

School of Informatics and Computing, IUPUI <https://soic.iupui.edu>

The School of Informatics and Computing continued to elevate its ambitions and performance, both internally and externally, during the 2014-15 academic year. Objective measures of success include record enrollments and increasing grant applications. The SoIC also expanded its civic engagement through a significant community-funded initiative called i-DEW (Informatics-Diversity Enhanced Workforce) to build an informatics pipeline from high school through college into careers. Internally, the school undertook a restructuring of student services, recruitment and academic advising.

The Success of Our Students

Promote Undergraduate Student Learning and Success

- The School of Informatics and Computing, IUPUI, continues to grow its undergraduate enrollment, up from 12,075 credit hours in 2012-13 to 13,811 in 2014-15.
- The SoIC launched its first Honors Program for undergraduate students that seek honors level courses. The new Honors Program will provide students with a cumulative GPA of 3.5 or higher, the option to apply upon completion of 12 IUPUI credit hours. <http://soic.iupui.edu/news/informatics-and-computing-offers-honors-program-starting-2014-15-school-year/>
- In summer 2014 the SoIC advising staff implemented a student satisfaction survey that gave us great feedback on our students' issues and concerns.
- SoIC undergraduate advisors have implemented mandatory advising for all freshmen. We use advising holds on all students below 30 credit hours to ensure they meet with an advisor before registration.

Increase Capacity for Graduate and Graduate Professional Education

- The School of Informatics and Computing, IUPUI, continues to grow its graduate enrollment, up from 17,208 credit hours in 2012-13 to 19,098 in 2014-15.
- At the graduate program level, the SoIC developed accelerated 5-year BS-MS programs in Health Informatics, Bioinformatics, and Human Computer Interaction. These programs are currently being promoted within other schools at IUPUI, Marion University, Butler University and at other international institutions. We have also developed a new MS in Informatics that is currently going through the approval process.

Transform Online Education

- The SoIC Department of Library and Information Science offered a massive open online course (MOOC) about public libraries. The free, four-week course was entitled: “Are You Experienced? Exploring Public Libraries,” and was open to anyone across the globe. Over 780 people enrolled from all over the United States, as well as countries such as Spain, Lithuania, and Costa Rica, among others.
- <http://soic.iupui.edu/news/over-700-registered-for-inaugural-mooc-hosted-by-the-library-and-information-science-department/>
- The SoIC’s Department of Library and Information Science offers a completely online Master’s of Library Science degree that largely serves the library professionals of Indiana. The program has experienced strong growth over the past two years. For Fall, 2013, we had 60 applications to the MLS program; in Fall, 2014, we received 92 applications, a 53% increase. In addition, for Spring, 2014, there were 30 applications to this program. For Spring, 2015, we received 50 (a 67% increase). <https://soic.iupui.edu/lis/master-library-science/>
- HCC Assoc. Prof. Joe Defazio, in collaboration with HCC Prof. Sara Hook and BHI Assoc. Prof. Josette Jones, published “Enhancing creativity in teaching and learning in online, face-to-face and hybrid courses,” in the Scholarship of Teaching and Learning (SoTL) Conference at Maryville University in St. Louis, Mo - <https://scholarworks.iupui.edu/handle/1805/5305>
- HCC Assoc. Prof. Joe Defazio presented “Design and development of an interactive course builder for the iPad” at the *Society for Information Technology and Teacher Education International Conference 2015*, Las Vegas, NV.

Optimize our Enrollment Management

- The SoIC has hired a full-time recruiter and initiated an active recruiting program at area high schools. At the same time, we have raised our minimum GPA expectation for incoming first-year students.

Advances in Health and Life Sciences

- The Department of Bio-Health Informatics (BHI) of the SoIC had its strongest enrollment year to date, with 288 undergraduate and graduate students enrolled in BHI majors and certificate programs.
- BHI Chair Dr. Brad Doebbeling continued work as PI on his \$2M PCORI grant, designed to include patients in the discussion of how to improve and expedite medical care. Dr. Doebbeling and his team are the first PCORI recipients in

Indiana.

- BHI Assist. Prof. Rich Holden published nine articles last year, including two as senior author with Swedish co-authors, detailing “lean strategies” to organizational development in Swedish hospitals.
- HCC Lecturer C. Thomas Lewis, in collaboration with HCC Lecturer Todd Shelton and doctors from AMPATH created a mobile medical information application called Shahidi. <http://news.iupui.edu/releases/2014/12/shahidi-app.shtml>
<http://soic.iupui.edu/news/team-develops-app-that-offers-better-way-to-present-patients-with-information-in-a-global-health-care-setting/>
- BHI Interim Chair Assoc. Prof. Huanmei Wu was PI on corporate contract/grants to explore image-guided proton radiotherapy, totaling over \$400,000, and has published the results. <http://dx.doi.org/10.4236/ijmpcero.2015.41011>
- An SoIC bioinformatics master’s student helped develop a mobile app to forecast outbreaks of seasonal flu and other illnesses. Sandeep Shantaram and other student researchers developed the prototype as interns at the Pacific Northwest National Laboratory for the Biosurveillance Mobile App Development Competition, an annual challenge sponsored by U.S. Department of Defense. The mobile app called FluCast, won the competition and is now undergoing testing and development.
<http://soic.iupui.edu/biohealth/graduate/bioinformatics-masters/>
- HCC Chair Dr. Davide Bolchini serves as co-PI on a \$589,000 grant to study “From Critique to Collaboration: A Fundamental Rethinking of Computerized Clinical Alerts” in collaboration with Dr. J.D. Duke.
http://www.nsf.gov/discoveries/disc_summ.jsp?cntn_id=135472
- HCC Chair Dr. Davide Bolchini published 10 articles and filed two patent applications in fields related to sound-based Web navigation for blind and visually impaired users. Bolchini’s work has evolved from the SoIC’s 8-year collaboration with the Indiana School for the Blind and Visually Impaired.
- The SoIC has established academic and/or research collaborations with the IUPUI schools: Nursing, Health and Rehabilitation Science, Dentistry and Public Health, as well as ongoing collaborations with the IU School of Medicine, the Center for Computational Biology and Bioinformatics, and the Regenstrief Institute.
- HCC Assoc. Prof. Anthony Faiola was first author of “A novel approach to ICU data visualization and communication integration,” in the Proceedings from WISH 2014: Workshop on Interactive Healthcare Systems, at the American Medical Informatics Association (AMIA) Annual Symposium. Faiola presented three papers there.

- HCC Assoc. Prof. Edgar Huang developed a new course titled N585 Healthcare New Media, first offered in Spring 2015 as a survey of digital media practices in hospital websites and other communications/marketing platforms. This course grows out of Dr. Huang's research into these online practices; e.g. "Case studies of interactive e-health tools on U.S. hospital Web sites" in the *e-Service Journal*, 9(2), 46–61

Contributions to the Well-being of the Citizens of Indianapolis, Indiana, and beyond.

Accelerate Innovation and Discovery through Research and Creative Activity

- The SoIC submitted 55 applications for funding from various external agencies, and received funding for 14, better than a 25% success rate.
- HCC Assist. Prof. Amy Volda developed a long-term research partnership with Goodwill of Central Indiana. Prof. Volda was also first author of a Best Paper Honorable Mention article: "Shared values / conflicting logics: Working around e-government systems." In Proceedings of the ACM Conference on Human Factors in Computing Systems (CHI 2014). Toronto, ON. New York: ACM Press. <http://dl.acm.org/citation.cfm?id=2556971>
- HCC lecturer Albert William created the beautiful digital illustration for "Anion-Induced Dimerization of 5-fold Symmetric Cyanostars in 3D Crystalline Solids and 2D Self-Assembled Crystals," in *Chemical Communications*, an online journal of the Royal Society of Chemistry. <http://news.indiana.edu/releases/iu/2014/07/cyanostar-chemistry-collaboration.shtml>,
- HCC Assist. Prof. Stephen Volda received the prestigious Google Research Award to fund his exploration of "Glanceable, Peripheral, Haptic, and Audible Displays: Supporting Wearable Display Ecologies for Personal Informatics," studying how users currently manage information across multiple devices. <http://soic.iupui.edu/news/dr-stephen-voida-receives-google-faculty-research-award-for-wearable-display-ecologies-project/>

Deepen our Commitment to Community Engagement

- SoIC Executive Associate Dean Mathew J. Palakal led a year-long campaign to develop and generate support for i-DEW (Informatics: Diversity-Enhanced Workforce), a multi-year program of informatics education for local high schools serving under-represented students. Palakal secured a major commitment from JP Morgan Chase, Cummins Engine, Old National Bank, as well several as smaller gifts from local foundations to support the initiative. <http://news.iupui.edu/releases/2015/04/idew-informatics-chase.shtml>

<http://soic.iupui.edu/news/iupui-and-jpmorgan-chase-launch-it-workforce-development-program/>

- The SoIC held a one-day summit for local high school teachers to introduce them to state-of-the-art media and animation techniques, as well as 3D printing, to capture the attention and imagination of students.
- <http://soic.iupui.edu/news/first-annual-high-school-teacher-summit-to-provide-hands-on-sessions-developing-new-teaching-methods/>
- The SoIC offered 12 summer workshops that attracted 138 central Indiana high school and middle school students, who studied a range of informatics themes, including computer game design, animation, programming and bioinformatics.
- HCC lecturer Albert William taught a digital visualization workshop for the Fairbanks School of Public Health summer workshop "Your Life. Your Story," designed to help Latino students understand their place in modern culture.
- HCC Prof. Steve Mannheimer led a team of SoIC teachers including Polly Baker and Jennifer Stewart, together with SoIC students, delivering CHIPS, a year-long after-school informatics workshop for IPS middle-school students. CHIPS was funded by the Indiana Pacers Foundation and IPS.
<http://news.iupui.edu/releases/2014/09/chips-informatics-pacers-ips.shtml>
<http://soic.iupui.edu/news/pacers-foundation-ips-and-the-school-of-informatics-and-computing-at-iupui-team-up-to-bring-informatics-education-to-hl-harshman-magnet-middle-school/>
- BHI Lecturer Saptarshi Purkayastha led an SoIC team that successfully bid to be selected for the Google Code-In program in 2015, designed to introduce 13-17 year-old students to open source software development for the OpenMRS (Medical Record System) a platform developed by Regenstrief Institute.
<http://soic.iupui.edu/news/health-informatics-faculty-and-students-to-participate-in-google-code-in/>

Strengthen Internationalization Efforts

- HCC Lecturer C. Thomas Lewis developed a video-based approach to "Documenting Historical Cultural Artifacts and Traditions on Paros, Greece," as part of the SoIC's ongoing Greece Summer Study Abroad program.
- HCC Associate Prof. Anthony Faiola was first-author with Russian co-authors of "Socio-Augmentation of Humanity: Deconstructing Symbiont Consciousness," published in *The Problems of Philosophy Journal*, 4, Moscow, Russia.
- EAD Palakal led efforts to develop accelerated BS-MS programs with Symbiosis Institute of Technology in India and Vietnamese National University, Vietnam.

