

# School of Informatics

## Annual Highlights

2011-2012

### Teaching and Learning

In collaboration with the Regenstrief Institute, and supported by a \$1.4 million grant from the U.S. Department of Health and Human Services' Office of the National Coordinator for Health Information Technology (ONC), we began our third year offering four graduate certificates:

- o [Health Information and Management Exchange](#)
- o [Health Information Security](#)
- o [Informatics for Public Health Professionals](#)
- o [Health Information Systems Architecture](#)

We have exceeded our quota of 83 students.

- A new scholarship in Health Information Technology was established to help students pursue graduate studies in health informatics. The School has placed 50 current students as interns at Community Health Network.
- The Health Informatics program has had four papers accepted for presentation at the [American Medical Informatics Association \(AMIA\) Annual Symposium](#) this fall.
- Overall, HCI Ph.D. students co-authored more than 15 peer-reviewed publications in journals and conference proceedings.
- HCI graduate students Tao Yang, Romisa Rohani, Arthur Liu, Mexhid Ferati and Haidan Huang's papers, co-authored with Davide Bolchini, were accepted at the influential and highly-competitive [Association for Computing Machinery Conference on Human Factors in Computing Systems \(CHI\)](#).
- HCI graduate students Tao Yang, Romisa Rohani, and Mexhid Ferati's paper, co-authored with Davide Bolchini, was accepted at the [Association for Computing Machinery Conference on Computers and Accessibility \(ASSETS\)](#).
- HCI Ph.D. students Sung Pil Moon, Yikun Liu, and Steven Entezari have co-authored with Mark Pfaff a paper in the [Journal of Cognitive Engineering and Decision Making](#)

- HCI Ph.D. student Steven Entezari co-authored a paper with Drs. Pfaff, Drury, and Klein for the 9th Annual International Conference on Information Systems for Crisis Response and Management.
- HCI Ph.D. student Yikun Liu co-authored a paper entitled “Requirements for Data Mining the Decision Space,” which was nominated for Best Paper in the Collaboration, Shared Awareness, and Decision Making track of the 17th Annual International Command and Control Research and Technology Symposium.
- HCI Ph.D. students Prathik Gadde and Himalaya Patel co-authored with Karl MacDorman a paper that appeared in the Journal of Robotics.
- MAS graduate student, Joan Savage, spent the spring semester as an intern working in Beijing, China, for Microsoft Research Asia in the Human-Computer Interaction group.
- Davide Bolchini was an IUPUI Student Supervisor of the Year Nominee, in recognition of outstanding performance in the HCI program.
- Davide Bolchini received the Indiana University Trustees Teaching Award. Josette Jones received the School’s Excellence in Service Award and Yaqui Zhou received the Excellence in Research Award.

### **Research, Scholarship, and Creative Activity**

- External contract and grant expenditures for the School of Informatics totaled \$954,354 as of June 30, 2012—awarded contracts and grants totaled \$1,101,562. Proposal dollars totaled \$4,909,754. Faculty of the School of Informatics at IUPUI submitted 32 external contract and grant proposal submissions for the 2012 academic year and were included as collaborators on an additional 26 external submissions by other units.
- Joe Defazio was awarded two grants totaling \$80,000 as part of a single, two phase project in collaboration with Stephen Viewhig and Family Voices of Indiana. The project team is creating training modules as part of an effort to expand FVI’s online resource portal.
- Davide Bolchini’s NSF funded project, “Navigating the Aural Web” was awarded \$137,789 in a second year of funding and a second \$16,000 supplement to fund a Research Experience for Undergraduate participation in the project. The project team is investigating and evaluating innovative design patterns for aural web navigation.
- Steve Mannheimer and collaborators Mathew Palakal and Davide Bolchini were awarded \$249,999 from the NSF for a two-year project, “Audemes, Metaphors and Aural Games—A Pathways Project to Make STEM Engaging for the Blind and Visually Impaired.” As the name suggests, this project seeks to more fully engage blind and visually impaired children in games centered around the STEM disciplines.

- Mathew Palakal was awarded \$23,600 from the NSF to co-host a “US-India Workshop on Biocomputing” in conjunction with—and on location at—the National Institute of Technology in Calicut, India. The workshop brought together leading researchers in Biotechnology, Bioinformatics and Computer Science and provided a forum in which to share ideas and initiate collaborations.
- Yaoqi Zhou’s grant, “Statistical Energy Functions: a Fragment-based Approach,” was renewed by the National Institute of General Medical Sciences for \$272,270 in its fourth project year. The aim of this work is to use a fragment-based statistical approach to elicit the energy functions governing protein interaction forces. His joint R01 with UC Davis, “Toward experimental quality protein structures: a synergistic approach,” was also renewed by the NIGMS for \$81,248 in its fourth project year. In this project, Zhou’s group is collaborating with Yong Duan’s team to integrate new energy functions with sampling techniques they’ve developed.
- For his third year of work with the MITRE Corporation, Mark Pfaff was awarded \$58,162 for research and a \$2,994 travel supplement on the collaborative project, “Data Mining the Decision Space for Planning and Analysis.” The group’s aim is to develop and experiment with ways to visualize the effects of alternative decisions for the benefit of human decision-makers and perform human-in-the-loop testing as a basis for determining the efficacy of these visualizations.
- Jake Chen received an additional \$20,000 from the Alivio Medical Center for his continuing work with them on “Diabetic Genomic Health: SNP Analysis in Latino Patients with Diabetes Mellitus Type II.” The collaborating teams are working to develop a genotype screening chip.
- Skip Comer and Chris Newlon are collaborating with SLIS’ Kathy Schilling on “WECare Web-Enabled Support for Cancer Caregivers”—a \$130,000 award from CancerCare, Inc. The team is building an interactive, web-based cancer caregiver support intervention that will enable caregivers nationwide to manage their own emotional and wellness needs while caring for a cancer patient.
- The School hosted the second [Midwest Conference on Health Games](#) attracting 100 participants from industry and academia.
- Josette Jones presented two papers at the [HCII 2011](#) conference in July 2011.
- Josette Jones was invited to speak at the [Annual Health Law Review Symposium](#) in Indianapolis, the [Midwest Scholarship of Teaching and Learning Conference](#) in South Bend, and the [Indiana Health Information Association](#) in Plainfield.
- Josette Jones contributed a chapter on nursing and health care informatics to a book and published four additional articles on topics ranging from health informatics, web mining and usability testing.

- Media Arts and Science faculty published over 25 books and papers on topics ranging from serious game design, user behavior modification in game-based learning, and K-12 STEM education.

### **Civic Engagement**

- Davide Bolchini led the first edition of Pre-college Experience of Research Labs (PERL) initiative, which engaged a class of six low-vision and blind students and their teachers from the Indiana School for the Blind in a one-day visit to participate in the human-computer interaction (HCI) research conducted by Bolchini's research group.
- Staff and students participated in the IUPUI Day of Caring. This activity is being institutionalized by writing it into the curriculum of our learning community courses, offering it as an extra credit opportunity.
- The School has begun a relationship with Girls, Inc., with staff and student ambassadors volunteering to work with young women participating in Lunch Bunch career programs.
- Media Arts and Science faculty collaborated with a number of organizations to create projects for community organizations, including a videos for the Spirit & Place festival, The Polis Center, the Indiana Historical Society, charting and graphing modules for [Hoosier Riverwatch](#), and websites and online interactive modules for the Indiana State Museum, the Indiana State Department of Health, and the IU Schools of Medicine and Nursing.
- Susan Tennant offered a third international study abroad program in Paros, Greece. Students continue to work to preserve the island's cultural heritage by producing video documentaries on local agro-tourism.

### **Diversity**

- Polly Baker's grant awarded through the STARS Alliance (Students and Technology for Academia, Research and Service) continued. STARS activities are designed to broaden participation in computing through recruiting and retention. Four women students traveled to the STARS Celebration in August. The School's STARS Corps grew to 10 students at the beginning of the fall semester. Nine students will travel to this year's STARS Celebration in Hampton, Virginia. STARS funding has been increased to support 12 students this academic year.
- Three staff members completed SafeSpace training—a program designed to help members of the IUPUI community create safe and welcoming environments for students, faculty, staff, and guests of the campus that identify as lesbian, gay, bisexual, transgender, queer, questioning, intersex, androgynous, or ally.
- Two staff members traveled with 17 students to McCormick's Creek State Park to attend the Indiana Women in Computing conference, a regional National Center for Women and Information Technology (NCWIT) event. Undergraduate student Brittney Conway was an

invited panelist at the conference.

- Student Services staff and/or student ambassadors made presentations to students in ethnically diverse area high schools.
- The School provided travel scholarships to four students to attend the Grace Hopper Celebration of Women in Computing.
- The School expanded its budget for travel scholarships for students to attend conferences supporting broadened participation in computing
- The REU supplement for Davide Bolchini's NSF funded project, "Navigating the Aural Web" is supporting two undergraduate women in his research lab.
- Executive Associate Dean, Anthony Faiola and Edgar Huang traveled to Beijing, China, in January to recruit students from Sun Yat-sen University for our [2+2" agreement](#) program. in media arts and science.
- Associate Dean for Graduate Studies and Research, Mathew Palakal and Professor Steve Mannheimer traveled to Southern India, visiting 11 high schools in 10 days to recruit students for our undergraduate informatics program.
- Josette Jones participated in Compact for Faculty Diversity (an initiative to produce more minority Ph.D.s seeking faculty positions) as a faculty mentor for Ph.D. student Crystal Boston-Clay.

### **Best Practices**

- Submitted four 5-year BS-MS program proposals to the Graduate School for consideration and approval including: Informatics BS - Human Computer Interaction MS, Informatics BS - Bioinformatics MS, Informatics BS - Health Informatics MS, and Media Arts and Science BS – Human Computer Interaction MS.
- School has engaged our student ambassadors in working with advisement staff in all JagDays events on campus as well as outside recruitment activities.
- Student Services hosted a get- to -know -you breakfast for UCOL advisors with presentations from advisors, career services staff, academic program directors and current students.
- School has engaged our student leaders in student orientation activities, encouraging students to get involved at the school and campus levels.
- Thirty-nine high school students participated in week- long summer workshops focusing on video production, digital imaging, and animation and game design.

### **External Awards and Appointments**

- Davide Bolchini received the IUPUI Prestigious External Award Recognition (PEAR) in honor of being elevated to Senior Member of the Institute of Electrical and Electronics Engineers (IEEE).
- Mark Pfaff was elected Secretary/Treasurer of the Cognitive engineering and Decision Making (CEDM) technical group of the Human Factors and Ergonomics Society (HFES).
- C. Thomas Lewis received the artist residency award at [Osage Arts Community](#).
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