will recognize many other alumni and friends who have made substantial gifts that have allowed us to get to this stage. More opportunities exist for supporting this innovative project and allowing the names of our individual and corporate partners and friends to be a permanent part of this path-breaking building. We invite with you to watch the building materialize and to be part of it!

Bobby

HAPPENING NOW

ILS research recognized as most productive in the world

According to a recent study in the Journal of the Association for Information Science and Technology, the IU Bloomington Department of Information and Library Science is the most productive library and information science (LIS) department in the world.

The study, which analyzed 8,407 articles published in 31 journals from 2007 to 2012, found that IUB's Department of Information and Library Science (then the School of Library and Information Science) had published more than any other unit. In total, 4,311 departments from 2,704 institutions were included in the study.

Additionally, among departments in the U.S. and Canada, the Library and Information Science Department at IUPUI ranked no. 18.

The authors note the uniqueness of LIS from other academic disciplines in that it is offered at relatively few universities, it relies heavily on scholars outside of LIS, and the link between research and practice is closer than in many other fields. As such, in addition to investigating the number of articles, the authors also focused on the location of contributors, faculty in non-LIS departments, and practicing librarians.

Among the departmental contributions, 30 of the top 40 were from LIS departments. Five libraries and departments of communication, management, and the natural and social sciences rounded out the top 40.

OF NOTE

Four IUPUI students recognized for top honors

Four Informatics and Computing students have been selected for IUPUI's Top 100 and Elite 50.

Sarah Zajac, a senior in the B.S. in Media Arts and Science program, was honored as a Top 100 Outstanding Student. She was selected from more than 2,100 nominated students based on academic achievement, extracurricular activities, and community engagement.

Three doctoral students were chosen for the Elite 50 on the IUPUI campus:

- Hamed Abedtash, Ph.D. candidate Health Informatics
- Debaleena Chattopadhyay, Ph.D. candidate Human-Computer Interaction
- Preethi Srinivas, Ph.D. candidate Human-Computer Interaction

The three were chosen out of 8,100 graduate and professional students. The Elite 50 honors the top graduate and professional students on campus.

Chattopadhyay also received the "Best in School" for SoIC and "Top 10" of the campus honors.

Two companies share \$200,000 as BEST competition winners

Two companies, sharing \$200,000 for their efforts to transform online fundraising and urban food access, are the winners of IU Bloomington's 2015 BEST competition. BEST (Building Entrepreneurs in Software and Technology) recognizes student-led companies focused on internet and software technology. The School of Informatics and Computing and the Kelley School of Business launched the competition four years ago with financial support from company leaders who are IU alumni who receive a stake in the company in exchange for their investment.

The winners of this year's competition are FundSponge, a company that helps small nonprofit organizations raise money as people shop online, and Merchant's Garden, a model for bringing environmentally friendly, out-of-season produce to restaurants, groceries, and homes in urban environments. Each company will receive \$100,000.

"Our judges were impressed with the caliber of the student entrepreneurs and

their passion for making the world a better place. It's exciting to see the spirit of entrepreneurship and innovation continue to accelerate at IU," said BEST co-founder Scott Dorsey, the former chair and CEO of ExactTarget who led this year's competition.

IU members of FundSponge are Jason TenBarge, who serves as the company's CEO, and Kevin Casimer, who serves as chief operating officer. An additional member of FundSponge is Eleanor TenBarge, chief creative officer and web applications designer.

IU members of Merchant's Garden are founder Chaz J. Shelton, who serves as CEO, and Michael B. Kulov, an MBA student in finance at the Kelley School of Business who serves as interim director of finance. Also members of Merchant's garden are Zoe Need, a student at Bloomington North High School who serves as a sustainability intern, Brunno Cerozi, vice president of agriculture, and Bill J. Shriver, vice president of operations.



Jason TenBarge and Kevin Casimer of FundSponge



Zoe Need, Chaz J. Shelton, and Michael B. Kulov of Merchant's Garden

Informatics students show their work at Undergraduate Showcase

The senior capstone projects for the IUB Class of 2015 were on display at the Undergraduate Showcase at the Indiana Memorial Union in early April, highlighting a wide array of ideas that ranged from medical devices to mobile applications.

The key to all of the work was for students to stretch their boundaries and create a project that would bring together all they have learned in their four years in the School of Informatics and Computing. It also helps them prepare for life after college.

The projects forced students to learn new skills in a way that mirrors the future.

“I like the project because you build up to it for four years – actually three years, then you do it – but you tie everything you’ve learned in informatics together,” says Corbitt O’Connor, who helped develop an app for a local restaurant. “You go above and beyond what you’ve learned. You show you can learn more, and that turns a light on for everyone that when they get to their job, they’re not going to know everything, but they know how to find the answers. This gives you the idea that you can figure it out if you don’t know it. That pulls everything together for the School.”



OF NOTE

IUPUI launches new M.S. in Informatics

The Indiana University Board of Trustees has approved a proposal for a new master’s at IUPUI that provides a path for students to transition rapidly into in-demand and well-paid information technology jobs.

The proposed Master of Science in Informatics offers specializations in data analytics, biomedical informatics, knowledge and information management, and user experience design.

The goal of the M.S. in Informatics is to enable students to apply informatics in their respective disciplines. To achieve that goal, the department proposes first to establish the new degree itself, providing specializations from within the School, and then to offer interdisciplinary five-year B.S./M.S. programs and dual degrees with other schools at IUPUI to meet the competitive requirements of Indiana’s job market.

IUPUI will ask the Indiana Commission for Higher Education for final approval to offer the degree beginning in the fall.

“This program amongst others is the latest example of IUPUI’s tradition of developing distinctive programs that respond to student demand and meet employer needs,” said IUPUI Executive Vice Chancellor Nasser Paydar.

Informatics has become not only an integral part of many disciplines and professions but also an essential skill for graduates.

The Master of Science in Informatics will expand career opportunities of undergraduate students and degree holders in nontechnical disciplines by enabling them to apply information technology skills to their own field or to transition into information technology fields.

New degree at IUPUI geared toward health, science, and technology

In conjunction with the School of Health and Rehabilitation Sciences (SHRS), SoIC will be offering a new accelerated degree option beginning in the fall of 2015 which allows students to complete complementary undergraduate and graduate degree programs in a shorter amount of time, giving them a head start on their career.

The two schools are jointly offering an integrated five-year bachelor’s to master’s (B.S./M.S.) degree consisting of a Bachelor of Science in Health Sciences and a Master of Science in Health Informatics.

“The B.S./M.S. program has several features that are attractive to students and employers, including greater breadth (B.S.) and depth (M.S.) of health sciences and informatics fundamentals and an application skill set in health informatics, better starting salary upon completion of the program, better career growth opportunities, and better preparedness to meet employment opportunities and challenges,” said Karl MacDorman, associate dean of academic affairs for SoIC.

Those obtaining the B.S./M.S. degree will graduate with advanced skills preparing them for the career paths of tomorrow. Consistent with IUPUI’s vision and mission, the B.S./M.S. degree provides students with intensive hands-on experiential and problem-solving learning. The primary benefit of this combined degree program is to broaden students’ career horizons by allowing them to receive two degrees in a shorter time frame and at lower costs than it would take to pursue the degrees separately.

SoIC honored for promoting women in undergraduate computing



Bobby Schnabel, Maureen Biggers, and Lamara Warren

The School of Informatics and Computing at IUB was recognized by a major national organization for its excellence in promoting women in undergraduate computing. The School was one of three institutions to receive the inaugural National Center for Women & Information Technology (NCWIT) Extension Services Transformation (NEXT) Award.

These awards, which are sponsored by Google, recognize significant outcomes in women's enrollment and graduation rates. The awards reflect and reward practices that NCWIT recognizes as having the most significant impact on the goal of increasing the number of women in information technology and other computing-related fields.

SoIC will receive \$50,000 in recognition of its strides in women's enrollment, which has grown by 735 percent in introductory classes, 135 percent in declared majors, and 185 percent in graduating women since 2009. These rates are all significantly higher than the men's growth rates for the School during the same timeframe (445, 68, and 103 percents).

The School's efforts have been spearheaded by a team including Dean Schnabel, Associate Dean for Undergraduate Studies Esfan Haghverdi, Assistant Dean for Diversity and Education Maureen Biggers, and Director of Inclusion and Education Lamara Warren. Dennis Groth, Indiana University vice provost for undergraduate education, was also recognized as part of the collaborative team.

"Excellence in diversity has been one of the key strategic goals of SoIC from the outset. It is gratifying to see our excellent progress recognized by a major national organization," said Schnabel.

OF NOTE

IUPUI lecturer's public art transformed overpass for NCAA Final Four

IUPUI lecturer C. Thomas Lewis turned the street under a railroad overpass near the site of the NCAA Men's Final Four into a boogie wonderland.

When he and student volunteers were done, 351 disco balls were suspended from the 360-foot overpass, representing the number of Division I colleges, in a public art installation dubbed "Staying Alive." Theatrical lights bounced off the mirrored surfaces, creating points of light sparkling overhead. A DJ playing disco tunes during peak pedestrian times over the weekend completed the atmosphere.

"It was a great opportunity to be asked to imagine a way to enhance the tunnel space and give literally thousands of people an immersive art experience," Lewis said. "My favorite comment I overheard was when a 10-year-old boy asked his mom, 'Why can't other cities have such a cool thing?'"

Lewis came up with the idea for the disco balls after being approached by the city's Cultural Infusion Committee, seeking ideas on behalf of the NCAA, to make the overpass space attractive.

HCI/d Connect 2015 brings students and employers together

HCI/d Connect 2015 brought together some of the brightest young minds in SoIC with 15 companies that are looking to add their newest stars.

"Human-Computer Interaction/design is a specialized area, and in a general career fair you rarely get employers who represent a company that is in that particular area of specialization," says Marty Siegel, a professor of informatics and the founding director of the HCI/d program. "[Our students] wanted to bring employers with the specialty parts of those companies into IU for a specialized career fair."

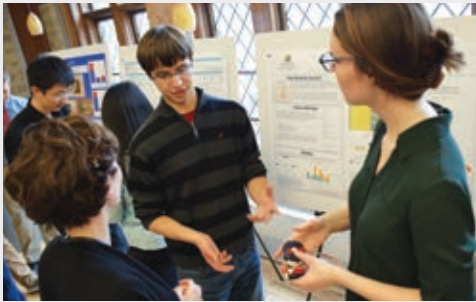
HCI/d Connect gives employers an opportunity to introduce their companies to potential employees, and the students had the chance to show their skills in a real-world scenario. They were issued a design scenario – their agency had been hired by Wells Fargo Bank to examine the ATM experience and design and suggest new means of engaging bank customers to use the ATM through existing or emerging technologies. Halfway into the hour-long challenge, the students on the 14 teams involved were thrown a curveball in which a new technology had to be integrated into the proposal. The combination of time pressure and changing circumstances put students into a compressed version of a real-life problem.

Employers were impressed with the way the teams collaborated on the projects, and the challenge gave the students a taste of what they might face in a future interview process.

The event has resulted in dozens of jobs for students through the years, and this year figures to land a number of students the job or internship of their dreams.



SoIC welcomes 17 DePauw students through Bridge to Informatics course



Bridge to Informatics, a joint effort between DePauw University and SoIC, created an intensive, three-week course that aimed to teach DePauw students about personal branding, computational thinking and design, and machine learning. Led by Associate Professor Katie Siek, 17 DePauw students took on projects to create wearable devices that could monitor when a person had been in the sun for too long or had been sitting for too long. One group

branched out and designed a wearable breathalyzer to try to stand out from the crowd.

Students had to design surveys, create websites, and compile research to best guide their design of wearable devices. The result was prototypes – which were built through a combination of computer design, 3D printing, and electronics – that could be both practical and helpful in the future. But more important than the actual devices was the experience.

The students actually enjoyed the compressed timeframe the course placed on them. Sophomore Clay Langley, who worked on a device that monitored how long a person had been sitting, says the class gave him a feel for what he can expect in a post-college world.

David Becker, a 1975 DePauw graduate and member of SoIC's Dean's Advisory Council, was instrumental in initiating the course, and he says the class will give the students the experience they will need in the job market.

Developing the best computer science minds and keeping them in the state of Indiana is another goal of the course. The DePauw students enjoyed the opportunity to experience the IU campus, something that could lead to the students deciding to come to Bloomington for their graduate work. Just giving students the opportunity to find out what informatics is about is critical.

OF NOTE

Girls in STEM conference at IUPUI features SoIC

An inaugural conference was held at IUPUI at the end of May for more than 100 high school girls from 10 Midwestern states to inspire them to study science, technology, engineering, and mathematics in college and pursue a STEM career.

The 135 girls attended the three-day Stem Pre-College Student Leadership Conference.

The conference was organized by the Mid-America Association of Education Opportunity Program Personnel, with assistance from the IU School of Informatics and Computing, the Purdue School of Engineering and Technology, the School of Science, the TRIO/Upward Bound office, and the Office for Women at IUPUI.

During the conference, the girls:

- Engaged in hands-on activities in laboratory settings;
- Learned about colleges, college majors, and careers;
- Met with college students, professors, and professional women;
- Toured the Schools of Informatics and Computing, Engineering and Technology, and Science;
- Participated in critical thinking and discussion exercises;
- Heard from motivational speakers.

IUPUI partners with Cummins

The School at IUPUI is partnering with Cummins Inc. on the Informatics: Diversity-Enhanced Workforce initiative, or iDEW, to improve learning opportunities for students from low-income and minority families and provide more pathways to good jobs.

Launching this fall, iDEW will help students from Arsenal Technical, Indianapolis Public School Pike High School and the private Providence Cristo Rey learn the information technology skills necessary for two or four-year college degrees and careers in the IT industry.

The iDEW program has broad support from area businesses, with the global power leader Cummins being the most recent investor. As part of the partnership, Cummins employees can use four or more hours of their work time to mentor and tutor iDEW students.

iDEW introduces students to computing, informatics, and other IT concepts, the real-world application of those concepts, and career opportunities in the IT industry. To prepare graduates for those future careers, iDEW will focus on reading, writing, and interpersonal communication skills in addition to building their self-esteem, confidence, and ability to work on teams.

School of Informatics and Computing faculty will partner with high school teachers to lead sessions, which range from basic programming to creating websites and mobile applications to understanding the data behind DNA. Cummins will also provide industry experts.

Krane Scholarship keeps dream alive



Jacob Duffy Halbleib received this year's David Krane Scholarship, an award recognizing an outstanding student in the School of Informatics and Computing or the School of Journalism who merges the fields of journalism/media with information technology.

Krane, the managing partner of Google Ventures, an IU School of Journalism alumnus, and SoIC Dean's Advisory Council member, created the scholarship in 2010 after helping to build Google from a small business into a powerhouse. The scholarship alternates yearly between the School of Informatics and Computing and the School of Journalism.

Halbleib is the editor-in-chief of 8bitfoundation.com, a website that covers the video gaming world. A 2015 alum (B.S. Informatics), Halbleib will use the scholarship to help revive the website and take it to the next level.

"I was ecstatic because the money is going to be funneled back into 8bitfoundation," Halbleib says. "I don't have to worry about the server for another four years. I am exited thinking of all the things we could do for the website."

Tech Trek: Belize

It isn't easy to bring 21st century technology to the jungle, but that's what Matt Hottell is trying to do.

Hottell, director of Serve IT at IUB, led a group of nine students to Belize in mid-May to provide computer equipment, training, and improvements to the IT capacity of the Tumul K'in Center of Learning in the Toledo District. Hottell and the students improved access to the internet, and the group taught classes of Mayan teenagers the basics of computing.

The project gave IU students an opportunity to use real-world skills to build a network while also helping Mayan students add technical skills to their traditional lifestyle.

"Our long-term goal is to be producing students who are tech savvy to an extent," Hottell says. "Compared to the other folks in that area, they're going to be very tech savvy. It's all about empowerment."

"Talking to them about the possibilities of the computer is important," Hottell says. "You can show them how to do cool things on the internet or help them find things if they don't know exactly what they're looking for. When that light goes on, it's great."



Dean visits India to meet students, alums



This spring, Dean Schnabel made his fourth trip in as many years to India to meet with prospective students. He hosted receptions in Pune and Mumbai, two cities of different size and emphasis.

"As the dean of our School, it's important for me to have a general understanding of our students and their backgrounds," Schnabel says. "Pune is the second-biggest IT city in India, and most of the prospective students who attended have been in the IT workforce for one or two years. Many of the Mumbai students were just finishing their undergraduate programs, so that was an interesting difference."

SoIC appealed to students whose interests included programming languages, artificial intelligence, cloud computing, security, and data science. Schnabel's visit also resonated with the students for personal reasons.

"Most students have applied to multiple U.S. schools, and they said we're the first to come visit them," according to Schnabel.

Then again, a close relationship between IU and India is nothing new. SoIC is currently host to more than 175 master's candidates and 20 Ph.D. students from India, and the country is the home to Persistent Systems, a global powerhouse in software product development and technology services. Persistent's founder and CEO, Dr. Anand Desphande, holds a master's and Ph.D. in computer science from IU and has built a strong partnership with the university.

Thanks to IU's outreach efforts in India and the support of Persistent Systems, the future of students from India in Bloomington couldn't be brighter.

OF NOTE

Computer science Ph.D. attends Heidelberg Laureate Forum

If life is about making the most of the opportunities you're given, Robert Templeman is truly living.

Last winter, Templeman, an IU student pursuing a Ph.D. in computer science, received an email from a professor suggesting he apply to attend the Heidelberg Laureate Forum in Heidelberg, Germany. Templeman looked into the event, and he was impressed with what he saw. He applied and was thrilled when he was invited to attend in September.

The Heidelberg Laureate Forum, which is patterned after the Lindau Laureate Meetings that bring Nobel Prize winners together each year, assembles winners of the Abel Prize, the ACM A.M. Turing Award, the Fields Medal, and the Nevanlinna Prize to interact with the next generation of researchers in computer science and mathematics. The distinguished panel presented 17 lectures during the week, but the event was much more than just a series of talks. In addition to the lectures, there were workshops and a large number of social events that were designed to give the young researchers maximum face time with the laureates.

Templeman was awestruck by the laureates, but he quickly moved past his trepidation to approach and engage with them.

"It was unbelievable," Templeman says. "Without meeting them, you get the impression that they're so different from you, these super-minds who create this work, and it somehow happens magically. But that's not how it is. One thing their discussions focused on was the falls that they've had. They go through their whole career path and how their seminal work came about. Sometimes it's rather lucky."



Building the future

By Jim Shea, Senior Director of Planning and Communications, SoIC and Bill Butler, Principal, Pelli Clarke Pelli Architects

New buildings make statements. That won't be a problem for the new School of Informatics and Computing building. The \$39.8 million facility, slated to open its doors in late fall 2017 in Bloomington, will make several:

- The School is flourishing. Undergraduate enrollments and research funding have tripled in the past eight years, the informatics major is now the third-largest undergraduate degree on campus, and graduate enrollments have more than doubled. Such spectacular growth demands new space.
- The IU master plan vision will become reality. SoIC's new building will be the first in IU's Woodlawn Corridor, which will eventually link the athletic facilities on the

north edge of campus with the core campus.

- Traditional can be modern. Classic IU exterior architecture will blend seamlessly with interior features more typical of Silicon Valley. The new building will fit in but also stand out as one of the more unique buildings on campus.

Design process

The detailed process of designing the building has involved many people both inside and outside of IU. IU space planners first conducted an in-depth analysis of current and projected space needs, and as those were being defined, Dean Bobby Schnabel developed a document that outlined key themes for the



building: collaboration, community, sociability, innovation, and entrepreneurship.

IU hired Indianapolis-based Ratio and Connecticut-based Pelli Clarke Pelli to design the facility. The space plan and vision documents shaped the design of the building. Schnabel and his team, led by Director of Facilities Paul Toddy, worked with the IU team and architects for more than a year on the details involved in designing a 124,000-square-foot building. IU specialists in many areas – telecommunications, IT, classroom technology, utilities, sustainability (the project will seek a LEED Gold status), interior design, and landscaping – helped shape the project.



Building interior perspective third floor

Building by the numbers

- 3,500-square-foot innovation center
- 1,500-square-foot fabrication lab
- 1,360-square-foot community center
- café with extensive menu selection
- 7 classrooms ranging from 25–160 seats
- 3 labs ranging from 25–35 seats
- collaborative spaces throughout the building
- 19 conference and focus rooms
- 73 faculty offices
- 194 graduate work stations
- 26 staff offices
- 21 undergraduate advising and career services offices
- 11 interview rooms

Within the School, a 15-person building committee of faculty and staff provided recommendations for specific issues, from messaging in the lobby to nursing space for new mothers and many more.

Fundraising has been a necessary and important part of the process. Schnabel and the development team, led by Assistant Dean Tom Bewley, have raised nearly \$10 million of generous private support for the School's portion of the \$39.8 million construction budget.

It takes a village to design and fund an academic building.

Overall and master plan

The design of the new four-and-one-half-story building will expand the footprint of SoIC and is both forward-looking and grounded in the traditions of Indiana University. This building will anchor the 10th and Woodlawn neighborhood of IU's campus and will serve as a first step toward the master plan's goal of increasing density while introducing new interpretations of IU's campus design principles.

Developing the 10th and Woodlawn neighborhood will be a substantial endeavor for Indiana University as it extends campus to the north. The new SoIC building will create a vibrant structure with a unique personality that also maintains the enduring qualities of the heart of campus.

Following the guidelines of the master plan, the new building will adhere to the principles of creating large quadrangles while also providing public space. The building will be L-shaped and define the corner of Woodlawn and Cottage Grove. An extensive landscaped setback featuring a double row of trees along Woodlawn will create new pedestrian access to the core of IU's campus. A grand civic porch



Building perspective from the southeast

will serve as the entrance to the building, establishing the corner as a prominent place within the new campus while providing a glowing beacon at night.

The atrium, which will be a diagonal public space, will connect the porch to the interior of the courtyard as defined by the L-shaped architecture. Paved plazas in the courtyard will provide opportunities for outdoor dining, public gatherings, and seasonal events. A variety of native plantings will maintain the spirit of the rest of campus.

Design from the outside in: Massing and facade

The building design echoes the principles of the collegiate gothic style of IUB while also evolving. The building will include three

distinct sections, including a distinctly tall base, a two-story middle, and a setback top.

The exterior of the building is a fresh take on the classic Gothic tradition of Indiana University architecture. Replacing the load bearing weight of Gothic stone buttresses, the new building will utilize Indiana limestone veneer-clad panels pleated with glass and textured metal panels to create an undulating surface that will appear solid from one direction and glassy from another. Glass bays that house conference rooms will project from the building to add a dynamic element to the composition.

The overall massing will be enhanced by marking the corners of the site with the entry porch and projecting stair towers. These public elements and their high level of transparent glazing will make them lanterns at night when lit.



Design from the inside out: Program and use

Guiding principles from the School and IU Senior Associate University Architect Bob Richardson will shape the interior of the building. Key goals are creating a sense of community, sharing natural light, fostering interdisciplinary interaction, and extending learning outside the classroom. To that end, a large atrium will run through the core of the building, connecting all levels with an amphitheater-like staircase and a variety of informal meeting spaces.

A walk through the building will highlight the mission of SoIC. Two wings to house classrooms, faculty offices, and open plan research clusters will be featured adjacent to the atrium on every level. Each floor will feature a key program element that will be accessible from the central atrium.

- On the lowest level a fab lab will highlight maker technologies in a vibrant, hands-on environment.
- The ground floor will host the community center welcoming all to the School. Also on this level will be a 160-seat collaborative auditorium which will boast views of the eastern garden.
- On the second floor, overlooking the entrance, will be the innovation center for entrepreneurship, a flexible suite of rooms that will resemble an incubator environment facilitating the growth of the tech industry in Indiana. This start-up style venue with a commanding view

of Woodlawn will encourage student entrepreneurship and put technology on display.

- The third-floor multipurpose conference room will feature soaring views under the canopy of the entry porch and down Woodlawn to the core campus.

The atrium will create a series of collaborative spaces that will be both open and enclosed. This 'central mixer' will become a social catalyst that promotes group exchange as well as independent research by extending debate outside the classroom and creating a stronger sense of community within the School. Glass-enclosed conference rooms will project into the sunlit vertical canyon at the heart of the building to create a dynamic environment of 'learning on display.' The central atrium will be flooded with natural light from a skylight while expansive glass window walls will afford views of the campus to the east and west.

A goal of the new atrium will be to create an environment that fosters interdisciplinary interaction while meeting the conference needs of faculty, staff, and students. The open, transparent design will recognize the connection between quality of working environment and occupant productivity, creating a higher degree of comfort with acoustically isolated conference rooms, wellness through sun lit work/study spaces, and productivity through the abundant choice of options based on the task.

A small café located on the ground floor will provide much-needed food service on the

northwestern edge of campus. The café will foster chance encounters and exchanges of ideas.

Open-plan workplace environments will provide grad students with a comfortable environment that is sufficiently free of distractions to allow individuals to focus. Adjacent faculty offices will feature glass doors and windows into the interior areas that allow the sharing of light with those on the interior of the building. This direct connection between faculty and students instills mentorship, creativity, and collaboration throughout the course of each student's program.

Creating an environment that facilitates networking and chance encounters will be key to the building's DNA. The corner staircases, which will be used for shared meeting spaces, will be flooded with natural light and feature doors that are held open in hopes of encouraging chance encounters while walking through the building. This will foster innovation by providing a welcoming, positive atmosphere to discuss work with colleagues.

The building will house faculty and graduate students for the Information and Library Science and Computer Science programs and staff for career and student services, diversity and inclusion programs, and IT.

The ceremonial groundbreaking for the building will be at 3:30 p.m. on Friday, October 2; the ceremony will include special announcements about the building as well. Construction of the building will begin in late fall 2015 and be completed in late fall 2017.



Named building spaces

One of the gratifying opportunities that comes with a new building is the occasion to name spaces to honor a donor, loved one, mentor, faculty member, or friend.

Naming opportunities within the new building are available at all levels, and pledges can be made over a five-year period. Below are some examples:

Spaces Available for Naming	Level of Support
Classrooms and Labs	\$50,000–\$200,000
Career Service Interview Rooms	\$50,000
Conference Rooms	\$50,000–\$250,000
Student Collaborative Workplaces	\$25,000–\$150,000

Named gift opportunities are also available for larger spaces, including a community center, board room, auditorium, café, and main lobby.

Supporters also have a unique opportunity to be included prominently in our flagship auditorium. For \$1,000, with flexible payment plans of up to five years, a nameplate will be placed on a chair honoring you or your chosen honoree. This is an affordable way to make your mark and let students know you have their back.

For more information, visit soic.indiana.edu/building.

Fundraising disclosures: <http://go.iu.edu/89n>



Building perspective from the south

Pictured with Dean Bobby Schnabel are 2015 award winners Patrick Callahan, Mary Delaney, Jennifer Widom, Sriram Mohan, and Judy Wawira Gichoya (left to right)



Photo by Skip Corner

Five honored for career and lifetime achievement at awards dinner

Five individuals were recognized for career and lifetime achievements at the School of Informatics and Computing Alumni Awards Dinner on April 16 at the Skyline Club in Indianapolis. Honorees include:

- Jennifer Widom, Senior Associate Dean for Faculty and Academic Affairs, School of Engineering, Stanford University
- Mary Delaney, CEO, Luceo Solutions and Profilsoft
- H. Patrick Callahan, Partner, Faegre Baker Daniels
- Judy Wawira Gichoya, Resident, IU School of Medicine
- Sriram Mohan, Associate Professor of Computer Science and Software Engineering, Rose-Hulman Institute of Technology

The event honored those who have contributed to the School of Informatics and Computing as a whole, including both the Bloomington and IUPUI campuses.

Career Achievement Award

Recognizing those whose career encompasses outstanding innovation and contributions on the national stage

JENNIFER WIDOM

Since coming to Indiana University to study music, Widom has built an incredible career in computer science education. She received a B.S. in music with minors in mathematics and computer science at Indiana University and continued on for her M.S. in computer science at IUB.

After attaining a Ph.D. in computer science from Cornell University, she was a researcher at the IBM Almaden Research Center in San Jose, one of the original anchors of Silicon Valley.

From there, Widom became an assistant professor at the Stanford University Computer Science and Electrical Engineering Departments and is now senior associate dean for faculty and academic affairs in the School of Engineering.

She has served as principal or co-principal investigator on over 20 grants totaling more than \$18 million dollars from a range of agencies, including DARPA, Yahoo!, and the National Science Foundation.

Widom has received wide recognition for her work. She is an ACM Fellow and a member of the American Academy of Arts and Sciences and the National Academy of Engineering. Earlier this year, she was named the 2015–16 Athena Lecturer for pioneering foundations, architecture, and applications of database systems and was called one of “54 Women Who Rocked the Tech World,” by Business Insider UK.

Distinguished Service Award

Celebrating a non-alumna/alumnus for their outstanding service to the School and University

MARY W. DELANEY

A prominent theme running through Mary W. Delaney’s career is expansion. Since graduating from Indiana University’s Kelley School of Business in 1986 with a marketing degree and earning an MBA at the Kellogg School of Management at Northwestern University, Delaney has contributed to the significant growth of such businesses as CareerBuilder and InterCall, Inc.

Widely known as an employment expert, Delaney has regularly appeared in the Harvard Business Review and on CNN, FOX, and CBS National Radio. She is a fellow at Leadership Great Chicago and sits on the board of Broadbean.

She joined the Dean’s Advisory Council in 2011, where she quickly was instrumental in the School’s successful BEST (Building Entrepreneurship in Science and Technology) competition. Shortly thereafter she agreed to co-chair the School’s first national fundraising campaign.

H. PATRICK CALLAHAN

Pat Callahan is a 1969 graduate of Indiana University and received his J.D. from the University of Michigan Law School in 1972. He is a partner at Faegre Baker Daniels, in Indianapolis, where he provides legal and business counsel to entrepreneurs, corporations, and other business and government entities. His legal expertise and his extensive experience as a corporate director make him uniquely valuable not only in legal matters but as a constructive, driving force in Indiana’s growing entrepreneurship and economic development.

In addition to his career in law, he is a founding director and executive committee member of TechPoint, is a founding member and former executive officer of Indy Partnership (formerly Indianapolis Regional Economic Development Partnership), and was a national executive council member of the Indiana University Alumni Association.

His leadership as founding member of the School of Informatics and Computing’s Dean’s Advisory Council, which he chaired from 2003–05, coincides with great growth of the School in its curriculum, research, and student enrollment.

The continued successful growth of the School is now on an excellent path thanks to the generous and energetic efforts of Pat Callahan and Mary Delaney, co-chairs of our first national fundraising campaign. Surpassing an ambitious goal of \$10 million, they led the efforts that included funding for the new building at IUB.

Young Alumni Award

Recognizing outstanding early career achievement

JUDY WAWIRA GICHOYA

Judy Wawira Gichoya arrived at the IUPUI School of Informatics and Computing with an M.D. from Moi University in Kenya. Her dedication to delivering innovative healthcare to far-flung populations in a large, underserved country is the impetus behind her relocation to Indianapolis and her acquisition, in 2012, of her M.S. in health informatics at IUPUI.

Access to medical records is key to providing critical health care in developing countries, and Gichoya’s informatics training informed her work with Open MRS, a group whose aim is to improve communication and care through use of open source electronic medical records systems. Working as implementer and trainer, she both consults with local providers, clinics, and stakeholders in building their technical capacity and further advocates for improved technology and delivery at conferences and gatherings.

Gichoya is currently a first-year resident in IU School of Medicine’s diagnostic radiology program. Still, she manages to return home to Kenya, where she also has been working with an IU radiology team in a mobile x-ray bus. This work is increasing the range and speed in testing, diagnosing, and treating patients otherwise out of reach of care. Driven by her experience and education, she has her eyes set on continuing to introduce the technology and delivery of care that is transforming medical practice in Kenya.

SRIRAM MOHAN

At Rose-Hulman Institute of Technology, an institution known for its teaching, Sriram Mohan stands out as a professor of exceptional accomplishment. After receiving his B.E. in computer science and engineering at University of Madras in India, he completed his M.S. and Ph.D. in computer science at IU. Now an associate professor of computer science and software engineering at Rose-Hulman, he has been instrumental in both strengthening the curriculum and introducing real-world industry techniques that prepare students for the workplace.

Through a special partnership with Rose-Hulman, Mohan spent a year at Avalon Consulting in Texas, where he oversaw research and development of Hadoop and NoSQL for Avalon’s business clients and provided advanced training for its employees. He also has used this industry experience to enhance his classroom practice.

Mohan gets high marks for his positive influence on both his students and the department in which he teaches. Students, colleagues, and employers alike praise his ability to challenge, inspire, and lead. His graduates receive high marks for their exceptional preparedness for the workforce, and he prods his colleagues to keep women and other underrepresented students in mind when they recruit and promote.

Mohan saw the wisdom of attracting women to STEM fields while still a student at IU. He participated in outreach programs both locally and throughout the state of Indiana, including helping start Indiana Aspirations. A program of NCWIT, Aspirations has state chapters that provide scholarships to promising young high school women. He continues his Aspirations involvement today and oversees school- and community-wide outreach programs to encourage and support young women students in Terre Haute and at Rose-Hulman.

Newton receives CAREER award

Qiu receives Outstanding Junior Faculty Award at IUB



Judy Qiu

Assistant Professor Judy Qiu was one of five IUB faculty to be named Outstanding Junior Faculty for the 2014–15 academic year.

The award, which is presented by the Office of the Vice Provost for Research and the Office of the Vice Provost for Faculty and Academic Affairs, provides a grant of \$15,000, which faculty members may use to support their research, scholarship, or creative activity. It recognizes tenure-track faculty who have begun to develop nationally recognized

research, scholarship, or creative programs and devoted productive time to teaching and service prior to achieving tenure.

“These five Outstanding Junior Faculty Award recipients rose to the top among an extraordinary field of candidates,” said Tom Gieryn, vice provost for faculty and academic affairs. “The faculty review committee was challenged to select from so many superb nominees, all of whom have demonstrated solid accomplishments and exceptional promise.”

The other recipients, all of them assistant professors, are: Matthew Baggetta in the School of Public and Environmental Affairs, Dominick DiOrio in the Jacobs School of Music, Mary Murphy in the Department of Psychological and Brain Sciences in the College of Arts and Sciences, and Babak Seradjeh in the Department of Physics in the College of Arts and Sciences.



Ryan Newton

Ryan Newton, an assistant professor of computer science, received the National Science Foundation’s most prestigious award for junior faculty.

The Faculty Early Career Development Award, known as the CAREER Award, identifies junior faculty members with the ability to integrate education and research. Every award includes an educational or outreach component that allows the investigator to possibly connect

with students at every level of formal education.

Newton began receiving over \$530,000 in CAREER support earlier this year for his work to advance new programming techniques designed to more completely utilize the parallel processing power now found in most consumer electronic devices. Most software employs sequential programming in which single sets of commands are executed in order despite the fact that devices such as smartphones and laptops now contain multiple processors capable of carrying out multiple, concurrent sequential processes to improve speed.

Since parallel programming also introduces the potential for highly unpredictable, extremely difficult-to-diagnose bugs, the technique is only employed in highly specialized environments, such as supercomputing and the video game industry. Newton’s work will advance research and practice that aims to take parallel programming from the realm of advanced theory to everyday use. This includes the upcoming launch of new parallel programming tools in an introduction to computer science course at IU in 2016 and in a high school classroom in 2017.

Natarajan receives \$315,000 to support machine learning research



Sriraam Natarajan

Assistant Professor Sriraam Natarajan received corporate gifts to support research done by his Statistical Relational Artificial Intelligence (StaRAI) group. The gifts, which add up to \$315,000 over three years, come from two companies looking to apply machine learning to help solve real-world problems.

Turvo Inc. will provide \$75,000 annually for three years to support two students to work on applying advanced machine learning algorithms to solve their problems. The nature of the work is open-ended, but is meant to start a relationship between Turvo and the School of Informatics and Computing. Turvo is hoping to build an employment pipeline of knowledgeable specialists.

PARC, a Xerox company, is in the “Business of Breakthrough,” on the cutting edge of innovation and technology. With a \$30,000 gift for each of the next three years, PARC will be funding a student to apply machine learning to healthcare problems. The research will focus on predicting heart attacks from electronic records and clinical studies.

“Our students are equipped with the right knowledge to make an impact in a variety of organizations,” said Natarajan. “There is a huge demand for this knowledge.”

The StaRAI group currently consists of 12 graduate students in computer science and informatics and will add three additional student researchers to support this work.

CNetS team winner in LinkedIn Economic Graph Challenge



IUB Assistant Professor of Informatics and Computing YY Ahn and a team of Ph.D. students from the Center for Complex Networks and Systems Research, including Yizhi Jing, Adazeh Nematzadeh, Jaehyuk Park, and Ian Wood, are one of the 11 winners of the LinkedIn Economic Graph Challenge.

Their project, “Forecasting large-scale industrial evolution,” aims to understand the macro-evolution of industries to track businesses and emerging skills. This data would be used to forecast economic trends and guide professionals toward promising career paths.

LinkedIn’s vision for the challenge is to create economic opportunity for the approximately three billion people in the global workforce. Through the Economic Graph Challenge, LinkedIn challenged researchers, academics, and data-driven thinkers to help solve some of the economic challenges facing the global workforce.

The Economic Graph is a digital mapping of the global economy that will include a profile for every member company in LinkedIn.

The winning teams – comprised mostly of entrants from prestigious universities – aim to solve problems as diverse as closing employee skill gaps, achieving municipal economic improvements, and relieving inequality in the labor market. Their results could potentially positively impact millions of people.

Winners received \$25,000. They have six months to conduct their research and will present their findings at LinkedIn headquarters in the fall.



IU earns top cybersecurity designations

The National Security Agency and the U.S. Department of Homeland Security have issued renewals of IU’s designations as both a Center for Academic Excellence in Information Assurance/Cyber Defense Education and Center for Academic Excellence Information Assurance/Cyber Defense Research through academic year 2021.

IU was initially certified as a Center for Academic Excellence in Information Assurance/Cyber Defense Education in 2007 and as a Center for Academic Excellence Information Assurance/Cyber Defense Research in 2008 (the first year this certification was offered). IU is one of just a handful of universities to have dual designations spanning more than one campus.

IU’s Center for Applied Cybersecurity Research coordinated the application process, working closely with faculty and staff at the IU School of Informatics and Computing, both on the Bloomington and IUPUI campuses.

Three SoC faculty earn New Frontiers in Arts and Humanities grants

John Walsh and Eden Medina, both associate professors at IUB, along with Thomas Lewis, a media arts and sciences lecturer at IUPUI were among 25 faculty from five IU campuses to receive New Frontiers grants.

Considered one of the largest internally funded university arts and humanities programs supporting scholarship and creative activity, the New Frontiers program has awarded more than \$9.3 million to 451 faculty members in the past 10 years.

The new five-year extension was the second announced by President McRobbie after the Lilly Endowment’s Excellence in Indiana Initiative funded an initial five years beginning in 2004–05. This latest round of awards provides up to \$50,000 each in Creativity and Scholarship Awards.

Medina received funding for her project “How Data Become Law: Computer-Mediated Evidence in Cases of Human Rights Violations,” while Walsh received his award for “CoBRA: Comic Book Readership Archive,” and Lewis for “Participatory Filmmaking Confronting HIV Stigma.”

Börner appointed to U.S. Department of Commerce – Data Advisory Council



Katy Börner

Katy Börner, Victor H. Yngve Professor of Information Science, has been appointed to a two-year term as a member of the U.S. Department of Commerce’s Data Advisory Council.

The CDAC consists of the best and brightest private and public sector thought leaders on data management and dissemination in the United States.

The council will provide Secretary Pritzker and the Department’s senior leadership with guidance on areas such as data management practices; common, open data standards; policy issues related to privacy, latency, and consistency; effective models for public-private partnership; external uses of Commerce data; and methods to build new feedback loops between the Department and data users.

ALUMNI NEWS

ILS recognizes distinguished alumni

The Department of Information and Library Sciences recognized the 2014 and 2015 winners of the ILS Distinguished Alumni Award on June 28 at an alumni reception at the American Library Association Annual conference in San Francisco.

The recipient of the 2015 Distinguished Alumni Award is Brian Schottlaender (MLS '80). Schottlaender is the Audrey Geisel University Librarian at UC San Diego. Since joining UCSD in 1999, he has provided leadership to make the Library more focused, efficient, and nimble. Schottlaender has been honored with a number of awards from the ALA, including the Margaret Mann Citation, the Ross Atkinson Lifetime Achievement Award, the Hugh C. Atkinson Memorial Award, and the Melvil Dewey Medal, the highest honor the organization can bestow.

Two recipients were acknowledged for 2014, including Mary Popp and Blanche Woolls.

Popp spent her entire academic and professional career at IU after earning her MLS in 1973. She served in a wide variety of roles on campus until her retirement in 2014. Popp has been a member of the Library Instruction Round Table with the American Library Association since 1979. She was given the Achievement Recognition Award from the Machine Assisted Reference Section of the ALA in 2008.

Woolls, who received both her Master of Library Science and Ph.D. in Library and Information Science from IU (in 1962 and 1973), spent 24 years at Pittsburgh with a teaching specialty in school library media before accepting a position as the director of the School of Library and Information Science at San Jose State University. She is currently professor emerita at both the University of Pittsburgh and San Jose State University. Woolls is still engaged with IU and helped establish the SLIS Doctoral Scholarship in 2010.

CONNECT

IU Alumni Association website
alumni.indiana.edu

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twitter.com/IUAA

Michael Arthur awarded Excellence in Librarianship award

Michael Arthur, MLS '99, was awarded this year's Excellence in Librarianship award on April 1, 2015, at the University of Central Florida's Founders' Day Convocation. He has been at UCF since 2006 as head of acquisitions and collection services. Although his dedication to UCF is strong, his office is decorated with IU mugs, basketballs, and a number of red and white items.

Carolyn Walters named Ruth Lilly Dean of IU Libraries

Congratulations to Carolyn Walters, MLS '86, on her appointment as the dean of the Indiana University Libraries. Over the years, she has contributed to the Department of Information and Library Science in many ways – as teacher, mentor, internship supervisor, and supportive colleague.

SoIC Careers

As the School continues to grow, we have a growing pool of students looking to make contributions to many types of organizations.

Our alumni can play a significant role in hiring our talented students, whether it be through establishing a good reputation for the School through their own exemplary work or helping recruit interns and full-time employees to their organizations.

If you're looking for opportunities to engage with our talented students, connect with our Career Services office by contacting Staci McFall at sgmcfall@indiana.edu. Options include: attending career fairs; conducting on-campus interviews; posting full-time, internship, and part-time positions on SoIC Careers; and hosting information sessions or Tech Talks.

We also have opportunities to engage with our students through resume critiques, employer panels, mock interview days, hosting a site visit, and our Accelerator Corporate Giving Program. Even if you aren't directly involved in recruiting at your organization, consider introducing your recruiting managers to SoIC Career Services.



2013–2014 hiring statistics. See our complete hiring report at soic.indiana.edu/career.



Top: SolC student ambassadors at the alumni awards dinner: **Steve Gehrig** (BS'15), **Jordan Lake** (BS'15), **Stephanie Bussey** (BS'15), **Rachel Shinn** (BS'15), **William Faith** (BS'15), and **Kyle Lemmel** (BS'18).



Bottom: 2014 Distinguished Alumni Award Winner **Mary Popp** (BS'71, MLS'73, MS'81), Associate Dean for Digital Initiatives at McGill Library **Jenn Riley** (MA'00, MLS'03), and Associate Director and Head of Public Service at IU's Lilly Library **Erika Dowell** (BA'90, BFA'92, MLS'00, MA'13) enjoy an alumni reception at the American Library Association's annual conference in San Francisco.

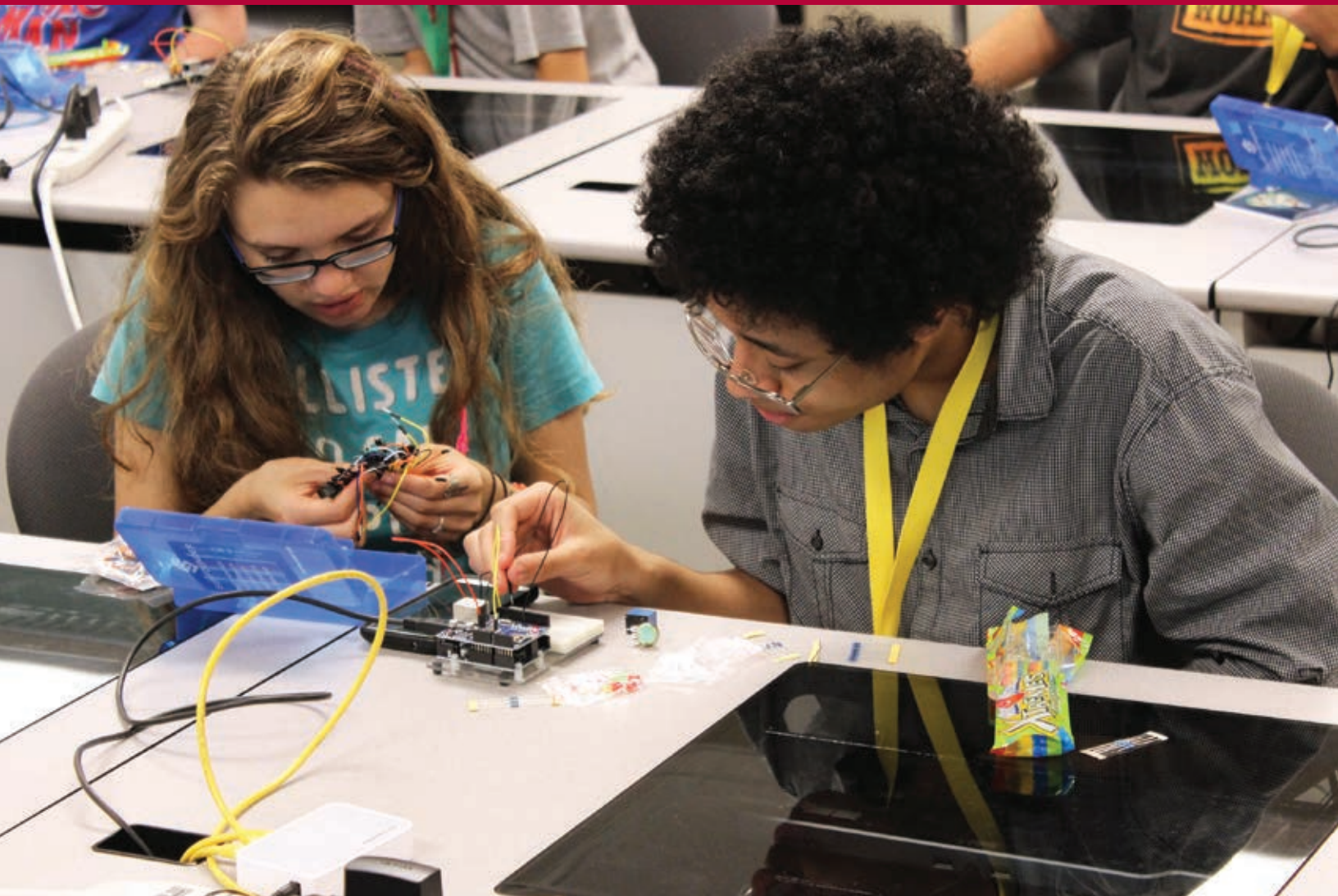


SCHOOL OF INFORMATICS AND COMPUTING

INDIANA UNIVERSITY

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SOIC SNAPSHOT



SoIC held its annual high school summer camp in Bloomington June 21–25 with the goal of sparking a passion for technology. The camp welcomed more than 60 students to its event, one that has become more sophisticated by the year.