

During the 2014-2015 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.” This report highlights the major accomplishments of faculty and students’ activities related to the three major categories (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

- Ashley Jacobs was selected as the first winner of the Rickard Pediatric Nutrition Award. The award was endowed by Drs. Gene and Karyl Rickard to recognize an individual with the potential to make a significant contribution to the profession of nutrition and dietetics in the area of pediatrics. <http://news.iupui.edu/releases/2014/11/rickards-award.shtml>
- In October 2014, Abbey Fleck, Olivia Hamilton-Wells, and Lauren Sterrett (Master of Physician Assistant Studies students) participated in the First Annual Indiana Academy of Physician Assistants Student Challenge Bowl and earned a second-place finish.
- Holly Moran (Dietetic intern) was named the 2014 winner of the Arlene Wilson Dietetic Fellowship. Holly graduated with Highest Distinction from Purdue University with an overall GPA of 3.99.
- The Dietetic Internship Class of 2014 scored a 100% first time passing rate on the Registration Examination for Dietitians.
- Two Physician Assistant Studies students participated in a three-week clinical rotation in the Republic of Congo. <http://news.iupui.edu/releases/2015/03/congo.shtml>
- Mary Beth Brown’s student Tsungai Chingombe (undergraduate- MURI program) was awarded best undergraduate research at the Indiana Physiological Society (INPhys) Annual Meeting, for poster titled: Exercise Training Ameliorates RV Cardiomyocyte ‘Glycolytic Switch’ and Improves Aerobic Capacity In Rats with Hypoxic Pulmonary Hypertension. Indianapolis, IN. February 2015.
- Patricia Scott, PhD, MPH, OT, FAOTA was awarded a Curriculum Enhancement Grant from the Center for Teaching and Learning for \$15,000 titled, “Interprofessional Grand Rounds: An Initial Step in the Development of an Interprofessional Curriculum for the Health Profession Schools.”
- The School developed two new degree programs: Health Science/Health Informatics, an integrated five-year master’s degree program, and the Post-Professional Doctor of Occupational Therapy program. <http://news.iupui.edu/releases/2015/05/accelerated-bs-ms-programs.shtml>

Advances in Health and Life Sciences

SHRS faculty and students contributed to the advancement in health and life sciences by conducting research and publishing their findings in peer-review journals and presenting scholarly work at professional conferences. Presented below is a list of publications, presentations and awards.

Publications

- Terry Loghmani, PhD, PT, MTC, CMT, Shakar JJ, Ploski MR. Graston Technique M1-Basic Training, 4th ed. Graston Technique, LLC, Indianapolis IN, 2014
- Niki Munk, PhD, LMT, Boulanger, K. Adaptation of the CARE Guidelines for therapeutic massage and bodywork publications: efforts to improve the impact of case reports. *International Journal of Therapeutic Massage and Bodywork* 2014;7:32-40
- Aslaksen AM, Patricia Scott, PhD, MPH, OT, FAOTA, Haglund L, Ellingham B, Bonsaksen T. Using the Role Checklist Version 2: quality of performance. *Ergoterapeuten* nr 4, 2014;38-45
- Stuart Warden, PhD, PT, FACSM, Davis IS, Fredericson M. Management and prevention of bone stress injuries in long distance runners. *Journal Orthopaedic Sports Physical Therapy* 2014;44:749-65
- Firulli BA, Robyn K. Fuchs, PhD, Vincentz JW, Clouthier DE, Firulli AB: Hand1 phosphoregulation within the distal arch neural crest is essential for craniofacial morphogenesis. *Development* 2014;141:3050-61.
- Glass SM, Ross SE, Brent Arnold, PhD, ATC, FNATA, Rhea CK. Center of pressure regularity with and without stochastic resonance stimulation in stable and unstable ankles. *Athletic Training and Sports Health Care* 2014;6:170- 8.
- Hansen MJ, Trujillo DJ, Boland DL, Joyce L. Mac Kinnon, PhD. Overcoming obstacles and academic hope: An examination of factors promoting effective academic success strategies. *Journal of College Student Retention* 2014;16:49-71.
- Hill V, Thomas Fisher, PhD, OTR, CCM, FAOTA, Jeffrey L. Crabtree, MS, OTD, FAOTA, Page S, Schmid A. The relationship between touch sensation of the affected hand and performance of valued activities in individuals with chronic stroke. *Topics in Stroke Rehabilitation* 2014;21:339-346.
- Wright CJ, Brent Arnold, PhD, ATC, FNATA, Ross SE, Linens, SW. Recalibration and validation of the Cumberland Ankle Instability Tool cutoff score for individuals with chronic ankle instability. *Archives of Physical Medicine and Rehabilitation* 2014;95:1853-9.
- Avin KG, Bloomfield SA, Gross TS, Warden SJ. Biomechanical aspects of the muscle-bone interaction. *Current Osteoporosis Reports* 2015;13:1-8.
- Zaretsky DV, Brown MB, Zaretskaia MV, Durant PJ, Rusyniak DE. The ergogenic effect of amphetamine. *Temperature* 2014;1(3):242-247.
- Meijome TE, Hooker RA, Cheng YH, Walker W, Horowitz MC, Fuchs RK, Kacena MA. GATA-1 deficiency rescues trabecular but not cortical bone in OPG deficient mice. *Journal Cellular Physiology* 2015;230(4):783-790.

- Liu CJ, William A. Factors related to understanding a 3D diabetes educational video in seniors: What matters? *Journal of Visual Communication in Medicine* 2014;37:65-73.
- Liu CJ, Shiroy DM, Jones LY, Clark DO. Systematic review of functional training on muscle strength, physical functioning, and activities of daily living in older adults. *European Review of Aging and Physical Activity* 2014;11:95- 106.
- Elder WG, Munk N. Identifying pragmatic characteristics: Application of PRECIS criteria to an innovative PBRN study of health-related outcomes for chronic low back pain patients receiving alternative therapies. *Journal of the American Board of Family Medicine* 2014;27(6):846-854.
- Munk N, Lowe W. This issue's Trigger Points call for discussion: Hypertonicity of the quadratus lumborum muscle. Editorial. *International Journal of Therapeutic Massage & Bodywork* 2014;7(4):2.
- Thompson WR, Yen SS, Rubin J. Vibration therapy: clinical applications in bone. *Current Opinion in Endocrinology, Diabetes and Obesity* 2014;21(6):447-53.
- Avin KG, Moorthi RN. Bone is not alone: the effects of skeletal muscle dysfunction in chronic kidney disease. *Current Osteoporosis Reports* 2015;13:173-9
- Bennett K, McElroy J, Johnson A, Munk N, Everett K. A persistent disparity: smoking in rural sexual and gender minorities. *LGBT Health* 2015;2:62-70
- De la Motte S, Arnold BL, Ross SE. Trunk-rotation differences at maximal reach of the star excursion balance test in participants with chronic ankle instability. *Journal of Athletic Training* 2015;50:358-65
- Ernst J, ETTYANG G, Neumann CG. High-nutrition biscuits to increase animal protein in diets of HIV-infected Kenyan women and their children: a study in progress. *Food and Nutrition Bulletin* 2014;35:S198-204
- Frump AL, Goss KN, Vayl A, Albrecht M, Fisher AJ, Tursunova R, Fierst J, Whitson J, Cucci AR, Brown MB, Lahm T. Estradiol improves right ventricular function in rats with severe angioproliferative pulmonary hypertension: effects of endogenous and exogenous sex hormones. *American Journal of Physiology - Lung Cellular and Molecular Physiology* 2015;308:L873-90
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- Zanjani F, Davis T, Newsham P, Kruger TM, Munk N, Schoenberg N, Martin C. Management of psychiatric appointments by telephone. *Journal of Telemedicine and Telecare* 2015;21:61-3

- Rohe B, Carter R, Thompson WR, Duncan RL, Cooper CR. Experimental integrative muscular movement technique enhances cervical range of motion in patients with chronic neck pain: a blinded pilot study. *Journal of Alternative and Complementary Medicine* 2015;21;223-8.
- Bayliss AJ, Strunk VA. Measurement of Empathy Changes During a Physical Therapist's Education and Beyond. *J Phys Ther Ed.* 2015;29(2):6-12.
- Brown MB, Chingombe TJ, Zinn AB, Reddy JG, Novack RA, Cooney SA, Fisher AJ, Presson RG, Lahm T, Petrache I. Novel assessment of hemodynamic kinetics with acute exercise in a rat model of pulmonary arterial hypertension. *Experimental Physiology.* 2015 Jun 1;100(6):742-54. doi: 10.1113/EP085182.
- Li, W. The Underlying Mechanisms for Resveratrol' Superinduction Effects, *International Journal of Health Sciences*, 2015 March, 3(1): 39-59. DOI: 10.15640/ijhs.v3n1a3.
- Li, W. Practicing Orthopedic Medicine by Physician Assistants. *J Exerc Sports Ortho.*, 2015, Feb 5 2(1): 1-2.
- Foote C, Mac Kinnon J, Robbins C, Pessagno R, Porter M. Long term health and quality of life experiences for Vietnam veterans with combat-related limb loss. Accepted May 2015 *Quality of Life Research*. Published online June 6, 2015 Springer doi 10.1007/s11136-015-1029-0.
- Munk N, Mannheimer S, Lulgjuraj M, Piotrowski J. (2015). Novel prototype devise developed which combines massage therapy with components of mirror therapy to address phantom limb pain in lower-limb amputees. 545. *The Journal of Pain*, 16(4), S112.
- Thompson WR, Keller BV, Davis ML, Dahners LE, Weinhold PS. Low-Magnitude, High-Frequency Vibration Fails to Accelerate Ligament Healing but Stimulates Collagen Synthesis in the Achilles Tendon. *Orth Jour Sport Med.* 2015;3(5):2325967115585783.
- Thompson WR, Uzer G, Brobst KE, Yen S, Xie Z, Sen B, Styner M, Rubin J. Osteocyte Specific Responses to Soluble and Mechanical Stimuli in a Stem Cell Derived Culture Model. *Scientific Reports.* 2015;5:11049.
- Styner M, Wu X, Thompson WR, Uzer G, Xie Z, Sen B, Romaine A, Pagnotti GM, Rubin CT, Styner MA, Horowitz MC, Rubin J. Exercise regulation of marrow fat in the setting of PPAR γ agonist treatment. *Endocrinology.* Epub ahead of print.
- Sen B, Xie Z, Uzer G, Thompson WR, Styner M, Wu X, Rubin J. Intranuclear Actin Regulates Osteogenesis. *Stem Cells.* Epub ahead of print.

Awards

- Patricia Scott, PhD, MPH, OT, FAOTA, and Tracy Dierks, PhD, were awarded an IUPUI Mentoring Grant for \$10,000 titled, "Creating an Infrastructure for Professional Development and Mentoring in the School of Health and Rehabilitation Sciences."

- Mary Beth Brown, PhD, PT, ATC received a one year internal grant for \$74,961: IU-CTSI Collaboration in Translational Research proposal titled “*Exercise to attenuate right ventricular damage after pulmonary embolism*” as co-PI.
- Mary Beth Brown, PhD, PT, ATC received an internal grant from the Center for Research and Learning’s Multidisciplinary Undergraduate Research Internship (MURI) program to fund four students in her lab (and in co-mentor’s lab, T. Lahm, SoM) for the 2014-2015 Academic Year.
- Mary Beth Brown, PhD, PT, ATC was awarded best Cardiopulmonary Section research at the American Physical Therapy Association Combined Sections Meeting in Indianapolis for poster titled: Exercise Training at Mild Relative Exercise Intensity Does Not Attenuate Disease Progression in a Rat Model of Severe Pulmonary Arterial Hypertension. February 2015.
- Mary Beth Brown, PhD, PT, ATC received an internal grant from the Life Health Science Institute (LHSI) to fund one student in her lab for the 2014-2015 Academic Year.
- Terry Loghmani, PT, PhD, and Crystal Massie, PhD, OTR, received IUPUI EMPOWER Grants.

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

- Stuart Warden’s, PT, PhD, FACSM and Robyn Fuchs’, PhD, work on the lifelong skeletal benefits of exercise during growth and subsequent paper in the *Proceedings of the National Academy of Sciences* was the feature of an editorial in the *Journal of Experimental Biology*.
- Patricia Scott, PhD, MPH, OT, FAOTA, established guidelines for functional performance for persons with hepatic encephalopathy preliver transplantation.
- Physician Assistant Studies students participated in the 2015 Lobby Day at the Indiana Statehouse to demonstrate support for the Physician Assistant Practice Act HB 1183. The bill was passed by the Indiana Senate and signed into law by Governor Mike Pence on May 4.
- Michele Schultz, MS, PA-C, participated in an Indiana Access to Care Coalition meeting to bring medical providers and community leaders together to identify common goals and areas in which Advanced Practice Providers can work more cohesively to address the health care needs of Indiana
- The School hosted an international group that is developing a new version of an occupational therapy diagnostic tool used worldwide. The revised tool was created by Patricia Scott, PhD, MPH, OT, FAOTA. <http://news.iupui.edu/releases/2014/11/occupational-therapy-role-checklist.shtml>
- Kristine Miller, PhD, PT, is leading efforts to implement a sustainable, community-based adaptive yoga program in Pendleton, Ind., for people with brain injuries or who have had strokes. <http://shrs.iupui.edu/news-events/10-20-14.html>
- The Dietetic Internship Class of 2015 participated in the annual IUPUI Health Fair. Interns presented two food demonstrations—“Crockpot Cooking: Preparation of Chicken Enchiladas” and “Making Granola and Granola Parfaits”.