

During the 2013-2014 academic year, the IU School of Health and Rehabilitation Sciences (IU SHRS) faculty and students participated in several outstanding activities aimed at promoting the vision of the School “to be recognized nationally and globally as a leader in graduate health and rehabilitation sciences education and a provider of excellent health care professionals for the state of Indiana and beyond.” The purpose of this report is to highlight major accomplishments of faculty and students with a specific focus on activities related to the three major categories (i.e., student success, advances in health and life sciences, and contributions to the well-being of the citizens of Indianapolis, Indiana and beyond) of the IUPUI Strategic Plan.

The Success of Our Students

- The IU SHRS established the Dean’s Academic Excellence Recognition award and awarded \$1,500 to ten incoming professional and graduate students. Thirteen (13) students also received named fellowship and scholarship awards.
- The SHRS Student Council was formally approved April 2014 and will be the forum for information sharing, decision making and socialization for students within the school.
- Graduates of our physical therapy (PT), occupational therapy (OT), and nutrition and dietetics (ND) program scored above the national average on their national licensure and certification examinations. The first-time pass rate for the PT Class of 2013 was 97% compared to the national average of 88%; the OT Class of 2013 scored 92% compared to national average of 87%; and the ND Class of 2013 scored 92.3% compared to national average of 86%.
- The IU SHRS partnered with the Center for Teaching and Learning to increase student access to online courses by offering a total of 56 undergraduate and graduate online courses.
- The IU SHRS held its inaugural White Coat Ceremony for the Master of Physician Assistant Studies Class of 2015. <http://news.iupui.edu/releases/2013/08/white-coat-pa.shtml>.
- The IU Department of Occupational Therapy is ranked 11th in the nation by GraduatePrograms.com. <http://news.iupui.edu/releases/2014/01/occupational-therapy-ranked.shtml>
- CJ Liu, PhD, OTR, provided research mentorship to Keishona Ruby, an Ivy Tech - IUPUI Bridges to Baccalaureate Scholar. Keishona will continue to work with Dr. Liu in the fall 2014 semester.
- Jordan Hanaway, a junior in the Bachelor of Science in Health Sciences program, was named an IUPUI Top 100 student. She is the first student enrolled in the IU SHRS to receive this award.
- Sarah Crusier, student physical therapist (SPT), participated in the 2014 Federal Advocacy Forum in Washington DC. She was educated on the process of becoming an advocate for the PT profession, and met with leaders from across the nation as well as congressional representatives.
- Elanor Bolles, 2014 graduate of the Bachelor of Science in Health Sciences program, was named a 2014 Chancellor’s Scholar.
- Dr. Peter Altenburger, PT Department Co-Chair, and three PT students – Rachel Handt, Scott Sigmund and Ronald Harper – participated in the 2014 Basketball Camp for Kids with Special Needs hosted by Coach Brandon Miller of the Butler University basketball program.
- Ellen Stuerzenberger, 2014 graduate of the Doctor of Physical Therapy (DPT) program, was named the 2013 IN APTA Student Scholarship winner.
- PT students held the 3rd annual Byron S. Hartman Blood Drive, held in the IUPUI Campus Center. Over 40 successful blood donations were made during the event.
- The Diversity Committee of the IU SHRS invited Dr. Eric Galvez as a keynote speaker for the school’s diversity event. Dr. Galvez, a trained physical therapy, discussed and reflected on the theme of his book “When a Therapist Becomes a Patient” in which he described his experiences as a brain cancer survivor. The event was attended by over 150 faculty and students.

- Mary Beth Brown, PhD, PT, ATC, secured funds from the IUPUI Center for Research and Learning's Undergraduate Research Opportunities Program (UROP) to enhance the learning and research experiences of three Ivy Tech - IUPUI Bridges to Baccalaureate students (TJ Chingombe, Angela Pittman, and Rachel Novack). TJ Chingombe and Angela Pittman presented their work at the SHRS Interdisciplinary Research & Educational Conference on October 5, 2013 and at the 19th annual IU Undergraduate Research Conference in November 2013. Angela Pittman has been selected to receive the IUPUI Diversity Scholars Research Program award.
- Michael Justiss, PhD, OTR, sponsored two student posters at the SHRS Interdisciplinary Research & Educational Conference on October 5, 2013.
- PT students participated in the 2013 IUPUI Health Fair by providing balance assessments to fair attendees.
- ND Interns participated in the 2013 IUPUI Health Fair. They presented sessions on the Gluten Free Diet and 'Crock Pot Cooking', and were attended by approximately 50 people. In addition, the interns staffed a booth and provided information on healthy eating and portion control during a community-wide event.
- OT students officially joined the IU Student Outreach Clinic (IU SOC) on November 9, 2013 to provide faculty-supervised OT services to Indianapolis' near eastside neighborhood on the 2nd Saturday of each month from August-May.
- Wei Li, MD, PhD, gave a lecture on plant toxicology to graduate students in the IU School of Medicine on February 24, 2014.
- Five PT students and alumni (i.e., Lydia George DPT, Kathryn Banas, SPT, Sara Bemenderfer, SPT, Chelsea Bird, DPT, Maggie Cappel, DPT, and Micaela Hornstein, SPT) worked under the supervision of Peter Altenburger, PT, PhD, Terry Loghmani, PT, PhD and their collaborators to present a paper titled "Impact of student engagement in a free interprofessional health clinic" at the American Physical Therapy Association Combined Sections Meeting, Las Vegas, NV, February 2014.

Advances in Health and Life Sciences

SHRS faculty and students contribute to the advancement in health and life sciences by conducting research and publishing their findings in peer-review journals and presenting scholarly work at national and international professional conferences. Presented below is the list of articles published between January 2013 and December 2013.

- Altenburger PA, Dierks TA, Miller KK, Combs SA, Van Puymbroeck M, Schmid AA. Examination of sustained gait speed during extended walking in individuals with chronic stroke. *Arch Phys Med Rehabil.* 2013;94:2471-7.
- Combs SA, Van Puymbroeck M, Altenburger PA, Miller KK, Dierks TA, Schmid AA. Is walking faster or walking farther more important to persons with chronic stroke? *Disability and rehabilitation.* 2013;35:860-7.
- Crabtree JL, Mushi C. Public transportation to obtain food: an overlooked instrumental activity of daily living. *Occup Ther J Res.* 2013;33:209-17.
- Dirks RC, Galley MR, Childress PJ, Fearon AM, Scott A, Koch LG, Britton SL, Warden SJ. Uphill running does not exacerbate collagenase-induced pathological changes in the Achilles tendon of rats selectively bred for high capacity running. *Connect Tissue Res.* 2013;54:386-93.
- Dirks RC, Richard JS, Fearon AM, Scott A, Koch LG, Britton SL, Warden SJ. Uphill treadmill running does not induce histopathological changes in the rat Achilles tendon. *BMC Musculoskelet Disord.* 2013;14:90.
- Friedrich-Nel H, Mackinnon J. Expectations in postgraduate supervision: perspectives from supervisors and doctoral students. *Interim.* 2013;12:1-14.
- Justiss MD. Occupational therapy interventions to promote driving and community mobility for older adults with low vision: a systematic review. *Am J Occup Ther.* 2013;67:296-302.

- Kuo F, Goebel LA, Satkamp N, Beauchamp R, Kurrasch JM, Smith AR, Maguire JM. Service learning in a pediatric weight management program to address childhood obesity. *Occup Ther Health Care*. 2013;27:142-62.
- Ladenheim B, Altenburger P, Cardinal R, Monterroso L, Dierks T, Mast J, Krebs HI. The effect of random or sequential presentation of targets during robot-assisted therapy on children. *NeuroRehabilitation*. 2013;33:25-31.
- Lewis RD, Laing EM, Hill Gallant KM, Hall DB, McCabe GP, Hausman DB, Martin BR, Warden SJ, Peacock M, Weaver CM. A randomized trial of vitamin d3 supplementation in children: dose-response effects on vitamin d metabolites and calcium absorption. *J Clin Endocrinol Metab*. 2013;98:4816-25.
- Liu CJ, Brost MA, Horton VE, Kenyon SB, Mears KE. Occupational therapy interventions to improve performance of daily activities at home for older adults with low vision: a systematic review. *Am J Occup Ther*. 2013;67:279-87.
- Liu C-J, Pape S, Ferrell J, Turner E, Johanningsmeier K. Patient education and gerontic occupational therapy: perceptions, barriers, and needs. *Phys Occup Ther Geriatr*. 2013;31:140-7.
- Liu C-J, Rawl SM, Yates KE. Readability and text cohesion of online colorectal cancer and screening information. *Amer Med Writers Assoc J*. 2013;28:146-51.
- Loghmani MT, Warden SJ. Instrument-assisted cross fiber massage increases tissue perfusion and alters microvascular morphology in the vicinity of healing knee ligaments. *BMC Complement Altern Med*. 2013;13:240.
- Miller KK, Combs SA, Van Puymbroeck M, Altenburger PA, Kean J, Dierks TA, Schmid AA. Fatigue and pain: relationships with physical performance and patient beliefs after stroke. *Top Stroke Rehabil*. 2013;20:347-55.
- Munk N. Case reports: a meaningful way for massage practice to inform research and education. *Int J Ther Massage Bodywork*. 2013;6:3-5.
- Riley PO, Kent RW, Dierks TA, Lievers WB, Frimenko RE, Crandall JR. Foot kinematics and loading of professional athletes in American football-specific tasks. *Gait Posture*. 2013;38:563-9.
- Robling AG, Fuchs RK, Burr DB. Mechanical adaptation. In: Burr DB, Allen MR, editors. *Basic and Applied Bone Biology*. Elsevier; 2013. p. 175-203.
- Schmid AA, Van Puymbroeck M, Altenburger PA, Miller KK, Combs SA, Page SJ. Balance is associated with quality of life in chronic stroke. *Top Stroke Rehabil*. 2013;20:340-6.
- Scott PJ, Justiss MJ, Schmid AA, Fisher TF. A framework for promoting scholarship productivity in occupational therapy curricula. *Occup Ther Health Care*. 2013;27:35-45.
- Van Puymbroeck M, Burk BN, Shinew KJ, Cronan Kuhlenschmidt M, Schmid AA. Perceived health benefits from yoga among breast cancer survivors. *Am J Health Promot*. 2013;27:308-15.
- Warden SJ, Galley MR, Hurd AL, Wallace JM, Gallant MA, Richard JS, George LA. Elevated mechanical loading when young provides lifelong benefits to cortical bone properties in female rats independent of a surgically induced menopause. *Endocrinology*. 2013;154:3178-87.
- Warden SJ, Galley MR, Richard JS, George LA, Dirks RC, Guildenbecher EA, Judd AM, Robling AG, Fuchs RK. Reduced gravitational loading does not account for the skeletal effect of botulinum toxin-induced muscle inhibition suggesting a direct effect of muscle on bone. *Bone*. 2013;54:98-105.
- Warden SJ, Hill KM, Ferreira AJ, Laing EM, Martin BR, Hausman DB, Weaver CM, Peacock M, Lewis RD. Racial differences in cortical bone and their relationship to biochemical variables in Black and White children in the early stages of puberty. *Osteoporos Int*. 2013;24:1869-79.

- Weatherholt A, Beekley M, Greer S, Urtel M, Mikesky A. Modified Kaatsu training: adaptations and subject perceptions. *Med Sci Sports Exerc.* 2013;45:952-61.
- Weatherholt AM, Fuchs RK, Warden SJ. Cortical and trabecular bone adaptation to incremental load magnitudes using the mouse tibial axial compression loading model. *Bone.* 2013;52:372-9.
- Weaver CM, Fuchs RK. Skeletal growth and development. In: Burr DB, Allen MR, editors. *Basic and Applied Bone Biology.* Elsevier; 2013. p. 245-60.
- Yip J, Powers B, Kuo F. The sensory experience of toilet training and its implications for autism intervention. In: Fitzgerald M, editor. *Recent Advances in Autism Spectrum Disorders - Volume II.* 2013. p. InTech. doi: 10.5772/50854.

Provided is a selected list of activities performed by faculty to contribute to campus's plan to advance health and life sciences.

- **Thomas Fisher**, PhD, OTR, CCM FAOTA, presented '*Preparing Practitioners for ACA Implementation*' at the Indiana Occupational Therapy Association Conference on October 26, 2013.
- **Robyn Fuchs**, PhD, taught an instructional course at 'Linking Structure and Function: Dosing Parameters and Protocols for Current and Novel Therapies to Improve Muscle and bone Outcomes in Cerebral Palsy' at the American Academy of Physical Therapy, Milwaukee, Wisconsin, October 16-19, 2013.
- **Gaylen Kelton**, MD, delivered a lecture on '*Travel Medicine*' at the Indiana Association of Physician Assistant conference in Indianapolis, IN on October 2, 2013.
- **Gaylen Kelton**, MD, delivered a lecture '*Evidence Based Prenatal Care*' in Taiyuan, China on December 17, 2013.
- **Patricia Scott**, PhD, MPH, OT, FAOTA, was appointed to the IU Health Transplant Unit Reorganization Committee.
- **Amy Bayliss**, PT, DPT, gave a lecture on "Evidence based evaluation & treatment of the SI joint" to the physical therapy staff at Eskenazi Health.
- **Valerie Strunk**, PT, co-taught a Clinical Instructor Credentialing Course to a national audience through the APTA on March 19 and 20, 2014 at the University of Indianapolis. The course produced 40 newly credentialed Physical Therapy and Physical Therapy Assistant clinical instructors, and 3 Occupational Therapists completed the education portion of the course.
- Ryan Cardinal, DPT, Sara Gleason SPT, Maggie Cappel SPT, **Robyn Fuchs**, PhD, **Peter Altenburger** PT, PhD, "Robotic-assisted locomotor training for a four-year-old child with CP emphasizing intensity and cognitive engagement," American Physical Therapy Association Combined Sections Meeting, Las Vegas, NV, February 2014.
- **Sharon Pape**, MS, OTR, led an education session on fieldwork supervision requirements and strategies for Community Hospital North Occupational Therapy Department (March 28, 2014).
- **Patricia J Scott**, PhD, MPH, OT, FAOTA, fostered the inclusion of Riley therapists in Student/clinician collaboration for evidence reviews of clinical practice questions.
- **Peter Altenburger**, PT, PhD, was invited to be a participant in the rehabilitation technology subgroup for the American Physical Therapy Association FIRST (Frontiers in Rehabilitation Science and Technology) Initiative.
- **Tracy Dierks**, PhD, was awarded a two-year grant in the amount of \$12,000 by St. Vincent Health to conduct a 'Retrospective review of the relationship between early season screening assessments and injury risk and sports performance in high school athletes'.

- **CJ Liu**, PhD, OTR, received a two-year grant of \$187,542 from the Retirement Research Foundation to study an intervention program developed to maintain independence at home for seniors.
- **CJ Liu**, Ph.D., OTR, and **Sharon Pape**, MS, OTR, delivered a lecture on “Best Practice Strategies for Patient Education with Older Adults” at the 6th annual Mid-American Institute on Aging in Evansville, Indiana on August 8-9, 2013.

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

- Faculty and students from the Departments of Occupational Therapy and Physical Therapy provided gratis services at the IU SOC on a monthly basis. IU SOC is a non-profit student-run clinic dedicated to providing medical and other services to the underserved and underinsured residents of Indianapolis. Under faculty supervision, students provided OT and PT services including screening, assessment and intervention. IU SOC was awarded the 2013 Governor’s Service Award for Service Learning in October 2013.
<http://www.shrs.iupui.edu/news/index.php?id=5989>
- ND Interns wrote lesson plans for Gleaners Food Bank of Indianapolis and created nutrition education materials for Food Pantry at Gleaner’s Headquarters which serves 200 families. They also developed recipes for unfamiliar food items in the pantries (mostly produce and dried beans), provided employee wellness programming for Gleaner’s employees, conducted food preparation demonstrations for food pantry participants and collected data for a graduate student whose thesis project is an evaluation of nutrition education needs.
- ND Interns developed resources for the weekly meeting of the nutrition clubs in the schools participating in BakSak, a program designed to provide underprivileged kids with food to eat on weekend. The interns revised the menus and provided advice on new products for the BakSak program, which serves 10,000 school children in elementary and middle schools.
- OT students provided computer literacy training, career counseling, study skills training, life skills training, math and science tutoring, physical and mental health promotion (i.e., nutrition/healthy eating habits, stress and time management, team building, bullying prevention, and college preparation and scholarship applications to Burmese students enrolled at local four high schools (i.e., Perry Meridian, Southport, Franklin Central, and North Central).
- OT faculty and students engaged in early childhood development activities at the schools. Activities included developmental evaluation, intervention, center-based sensory motor activities, classroom modifications, consultation, and parent/teaching conference.
- OT students completed a component of their clinical fieldwork requirements by working under the supervision of a licensed OT practitioner. Dietetic interns observed school feeding for all age groups. Under the leadership of the Director of Food Service for the District, interns conducted sanitation audits, in-service training for employees, participated in food service activities, taught nutrition education lessons, conducted plate waste studies, assisted in product selection, developed new recipes and collected product evaluation data from students, helped develop website components, participated in cost control activities. They ran the summer food service program in past years for some districts as a capstone activity.
- PT students continued to manage the Multiple Sclerosis Swim (MS Swim) program, which is an aquatic therapy program for patients with multiple sclerosis. They have recently expanded their services to work with patients with other neurological disorders, such as Parkinson’s disease.
- PT students continued to work with several community centers – Goodwill Industries, Hawthorne Community Center, Goodwin Community Center, and Noble of Indiana – to provide health and exercise education.
- Physician assistant students provided tutoring at Phalen Leadership Academy. The Phalen Leadership Academy is a network of tuition-free public schools that help students from underserved communities to excel in their academics and grow as well-rounded individuals.