



IUPUI

SCHOOL OF HEALTH
AND REHABILITATION
SCIENCES

INDIANA UNIVERSITY
Indianapolis

2015 Summary

CALENDAR YEAR 2015 SUMMARY

On the following pages are the external and internal grants and contracts submitted by IU School of Health and Rehabilitation Sciences (SHRS) faculty as Principal Investigator (PI) during calendar year 2015. This is an impressive list, particularly considering it does not include the large number of grants and contracts that faculty submitted or were awarded in other roles (such as co-investigator, consultant, collaborator or mentor). In addition to grants and contracts, publications authored or co-authored by IU SHRS faculty during 2015 are listed. As a quick summary, consider the following statistics:

- 16 individual faculty members submitted 22 external funding applications as PI requesting \$10.3M
- 6 individual faculty members were awarded 7 external grants as PI, with awards totaling \$1.3M
- 5 individual faculty members submitted 10 internal funding applications as PI requesting \$220K
- 6 individual faculty members were awarded 7 internal grants as PI, with awards totaling \$98K
- 16 individual faculty members published 39 peer-reviewed publications in 35 different venues

EXTERNAL GRANTS AND CONTRACTS

Awarded

Project Director	Sponsor	Title	Start	End	Proposal Total Amt
Agho, Austin O	HRSA	Indiana University Health Careers Opportunity Program	9/1/2015	8/31/2018	\$646,110
Brown, M. Beth	NIH-NHLBI	Elucidating Mechanisms to Optimize Exercise for Pulmonary Arterial Hypertension	7/20/2015	6/30/2018	\$454,815
Massie, Crystal	AM HEART ASSN	Functional motor cortex stimulation to repair damaged movement representations after stroke	1/1/2015	12/31/2015	\$77,000
Brown, M. Beth	AM HEART MIDWEST	Optimizing Aerobic Exercise Training as Therapy in a Rat Model of Pulmonary Arterial Hypertension (Continuation [prev committed])	7/1/2015	6/30/2016	\$71,500
Miller, Kristine	US VETERANS AFFAIRS	Intergovernmental Personnel Agreement between VA and IU	10/1/2015	6/30/2016	\$31,729
Dierks, Tracy	ST VINCENT SPORT PERF	St. Vincent Sports Performance Science: Research & Clinical Activities Initiative	7/1/2015	6/30/2016	\$15,000
Rebman, Rebecca	PHY ASSIST EDU ASSOC	Evaluating pedagogical approaches to Motivational Interviewing in Physician Assistant education	9/1/2015	10/31/2016	\$3,675
TOTAL					\$1,299,829

Submitted

Project Director	Sponsor	Title	Start	End	Proposal Total Amt
Warden, Stuart	NIH	Sustainability of exercise-induced gains in bone structure and estimated strength	4/1/2016	3/31/2021	\$2,169,287
Liu, Chiung-Ju	NIH	Activities of daily living practice as a means to reduce disability in vulnerable older adults: An RCT comparing two exercise interventions	7/1/2016	6/30/2021	\$1,965,000
Agho, Austin O	HRSA	Indiana University Health Careers Opportunity Program	9/1/2015	8/31/2018	\$1,941,099
Thompson, William	US DEPT OF DEFENSE	Effect of Low Magnitude Mechanical Signals on Breast Cancer Bone Metastases	10/1/2016	9/30/2019	\$702,772
Avin, Keith	NIH	Mechanisms of Interventions to Ameliorate Sarcopenia in Chronic Kidney Disease	7/1/2016	6/30/2021	\$674,186
Brown, M. Beth	NIH	Elucidating Mechanisms to Optimize Exercise for Pulmonary Arterial Hypertension	4/1/2016	3/31/2019	\$468,000
Warden, Stuart	NIH	Localizing the skeletal effects of serotonin transporter inhibition	4/1/2016	3/31/2019	\$468,000
Thompson, William	NIH	Mechanical Partitioning of mTORC2 to Direct Mesenchymal Stem Cell Fate	4/1/2016	3/31/2019	\$462,400
Crabtree, Jeffrey	UNIV OF WISCONSIN	The TransFACT Assessment Mobile App: Optimizing Personal Community Transit	10/1/2015	9/30/2020	\$300,000
Altenburger, Peter	PURDUE UNIVERSITY	Training to Improve Gate and Balance in Everyday Situations	11/1/2015	10/31/2018	\$261,151
Avin, Keith	AM SOCIETY NEPHROLOGY	Mechanisms of Intervention to Ameliorate Sarcopenia in Chronic Kidney Disease	7/1/2016	6/30/2018	\$200,000
Massie, Crystal	IND STATE DEPT HLTH	Randomized control trial of non-invasive brain stimulation plus upper-extremity robotic rehabilitation for individuals with traumatic brain injury	7/1/2015	6/30/2017	\$159,486
Comer, Amber	AM HEART ASSN	The Long-term Effect of State Stroke Legislation on Patient Health Outcomes	1/1/2016	12/31/2017	\$154,000
Li, Wei	ALZHEIMER ASSN	Type 2 Diabetes and Neurodegeneration in AD and PD	10/1/2015	9/30/2017	\$150,000
Li, Wei	ALZHEIMER ASSN	Fluid Biomarker Abnormalities and Cognitive Impairments Associated with TBI	2/1/2016	1/31/2018	\$100,000
Altenburger, Peter	MULTIPLE SCLEROSIS	G-EO Gait Rehabilitation Training in Progressive Multiple Sclerosis	2/1/2016	1/31/2017	\$44,000
Miller, Kristine	US VETERANS AFFAIRS	Intergovernmental Personnel Agreement between VA and IU	10/1/2015	6/30/2016	\$31,729
Munk, Niki	MASSAGE THERAPY FDN	Trigger point self-treatment for chronic neck pain	10/1/2015	9/30/2016	\$30,000
Dierks, Tracy	ST VINCENT SPORT PERF	St. Vincent Sports Performance Science: Research & Clinical Activities Initiative	7/1/2015	6/30/2016	\$15,000
Eli, Sarah	ETHICON	Educational Grant Agreement	7/1/2015	6/30/2016	\$10,066
Massie, Crystal	AM HEART MIDWEST	Kinematic and Clinical Evaluation of Motor Cortex Stimulation in Stroke	6/1/2015	8/31/2015	\$4,000
Rebman, Rebecca	PHY ASSIST EDU ASSOC	Evaluating pedagogical approaches to Motivational Interviewing in Physician Assistant education	9/1/2015	10/31/2016	\$3,675
				TOTAL	\$10,313,851

INTERNAL GRANTS AND AWARDS

Awarded

Project Director	Sponsor	Title	Start	End	Proposal Total Amt
Loghmani, M. Terry	OVCR	Development of a soft tissue manipulation force quantification device for clinical use (Funding Opportunities for Research Commercialization and Economic Success [FORCES])	10/12/2015	10/31/2016	\$33,314
Miller, Kristine	CTSI/Indiana State Depart. of Health	Community-Based Adapted Group Yoga for People with Stroke or Acquired Brain Injury: Efficacy and Feasibility	10/1/2015	9/30/2016	\$25,000
Comer, Amber	SHRS	The effect of air quality on stroke and cardiovascular incidents and mortality (PEAR grant)	10/26/2015	10/25/2016	\$10,000
Loghmani, M. Terry	IUPUI Biomech. & Biomaterials Research Ctr	Quantification of force during soft tissue massage for research and clinical use	4/1/2015	3/31/2016	\$10,000
Thompson, William	Indiana CTSI	Generation of a novel mouse model for tissue-specific deletion of perlecan (Core Pilot Funding)	9/1/2015	8/31/2017	\$10,000
Munk, Niki	OVCR	Enhanced Mentoring Program with Opportunities for Ways to Excel in Research (EMPOWER)	10/1/2015	9/30/2016	\$5,000
Comer, Amber	OVCR	Enhanced Mentoring Program with Opportunities for Ways to Excel in Research (EMPOWER)	10/1/2015	9/30/2016	\$5,000
TOTAL					\$98,314

Submitted

Project Director	Sponsor	Title	Start	End	Proposal Total Amt
Thompson, William	Indiana CTSI	Role of perlecan matrix in regulation of osteocyte cell death (Collaboration in Translational Research application)	7/1/2015	6/30/2017	\$74,447
Munk, Niki	OVCR	Massage and self-care for chronic neck pain (RFSG application)	1/1/2016	12/31/2016	\$35,000
Warden, Stuart	OVCR	Localized skeletal effects of serotonin transporter inhibition (RFSG application)	1/1/2016	31/12/2016	\$35,000
Loghmani, M. Terry	OVCR	Development of a soft tissue manipulation force quantification device for clinical use (Funding Opportunities for Research Commercialization and Economic Success [FORCES])	10/12/2015	10/31/2016	\$33,314
Loghmani, M. Terry	IUPUI Biomech. & Biomaterials Research Ctr	Quantification of force during soft tissue massage for research and clinical use	4/1/2015	3/31/2016	\$10,000
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Comer, Amber	SHRS	The effect of air quality on stroke and cardiovascular incidents and mortality (PEAR grant)	10/26/2015	10/25/2016	\$10,000
Comer, Amber	OVCR	Enhanced Mentoring Program with Opportunities for Ways to Excel in Research (EMPOWER)	10/1/2015	9/30/2016	\$5,000
Munk, Niki	OVCR	Enhanced Mentoring Program with Opportunities for Ways to Excel in Research (EMPOWER)	10/1/2015	9/30/2016	\$5,000
Comer, Amber	IUPUI Office of the Senior Advisor	Assessing the effect of an undergraduate ethics course on students' moral judgement (PRAC application)	1/1/2016	31/12/2016	\$2,500
TOTAL					\$220,261

PUBLICATIONS

1. **Avin KG**, Bloomfield SA, Gross TS, **Warden SJ**. Biomechanical aspects of the muscle-bone interaction. *Curr Osteoporos Rep* 2015;13:1-8.
2. **Avin KG**, Hanke TA, Kirk-Sanchez N, McDonough CM, Shubert TE, Hardage J, Hartley G. Management of falls in community-dwelling older adults: clinical guidance statement from the Academy of Geriatric Physical Therapy of the American Physical Therapy Association. *Phys Ther* 2015;95:815-34.
3. **Avin KG**, Moorthi RN. Bone is not alone: the effects of skeletal muscle dysfunction in chronic kidney disease. *Curr Osteoporos Rep* 2015;13:173-9.
4. **Bayliss AJ**, **Strunk V**. Measurement of empathy changes during a physical therapist's education and beyond. *J Phys Ther Educ* 2015;29:6-12.
5. Becker C, Lord SR, Studenski SA, **Warden SJ**, Fielding RA, Recknor CP, Hochberg MC, Ferrari SL, Blain H, Binder EF, Rolland Y, Poiraudeau S, Benson CT, Myers SL, Hu L, Ahmad QI, Pacuch KR, Gomez EV, Benichou O. Myostatin antibody (LY2495655) in older weak fallers: a proof-of-concept, randomised, phase 2 trial. *Lancet Diabetes Endocrinol* 2015;3:948-57.
6. Bennett K, McElroy JA, Johnson AO, **Munk N**, Everett KD. A persistent disparity: smoking in rural sexual and gender minorities. *LGBT Health* 2015;2:62-70.
7. Bonsaksen T, Meidert U, Schuman D, Kvarsnes H, Haglund L, Prior S, Forsyth K, Yamada T, **Scott PJ**. Does the Role Checklist measure occupational participation? *Open J Occup Ther* 2015;3:Article 2 (14 pages).
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9. Brown T, **Crabtree JL**, Mu K, Wells J. The entry-level occupational therapy clinical doctorate: advantages, challenges, and international issues to consider. *Occup Ther Health Care* 2015;29:240-51.
10. Brown T, **Crabtree JL**, Mu K, Wells J. The next paradigm shift in occupational therapy education: the move to the entry-level clinical doctorate. *Am J Occup Ther* 2015;69 Suppl 2:p1-6.
11. Childress P, Stayrook KR, Alvarez MB, Wang Z, Shao Y, Hernandez-Buquer S, Mack JK, Grese ZR, He Y, Horan D, Pavalko FM, **Warden SJ**, Robling AG, Yang FC, Allen MR, Krishnan V, Liu Y, Bidwell JP. Genome-wide mapping and interrogation of the Nmp4 antianabolic bone axis. *Mol Endocrinol* 2015;29:1269-85.
12. **Comer A**. In the wake of Wakefield: establishing consequences for journal failure to recognize retracted research articles. *Int J Med Res Prof* 2015;1:1-4.
13. Cowan SM, Hart HF, **Warden SJ**, Crossley KM. Infrapatellar fat pad volume is greater in individuals with patellofemoral joint osteoarthritis and associated with pain. *Rheumatol Int* 2015;35:1439-42.
14. 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. *J Athl Train* 2015;50:358-65.
15. Foote CE, **Mac Kinnon J**, Robbins C, Pessagno R, Portner MD. Long-term health and quality of life experiences of Vietnam veterans with combat-related limb loss. *Qual Life Res* 2015;24:2853-61.
16. Friedrich-Nel H, **Mac Kinnon J**. Formative postgraduate assessment: a comparative case study using a university in the USA and one in South Africa. *Innov Educ Teach Int* 2015;52:653-62.
17. Friedrich-Nel HS, **Mac Kinnon JL**. Formative assessment in postgraduate education. *J New Generation Sci* 2015;13:1-14.
18. Frump AL, Goss KN, Vayl A, Albrecht M, Fisher A, 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. *Am J Physiol Lung Cell Mol Physiol* 2015;308:L873-90.
19. Gannotti ME, **Fuchs RK**, Roberts DE, Hobbs N, Cannon IM. Health benefits of seated speed, resistance, and power training for an individual with spastic quadriplegic cerebral palsy: a case report. *J Pediatr Rehabil Med* 2015;8:251-7.

20. Goss KN, Cucci AR, Fisher AJ, Albrecht M, Frump A, Tursunova R, Gao Y, **Brown MB**, Petrache I, Tepper RS, Ahlfeld SK, Lahm T. Neonatal hyperoxic lung injury favorably alters adult right ventricular remodeling response to chronic hypoxia exposure. *Am J Physiol Lung Cell Mol Physiol* 2015;308:L797-806.
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22. Lai X, Price C, Modla S, **Thompson WR**, Caplan J, Kirn-Safran CB, Wang L. The dependences of osteocyte network on bone compartment, age, and disease. *Bone Research* 2015;3:15009 (11 pages).
23. **Li W**. Practicing orthopedic medicine by physician assistants. *J Exerc Sports Orthop* 2015;2:1-2.
24. **Li W**. The underlying mechanisms for resveratrol superinduction effects. *Int J Health Sci* 2015;3:39-59.
25. Livorsi D, **Comer A**, Matthias MS, Perencevich EN, Bair MJ. Factors influencing antibiotic-prescribing decisions among inpatient physicians: a qualitative investigation. *Infect Control Hosp Epidemiol* 2015;36:1065-72.
26. **Massie CL**, Katak SS, Narayanan P, Wittenberg GF. Timing of motor cortical stimulation during planar robotic training differentially impacts neuroplasticity in older adults. *Clin Neurophysiol* 2015;126:1024-32.
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29. Ross SE, Linens SW, Wright CJ, **Arnold BL**. Noise-enhanced eversion force sense in ankles with or without functional instability. *J Athl Train* 2015;50:819-24.
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31. Schmid AA, **Miller KK**, Van Puymbroeck M, DeBaun-Sprague E, Shively C, Peterson E, Finlayson M. Feasibility and results of a pilot study of group occupational therapy for fall risk management after stroke *Br J Occup Ther* 2015;78:653-60.
32. Sen B, Xie Z, Uzer G, **Thompson WR**, Styner M, Wu X, Rubin J. Intranuclear actin regulates osteogenesis. *Stem Cells* 2015;33:3065-76.
33. Styner M, Pagnotti GM, Galior K, Wu X, **Thompson WR**, Uzer G, Sen B, Xie Z, Horowitz MC, Styner MA, Rubin C, Rubin J. Exercise regulation of marrow fat in the setting of PPAR-gamma agonist treatment in female C57BL/6 mice. *Endocrinology* 2015;156:2753-61.
34. **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. *Orthop J Sports Med* 2015;3.
35. **Thompson WR**, Uzer G, Brobst KE, Xie Z, Sen B, Yen SS, Styner M, Rubin J. Osteocyte specific responses to soluble and mechanical stimuli in a stem cell derived culture model. *Sci Rep* 2015;5:11049 (12 pages).
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