

Winter 2015

Alumni Newsletter

University of Iowa Department of Physical Therapy & Rehabilitation Science

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Message From The Chair

As we enter the spring semester, our Department gets to know the students who will join us in the coming year. Through interviews, orientation sessions and tours, we gain an appreciation for the tremendous potential these incoming students possess. Over the last 5 years, our classes have been the most diverse in our history while maintaining over a 3.7 mean undergraduate GPA.

The strength of our Department has always been this "human capital" - gifted and committed people who share their talents with us, whether for a few years or for many decades. Our 14 core faculty, 12 of whom are doctorally-trained (10 PhD, 2 DPT), have been with our Department an average of 15 years. This stability has helped us meet the challenges of educating students in a dynamic healthcare environment while maintaining high standards for teaching and research. Several of our core faculty members are clinical experts, and together with our 70 adjunct faculty members they each bring a career's worth of knowledge to our students. We depend on these talented teachers to provide nuanced clinical wisdom to help our graduates hit the ground running as they start their careers in healthcare.

And while Iowa is a stable place, you may notice from our newsletters that there's always something new happening here. As a group we like to explore and take calculated risks. We try new instructional approaches like flipped classrooms and [inter-professional education](#). We see changes on the horizon in didactic and clinical education, so we gather a state's worth of experts to hash out the pros and cons through an [Iowa Educational Summit](#). At every step, we measure [outcomes](#) - we place tremendous importance on verifying the usefulness of new (and old) approaches. Despite our stability, we are anything but sluggish. We are ever changing to sustain our excellence in education. We are constantly reinventing ourselves, unwilling to sit back and focus on our legacy since 1943.

The credit for this culture of reinvention goes to our [talented people](#), both those from our past and those who enrich our shared community today. Change is a guarantee for our future, but one that we embrace. The creativity and discernment of our people have always steered us along a steady course. Thank you for your interest in Iowa Physical Therapy, and please enjoy

this newsletter about a few of the events from our ever changing department.

Richard K. Shields, PT, PhD, FAPTA

Inaugural Iowa Educational Summit



Clinicians, educators, and clinic administrators from around the state gathered on October 3rd, 2014 for the inaugural Iowa Educational Summit. This event, hosted by the University of Iowa Physical Therapy and Rehabilitation Science Department, served as a forum for Iowa's PT community to discuss innovative ways to prepare students for contemporary clinical practice.

Many of our department's 70+ associated faculty members (Adjuncts and the Clinical Assessment team) were in attendance, as were many clinicians who serve as clinical instructors (CIs) for our students. These individuals play a critical role in our collective mission to link classroom experiences with the realities of the clinical world in an effort to advance our profession.

Representatives from all four Iowa physical therapy programs shared their perspectives on how PT education must adapt to serve our changing profession. Dr. Rich Shields' keynote presentation challenged educators to integrate principles of regenerative rehabilitation, genomics, and epigenetics into their curricula - emerging topics that will enhance the precision of exercise prescription in the future. He commented that "Physical therapists must be the recognized experts in prescribing physical activity to promote health in people with and without disability".

Dr. Shields also noted the importance of emphasizing value in physical therapy education. "Students who graduate with excessive debt will be hard-pressed to take jobs that they prefer and ones that we need in small Iowa communities. We need to keep education affordable to best meet the needs of society and flourish as a profession".

Clinical leaders from around the state provided insights on new models of clinical education that are being implemented in Iowa and nationwide. Mike Horsfield, PT, MBA, Dan White, PT, and David Williams, PT, PhD discussed the extended clinical internships being undertaken in their clinics by University of Iowa students. These affiliations provide interested students with opportunities to hone evaluation and treatment skills beyond typical entry-level preparation. Most importantly, students gain valuable professional development opportunities from these extended mentoring relationships with seasoned clinicians.

Doug Keiser, PT and Doug Grovergrys, PT explained the logistical challenges and productivity benefits of multiple-student internships, in which one CI supervises two or more students simultaneously. In this 2 to 1 model, students frequently enhance their partner's clinical progress, facilitating learning beyond what the CI alone can offer. Two Iowa students who recently experienced the 2 to 1 model provided their thoughts and responded to audience questions on this type of internship.

Doug Grovergrys, Mike Horsfield, and Dan White led a discussion on clinical residencies, in which students attain licensure and work as a trainee in a focused clinical discipline



DPT students Garrett McGrane and J.J. Krutsinger related their experiences during their recent

to receive credentialing. For select students, a residency can offer advanced training and extensive mentoring in a specialty field of interest. This presentation generated lively discussion about how residencies affect the rising debt load of new PT graduates and the balance act of educating generalist versus specialist practitioners. A high level discussion reviewed the pros and cons of clinical residencies and clarified the need for solid outcomes related to impact of residency programs.

2:1-format clinical internship.

The forum wrapped up with a panel discussion featuring directors and other representatives from Iowa's PT programs. Cynthia Utley, DPT (Des Moines University), Alecia Thiele, DPT, MEd (Clarke College), Michael Puthoff, PT, PhD (St. Ambrose University) and Dr. Shields fielded questions and received feedback from the educators, clinicians and clinical instructors in attendance. Heidi Nelson, DPT shared insights from Briar Cliff University's developing DPT program, currently seeking accreditation to offer physical therapist education.

2014 All-Alumni Reunion

On October 3rd, over 100 alumni and friends of Iowa's PT program came together for the Iowa All-Alumni Reunion on our medical campus. This popular bi-annual event reconnects former classmates with each other and with favorite faculty from many eras.



Former program directors Dr. David Nielsen and Dr. Gary Smidt provided insider views of our history from the 1970's onward. We also welcomed Professor Emeritus Dr. Tom Cook, a longtime member of our faculty, and David Gerleman, who served as program engineer from the 1970's through 2010.

These four leaders laid the groundwork for the success that our department enjoys today. To honor their contributions, the Department awarded four scholarships to current students who exemplify their commitment and dedication to physical therapy:

Chu-Ling Yen (PhD)- Outstanding PhD Student Award in honor of Dr. Gary Smidt. As chair of the program between 1971 and 1980, Dr. Smidt crafted the vision of Iowa's PhD degree at a time when rehabilitation research was in its infancy. His leadership helped establish Iowa's program as a research leader with an international reputation. Chu-Ling's career in physical therapy exemplifies the broad impact of Iowa's PhD legacy. She is an experienced physical therapist from Taiwan who was educated and mentored by some Taiwanese Iowa PhD graduates. Chu-Ling is in the final stages of her PhD dissertation. Her peers selected her for this award based on her strong research productivity and commitment to research and the profession.



Dr. Smidt and Chu-Ling Yen

Nicole Hayden (DPT2)- Cardiopulmonary and Health Promotion Award in honor of Dr. David Nielsen. Dr. Nielsen was chair of our program between 1993 and 2005. He conducted pioneering research in cardiopulmonary and exercise physiology and guided our program through the transition to the Doctor of Physical Therapy degree. Nicole is a native of Prairie City, IA and is a Biology/Exercise Science graduate from Luther College. She was selected for this award based on her outstanding performance in the Cardiopulmonary Therapeutics curriculum.



Dr. Nielsen and Nicole Hayden

Micah Hayek (DPT2) - Service & Thinking Outside of the Box Award in honor of Dr. Tom Cook. During 1981 and 2014, Dr. Cook served our profession both at home and abroad as an educator and occupational health researcher. His research in work-related injury has made a particular impact in industrial settings in the developing world. Micah is a native of Toledo, IA and earned a degree in Kinesiology from Iowa State. He was selected for this award because of his academic commitment and for his strong history and interest in international service.

Colleen McHenry (PhD) - Outstanding Engineer PhD Student Award in honor of Mr. David Gerleman, our Program Engineer between 1975 and 2010. Together with Dr. Cook, Dave ushered in the era of technology to Iowa's physical therapy program, facilitating advances in computer systems and physiologic testing devices. Colleen is a native of Springfield, IL and earned a Master's in Engineering from Iowa. She is in the final stages of her PhD dissertation. This award recognizes Colleen's contributions to the department as a skilled resource in biomechanical modeling and medical image analysis.



Dr. Cook and Dave Gerleman

Congratulations to all the recipients of these awards. We are so fortunate to be able connect prominent players from our rich history with burgeoning leaders from our Department.

Congratulations Class of 2014

Commencement exercises for our department's 71st graduating class took place on December 19, 2014. The Class of 2014 will be remembered for their outstanding professionalism and their strong track record of academic success.

Dean Debra Schwinn from the Carver College of Medicine provided opening remarks, congratulating the students on their achievements and urging them to carry the Iowa ethic of service forward into their careers. Dr. Shields' closing comments challenged the students to "carry the torch" and sustain the outstanding legacy of our graduates.

Faculty members Byron Bork, Kelly Sass, David Williams and Marcie Becker presented the students with certificates commemorating the completion of their DPT coursework. The class would formally be "hooded" later that evening at the Graduate College commencement exercises.



Iowa DPT Class of 2014

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

Alumni Scholarships - Lisa McGonegle, Laura Young

Collin's Pediatric Award - Lisa McGonegle

Frank Hazelton Memorial Scholarships - Jenna Sedlacek, Matt Zirretta

IEND Traineeships - Katherine Mehlhoff, Olga Nikolaenko

Mary Lou Fairchild Clinical Excellence Award - Kyle Tierney

Leadership Recognition Awards - Emily Bauer, Austin Bell, Allison Bernard, Kaitlin Bohn, Joshua Crow, Melissa Deonovic, Emily Guild, Julia Headley, Hunter Holeman, Grant Jacobson, Alex Mark, Katherine Mehlhoff, Ross Petersen, Seth Pinkerman, Adam Rave, Jenna Sedlacek, Matthew Van Winkle, Krista Young

Rock Valley Physical Therapy Scholarship - Rachel Paulsen

Tracy Dahl Memorial Scholarships - Seth Pinkerman, Lisa McGonegle, Elizabeth Spreeman

Marilyn M. McCoid Scholarship - Whitney Moulton

Louis & Dorothy Laubenthal Memorial Scholarship - Alison Vandegrift

Julia Headley received the 4th-annual Judy Biderman Professionalism Award, commemorating Judy's enduring legacy through 50 years as an administrator in our department. Spanning six directors, several changes of location and for nearly 2,000 students, Judy was the core of our team. The award is given to the graduating DPT student who best exemplifies the principles of professionalism and teamwork on which Judy built her career.



Julia Headley and Judy Biderman

Congratulations to all our graduates! Thank you for the ways you enriched the life of our Department, and all the best as you begin your careers in physical therapy.

Elvin J. Hirl Memorial

At the 2014 Commencement, a special new award was made possible by the family of Elvin J. "Elvie" Hirl, an Iowa PT alumnus who passed away on May 5, 2014. Mr. Hirl, a Bettendorf native, founded Clinton Physical Therapy and practiced physical therapy for 54 years. A memorial in his honor provided scholarship awards for eight students who show exceptional commitment to the craft of clinical practice: Rachel Bump, Katie Hakos, Kyla Peak, Katie

Schlieker, Megan Thompson, Zachary Thompson, Brett Toberman, and Sarah Waskow.

We are very grateful to the Hirl family for their generosity toward our students and our profession. We will miss Elvin and always remember how much he contributed to the advancement of physical therapy education at Iowa.

Inter-Professional Education in Anatomy

For the second year in a row, 2nd-year DPT students had a unique opportunity to provide teaching/demonstrations of neural and musculoskeletal evaluation to first semester medical students enrolled in Gross Human Anatomy.



DPT students (right) point out laxity caused by PCL rupture to medical students

The objective of the session was to provide the medical students with an opportunity to integrate their new anatomical knowledge into a basic framework for clinical evaluation. The session offered DPT students a unique opportunity to develop the teaching skills they will use every day as they interact with patients.

Our students reported that they enjoyed the opportunity to deeply review previously-learned material. This type of reflection and synthesis is often difficult to prioritize in a fast-paced, demanding curriculum. Assessment of the program supported that medical students gain a unique perspective of physical therapy and advance their understanding of anatomy.



Inter-professional education offers our students an opportunity to refine several key professional behaviors: working in teams, internalizing and adapting to constructive feedback, and seeking common ground with members of another profession. These behaviors will help them be skillful

practitioners in the intensely collaborative environment of modern health care delivery.



Metrics Drive Excellence at Iowa

Most of us know our numbers - the vital statistics that summarize our health. Blood pressure, triglycerides, cholesterol...the athletes among us may also know their resting heart rate or their V02max. Metrics such as these help us understand whether our body systems are working well or if adjustments are needed.

It can be challenging to gauge the "health" of an entity as complex as our Department. Can we verify that our new graduates are prepared for entry-level practice? Does our faculty excel in the classroom and the discovery of new knowledge in rehabilitation? Most importantly, do we succeed in our mission to deliver outstanding clinicians to treat the public each year?

We use several critical metrics to evaluate the function and effectiveness of our Department. These metrics prompt us to ask tough questions about our principles and practices and they facilitate an ongoing process of quality improvement.

Valuing Student Perspectives

Our students provide the first level of feedback for our performance as a Department. We value their opinions and we depend upon them to provide frank assessments of their classroom and clinical experiences.

After each semester, students rate each course using a standardized 20-question Student Perception of Teaching (SPOT) survey. These SPOT scores allow us to determine areas of strength and weakness in the curriculum. We contrast individual scores (benchmark) to a database containing 10 years of data so we know if their perceptions are changing relative to history and tradition. We can also determine the parts of the curriculum that are pushing our average benchmarks to new levels. Importantly, we respect the perspectives of our DPT students as they are just a short time away from being our professional colleagues.

A key way we address our critiques is by consulting the experts at Iowa's Teaching and Learning Center. This Center is operated by a team of educational experts who have helped us develop innovative teaching approaches that maximize learning and capitalize on state-of-the-art instructional technology. In addition, our Department's educational expert, Kelly Sass, a PT who is completing a PhD in education, provides our faculty with timely information on contemporary pedagogies and approaches to assess psychomotor skills in students.

Prioritizing Professionalism

Our faculty understands that success in the classroom is only one measure of student readiness for the clinic. We expect our students to consistently demonstrate a range of professional behaviors that are hallmarks of high-level practitioners.

Each semester, students undergo a Professionalism Assessment to rate themselves and their peers on Verbal Skills, Teamwork, Honesty, Respect, and Responsibility. Importantly, student generic ability scores are benchmarked against the scores of the class as a whole. This allows our department's Student Promotion Committee to identify students who need support and assistance to acquire these critical professional traits.

Formal assessment of Professionalism is a way that we enact our guiding principle that strong academic performance is just one facet of professional formation as a physical therapist.

Verifying Clinical Preparation

Our Student Promotion Committee bears the responsibility for recommending students for clinical internships. The Committee uses various sources of information including the newly developed "Iowa Readiness Inventory for Students" (IRIS) to gauge student performance according to academic achievement (GPA), psychomotor skill acquisition (proficiency with examination and treatment techniques) and professionalism.

As with the Professionalism Assessment described above, the IRIS is benchmarked across an entire class to help the faculty identify students who need remediation or just some timely guidance as they work to become competent clinicians.

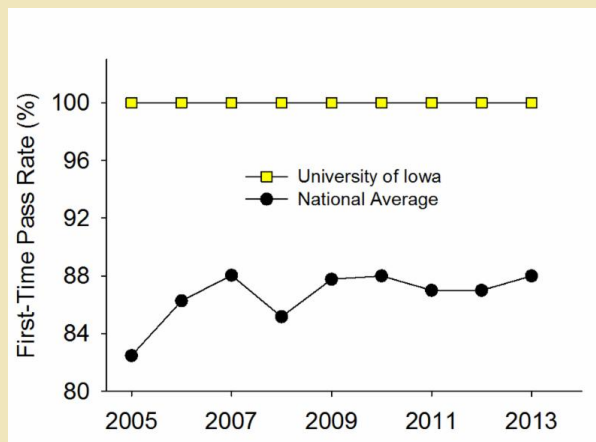
For example, this metric can help the Committee identify students who excel in the classroom but struggle to conduct a streamlined and complete physical exam. We intervene early with these students to provide the support they need to cultivate their psychomotor skills. The IRIS gives our faculty a summary of outcomes related to student progress above and beyond the traditional GPA alone.

Measureable Program Outcomes

These individual forms of assessment help us gauge our progress toward our ultimate goal: preparing our students for entry-level clinical practice. We follow the progress of our students after graduation to help us gauge our effectiveness on these fronts.

We survey our graduates after 1 year of clinical practice to determine whether they felt well-prepared for their first clinical positions. We also survey regional employers to determine if our graduates can skillfully and effectively manage caseloads in busy, fast-paced clinics. The perspectives provided by students and employers strongly support that our graduates are ready for the challenges of clinical practice.

Finally, we track the number of students who pass the national licensure exam on their **first attempt (see figure compared to national average)**. We believe this captures the contribution of the educational experience, while the "eventual" pass rate captures a student's ability to learn beyond the time that they are in the program. Our Department has enjoyed a 100% first-time pass rate in every year since 2005. This speaks not only to the aptitude and dedication of our students but also to the commitment made by our faculty to offer rigorous, cutting edge physical therapy education.



1st-Time pass rate for the national licensure exam for Iowa students vs. the national average

Like a complex living organism, our Department is constantly growing, changing, and reinvigorating itself. The "healthfulness" of these changes must be gauged by a variety of metrics that approach the question from all pertinent angles.

We are proud to observe so many positive indicators within our Department. Because of the

strength of our faculty, staff, and students we believe that our very best years are ahead of us.

Faculty Publications for 2014

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Research Grant Support (Principal Investigators)

Darren Casey, PhD
Assistant Professor

NIH-R00, \$503,129
Impact of Aging on Skeletal Muscle Blood Flow Kinetics During Exercise

American Heart Association, \$71,500
Dietary Nitrates and Vascular Function in Patients with Peripheral Artery Disease

Stacey DeJong, PT, PhD
Assistant Professor

Foundation for Physical Therapy New Investigator Fellowship Training Initiative, \$78,000
Changes in Corticomotor Divergence and Upper Limb Synergies after Neural Injury.

Laura Frey Law, PT, PhD
Associate Professor

NIH- K01 Research Training Award, \$487,358

NIH-R03, \$226,500
Phenotyping Evoked Central Sensitivity to Painful Stimuli

Kathleen Sluka, PT, PhD
Professor

Medtronic, Inc., \$555,913
Frequency-Related Mechanisms of Spinal Cord Stimulation (SCS) in a Rodent Model of Neuropathic Pain

Grunenthal, GmbH, \$75,327
Effectiveness of GRT6005 in Non-Inflammatory Muscle Pain

CFD Research Corporation, \$123,991
Prediction and Mitigation of Back Pain in Military Air Vehicles Phase 1

NIH- R01, \$2,203,874
Central Mechanisms Involved in the Interactions Between Muscle Pain and Exercise

NIH-UM1, \$3,218,011
FAST: Fibromyalgia Activity Study with TENS

Richard Shields, PT, PhD
Professor

US Department of Veterans Affairs, \$739,200
Novel Intervention to Influence Muscle Plasticity in Veterans with SCI

NIH-R01, \$1,531,350
Mechanical Stress and Skeletal Plasticity after Spinal Cord Injury in Humans

Craig H. Neilsen Foundation, \$248,992
Electrical and Mechanical Stress on Post-SCI Muscle and Bone



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

