

Spring 2019

Alumni Newsletter

University of Iowa Department of Physical Therapy & Rehabilitation Science

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Message from the Chair

Over twelve years ago our faculty and staff supported a new strategic plan that focused on simultaneously curbing student debt and enhancing our educational quality. By doing this, we set our sights on enhancing the value of a Doctor of Physical Therapy (DPT) degree. We implemented a number of strategies to achieve this goal:

- We performed an economic analysis and showed that increases in DPT tuition were far outpacing growth in entry-level salaries. We worked with our College and University to control tuition rates and expand our endowed scholarships, annual giving, and experiential scholarship programs to ensure that our graduates' educational debt is supportable by their salaries.
- We increased our recruitment of students from diverse ethnic, socioeconomic, and cultural backgrounds, motivated by our belief that the best education emerges from an environment that honors pluralism.
- We recruited key faculty members to drive our educational and research missions. We are proud of our 15 core faculty who combine exceptional scholarship programs with skillful teaching. Our nearly 90 adjunct clinical faculty offer an invaluable network of cutting edge expertise in all areas of clinical practice and technology.
- We invested heavily in our infrastructure, creating media-enhanced teaching laboratories equipped to record sessions for off-site learning.
- To increase operational efficiency, we reorganized our administrative and committee structure and instituted commonsense cost-saving practices.
- We sharpened our curriculum with content areas that will define the next era of practice. We are proud of our contemporary curriculum, which features a unique full-semester pain mechanisms and management course, an activity-based plasticity course, and an inter-professional education (IPE) program with students from nine different healthcare professions.

Great strategies must be accompanied by measurement, if success is ever to be gauged. After developing our strategic plan we began to rigorously assess every aspect of our program operations and student outcomes. Our entire faculty and staff, together with our students, participate in annual 360-degree peer assessments of professionalism and citizenship (J Allied Health 2017). In our IPE curriculum, we measure the effectiveness of peer-teaching interactions between DPT and medical students (Anat Sci Educ 2014). Through our economic analysis of the DPT degree, we reported a national debt benchmark... (continued next page)

Message from the Chair (continued):

...above which the DPT degree loses economic power (J Physiother 2018). We have accumulated ten years of data on an array of factors that may affect the student experience, such as burnout, mistreatment, tolerance for ambiguity, empathy, and the quality of faculty-student interactions (Phys Ther 2018). **By leveraging these data sources, we can track our progress toward our vital mission; to offer the highest-quality physical therapy education at a cost that makes sense.**

Many others share our vision to enhance value in PT education. We are grateful for the work of APTA, the Commission on Accreditation in Physical Therapy Education (CAPTE), the Iowa Physical Therapy Association, other academic programs, and clinical partners from myriad practice settings who aspire to build the strongest possible foundation for our profession.

Richard K. Shields, PT, PhD, FAPTA
Professor, Chair, and DEO

Gary L. Soderberg Endowed Professorship

We are pleased to announce that Gary L. Soderberg PT, PhD, FAPTA, and his wife, Loretta Knutson PT, PhD, PCS, have provided a generous contribution to fund the first endowed professorship within the Department of Physical Therapy and Rehabilitation Sciences.

This fall, Iowa Professor, Chair, and DEO Richard K. Shields PT, PhD, FAPTA will assume the inaugural Gary L. Soderberg Endowed Professorship in Physical Therapy and Rehabilitation Science.

Dr. Soderberg was recruited to the University of Iowa in 1972 in order to advance the newly-established PhD degree program (one of the first in the country). He was the Department's Director from 1984 to 1992 and currently serves as an Emeritus Professor. During his time at Iowa, Dr. Soderberg oversaw our transformation into a nationally-recognized leader in physical therapy and rehabilitation research. Through his own outstanding scholarship and mentoring, Dr. Soderberg paved the way for the next generation of physical therapy scientists.



Drs. Gary Soderberg and Loretta Knutson

As a distinguished leader in the physical therapy profession, Dr. Soderberg received virtually every national award. The American Physical Therapy Association (APTA) recognized his leadership in education and research by bestowing its most prestigious awards: Golden Pen Award (1984), Lucy Blair Service Award (1987), Worthingham Fellow Award (1987); Williams Research Award (1988); and the McMillan Lecturer Award (1993). In 1988, Dr. Soderberg received the prestigious Olive Farr Award for his service to physical therapy in the State of Iowa. From 1992-1996 he served as President of the APTA Section on Research. In 2012, Drs. Soderberg and Knutson received the Spirit of Philanthropy Award from the Foundation for Physical Therapy.



Dr. Gary Soderberg (right) with Iowa DEO Dr. Rich Shields and APTA Chief Executive Officer Justin Moore, PT, DPT after the 2017 Mary McMillan Lecture.

This endowed professorship will provide sustained support for our Department's Chair. In addition to being a leader in education and research, the endowed chair will "provide an example of the highest standards of professionalism and citizenship". Dr. Shields was selected to receive the endowed professorship on the recommendation of Carver College of Medicine Dean Dr. Brooks Jackson. His nomination for this prestigious professorship was supported by national research colleagues and former DPT and PhD trainees.

The Carver College of Medicine will host an investiture ceremony in the fall. We invite alumni and friends of our Department to join us and celebrate Dr. Soderberg's legacy at Iowa. Be on the lookout for additional event information soon.

David Gerleman Endows Student Scholarships



David Gerleman with endowed scholarship recipient Nick Nielsen DPT

Through a generous gift and an estate bequest, retired department engineer David Gerleman has created two endowed scholarships for students in our DPT and PhD programs.

For over 30 years, Dave was a key contributor to our educational and research missions. He provided custom engineering solutions for faculty research projects, greatly enhancing our ability to advance the frontiers of rehabilitation research. Dave taught the Biomedical Instrumentation course in our PhD curriculum, equipping our graduates to use cutting-edge technology in their own independent research careers.

After his retirement in 2008, Dave has remained a close friend of the department. At our December 2018 commencement, he was on hand to present the first scholarship funded by his endowment: the David G. Gerleman Doctor of Physical Therapy Applied Engineering Award. This scholarship will be given annually to a DPT student with a background in engineering who has demonstrated an aptitude for critical analytical thinking.

This endowment will also establish a scholarship for a PhD student in our Department: the David G. Gerleman Applied Engineering Advanced Degree Assistantship. This assistantship will support an incoming PhD student with a background in engineering, a DPT degree, and a career objective to apply the practice of engineering to health science research.

We are grateful to Dave for his many decades of contributions to our department, culminating in this generous endowment gift.

Iowa Education Summit: Solutions for Student Debt

Clinicians, educators, and representatives from state and national professional organizations attended the 5th-annual Iowa PT Education Summit on September 14, 2018. This annual event is designed to trigger discussion on controversial practice and education issues among the physical therapy community.

By reducing educational costs by just \$10k (via scholarships, financial aid, work-study, etc) a student with \$150k debt can save nearly \$88k over 25 years of repayment. (\$150k debt reflects national average debt reported by APTA (\$124k) plus national average undergraduate debt.)



APTA representative Steven Chesboro, PT, DPT, EdD

This year's Summit topic was the burgeoning debt crisis facing PT students nationwide. Iowa faculty members Richard Shields and Shauna Dudley-Javoroski outlined the scope of the crisis and illustrated that modest educational cost-savings, such as scholarships and financial aid, can yield surprisingly large lifetime repayment savings for graduates. (continued next page...)

Iowa Education Summit (continued):

Stakeholder representatives from Iowa and national groups proposed concrete strategies for cost reduction and debt mitigation that were within their power to enact. Representatives included:

- * **Mike Horsfield PT, OCS, ATC, MBA**, Rock Valley Physical Therapy
- * **Steven Chesboro PT, DPT, EdD**, American Physical Therapy Association (APTA)
- * **Mark Reinking PT, PhD, SCS, ATC**, American Council of Academic Physical Therapy (ACAPT)
- * **Jason Putz PT**, Iowa Physical Therapy Association (IPTA)
- * **Mike Puthoff PT, PhD**, St. Ambrose University
- * **Bill O'Dell PT, DHS, MBA, OCS**, Clarke University
- * **Kyle Bernard, DPT**, Performance Therapies
- * **Rachel Putney DPT, OCS, CLT**, University of Iowa Hospitals and Clinics

Open discussion followed each stakeholder presentation and attendees weighed in on the potential for implementation of the proposed strategies.

The Summit culminated in a breakout session in which groups of attendees developed priority-ranked lists of action items for each stakeholder entity: the APTA, IPTA, ACAPT, PT education programs, employers, and students.



ACAPT representative Mark Reinking PT, PhD, SCS, ATC

Carol Leigh Receives IPTA Award



Administrative Services Manager Carol Leigh

Iowa departmental Administrative Services Manager Carol Leigh received the 2019 Max Shelton Friend of Iowa Physical Therapy Award from the Iowa Physical Therapy Association.

This award recognizes individuals or organizations, other than PTs or PTAs, for exceptional service to the physical therapy profession in Iowa. Carol received the award on April 5th on the campus of Des Moines University.

Carol has been a part of Iowa's Department of Physical Therapy and Rehabilitation Science since 1987. She manages all operational aspects of our DPT program, including space utilization, admissions, clinical education contracts, the departmental website, human resources, graduation applications, and outcomes assessment of graduates.

In addition to these critical roles, Carol's compassionate resourcefulness helps our students weather the many challenges of PT education. Our students turn to her for logistical support, clear and timely information, and frequently, for a listening ear. She is an indispensable player in our department's mission to deliver top-quality physical therapy education. Congratulations, Carol, on this well-deserved award!

Dr. Ruth Chimenti Joins Faculty



Ruth Chimenti DPT, PhD

The Department is pleased to announce that Ruth Chimenti DPT, PhD will join our faculty this May as an Assistant Professor.

Dr. Chimenti received her DPT degree from Washington University in St. Louis in 2009. She completed a PhD in Health Practice Research from the University of Rochester, followed by a postdoctoral fellowship at that institution. Most recently, Dr. Chimenti has been a post-doctoral scholar in our Department's Neurobiology of Pain Laboratory, under the mentorship of Dr. Kathleen Sluka.

Dr. Chimenti's research will focus on improving care for chronic musculoskeletal conditions through the evaluation and treatment of peripheral and central nervous system contributors to pain. She has authored over 24 scientific articles and has received research funding from the APTA, the International Association for the Study of Pain, and the Orthopedic Research and Education Foundation. Her current work is funded by a training grant from the National Institutes of Health.

Dr. Chimenti will contribute to the evidence-based research components of the DPT and PhD curricula. Our Department extends a warm welcome to Dr. Chimenti and we are look forward to the contributions she will make as a member of our team.

2019 Iowa Education Summit



Physical therapists are experts in the prescription of exercise and are embedded in communities throughout rural Iowa.

We believe that our profession can play a critical role in reversing Iowa's dangerous movement toward the top of the nation's obesity statistics. This new priority, however, would require bold leadership and intense commitment by clinicians, educators, and policy-makers.

The 2019 Iowa Education Summit will consider the potential role that physical therapists may play in reversing rural Iowa's obesity epidemic. We have assembled an outstanding roster of presenters including Iowa legislators, rural health physical therapists, and leadership from APTA, IPTA, academic programs, and clinical practice. Attendees and presenters at the Summit will identify the major barriers to exercise-based health initiatives and will offer solutions to move the citizens of Iowa to a healthier "state of well being."

Please join us on **Friday, September 20** for the 2019 Iowa Education Summit

Summit attendees, alumni, and guests are invited to attend the 4th-annual Iowa Physical Therapy Golf Outing and Social. These events will occur on the afternoon of September 20, after conclusion of the Summit.

Proceeds from the Golf Outing support scholarships for Iowa DPT students.

Please contact carol-leigh@uiowa.edu for more information!



Long-time Iowa faculty member Byron Bork, PT demonstrates the advantages of retirement

Congratulations, Class of 2018!



Commencement exercises for our department's 75th graduating class took place on December 14, 2018. The keynote speaker was Brooks Jackson, MD, MBA, Vice President for Medical Affairs and Dean of the University of Iowa Roy J. and Lucille A. Carver College of Medicine.

Iowa faculty members Marcie Becker, Amy Kimball, Kelly Sass, Carol Vance and David Williams presented the students with certificates commemorating the completion of their DPT coursework. The students were formally "hooded" later that evening at the Graduate College commencement exercises by Drs. Rich Shields, Kathleen Sluka, Laura Frey Law, Jason Wilken, Darren Casey, and Stacey DeJong.

A number of students received scholarship support for honors and awards earned during their time in the Department:

- **Alumni Scholarships:** Abigail Drexler & Sarah Kemp
- **Frank Hazelton Memorial Scholarships:** Sarah Kemp, Kelsey Klecan & Brenna Wetzel
- **IEND Traineeships:** Michael Doering & Caitlyn Schug
- **Louis & Dorothy Laubenthal Memorial Scholarship:** Elizabeth Halbur
- **Marilyn M. McCoid Scholarship:** Calista Beyer, Kristen Bolen, Kelly Brofka, Paige Polonus
- **Mary Lou Fairchild Clinical Excellence Award:** Caryn Kadous
- **Norman & Ruth Goldman Scholarships:** Paige Kelly & Megan Struck
- **Rock Valley Physical Therapy Scholarship:** Jordan Smith
- **Tracy Dahl Memorial Scholarships:** Michael Doering, Sonja Gilbertson, Katherine Helmlinger, Ryan Johnson, Caryn Kadous, Paige Kelly, Kaitlyn Kincart, Jordan Smith
- **Byron E. Bork Dedication to Education & Service Scholarship:** Lucas Thompson
- **Judy Biderman Professionalism Award:** Elizabeth Halbur
- **David G. Gerleman Doctor of Physical Therapy Applied Engineering Award:** Nicholas Nielsen
- **Leadership Recognition Awards:** Kristen Bolen, Katelyn Burger, Lauren Cass, John Donovan, Sara Hahn, Jared Hanus, Ryan Johnson, Kelsey Klecan, Austin Kramer, Paige Lassen, Anne Sullivan
- **Citizenship Recognition Awards:** Sulliman Al-Ostaz, Seth Bendixen, Michael Doering, Alexis Ferrer, Allison Garmager, Lily Gasway, Elizabeth Halbur, Aliya Hoskins, Kristopher Krohn, Lauren Maze, Collin Schrader, Caitlyn Schug

Congratulations to all our 2018 graduates, and best of luck in your PT careers!

Faculty Publications for 2018

- Bock JM, Treichler DP, Norton SL, Ueda K, Hughes WE, **Casey DP**. Inorganic nitrate supplementation enhances functional capacity and lower-limb microvascular reactivity in patients with peripheral artery disease. *Nitric Oxide*. 2018 Nov 1;80:45-51. PMID: 30118808
- Iwamoto E, Bock JM, **Casey DP**. Hypercapnia-induced shear-mediated dilation in the internal carotid artery is blunted in healthy older adults. *Am J Physiol Heart Circ Physiol*. 2018 Nov 1;315(5):H1279-H1286. PMID: 30118339
- Hughes WE, Kruse NT, Ueda K, **Casey DP**. Habitual exercise training in older adults offsets the age-related prolongation in leg vasodilator kinetics during single-limb lower body exercise. *J Appl Physiol (1985)*. 2018 Sep 1;125(3):746-754. PMID: 29856264
- Benzo RM, Kruse NT, Hughes WE, **Casey DP**, Carr LJ. Acute Effects of Interrupting Sitting on Discomfort and Alertness of Office Workers. *J Occup Environ Med*. 2018 Sep;60(9):804-809. PMID: 29608539
- Schneider AC, Hughes WE, Ueda K, Bock JM, **Casey DP**. Reduced blood pressure responsiveness to skeletal muscle metaboreflex activation in older adults following inorganic nitrate supplementation. *Nitric Oxide*. 2018 Aug 1;78:81-88. PMID: 29864505
- Kruse NT, Hughes WE, **Casey DP**. Mechanistic insights into the modulatory role of the mechanoreflex on central hemodynamics using passive leg movement in humans. *J Appl Physiol (1985)*. 2018 Aug 1;125(2):545-552. PMID: 29771607
- Kruse NT, Hughes WE, Ueda K, Hanada S, Feider AJ, Iwamoto E, Bock JM, **Casey DP**. Impaired modulation of postjunctional $\alpha 1$ - but not $\alpha 2$ -adrenergic vasoconstriction in contracting forearm muscle of postmenopausal women. *J Physiol*. 2018 Jul;596(13):2507-2519. PMID: 29708589
- Kruse NT, Ueda K, Hughes WE, **Casey DP**. Eight weeks of nitrate supplementation improves blood flow and reduces the exaggerated pressor response during forearm exercise in peripheral artery disease. *Am J Physiol Heart Circ Physiol*. 2018 Jul 1;315(1):H101-H108. PMID: 29522355
- Hughes WE, Kruse NT, **Casey DP**. Age-associated impairments in contraction-induced rapid-onset vasodilatation within the forearm are independent of mechanical factors. *Exp Physiol*. 2018 May 1;103(5):728-737. PMID: 29528524
- Iwamoto E, Bock JM, **Casey DP**. Blunted shear-mediated dilation of the internal but not common carotid artery in response to lower body negative pressure. *J Appl Physiol (1985)*. 2018 May 1;124(5):1326-1332. PMID: 29446714
- Kruse NT, Hughes WE, Benzo RM, Carr LJ, **Casey DP**. Workplace Strategies to Prevent Sitting-induced Endothelial Dysfunction. *Med Sci Sports Exerc*. 2018 Apr;50(4):801-808. PMID: 29117072
- Kruse NT, Hughes WE, Hanada S, Ueda K, Bock JM, Iwamoto E, **Casey DP**. Evidence of a greater functional sympatholysis in habitually aerobic trained postmenopausal women. *J Appl Physiol (1985)*. 2018 Mar 1;124(3):583-591. PMID: 28970201
- Bock JM, Ueda K, Schneider AC, Hughes WE, Limberg JK, Bryan NS, **Casey DP**. Inorganic nitrate supplementation attenuates peripheral chemoreflex sensitivity but does not improve cardiovagal baroreflex sensitivity in older adults. *Am J Physiol Heart Circ Physiol*. 2018 Jan 1;314(1):H45-H51. PMID: 28971842
- Iwamoto E, Bock JM, **Casey DP**. High-Intensity Exercise Enhances Conduit Artery Vascular Function in Older Adults. *Med Sci Sports Exerc*. 2018 Jan;50(1):124-130. PMID: 28817509
- Looff JM, Herkert N, **Frey-Law L**. Modification of a three-compartment muscle fatigue model to predict peak torque decline during intermittent tasks. *J Biomech*. 2018 Aug 22;77:16-25. PMID: 29960732
- Merkle SL, **Sluka KA, Frey-Law LA**. The interaction between pain and movement. *J Hand Ther*. 2018 Jul 16. pii: S0894-1130(18)30043-7. PMID: 30025839
- Tseng SC, **Shields RK**. Limb Segment Load Inhibits the Recovery of Soleus H-Reflex After Segmental Vibration in Humans. *J Mot Behav*. 2018 Nov-Dec;50(6):631-642. PMID: 29140761
- Woelfel JR, **Dudley-Javoroski S, Shields RK**. Precision Physical Therapy: Exercise, the Epigenome, and the Heritability of Environmentally Modified Traits. *Phys Ther*. 2018 Nov 1;98(11):946-952. PMID: 30388254
- Shields RK, Dudley-Javoroski S, Sass KJ, Becker M**. Benchmarking the Physical Therapist Academic Environment to Understand the Student Experience. *Phys Ther*. 2018 Aug 1;98(8):658-669. PMID: 29684180
- Shields RK, Dudley-Javoroski S**. Physiotherapy education is a good financial investment, up to a certain level of student debt: an inter-professional economic analysis. *J Physiother*. 2018 Jul;64(3):183-191. PMID: 29914805
- Cole KR, **Dudley-Javoroski S, Shields RK**. Hybrid stimulation enhances torque as a function of muscle fusion in human paralyzed and non-paralyzed skeletal muscle. *J Spinal Cord Med*. 2018 Jun 20:1-9. PMID: 29923814
- Kimball AL, McCue PM, Petrie MA, Shields RK**. Whole body heat exposure modulates acute glucose metabolism. *Int J Hyperthermia*. 2018;35(1):644-651. PMID: 30303421

(continued next page...)

Faculty Publications for 2018 (continued):

Vance CG, Chimenti RL, Dailey DL, Hadlandsmyth K, Zimmerman MB, Geasland KM, Williams JM, Merriwether EN, Alemo Munters L, Rakel BA, Crofford LJ, **Sluka KA**. Development of a method to maximize the transcutaneous electrical nerve stimulation intensity in women with fibromyalgia. *J Pain Res*. 2018 Oct 10;11:2269-2278. PMID: 30349353

Sluka KA, Frey-Law L, Hoeger Bement M. Exercise-induced pain and analgesia? Underlying mechanisms and clinical translation. *Pain*. 2018 Sep;159 Suppl 1:S91-S97. PMID: 30113953

Merriwether EN, Frey-Law LA, Rakel BA, Zimmerman MB, Dailey DL, **Vance CGT**, Golchha M, Geasland KM, **Chimenti R**, Crofford LJ, **Sluka KA**. Physical activity is related to function and fatigue but not pain in women with fibromyalgia: baseline analyses from the Fibromyalgia Activity Study with TENS (FAST). *Arthritis Res Ther*. 2018 Aug 29;20(1):199. PMID: 30157911

Gregory NS, Gautam M, Benson CJ, **Sluka KA**. Acid Sensing Ion Channel 1a (ASIC1a) Mediates Activity-induced Pain by Modulation of Heteromeric ASIC Channel Kinetics. *Neuroscience*. 2018 Aug 21;386:166-174. PMID: 29964154

James G, **Sluka KA**, Blomster L, Hall L, Schmid AB, Shu CC, Little CB, Melrose J, Hodges PW. Macrophage polarization contributes to local inflammation and structural change in the multifidus muscle after intervertebral disc injury. *Eur Spine J*. 2018 Aug;27(8):1744-1756. PMID: 29948327

Gewandter JS, Chaudari J, Ibegbu C, Kitt R, Serventi J, Burke J, Culakova E, Kolb N, **Sluka KA**, Tejani MA, Mohile NA. Wireless transcutaneous electrical nerve stimulation device for chemotherapy-induced peripheral neuropathy: an open-label feasibility study. *Support Care Cancer*. 2019 May;27(5):1765-1774. PMID: 30151681

Price TJ, Basbaum AI, Bresnahan J, Chambers JF, De Koninck Y, Edwards RR, Ji RR, Katz J, Kavelaars A, Levine JD, Porter L, Schechter N, **Sluka KA**, Terman GW, Wager TD, Yaksh TL, Dworkin RH. Transition to chronic pain: opportunities for novel therapeutics. *Nat Rev Neurosci*. 2018 May 15. PMID: 29765159

Chimenti RL, Frey-Law LA, Sluka KA. A Mechanism-Based Approach to Physical Therapist Management of Pain. *Phys Ther*. 2018 May 1;98(5):302-314. PMID: 29669091

Resende L, Merriwether E, Rampazo ÉP, Dailey D, Embree J, Deberg J, Liebano RE, **Sluka KA**. Meta-analysis of transcutaneous electrical nerve stimulation for relief of spinal pain. *Eur J Pain*. 2018 Apr;22(4):663-678. PMID: 29282846

Hadlandsmyth K, Zimmerman MB, Wajid R, **Sluka KA**, Herr K, Clark CR, Noiseux NO, Callaghan JJ, Rakel BA. Longitudinal Postoperative Course of Pain and Dysfunction Following Total Knee Arthroplasty. *Clin J Pain*. 2018 Apr;34(4):332-338. PMID: 28731957

Keefe FJ, Ballantyne J, Blyth F, Coghill RC, Dickenson A, Dionne CE, Eccleston C, Finnerup NB, Kuner R, Seminowicz DA, **Sluka K**. Publishing the best basic and applied pain science: open science and PAIN. *Pain*. 2018 Mar;159(3):405-406. PMID: 29443726

Quintans-Júnior LJ, Brito RG, Quintans JSS, Santos PL, Camargo ZT, Barreto PA, Arrigoni-Blank MF, Lucca-Júnior W, Scotti L, Scotti MT, Kolker SJ, **Sluka KA**. Nanoemulsion Thermoreversible Pluronic F127-Based Hydrogel Containing Hyptis pectinata (Lamiaceae) Leaf Essential Oil Produced a Lasting Anti-hyperalgesic Effect in Chronic Noninflammatory Widespread Pain in Mice. *Mol Neurobiol*. 2018 Feb;55(2):1665-1675. PMID: 28194646

Brown SE, Russell Esposito E, Ikeda AJ, **Wilken JM**, Fatone S. Evaluation of NU-FlexSIV Socket Performance for Military Service Members with Transfemoral Amputation. *US Army Med Dep J*. 2018 Jul-Dec;(2-18):38-47. PMID: 30623397

Russell Esposito E, Schmidbauer KA, **Wilken JM**. Experimental comparisons of passive and powered ankle-foot orthoses in individuals with limb reconstruction. *J Neuroeng Rehabil*. 2018 Nov 21;15(1):111. PMID: 30463576

Pickle NT, **Wilken JM**, Fey NP, Silverman AK. A comparison of stability metrics based on inverted pendulum models for assessment of ramp walking. *PLoS One*. 2018 Nov 5;13(11):e0206875. PMID: 30395597

Potter BK, Sheu RG, Stinner D, Ferguson J, Hsu JR, Kuhn K, Owens JG, Rivera J, Shawen SB, **Wilken JM**, DeSanto J, Huang Y, Scharfstein DO, MacKenzie EJ. Multisite Evaluation of a Custom Energy-Storing Carbon Fiber Orthosis for Patients with Residual Disability After Lower-Limb Trauma. *J Bone Joint Surg Am*. 2018 Oct 17;100(20):1781-1789. PMID: 30334889

Hsieh KL, Sheehan RC, **Wilken JM**, Dingwell JB. Healthy individuals are more maneuverable when walking slower while navigating a virtual obstacle course. *Gait Posture*. 2018 Mar;61:466-472. PMID: 29494819

Wilken JM, Roy CW, Shaffer SW, Patzkowski JC, Blanck RV, Owens JG, Hsu JR. Physical Performance Limitations After Severe Lower Extremity Trauma in Military Service Members. *J Orthop Trauma*. 2018 Apr;32(4):183-189. PMID: 29315200

Ikeda AJ, Ferguson JR, **Wilken JM**. Effects of altering heel wedge properties on gait with the Intrepid Dynamic Exoskeletal Orthosis. *Prosthet Orthot Int*. 2018 Jun;42(3):265-274. PMID: 28870146

Harper NG, **Wilken JM**, Neptune RR. Muscle Function and Coordination of Stair Ascent. *J Biomech Eng*. 2018 Jan 1;140(1). PMID: 28857115

Research Grant Support

Kathleen Sluka, PT, PhD

Professor

NIH-UM1, \$3,447,273 (PI)

FAST: Fibromyalgia Activity Study with TENS

Pfizer, \$708,547 (PI)

Development of an Electronic Prescription Bundle of non-Pharmacological Strategies for Chronic Musculoskeletal Pain

Laura Frey Law, PT, PhD

Associate Professor

NIH-R03, \$226,500 (PI)

Phenotyping Evoked Central Sensitivity to Painful Stimuli

Darren Casey, PhD

Associate Professor

American Heart Association, \$588,049 (PI)

Nitrate Supplementation and Exercise Tolerance in Patients with Type 2 Diabetes

American Heart Association, \$14,563 (PI)

Blood Pressure Responsiveness in Older Adults Following Dietary Nitrate Supplementation

Stacey DeJong PT, PhD

Assistant Professor

NIH K-12: Multicenter Career Development Program for Physical and Occupational Therapy, \$392,906 (PI)

Comprehensive Opportunities in Rehabilitation Research Training (CORRT): Cortical Mapping with Transcranial Magnetic Stimulation after Stroke

Medical University of South Carolina Pilot Project Grant, \$37,500 (PI)

Effects of Operant Up-Conditioning of Motor Evoked Potentials on Corticospinal and Spinal Reflex Excitability in People with Wrist Flexor Hypertonia after Stroke

Richard Shields, PT, PhD

Professor

NIH-R01, \$1,574,628 (PI)

Musculoskeletal Plasticity after Spinal Cord Injury

NIH-R01, \$1,575,397 (PI)

Long Duration Activity and Metabolic Control after Spinal Cord Injury

Jason Wilken PT, PhD

Associate Professor

Department of Defense, \$2,437,788 (PI)

Comparative Effect of Commercially Available Custom Dynamic Orthoses

Department of Defense, \$247,777 (PI)

Maximizing Outpatient Rehabilitation Effectiveness (MORE)

Department of Defense, \$49,097 (PI)

The Major Extremity Trauma and Rehabilitation Research Consortium (METRC 3)

Department of Defense, \$23,144 (PI)

Improved Training Program for Fall Prevention of Warfighters with Lower Extremity Trauma (RAPID REHAB)

Ruth Chimenti PT, PhD

Assistant Professor

NIH K99-R00: \$420,903 (PI)

Mechanism-based Treatment Approach to Chronic Tendinopathy Pain



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Please share this newsletter with your classmates and remind alumni to update their contact information with Carol Leigh ([carol-leigh @uiowa.edu](mailto:carol-leigh@uiowa.edu)).