

U N I V E R S I T Y   O F   P I T T S B U R G H

# FACETS

SCHOOL OF HEALTH AND REHABILITATION SCIENCES

SPRING/SUMMER 2014



**WHAT FUELS  
NEW VENTURES?**

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*Greetings,*

*1995–2014: A Most Remarkable Era ...*

Mark A. Nordenberg, the 17th chancellor of the University of Pittsburgh, will return to the faculty of the Barco School of Law on August 1 of this year. This will be the third time that he has chosen to make this transition back to his academic and professional “roots” in a Pitt career that began in 1977.

My first contact with Mark was in the fall of 1991 at the first meeting of the Deans’ Council as the newly minted dean of the School of Health Related Professions (soon to be reincarnated as the School of Health and Rehabilitation Sciences). It was immediately obvious that Mark had the respect of everyone and was highly regarded by his decanal colleagues. He was then dean of the School of Law—a position he held from 1985 until 1993 when he chose to return to the faculty and resume his career as an academic scholar and teacher. This first return was to be of short duration, as Mark was asked by then Chancellor Dennis O’Connor to serve in the role of interim provost of the University subsequent to the unanticipated retirement of Provost Donald Henderson at the conclusion of the 1993–1994 academic year. A second intended return to the faculty at the conclusion of the following year was interrupted by the departure of Dennis O’Connor in the fall of 1995 that resulted in Mark’s appointment to the position of interim chancellor. With his subsequent election by the trustees confirming him as chancellor of the University, Mark has led the University on an inspired 19-year journey of exceptional growth and extraordinary accomplishment that is still difficult to imagine and comprehend—even for those of us who had occasion to be along for this remarkable journey through the “Nordenberg Era.”

Neither the space allocated to this column nor my ability to adequately articulate the extraordinary advances that have been made on Mark’s watch over the past 19 years can do justice to the impact that he has made as chancellor. He has infused energy and enthusiasm in every area and dimension of our University in leading its transformation to its current state of excellence that has been acknowledged widely with accolades from every sector—including the salutary admiration of two U.S. presidents. Seemingly tireless, Mark has led our University with total commitment. It is not unusual to have email exchanges with Chancellor Nordenberg late at night followed by further messages in the early morning hours when nearly everyone else is still sleeping. In lieu of anecdotal accounts of Chancellor Nordenberg’s enlightened leadership, I shall refer you to a substantial presentation of his history of exceptional accomplishment: [www.chancellor.pitt.edu/profile](http://www.chancellor.pitt.edu/profile).

With no higher office to aspire to, Mark will make his third exit as a senior administrator of the University of Pittsburgh on August 1, 2014. To the good fortune of all, he will continue to be available to us as a member of our university community. On behalf of the community of the School of Health and Rehabilitation Sciences, I herewith extend our greetings and our profound thanks and appreciation to Mark A. Nordenberg for 19 years of excellence and leadership as chancellor that have made it possible for us all to grow and prosper.

Kind regards and best wishes,

Clifford E. Brubaker, PhD  
Professor and Dean  
[cliffb@pitt.edu](mailto:cliffb@pitt.edu)

# giving



The donations SHRS gratefully receives from alumni, friends, foundations, and corporations are often reflective of the donors' particular interests or desires. We strive to work with our donors to be sure their gifts—especially those establishing endowed funds—serve their specific intentions. After all, endowments remain in perpetuity, so we work diligently to ensure their relevance.

Recently, SHRS was the recipient of some very special—and unique—gifts.

**Carol (A&S '63) and Howard (MED '61) Lang** established the Carol E. Lang and Howard N. Lang, MD, Scholarship for the School of Health and Rehabilitation Sciences. The endowed scholarship fund will benefit master's degree students from Southwestern Pennsylvania in the Department of Communication Science and Disorders with a specialty in speech pathology. What makes this gift unique is that the Langs chose to fund their \$250,000 endowment by combining cash gifts made during their lifetime with a planned gift in the form of a bequest in their will. The other interesting piece to this gift is that awards will be made once the fund reaches the minimum \$50,000 scholarship level. The Langs expect to contribute that amount through cash gifts. This unique pairing of cash and bequest creates one of the most generous scholarship funds housed at SHRS. And it gives us an opportunity to acknowledge Carol and Howard's generosity while they are still living. We are truly appreciative.

**Laurine (Laurie) Johnson (HIM '81, '88)** has been a consistent annual donor to the Department of Health Information Management. She has a keen awareness of the benefits of financial assistance to students since a scholarship fund was established in her brother's memory at Syracuse University a number of years ago. Now Laurie's legacy is firmly established here at SHRS and the University of Pittsburgh through the Laurine M. Johnson Student Resource Fund. Laurie decided her gift will benefit graduate students in HIM, assisting with expenses related to books, lab fees, travel, or other educational outlays. The first award from Laurie's fund will be made around this time next year, and she'll have the opportunity to meet her award recipients at our annual SHRS Scholarship Reception for donors and student recipients. We look forward to welcoming Laurie at this special event for years to come.

SHRS and veterans/youth with disabilities will benefit from a \$150,000 two-year grant from **Mitsubishi Electric America Foundation (MEAF)**. MEAF is supporting our Advancing Inclusive Manufacturing (AIM) training program conducted in our Human Engineering Research Laboratories. AIM trains participants in basic machining so they are armed with marketable skills as they seek meaningful employment. MEAF's grant to us is just one example of the fine work they do to benefit youth and veterans with disabilities around the country. We're very proud of this association with MEAF and look forward to a long and successful partnership.

If you'd like to discuss unique ways you can support SHRS, our students, faculty, and our research, please contact me. I'd be happy to walk you through the process of creating your legacy here at Pitt.

Sincerely,

A handwritten signature in cursive script that reads "Patty Kummick".

Patty Kummick  
Director of Development

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# ACCESS

DR. KATE SEELMAN

*The University of Pittsburgh is fortunate to have Dr. Marc Malandro as associate vice chancellor for Technology Management and Commercialization. As both a scientist with a PhD in biochemistry and molecular biology, and the co-founder of Sagres Discovery, a functional biology company focused on the understanding of the molecular basis of cancer, he understands the challenges and rewards of bringing academic research to market.*

*Since becoming director of Pitt's Office of Technology Management (OTM) in 2005, Malandro has developed a service-focused culture that encompasses corporate partners and funding sources, as well as university researchers, staff, and students. During his tenure, he's seen a sharp rise in the number of applications for patents, copyrights, and licenses for products developed by University researchers.*

*He has also witnessed a shift in philosophy in academia, broadening the traditional belief that there should be a free exchange of ideas to include the concept that commercialization is a viable means of disseminating information. Malandro talked to us about these trends and how they affect SHRS.*

At one time, academic researchers believed that the sole purpose of commercialization was to make money. While this is a positive outcome, it is not the reason for taking research ideas into the commercial marketplace. Nor is it the *raison d'être* of this office.

Today, we look at commercialization—or technology transfer—as an extension of research. It's a way to disseminate information and technologies so that they benefit the greatest number of people.

The road to commercialization is never straight and narrow. There are many ways to take ideas into the marketplace. Innovations are patented and then licensed to outside partners. Some are used as the launchpad for start-up companies and others are licensed to established companies.

The world-class research conducted at the University of Pittsburgh generates what is legally known as intellectual property. This can be any idea or technology that our faculty, researchers, and students create, such as an “app” for a smartphone or tablet that collects patient data and treatment modalities for use by physical therapists or a piece of software that can facilitate telemedicine, or that is integrated into Augmentative and Alternative Communication (AAC) devices.

CDs and DVDs that explain protocols or demonstrate ideas, as well as the engineering designs for specific devices such as a novel wheelchair backrest, are all considered intellectual property.

In the Office of Technology Management, our overarching goal is to maintain the integrity of our innovations.

To be clear, we do not prioritize ideas based on their moneymaking potential.

The protection and commercialization of assistive technologies developed at SHRS, although they might be targeted to smaller audiences, are among our top priorities.

We apply for patents and copyrights on behalf of the inventors to protect the know-how or expertise that results from our hardworking researchers' efforts. And we pursue licenses because these are contracts that allow us to take intellectual property out of the University's hands and transfer it to another entity, whether it's a public company or private individual.

The terms of a licensing agreement spell out all the specifics of the technology transfer, including whether or not royalties are paid and to whom.

We always encourage researchers to file for a copyright or patent to protect intellectual property up front, not at the end of the research process. Think of a patent or a copyright as a “disclosure.” It's your way of telling the rest of the world what you're doing.

In the case of faculty research, the University assumes the cost of applying for the patent or the copyright, so there is no financial risk for the faculty member or lab.

The University will never make its own product for commercial sale. But we will seek out partners who are willing to make investments in our ideas.

We have the utmost respect for our faculty and want to showcase their innovations to the best of our ability. To that end, we travel around the world every year visiting companies, attending conferences, and fostering relationships with people who are interested in partnering with us.

In some cases, we use intellectual property as a way to ensure that the University's name is protected and the integrity of the research outcome, for example survey instruments, is preserved as well.

We're doing our best to educate faculty about the workings of our office. We offer two formal classes a year—one titled “Academic Entrepreneurship,” and the other “From Benchtop to Bedside: What Every Scientist Needs to Know,” which applies primarily to our health sciences faculty. We teach them the process of commercialization and the best way to network and market their intellectual property.

Faculty who were around prior to the Bayh-Dole Act of 1980 remember when the federal government “owned” intellectual property, and not the research universities.

It's a different world today. The number one barrier to commercialization is the stage that academic research leaves the technology, compared to the stage that any company wants to pick it up. Things like feasibility studies go a long way to convince companies that a product has commercial value and will do well in the marketplace.

Dr. Rory Cooper is a great example of a faculty member who knows how to find alternative sources of funding, such as Small Business Innovation Research (SBIR) grants, to get through this stage. Our office is constantly exploring ideas for additional sources of funding, and we work diligently to secure grants from the state and federal government to help defray these costs.

We strongly believe that the key to national competitiveness is innovation. And there is no bigger source of innovation than our universities. We're proud to say that the University of Pittsburgh is among the top 10 percent of universities involved in successful technology and innovation commercialization.

Technology transfer is also a way to build a stronger regional economy. Moving forward, we in the OTM are confident that the university's new chancellor, Dr. Patrick D. Gallagher, with his strong technical and governmental background, will share our values and passion for extending the reach of research.



# Alumni News

## Leonard Receives 2013 Legacy Laureate Award

**Dr. Laurence B. Leonard** (PhD '73) was named a 2013 University of Pittsburgh Legacy Laureate this past September. The Rachel E. Stark distinguished professor in the Department of Speech, Language, and Hearing Sciences and director of the Child Language Research Laboratory at Purdue University, Leonard received his PhD in speech pathology and psycholinguistics from Pitt's Kenneth P. Dietrich School of Arts and Sciences.

Leonard has devoted his life's work to understanding the causes of and treatments for language disorders in children, particularly those whose impairments are not typical. He has collaborated with scholars around the world to incorporate the study of the English, Italian, Hebrew, Swedish, Spanish, Cantonese, Finnish, and Hungarian languages to help narrow both the number and types of related theories. His research has been funded for more than 30 years by the National Institutes of Health,

on whose study sections and advisory panels he also has served. A distinguished educator, he has taught numerous doctoral students and postdoctoral fellows, many of whom have become leading researchers and faculty members. A prolific author in his field, Leonard has produced work that has appeared in scores of publications. He has served as chair of the American Speech-Language-Hearing Association Publications Board, was honored by the association with its Alfred K. Kawana Council of Editors Award for lifetime achievement in publications and its Honors of the Association award, and was elected a fellow of the association. The *Journal of Speech and Hearing Disorders* and *Journal of Speech and Hearing Research* both presented Leonard with their Editor's Award for the Article of Highest Merit. In 2010, SHRS presented Leonard with its Distinguished Alumni Award representing the Department of Communication Science and Disorders.



Pictured left to right: N. John Cooper, dean, Kenneth P. Dietrich School of Arts and Sciences; Cliff Brubaker, dean and professor, SHRS; Dr. Laurence Leonard, 2013 Legacy Laureate; and Pitt Chancellor Mark Nordenberg.

## Communication Science and Disorders

**Lauren Montie**, undergraduate student, along with **Dr. Susan Shaiman**, associate professor, and

**Dr. Erin Lundblom**, assistant professor, created a Pitt CSD Alumni Network group on Facebook where current students and alumni can communicate. The group created a formal purpose, description, and conduct suggestions. The network group provides an opportunity for alumni to network and form professional relationships. Posts may include staying in contact with each other, virtually meeting and conversing with other Pitt alumni, sharing employment opportunities, and notifying others of local continuing education opportunities, for example. Consider joining and encourage other alumni to join, too. Find the group on Facebook at Pitt CSD Alumni Network.

## Emergency Medicine

**Michael Hahn** (BS '00) serves as an EMS instructor for the U.S. Department of State, Diplomatic Security.

## Health Information Management

**Laurine Johnson** (HIM '81, '88) and **Karen Gibson** (HIM '74) have been awarded the designation Fellow of the American Health Information Management Association. This professional distinction recognizes significant and sustained contributions to the advancement of the Health Information Management (HIM) discipline through meritorious service, excellence in professional practice, excellence in HIM education, and advancement of the profession through innovation and knowledge sharing.

**Richard A. Wilson** (HIM '03) has been named chief medical information officer for the United States Army and resides in Fall Church, Va.

## Occupational Therapy

**Jennifer Lantz**, (BS '02) received the Pennsylvania Occupational Therapy Association 2013 Award of Recognition for her professional dedication through mentorship, leadership, and corporate advocacy.

## Physical Therapy

**Denise O'Brien Bourg** (DT Watson '69) recently retired following 43 years of full-time patient care in pediatric/rehab, acute care, and general acute rehab. She held staff positions including director of rehab services for a 520-bed acute care teaching facility. Enjoy your retirement, Denise!

**Dr. Mary Lou Galantino** (BS '82), professor of physical therapy, School of Health Sciences at The Richard Stockton College, N.J., and research scholar, University of Pennsylvania, has been added to the roster of Fulbright specialists for her expertise in HIV-AIDS rehabilitation, cancer rehabilitation, and integrative medicine. The Fulbright roster is a list of candidates who are eligible to be matched with incoming requests from overseas academic institutions for specialists, according to the Fulbright program. Galantino is a certified wellness coach and yoga instructor and incorporates integrative medicine into her teaching. Recently she completed a medical mission with Stockton students to provide physical therapy services at a clinic in Haiti.

## Rehabilitation Science and Technology

RST alumni **Dr. Laura (McClure) Rice** (PhD '10) University of Illinois assistant professor, **Dr. Ian Rice** (PhD '10) University of Illinois assistant professor, **Dr. Peter Hunt** (PhD '05), and **Dr. Yih-Kuen Jan** (PhD '04) University of Illinois associate professor, held a mini-RST reunion near Champaign, Ill., last fall. Hunt was visiting to make a presentation.



## Sports Medicine and Nutrition

**Kevin O'Neill** (BS '76) received the Tim Kerin Award in recognition of outstanding service by an athletic trainer who represents the qualities of service, dedication, and integrity. The award was presented at the 2013 National Athletic Trainers Association [NATA] annual conference.



# Faculty News

Congratulations to the following SHRS faculty who recently received promotions:

Full professor, non-tenure—**Dr. Paula Leslie** and **Dr. Sheila Pratt**, Department of Communication Science and Disorders

Assistant professor, non-tenure—**Dr. Ketki Raina**, Department of Occupational Therapy, and **Dr. M. Kathleen Kelly, Debora Miller**, and **Dr. Michael Schneider**, Department of Physical Therapy

Assistant professor—**Dr. Jamie Schutte** and **Dr. Michelle Sporer**, Department of Rehabilitation Science and Technology

## Communication Science and Disorders



Congratulations to **Drs. Ellen Cohn**, professor, and **Cheryl Messick**, associate professor, for being named fellows of the American Speech-Language-Hearing Association. Fellowship is one of the highest honors ASHA bestows, and is awarded for outstanding contributions to the discipline of communication sciences and disorders. Drs. Cohn and Messick were formally recognized at the Awards Ceremony during the Annual Convention of ASHA in Chicago in November.

Congratulations to **Dr. Elaine Mormer**, assistant professor, for receiving the 2012–2013 SHRS Dean's Distinguished Teaching Award.

**Dr. Barbara Vento**, assistant professor, has been appointed to the CSDCAS Advisory Committee for the Council of Academic Programs in Communication Sciences & Disorders. This is a two-year term beginning July 2014.

**Dr. Katherine Verdolini Abbott**, professor, was a featured speaker at the 8th Update Meeting in Otolaryngology in March in Santiago, Chile.

**Dr. James Coyle**, associate professor, presented a one-day workshop on management of swallowing disorders in adults with complex medical conditions at Baylor University in Dallas, Texas, in October 2013. He also presented a lecture at the UPMC Hamot Neuroscience Conference in December. In February, he presented a one-day conference on dysphagia management at the Barrow Neurological Institute in Phoenix, Ariz.

In December 2013, **Dr. Coyle** completed a six-year appointment as a member of the American Board of Swallowing and Swallowing Disorders, which certifies specialists in management of swallowing disorders, and was appointed to the ASHA Treatment Taxonomy task force, which is developing professional guidelines for the treatment and management of the entire spectrum of communication, cognitive, and swallowing disorders in children and adults.

**Dr. Coyle** is serving as co-investigator (along with PI Dr. Ervin Sejdic, Swanson School of Engineering) on a National Institutes of Health research grant titled “The Spirometer: A Noninvasive Tool to Detect Swallowing Safety and Efficiency.”

**Dr. Michael Walsh Dickey**, associate professor, is joint PI along with joint PI Dr. Patrick Doyle, Pittsburgh VAPHS, and co-investigators **Dr. Malcolm McNeil**, CSD chair, and

Dr. William Hula, on a VA Merit Review, Rehabilitation Research, and Development grant titled “Dosage and Predictors of Naming Treatment Response in Aphasia.”

## Health Information Management

**Dr. Mervat Abdelhak**, associate professor and chair, has been named chair of the Commission on Accreditation for Health Informatics and Information Management Education (CAHIIM). CAHIIM is the policy-setting board for accreditation of academic institutions in health information management and health informatics.

**Dr. Dilhari DeAlmeida**, assistant professor, presented “Accuracy of Coding for Identification of Type 2 Diabetes Mellitus” at the American Health Information Management Association annual convention in Atlanta, Ga., last October. She also presented “Big Data Overview” at the PHIMA Fall Leadership Conference in Williamsport, Pa., in November 2013.

**Alaina Capanna** (HIM '06) and **Dr. Valerie Watzlaf**, associate professor, presented “Preparing the Ambulatory EHR for Meaningful Use (MU) and Patient Centered Medical Home (PCMU)” at AHIMA's annual convention in Atlanta, Ga., in October 2013.

**Dr. Watzlaf**, through a grant with CARE Communications, developed the CAREinnoLab in which they will work together to develop novel technologies for health information management and health informatics. One project resulting from this partnership is the design of an immunization record, Rapid Access Immunization Now: Better Our World (RAINBOW) Record for children in Nigeria.

**Dr. Leming Zhou**, assistant professor, is serving as an NSF proposal panelist.

**Dr. Andi Saptano**, post-doctoral scholar, and Department of Family Medicine researchers presented “Remote and Local: Using Didactic Video Teleconferencing to Support Rural Clerkship Experiences” at the Society of Teachers of Family Medicine conference in Nashville, Tenn., in February 2014.

### Occupational Therapy

We are pleased to welcome our newest faculty member—**Dr. Lauren Terhorst**. Dr. Terhorst earned her PhD in research methodology from the University of Pittsburgh School of Education and was most recently a clinical outcomes analyst with UPMC and an adjunct assistant professor at the University of Pittsburgh School of Nursing. Dr. Terhorst has more than 10 years’ experience as a statistician, methodological consultant, and post-secondary educator. Her interests include, but are not limited to, psychometrics, meta-analytic methods, and hierarchical linear modeling in health sciences research.

**Dr. Nancy Baker**, associate professor, received the Pennsylvania Occupational Therapy Association 2013 Academic Educator Award for her strong commitment and creativity in designing and implementing high quality educational experiences for occupational therapy students.

**Dr. Joanne Baird**, assistant professor, was elected to Distinguished Fellowship in the National Academies of Practice as a Distinguished Scholar and Fellow and has been chosen as a founding member of the Occupational Therapy Academy.

**Dr. Nancy Baker** presented papers at the American College of

Rheumatology/Association of Rheumatology Health Professionals 2013 Annual Scientific Meeting.

**Dr. Pamela Toto**, assistant professor, presented papers at the Association of Schools of Allied Health Professions Annual Meeting 2013, and the Rebuilding Together annual conference.

**Dr. Roxanna Bendixen**, assistant professor, was invited to present a lecture, “Comprehensive Assessment of Boys with Duchenne Muscular Dystrophy,” at the Muscular Dystrophy Association Muscle Summit.

**Dr. Elizabeth Skidmore**, associate professor, presented papers at the American Speech-Language-Hearing Association annual national convention, the American Congress of Rehabilitation Medicine Annual Conference, and the American Occupational Therapy Association stroke specialty conference.

**Dr. Denise Chisholm**, associate professor, presented training sessions for the American Occupational Therapy Association’s Representative Assembly.

**Dr. Margo B. Holm**, professor emerita, was appointed to the Fulbright Specialist Program Roster. This will allow her to serve as a consultant to two international countries/institutions in the next five years.

**Drs. Mary Lou Leibold** and **Joanne Baird**, assistant professors, co-presented a two-day Fieldwork Educator Certificate Workshop at Chatham University, Pittsburgh.

The Department of Occupational Therapy was well-represented at the 2013 Pennsylvania Occupational Therapy Association Conference in

Pittsburgh. **Drs. Joanne Baird, Nancy Baker, Denise Chisholm, Margo Holm, Mary Lou Leibold, Ketki Raina, Juleen Rodakowski, Joan Rogers, Elizabeth Skidmore, and Pamela Toto**, doctoral candidates **Emily Grattan** and **Heather Livengood**, MOT students **Kristen Brant, Alison Damico, Amanda Griffith, and Melissa Matis**, and recent MOT alumni **Kailey Bedford, Ali Brown, Ruth Plasterer, Alesia Tonkin, and Eileen Wilmsen** presented papers, workshops, and posters.

**Drs. Pamela Toto** and **Denise Chisholm**, and 30 MOT students participated in the American Occupational Therapy Association Capitol Hill Day.

**Drs. Denise Chisholm, Mary Lou Leibold, and Nancy Baker** presented papers at the American Occupational Therapy Association Education Summit.

**Drs. Juleen Rodakowski, Elizabeth Skidmore, Margo Holm, Pamela Toto, and Joan Rogers** presented posters at the Gerontological Society of America’s 66th Annual Scientific Meeting.

### Physical Therapy

Department of Physical Therapy faculty and students played an active role in this year’s American Physical Therapy Association’s Combined Sections Meeting in Las Vegas in February. Teaching at pre-conference programs, presenting platforms and posters, and moderating educational sessions were **Chris Bise; Dr. Jennifer Brach; Matt DeBole, SPT; Dr. Anthony Delitto; Dr. Lynn Fitzgerald; Tara Ridge Hankin; Dr. Andrea Hergenroeder; Victoria Hornyak; Dr. Elizabeth Hile; Dr. James Irrgang; Dr. M. Kathleen**



# Faculty News *(continued)*

**Kelly; Dr. G. Kelley Fitzgerald; Debora Miller; Dr. Patrick Sparto; Dr. Jessie VanSwearingen; Dr. David Wert; Dr. Susan Whitney; and M.A. Yabroudi.**

## Prosthetics and Orthotics Program

The Prosthetics and Orthotics program welcomes two new faculty members. **Goeran Fiedler**, assistant professor, received his P&O vocational training in Germany. He received his master's degree in clinical engineering at the University of Applied Sciences, Giessen, Germany, and his PhD in health sciences from the University of Wisconsin—Milwaukee. He recently completed post-doctoral training at the University of Washington, Seattle, Wash. His research interests include prosthesis alignment, mobile gait analysis instrumentation, and objective outcome assessment methods such as inexpensive ways to improve efficiency of prostheses.

**Santiago Munoz**, instructor, has 20 years of clinical and technical expertise in the field. He received his bachelor of science degree in prosthetics and orthotics from the Instituto Tecnológico de Santo Domingo (INTEC) and has served as an international technical advisor and consultant where he introduced new prosthetic technology. He also worked with elite military of the Ecuadorian Army, enabling them to return to active duty, and identified possible risk factors of skin integrity and durability of prosthetic liners.

## Rehabilitation Science and Technology

**Daniel Fisher**, instructor, received the 2013 Regent's (Regional Director) Award for the Western Pennsylvania Chapter of the American College of Healthcare Executives for his work on the Programming/Education Committee. He was also named co-chair of the committee.



Congratulations to **Dr. Ashli Molinero**, assistant professor, who competed in the 2013 New York City Marathon.

**Dr. Katherine Seelman**, associate dean of Disability Programs and professor, was named to the Editorial Board of *Disability Studies Quarterly*. She also served as keynote speaker presenting “Students with Disabilities in Higher Education: Welfare, Disclosure, and Stigma Management” at the University of Delaware in October 2013. Dr. Seelman also served as faculty at the NIH Training in Grantsmanship for Rehabilitation Research Conference in January and was named to the national board of AHIMA Foundation.

## Sports Medicine and Nutrition

**Dr. Kevin Conley** was promoted in 2013 to associate professor in the Department of Sports Medicine and Nutrition and associate dean for Undergraduate Studies in the School of Health and Rehabilitation Sciences. Dr. Conley serves as the vice chair of the department and program director for Athletic Training Education.

Also, **Dr. Conley** has been appointed as an external examiner at Dublin City University, Dublin, Ireland, where he will participate in the assessment processes for awarding degrees to students enrolled in the Athletic Therapy and Training Program.

**Dr. Conley** also recently chaired a writing group for the National Athletic Trainers' Association

Research and Education Foundation to publish a position statement titled “Preparticipation Physician Examinations (PPE) and Disqualifying Conditions,” which recommends the sports medicine community consider adopting a standardized process for conducting the PPE to ensure a safe playing environment for athletes and to help identify those conditions that may predispose an athlete to injury or sudden death. The statement was published in the February issue of the *Journal of Athletic Training*.

**Dr. Timothy C. Sell** was awarded tenure and promoted to associate professor in the Department of Sports Medicine and Nutrition in 2013. Dr. Sell currently serves as the director of Graduate Studies in Sports Medicine and is the associate director of the Neuromuscular Research Laboratory (NMRL), where he serves as both PI and Co-PI on several research studies being conducted by the NMRL's Warrior Human Performance Research Center.

**Dr. Sell** presented a lecture, “The Pathway to Injury-Free Performance: Joint Stability, Function and Movement” at the Developing the Healthy Youth Athlete: The Public Health Challenge and Opportunity conference in Lake Buena Vista, Fla., in February. The event was hosted by the American College of Sports Medicine; Disney; ESPN; the National Council of Youth Sports; National Youth Sports Health & Safety Institute; Sports & Society, a program of the Aspen Institute; and the President's Council on Fitness, Sports & Nutrition.

**Dr. Sell** was also selected to serve on the Scientific Review Committee for the Foundation of Physical Therapy, and will serve on the Scientific Advisory Committee for the 3rd International Congress on Soldiers' Physical Performance in Boston in August.



# Student News

## Communication Science and Disorders

The Department of Communication Science and Disorders continues to be at the forefront of involving undergraduates in research. Five CSD students, **Lauren Dubyne, Molly Lane, Mary Sears, Lidia Zacharczuk, and Alexandra Zezinka**, are completing Bachelor of Philosophy (BPhil) degrees in 2013–2014. These students are doing independent research under the direction of CSD faculty, culminating in a thesis, which the students defend before CSD faculty and invited international scholars. Only 1 percent of Pitt students graduate with a BPhil degree. **Lane, Zacharczuk, and Zezinka** also received prestigious Brackenridge Summer Research Fellowships to support their research. Congratulations to all of them for their achievements, and for showing how undergraduates can contribute to the research mission of SHRS!

**Linda (Hyun Seung) Kim**, doctoral student, and **Milon Volk**, undergraduate student, were selected to participate in the Minority Student Leadership Program sponsored by the American Speech-Language-Hearing Association. They participated in educational programming and activities to build and enhance leadership skills at the annual convention of the American Speech-Language-Hearing Association in Chicago, Ill., in November 2013.

**Brie Latimore**, master's student in speech-language pathology, was chosen to participate in the 2013 Jonas Salk Fellowship sponsored by the Jewish Healthcare Foundation, Health Careers Futures, and the University of Pittsburgh Center for Bioethics and Health Law.

**Leah Helou**, doctoral student, received a 2013 ASH Foundation New Century Scholars Doctoral Scholarship. These scholarships support strong doctoral candidates who commit to attaining

the research doctoral degree and to working in a higher education academic community in the field of communication sciences and disorders in the United States. **Helou** also received The Voice Foundation Institutional Education Grant.

**Tom Kovacs** and **Sangeun Shin**, doctoral students, tied for second place in the Student Scientific Paper Award at the Clinical AAC Research Conference at Indiana University. **Kovacs** was first author on "Inter-rater Reliability Procedures for Two Studies Involving Transcription and Analysis of Naturalistic AAC Language Samples" and **Shin** presented "Korean Vocabulary Frequency for AAC: Quantitative Analysis Procedures."

## Health Information Management

**Justin McClelland**, HIM undergraduate student, has been selected to receive the Joyce and Andrew J. Kuzneski Jr. Student Resource Award for the 2013–2014 academic year based on his outstanding scholastic achievement.

## Occupational Therapy

**Lindsay Weiss**, MOT student, received the 2013 Health Research and Educational Trust (HRET) Health Career Scholarship from the New Jersey Hospital Association.

**Melissa Matis**, MOT student, received the 2014 Department of Occupational Therapy Joan C. Rogers Occupational Therapy Award for her high-level scholastics, exemplary professionalism, and commitment to advancing the profession.

**Kristen Brant**, MOT student, received the Department of Occupational Therapy Award of Scholarly EXCELLENCE for her scholastic achievement and scholarly excellence in professional presentations.

**Johanna Keiper**, MOT student, received the Department of Occupational Therapy Award of Professional EXCELLENCE for her promotion of occupational therapy through community service activities.

**Jonathan Van Duren**, MOT student, received the SHRS Alumni Endowed Scholarship Award.

**Alyssa Gruhn**, MOT student, received the Mildred L. Wood SHRS Endowed Student Resource Award.

MOT Class of 2015 University of Pittsburgh Student Occupational Therapy Association (UPSOTA) members **Abigail Darin, Hadley Dean, Kaitlyn Goerl, Jessica Lesli, Kristen McClelland, and Joelle Urquhart**, with support from the rest of the MOT student body, were awarded first place and the People's Choice Award in the SHRS Video Contest.

**Jessica Leslie** and **Lauren Rizio**, MOT students, were selected for the 2013–2014 Jewish Healthcare Foundation Jonas Salk Fellowship.

**Drs. Joanne Baird, Nancy Baker, and Denise Chisholm**, and MOT students **Kelli Adcock, Kristen Brant, Crista Bush, Caitlin Call, Caitlin Cavanaugh, Elizabeth Cooke, Tara Garvin, Alyssa Gruhn, Jenifer Halterman, Samantha Kozlowski, Julie Lane, Elizabeth Mackay, Alyson Michalak, Rachel Rogers, Jamie Sardineer, Juliet Shalon, and Breanna Sunday** provided training on strategies to increase inclusion to the staff of the Carnegie Museum of Natural History as part of the museum's Inclusion in Science Learning grant.

**Alison Damico, Gloria Fuller, Melissa Jenkins, and Jocelyn Kuleck**, MOT students, led UPSOTA's successful co-sponsorship of the 2nd Annual Schenley Shuffle 5K Fun Run. Proceeds benefitted the Open Your Heart to a Senior Heart of Gold Fund.



## Student News *(continued)*

**Johanna Keiper**, MOT student, and her team members were finalists in the 2013 Wells Student Health Care Entrepreneurship Competition. They presented their project, “NAVITY,” at the 12th annual First Look Technology Showcase in Pittsburgh.

**Jessica Bartholomew, Devin Cooney, Abigail Darin, Danielle Deng, Taylor Durci, Kerry Frantz, Melissa Jenkins, Kristen McClland, Laura Muroski, Holly Peters, Gabriella Petrucelli, Rachel Popovich, Lauren Rizio, Stephanie Rotunno, Rachel Sexauer, Courtney Sloan, Anne Stankiewicz, and Cassandra Wallen**, MOT students, volunteered at a Special Olympics soccer tournament.

**Jessica Bartholomew** and **Anne Stankiewicz**, MOT students, assisted in constructing a playground in the Wilksburg section of Pittsburgh as part of KaBOOM!.

**Ciara Brown, Elizabeth Carroll, Mary Devito, Kelli Fockler, Takeshi Mizobuchi, Nathanael Moore, Dana Sciuillo, Anne Stankiewicz, and Jonathan Van Duren**, MOT students, completed training and conducted Home Safety Assessments for older adults in the community through Open Your Heart to a Senior.

**Rachel Bender, Abi Darin, Alyssa Lapp, Laura Muroski, Stephanie Rotunno, Rachel Sexauer, and Cassie Wallen**, MOT students, organized a canned food drive, donating the items and participating in the Squirrel Hill Community Food Pantry Service Day in November.

**Rachel Popovich** led MOT students, physical therapy students, and communication science and disorders students to collect toys for The Alliance for Infants and Toddlers. These toys were distributed to deserving Pittsburgh

families with children age 0–3 years with developmental delays.

**Julie Banyas, Rachel Bender, Ciara Brown, Liz Carroll, Abi Darin, Mary Devito, Morgan Fisher, Kerry Frantz, Kaitlyn Goerl, Alyssa Lapp, Kelsey Laubham, Laura Meade, Laura Muroski, Holly Peters, Rachel Popovich, Karen Puopolo, Lauren Rizio, Stephanie Rotunno, Kathryn Sinn, Leah Tingley, Joelle Urquhart, Cassie Wallen, and Emily Williamson**, MOT students, sang Christmas carols with more than 30 residents and staff at Schenley Gardens, an assisted living facility.

**Hadley Dean** (MOT student) was awarded the University of Pittsburgh Alumni Association’s Dr. and Mrs. Alexander Minno Student Resource Award for 2014. The award is presented to a graduate student who received his/her undergraduate degree at Pitt and has a minimum 3.5 GPA.

### Physical Therapy

**Matt DeBole**, DPT student, is serving as president of the American Physical Therapy Association (APTA) Student Assembly, and **Kaitlyn Bianco**, DPT student, was appointed chair-elect of the APTA Student Assembly Nominating Committee for the 2013–2014 term.

DPT students **John Snyder** and **Melissa Dreger** were elected to serve as the vice president and membership chair, respectively, for the American Academy of Orthopaedic Manual Physical Therapy student special interest group (SIG) for 2013–2014.

DPT students **Christa Pantages, Robin Szablewski, and Stephanie Austin** served as members of the APTA Student Assembly National Student Conclave Project Committee while DPT student **Kaitlyn Bianco** served as committee chair.

DPT students **Christa Pantages, Robin Szablewski, and Stephanie Austin** served as Student Leadership panelists at the APTA National Student Conclave 2013. Also, **Szablewski**, served as social media chair of the APTA Women’s Health Student SIG, and DPT student **Claire Occhionero** filled the social media chair post.

**Andrea Griffith**, DPT student, is a member of the Southwest District Pennsylvania Physical Therapy Association Education Committee.

### Rehabilitation Science Undergraduate

**Lauren Matevish**, undergraduate student, was named the recipient of the University of Pittsburgh’s prestigious Emma W. Locke Award, presented annually to a Pitt graduating senior in recognition of high scholarship, character, and devotion to the ideals of the University. **Matevish** is pursuing a double degree in rehabilitation science and psychology, and is a member of the women’s swim team. The Emma W. Locke Award is one of Pitt’s oldest and most esteemed student honors.

### Sports Medicine and Nutrition

**Erin Long**, CMD student, received the Pittsburgh Dietetic Association Leadership Development Award for 2013. The award recognizes emerging leaders among students enrolled in nutrition and dietetics supervised practice programs.

**Angela DiCandia**, athletic training program student, received the Pennsylvania Athletic Trainers’ Society River Run Scholarship for 2014. The scholarship is awarded to a student who has shown significant initiative and service in promoting the athletic training profession and who has excelled academically.



# Department News

## Communication Science and Disorders

The 2013 Matthews-Rubin Lecture in the Department of Communication Science and Disorders was held on October 3. Dr. Robert Burkard, professor and chair, Department of Rehabilitation Science, University at Buffalo, The State University of New York, presented his current research on auditory evoked potentials and neural synchrony. Pictured from left to right: **Dr. Herbert Rubin**, professor emeritus, **Dr. Burkard**, and **Dr. Malcolm McNeil**, CSD Department chair.

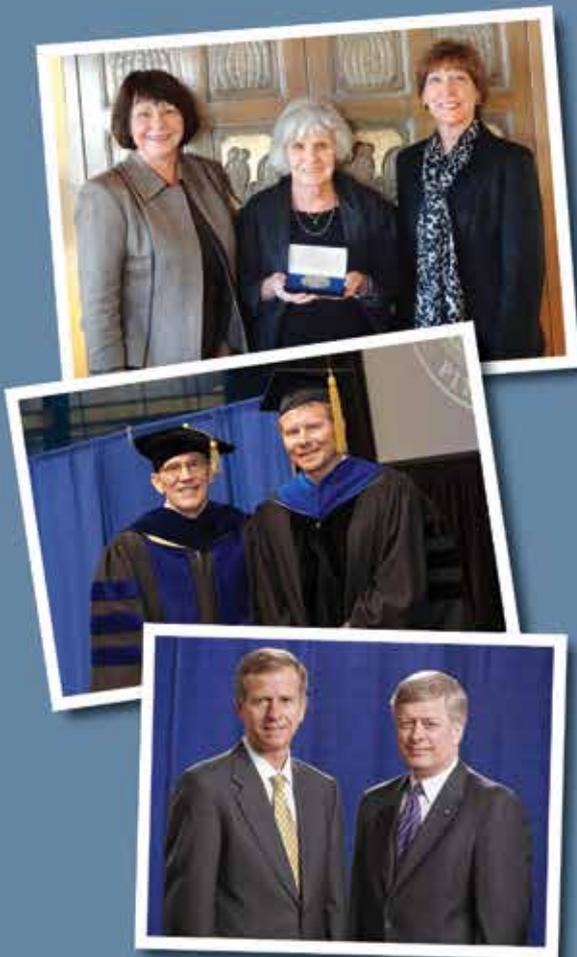
Alumni, students, faculty, and friends of the Department of Communication

Science and Disorders celebrated at the Pitt Open House at the annual convention of the American Speech-Language-Hearing Association in Chicago, Ill., in November 2013. **Drs. Cheryl Messick** and **Ellen Cohn** were feted for being named ASHA Fellows.



## Rehabilitation Science and Technology

The Human Engineering Research Laboratories (HERL) was selected as a 2013 winner of Goodwill of Southwestern Pennsylvania's Power of Work Award, which recognizes outstanding efforts by Western Pennsylvania employers in supporting workforce development for individuals with special needs or other barriers to employment. HERL is funded jointly by the VA Pittsburgh Healthcare System and the University of Pittsburgh.



## SHRS Alumni Recognized with 225th Anniversary Medallions

The School of Health and Rehabilitation Sciences congratulates five of its most distinguished alumni who were recipients of University of Pittsburgh 225<sup>th</sup> Anniversary Medallions. Recipients included **Peter DeComo** (BS '77, MS '80), **Dr. Kevin Guskiewicz** (MS '92), **Dr. Audrey Holland** (BS '55, MS '59, PhD '61), **Dr. David Perrin** (PhD '85), and **Paul Rockar** (MS '81). As part of Pitt's 225<sup>th</sup> anniversary celebration, Chancellor Mark Nordenberg commissioned the creation of the medallion to commemorate special times and honor special people.



2013-2014

# SHRS SCHOLARSHIP AND AWARD RECIPIENTS

The following is a listing of SHRS scholarships and awards granted to students during the 2013-2014 academic year.

**Bruce Baker Education Travel Award** (*school-wide*)

Kaitlyn Bianco  
Yu-Ting Cheng  
Lisa Marie Evangelista  
Amanda Garver  
Katarina Gasic  
Danielle George  
Kylie Grady  
Emily Grattan  
Nicholas Heebner  
Rachel Hollenbach  
Johanna Keiper  
Rebecca Olack  
Shelby Osterrieder  
Evan Reinhart  
Cara Semelsberger  
Jeffrey Sholtis  
Eric Sinagra

**Joyce and Andrew J. Kuzneski Jr. Student Resource Award** (*school-wide*)

Kristin Budd  
Justin McClelland  
Michael Rosenberg

**Anne Pascasio Scholarship** (*school-wide*)

Veronica Busan  
Sangeun Shin  
Camara Singleton

**SHRS Alumni Endowed Scholarship** (*school-wide*)

Christina Groff  
Maureen Randall  
Bianca Tyler  
Jonathan Van Duren

**UPMC Endowed Scholarship** (*school-wide*)

Erin Eichen  
Ashley Freer  
Michal Hammond  
Rachel Lee  
Lauren Schall  
Kelsey Von Kessel

**Mildred L. Wood SHRS Endowed Student Resource Award** (*school-wide*)

Morgan Bryant  
Alyssa Gruhn  
Pierre-Antoine Meunier  
Kristianna Ricchio

**AVADA Book Award** (*CSD*)

Chelsey DuFour  
Danielle Ledgard  
Jaclyn Schnelle

**Emeritus Award** (*CSD*)

Emily Boss  
Megan Keirans

**Lisa Levy Memorial Award** (*CSD*)

Jacqueline Fitzgerald  
Lauren Frey

**Emergency Medicine Program Award** (*EM*)

Krista Vasquez

**Walt A. Stoy Award for Scholarly Activity** (*EM*)

Tyler Novotney

**Cindy Zak Student Award** (*HIM*)

Kimberly Peterson

**Joan Rogers Award** (*OT*)

Melissa Matis

**Dorothy Bradley Brown Scholarship** (*PT*)

Rachel Lee  
Brandon Little  
Heather Paterson  
Steven Removcik  
Nicole Stepowoy

**Pat Croce Scholarship** (*PT*)

Amy Trotnick  
Bianca Tyler

**David Physical Therapy and Sports Medicine Center/ Joseph M. David Endowed Scholarship** (*PT*)

Matthew DeBole  
Kathleen Poploski

**D.T. Watson Scholarship** (*PT*)

Robyn Szablewski

**Victoria Green Memorial Resource Award** (*PT*)

Emily Dunnette

**Patricia Leahy Memorial Scholarship** (*PT*)

Lauren Rosso

**Pearl Cricco Mann Scholarship** (*PT*)

Lauren Curatolo  
Gabrielle Plesniak

**Alice Chagnot Oulette Scholarship** (*PT*)

Ari Silbermann

**Paul and Judy Rockar Scholarship** (*PT*)

Jessica Murray  
Claire Occhionero

**AAC Institute Student Award** (*RST*)

Szu-Han Kay Chen

**Rory A. Cooper/Dion Johnson Student Award** (*RST*)

Brandon Daveler  
Hsinyi Liu

**Hargroder Internship Award** (*RST*)

Hongwu Wang

**Virginia Kaufman Scholarship** (*RST*)

Anne Barry  
Yu-Ting Cheng  
Melody Childs  
Joe Fellows  
Kristianna Ricchio  
Maria Waeltz

**Thomas J. O'Connor Scholarship** (*RST*)

Maria Toro-Hernandez

**Sean and Stephanie Shimada Student Award** (*RST*)

Eric Williams

**Community Outreach Dietetics Award** (*SMN*)

Eric Capozzoli  
Elise Emanuele

**Freddie Fu Athletic Training Scholarship** (*SMN*)

Arielle Berman  
Deirdre Chatlos  
Rebecca Kehs  
Ryan Trombley

**Freddie Fu Sports Medicine Graduate Research Award** (*SMN*)

Michelle Varnell  
Paul Whitehead  
Valerie Williams

**Tim Kerin Athletic Training Scholarship** (*SMN*)

Megan Callahan

# SHRS WELCOMES Peter C. Varischetti New Chairman of the Board of Visitors

## *Alumnus, Ally, and Advocate*

When Peter C. Varischetti (BS '92) accepted the position of new chairman of the SHRS Board of Visitors in January, he admits he was not fully aware of the scope—and prestige—of all of the work being done here.

“Of course I knew of the national rankings of many of the SHRS programs, but after spending a couple of days touring the labs and meeting department chairs and faculty, I was beyond impressed with the entire school. And very excited about my new role.”

Varischetti grew up in Brockway, Pa., approximately 100 miles northeast of Pitt’s Oakland campus. As an undergraduate major in business administration and psychology, he also tackled the challenges of being a student athlete.

While a linebacker for the Pitt Panthers, Varischetti played under coaches Mike Gottfried and Paul Hackett.

“You learn a lot of life lessons as an athlete,” Varischetti recalls. “Of course the concept of time management is key, as well as learning how to work as a member of a team.”

“The opportunities I received at Pitt, both academically and on the football field, set the stage for my success in the workplace. It really was an excellent foundation.”

Today Varischetti is the president of Varischetti Holdings, LP, a family owned and operated organization. Their businesses include real estate investments, a powder metal manufacturing business, a construction equipment dealership, an oil and gas field services company, and consultation for the waste industry.

President of Varischetti Sports, LLC, he also owns a minority interest in the Pittsburgh Steelers, and holds leadership positions in several local church, school, and community organizations.

One of Varischetti’s diverse interests makes him uniquely qualified to serve on the SHRS Board of Visitors. His company, Guardian Elder Care Holdings, Inc., operates 31 nursing facilities, a rehabilitation services business, a long-term care pharmacy, and a home health company.

“Although I am not a scientist, my health care background allows me to see how many of the programs at SHRS impact patients and clinicians.”

Varischetti, who was also named a Commonwealth Trustee on the University of Pittsburgh’s Board of Trustees early in 2013, promises to be a strong advocate for SHRS.



“The School of Health and Rehabilitation Sciences is doing everything right,” notes Varischetti.

“It does an excellent job of preparing students, both at the graduate and undergraduate level, to do meaningful work in the real world.”

He credits a passionate faculty and strong partnerships with empowering SHRS students. “The health care field is growing, and SHRS is producing graduates who will be leaders in their fields.”

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*“I was beyond impressed with the entire school. And very excited about my new role.”*

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“But we can’t become complacent,” he warns. “I believe it’s important to continue to recruit top-notch faculty, which in turn will attract the best and brightest students. At the same time, we must work hard to create even more funding for research, and rise to challenges, such as the need for more space in the school.”

Varischetti says he shares Dean Brubaker’s enthusiasm for SHRS and appreciates his long-range strategic planning.

“As a student at Pitt, I never dreamed I would have the honor of serving on the university’s Board of Trustees or the Board of Visitors. But I always stayed close to Pitt and tried to be an involved alumnus.

“Over the years I’ve learned quite a bit about running a successful business and seeking out talented people.

“I’m delighted to join the SHRS family, and look forward to providing insight and guidance to the best of my ability in the years ahead.”



***Nahom Beyene:  
Part Daydreamer. Part Entrepreneur.  
All Rehabilitation Scientist.***



**N**ahom M. Beyene (PhD '13) claims he's not a car buff. But as a doctoral student with a concentration in rehabilitation science and technology, Beyene found himself daydreaming about cars.

His dreams weren't about the fastest, sleekest, or most expensive vehicles on the road. Rather, Beyene was obsessed with intelligent cars that could collect information about the driver's capability, and how that data could impact driver licensing decisions.

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*“Teens and older drivers are nine times more likely than other drivers to be involved in fatal car crashes,” explains Beyene. “And they cost us \$34 billion a year due to injury and death from collision.”*

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“Teens and older drivers are nine times more likely than other drivers to be involved in fatal car crashes,” explains Beyene. “And they cost us \$34 billion a year due to injury and death from collision.”

“I believed that my research should build evidence behind licensing recommendations and associate vehicle data with driver performance as a tool for families discussing when a loved one should retire from driving.”

And so Beyene's research journey began. And the NAViSection System was born.

NAViSection System uses sensors to capture “crash critical” driving errors when a driving evaluator assists with steering, braking, and verbal cues. The data that is captured can then be used as feedback to educate and coach the student or client in a driving program.



Designed to advance driver evaluation, training, and safety for young and old drivers, as well as those with disabilities and medical impairments, the NAViSection System was quickly recognized as a technology that could change lives.

Dr. Rory Cooper, distinguished professor and chair, Department of Rehabilitation Science and Technology, served as Beyene's advisor. "Helping people to drive safely and to live lives with greater freedom of movement is an important step in sharing in the American dream," notes Cooper.

"Nahom has really begun to tackle this problem with passion and purpose."

Through the Quality of Life Technology (QoLT) Center, a joint effort of the University of Pittsburgh and Carnegie Mellon University, Beyene connected with Amy Lane, clinical instructor in the Department of Rehabilitation Science and Technology and a certified Driver Rehabilitation Specialist (DRS).

"Driver rehabilitation programs are often considered the gold standard in assessing the driver with medical conditions or age-related changes," Lane remarks.

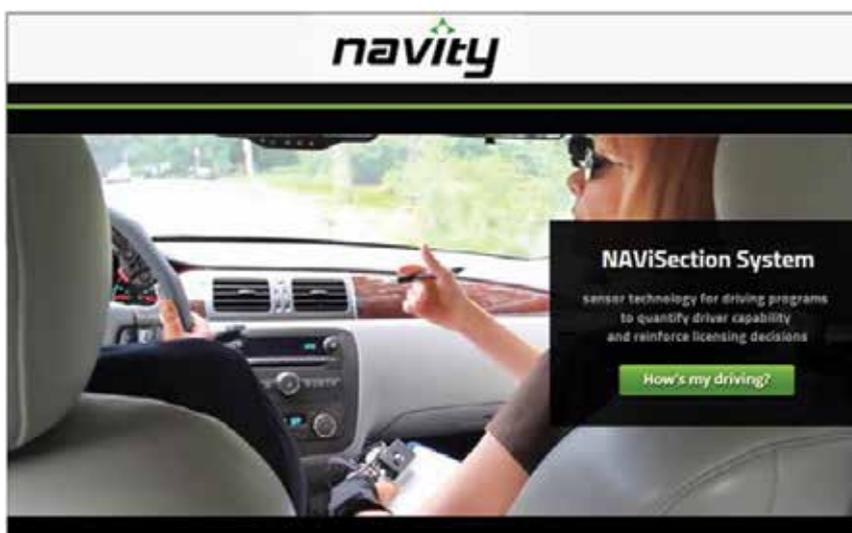
"Many driver rehabilitation specialists are comfortable in using technology to assist their clients to become independent drivers. What Nahom is proposing is that the DRS themselves use vehicle technology via the NAViSection System to make quantified decisions about the driver's performance—and ultimately the driver's capability."

In an effort to turn his research dream into a reality, Beyene partnered with Lane and Gary Miller, president of Ecommerce Strategies, to receive a mini-grant from the National Science Foundation's Innovation

Corps (I-Corps) Team. Through the program, Beyene worked to determine if the NAViSection System was a viable product to take to market.

Lane says that during her work with Beyene in the I-Corp program, she saw his leadership skills emerge. "He worked at an incredible pace every week in an effort to meet, network, and develop relationships with key players in the industry."

Given Miller's entrepreneurial background, his role as a business mentor to Beyene helped him understand the importance of staying focused on his core technology while being flexible in his business strategies.



"Many of today's entrepreneurs fall in love with their science for all the right reasons, but fail to realize their initial business model isn't the end of their journey, but rather the beginning," remarks Miller.

Miller also gave Beyene the confidence to talk with potential customers.

Through the I-Corp program, they gathered input from more than 100 customer interviews and surveys from 40 driver rehabilitation specialists.

The feedback allowed Beyene to make modifications to his plan before launching his company, NAVITY, in January 2014.

"It was a challenge to push myself out of my research frame of mind and start to think like an entrepreneur," admits Beyene.

A scientist at heart, Beyene continues to produce evidence-based research to validate his findings and support the growth of his company.

At this year's Consumer Electronics Show in Las Vegas in January, NAVITY was selected as an Emerging Tech Finalist in the Everyday Health Awards for Innovation.

In a statement after his award, Beyene said, "The trends for driver safety show us that our driver licensing practices are in need of

innovation. NAVITY will be a partner, introducing advanced vehicle technologies to driving programs serving teens and older adults who seek to obtain or retain their driver's license."

Beyene says he envisions a day in the not-too-distant future when he partners with major car manufacturers on testing and validation of collision avoidance systems for society.

Miller sees great potential in Beyene. "Nahom's willingness to adapt and pivot his business model is one of his exceptional attributes and will aid him greatly in his entrepreneurial journey."

"Nahom was a very creative student," adds Cooper. "I am excited for him and have high hopes that he will be successful in his goal of making a significant positive difference in the lives of older adults and people with disabilities."

For more information about NAVITY and the NAViSection System, visit [www.forceofnavity.com](http://www.forceofnavity.com).



# HARD DATA. SOFT TOUCH.

**W**hen you think about health information management, one word comes to mind. Documentation. Whether it's medical coding that drives provider reimbursement or transcription services that impact patient care, proper documentation—and the data that supports it—is key.

In this constantly changing industry, accurate documentation carries with it many clinical, fiscal, ethical, and legal implications. It takes a sharp mind to collect and manage this hard data.

And a soft touch to impart all this knowledge to future Health Information Management (HIM) professionals.

Just ask the students who work alongside Lynn Kosegi.

As director of Solutions Realization at M\*Modal, Kosegi leads a team that assists in the development of industry-leading software and services to help health care providers improve clinical documentation.

For more than four years, she has also served as a clinical instructor for undergraduates from the Department of Health Information Management, as well as interns in the final year of their masters program in Health Information Systems (HIS).

Students find her to be a remarkable mentor. With approximately 30 years of experience working on both the health care provider side and the technology side of the business, Kosegi understands what it takes to groom the next generation of HIM professionals.

“Lynn has the personal as well as professional qualities of a great mentor,” reports Zahraa Alakrawi, a former intern with Kosegi and current SHRS doctoral student with a concentration in HIM.

“She appreciates each individual contribution to the team’s collective intelligence. With her guidance, I improved my problem-solving skills as well as my ability to think outside the box and stay two steps ahead in order to be competitive.

“She gave me a greater sense of purpose and confidence.”

Another former intern, Sherri Long (MS, HIS '12), now works as a senior solutions analyst at M\*Modal. She credits Kosegi with empowering her.

“Lynn always encouraged students to apply various aspects of their academic knowledge to real-world scenarios, which requires abstract thought and creativity. She’s always open to

exploring forward-thinking ideas. And if you're not quite on point, she constructively explains why."

Kosegi brushes off the compliment. "The students really do great work," she exclaims. "They are so well-prepared and dedicated to the field."

According to Kosegi, there is a "perfect storm" in the industry right now. The Affordable Care Act has brought many changes to health care delivery while the industry is transitioning in the International Classification of Diseases (ICD) from ICD-9 to ICD-10, and migrating from paper to electronic health records.

Many student projects revolve around these issues, and their work prepares them well for what they will tackle after graduation.

"Many of our students are looking for a career path in health information technology [HIT], rather than the more traditional health information operations area of work," reports Patricia Anania-Firouzan, HIM assistant professor and clinical education coordinator. "M\*Modal gives our students exposure to different HIT applications that are under development or currently used by health care providers.

"They learn that, through the development and deployment of these HIT applications, HIM professionals can make a difference in the outcomes of the care that patients receive."

"The biggest challenge for students is keeping up with constantly changing priorities and demands," states Kosegi.

"What's important one day might not be as important the next!"

After three internships with Kosegi during his undergraduate program, David Bowers (BS, HIM '13) also joined M\*Modal as a solutions analyst. He currently works with M\*Modal

clients and collaboration partners, testing new products and providing feedback that will improve the products or functionalities.

Kosegi says she likes to find students who will stay with her through all of their clinical requirements. "I see their abilities, their personality, and their passion grow. We're always looking for talented people who are a great fit for our company, and I'm happy to say I have offered full-time positions to many students who have completed clinical rotations and internships with me."

Bowers notes, "Lynn has such a wealth of knowledge that she is ready to share with both her students and her team. She was an excellent clinical instructor and a true guide on my journey to becoming a young professional. I also consider her a friend because she genuinely cares about my success."

Alakrawi felt so comfortable with Kosegi that she hopes to enlist her help in deciding on a topic for her doctoral dissertation. "Lynn is such a positive leader. She has a vision, shares that vision with excitement, and motivates others to achieve their goals and succeed.

"Her enthusiasm is contagious!"

Long claims that Kosegi's vast knowledge and holistic perspective is unique. "After working with her as part of the Solutions Realization team, I can now see how she sincerely wants her students to grow into thought leaders who will be assets to the HIM field."

"Being able to intern at M\*Modal not only helped me become more familiar with the company before being offered a full-time position, but also kept me extremely motivated in and out of school to be the best I could be," adds Bowers.

"Without Lynn guiding me as an intern and an employee, I would not be the professional that I am today."





## *Now We're Cookin'—Together.*

**Y**ou don't have to look far to find a healthy cooking demonstration. Just go online, turn on your TV, or sign up for a class at a local school or community center.

Chances are, you'll get a mouthwatering recipe that you'd truly enjoy.

But will you actually use the recipe? Will you take the time to plan the meal? To shop for the ingredients? To cook and clean up?

Even the best intentions—and knowledge—don't always translate to action.

That's what sparked Dr. Jeffrey Gusenoff and Dr. Vicki March, co-directors of UPMC BodyChangers, to partner with Dr. Elizabeth Ruder, a registered dietitian and assistant professor in the Department of Sports Medicine and Nutrition (SMN).

Together they developed the PrepAbility class as a component of BodyChangers, a lifestyle change and support group for people who want to lose weight or have recently lost weight.

"The keys to successful weight loss maintenance are diet and exercise," explains Gusenoff, who is also associate professor of plastic surgery at UPMC. "BodyChangers already has a lot of the exercise components integrated into the program.

"What was missing was the teaching of how to prep 'clean' meals, and giving people the ability to do it on their own, with family or with friends."

Ruder eagerly jumped in to design a hands-on healthy-eating program that would be a fun, social experience—one that would be budget-friendly and have a lasting impact on the participants.

March welcomed the collaboration. As the medical director of the Lifestyle Program at Magee-Womens Hospital of UPMC, she

recognized the benefit. "There is a lot of expertise within the Pitt and UPMC communities, and a lot of interest in tackling the city's obesity problem. Together we'll have a much bigger impact on the health of the people of Pittsburgh."

PrepAbility classes are held once a month in SHRS's food science lab in Forbes Tower in Oakland. BodyChangers members, and sometimes their guests, come together to slice, dice, laugh, and prepare their own healthy meals under the supervision of the doctors and nutrition experts.

"It's a lot of fun," says Ruder. "But the really unique thing about PrepAbility is that it gives people nine single-serve meals to take home for their freezer, along with the recipes and know-how to make these recipes again, on their own."

Two undergraduate students in the Nutrition and Dietetics program, Kalli Lodovico and Christina Proch, assist Ruder in planning and implementing the classes.

"There are a wide variety of skill levels among the people in the PrepAbility class," Ruder reports. "So it was important to introduce recipes that everyone could easily re-create."

"Many people know they should eat more fruits and vegetables, reduce sodium, limit added fats and sugars, and so on, but do not necessarily know how to best carry out those recommendations," reflects Proch.

"PrepAbility addresses this issue by showing members of the community how to turn nutrition guidelines into flavorful and satiating meals, within a limited time frame and budget."

"I learned so much being part of PrepAbility," says Lodovico. "Like how to shop on a budget, how to introduce a variety of foods that people like to eat, and how to take into account the health concerns that many individuals struggle with."

The students' efforts did not go unnoticed. Or unappreciated.

Gusenoff and March recommended them for a research fellowship through the University of Pittsburgh Honors College.

"This is a tremendous opportunity for Kalli and Christina," says Ruder. "They are not only getting hands-on experience working in a community setting, but they are now able to conduct research that evaluates the program's effectiveness."

Lodovico is conducting focus groups with BodyChangers members and its medical staff to gain a better insight on barriers to health, wellness, and fitness. Proch's study compares the dietary intakes of BodyChangers members who have taken PrepAbility classes with those members who have not.

The results from both studies will provide evidence-based recommendations for future PrepAbility programming.

"The collaboration with Liz has been synergistic and helped us to reach new heights for BodyChangers," notes Gusenoff.

"She shares our passion for getting Pittsburgh healthy," adds March. "This whole project has been tremendous fun!"

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*The PrepAbility class is available to Gold and Platinum members of the UPMC BodyChangers program at a cost of \$35 per class. For more information, visit [upmc.com/services/bodychangers](http://upmc.com/services/bodychangers) or call 855-BODY-CHG (855-263-9244).*

## *Vegetable and Corn Chowder*

### *Ingredients:*

2 tbsp + 1½ tsp canola oil  
1 large red onion, diced  
2 large red bell peppers, seeded and diced  
3 tsp minced garlic  
2 large potatoes, diced  
¼ c whole wheat flour  
5½ c 1% milk  
3 c reduced sodium vegetable stock  
1½ c broccoli florets  
2 (16 oz.) bags frozen corn (~ 6 c)  
1½ c shredded cheddar cheese  
salt and pepper to taste  
3 tbsp chopped cilantro, to garnish

*Servings:* 9

### *Directions:*

- Heat the oil in a large saucepan or stock pot; add the onion, bell pepper, garlic, and potato, and stir-fry over low heat, stirring frequently, for 2–3 minutes
- Stir in the flour and cook, stirring for 30 seconds; gradually stir in the milk and stock
- Add the broccoli and corn; bring the mixture to a boil, stirring constantly, then reduce the heat and simmer for about 20 minutes, or until all the vegetables are tender
- Stir in 1½ c of the cheese until it melts
- Add salt and pepper as desired; garnish with cilantro

*Nutritional Information:* 350 Calories, 13 g Total Fat (4.5 g Saturated Fat, 0 g Trans Fat), 25 mg Cholesterol, 280 mg Sodium, 48 g Total Carbohydrate (6 g Dietary Fiber, 14 g Sugars), 15 g Protein

*Adapted From:* *Vegetable & Corn Chowder. Practical Vegetarian Cooking. Parragon Publishing. Bath, United Kingdom, 2003.*



# WHAT FUELS NEW VENTURES?

The field of scientific research is in a state of transition. It's not just about knowing you can build a better mousetrap anymore. It's about protecting the ideas that led to a more effective and efficient device. Developing the technology and architecture that sets it apart. Testing the feasibility of use and the appeal to potential buyers.

And perhaps most importantly, finding an appropriate partner to invest in the mousetrap and take it to market so that people can use it.

In short, as scientists, we must nurture a new culture of research. One that extends its reach beyond the lab and opens its arms to the concepts of public-private partnerships and commercialization. In today's economic and academic environment, that is what fuels new ventures.

According to the University of Pittsburgh's Office of Technology Management (OTM), Pitt innovators submitted 254 invention disclosures in fiscal year 2013. They were awarded 51 patents, and OTM and its partners have executed 155 licenses to companies for Pitt innovations.

Furthermore, the university has received more than \$6.5 million in total revenue from commercialization activities in 2013, including \$4.1 million in licensing revenue. The numbers are large. The possibilities, even larger.

## PARTNERSHIPS TURN IDEAS INTO REALITY.

The Human Engineering Research Laboratories (HERL), a collaboration between Pitt, UPMC, and the U.S. Department of Veterans Affairs, celebrates its 20th anniversary this year. Throughout its history, this world-renowned lab has formed relationships with companies that take its research innovations out of the lab and into the real world, improving the mobility and function of people with disabilities.

Dr. Rory Cooper, distinguished professor in the Department of Rehabilitation Science and Technology (RST), invented a product called the SmartWheel in 1986. Designed to optimize performance and reduce upper limb pain often experienced by manual wheelchair users, the SmartWheel was perfected at HERL when Cooper came to SHRS.

In 2000, through a Small Business Innovation Research (SBIR) technology transfer grant from the National Institutes of Health (NIH), Three Rivers (now a wholly owned subsidiary of TiLite) began to manufacture and market the SmartWheel.

Today, this device has set the standard for manual wheelchair use analysis. Three Rivers continues to manufacture the SmartWheel as a part of its Out-Front brand of products, along with the GameCycle and the Natural-Fit handrim.

"In the beginning, it was really a set of technologies that attracted us," recalls Dr. David Boninger, vice president of

communications at TiLite. “They were promising technologies, but without a commercial partner, they may never have made it to the end-users who can truly benefit from them.”

“It’s true,” affirms Cooper. “Most academic research doesn’t make it into practice. It falls into the so-called ‘Valley of Death,’ the gap between technology R&D and commercialization where so many inventions are stuck. Our department [RST] is unique in its long history of technology transfer.”

David Algood (MS ’03), global product manager for Permobil, a leading manufacturer of power wheelchairs, began collaborating with the HERL team in 2013 in the hopes of introducing a new product—the Virtual Seating Coach.

This technology is designed to essentially “coach” power wheelchair users on the proper use of their seating system and provide them with active feedback to improve compliance with their clinically prescribed seat function regimen.

Although the technology transfer is still in the early stages, Algood sees advantages for both the end-user and Permobil.

“Most of the products Permobil has released in the past are simply improvements on existing technology,” reports Algood.

“Bringing an innovative solution like the Virtual Seating Coach to market will be impactful because it is backed by scientific data—which proves its value to both clinicians prescribing the equipment and funding sources that are paying for them.”

#### THE ROLE OF PATENTS AND COPYRIGHTS.

Paying for bringing technology into the marketplace is complicated. Fortunately for university researchers, Pitt’s OTM assists with the process.



*Virtual Seating Coach Technology*

Dr. Christopher Brown, assistant professor in the Department of Communication Science and Disorders (CSD), is currently working with OTM to patent new technology that will enable users of cochlear implants to better understand and localize speech in the presence of background noise and competing talkers.

He explains that people with normal hearing get two different cues for determining what direction sound comes from. Interaural level differences (ILDs) detect high-frequency sounds, while interaural time differences (ITDs) are restricted to low-frequency sounds.

“People with bilateral cochlear implants only receive one cue for localization—the ILDs,” says Brown. “This makes it difficult for them to process sound when it comes from different directions and different talkers in a scenario like a cocktail party.”

Simply put, his technology measures low-frequency ITDs, which are present but not usable by the

cochlear implant and converts them to IDLs, which are usable.

“The OTM process is really quite good at Pitt,” Brown reports. “They were receptive to my idea and helpful in taking me through the stages of patent application.”

Brown, who holds a provisional patent for this technology, notes that it may take three or four years for the U.S. Patent and Trademark Office to approve the final patent.

Dr. Bambang Parmanto, professor, Department of Health Information Management (HIM), also used OTM to manage the process of patent application and copyright registration for two of his revolutionary technologies.

Parmanto has received a provisional patent for the Versatile and Integrated System for Telerehabilitation, better known as VISYTER. VISYTER is a high-quality, secure software that delivers telerehabilitation services through computers and webcams to people with disabilities.

He and his students also developed the Interactive Mobile Health and Rehabilitation (iMHere) technology. iMHere is a mobile health platform that supports self-management and provides two-way secure communication between clinicians and patients with chronic disease. Parmanto protected this innovation with a copyright.

“It takes years and a lot of work for researchers to turn their ideas into real products,” observes Parmanto. “So it’s very important for researchers to protect their intellectual property.”

#### LICENSES, STARTUPS, AND OTHER AVENUES OF COMMERCIALIZATION.

Once a researcher receives a patent, some choose to license their technology to a company that can take it to the next level. But when is the right time to do that?



Although Brown knows the algorithms that he employed to create his cochlear implant technology will be useful to manufacturers of cochlear implants, or perhaps even hearing aid manufacturers, he says he's not ready to license yet.

"The more I develop this technology, the more scientific evidence I put behind it, the more valuable it will be to a business," predicts Brown.

On the other hand, the mobile health platform, iMHere, has been licensed by a startup company founded by a recent SHRS graduate.

Andrea D. Fairman (PhD '13), assistant professor, Department of Occupational

the way health care is delivered and patients are engaged, Fairman is willing to invest considerable time and energy to market this technology through her company.

"Commercialization is the logical next step when you have something that really works and can make a difference in people's lives," she continues.

According to Professor David Brienza, associate dean of Strategic Initiatives and Planning and director of the Rehabilitation Engineering Research Center (RERC) on Telerehabilitation, researchers need to have a certain mindset. "Commercialization is outside of the traditional path," he notes.

"The financial awards from the Coulter Foundation are very flexible," he explains. "A researcher could use it to get marketing support or legal help, or even to pay for a consultant who can help explain the regulatory pathway for your invention."

#### IT TAKES A VILLAGE.

It's obvious that ideas go nowhere unless they are shared. The collaborative spirit at SHRS helps researchers from one department tap into the expertise of those in another.

Kay Chen, a speech language pathologist from Taiwan, is pursuing her PhD in rehabilitation science through RST. She's working closely

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*It's obvious that ideas go nowhere unless they are shared. The collaborative spirit at SHRS helps researchers from one department tap into the expertise of those in another.*

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Therapy at Duquesne University, and founder and CEO of UbiCue, Inc., says the iMHere system was developed in conjunction with her dissertation research while she was pursuing her doctoral degree in Rehabilitation Science through Pitt's RST department.

"I purposefully accepted the position at Duquesne in order to allow me to continue my collaborative research efforts with my colleagues at Pitt, but with the freedom from conflict of interest issues that being a faculty member at Pitt would have on commercialization efforts," explains Fairman.

The Idea Foundry, a locally based nonprofit innovation acceleration and commercialization organization, helped Fairman determine if the iMHere system was viable as a commercial product, and served as a sounding board for the launch of UbiCue.

Because she believes that the iMHere system has the potential to change

Brienza cites his own research and technology journey as an example. In 1999, he and SHRS Dean Clifford Brubaker developed a unique wheelchair seat cushion that helped prevent pressure sores. He worked through OTM and secured a patent for his device.

"I took advantage of SBIR grants and eventually started a spinoff company to produce the seat cushions," recalls Brienza.

"But there came a point in time when I had to decide if I wanted to be an entrepreneur or continue as an academic researcher who could invent ideas that entrepreneurs could use.

"For me, it was about the ideas." Brienza points out that the Coulter Translational Research Partners program offers additional help to faculty who have developed technology that shows promise, but perhaps don't know where to turn next.

with Dr. Katya Hill, associate professor in CSD, to develop a mobile application to help Mandarin Chinese speakers with communication disorders.

Chen explains, "The professions related to rehabilitation and speech-language pathology have only developed over the past two decades in Taiwan, and are just starting in China. There's little research on augmentative and alternative communication (AAC) outcomes measurement and treatment methods for Chinese speakers with complex communication disorders."

Hill enjoys an international reputation for her expertise in AAC assistive technology.

She holds patents and copyrights for many of her innovations, including AAC interface programs in five languages, the language activity monitoring (LAM) function, and language sampling analysis software, such as the AAC Performance Report



Joe Olson



Dr. Katya Hill and Kay Chen

Tool (PeRT) to measure performance and outcomes.

“Chinese is a language with its own linguistic characteristics,” explains Hill. “The translation of any AAC interface, assessment tools, or treatment procedures from English to Chinese may be quick but it’s not always a professional—or effective—way of filling gaps. As a native Mandarin Chinese speaker, Kay is filling an important need.”

“Working in Dr. Hill’s lab gives me many opportunities to connect with different professionals internationally, and it forces me to think out of the ‘clinician-only’ box,” remarks Chen.

Connecting with professionals who share common goals and interests is an important way to bring innovative ideas to life.

Dr. Andrew B. Mor is the principal scientist at RE2, Inc., a Pittsburgh company that specializes in defense robotics. He and RST’s Cooper have been collaborating on research for a wheelchair-mounted robotic arm since 2011. They hope that one day, their joint invention will provide greater freedom for people with disabilities.

“With Dr. Cooper’s knowledge of assistive technologies for people with disabilities and RE2’s background in advanced mobile manipulation, we felt that there was a definite synergy that could help advance technology in this area.”

### EXTENDING OUR REACH.

“Another good way to spin technology out of the university is through our students,” continues Brienza. “As graduates, they can take technology and turn it into a startup company. They’re at the right point in their lives to do this. It creates opportunities for them, and reflects well on the university when they are successful.”

Joe Olson (MS ’08), a mechanical engineer for the U.S. Department of Defense, is a perfect example. While working as a graduate research assistant at HERL, he developed an ergonomic joystick handle that gave him more comfort and control when driving his own power wheelchair.

In 2013 Olson took his idea to the next level. “I have designed a few things that make my life just a little easier,” he recalls. “I realized that if nobody had access to these inventions, I was not helping anybody.”

He received a provisional patent for his invention, formed his own company, Roll Geek LLC, and is starting to market the ErgoJoystick to other power wheelchair users.

RST Assistant Professor Jonathan Pearlman encourages undergraduate students to start thinking—and acting—like scientists and entrepreneurs.

Through the TIPeD project, a program funded by National Collegiate Innovators and Inventors Alliance (NCIIA), teams of students from the

engineering, business, and clinical disciplines work with a faculty or graduate student mentor to develop an idea for a new technology. Working together, they create a design for the technology as well as a business and commercialization plan in the form of an SBIR grant proposal.

According to Pearlman, “It’s a great way to get students interested in technology and teach them the steps that are involved in commercialization.”

### “IT’S A GOOD THING.”

Researchers like Fairman who have participated in commercialization efforts have a unique perspective.

“Publications and presentations are great and move things forward in an academic sense,” Fairman notes. “They help a researcher to secure additional funding and earn promotion and tenure. However, research, as important as it is, is still just research if not adopted into the mainstream world outside of the ‘ivory tower.’

“Commercialization is the ultimate dissemination of research.”

SHRS corporate partners, like TiLite’s Boninger, see the benefits to their customers as well. “Our tech transfer efforts have really borne fruit in the way we would all have hoped—key technologies that were once just sitting on the proverbial research shelf are now in the hands of people who are benefiting from their use every day.

“It’s a good thing.”



# THE ROAD TO NEW TECHNOLOGY. *One Man's Journey.*

**F**or Tom Kovacs, a doctoral student in the Department of Communication Science and Disorders (CSD), helping people with disabilities to communicate better is a personal mission.

His brother, Alan, experienced a stroke early in life and was left with a significant communication disability.

As a young boy, Kovacs accompanied Alan to the Talking with Technology (TWT) Camp, sponsored by Children's Hospital in Denver, Colo., and the Colorado Easter Seal Society. At the weeklong camp, youngsters are trained and supported in their use of augmentative and alternative communication (AAC) systems.

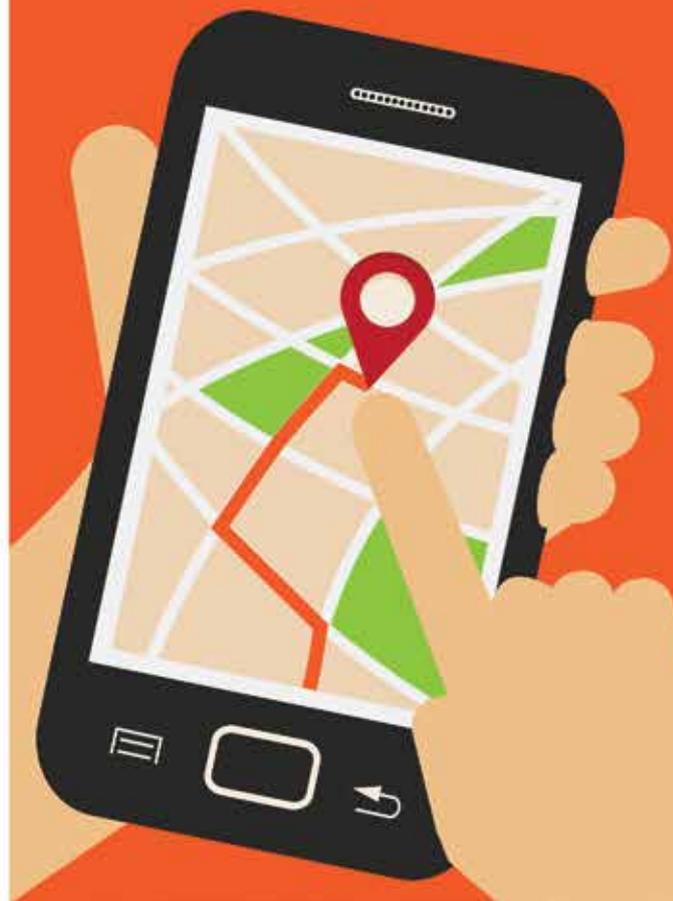
Later, when Kovacs was in high school, he returned to camp, this time helping other children learn how to enhance the quality of their lives. It was at TWT that Kovacs first came in contact with Barry Romich, then CEO of Prentke Romich Company (PRC), a leader in the field of manufacturing and marketing assistive technology and AAC devices.

He also got to know Bruce Baker, CEO and president of Semantic Compaction® Systems, Inc., and inventor of the unique multiple meaning graphic icons that are built into AAC devices.

Both men would play a significant role in Kovacs' life. Baker, also an adjunct professor in CSD, followed Kovacs' academic career. "I was pleased to extend our company's educational fellowship to Tom for a period of three years at the beginning of his PhD program at Pitt." Baker notes, "In casual conversations at professional conferences, Tom spoke to Barry and me about his idea to base a tactile interface on my company's communication software."

Today, Semantic Compaction Systems and PRC are collaborating with Kovacs to bring this new technology to life in order to help a different population of people with disabilities to communicate better. Regarding the need for this new technology, Kovacs explains, "Many people with disabilities like cerebral palsy have developed language and are able to communicate using Dr. Baker's system of sequenced multi-meaning graphic symbols."

*"Collaborations between university researchers and companies can make it possible for some very innovative solutions to benefit widespread clinical populations beyond the reach of the university lab."*



“They’ve learned, for example, that a picture of an elephant produces several different adjectives related to size and strength. Unfortunately, severe vision impairments or even blindness can co-occur with cerebral palsy, making the use of the graphic symbols found on AAC devices not an option.

“It’s heartbreaking to know that a concomitant disability in an area that’s not related to communication prevents children from accessing assistive technologies that are designed for communication,” laments Kovacs.

Working in an SHRS lab under the guidance of his advisor, CSD Associate Professor Katya Hill, Kovacs continued to develop his idea of implementing tactile symbols in conjunction with Baker’s semantically based language system to improve access options for these people.

“We’re approaching language in a novel way,” notes Kovacs. “We’re creating new tactile symbols that map the same language content.” Kovacs says that they realize they can’t squeeze an elephant into a one-inch square and expect it to feel like an elephant.

“But we can stretch an ant across a one-inch square and teach children to use it as a tactile symbol corresponding to the same linguistic concepts as the elephant.”

Hill encouraged Kovacs to pursue his vision. “I knew that Tom had talked to Barry and Bruce about taking his idea to the next step. They were the ideal fit.”

She cites a long history of collaboration with corporate partners like Semantic Compaction Systems and PRC.

“Our partnered research and development projects use stakeholder-informed research methodologies and designs that provide early input and perspectives about the features and supports needed during initial stages of development,” notes Hill. “This leads to more cost-effective and successful technology transfer.” Romich and PRC helped to fund the initial keyboards for Kovacs’ idea, while Semantic Compaction applied for a patent on his specialized interface.

“I’ve enjoyed working with Tom on this project,” says Romich. “We collaborate on the use of laser engraving to create prototypes and discuss approaches to mass manufacturing.”

Kovacs continued to research the feasibility of his invention. He gathered input through focus groups with parents, teachers, and clinicians, as well as visually impaired people and those who use AACs, and compared various designs before he could begin the commercialization process. Hill points out the advantages of this process. “We do feasibility, alpha, and beta testing, then offer

recommendations to the companies who own the patent,” she explains. “Our faculty and students can continually research ways to improve the technology without bias or conflict of interest.”

And so the journey toward a new type of AAC device continues, with trustworthy traveling companions assisting each other, and new opportunities arising at every turn.



Tom Kovacs and Bruce Baker

“Tom’s experience in working with us and our attorneys on a patent application for Sequenced Multi-meaning Tactile Symbols (Application No. 13/293,208) prepared him to work with patent attorneys in the broader field of speech-language technology,” reports Baker.

“Since that time, Tom has been the point person on a series of applications for our company, unrelated to his Tactile Symbols application.”

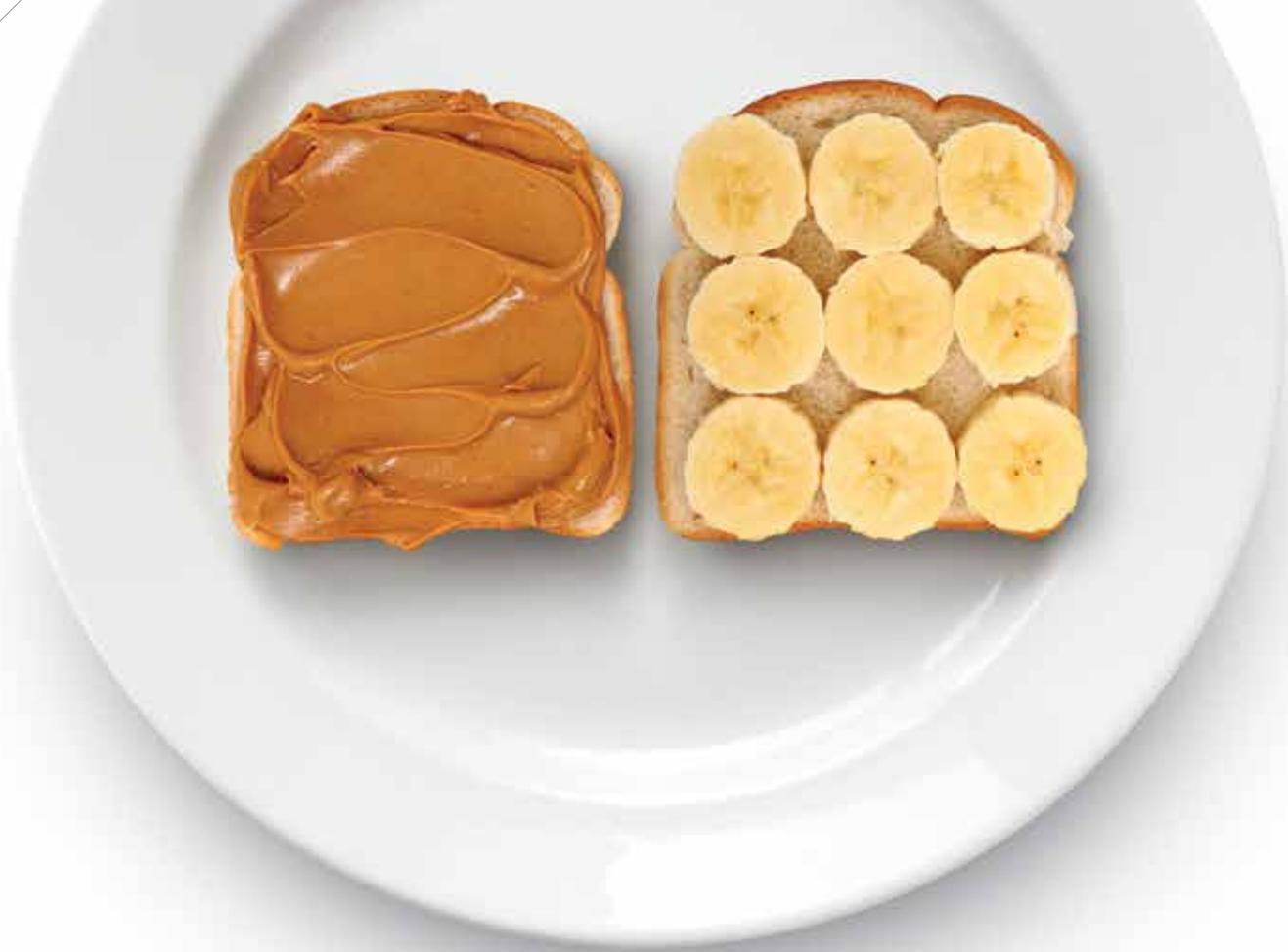
“In terms of contribution to the communication performance of people who use AAC, this project joins the work of Hill in the development of data logging and analysis to support AAC evidence-based practice,” adds Romich.

“Thanks to effective technology transfer, language activity monitoring (LAM) is now a common feature in communication systems.”

According to Kovacs, “University researchers may have solutions to benefit patients in life-changing ways, but they may lack the resources needed to reduce their concepts to practice, or reach more than a handful of patients.

“Collaborations between university researchers and companies can make it possible for some very innovative solutions to benefit widespread clinical populations beyond the reach of the university lab.

“The collaboration between Pitt, Semantic Compaction, and PRC is opening doors for a whole new clinical population.”



## TWO (UNLIKELY) PEAS IN A POD

**S**ome things just naturally go together. Like peanut butter and jelly. Or cookies and milk. It's hard to imagine one without the other.

But the combination of an academic researcher and a corporate executive? You might not think of two peas in a pod.

Dr. Valerie Watzlaf, associate professor in the Department of Health Information Management (HIM), and Patty Thierry Sheridan, president of Care Communications, Inc., wonder why not.

Watzlaf has dedicated her career to improving the science of health information and developing standards for the content of the Electronic Health Record (EHR).

Sheridan is quick to tell you that her life's work also revolves around improving the quality of medical data.

For the past five years, their public-private partnership has helped to elevate the quality of health care data and determine industry best practices.

At Care Communications, Inc., a nationally recognized leader in health information management, Sheridan and her 180 employees provide a comprehensive suite of health information consulting and outsourcing services to the nation's leading health care organizations.

"We are a business, to be sure. But we have a mission-driven spirit," admits Sheridan. "Our company has a 38-year rich history of contributing to HIM knowledge and improving HIM practice. Our co-founder and CEO, Leslie Fox, launched Care Communications in 1976 and instilled a passion for health care data quality that would ultimately improve patient care."

When Sheridan and Watzlaf connected at a research training institute sponsored by the American Health Information Management Association (AHIMA), they both realized that they had a shared vision.

"There is so much going on in our industry," explains Watzlaf. "With the introduction of electronic medical records, there's a wealth of data that must be shared across different audiences and different regions."

She and Sheridan collaborated on several projects, including an HIM leadership research study as well as an AHRQ grant application to examine the workflow changes in the transition to ICD-10-CM (the International Classification of Diseases, 10th Edition, Clinical Modification). But they wanted to do more. And they decided to do it together.

“We are constantly striving for solutions that address emerging industry challenges and increase the value of HIM in client organizations,” explains Sheridan.

“Our company collects a lot of data, and I was interested in completing some research studies,” she continues. “I knew that Val and her team at Pitt had the rich research expertise that could take our ideas to the next level.”

The next level led to the creation of a new research entity named CAREinnoLab in October 2013.

“This industry partnership is really unique,” notes Watzlaf. “We have always conducted research—it’s what we do at the university. But having our research funded by a corporation, and having that corporation give us access to their databases is something we’ve never done before.

“It’s a win for both of us.”

The first CAREinnoLab study revolves around physician requirements and challenges created by ICD-10.

The objective of the study is to explore the resources physicians believe they need in order to implement the transition to ICD-10.

Members of Watzlaf’s research team have already conducted a focus group of physicians. Using the coding quality databases from Care Communications, they will conduct data analytics, determine areas of improvement that may impact coders and other health care providers, and publish and present their findings to other HIM professionals.

In the future, the research agenda of CAREinnoLab will address leadership roles and the challenges of HIM managers, cancer registry technologies, and patient engagement.

Because both Watzlaf and Sheridan are dedicated to preparing the next generation of HIM professionals, Watzlaf brought in undergraduate students to help research grant opportunities as a part of their 20-hour and 90-hour senior projects.

“During this process, I learned that there is a lot of opportunity for advancement in the health care field through technology,” says Alicia Sprecher, who will graduate in April 2014. “This project helped my researching and grant proposal writing skills, and

made me more familiar with numerous foundations that offer funding for projects. This will be very useful to me throughout my career.”

Christina Lisella, who will also graduate in April, agrees that working with Watzlaf and Care Communications was a great opportunity.

“Working on this project has allowed me to understand how much work goes into developing and submitting a proposal for a research project,” reflects Lisella. “It is a very tedious and time-consuming process that requires a high attention to detail. But it is exciting to be involved with such an important project that has the potential to improve the cancer registry and patient engagement in cancer care.”



Dr. Valerie Watzlaf and Patty Thierry Sheridan

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*“It’s very rewarding to have a partner who has the same commitment to health care data integrity as our company,” remarks Sheridan. “This partnership is enabling both organizations to make our data quality research dreams a reality.”*

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Watzlaf reports that it’s tremendously satisfying to collaborate with Care Communications. “They’re a wonderful group of people who are truly dedicated to our profession.”

“I am pleased that our department and our faculty have been afforded this opportunity for collaboration,” adds HIM Chair and Associate Professor Mervat Abdelhak. “Our mission and focus are aligned with those of Care Communications and thus makes this University-industry partnership a natural fit.”

“It’s very rewarding to have a partner who has the same commitment to health care data integrity as our company,” remarks Sheridan. “This partnership is enabling both organizations to make our data quality research dreams a reality.”



## TURNING PUBLIC-PRIVATE COLLABORATION INTO A SWEET RIDE

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*“There’s such a wealth of resources and expertise available at HERL. These are things our small business would never be able to duplicate on our own.”*

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**D**r. Rory Cooper is not new to the concept of technology transfer. As distinguished professor and chair of the Department of Rehabilitation Science and Technology (RST), founding director of the Human Engineering Research Laboratories (HERL) and co-director of the NSF Quality of Life Technology Engineering Research Center (QoLT ERC), Cooper has dedicated his life to research that improves the quality of life for wheelchair users and other people with disabilities.

He’d be the first to tell you that ideas are not enough.

“Most devices that are developed in university labs fall into the Valley of Death,” laments Cooper. “We need to take the ideas far enough so that they are commercially viable.”

In order for technologies to benefit the people who need them, Cooper urges researchers to develop partnerships with reputable companies who can take an idea and run with it.

Or, in this case, roll with it. For more than 15 years, Cooper and his team of researchers at HERL have been collaborating with Todd Hargroder, president and CEO of Accessible Designs, Inc. (ADI) of San Antonio, Texas, to design and build adaptations for wheelchairs.

Hargroder, a former motorcycle racer, became a quadriplegic in 1986 after an accident injured his spinal cord. Ever since then, he has been on a mission to enhance the mobility, independence, and well-being of people with disabilities, starting ADI with only a single product idea in 1989.

A casual conversation at a Rehabilitation Engineering and Assistive Technology Society of North America (RESNA) conference led to a regular exchange of ideas between Cooper and Hargroder.

“From the start, I had a lot of respect for Todd and his vision,” Cooper says. “He was serious about effecting change and providing lasting solutions. He was the ideal partner for us.”

And according to Hargroder, Cooper was instrumental in helping him understand the grant process.

With ADI as the prime investigator and HERL as the contracted partner, Hargroder obtained his first Small Business Innovation Research (SBIR) grant for building a lightweight user-adjustable backrest for a wheelchair, after many years of developing and bringing to market his own ADI product line of transfer boards, carbon fiber back supports, seat bases, disc brake systems, and other innovative wheelchair accessories.

The backrest, which was patented by HERL and the University’s Office of Technology Management, was invented by Cooper and the HERL team and licensed to ADI.

Its technology allows users to adjust the angle of the backrest throughout the day in order to sit in more comfortable—or useful—positions.

“Having the University of Pittsburgh listed as our research partner added a lot of weight to our application,” reports Hargroder.



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*“Through our partnership, we’re able to design and build products that will make a difference in the lives of people.”*

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Phase I of the grant allowed ADI to design, build, and test a prototype backrest. Phase II is funding slight design and material modifications. Hargroder expects the product will be ready to go to market in 2015.

ADI is also collaborating with RST Assistant Professor Jonathan Pearlman on the construction of a unique caster locking system for manual wheelchairs.

“Manual wheelchair users typically experience a drift when they are traveling on sloped paths, like sidewalks, or when they’re carrying something and

propelling their wheelchair with one hand,” Pearlman explains.

“Research suggests the PathLock system should solve that problem by helping to keep the wheelchair on a straight path.”

Other innovations created at HERL, such as a field event chair for wheelchair-bound athletes who compete in shot put and discus throwing, are also under consideration by ADI.

“Most people don’t know that SHRS has relationships like this,” notes Cooper. “Our partnership with ADI definitely extends the output of our lab.”

Cooper adds that this type of collaboration is valuable for students. “Not only do they participate in the research that leads to innovative technology, they get exposed to the design process and some of the real-world problems that exist in industry.”

Hargroder agrees. “Working with the University of Pittsburgh has helped my business in all aspects. There’s such a wealth of resources and expertise available at HERL. These are things our small business would never be able to duplicate on our own.

“Through our partnership, we’re able to design and build products that will make a difference in the lives of people.”

And get them into the hands of the people who need them most.

As a gesture of gratitude to the University of Pittsburgh, Hargroder has established the Hargroder Endowed Internship Fund in RST to provide financial assistance to graduate students participating in relevant internship programs.



## Keeping Older Adults on the Move

For most people, a key component of maintaining an independent lifestyle is the ability to walk. But many older adults have difficulty walking. Pain from arthritis, the fear of falling, and complications from various medical conditions prevent them from moving. They eventually lose their balance and coordination.

Two faculty members from the Department of Physical Therapy (PT) are investigating ways to keep older adults mobile, moving, and more likely to stay independent longer. Their studies are significant because they are among the first in the nation to be funded by grants from the Patient-Centered Outcomes Research Institute (PCORI), which was established by the 2010 Patient Protection and Affordable Care Act.

Professor and Associate Dean of Research Anthony Delitto explains, “The goal of patient-centered research is to provide accurate information to patients and their health care providers so they can make more informed decisions about their care. It’s not only ‘Does treatment A work better than treatment B?’ but also ‘What are the comparative risks and potential benefits of both approaches?’”

Through a recent PCORI grant, Associate Professor Jennifer Brach is taking her knowledge of physical therapy interventions and applying them to older adults who live in community settings.

She’s comparing the effectiveness of a standard “senior-center” exercise program with a more demanding one that is specifically targeted to walking. Brach believes that traditional exercise programs found in community centers are suboptimal. “Many of the classes are oversimplified,” she observes. “They don’t challenge the older adults. As a result, people aren’t satisfied and many drop out. “It seems obvious that they need to improve the motor skills involved in walking, and have fun doing it.” Brach took a task-specific motor learning program to improve walking that would traditionally be delivered one-on-one in a PT setting, adapted it for a group of adults, added music, and called it “On the Move.”

With a grant from the Aging Institute of UPMC Senior Services and the University of Pittsburgh, she piloted the program at two UPMC senior living facilities and solicited feedback from the participants. Using their



input, she refined the program and applied for the PCORI grant.

“Dr. Brach’s pilot study was a big win for everyone,” explains Deborah Brodine, president of UPMC Community Provider Services and UPMC Senior Communities. “The Aging Institute was thrilled to see benefit from its seed funding, and the residents at our independent living community benefited from the wellness and fellowship of the exercise program.”

With Brodine and UPMC Senior Communities as a partner, Brach launched a comprehensive new study under the PCORI grant. Over the next three years, she will follow 560 community-dwelling older adults living in 28 independent living facilities and senior high-rises in the Pittsburgh area.

The first participants are being recruited now and will be randomly assigned to either the “On the Move” class or the standard group exercise program. Brach and her team will assess their walking and ability to carry out everyday activities before and after their 12-week exercise program.

In addition to measuring the comparative effectiveness of the two exercise programs, Brach will also determine if the same benefits can be obtained if the “On the Move” program is delivered by the staff of the senior living facility instead of an exercise leader with physical therapy training.

As an extension of the program, Brach is creating a training manual to help on-site activity directors learn how to deliver the “On the Move” program.

“Patients are always looking for exercise and ways to stay independent,” says Brach. “Through our collaboration with UPMC Senior Communities, we’re able to deliver what they need.”

“I think rehabilitation is a huge contributor to overall wellness, particularly in a senior population,” Brodine adds. “Given our larger national health care environment, I’m not surprised at the interest that Jen has received in her area of study. It is well deserved. I look forward to seeing

her future success because I think it is entirely consistent with the goal of keeping our population healthy and well for as long as possible.”

### *Treating seniors with lumbar spinal stenosis*

Dr. Michael Schneider, PT associate professor and doctor of Chiropractic, follows another group of older adults who have trouble walking—those with lumbar spinal stenosis.

According to Schneider, lumbar spinal stenosis, or arthritis of the spine, is a very common condition affecting approximately 30 percent of older adults. “Surgery may be an option,” he notes. “Operations are necessary for some patients with severe symptoms, but they are expensive and risky, with a high number of complications.

“We’re researching non-surgical alternatives that might help relieve pain for patients with mild to moderate symptoms, and get these people moving again.”

Schneider’s study will compare three non-surgical treatment methods.

The first approach is “usual medical care” that involves visits to a physician, prescription medication, and, if needed, epidural injections into the spine.

The second approach uses hands-on therapy, delivered by either a physical therapist or a chiropractor. Manual mobilization techniques of the spine as well as individualized rehabilitative exercises will be key parts of the course of treatment.

The final approach employs group exercise given in a community center. Older adults in the study will take part in a supervised class along with others who are not participants in the study.

Schneider recruited participants from the Jewish Community Center (JCC) in the Squirrel Hill neighborhood of Pittsburgh and the Vintage Senior Community Center in Pittsburgh’s East Liberty community. A total of 180 older adults will be randomized into three groups over the course of the three-year study.

“An important requirement of any PCORI program is stakeholder engagement,” remarks Schneider. “Prior to beginning the study, we asked the program directors of the JCC and the Vintage Center and patients with lumbar spinal stenosis what was important to them.

“We found out that many people were coming to community exercise programs looking for an inexpensive way to manage their low back, knee, and hip pains instead of scheduling more costly physical therapy or chiropractic visits. It seemed clear that older adults need guidance as to what exercise options are best suited for them.”

Each participant will engage in a treatment protocol for a period of six weeks, and will receive a pre- and post-assessment exam that includes a self-paced walk test.

Schneider looks forward to analyzing the results. “At this point, we don’t know what modality is most effective, but we envision significant possibilities.”

Are group exercise classes an effective and safe alternative for older adults with lumbar spinal stenosis? How do group exercise and manual therapy and rehabilitative exercise compare with usual medical care? Are there key findings from the physician’s examinations that would be helpful in determining which type of treatment would be best for individual patients?

“In the health care provider world, we tend to focus on outcomes such as disease markers and impairments that we think are important,” notes Delitto. “Patients are oftentimes more interested in other aspects of their problem, such as quality of life and their participation in activities of daily living. The latter represents the outcomes that are critical to consider in patient-centered research.”

Thanks to PCORI, Schneider and Brach are bringing older adults one step closer to their goal of living active, independent lives.



## OTs and the Museum? *It's Only Natural.*

**S**erendipity. That's the word that comes to mind when Dr. Nancy Baker, associate professor, Department of Occupational Therapy, discusses her initial encounter with Mary Ann Steiner, director of Learning Research at Carnegie Museum of Natural History.

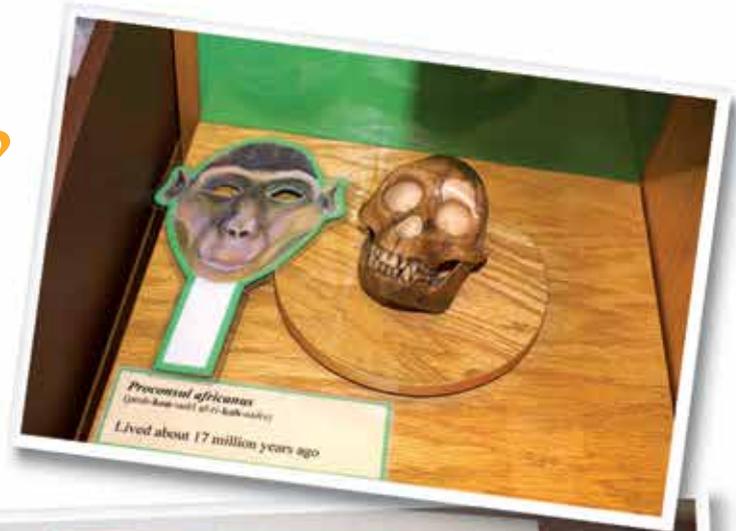
Casual conversation at a neighborhood get-together in 2010 led to one collaboration. Then another.

Today, that serendipitous encounter has evolved into a strong partnership that has enabled museum visitors of all ages and abilities to become more engaged in exhibits. It's also given students in the Masters of Occupational Therapy (MOT) program the opportunity to see how their expertise can impact the health and accessibility of the whole community.

Steiner says her role at the museum is to think about how to make it a more welcoming place for all visitors. So as she began to consider how to build on active experiences at the museum and, in particular, the child-focused human ancestry exhibit in the interactive area then called the Discovery Room, she thought of Baker.

"The museum staff has so much knowledge about scientific content," explains Baker. "But they didn't have the perspective that we, as occupational therapists, do.

"Occupational therapists are trained to analyze space in relationship to the needs of the user. Furthermore, we have a deep understanding of developmental skills of people of all ages and abilities, which allows us to make suggestions that would engage



the toddlers and caregivers that the museum wants to attract.”

Baker and a team of student volunteers began by assessing the space and observing the way visitors interacted with the exhibit. After noticing the small amount of time visitors spent there, and a lack of content-specific focus, they immediately knew what to do.

They reduced the amount of verbiage on the exhibit and added objects that young children and adults could manipulate.

Shortly afterward, the OT team partnered with the museum staff to create the Tail Trail exhibit, a multi-sensory experience that encouraged toddler-caregiver interactions as they walked through a simulated forest environment. The OTs created a tree that showed animals in their habitats, and incorporated the sounds and smells of the forest for more sensory stimulation.

One of the most popular elements of the exhibit was the “campfire,” where children and adults could sit and share stories.

While visitors to the museum learned more about the forest and how to interact with each other, Baker’s students got a lesson in collaboration with the museum staff.

“They educated us on types of trees and animals found in the Pennsylvania forest, and we used our knowledge of development and activity analysis to create a fun activity,” notes Kailey Bedford (BS ’11, MOT ’13), who is now a staff hand/upper extremity therapist at The Orthopaedic Institute in Gainesville, Fla.

“I learned the true ins and outs of collaboration with individuals who are not connected to our profession. I’m thankful to have gotten this experience while I was still a graduate student.”

Eileen Wilmsen (BS ’11, MOT ’13), who is now an occupational therapist at the Rehabilitation Institute of Chicago, says it was rewarding to use her skills in a different environment.

“In school, we’re used to working with colleagues and professors who understand occupational therapy and how we look at functional performance. In working with the Carnegie staff, we had to define and explain why we were making certain choices.”

Steiner was impressed with the knowledge and professionalism of the students.

“They were extremely respectful and thoughtful in their collaboration with our staff. When we suggested ideas, they gave them the utmost consideration, then explained why or why not those ideas would be appropriate in the context of our exhibit.”

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*“I learned the true ins and outs of collaboration with individuals who are not connected to our profession. I’m thankful to have gotten this experience while I was still a graduate student.”*

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In a more recent collaboration, students, faculty, and staff created the “Bear Lair” exhibit in a previously unused space in the museum’s Discovery Basecamp. Using the human body as a tool of measurement and bears as the focal point, visitors can compare their height and weight to a bear’s, and their stride to a bear’s stride.

Through test models and observation, the OTs measured how well the visitors interacted with the exhibit.

Current student Ali Damico, who will receive her MOT in April 2014, says she appreciated the opportunity to participate in the entire process—from development to installation and testing.

“This was a unique opportunity to work with a healthy population in a community setting,” she explains. “It proves that occupational therapy can be applied to any population, healthy or disabled.”

While contributing to the Tail Trail exhibit, students presented their work at the 2013 Pennsylvania Occupational Therapy Association Conference, promoting the contributions OTs can make to the community at large.

Says Alison Brown (MOT ’13), who is now a hand therapist and director of Occupational Therapy at Pinnacle Orthopedic & Spine Specialists in Buffalo, N.Y., “Being involved in a community project and the subsequent promotion of the community approach, forced me to examine the future of our profession and our ability to truly help a large number of people.”

Through a grant from CVS, the museum is again partnering with the Department of Occupational Therapy to address usability and accessibility through three distinct channels—the docents who give tours and provide visitor information, the science-based summer camps for children, and ongoing community outreach programs that the museum offers.

According to Baker, “This time, our students act as consultants, suggesting ways for the museum to improve the delivery of services to different audiences. It is an excellent learning experience.”

“The occupational therapists have been extremely helpful to us,” Steiner concludes. “Their iterative practice of observing, analyzing, and refining is something museum-based learning researchers also engage in, but the focus they bring in understanding use patterns of a wide range of learners and abilities is particularly helpful to us.”

“Our early collaborations have turned into an institutional partnership. We’re looking forward to learning more from each other in the future.”



*“Today’s students are significantly more accustomed to non-traditional methods of interacting with the world. Our goal is to determine how these ‘new’ techniques of providing instruction can enhance their knowledge and skills. Ultimately, and perhaps more importantly, the patients cared for by these EMS professionals will benefit from this alternative educational method.”*

## **3-D DIGITAL MEDIA.**

### ***The Next Best Teaching Tool.***

Students live in a world of 140-character tweets and phone apps. Their video game graphics look like real life. And busy schedules keep them moving at a faster pace than ever before.

That's exactly why Dr. Thomas Platt, assistant professor and Emergency Medicine (EM) program vice chair, is excited about a pioneering technology that will increase the value of the virtual classroom—and ensure its viability as a dynamic, interactive training ground for future emergency medicine professionals.

The technology uses computer-generated 3-D simulated patients in an interactive platform.

Platt became aware of this new tool in 2010 when Dr. Robert Levine, president and chief medical officer of ArchieMD, approached Platt to see if he would be interested in providing content expertise for a pilot study they were conducting.

ArchieMD is a physician-led company that creates innovative educational products for a wide range of audiences. They had their sights set on developing five digital simulation training modules for a new paramedic educational tool that they wanted to market.

“Pitt clearly has national recognition for their expertise in EMS education,” notes Levine. “They were exactly the type of partner we wanted.”

Dr. Walt Stoy, professor and EM program chair, enthusiastically welcomed the partnership.

“We in the EM program, in conjunction with the Center for Emergency Medicine, are continuously seeking individuals and organizations with common goals and objectives to enhance educational programming within the domains of pre-hospital and emergency medical care,” remarks Stoy.

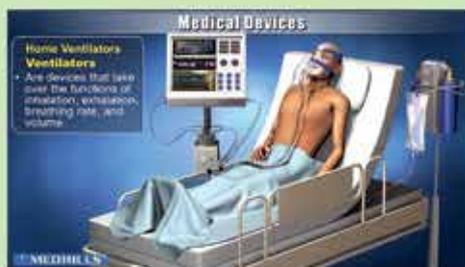
After a successful pilot study, Levine invited Platt and his team to continue the collaboration, serving as the content expert for the entire EMT educational product line.

“ArchieMD is remarkably skilled at using 3-D graphics to teach specific

emergency medicine techniques,” notes Platt.

He explains that the technology is being used to improve the visualization of human anatomy during the learning process and to provide feedback that students can't get from typical simulators.

“With this type of technology, a student can actually peel away layers of a body and see a virtual patient's lungs, for example. He can see the rise and fall of a chest, and use his finger as a stethoscope to auscultate [listen to] breath sounds.



“It's so much more detailed than the two-dimensional models that we typically use in the classroom.”

Using the National Emergency Medical Services Education Standards as a foundation, Platt and other EM faculty members are creating content that remote learners need to know in order to become an EMT.

Platt explains that PowerPoint-type presentations and audio narrations are imbedded in the 3-D technology for

additional detail. Correct and incorrect positions of devices, like needles, can be detected and corrected on the spot.

Quizzes are also incorporated into the program. If students miss answers, they are immediately re-routed back to the lesson, where they can relearn the material.

According to Platt, students will still be required to interact with live instructors periodically for lessons that involve hands-on skills and to learn how to interact with live patients.

Platt says, “This type of learning just might combine the best of both worlds for students who, for one reason or another, can't enroll in a brick-and-mortar class.”

Once the product is on the market, Platt will research its effectiveness compared to traditional classroom learning. Students from the SHRS EM program will be recruited as research participants.

“It is of utmost importance that we continuously evaluate the current and future trends in EMS education,” notes Stoy.

“Our fast-paced world requires us to determine the benefits of alternative educational techniques to ensure students gain the knowledge and skills that can quickly be utilized in the pre-hospital setting.

“Today's students are significantly more accustomed to non-traditional methods of interacting with the world. Our goal is to determine how these 'new' techniques of providing instruction can enhance their knowledge and skills. Ultimately, and perhaps more importantly, the patients cared for by these EMS professionals will benefit from this alternative educational method.”

“Pitt has the ideal resources to perform this type of evaluation,” adds Levine. “A private company like ours needs to partner with entities such as Pitt in order to get non-biased evaluations and feedback on products that are under development.

“We welcome the opportunity to continue to collaborate with Pitt.”



# The Real World

**J**uliana Musmanno loves to cook and has always been interested in food. But that's not the only reason she's chosen a career in the field of nutrition and dietetics.

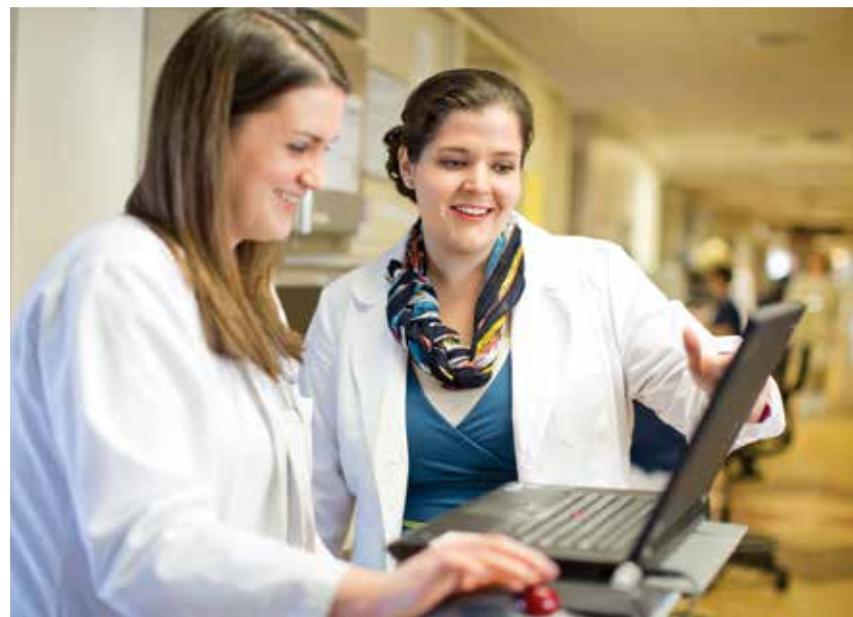
Diagnosed with Polycystic Ovary Syndrome (PCOS) when she was around 13 years old, Musmanno says that nutrition has played a very important role in her life.

"There are many weight challenges associated with my diagnosis," she reports. "There's also the risk of type 2 diabetes and heart disease. Over the years, my dietitian helped me find ways to avoid these complications by teaching me to eat well and stay healthy."

"Now I want to help others do the same so they can keep their lives on track."

Musmanno is currently a second-year student in the Coordinated Master in Nutrition and Dietetics (CMD) program in the Department of Sports Medicine and Nutrition (SMN). An important part of her training is the 1,200 hours of clinical education that is required by the Accreditation Council for Education in Nutrition and Dietetics (ACEND) before she can apply for certification as a registered dietitian.

During her rotation at Jefferson Regional Medical Center in Pittsburgh's South Hills, Musmanno is getting a real feel for what it's like to work with patients in a hospital setting.



“We started out in the food service rotation,” explains Musmanno. “For the first two months, we not only learned about how food is ordered and prepared, we found out more about pricing and how the food service budget was managed.”

Musmanno quickly discovered that her favorite part of the day is always when she talks to patients.

“Patients warm up to the food service people. As I get to know more about them, I am able to see how the hospital dietitian could impact their care.”

Musmanno admits that she finds it fascinating to read patient charts. “Everyone is a puzzle,” she explains. “Our job is to figure out how we can fit nutrition into their lives and get them back to health. Then the puzzle is solved!”

One of Musmanno’s clinical supervisors, Registered Dietitian Erin Pover (BS ’07, MS ’09), gives her high marks for the way she interacts with patients.

“Juliana is always willing to go the extra step with her patients and genuinely listens to their questions and concerns,” says Pover. “One of her best qualities is her ability to effectively communicate with her patients and ensure they understand the information that is being presented.”

“She is also willing to spend extra time with her patients if needed, which is a quality that can be hard to find in the health care field.”

During her clinical experience, Musmanno is also learning how nutrition affects patients with chronic medical conditions including heart disease, gastrointestinal disorders, and cancer, as well as how to manage nutrition for patients who require tube feeding.

“It’s important for students in the CMD program to gain experience providing nutrition therapy in a variety of health care settings, including hospitals, long-term care facilities, and renal dialysis clinics,” says Lori Cherek, CMD clinical coordinator and instructor.

“Supervised practice in the clinical setting allows the students to see individuals with complex medical, nutritional, and psychosocial issues that cannot be easily replicated in the classroom setting,” she continues.

Although she felt well prepared for this assignment, Musmanno reports that the on-the-job training is invaluable.

“The most important thing I’m learning is clinical judgment. In the classroom, you learn what is normal, but in the field you realize that there’s always an exception to the rule. No patient is a perfect textbook example.”

She credits her clinical supervisors with helping her better understand the right treatment for complex cases.

On Mondays, Musmanno returns to class, where she and other students share their clinical experiences.

“We make presentations on interesting cases and compare the different perspectives that come from different health care facilities,” she reports.

“We don’t all see the same things, but we learn from each other.”

Musmanno has already completed other mini-rotations at Children’s Hospital, Magee-Womens Hospital, and the Eating Disorders Clinic at Western Psychiatric Institute and Clinic.

But she’s always interested in learning more.

In the past, she’s worked with Assistant Professor Judy Dodd on nutrition projects for Giant Eagle, and volunteered at a diabetes summer camp for children.

“Juliana’s passion for the field of nutrition and dietetics and her commitment to helping others have been obvious from the first semester she started in the program,” Cherek notes.

“She has always been one of the first students to volunteer to participate in nutrition education programs both for school and on her own time. The faculty of the CMD is very proud of all Juliana has accomplished.”



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