Even a college just three years old has a rich history. Consider all the educational forerunners whose cutting-edge work may have been done 50 to 100 years ago. Through hard work and vision, they helped shape Purdue’s College of Health and Human Sciences, paving the way for new graduates to go on to do great things. In this third issue of Life 360, we celebrate that past, boast a bit about the present and look forward to the productive years ahead.

Education Pioneer: Eva Goble, pictured on our cover with Jonathan Osikvarak (PSY ’13, see page 65), led Purdue’s School of Home Economics from 1967 to 1973, creating programs that have become national models. A staunch advocate of promoting women to leadership positions, Goble worked to disseminate research on home economics to thousands of women across the state. Her hard work opened doors for Indiana women, who then encouraged their own children to attend college. Goble’s belief in total education for both men and women — that everyone should have opportunities wherever their passions lie — even made many men feel comfortable taking courses in institutional management in the School of Home Economics. An iconic Purdue figure who still attends campus functions, Goble celebrated her 103rd birthday in May.
Welcome to the third issue of Life 360. As we enter our fourth academic year since our founding (July 1, 2010), we thought it would be interesting to explore the past, present and future of HHS. While the college is relatively young, its nine academic units, plus HHS Extension, have existed for decades. Just check out the historical images on pages 16 and 17 to see what I mean!

“A Living Legacy, 50 Years in the Making” (page 8) covers the history of the School of Nursing, from its origins in Purdue’s School of Technology, to its current home in HHS. Faculty, staff, students and alumni throughout the school’s remarkable 50 years have been instrumental in attaining today’s elite status — a leader in nursing education. For a list of events that will celebrate Nursing’s Golden Anniversary, please visit www.nursing.purdue.edu/50.

“At the Speed of Technology” (page 18) reports on just a few of the life-changing technologies that have been developed by HHS researchers, including SpeechVive, a device that cues patients with Parkinson’s disease to speak more loudly and clearly. The technology was developed by Jessica Huber, associate professor of speech, language, and hearing sciences. Huber is also the 2012-13 faculty entrepreneur-in-residence at Discovery Park’s Burton D. Morgan Center for Entrepreneurship.

With the completion of the HHS Strategic Plan last fall, the college is well on its way to implementing the plan’s learning, discovery and engagement goals. “A Forecast for the Future” (page 28) offers an overview of where HHS is headed, including commentary from Purdue’s 12th president, Mitch Daniels.

In the short-term, our plans for the 2013-14 academic year include exploring synergies among various HHS undergraduate programs and evaluating the potential for new interdisciplinary programs; growing undergraduate research opportunities; and addressing the growing demand for distance learning and career counseling. And with the introduction this past spring of seven strategic research themes, representing 244 HHS faculty (including 19 new faculty who joined the college this fall), we’ve set the course for exploring the bounds of interdisciplinary research. Our research themes include Lifespan Development; Prevention, Diagnosis and Treatment of Disease and Disabilities; Promotion of Health and Wellness; Mental Health; Neuroscience; Social Relationships and Culture; and Work and Leisure.

I’d like to thank you for your support and encouragement as we continue to build your new home at Purdue, the College of Health and Human Sciences. I hope you’ll share with us your thoughts about our magazine Life 360 by responding to the readership survey in the back of the magazine or by completing the survey online at www.purdue.edu/hhs/life360survey. We appreciate your feedback.

Hail Purdue!

Christine Ladisch
Dean
REVERBERATIONS

This issue of Life 360 is the third such installment from Purdue’s College of Health and Human Sciences, which formed on July 1, 2010. Some feedback from alumni and a few awards speak to the publication’s reception.

IMPRESSIONED

I am writing to tell you how impressed I am with the magazine produced by the College of Health and Human Sciences. I get a number of these magazines from different universities and I feel that your publication is head and shoulders above most, particularly because of the interesting content. You really make a strong statement about the diversity of your college and how your college is serving society. Congratulations!

WOWED

I wanted to say that I am in awe of the photography of Lauren Gustafson on the recent cover of Life 360. It is a great metaphor for diving into any adventure.

Sincerely,

Sally B. Herr (SLHS ’70)

INSPIRED

I thoroughly enjoyed the article in the latest edition of Life 360 regarding Parkinson’s disease. It inspired me to make a career change and become involved in research.

Susan Long (HDFS ’95)
Americanism Coordinator, American Legion Dept. of Indiana

IN AWE

I am writing to tell you how impressed I am with the magazine produced by the College of Health and Human Sciences. I get a number of these magazines from different universities and I feel that your publication is head and shoulders above most, particularly because of the interesting content. You really make a strong statement about the diversity of your college and how your college is serving society. Congratulations!

William C. Byham, (PhD Psy ’63, HDR ’07)
Chairman & CEO
Development Dimensions International Inc.

CONSUMER SCIENCE

In the 2012 election year, Chris Kowal, assistant professor, used facial recognition software to document what emotions the presidential candidates were projecting to voters during the general election debates. The same technology is used to gauge what focus group participants really feel about a product or advertisement as compared with what they told marketing researchers. Kowal, who studies the communication of emotions, concluded that Democrat incumbent Barack Obama’s message appealed to the emotion of hope, while Republican challenger Mitt Romney’s message appealed to the emotions of power and security.

In departmental news, Thomas Templin, professor of health and kinesiology, was named interim head in January.

HEALTH AND KINESIOLOGY

A new exercise program for cancer survivors was offered this summer thanks to collaboration between the Department of Health and Kinesiology and the Lafayette YWCA. The Cancer Wellness Program includes strength training, stretching, yoga, Pilates and cardiovascular fitness.

The annual Purdue Athletes Life Success (PALS) summer program, housed in the Department of Health and Kinesiology, helped hundreds of local youth learn about sports and healthy living. 2013 marked the 12th year for the program, which serves children who qualify based on income guidelines.

In October, Purdue announced the launching of a scientific gateway website that will provide molecular and genetic information on infectious and emerging diseases. James McGlothlin, associate professor of health sciences, says MolecularHub (www.molecularHub.org) will actively foster an environment of co-creation and collaboration. The goal of the site is to expand the current knowledge base of genetic markers, gene sequencing and molecular testing related to infectious diseases, chronic diseases and emerging diseases to help speed the identification and treatment of these diseases.

HHS CONTINUES TO MAKE NEWS AT REGIONAL AND NATIONAL LEVELS. HERE ARE A FEW HIGHLIGHTS FROM THE 2012-13 ACADEMIC YEAR. FOR THE LATEST, VISIT HHS ONLINE AT www.Purdue.Edu/HHS.

360° REVIEW
**Hospitality and Tourism Management**

In April, Leping Cai, professor and director of Purdue’s Tourism and Hospitality Research Center and associate dean for diversity and international programs, was among 50 fellows selected nationwide by the American Council for Education. The fellows program combines retreats, interactive learning opportunities, campus visits and placement at another higher education institution to condense years of on-the-job experience and skills development into a single year. Cai studies branding and consumers in tourism and specializes in emerging markets and community-based tourism. He is governor-appointed to the Indiana Tourism Council and is director of the Purdue University Center.

**Human Development and Family Studies**

Melissa Franks, assistant professor of human development and family studies, discovered that before spouses take their first step toward fitness, their partner’s interest or willingness to participate could sway them. “Marriage commitments focus on a couple’s devotion in either a state of sickness or in health, but it’s also about the in-between—a person’s readiness to change for better health,” she says. “Married people are likely to engage in similar health behaviors and, in general, a married person’s lifestyle choices can directly and indirectly influence their partners.”

Ben and Maxine Miller of Lafayette, Ind., established an endowed professorship in child development. The recipient is expected to provide leadership in discovery, learning and engagement related to developing competence in educated, healthy and socially adjusted children and adolescents.

Elliot Friedman, assistant professor of human development and family studies, has received a $1.2 million grant from the National Institute of Aging. Friedman will study why some older adults living with two or more chronic medical conditions are more likely than others to succumb to the effects of aging.

**Nursing**

Asma Ahmad, associate professor of nursing, developed an innovative electronic monitoring system that has the potential to increase success rates and reduce morbidity for breastfeeding newborns. The Web-based system, which is simple and interactive, allows a mother or partner to enter breastfeeding data into an online diary. If a problem arises, the system will provide an alert or intervention and could contact a lactation consultant. A mobile version even allows for use with smartphones or handheld devices.

In April, Elizabeth O’Neill, clinical assistant professor of nursing and coordinator of the Family Health Clinic of Monon, received the Community Outreach Award from the Indiana State Board of Nursing during the eleventh annual “Salute to Nurses.” Karen Yehle, assistant professor of nursing, received the Indiana State Award for Excellence from the American Academy of Nursing Education. Jane Kirkpatrick, head of nursing, was named a fellow to the National League for Nursing, was named a fellow to the National League for Nursing Academy, which provides leadership for the improvement of undergraduates, graduate and outreach teaching. Charles Murphy was a history professor at Purdue between 1927 and 1970.

**Nutrition Science**

Mario Fenuzzii (left), a professor with dual appointments in nutrition science and the College of Agriculture’s Department of Food Science, received Purdue’s 2013 Agricultural Research Award for his work in helping to improve food quality and human health and to reduce chronic disease. The award is for scientists who have demonstrated a high level of excellence in research and made significant contributions to agriculture, natural resources and quality of life for Indiana citizens.

Wayne Campbell, professor of nutrition science, has been appointed to serve on the National 2015 Dietary Guidelines Advisory Committee. The committee helps determine the federal dietary guidelines.

**Psychological Sciences**

George Hollich, associate professor of psychological sciences, was one of six Purdue recipients of a 2013 Murphy Award. The University’s highest undergraduate teaching honor, the Murphy Award is accompanied by a $10,000 cash award and induction into Purdue’s Teaching Academy, which provides leadership for the improvement of undergraduates, graduate and outreach teaching. Charles Murphy was a history professor at Purdue between 1927 and 1970.

**Speech, Language, and Hearing Sciences**

Purdue professors Christine Weber-Fox and Anne Smith (left to right) received a $3 million grant from the National Institutes of Health to understand why some children grow out of stuttering. Weber-Fox, professor of speech, language, and hearing sciences and a cognitive neuroscientist, and Smith, distinguished professor of speech, language, and hearing sciences, lead the Purdue Stuttering Project. They will use their findings to develop a speech therapy screening tool to better identify which preschool children are not likely to recover and should receive therapy immediately.

**HHS Extension**

In December, a newly launched website began providing information and Indiana educational resources focused on eating healthy, managing money and parenting. The College of Health and Human Sciences Extension site features research-based information and programs such as “Where Does Your Money Go?,” “Family Nutrition Program,” “Dining with Diabetes,” ”Have a Healthy Baby,” “Parenting Counts” and “Captain Cash.” The site is available at www.purdue.edu/hhs/extension.
She had no faculty, no students, no funding — just a simple idea for a nursing program that would train excellent nurses at a time when there was an overwhelming demand for more.

When Helen R. Johnson came to Purdue in 1962 to create the university’s first nursing program, she had little more than that plan. For the next 18 years, she was the driving force behind the success of nursing education at Purdue. Today, although the program has grown and changed, her legacy remains strong.
Rising to the occasion, she accomplished the monumental task of securing outside funding, hiring faculty, arranging clinical sites, developing a curriculum and securing state approval of the new Department of Nursing in just one year. When the department opened its doors in 1963 as part of the School of Technology, Johnson was joined by four other faculty members and an inaugural class of 30 students. Their first administrative office — shared with an administrator in the Continuing Education division — was a small space on the second floor of the Purdue Memorial Union.

Growing pains
Despite their relatively small initial cohort, the Purdue nursing program quickly flourished. During the next three years, Johnson initiated nursing programs on all four Purdue regional campuses — Fort Wayne in 1964, Calumet in 1965 and North Central and Indianapolis in 1966. By 1969, all had successfully graduated a class and were accredited by the National League of Nursing, a voluntary accreditation sought by the top nursing schools in the nation.

Building on that success, the department in 1970 began offering an additional two-year program for students to complete a baccalaureate degree. The program became a four-year baccalaureate degree in the mid-’80s. This change not only demonstrated the growing importance of the baccalaureate but also represented the fact that most students were completing the two-year top-off baccalaureate degree. This shift to a four-year degree made the learning process more seamless for students and allowed for innovation in curriculum development because faculty could count on their students being in the program for a full four years. The two-year associate degree was still available, though much less popular.

With the number of students rapidly increasing, the department finally erected its own building in 1977, thanks to a federal grant authored by Johnson. The new building was designed to provide for an enrollment increase as well as future technological and instructional advances. (Photo courtesy of the School of Nursing)

New Home: The Department of Nursing erected its own building in 1977. The structure provided space for classes, offices, a Learning Resources Center, meetings and a nursing clinic. The building was designed to provide for an enrollment increase as well as future technological and instructional advances. (Photo courtesy of the School of Nursing)

Historic beginnings
In the 1950s and early 1960s, demand for nurses was at an all-time high across the country. Yet schools of nursing run by hospitals — the norm at the time — were closing one after another. That left universities, particularly land-grant schools like Purdue, scrambling to design programs that would provide high-quality nursing education.

In fact, in November 1960, then-University President Frederick Hovde, like many other heads of Indiana colleges and universities, received a letter from the Indiana State Medical Association urging him to “seriously consider” establishing a school of nursing at Purdue. Purdue agreed.

“We wanted to start a nursing program, but we hadn’t been able to find anyone who could build it from the ground up as well as run it,” said Charles Lawshe, dean of university Extension, at the time. “We were close to giving up the idea until Helen came along.”

About a year later, on October 18, 1961, Johnson took her proposal for a Purdue nursing two-year associate degree program to the University Extension Council outlining her plan based on a projected need for nurses in the state. It was approved almost immediately, with one caveat from Hovde himself: “If we are going to have nursing at Purdue, it is going to be a fine program.”

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“Now will always be a demand for more nurses,” McBride says. “As the baby boomers get older, they will represent not only a larger demand for nursing services but also a large percentage of the nursing workforce that will be retiring.”

In 2003, the school debuted its first graduate program, which focused on adult primary care nurse practitioners. Two years later, the school began offering a pediatric nurse practitioner program as well as the Doctor of Nursing Practice (DNP) degree. The DNP, a practice doctorate, provides advanced practice nurses with additional skills in health care systems, finance, policy and application of best practices to empower them to meet public health care needs in multiple settings — at the bedside, in the community, at local clinics, in organizational leadership positions and so much more.

Currently in development is a research doctorate program that responds to the demand for more nurses in research and faculty positions. Having both a research and practice doctorate on the same campus creates a great opportunity for synergy, building a strong relationship between the nurses who generate new knowledge with those who will apply it in the community and practice settings.

Future outcomes
Today, the School of Nursing is building upon the legacy of Johnson and the school’s success over the past 50 years, striving to build the program into one that serves the needs of students — and the health care needs of the citizens of Indiana and the country — even better.
“This is such a pivotal time for the nursing profession. Change in health care, nursing practice, and nursing education is happening at unprecedented rates,” says Jane Kirkpatrick, head of the School of Nursing. “Today, more than ever, nurses need to be equipped for a dynamic health care system.”

She describes this change in nursing education as a shift from learning simply the “whats” of nursing to learning the “why” behind them as well. “Not only do nurses need deep understanding of the science behind every procedure and every decision as they advocate for patients,” Kirkpatrick says, “they also must learn to be change leaders within the organizations they support.”

The school’s goal is to create future leaders in the field of nursing who will bring about systematic change in the organizations within which they work.

To encourage this, nursing faculty have recently undertaken a comprehensive curriculum revision of the school’s under-graduate program, including the addition of clinical quality improvement projects, expanded interprofessional learning opportunities with other academic units across campus and the revision of current courses to make them more interactive and student-centered. The school has even added an associate professor, Sara McComb, with a joint appointment in the School of Nursing and the School of Industrial Engineering. Her research focus includes identifying systematic improvement opportunities in healthcare delivery.

Included in these advancements are many new pedagogies and technologies that foster critical thinking and clinical decision making. For instance, students may practice their skills on Sim Man, a high-fidelity mannequin that can breathe and talk and features a pulse, vital signs, lung sounds and even bowel sounds. This technology helps simulate real patients and allows students to practice their decision-making skills in a safe and controlled environment.

Another example popular among students is the Geriatric Medication Game, an experiential learning activity in which students role-play older adults and complete an aging simulation designed to mimic what life is like for older adults in today’s health care system. The school is also eagerly awaiting the opening of its Center for Family Health clinic, which will be located in the soon-to-be-completed Lyles-Porter Hall. The new building will be an interdisciplinary space that will house various Health and Human Sciences clinics, providing more spaces that work best for both student and patient needs.

Nursing became part of the new College of Health and Human Sciences (HHS) in 2010. Now home to about 550 undergraduate students and 50 master’s and DNP graduate students, the school owes a certain debt to the 30 who made up the first cohort.

“Our new position within HHS helps set us apart from other departments,” Kirkpatrick says. “Our new position within HHS helps set us apart from other academic units within the college who share our goals of improving the health of the public. This creates a comprehensive approach by bringing together experts in multiple professions to focus on grand health-care challenges.

“We are also fortunate to be located in a university with a world-class College of Engineering, especially as we look at how engineering principles are incorporated in improving health care systems. I don’t know if Helen ever anticipated what is required to become a nurse practitioner?”

Reflecting during the nursing’s 25th anniversary celebration on how she hoped the program would develop during its second 25 years (i.e., by 2013), Johnson said her main hope for the school was that it would produce graduates who were sought out around the country for positions as educators, leaders and clinical specialists, in addition to leadership roles within more traditional settings like hospitals and clinics. Also, she hoped the school would have “a newer, bigger building — with more parking!”

The School of Nursing has accomplished many of those goals, producing graduates who are indeed pursued by hospitals and employers around the U.S. and throughout the world.

As for her hope for more space, the school looks forward to the 2014 opening of Lyles-Porter Hall, where multiple HHS clinics will be located, including a nursing clinic, that will adjoin space occupied by the IU School of Medicine. On the subject of parking, although there is more than there was when Johnson left Purdue in 1980, Kirkpatrick isn’t sure that goal is attainable. “I don’t know if there is such a thing as ‘enough!'”

The School of Nursing will celebrate its 50th anniversary with activities throughout the 2013-14 school year. All are welcome to attend. Visit www.purdue.edu/HHS/nur/50 for details. Some historic background and original quotes courtesy of Purdue Nurse Spring 2002.

Jennifer Coddington considers herself successful when she helps young patients establish healthy habits that last their entire lives. A pediatric nurse practitioner with a Doctor of Nursing Practice degree and 14 years of experience, Coddington is a clinical assistant professor of nursing. In addition to seeing patients and teaching the next generation of nurse practitioners, Coddington was quoted in a New York Times opinion piece earlier this year. It argues that training more nurse practitioners is key to the future of the U.S. health care system.

1. What is required to become a nurse practitioner? A nurse practitioner has at least a master’s degree and is trained for two or three years following the receipt of a bachelor’s degree in diagnosing and treating diseases. The current recommendation by the American Association of Colleges of Nursing (AACN) is that the Doctor of Nursing Practice, or DNP, is the end degree. Nurse practitioners can diagnose, order diagnostic tests, prescribe drugs and manage plans of care — they can do many things that doctors do, but nurse practitioners focus more on patient education and health promotion, which in the end can make people healthier and help rain in costs.

2. Why did you decide to be a pediatric nurse practitioner? I’ve always loved children. When I was a staff nurse, charge nurse and educator at The Children’s Hospital of Illinois, I saw children who came in all the time for things that were preventable — injuries, illnesses, you name it. I decided I wanted to help them prevent these conditions, instead of just taking care of them when they became sick, so I decided to become a nurse practitioner and to specialize in pediatrics.

3. How do you think pediatric nurse practitioners will fit into the future health care model? Pediatric nurse practitioners are best positioned to start educating children and their family members early about the effects that chronic diseases can have on their health and lives. Some patients have very little knowledge about health issues, including how important it is to eat healthy and participate in physical activities, so knowing this early will have a huge, positive effect on our health care system. In the end, if we can educate more patients, they’ll be happier and healthier, and our health care costs will decrease for the effort. By increasing the number of nurse practitioners in our health care system, we can positively improve the quality of care delivered to patients, increase access and help decrease health care costs.

Amanda Hamon
During her senior year as an apparel design and technology major, Kristia Phillips (CSR ’13), made her permanent mark on Purdue fashion by creating the winning official Purdue tartan plaid that will be used in products such as ties, scarves, hats, vests and shawls. The merchandise will debut later this year.

You might say it was preordained for Phillips to study fashion. Her mother grew up in New York City and named her Kristia (pronounced Kree-zee-uh) after the famous Italian design house. Sister Paulina was named for supermodel Paulina Porizkova.

“I don’t think my dad still can pronounce my name correctly,” she says with a laugh. “After 21 years, I’ve given up.”

Fashion is a “big deal” in her family, Phillips says. Both grandmothers are artists and one attended FIT (Fashion Institute of Technology), one taught the young girl how to sew and draw. Phillips designed and made clothing for her dolls, but to her mother’s consternation used her little sister’s clothing as fabric.

Historical references influence tartan design

Designing a tartan may seem simple: just take Purdue gold and black and make a plaid design. Not so. “We only were allowed to use different shades of gold and grey, black and white,” Phillips says. “The yarn count had to relate specifically and surprise their audiences. I love that!”

Phillips credits her professors with preparing her well for the secret to his success may be in the unique way DDI develops leadership skills. “We treat leadership training as a skill and not a personal philosophy,” Byham says. “It’s just like learning to play tennis. We tell them how to handle a situation, show a video model and then facilitate practice.”

The author of nearly 25 books, Byham wrote the Lightning of Empowerment in 1990. Zapp! echoed loudly throughout the marketplace, selling more than 3.5 million copies. It’s also been lauded as one of the best business books ever written.

Byham remembers his Purdue days fondly. It was the No. 1 school for industrial psychology in the 1960s, he says. “The wonderful thing about my life is that I’ve stayed in that same area. But I’ve changed my focus every five years. If I get interested in something, I get the company interested in it.”

William Meiners

Bill Byham has climbed Table Mountain in Cape Town twice. First in 1973 when he was beginning to take his business, Development Dimensions International (DDI), global. He scaled it again last winter, 40 years later. Both South African ascents are symbolic of a man who has reached the top of his field in industrial organizational psychology.

Byham (PhD PSY ’63, HDR ’07) is nearly a brand name himself in business circles. He formed DDI in the basement of his home in 1970 with Douglas Bray, a fellow PhD. The two took the assessment center method — which evaluates individuals for higher-level positions by putting them in simulations of the challenges they will encounter in a new job — to staggering new heights throughout the corporate world. DDI is now one of the big five in human resource organizational psychologists. They’ve trained more than 20 million leaders worldwide in assessment centers for heavyweights such as AT&T, Shell, Di and more.

For Byham, who thought he might maintain DDI from his basement and teach at the college level, the mission of the global giant resonates from his PhD days 50 years ago. “In the broadest sense, I’ve been doing the same things ever since I left Purdue — leadership assessment and development,” he says. “Of course, everything has advanced tremendously, particularly relative to technology.”

His own career advanced rapidly upon leaving West Lafayette. A West Virginia native who attended Ohio University for his undergraduate degree, Byham always wanted to live and work in New York City. He landed a dream job as the assistant to the CEO of a large advertising agency in the glory days of the advertising business. He says the Mod Men television drama is more real than you can imagine. “I did that for two years but wasn’t using my industrial organization training,” he says. “But it was a great opportunity to learn how to run a big business.”

Byham’s industrial organizational psychology career took off during a six-year stint at J.C. Penney, where he introduced cutting-edge testing, performance management and assessment center systems. He wrote an article about his groundbreaking assessment centers for the Harvard Business Review — the first article for the general public about the methodology. Soon after that he took the entrepreneurial leap.

The secret to his success may be in the unique way DDI develops leadership skills. “We treat leadership training as a skill and not a personal philosophy,” Byham says. “It’s just like learning to play tennis. We tell them how to handle a situation, show a video model and then facilitate practice.”

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William Meiners

Kristia Phillips (CSR ’13) created the official Purdue tartan plaid. (Photo by Amanda LaFree)
From child care to general health concerns, Purdue has long played a role in improving day-to-day lives. These archived photos showcase some of the teaching and research that has taken place over the years.

1. Purdue women in gym class work on posture. (Courtesy of Purdue University Libraries, Archives and Special Collections)

2. Professor L.M. Baker (right) conducts a polygraph study with a student. Readings in blood pressure, galvanic reflex and temperature are recorded by the machine, which was reported to be more accurate than any other built. (Courtesy of Purdue University Libraries, Archives and Special Collections)

3. Students cook in an early food laboratory class in the School of Home Economics.

4. These children in a Purdue nursery school enjoy some mid-morning snacks in the 1940s.

5. Max D. Steer (second from right), the founder of the Department of Speech, Language, and Hearing Sciences, and early audiologists use scientific instruments to record speech and analyze breathing. (Courtesy of Purdue University Libraries, Archives and Special Collections)
AT THE SPEED OF TECHNOLOGY

CUTTING-EDGE COLLABORATIONS HELP HHS RESEARCHERS BRING INNOVATIVE PRODUCTS TO THE MARKETPLACE

By William Meiners

Necessity may indeed be the mother of invention. And whether they’re saving lives or simply helping people cope with the difficulties of life, researchers throughout the College of Health and Human Sciences (HHS) are delivering much needed solutions to a world beyond campus. Several such patented inventions are representative of the here and now philosophy among faculty researchers in the young college.

Larry Leverenz, clinical professor of health and kinesiology, has collaborated with Purdue engineers to measure the impact of repetitive head injuries in football. Their findings indicate that it’s not so much the force of the concussive hit, but rather the accumulation of blows that does the most damage. Nationally renowned for its research, the Purdue Neurotrauma Group is working on ways to mitigate both the number of blows and the magnitude of those blows to the brain.
other researchers within HHS are extending themselves beyond injury prevention, diagnosis and treatment of head injuries.

A million research initiative to develop new technologies for detecting mild traumatic brain injury (mTBI) and concussions has already attracted 110 researchers from the Department of Speech, Language, Health and Hearing Sciences (SLHS) and other colleges, because of autism can be devastating for families. Clinical speech-language pathologist and autism specialist Lisa Leverenz, who was also named to the Medical Advisory Committee of the NFL Head Health Initiative, a $60 million research initiative to develop new technologies for prevention, diagnosis and treatment of head injuries.

Since 2011, Wendt has led a group of students in the development of SPEAK All!, an Apple iPad application that has shown dramatic success in helping children with autism learn how to communicate and develop natural speech. The free application, which allows the child to construct and hear a sentence through a simple point and slide, has been downloaded more than 10,000 times. Wendt received $50,000 through the Trask Innovation Fund (TIF) to help commercialize his SPEAK All! innovation. TIF, managed by the Purdue Research Foundation, is a development program to assist faculty and staff whose discoveries are being commercialized through the Purdue Office of Technology Commercialization.

"Through innovation in equipment and changes in player skill and technique, we're working to make the game safer without changing the game we love to watch and play," says Leverenz, who was also named to the Medical Advisory Committee of the NFL Head Health Initiative, a $60 million research initiative to develop new technologies for prevention, diagnosis and treatment of head injuries. Other researchers within HHS are extending themselves beyond their own areas of expertise — fostering collaborative efforts across campus, conducting clinical trials and investigating the marketplace for the best product placement.

Raising voices, lifting hope

Voices silenced by Parkinson’s disease or seldom heard because of autism can be devastating for families. Clinical researchers from the Department of Speech, Language, and Hearing Sciences (SLHS) have worked with both young and elderly patients to deal with these conditions, effectively addressing quality-of-life issues. Oliver Wendt, assistant professor in SLHS and in the Department of Educational Studies, works with children with severe autism. About 50 percent of children with a classic autism diagnosis have no speech at all and are candidates for augmentative and alternative communications, he says.

Traditional low-tech approaches sought to help children communicate through a picture communication book. A child could get his desired item, such as a cookie, by selecting a graphic symbol card to communicate with a partner. A device that added voice output had some facilitative effect but proved to be too cumbersome for kids, according to occupational therapists.

"We're trying to make it more robust," says Wendt, whom Purdue honored with a Focus Award in March, recognizing innovative research, and by 2015 launched SPEAK All! A SPEAK All! innovation. TIF, managed by the Purdue Research Foundation, is a development program to assist faculty and staff whose discoveries are being commercialized through the Purdue Office of Technology Commercialization.

SPEAK All! is the byproduct of Purdue's renowned EPICs, or Engineering Projects in Community Service, program. Fourteen students from a variety of disciplines, including SLHS, electrical engineering, computer science, education and liberal arts all had a hand in building it.

The next step is fixing the bugs and ramping up the app. "We're trying to make it more robust," says Wendt, whom Purdue honored with a Focus Award in March, recognizing outstanding efforts related to disabilities. Most encouraging to Wendt, however, might be the documented success of SPEAK All! in therapy. "People are sometimes afraid that their child will rely on the application too much and never develop his own speech," he says. "But the opposite is proving true. It's facilitating natural speech, and whenever the child is ready, the device can be phased out."

With staggering statistics pointing to autism on the rise — as common as one in 50 children now versus one in 150 six years ago — this high-tech strategy is a hopeful breakthrough.

On the other end of the age spectrum, Jessica Huber (featured on page 22), associate professor of SLHS, encourages Parkinson’s patients to stay engaged with life. Weakened voice and poor articulation, symptoms associated with the disease, can often cause them to withdraw. Her charge? "We try to get them to speak louder," says Huber, who has worked with biomedical engineers for the last few years on creating a device to help them do just that.

SpeechVive, a Bluetooth-looking device that sits behind a patient’s ear, influences louder speech by providing a steady stream of background noise similar to sounds in a crowded restaurant. Known as the Lombard effect, the natural response by the wearer is to speak more loudly. The response from clinical trials has been overwhelmingly positive. Patients reported feeling like they were not being ignored. "I also noticed a change in patients when I got to see them interacting in normal environments,” Huber says. The road to a SpeechVive patent also has given Huber great insight into the process that transforms great ideas into marketplace realities. She has spent 2012-13 as the faculty entrepreneur-in-residence at Purdue’s Burton D. Morgan Center for Entrepreneurship.

Making machines see like us

Though he prefers reading science, history and philosophy to making machines see like us, Zygmunt Pizlo, professor of psychological sciences, is working with graduate students to build a robot that can see in 3-D. (Photo provided by the Purdue Research Foundation)

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Making machines see like us

Though he prefers reading science, history and philosophy to making machines see like us, Zygmunt Pizlo, professor of psychological sciences, is working with graduate students to build a robot that can see in 3-D. (Photo provided by the Purdue Research Foundation)
Robots could walk dogs, play cards with the elderly and agriculture could lead to more interaction with humans. The possibilities could be endless should Pizlo’s team come automatically see our natural environment in 3-D and we are approximately horizontal. There is enough a priori world, “Pizlo says. “The physical world is not completely visual system uses a priori knowledge about the physical puzzle of enabling 3-D vision for robots is to realize that our physical world that humans have at birth. This will enable him to “see” like humans. “The key element in solving the puzzle of enabling 3-D vision for robots is to realize that our visual system uses a priori knowledge about the physical world,” Pizlo says. “The physical world is not completely random. Most natural objects are symmetrical, all objects have volume, gravity is always present and ground surfaces are approximately horizontal. There is enough a priori knowledge hardwired in the human visual system that we automatically see our natural environment in 3-D and we see it veridically, that is, the way it is out there. The possibilities could be endless should Pizlo’s team come up with an algorithm that leads to this robotic “insight.” Current applications in manufacturing, space research and agriculture could lead to more interaction with humans. Robots could walk dogs, play cards with the elderly and help the visually impaired, Pizlo says. The smart robots at a manufacturing plant can be made even smarter, and others could be used in high-risk repairs in places like a nuclear power plant. The National Science Foundation, U.S. Department of Defense, Air Force Office of Scientific Research and the U.S. Department of Energy — all supporters of Pizlo’s research — eagerly await his next breakthrough.

Sacrificing wealth for public health

Jim Mcglothlin, associate professor of industrial hygiene and ergonomics in the School of Health Sciences, has spent the better part of his last 30 years trying to adapt technology for healthy matters. In the 1980s, he worked with C. Everett Koop, perhaps the most famous of U.S. surgeons general. Koop cautioned the young man about going into public health for the money. It’s a philosophy Mcglothlin has taken to heart. Mcglothlin owns two patents related to video exposure monitoring, which also dates back to the mid-1980s. The technology, continuously updated through the years, allows for video with a time stamp that also integrates sensor information of four types — chemical, radiological, physical or biological. The far-ranging applications could include everything from identifying epidemic viruses to an exact time and spot, an automated safety-net device for people with Alzheimer’s disease (perhaps turning off an unattended stove) and bioterrorism security.

On sabbatical last year in Australia and New Zealand, Mcglothlin gave seminars on the developing technology. “They were ecstatic about it,” he says. “In Wellington, the wood industry is thriving because they can grow California pine three times faster. There are lots of mom and pop cabinetmakers all over the place. But all the particles in the air of those shops can lead to respiratory issues.” Through video exposure monitoring, Mcglothlin identified that 80 percent of the exposures were related to three or four machines. “We contacted woodshop owners and put information on the Internet on how to build a downdraft table that would eliminate 80 percent of the wood dust.” And though many of the shop owners weren’t thrilled about some of the extra work associated with the downdraft tables, they soon learned that they could begin laminating their products in the same afternoon, instead of waiting another day for the air to clear. The safer business practice actually doubled their productivity, Mcglothlin says, becoming a perfect business model. Mcglothlin seems less concerned about his own bottom line. Rather than guard his patents for fear of people taking advantage of them, he makes them free. “You can’t beat free,” he says.

That common good resonates throughout his work. In February, he donated his share from each sale of a new online app to the Human Factors and Ergonomics Society (HFES), a student club. The app (NOSH RWL) goes for $2.99. A mobile version of a calculation model known as the Revised NOSH Lifting Equation, it calculates the Recommended Weight Limit (R WL) and a Lifting Index (LI) to help a user analyze a lifting job and the risk of back injury. While on sabbatical, Mcglothlin charged Ben Claus, a graduate student in aeronautics and astronautics, with making the device mobile by designing the app. Apple, Claus and HFES (Mcglothlin’s donation) each got $1 per sale. For all the heavy lifting he did in his younger days, this idea of making impact over making money sits well with Mcglothlin. It might have impressed Koop, his old boss, too.

Jessica Huber brings both passion and experience to her position as the 2012-13 faculty entrepreneur-in-residence at Discovery Park’s Burton D. Morgan Center for Entrepreneurship. An associate professor of speech, language, and hearing sciences, Huber developed a new technology called SpeechVive (see story on page 18), a device that cues patients with Parkinson’s disease to speak more loudly and clearly. And now as a leader of entrepreneurship, she’s hit the ground running — developing a group of “entrepreneurial ambassadors” from a variety of Purdue departments and units who can serve as resources for both faculty and students.

What’s your main role as the entrepreneur-in-residence?

I’m here to help faculty, students and staff manage the entrepreneurship process. If they’re wondering where to go or who to call, they can ask me. I’m also helping to build a community around entrepreneurship at Purdue. I was a member of the Entrepreneurial Leadership Academy at Burton Morgan for two years. That program taught me a great deal about the entrepreneur-ship process. There’s a certificate program in entrepreneurship that can help put undergraduate students on that path. And there are some graduate-level courses that can assist graduate students in learning about entrepreneur-ship. In December we launched the Entrepreneurial Ambassadors Program, which is a group of faculty dedicated to being the first line of assistance to other faculty and students interested in entrepreneurship.

Why should universities be in the business of entrepreneurship? It is extremely important that we, as researchers, translate our findings into practice, whether that is through for-profit or nonprofit commercialization. Purdue has demonstrated a strong commitment to commercialization efforts through the development of resources like the Burton D. Morgan Center and Discovery Park. I’m committed to helping faculty and students who need help finding resources to develop their ideas.

3 QUESTIONS WITH AN ENTREPRENEUR -IN-RESIDENCE

3. Why should universities be in the business of entrepreneurship? 

Jessica Huber

2. Why should universities be in the business of entrepreneurship?

Jim Mcglothlin, associate professor of industrial hygiene and ergonomics, owns two patents related to video exposure technology. (Photo by Mark Simons)
T he hosts and producers of today’s vitriolic political talk show could learn something from Purdue sophomores Frank Radochonski and Matt Garofalo.

As freshmen living on the same floor in Cary Quadrangle, Radochonski, a conservative, and Garofalo, a liberal, took their partisan debates public by creating “The Boller Room,” a political talk show broadcast on WVCR, the residence hall’s longtime radio station. Unlike many pundits from opposing parties, however, the friendly co-hosts actually talk instead of yell.

Radochonski, a hospitality and tourism management major from Chicago, and Garofalo, a finance major from Louisville, often have different perspectives, but they share the goal of creating a bipartisan dialogue on campus.

Topics for the Sunday night show, which debuted in January and is currently on hiatus, have ranged from taxes and the economy to gun control and media ethics, among others.

Guest commentators have included both the former and current presidents of Purdue Student Government, as well as Mike Young, a fellow Cary Quad resident who was one of the show’s original hosts.

“The discussions can get heated, but we try to keep it relevant to our studies,” Radochonski says. “I took a course in international politics this semester, and it was a big help in class discussions.”

Radochonski began talking politics early, particularly with his father, who owns a chain of casual dining restaurants in the Chicago area. “He works hard and takes a lot of pride in what he does, so I try to take after him,” he says.

He also hopes to follow his father’s career path. “I love to cook and eventually want to be a restaurateur, but in the short term I’m anxious to learn everything I can about the hospitality industry,” Radochonski says.

A six-month sponsored internship this summer and fall with the Shangri-La Hotel chain in China that combines study abroad and professional training with cultural immersion could bolster those lessons. Meanwhile, Garofalo completed a summer study abroad program in Spain before resuming classes in August.

Radochonski hopes to take advantage of his growing international expertise to continue his ongoing debates with Garofalo and resume broadcasting the show when he returns to campus in January 2014.

“I’m sure we’ll both gain new perspectives, but I’ll be abroad longer, so that should give me an edge,” Radochonski says with a wink to his co-host. “We’ll certainly try to keep it interesting.”

Eric Nelson

Frank Radochonski (right), a sophomore in hospitality and tourism management, squares off against Matt Garofalo, a sophomore in management. (Photo by Mark Simons)

Bariatric surgery has become a popular weight-loss option—more than 200,000 surgeries were performed in the U.S. in 2011.

“There are not many other proven programs for people who have 100 or more pounds to lose,” says Nana Gletsu-Miller, assistant professor of nutrition science. “And the surgery works. In a month people lose about 10 percent of their body weight and 25 percent over six months. It takes one to two years to realize normal body weight.”

Bariatric surgery makes the stomach smaller and allows food to bypass part of the small intestine and go directly to the lower intestine. The operation fools the patient into feeling full with less food than before the surgery when the stomach was its original size. Although patients are absorbing less fat and losing weight, thus reducing serious health risks such as heart disease, diabetes and stroke, the surgery has drawbacks. Nutrients are not absorbed as well in the lower intestine, and because patients are eating less, fewer essential nutrients and vitamins are available in the body. Gletsu-Miller’s research studies the impact of weight-loss surgery on overall health. She wonders, “Are these patients trading one set of problems for another?”

“With the weight loss, patients often feel so good after surgery they stop going to their doctors for follow-up and monitoring. Over time we see nutritional deficiencies,” she explains. “Patients lack iron, vitamin D, some B vitamins, zinc and copper resulting in a range of issues including fatigue, anemia, hair loss or neurological problems.”

Surgery itself only helps with weight loss for a year or two. Outcomes of Gletsu-Miller’s work include helping postsurgical patients maintain weight loss over the long term while encouraging better nutritional health. “It is fascinating to study. We know obesity leads to cancer and heart disease, but why? What are the molecular reasons? The best way to study these things is to study people who lose weight.”

Part of the work, she adds, is to share data with Purdue collaborators Kolapo Ajuwon, assistant professor of animal sciences, and Kae Hong-Kim, assistant professor of food science. Both researchers study the mechanisms that link excess body fat and diseases such as diabetes, heart disease, cancer and metabolic syndrome. “We supply biological samples, and they look at the molecular basis,” Gletsu-Miller says. “This population allows us to make observations from human samples we analyze in the laboratory, as opposed to taking information from the lab to humans. We can use our understanding of what is going on to help others.

“These patients develop nutritional problems we haven’t seen in this country in decades. We do see them in underdeveloped or developing countries. So, what we find using research with bariatric surgery patients, especially related to iron, copper and zinc deficiencies, can be applied to other populations who are at risk.”

Evaluating postsurgery patients on the nutritional risks remains a key to optimal health, Gletsu-Miller says. “Patients should get routine nutritional check-ups after surgery, and always continue to take vitamins and minerals. It is important to be aware of symptoms and to not ignore them.”

Joanne Willis

Nana Gletsu-Miller, assistant professor of nutrition science, asks if people who opt for bariatric surgery are “trading one set of problems for another.” (Photo by Steven Yang)
From inspirational keynote speaker — former U.S. Surgeon General Dr. David Satcher — to the impressive culinary delights dished up during HTM Society’s 15th annual Black Tie Dinner, Life Inspired 2013 showcased HHS and demonstrated how education, creativity, dedication and passion are key to improving quality of life.

1 Tricia Adreani, a senior in hospitality and tourism management, took top honors in the HHS study abroad photo contest. In September 2012, while exploring Dalian’s Forest Zoo in China, Adreani says it was such a beautiful day, “Why not have an elephant lift me up?” (Photo by Marge Adreani)

2 Andrew Joonhyung Park, a sophomore in hospitality and tourism management, during the annual HTM Black Tie Dinner in the Purdue Memorial Union Ballrooms. The dinner, planned by HTM students, shows off the passion and talent of future industry leaders. (Photo by Sara Tate)

3 Dr. David Satcher was the keynote speaker for Life Inspired. The former U.S. surgeon general addressed the critical gap between what we know and what we do in areas such as obesity, diabetes, cardiovascular disease, cancer, mental health and AIDS.

4 Samantha Lewis, a sophomore in nursing, demonstrates proper techniques to care for teeth during Spring Fest. (Photo by Steven Yang)

5 Paige Tomshido (CSR ’13), one of the design winners at the Spring Fashion Show, held for the first time in Mackey Arena, walks with three of her models down the runway. (Photo by Brian Powell)

JOIN US for Life Inspired 2014 from March 28 through April 12.

Tuesday, April 1 — Keynote Speech by Prof. Frans B.M. de Waal, a behavioral biologist known for his work on the social intelligence of primates

Saturday, April 5 — HTM Black Tie Dinner

More events at www.purdue.edu/hhs/LifeInspired
A FORECAST FOR THE FUTURE

By Grant Flora

As the College of Health and Human Sciences (HHSS) celebrates its third anniversary, 2013 is proving to be a pivotal year.

Since its inception in 2010, Purdue's second-largest and second-newest college (the Honors College began 2011) came into its own this year with fresh energy and a focus on the future:

• The college's first dean was formally named in January just as the University's 12th president arrived on campus.
• Implementation of the newly minted strategic plan is under way.
• Dynamic new faculty researchers are forming interdisciplinary collaborations.
• A new health and human sciences building under construction will open in 2014 in the University's emerging Life and Health Sciences Corridor.
• New life-enhancing devices are being developed, patented and deployed by HHSS researchers in collaboration with the Office of Technology Commercialization.

And that’s just the beginning.
Leading the way forward

After an exhaustive nationwide search, Christine Ladisch was formally named the first dean of the College of Health and Human Sciences in January after serving as the college’s inaugural dean since the college launched in July 2010.

Ladisch earned the acclamation of colleagues, peers, administrators — and the search committee — by demonstrating her leadership in bringing nine academic units together from three different colleges into one cohesive and complementary new college.

Even as the search for the best person to lead the college went forward, Ladisch initiated a college-wide collaborative process to create the first HHS strategic plan that now serves as its own prescription for success: informing people’s behavioral choices, improving their health and enhancing their quality of life.

“Following two emerging years of college-building activity, we were ready to chart a course for our future,” says the dean. “A strong college is built upon strong departments and priorities, we were ready to chart a course for our future,” says the dean. “A strong college is built upon strong departments and priorities. Here’s a brief look ahead.

New priorities also include reorganization of the public health department, with the college’s inaugural dean since the college launched in July 2010. Ladisch says: “A strong college is built upon strong departments and priorities. Here’s a brief look ahead.

"We have already celebrated the opening of two new, innovative facilities to enhance its impact, we were ready to chart a course for our future,” says the dean. “A strong college is built upon strong departments and priorities. "The new college also boasts new facilities to enhance its capacity to address these vital issues, challenges and opportunities.

"We have hired 44 incredibly talented new faculty members, including the principal investigator for Purdue's Early Autism Identification Study monitors the progress of babies from 6 to 30 months of age who have an elder sibling already diagnosed with an autism spectrum disorder (ASD). It also comes at a time when the rate of autism has steadily grown over the past 20 years and is now considered the fastest-growing developmental disorder, according to the National Autism Association. "We are interested in learning more about early social, language, cognitive, emotional regulation, and physiological development to identify and understand autism at earlier ages," she says. "Prior studies have suggested that approximately 25 percent of the younger siblings of children with autism will also develop autism themselves." In addition to looking at the early risk factors for children — in hopes of lowering the age of diagnosis for autism — outcomes also may provide participating families with detailed developmental information on the growing infant sibling.

"At its core, autism is a social disorder, but it is not synonymous with 'disability,' she insists. "Autism can vary in severity in the way people communicate and interact with others. There is a saying: ‘If you know one individual with autism, you know one individual with autism,’ because everyone is so different." Early intervention is key in effective treatment and progress. Coming to Purdue was an ideal fit for her teaching, research and career goals, as well as her family, Schwichtenberg says. Another reason was the emerging Purdue Autism Network (PAN). The interdisciplinary group of clinical and research faculty across the university also includes local public education and other professionals who are dedicated to developing a center for ASD research. PAN began in May 2008 in response to increased funding from the National Institutes of Health (NIH) and a recent 10-year agenda for more ASD research.

"We are asking the question: ‘what academic programs, new study abroad opportunities for our students, and we are also asking a position in our Student Services office for cutting-edge research and academic programs in the realm of human health and well-being. Internally, we aim to create a vibrant, supportive and rewarding work environment for our faculty and staff, new learning opportunities directed toward student success, and outreach programs that make a difference in our communities.’

Developing relationships and resources

In January 2011, Judy Schumaker became the first director of advancement for HHS and faced the daunting task of representing nine existing academic units from three different colleges to focus on vital issues related to improving health and the quality of life.

"PAN was one of the reasons I was drawn to Purdue — it was certainly part of the selling points," says Schwichtenberg. "We want to focus on what we can do to make a difference. People here have been so truly amazing and supportive of the need for ASD research, and it takes people who are passionate about what we do to make things happen." Purdue’s Early Autism Identification Study also expands research opportunities for undergraduate students, another goal of the new HHS strategic plan. Those interested in participating are encouraged to contact AJ Schwichtenberg at 765-494-6610 or AJLab@purdue.edu

Rising Star: A.J. Schwichtenberg, assistant professor of human development and family studies, arrived at Purdue in January with a $930,000 grant to study the development of autism in young children. (Photo by Mark Simons)
"We’ve made great strides in explaining the commonalities of the units in the college and building our constituency one alum at a time," Schumaker attests.

Following the college’s third anniversary, with a new strategic plan in place, Schumaker sees "enormous potential for developing relationships and resources" from a variety of sources — federal agencies, corporations, foundations and private individuals interesting in investing in this innovative enterprise.

"Over the past three years, so many people have expressed interest in supporting our initiatives," she says.

"Now we have a story to tell when we reach out. We can show our friends and donors that there’s a place for them to make a contribution in something that makes a difference in the important areas of health, human sciences, prevention, behavior change … powerful disciplines that play off one another and augment each other. That’s a compelling story to tell."

Schumaker says the HHS leadership team is busy identifying "big ideas and big opportunities," such as autism research consolidation and shared professorships that will attract the rising stars of research, such as A.J. Schwietchenborg (see page 30) or even draw established names to come to Purdue. Schumaker cites Purdue’s new Women’s Global Health Institute (WGHI) as an example of high-profile opportunity for support and impact. “We launched this last spring and it brought over 60 faculty researchers from across the campus to focus on women’s health issues and build on our strengths in nutrition, disease prevention and early detection, behavior change and the knowledge that supports better health."

"Behind any success in fundraising are long-term relationships with people," Schumaker says. "Fundraising is an exchange of values between the individual and the institution. We are providing our friends, donors, partners and stakeholders with something worthwhile that makes a difference in people’s lives and that is meaningful to them at the same time."

A visible case in point is the college’s $154 million Lyles-Porter Hall, launched in 2009 by a $10 million gift from Marybeth Lyles Higuera of Visalia, Calif. Higuera, a former speech pathologist, earned her bachelor’s degree at Purdue in speech-language pathology in 1959. The building is named for her parents and the father of her first husband, Purdue alumni and grandparents of her four children.

Lyles-Porter Hall unites faculty research facilities and learning spaces for Purdue’s acclaimed and ranked Department of Speech, Language, and Hearing Sciences, HHS clinical research centers and the Indiana University School of Medicine - Lafayette.

Shared clinical, medical teaching and research spaces and improved parking and location convenience for access to community clinical services will promote and support expanded opportunities for cross-disciplinary learning and engagement.

Like the Lyles-Porter building itself, from the college’s strong foundation rises the structure for an even more influential future.

Inspiring support: Judy Schumaker, director of advancement for HHS, sees enormous potential for developing relationships and resources from a variety of sources — especially with the college’s new strategic plan in place. (photo by Andrew Hancoek)

"Very important! Improving on Purdue’s tradition of discovery with delivery is what I hope to be a hallmark of Purdue’s next era — and Dean Ladisch’s administration. The translation of brilliant ideas and innovation into society represents one of our greatest opportunities — particularly given the University’s recent overhaul of our Research Foundation and tech transfer processes, and the appointment of a chief entrepreneurial officer. We’ve created smoother pathways for researchers with faster assessment of their discoveries, express startup licenses, zero-fees, small business grants, and free mentoring. We’ve ensured they have more control over their intellectual property. And our student innovators have for the first time been given intellectual property rights — with Purdue embracing the scholarship of open access. Student entrepreneurial activity on campus has been easier, more supported or more encouraged. That spirit of innovation and enterprise is engagement in its highest form, and I’ve seen its prevalence at HHS. I believe the time is now for HHS to help lead the University in bringing innovation to market. HHS is pursing one of our primary goals — to empower more faculty innovation and to become more attractive to faculty innovators. We want to turn Purdue into a fountain of new goods, services, companies and jobs. If we can build the right climate, good things will happen for the economy and society. HHS is filled with opportunity and promise in this area.

1. The College of Health and Human Sciences (HHS) is celebrating its third year with a new strategic plan and its first dean formally in place. New facilities will soon be online. What role do you see HHS playing in furthering Purdue’s land-grant mission, given the importance of health and health care to the state and the nation, as well as globally? HHS exemplifies in so many ways the University’s finest aspirations of service, engagement and research delivery, so I see it playing a central role as an emerging leader in representing Purdue’s mission at home and abroad. In some of my previous roles in both the public and private sectors, I have had to address health and health care issues and I see HHS tackling those vital concerns through superb teaching in its nine academic units, as well as research and research commercialization. I am most impressed with the college’s focus on enhancing the quality of living through prevention, behavior change and the knowledge that supports better health. Prevention saves money and it improves well-being. The focus on greater personal responsibility for health and innovations that prevent or slow the progression of diseases will only grow in importance.

2. HHS has been successful in developing applications and innovations with the Office of Technology Commercialization. An iPad application, for example, allows children with severe autism to communicate with others. How important are these innovations and applied-research initiatives to your goals for Purdue in the next seven years? HHS believes that the time is now for HHS to help lead the University in bringing innovation to market. HHS exemplifies in so many ways the University’s finest aspirations of service, engagement and research delivery, so I see it playing a central role as an emerging leader in representing Purdue’s mission at home and abroad. In some of my previous roles in both the public and private sectors, I have had to address health and health care issues and I see HHS tackling those vital concerns through superb teaching in its nine academic units, as well as research and research commercialization. I am most impressed with the college’s focus on enhancing the quality of living through prevention, behavior change and the knowledge that supports better health. Prevention saves money and it improves well-being. The focus on greater personal responsibility for health and innovations that prevent or slow the progression of diseases will only grow in importance.

3. HHS has a strong extension service program. How important are these programs to Purdue’s overall strategic mission? Well, this is in keeping with the best traditions of Purdue’s land-grant mission as HHS is without question a leader bringing the expertise and resources of Purdue University to address the needs of Indiana’s families in every county in the state. With offices in each of Indiana’s 92 counties, Purdue Extension partners with the College of Health and Human Sciences, local agencies and extension educators. HHS and its extension partners apply research through a variety of educational programs. This knowledge-based education outreach delivered locally is one of Purdue’s finest benefits to the citizens and taxpayers of Indiana.

I congratulate the college on its third anniversary and look forward to its growing impact in the years ahead and to its playing a vital leadership role in this University’s mission."
Industrial and government health and safety inspectors who regularly check work sites for levels of physical, chemical and biological agents could find their own work environments safer through an innovation developed by a graduate student in the School of Health Sciences.

Eric Ward, a master’s degree candidate in health sciences from Plymouth, Ind., developed vest prototypes that could help health and safety inspectors carry their testing equipment more easily and improve ease of using it on the job.

Health and safety inspectors are found in all industrial sectors including construction, manufacturing and mining, as well as the government and military. Inspectors check how levels of these physical, chemical and biological agents in the workplace compare to standards set by the American Conference of Governmental Industrial Hygienists.

Ward has self-funded the development of three vest prototypes he made after returning from a 2012 summer internship. Workers can put on the vests by themselves; Velcro straps hold the equipment’s wires or tubing in place and counterweights in front ensure the equipment located on the back doesn’t pull the vest off. “People in industrial, government and military settings work as hard as they can, and I have been told that traditional industrial hygiene sampling is made even harder because the equipment is heavy and awkward to carry,” Ward says.

“Since the vest keeps equipment and its wires or tubing in a consistent place, hygienists can better measure the levels of physical, chemical and biological agents in the workplace, which means they can better detect possible problems and effectively control them.”

Ward has created large and extra-large prototypes, one of which can hold up to six different sampling devices. Purdue industrial hygiene students tested the vests, and additional tests are being or will be conducted by companies and government agencies in Indiana and Ohio. Ward made a poster presentation about his vests in Montreal at the 2013 American Industrial Hygiene Conference for occupational health and safety professionals. He also received the Commissioner’s Award of Excellence from the Indiana Department of Labor in May.

Purdue’s Office of Technology Commercialization has filed two provisional patents for Ward’s vest for industrial hygienists.

Student’s Innovation Could Improve Workplace Safety

Ward says he was inspired to develop his vest when his instructor, Steve Martin, introduced him to a vest prototype designed by a graduate student in the School of Health Sciences. Martin is a graduate of the Master of Science in Management program and a professor of health and human sciences.

Martin suggested to Ward that he consider developing his own vest. Ward decided to do so because the vests he was aware of were too cumbersome to wear. By making his vest more lightweight and comfortable, Ward wanted to improve health and safety inspectors’ ability to do their jobs, as well as prevent injuries to the inspectors’ backs.

Ward’s vest has multiple benefits. It allows for easy and quick access to the equipment, which can improve an inspector’s ability to do their job and prevent injuries to the back and shoulders. This is particularly important for inspectors who spend a significant amount of time walking and standing while carrying heavy equipment.

Ward’s vest also improves safety by reducing the physical strain associated with carrying equipment. This can help prevent back and shoulder injuries, particularly among inspectors who work long hours.

In addition, Ward’s vest is designed to be worn for extended periods of time, which can help improve comfort and reduce fatigue for inspectors.

Ward is currently seeking funding to mass-produce his vest and enter it into the market. He is exploring options for production and distribution, and is in the process of creating a business plan. He is also considering partnerships with companies that manufacture similar equipment, as well as government agencies that could benefit from his innovation.

In short, Ward’s vest represents a significant improvement in the design and function of vests used by health and safety inspectors. It is a testament to the ingenuity and innovation of Purdue students and faculty, and a promising example of how technology and design can be used to improve safety and productivity in the workplace.
Purdue’s renowned “5 Students Who” website has featured an array of young Boilermakers who are making things happen as students. The College of Health and Human Sciences had a healthy representation in 2013 with three students who were Health Makers (all page 36), as well as an Equality Maker and a Style Maker.

1. Lydia Lochamire, now a senior in human development and family studies, balances both lab work and work in an emergency room with her studies. Her goal is to become a doctor of osteopathic medicine.

2. Eli Mansfield (HK ’13) served as an athletic trainer for the men’s basketball team in 2013. He hopes he can make a career of sports medicine after continuing his studies in graduate school.

3. Alberto Oseguela (HK ’13) juggled biology and chemistry courses with the rigors of athletic training. He spent his senior spring working with the boys of summer as the athletic trainer for the men’s baseball team. If all goes as planned, he’ll finish medical school and work as an orthopedic consultant for a Major League Baseball team.

4. Martha Burris (CSR ’13), a first-generation college student, spent much of her free time on campus working with the Purdue Student Government as director of diversity and inclusion. Enthusiastic about both her studies and ability to bring people together, her lofty goal is “to change the world.” Burris is a technology consultant for Hewlett-Packard in Pontiac, Michigan.

5. Katie Azzi (CSR ’13) developed a design style that looks back several decades. The classic fashions of the 1940s, 50s and 60s have inspired her own clothing line, which she showcased in the 2013 Spring Fashion Show. Named outstanding senior for the Department of Consumer Science, and now working as an executive trainee with Von Maur, Azzi has her own designs on success.

Photos by Charles Jischke
STEIN KRUSE (BS ’82, HTM) is the president and CEO of Holland America Line and chairman of Seabourn in Seattle, Wash. His perspective on his path:

“As a native of Oslo, Norway, I came to the United States for college with no idea what the future might hold or prescriptive design on my career. It seems looking back that when opportunities and challenges presented themselves, I chose to make the best out of it.”

AMY MCONKEY ROBBINS (MS ’79, SLHS) is a speech-language pathologist and owner of Communication Consulting Services in Indianapolis, Ind. Her take on practicing what she was taught:

“I’ve been fortunate to combine research and clinical pursuits in my career with children wearing cochlear implants. This is a continuation of my Purdue education in speech, language, and hearing sciences because both research and clinical practice were taught as essential.”

R. CRAIG YODER (MS ’76, PhD ’78, HSCI) is senior vice president at Landauer Inc. in Glenwood, Ill. His thoughts on the value of education:

“Education is priceless. It gives you more control of your life, particularly if education is approached as a lifelong activity similar to remaining physically fit.”

CAROLE A. OGLESBY (PhD ’69, HK) is a professor emeritus at Temple University, adjunct faculty at National University and a private psychology and sports development consultant in Calabasas, Calif. On success in her field:

“To be a leader in my field takes knowledge, both in the details and the grand theories of the science of kinesiology. We are about getting people moving, being healthy for a lifetime through active lifestyle and measuring success and exploring barriers for people of all ages, stages, ability and disability. Leaders must have endurance and tenacity to stay out in front of the ‘knowledge explosion’ that marks our time.”

MOVEMENT MOTIVATOR

LIFELONG LEARNER

DURING THIS YEAR’S LIFE INSPIRED EVENTS IN MARCH, FOUR PURDUE ALUMNI WERE HONORED WITH DISTINGUISHED ALUMNI AWARDS, WITH PARTNERSHIP SUPPORT FROM THE HEALTH AND HUMAN SCIENCES ALUMNI BOARD AND THE PURDUE ALUMNI ASSOCIATION, THE EVENT ALSO RECOGNIZED NINE OUTSTANDING SENIORS FROM THE COLLEGE OF HEALTH AND HUMAN SCIENCES.

HHS AWARDS

LIFE RESEARCH PRACTITIONER
PATRICIA ENGERT, Nur ’75, of Illinois Hospital in Chicago.

Dawn (Michael) Bentzen, HTM ’83, works for INtouch Health as an account specialist/consultant in Dayton, Ohio.

Abby (Rehm) Beckett, HTM ’97, is the director of sales for Springhill Suites in Cincinnati, Ohio.

Kelli (Thomas) Burnett, CSR ’01, works for Miller & Company PC as an accountant in Indianapolis.

Brice Hinke, CSR ’01, works for Lyon Workplace Products as the director of marketing in Montgomery, Ill.

Carrol (McGaughey) Cowen, SLHS ’73, is a contract manager for Harris Corporation within the Mission Critical Networks Business Area in Melbourne, Fla.

Ryan Corey, HDFS ’99, was promoted to the rank of major in the U.S. Army in Indianapolis.

KELLY (THOMPSON) BRAY, CSR ’02, works for Teleservice Inc. as a service manager in West Lafayette, Ind.

Nancy (Jones) Weil, BLA ’00, is a contract executive for Teleservice Inc.

Dawn (Wolfe) Leonard, HTM ’05, is an administrative coordinator for professional practice in Houston.

Boiler Up!
Julian L. Gallegos, Nur ’01, works for NorthBay Healthcare as a clinical practice manager/stroke coordinator/nurse practitioner in Fairfield, Calif.

Sarah Setch, Psy ’03, is an assistant professor of psychology in the Department of Behavioral Medicine at Midwestern University in Glendale, Ariz.

Tammy (Anderson) Harpel, PhD ’03, is an associate professor of human development and family studies at Illinois State University in Normal, Ill.

Joe Mikol, HTM ’03, works as a surgical sales consultant for Lina Medical USA in Helena, Ala.

Jennifer (Noll) Follard, NUR ’04, is a director of USDA Legislation and Policy for the Academy of Nutrition and Dietetics in Washington, D.C.

Katherine Ann Williams, HTM ’04, is a pediatric nurse at Monroe Carell Jr. Children’s Hospital at Vanderbilt in Nashville, Tenn.

Hillary (Direnzo) Gramm, CSR ’05, works for Communities In School-West Bay Area as a program coordinator in Webster, Texas.

Adrienne (Harrell) Nudo, HTM ’05, works for the San Antonio Convention and Visitors Bureau as a senior sales manager in a remote-based location in Chicago.

Eric Charlson, HTM ’06, is the director of human resources at the Park Hyatt Chicago.

Jessica Everhart, Nur, Bio ’06, is a CORN at IU Health University Hospital in Indianapolis. In 2010, she received the DAISY Award, which honors extraordinary nurses.

Joseph Kuhmichel, HTM ’06, is the assistant front office manager at the Inn of Chicago.

Cynthia Delgado, HTM ’07, the senior convention service manager at the Sheraton Chicago Hotel and Towers, is a “Stars of the Industry” nominee and 2012 Manager of the Year in the American Hotel and Lodging Association.

Stephanie (Sorensen) Booth, Psy ’08, works for Hospira as a sales service specialist in Lake Forest, Ill.

Erica Peters Henke, Nur, Bio ’08, received certification in perioperative nursing (CNOR) at IU Health LaPorte Hospital in LaPorte, Ind.

Kristin Khanna, HTM ’08, of Garden Grove, Calif., was a member of the Salus Team of the Year in 2012 for Hyatt Hotels, as well as being named the Manager of the 4th Quarter. In 2011, she earned the Hyatt Performer Award.

Gillian Horsley, CSR ’08, Bolingbrook, N.Y., is the founder of Gillyslist.com, a unique online community for helping people on a personal level.

Chelsea Beets, HTM ’09, is working in reservations/guest services for The Clear Creek Group in Jackson, Wyo.

Deanna Stiefel, Nur, Bio ’09, works for Aurous Medical Group as an emergency department traveling nurse in Fort Wayne, Ind.

Ryan J. Derus, HSCI ’09, is in his first year of the University of Wisconsin-Madison’s MBA program and is working as a continuous improvement analyst at the Blood Center of Wisconsin.

2010s

Annemarie Heise, CSR ’10, is working for U.S. Bank as a mutual funds specialist in Milwaukee, Wis.

Sarah Lewis, HTM ’10, works as an event planner in the Office of Special Events at Purdue in West Lafayette, Ind.

Brent Semanick, HTM ’10, is the manager of the Terra Café at Meriwast Terra Hospitality in Tonawanda Village, Wyo.

Leslie Stauffer, HDFS ’10, works at Northfield Jr/Sr High School as a school counselor in Macy, Ind.

Gavin M. Bidelman, PhD HSCI ’11, is an assistant professor at the University of Memphis in Memphis, Tenn.

Susan Warkland, HDFS ’11, is working at Bauer Family Resources as a home-based family specialist.

Meghan Fisch, HSCI ’12, is a microbiologist for Stiller, Inc., in Chicago Heights, Ill.

Paige Mills, HDFS ’12, is teaching English at Ban San Faan Children’s Home in Thailand.

Though their conferred degrees may have come from departments named differently at the time, the alumni listed in Generations are matched with the academic units by the current names.

CSR | Consumer Science
HK | Health and Kinesiology
HSCI | Health Sciences
HE | Home Economics
HTM | Hospitality and Tourism Management
HDFS | Human Development and Family Studies
NUR | Nursing
NUTRITION SCIENCE | Nutrition Science
PSY | Psychological Sciences
SLHS | Speech, Language, and Hearing Sciences

Search “Purdue University College of Health and Human Sciences”
LIFELINES

PLEASE CONSIDER SUPPORTING OUR 2013–14 FUNDING INITIATIVES.

SCHOLARSHIPS
Gifts of any amount will build the HHS undergraduate scholarship fund and benefit students. Financial support for graduate student education and living stipends provides a competitive advantage among peer institutions.

ENDOWED PROFESSORSHIPS
Endowed professorships play a vital role in attracting and retaining top faculty in the competitive world of higher education. Endowed professorships cover part or all of a faculty member’s salary, thereby allowing the college to reduce its student-to-faculty ratio (a statistic used for rankings and other institutional evaluations).

RESEARCH
HHS researchers — including faculty, graduate students and undergraduates — investigate Parkinson’s disease, cancer, autism, brain trauma, food safety and other global challenges. Funding supports equipment and technology, field data collection and other needs.

AWARDS
Monetary awards are given annually by the college to recognize faculty excellence and innovation in research, engagement and undergraduate teaching.

COLLEGE-WIDE INITIATIVES
Funds are needed to support student leadership development programs, experiential and global learning opportunities, and for recruiting a diverse population of undergraduate students.

For more information about how you can support the College of Health and Human Sciences, please contact the HHS Office of Advancement at 765-494-7890 or 800-535-7303 or hhsalums@purdue.edu.

Create Your Legacy
Inspire tomorrow’s leaders through a planned gift, just as John Purdue did more than one hundred and forty years ago.

Contact the Office of Planned Giving to:

• Give assets and receive lifetime income and current tax benefits.
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visit purdue.giftlegacy.com

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Medicine Man: Jonathan Oskvarek (PSY ’13) excelled in all areas of academia during his time at Purdue. Oskvarek received the Outstanding Senior award from the Department of Psychological Sciences and provided the student response during May’s College of Health and Human Sciences commencement ceremony. Research is paramount to the field of psychology and Oskvarek’s research experience rounded out his undergraduate education, preparing him for medical school at the University of Chicago. Along with his work in the classroom and research lab, Oskvarek is extensively involved in community service — including volunteer work in hospital settings and medical outreach trips. Oskvarek says his goal — in whatever he is doing — is to make a difference in the lives of others.
 THEN & NOW

Remembering the past. Celebrating the present. Looking ahead to the future. From the cover models to the feature stories to the historical photographs, this third issue of Life 360 honors the men and women of Purdue’s College of Health and Human Sciences (HHS) who continue to move the world forward. Through learning, discovery and engagement — we are focused on making life better.