

Regenstrief Center for Healthcare Engineering

Summer 2009

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CAT recognized for its innovation

The Center for Assistive Technology has been named INDATA's 2009 "Assistive Technology Innovation" award winner. The award is given to a company or organization that has created an innovative device or system in the area of assistive technology, said Wade Wingler, director of Assistive Technology at INDATA. "I think the CAT project exemplifies the spirit of innovation and is deserving of this award."

CAT is funded by the Indiana Family and Social Services Administration to build innovation capacity in the assistive technology market. The first CAT Entrepreneurs' Bootcamp was held in April; a second workshop will be held on August 6 in conjunction with the INDATA conference. The catHUB has been a significant focus of the group's effort. The hub unites assistive technology users, researchers, and innovators. In addition to providing information to each group, it also facilitates discussions among groups. Users can let innovators



The catHUB — www.cathub.org — uses the robust nanoHUB technology to develop not only an online community for assistive technology users, inventors, researchers, and more, but also provides opportunities for collaboration and feedback on products. The hub's goal is to enable the development of products and services that truly meet the needs of users.

know about unmet needs. Innovators and researchers can solicit feedback on products or prototypes from users.

The award will be presented at INDATA's conference on August 7 at the Indiana Convention Center. The conference is open to the public and more information is available at www.eastersealscrossroads.org.

PROGRESS

Healthcare delivery part of national healthcare reform discussions

Last month, leaders from healthcare industry groups representing physicians, insurers, and more, met with President Obama about healthcare reform. From the American Medical Association to leading insurers, the message was the same: “We need to reform the delivery of care.”

This according to attendee George Halvorson, CEO of Kaiser Permanente, who said that by focusing on costs, the media has missed a significant part of the discussion that talks about “significant opportunities to improve care.” The answer isn’t rationing, he said. It’s improving the healthcare delivery system.

“The real opportunity is that 75 percent of costs in America come from people with chronic conditions.” Diabetes, which accounts for 32 percent of Medicare expenses, is the leading cause of blindness, amputations, and other health problems. “If you look at the care delivery patterns of America, we only get care right for diabetics eight percent of the time. If we got care right for diabetics 80 percent of the time, we’d cut the number of kidney failures in half,” he said.

Coordinating care

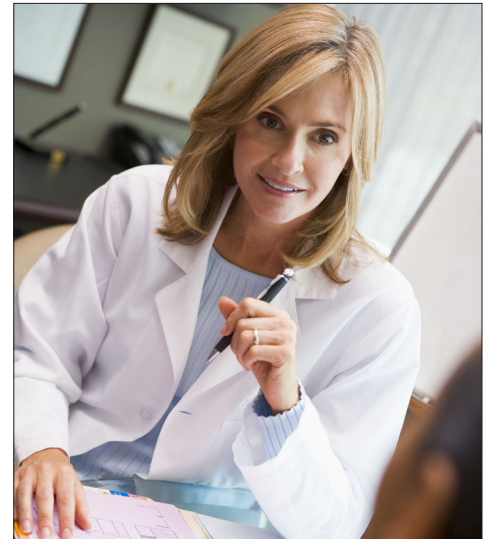
Halvorson cited tight HIPAA regulations, lack of universal coverage, and a lack of information infrastructure as roadblocks to coordinating care. Care registries or databases have been included in reform discussions as well as research priority lists.

He placed some of the onus on payors to know about coordination tools, such as existing care registries that enable what he calls “virtual integration,” and to insist that providers use them.

Delivering comparative effectiveness research

The Department of Health and Human Services (HHS) and the Institute of Medicine (IOM) issued recommendations for how to use the \$1.8 billion in stimulus money designated for comparative effectiveness research (CER). According to both reports, dissemination and adoption of best practices remains a key issue. The reports also recommend funding registries and establishing data infrastructures.

In categorizing its 100 priorities, the IOM report listed more priorities as “healthcare delivery” than any other category.



“For asthma care, we wait till the kid ends up in the emergency room, then we don’t tell the primary care that their patient was in the ER with medication failure.

— George Halvorson

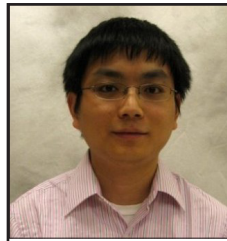
“Despite important efforts ... the majority of current funding goes to building evidence as opposed to ensuring that the existing evidence base is utilized in patient care and health systems management.

— HHS CER report, June 30, 2009

PEOPLE

RCHE and Statistics welcome first joint-appointment

This fall, Lingsong Zhang will join both the Department of Statistics and RCHE as an assistant professor and the first joint-appointment between the two groups. Zhang comes to Purdue from the Harvard School of Public Health, Department of Biostatistics. His research interests include developing statistical methods for real-world application. In some of his previous work, he has used proteomics, gene-microarray, and environmental health data sets.



Lingsong Zhang

Zhang earned his PhD in statistics from the University of North Carolina at Chapel Hill. He is a member of the American Statistical Association and the Institute of Mathematics.

New IE faculty member will also join CAT team



Juan Pablo Wachs

Juan Pablo Wachs will join the School of Industrial Engineering and the Center for Assistive Technology this fall. Wachs recently completed a post-graduate fellowship with the Naval Postgraduate School MOVES (Modeling, Virtual Environments, and Simulation) Institute in Monterrey, California.

“My research is focused on two connected disciplines related to machine vision: intelligent systems and human-machine interfaces. In both fields, I am intrigued by the means of interaction between robots to people through visual meaningful features. In human-machine interfaces, I aspire to design visual algorithms that are capable to mimic visual perception tasks such as motion tracking, object recognition, efficient human body-posture recognition, and behavior modeling and understanding. In intelligent systems, my focus is oriented to enable robots and devices to perform high level tasks with speed and efficiency based on visual clues from complex and cluttered environments,” he says.

He completed his doctorate in Industrial Engineering and Management at the Ben Gurion University of the Negev. His dissertation, *Optimal Hand Gesture Vocabulary Design Methodology for Virtual Robotic Control*, looked at measures for hand gesture interfaces for robot control.

RCHE mourns the passing of advisory council member

August “Gus” Watanabe, prominent scientist and innovator, passed away on June 9, 2009. Watanabe was the former president of Lilly Research Laboratories and the current chairman of BioCrossroads.

During his career, he developed a reputation as a visionary, transforming nearly every company or organization he joined. As chairman of the Department of Medicine at the IU School of Medicine, Watanabe spearheaded a tremendous expansion of the school’s research facilities and the school continues to build on his vision for increased medical research. He joined Lilly Research Laboratories in 1990, following a six-month sabbatical there. As he had done at IU School of Medicine, Watanabe championed the importance of investing in basic research and development. With strong research, Lilly launched nearly a dozen drugs during Watanabe’s tenure and five more that had been in development immediately after he left.

PARTNERS

WellPoint CEO named one of the top 25 women in healthcare



Angela Braly

Angela Braly, president and CEO of WellPoint, Indianapolis, was named to *Modern Healthcare's* list of the top 25 women in healthcare. Since 2007, Braly has overseen the organization that is the nation's largest insurance company with nearly 43,000 employees, 35 million members, and an operating revenue of \$61 billion.

In 2008, Braly was ranked fourth on *Forbes'* "World's Most Powerful Women" list, and was fifth by *Fortune* on its list of the "50 Most Powerful Women." She is the only woman to lead a Fortune 50 company.

Individuals are nominated for consideration and the list is compiled by a panel of senior editors at *Modern Healthcare*. Nominees are evaluated on their leadership and management; ability to effect change in the industry; demonstrated willingness to share their expertise with others in the field; service as a role model or mentor to other female healthcare executives; and their willingness to assume leadership positions in industries outside of their own organization.

Doing it better, together

If we didn't know it before, the last several months of intense debate about healthcare reform in Washington and in the media have made it abundantly clear: the American healthcare system is a massive entity, and transforming it will not happen exclusively through the efforts of one person or organization.

RCHE is honored to work with these strategic partners who bring invaluable insights into various segments of the industry, thereby creating better research projects and outcomes.

Living Laboratory Partners



Dissemination Partners



PARTNERS

Fall conference highlights key priority areas, brings together HEA universities

Following up on a successful spring conference that covered all six National Priority areas, RCHE's fall conference will focus specifically on two — care coordination and population health.

“Based on conference feedback and our research direction, these are two areas where we feel we can have the greatest impact,” said Steve Witz, RCHE director. “We’re fortunate to welcome a very knowledgeable roster of speakers to this conference to share both research and clinical expertise in these areas.”

The morning session will cover care coordination; the afternoon will highlight population health. Lunch will be open to facilitate networking among participants. Both breakfast and lunch will be provided.

Conference speakers include:

- Mark Braunstein, MD; Professor of Practice, Health Systems Institute at Georgia Tech
- Peter J. Fabri, MD; Professor of Surgery, University of South Florida
- Nan Kong, PhD; Assistant Professor of Biomedical Engineering, Purdue University
- Glen P. Mays, PhD, MPH; Associate Professor, Chair Pro Tem, and Director of Research, Department of Health Policy and Management, University of Arkansas for Medical Sciences (UAMS)
- Stephen Roberts, PhD; Professor of Industrial Engineering, North Carolina State University
- Veronique Roger, MD; Chair, Health Sciences Research Department, Mayo Clinic
- Vinod Sahney, PhD; Senior Vice President and Chief Strategy Officer, Blue Cross Blue Shield of Massachusetts
- Laura Sands, PhD; Professor of Nursing, Purdue University

The conference is being held in conjunction with the 2009 meeting of the Healthcare Engineering Alliance, a nationwide university collaborative focused on promoting and improving the field of healthcare engineering. RCHE is a founding member of the alliance. Other members include North Carolina State University, University of South Florida, North Carolina A&T State, and University of Arkansas.



Conference details

When: September 29, 2009; 8:00 a.m.—4:00 p.m.

Where: The Trails in West Lafayette

Shuttle to and from the union provided

Free **wi-fi** at The Trails

Ample **parking**

Breakfast and lunch provided

Registration required at www.purdue.edu/rche/events/conferenceregistration.php

More information available at www.purdue.edu/rche. Click on the conference banner.

PROJECTS

Impact of Federal Bioterrorism Funding Programs on Local Health Department Preparedness Activities

Avery, G. H., Zabriskie-Timmerman, J. 2009. "The Impact of Federal Bioterrorism Funding Programs on Local Health Department Preparedness Activities." *Evaluation & the Health Professions*. 32: 95–127.

After the September 11, 2001, attacks, billions of dollars were made available to agencies for emergency preparedness.

In this study, researchers George Avery (Purdue University) and Jennifer Zabriskie-Timmerman (University of Texas Medical Branch) tested the hypothesis that the level of federal



funding received for bioterrorism preparedness is related to the preparedness activities undertaken by local health departments. The research was completed using the 2005 National Association of County and City Health Officers Profile of Local Health Departments data set.

The study found that federal funding does not have a direct effect on preparedness activities but an indirect effect by enabling local efforts. In particular, federal funds can enable local departments to hire an emergency preparedness coordinator who is specifically dedicated to preparedness activities. This is consistent with post-September 11 studies that showed that lack of staff resources for emergency preparedness was a primary reason why such activities did not occur.

The results are consistent with the observation that strong local leadership is a primary driver in both how funds are spent and the level of implementation of intergovernmental programs. The most important determinants of local preparedness activity were overall budget, leadership, and crisis experience.

The study also found that departments with a nurse director were 80 percent more likely to conduct preparedness training than departments with directors from other disciplines. The team proposes this as a direction for future research. The team also proposes that further research should investigate whether federal preparedness funds can spur systemic improvements in public health.

RCHE named key partner in campaign to educate and combat gynecological cancers

Women's Oncology Research and Development (WORD) selected RCHE and Publicis Indianapolis as its partners in developing its upcoming national campaign. Funded by the Department of Defense, the educational media campaign will reach out to women by providing the tools necessary to make informed decisions.

RCHE researcher and communications faculty member Bart Collins will work with WORD and Publicis to develop these tools. Publicis, a large advertising and communications group, will manage the public campaign.

2009 RCHE Seed Grant Deadlines Announced

January 20, 2009: Letter of Intent due

February 17, 2009: Proposal due

April 2, 2009: Grant recipients notified

All items must be submitted to rche@purdue.edu.

More details will be available in the Fall and Winter issues of the RCHE newsletter.

RCHE part of BioCrossroads' Health Information Technology campaign

The Regenstrief Center for Healthcare Engineering is one of eight network partners in a new health information technology (HIT) promotional initiative.

Launched in June by BioCrossroads, Exhibit Indiana (Expanding Indiana's Breakthroughs in Health Information Technology) consolidates information on the state's HIT resources. With five operating health information exchanges, HIT-adopting hospitals and physicians, and entrepreneurial and academic research, Indiana boasts one of the strongest HIT sectors in the country.

Exhibit Indiana responds to a section of the American Recovery and Reinvestment Act (ARRA), which specifies that Americans and their physicians should be able to participate in "meaningful use" of health information technologies by 2014. The act also provides limited funding for research into this area.

RCHE's role in health information technology research focuses primarily on meaningful use. Researchers can help companies and organizations test their HIT to determine if meaningful use is being achieved. RCHE can also assist in evaluating implementation and developing strategies for dissemination of a technology across an organization.

Other network partners include BioCrossroads, Indiana Health Informatics Corporation, Regenstrief Institute, Indiana University School of Informatics, Indiana Health Information Exchange, Mergetics, Med-Web, Medical Informatics Engineering, Michiana Health Information Network, HealthLINC, and HealthBridge.

For more information about the Exhibit Indiana initiative, visit www.exibhitindiana.com.



The graphic features the Exhibit Indiana logo at the top left, with the tagline "EXPANDING INDIANA'S BREAKTHROUGHS IN HEALTH INFORMATION TECHNOLOGY" to its right. Below the logo, a central image shows a stylized human figure with a glowing blue and red interior, overlaid with various medical and data-related icons. Text on the left side of the graphic reads "Five Health Information Exchanges operating throughout Indiana." Below this, there is a section titled "About Exhibit Indiana®" followed by two paragraphs of text. Further down, there are links for "Exhibit Indiana Overview", "Current ARRA Opportunities and Developments", and several news items including "HHS Announces Members of Committees That Will Advise on Implementation of Health IT Conference Committee Report of Provisions for the HITECH Act", "Text of Portions of the HITECH Act of ARRA Act of 2009", "HIT Policy Committee Meeting on Meaningful Use", and "ONC Listening Session June 26, 2009". At the bottom, a "Network Partners" section lists logos for Indiana Health Information Exchange, Mergetics, Regenstrief Institute, mie (Medical Informatics Engineering), Regenstrief Center for Healthcare Engineering, mhin (Michigan Health Informatics Network), HealthBridge, and health LINC (Lambert, Anderson, Riley, and Cook).

PUBLICITY

Mark your calendars with these RCHE fall 2009 events

All events are free and open to the public. Please note that some events require registration in advance.

ONE-DAY CONFERENCES

Center for Assistive Technology (CAT) Entrepreneurs' Bootcamp

August 6, 2009

Indiana Convention Center, Room 208

8:00 a.m.—4:00 p.m.

Registration is required at www.purdue.edu/rche/events/bootcampregistration.php

RCHE Fall Conference on Transforming Healthcare Delivery: Care coordination and population management

September 29, 2009

The Trails in West Lafayette

8:00 a.m.—4:00 p.m.

Registration is required at www.purdue.edu/rche/events/conferenceregistration.php

WEEKLY EVENTS

Coffee and Collaborations

Mondays during the academic year

Mann Hall, Room 203

7:30 a.m.—8:30 a.m.

Brown Bag Seminars

Fridays during the academic year

Mann Hall, Room 203

Noon—1:00 p.m.

Questions?

Information about events, including speaker lists is available at

www.purdue.edu/rche/about/events.php

or contact Mary Schultz at (765) 494-9828

Regenstrief Center for Healthcare Engineering

Located in Purdue's Discovery Park, the Regenstrief Center for Healthcare Engineering applies management, science, and engineering principles to improve healthcare systems. RCHE's goal is to create a healthcare system that provides care that is safe, effective, patient-centered, timely, efficient, and equitable. The center receives core funding from the Regenstrief Foundation.

Affiliated Centers and Programs

Cancer Care Engineering

Center for Assistive Technology (CAT)

Center for Health Outcomes Research and Policy (CHORP)

Health Informatics Learning Technologies (HILT)

HealthcareTAP

PharmaTAP

Contact Us

Regenstrief Center for Healthcare Engineering
203 Martin Jischke Drive
West Lafayette, IN 47907

E-mail: rche@purdue.edu
Web: www.purdue.edu/rche
Phone: (765) 494-1531

Newsletter Editor

Amira Zamin, communications specialist,
azamin@purdue.edu

EA/EOU

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