

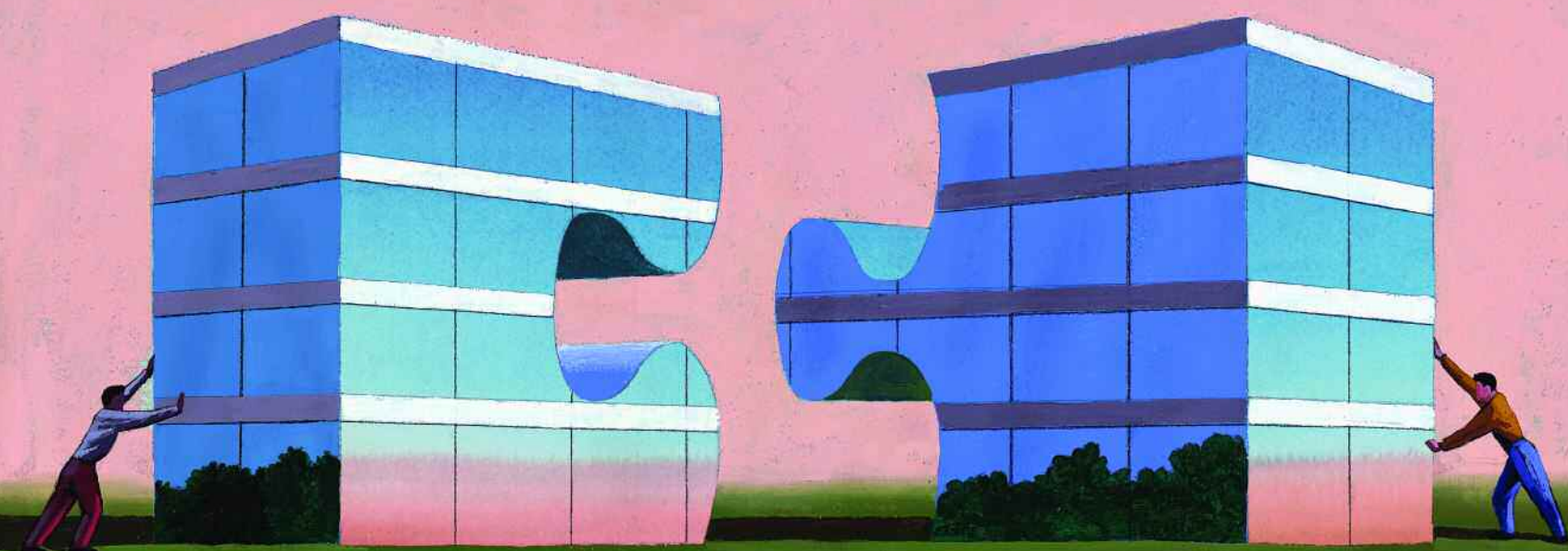
U N I V E R S I T Y O F P I T T S B U R G H

FACETS

SCHOOL OF HEALTH AND REHABILITATION SCIENCES

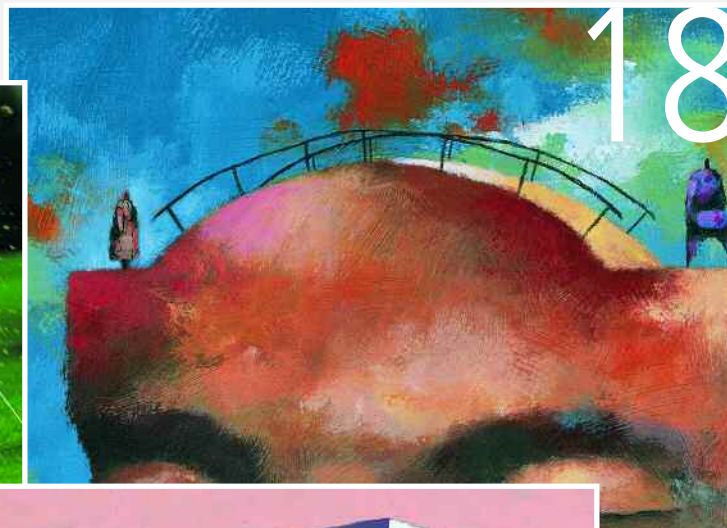
FALL/WINTER 2005

THE CONVERGENCE of rehab and research



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FALL/
WINTER
2005



FROM THE DEAN



Cliff Brubaker

DEAR ALUMNI AND FRIENDS OF SHRS,

I believe you will find the Fall/Winter 2005 issue of *FACETS* to be of considerable interest. As you will see, much of this issue is dedicated to information related to the formation of the UPMC Institute for Rehabilitation and Research (IRR). I shall not say too much about IRR as it is explained quite adequately in the different articles in this issue; however, it is worth noting one or two points that are central to the development of IRR. These are of particular relevance to SHRS as a School of Health and Rehabilitation Sciences, and there is also an additional perspective of significance to everyone engaged in the delivery of rehabilitation services.

I trust that you are familiar to some extent with the "75 percent rule" that will shortly define acute rehabilitation more narrowly and in a consequential manner. Those of you

who work to provide services for in-patients in comprehensive rehabilitation hospitals are most certainly aware of the prospective rules that will govern and define admissions to these facilities. This changing condition for the admission of patients to a rehabilitation hospital has been one of the catalytic factors in the establishment of IRR. In this sense, IRR will provide for necessary consolidation to maintain a high quality of acute, inpatient rehabilitation under the more stringent conditions imposed by the 75 percent rule that defines the mix of patients that must constitute 75 percent of admissions.

Perhaps of greater interest to most of us is the fact that IRR serves as a consolidating entity to facilitate collaboration among the several programs of the Health Sciences for research and development. It will lead to increased educational and clinical partnerships in rehabilitation and assistive technology. This development is sufficiently new as to make precise projections and predictions on its evolution a bit problematic; however, IRR is clearly a major event in the transformation of the rehabilitation enterprise of the University and Health System. Rehab has been a fragmented and generally incoherent collection of programs that existed in isolation from one another 15 years ago. It is now moving to a more coordinated and synergistic system that will constitute a rising tide for the visible spectrum of rehabilitation.

I shall close with overdue recognition of one of our most loved and valued colleagues. Shameem Gangjee, the SHRS director of admissions, has been the visible face of our school to new students for 25 years. As it would be impossible to do justice to all that Shameem has done and meant to all of us and to the success of SHRS in a short paragraph, I shall simply note my profound admiration for her with my thanks and gratitude for her devotion to our students, faculty, and staff for more than two-thirds of our existence. I refer you to the accolades for Shameem in this issue of *FACETS*.

With kind regards,

Cliff Brubaker

cliffb@pitt.edu

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giving

Not wealthy enough to be a philanthropist? Can't really make a difference?

Think again!

Every year, you contribute to the School of Health and Rehabilitation Sciences because you feel strongly about giving back ... about helping others ... about supporting the next generation of health-related professionals. Every year you do what you can to help a School or program you believe in. You are making a difference.

Think for a moment what it would mean for SHRS, and for the students seeking their training and education through us, if your gift were to cease. Multiply your gift by hundreds of others. What if, one by one, they no longer came? Student support would be cut dramatically. Research efforts would be limited. Advances in technology and patient care would be slowed. Talented and creative students would be recruited to other academic institutions.

Your generous annual gifts, and the gifts of other individuals like you, are very important to the financial health of SHRS. And your gifts would be greatly missed should they no longer be available. Your gifts are your legacy to the future.

You can guarantee that your yearly gifts never stop supporting SHRS and its related academic programs. A bequest in your will, a beneficiary interest in a life insurance policy or a retirement plan, or a remainder interest in a charitable trust are all vehicles through which you can ensure that your gifts will be available in perpetuity.

For example, if your annual gift to SHRS is \$1,000, a planned gift of \$23,550 (with a payout rate of 4.25 percent) at your death will ensure that your gifts continue ... and continue to make a difference.

If your yearly gift is \$500, a planned gift in the amount of \$11,765 at your death will make your gift available to SHRS for years to come.

It gets even better. When you endow such a gift, you can name the fund ... for yourself, your family, or to honor a loved one. It is your own personal legacy to a brighter future for those who come after.

If you'd like more information on endowing and naming a fund or would like to know more about annual giving to SHRS, please contact me by telephone at 412-383-6548, by email at pkummick@shrs.pitt.edu, or by postal mail at SHRS, 4031 Forbes Tower, Pittsburgh, PA 15260.

Sincerely,

Patty Kummick

Director of Development



ACCESS

DR. KATE SEELMAN

The title of this issue of FACETS refers to the recently opened Institute for Rehabilitation and Research, an advanced clinical treatment and research facility on the South Side of Pittsburgh. Driving the development of this state-of-the-art center is Dr. Ross Zafonte. In addition to his role as executive director of the IRR, Dr. Zafonte is chair of the Department of Physical Medicine and Rehabilitation and vice president of UPMC's Clinical Rehabilitation Services. I've asked Dr. Zafonte to outline his vision for the IRR and its impact on health care in our community.

Translating research into improved patient care – that is the rationale behind the creation of the Institute for Rehabilitation and Research (IRR). The new center will provide us with a stronger clinical infrastructure. We'll have improved access to neural imaging and laboratory testing as well as quicker access to clinical consultants. Our staff includes physicians, biomedical engineers, neuropsychologists, and behavioral psychologists, as well as nurses, rehabilitation specialists, research coordinators, and a variety of scientists and doctoral students.

While the IRR at UPMC South Side is the first center of its kind, our long-term goal is that all UPMC rehabilitation services will be contained within acute care facilities. It's an immutable fact that we're saving more people who have more complex medical conditions today than we were even five years ago, and this trend will continue. However, once the very acute level of illness has been dealt with, these patients still require a high level of care to handle their residual medical issues. In the past, they were transferred to a freestanding hospital in Squirrel Hill. Today, they're sent to the IRR, which is a dedicated rehabilitation center within the hospital. Here, patients will not only have access to cutting-edge care, but they'll also receive innovative clinical therapies derived from the laboratory. This will enable us to better treat patients through the whole continuum.

Our objective is to create a one-stop shop. The system will begin in the field and continue through the emergency room. It will be as seamless and synchronous as you can find. We'll look at the patient's medical and clinical needs and psycho-social issues. Our therapists will be an active part of the team, seeing patients early on. We have an outstanding relationship with neurosurgery and trauma. Our mantra will be collaboration, and the beneficiary will be the patient.

Our new outpatient facility at 23rd and Jane Streets – about two blocks from UPMC South Side – will strengthen the link between SHRS and UPMC. There will be clinical space for physical therapy, occupational therapy, and speech-language pathology. We'll be seeing outpatients as well as conducting clinical research.

Historically, the rehabilitation field has worked within a "one size fits all" framework. However, we know that there are gender-based and genetic-based factors that can affect the recovery process. We need to understand how these factors impact the therapies prescribed. We also need to develop quantitative measures for both injury and recovery.

For example, if a physician suspects that someone is having a heart attack, blood is drawn and troponin levels checked. If the level is up, the physician knows the person has had a heart attack. Today, these biomarkers aren't available for physical medicine and rehabilitation professionals, but we hope that, in the not-too-distant future, we'll be able to draw someone's blood and say, with certainty, whether the person is getting better or not.

This focus on clinical research is not new to either UPMC or the University. Currently, rehabilitation research at the University of Pittsburgh receives strong financial support from the National Institutes of Health (NIH). The National Institute on Disability Research and Rehabilitation (NIDRR) has designated the IRR as both a Traumatic Brain Injury Model Site and Spinal Cord Injury Model Site.

The IRR also will be the home for an NIH-funded Traumatic Brain Injury Data Project, one of eight in the country. One problem I see is that we tend to compartmentalize treatment by level of care, without looking at the linkages. We'll be looking at ways to improve outcomes through a continuum of interventions.

Motor recovery will be another area of interest. We'll be evaluating the effectiveness of a number of different methodologies: therapeutic and pharmacological interventions such as implantable technologies, and ameliorative technologies like the use of botulinum toxins. This is world-class research, and from our laboratories, we'll be developing innovative therapies that will enable us to offer world-class care to our patients.

The IRR also will afford SHRS students in all disciplines a world-class training experience. What could be better than to be trained at a state-of-the-art facility, participate in cutting edge research, and be mentored by some of the best people in the field? The value to our students, their profession, and their patients is immeasurable.



Student News



Sana Abu-Dahab, a doctoral student in the Department of Occupational Therapy, received a student scholarship to attend the 2005 National Autism Conference at the Pennsylvania State University in August. This year's conference, titled "Progress through Partnership," provided a comprehensive overview of the state-of-the-science available to assist educators and families in developing effective educational programming for all students with autism spectrum disorders.

Sana Abu-Dahab, Megan Dietz, Linda Hwang, Avi Kouzi, Nicole Marko, Reena McCormick, Laurel Rosenbaum, and Jessica Starzynski, doctoral and master's students in

the Department of Occupational Therapy, participated in the Woodlands Foundation's Kennywood Day on July 20. The student volunteers assisted 42 adults with spina bifida to access the rides and other attractions. The mission of the Woodlands Foundation is to enrich the lives of all children and adults with disability and chronic illness in western Pennsylvania. The Woodlands Foundation fulfills its mission by providing a variety of programs and experiences that help to strengthen well-being in the areas of socialization, culture, recreation, appreciation of the environment, and spirituality.

Sana Abu-Dahab, Ana Allegretti, Ketki Desai, Razan Hamid, Min-Mei Shih, and Jeanne M. Zanca, graduate students in the Department of Occupational Therapy and Department of Rehabilitation Science and Technology, and **Kristin Banach, Sarah Ledbetter, Benjie Pease, and Simone Simpkins**, master's students in the Department of Occupational Therapy, organized and implemented an Assistive Technology Day for 110 students in the Pennsylvania Governor's School for Health Care (PGSHC) in July.

Hazel Breland, a doctoral candidate in the Department of Occupational Therapy, received an award from the SHRS Research Development Fund to support her dissertation research entitled "Living with Fibromyalgia (FM): Triggers, Clinical Subgroups, and the Effects of a Self-Monitored Cognitive-Behavioral and Interactive Technology-Based Intervention on Clinical Subgroups."

Hazel Breland and Ketki Desai also developed and displayed a "hands-on" demonstration of ongoing faculty research in the Department of Occupational Therapy

at the UPMC Institute for Rehabilitation and Research (IRR) Open House in June. **Ketki Desai** also participated in a panel discussion for Health Professions and Health Systems in Aging for 27 Pennsylvania Governor's School for Health Care (PGSHC) students in July.

SHRS is proud to count two Ford Foundation International Fellows among its students. **Jenan Barghouthi**, from Palestine, and **Veronika Ivanova**, from Russia, are both pursuing master's degrees in Rehabilitation Counseling. The Ford Foundation International Fellowships Program provides opportunities for advanced study to exceptional individuals who will use this education to become leaders in their respective fields, furthering development in their own countries and greater economic and social justice worldwide.



Greetings!



As with all things in life, the SHRS Alumni Society changes. As I take over as president of the SHRS Alumni Society Board of Directors for fiscal year 2006, I want to thank Karl Gibson for his excellent stewardship of the board over the last year. In our last year we have made great strides with the expansion of support for "Finals Break"

refreshments for fall and spring terms; setting up the "Alumni Hospitality Suite" funds to be used at state, regional, and national meetings; winning our first PAA Banner; and working with Patty Kummick, director of development, on the Alumni Endowed Scholarship Fund. And, of course, celebrating our 35th anniversary.

But to continue these efforts, we need your support. Yes, part of that is responding to a request for giving; but just as important, we need your support in other ways. Some take just a few minutes, like providing updates on your career or special accomplishments that have occurred in your life, and that help advance the visibility of the School. Others, like providing career advising or mentoring, may take a bit more time and effort but are so very important to promote the growth of SHRS. You can also contribute support by participating in the SHRS Alumni Board, which is composed of representatives from each of the 11 programs and departments represented within the School. If you are interested, please contact Juli Gasperi, director of recruitment and coordinator of alumni affairs, to place your name in

the candidate pool. I would especially like to extend an invitation to my fellow Clinical Laboratory Sciences alums to participate and be active on the board.

One special effort of support that we ask for this year is your feedback. Our goal is to develop and distribute a brief survey that will tell us what you would like to see the Society doing over the next five years to provide services to the entire SHRS alumni body and to promote SHRS. So when that survey does arrive, please take the time to complete it!

Also please take the time to consider a gift to the Alumni Endowed Scholarship Fund if you haven't done so already. As you move forward in your life, remember that you are the best reflection of the quality of SHRS. While our loyalties are always first to our professions (and that department in SHRS), please remember that it is the sum of all of SHRS that truly gives it strength. Giving to the Alumni Endowed Scholarship Fund is truly a great way to promote that strength!

"Veritas virtus"

Neil Szumjnsky
Neil Szumjnsky (CLS '76 and '80)
President

SHRS Alumni Society Board

CALENDAR of Events

February

February 9
Thornburgh
Family Lecture

December

December 2-3
"Occupation-Based
Wheelchair Seating and
Mobility Evaluation and
Intervention"
a workshop for
occupational therapists

October

October 11
Eleventh Annual Endowed
Scully Visiting Lecture Program
featuring David Sinacore, PhD, PT,
FAPTA, Washington University, 7 p.m.
William Pitt Union, Lower Lounge

October 21-22
Pennsylvania Physical Therapy
Association Annual Conference
The SHRS Alumni Society will
host a welcome reception on
Friday, Oct. 21, 4:30-6:30 p.m.
Seven Springs Mountain Resort
Conference Center
Champion, Pa.

October 29
SHRS Open House,
Forbes Tower, 10 a.m.-1 p.m.



It's all in the Attitude



Ellen Estomin
(CSD '73)

Retirement. That's something that Ellen Estomin, CCC-SLP, just isn't ready to accept. For the past thirty years, Estomin, who holds a master's degree in communication science and disorders from the University of Pittsburgh, has been the director of speech-language pathology for Pittsburgh Public Schools. She and her staff work with children who have impairments in the areas of language, articulation, fluency, and voice. Rumor had it that she was retiring in 2005, but instead she took on even more responsibility when she accepted the position of Senior Program Officer: Program for Students with Exceptionalities. In her new role, Estomin not only directs the speech-language programs, but now oversees all special education programs for Pittsburgh Public Schools.

With three decades behind her, Estomin remembers many of the children she worked with years ago as if it were yesterday. In particular, she remembers a young boy whose mother was concerned about his ability to communicate. When Estomin and her staff began working with him in kindergarten, they found that he had absolutely no oral communication system. His family worked diligently with him, but still they were apprehensive about his immediate future and his chances of attending college in later years.

One of the methods Estomin used with the boy was to break everything down into very small steps for him. He wasn't an auditory learner, so she had to use multi-sensory teaching, meaning that she literally had to teach him how to put two words together, then three words, then four, and so on. She eventually taught him how to form complete sentences, while also showing him that every sentence has a message. When talking with him, if he would say something that didn't make sense or didn't have relevance to the subject, she would offer him feedback.

"The bottom line is that we were helping him to help himself – that's what it's really all about," says Estomin. "We were laying his foundation so that he could perform to the best of his ability and be independent. His parents often call me today to let me know how he is doing – in college, that is!"

Estomin says that, over the years, some of the tools and techniques for working with special education students have changed, but the principles of quality teaching have not. With improvements in technology, software programs are constantly being updated and auditory programs have been enhanced. She says that the most dramatic change has been in the approach to reading.



"Until recently, there was no agreement among the literacy/reading community about the skills one needs to have to learn how to read. Those of us in the speech and language profession have always said that communication is connected to learning how to read, but some in the reading community didn't agree. Now they are highly connected, and it has helped tremendously."

As practices and techniques change, it has been Estomin's responsibility to make sure that she and her staff remain on target with the professional scope of practice, which includes having her staff trained in all new areas. Each year, she must also measure the needs of each school and redistrict the staff so that students are receiving the best possible services.

"The only real obstacle in this work is your own attitude. You have to believe that all children can learn – and if they aren't learning, then why not? There are circumstances in life, like poverty, that are beyond our control. Life in today's world is much different for youth than it was 30 years ago," says Estomin. "We let students know that we may not be able to control the circumstances they face every day, but we can give students strategies and skills to help them cope with what's going on in their lives."

Aside from her work with the Pittsburgh Public Schools, Estomin is the speaker of the legislative council for the American Speech-Language Hearing Association (ASHA) and a member of the School Finance Committee for ASHA. Furthermore, she works part-time as a clinical instructor for the University of Pittsburgh.

"It's been my commitment that graduate students understand basic therapy principles. I lay the foundation of good fundamental skills and let them know that, no matter the job setting, whether a hospital or a school, those basic skills will be what makes them successful," says Estomin.

Estomin says that one of the most rewarding aspects of being a clinical instructor is having the students return to tell her that they've become successful in their work environment. She is also proud to employ several graduates of the University of Pittsburgh in the public school system. ●



Alumni News

Eric Wallis, MS, RHIA (HIS '03), recently received his 5th Meritorious Service Medal for his work as the Executive Officer of the Patient Administration Directorate at Walter Reed Army Medical Center. Eric was recently promoted to Major and began his new position as Combat Developer in the Directorate of Combat and Doctrine Development at Fort Sam Houston. Eric will develop health information systems and the integration of these systems into the Future Combat Systems (FCS).

Gerald Gruber, MS, RHIA (HIS '02), was promoted to Lieutenant Colonel and assumed his new position as Director of the Patient Administration Directorate (PAD) of Brooke Army Medical Center at Fort Sam Houston.

Kaitlyn Hanchett (HIM '05), has accepted a position with Magee-Womens Hospital as Manager of Release of Information and Chart Analysis.

Mary (Ubinger) Murray (AT '93), is working on her doctorate in education at Seton Hall University.

Kysa Harriell (AT '96), is working on her PhD at the University of Miami, where she works as director of clinical education.

Barbara Crane, PhD (RST '04), served as the RESNA 2005 Annual Conference chairperson. The event was held this past June in Atlanta. Barbara is an assistant professor in Physical Therapy at the University of Hartford.

Brian Fay, PhD (RST '01), is busy working for the University of Illinois at Chicago in the Rehabilitation Engineering Research Center – Rec Tech. He's involved in demonstration projects including automatic machine configuration and modification of current exercise equipment.

Pam Reynolds, PhD (PT '72, '88), associate professor in the physical therapy program at Gannon University, Erie, Pa., was selected as one of 15 finalists for the Campus Compact Thomas Ehrlich Faculty Award for Service Learning. Campus Compact is a national coalition of more than 950 college and university presidents. Its award recognizes exemplary leadership in advancing civic learning and the development of students' citizenship skills. Reynolds is the first physical therapist, and one of a handful of educators who prepare health care professionals, to be named as a finalist. Reynolds is also serving as guest editor for the *Journal of Physical Therapy Education* for a special issue on service learning and community engaged scholarship. Her article from her dissertation study was included in the publication's May 2005 issue.

Greg Petrosky (PT '91), is seeking to hire qualified full-time speech and physical therapists and a part-time athletic trainer to assist in his private practice. Contact Greg at Ridgway (Pa.) Physical Therapy at 814-772-7848 or by fax at 814-722-7849.

Colleen White (OT '86, HIM '92), director of rehab services at Charles Cole Memorial Hospital, Coudersport, Pa., is also recruiting therapists. For more information, contact Colleen at 814-260-5398 or colleen.white@charlescoleshospital.com.

Breaking Boundaries for SCIENCE

For over three decades, the International Evoked Response Audiometry Study Group (IERASG) has met biennially to discuss evoked response measurement, an application of clinical electrophysiology pioneered by the late Hallowell "Hal" Davis in the mid-1960s. Now fondly known as "Hal's Club," the group concentrates on recording electrical events from the body, specifically the ear and the brain, in order to register objective indications to study hearing, hearing preservation, and hearing measurement.

"The biennial symposium is not a high-priced medical meeting with high-volume attendance," explains Dr. John Durrant, professor, Department of Communication Science and Disorders, and IERASG co-chair. "It's a delicate balance of both scientific and social interests."

That balance was tested this year, not by the social or the scientific – host Dr. Maria Perez Abalo has been active in past conferences, and she and her colleagues have been researching several new, upcoming techniques in the evoked response field – but by U.S. foreign policy.

Historically, the IERASG has moved the conference around the globe so that all members of the group have an opportunity to attend and learn what their colleagues are researching and developing in other countries. Past meetings have been held in Canada, Israel, Japan, and Spain. But Dr. Abalo resides in Havana, Cuba, and, while the choice of location followed precedent, it proved temporarily problematic for U.S. citizens due to the U.S. ban on Americans traveling to the country.

Fortunately, after much research, it was discovered that the group had all of the qualifications to travel to Cuba under general license. Americans were granted legal entry into the country because it was for the purpose of exchanging scientific information, the basis for the biennial symposium. However, even with the government permission, the turnout of American members was small. There was particularly strong showing of participants from Eastern Europe and Korea.

Nonetheless, Durrant made the trip and dubbed the conference a success, and he is confident that, politics aside, "Hal's Club" will continue to share advances in evoked response measurement around the globe.

The site of the 2007 meeting? According to Durrant, "It's to be determined, but Eastern Europe looks most promising."



ON THE ROAD TO MEET ALUMNI!

The University of Pittsburgh Office of Alumni Relations for the Schools of the Health Sciences hit the road beginning in September with a series of regional alumni receptions. Events have been held in Lancaster, Pa; Tucson, AZ, and Dallas, Texas. Events in October are slated in Hackensack, N.J., on Oct. 19 and Altoona, Pa., on Oct. 25. San Francisco is on the books for January 2006, and a Winter Academy will be held in Naples, Fla., on February 17, 2006.

Alumni from all of the health sciences schools are invited to these engaging social events. Catch up with friends from SHRS along with colleagues from the other schools – the School of Dental Medicine, the School of Pharmacy, the School of Nursing, the School of Medicine, and the Graduate School of Public Health. Each reception features light refreshments and excellent presentations updating alumni on the latest cutting-edge research and educational advances at Pitt. The receptions are free of charge, but RSVPs are requested.

Invitations are mailed in advance to alumni and friends of the University who live in the cities and surrounding areas where the event is being held. If you plan to be in the area where an event is scheduled, contact Patty Kummick, SHRS director of development, at 412-383-6548 or via email at pkummick@shrs.pitt.edu for information or to help plan a regional health sciences alumni reception in your hometown. We'd be delighted to talk with you about bringing an alumni event to your area!



Celebrating a Silver Anniversary

Shameem Gangjee
Director, Admissions

Every thriving academic program relies on its admissions office to identify the best possible student candidates. And from the school's early days, the admissions department at SHRS has relied on Shameem Gangjee. This year marks her 25th anniversary as a member of the SHRS family, during which time she has raised two children, Javed and Zia, both of whom were recently married.

As director of admissions since 1990, she has played a significant role in the school's rapid development. And at every step of the way she has approached her job with dedication and attention to detail. As Juli Gasperi, director of Recruitment and coordinator of Alumni Affairs, and also a close friend, explains it, "Shameem is an incredible woman who has done so much for this school. I've been proud to work side by side with her. Not only is she a true professional, but she cares deeply for the futures of all of the students who come through her door."

It has been this very visible human touch that Gangjee lends to everything she does that defines her career at Pitt. In an effort to bring together the schools' disparate disciplines, Gangjee for years organized an annual holiday dance. Says Gasperi, "The students just loved it. She has always thought about students first – how they can have the best experiences at SHRS, not just academically, but in all facets of their lives."

But Gangjee has also played a crucial role in developing the schools' admissions process. In one case, she helped the Physical Therapy program – which was receiving more than 800 applications each year, with only 36 slots to fill – rethink how it reviewed incoming applications. Gangjee appointed a faculty admissions team to tackle the huge number of applications, and they quickly sorted through the flood of applicants to identify the select few who would be interviewed and then admitted. More recently, she is helping the school make the transition to an online application process.

Through the years, Gangjee has impacted many people's lives, from current students and alumni to her many friends and colleagues at Pitt. And her impact on the school over the past 25 years cannot be understated. As Dean Cliff Brubaker explains, "Shameem provides as good a first impression of our school as we could ask for. She knows the university as well as anyone, and she has a special way of relating to the students she meets. She's extremely generous with her time and takes a great interest in all of our students. I can't say enough about her contribution to the school."



Department news

- The Department of Rehabilitation Science and Technology was awarded the 2005 Chancellor's Affirmative Action Award, which is given to outstanding Pitt program areas that have made a significant contribution in affirmative action.

Chancellor Mark Nordenberg recognized the contributions the department has made to ensure that students with disabilities have the opportunity to fully participate in university life and in the larger community. The department was also praised for the work its faculty and students did to launch a campus-wide disability initiative focusing on the inclusion of disability issues in research projects, curriculum review and development, policy studies, presentations, and social events. Also of note was a collaborative project with the School of Nursing to establish a course on Personal Care Assistance.

The \$2,500 award was presented to Dr. Rory Cooper, professor and chair of the department, at a University Senate Council meeting on June 13.

- The Department of Communication Science and Disorders welcomes Katya Hill, PhD, to its faculty. Hill received her doctorate from SHRS in 2001 and will be concentrating on augmentative and alternative communication (AAC) technologies.
- The Department of Rehabilitation Science and Technology received the "Leadership Award" from the Rehabilitation Engineering and Assistive Technology Society of North America (RESNA). The award was given for "exemplary leadership in the development and conduct of an academic program in assistive technology."

- The Department of Rehabilitation Science and Technology has entered into an agreement to co-sponsor a workshop entitled "Occupation-Based Wheelchair Seating and Mobility: Evaluation and Intervention." The two-day workshop is designed to attract occupational therapy practitioners from around the country who may be interested in pursuing this practice area. In May 2005, the Centers for Medicare and Medicaid Services (CMS) released the new National Coverage Decision (NCD) for Mobility Assistive Devices. This document describes the clinical criteria for prescribing all mobility assistive devices including canes, walkers, manual wheelchairs, scooters and power wheelchairs. Among the significant changes in the new coverage policy is the introduction of occupation-based language regarding the client's ability to perform activities of daily living with the use of a mobility assistive device. It is essential that occupational therapists are aware of these documents and how they support the role of occupational therapy in the area of wheelchair seating and mobility. The workshop will provide information on the new coverage policies, how to interpret them, and how to put them into practice. The first workshop will be held in Pittsburgh on December 2 and 3 and conducted by Mark Schmeler, MS, OTR/L, ATP and Chris Chovan, MOT, OTR/L, ATP.

- The Department of Communication Science and Disorders hosted the Jack Matthews – Herbert Rubin Lecture on Oct. 7. Guest lecturer was Raymond D. Kent, PhD, professor of communicative disorders, University of Wisconsin – Madison.
- The Department of Sports Medicine and Nutrition welcomes Amy Aggelou, visiting instructor. Amy is a 1994 Pitt alumnus with a bachelor's degree in Health, Physical and Recreation Education.



Faculty AND Staff Update

Donald Angelone, senior lecturer, Department of Rehabilitation Science and Technology, was named to the Working Order Board of Directors. He joins colleague **Michael McCue**, associate professor, Department of Rehabilitation Science and Technology, on the board. Working Order is a nonprofit small business incubator for persons with disabilities and other obstacles to employment.

Dr. Bambang Parmanto, assistant professor, Department of Health Information Management, along with students

Ill Masters division and placed first in the swimming 100-yard individual medley, second in the 50-yard breaststroke, 50-yard freestyle, and 50-yard backstroke, and second in the manual chair slalom. Cooper was among some 500 athletes from 48 states, Puerto Rico, and Great Britain competing in the largest annual wheelchair sports event in the world. All athletes are military veterans who use wheelchairs due to spinal cord injuries, certain neurological conditions, orthopedic amputations, or other disabilities. The games were hosted by the U.S. Department of Veterans Affairs and the Paralyzed Veterans of America.

◀ Cooper was also recently honored by *Exceptional Parent* magazine and the Pittsburgh Pirates on Disability Awareness Night at PNC Park. During pre-game ceremonies, Cooper was presented the EP Maxwell J. Schleifer Distinguished Service Award for his longtime advocacy for the disabled and special needs community. Cooper was also given the honor of

throwing the game's first pitch.

Dr. Margo B. Holm, professor, Department of Occupational Therapy, and **Mary Lou Leibold**, assistant professor, Department of Occupational Therapy, presented a lecture in July on functional assessment of older adults with cognitive/degenerative impairments to second-year psychogeriatric medical residents.

Dr. Jane Mazzoni-Maddigan, assistant professor and clinical education coordinator, Department of Health Information Management, has retired after 19 years of service to SHRS.

Dr. Joan C. Rogers, professor and chair, Department of Occupational Therapy, and **Dr. Margo B. Holm**, professor, Department of Occupational Therapy, presented their research at the International Measuring Behavior 2005 conference in Wangingen, Netherlands, held August 29–September 2. Rogers presented on the observational assessment of independent living skills, and Holm presented on actigraphy as an objective outcome measure.

► **Elizabeth Skidmore**, assistant professor, Department of Occupational Therapy, and master's degree students **Linda Hwang**, **Avi Kouzi**, **Sarah Ledbetter**, and **Reena McCormick** presented "Helmet Safety Education" to more than 60 children enrolled in the St. Maurice's Vacation Bible School Program in June. This innovative program was a pilot for a new curriculum designed to educate children aged 4–10 about safety and injury

prevention. **Skidmore** and Department of Occupational Therapy doctoral candidates **Hazel Breland** and **Ketki Desai**, and doctoral student **Razan Hamed** also attended an Institute of Medicine workshop entitled "Disability in America: An Update" in August.

Jean Webb, grant administrator for the Rehabilitation Engineering Research Centers in the Department of Rehabilitation Science and Technology, retired this past spring after 19 years of service to the University of Pittsburgh. Jean was hired by the university in 1986 and transferred to the RST department in 1993.

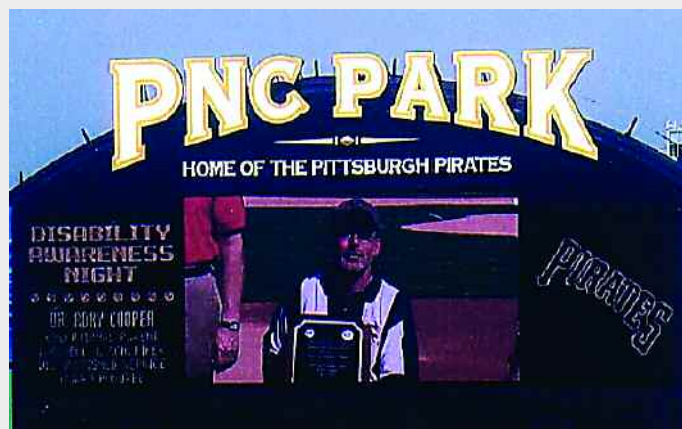
Debra Lejeune, instructor, and **Benjamin Abo**, adjunct instructor, Emergency Medicine program, traveled to Szadowo and Kwidzyn, Poland, to conduct American Heart Association CPR (cardiopulmonary resuscitation), AED (automated

external defibrillator), and first-aid classes as well as instructor classes and workshops for 24 Peace Patrol members. All 24 students became certified AHA Heartsaver CPR/AED instructors.

The new instructors were then utilized and monitored as 135 police officers of the Kwidzyn Police District were trained in CPR/AED and first aid for adults, children, and infants. Jaroslaw Jedrzejczyk, chief of the Kwidzyn Police District, commented, "It means so much to have people like you come here to Poland and provide such training. It is my hope that the rest of the country of Poland will follow suit, and then many more lives will be saved."

Few AEDs currently exist in Poland. Following the training, plans are in place to acquire AEDs for public locations, following the U.S. model. Within one week of the training, another CPR/AED class was conducted by the new instructors at the Warsaw Uprising Museum, which nearly 200 people visit daily. An AED was then provided for placement with the museum for public access.

Dr. Kate Seelman, associate dean for Disability Programs and professor, Department of Rehabilitation Science and Technology, served as a keynote panelist for the Pennsylvania Association of Rehabilitation Facilities' "Making Work Work for People with Disabilities" workshop in State College, Pa. on September 30.



Reza Ferrydiansyah and **Lijing Song**, graduate student researchers **Andi Saptono** and **I. Wayan Sugiantara**, and graduate student assistant **Stephanie Hackett**, received the best paper award for "AceSS: Accessibility through Simplification and Summarization." The awards ceremony was held at the International Cross-Disciplinary Workshop on Web Accessibility in Chiba, Japan, in May.

Dr. Rory Cooper, professor and chair, Department of Rehabilitation Science and Technology, competed in the 25th National Wheelchair Games in Minneapolis, Minn., this past summer. Cooper competed in the Class





Surging Ahead



Since joining SHRS in 1997, the Emergency Medicine program has grown by leaps and bounds. Just one student enrolled in its first year of affiliation with the school, but now the program supports 22 juniors and 20 seniors.

As is usually the case, this surging growth can not be attributed to just one phenomenon. It is the result of the hard work and dedication of the program's talented staff, the success of the program's recent graduates, and a heightened level of awareness across the university about the unique opportunities available with a degree in EM.

Explains Dr. Walt Stoy, program director, Emergency Medicine program, "There have been several different factors leading to the program's steady increase in enrollment. We offer a really exciting, challenging curriculum. Students interested in the health professions – and, increasingly, pre-med students – have also slowly matriculated into the program. But much of the growth has

purely been from word of mouth. Students who weren't familiar with emergency medicine or the program at Pitt hear about the great challenges and rewards of a career as a paramedic or EMT, and they want to learn more."

As Stoy points out, the program laid the groundwork for its present growth curve by making it accessible to students from a host of different academic backgrounds. "Unlike other programs in the university, we adjusted our requirements several years ago so that we can welcome students from a wide variety of disciplines. Students entering the program are required to have 60 credits by their junior year. However, only 20 of these 60 credits are specifically defined for the program."

He continues, "The Emergency Medicine program has benefited greatly from the fact that we only accept junior-level students. Every student enters Pitt with certain expectations, but those can change over time. We embrace the student who has researched the emergency medicine field and walks into it with a frame of reference for other health-related fields and has a clear understanding of our curriculum and clinical work. Most students can fully commit to the program by their junior year, and, in many ways, this is one of the most important factors necessary to achieve success."

This philosophy has also recently translated into an increase in pre-med students who choose the Emergency Medicine program to prepare them for medical school, which is as competitive as ever. Stoy explains, "There are few other programs or undergraduate majors that offer the high level of hands-on, clinical experiences that our Emergency Medicine program offers. You can't assess trauma in a

classroom setting. Incoming pre-meds are beginning to realize that when their experiences are compared with their peers with purely academic backgrounds, they're likely to get the nod."

Regarding the benefits of word of mouth promotion, Stoy notes that there was little marketing for Emergency Medicine in the past. The vast majority of students entering the program were those proactive enough to seek it out. "Prior to 2000, we did little to announce our arrival inside or outside of the Pitt community," he explains. "Most of our early students literally came knocking on our door. But as our students and staff have had more of a presence throughout the university, we've significantly raised our level of awareness. And we're now on the verge of having to turn students away."

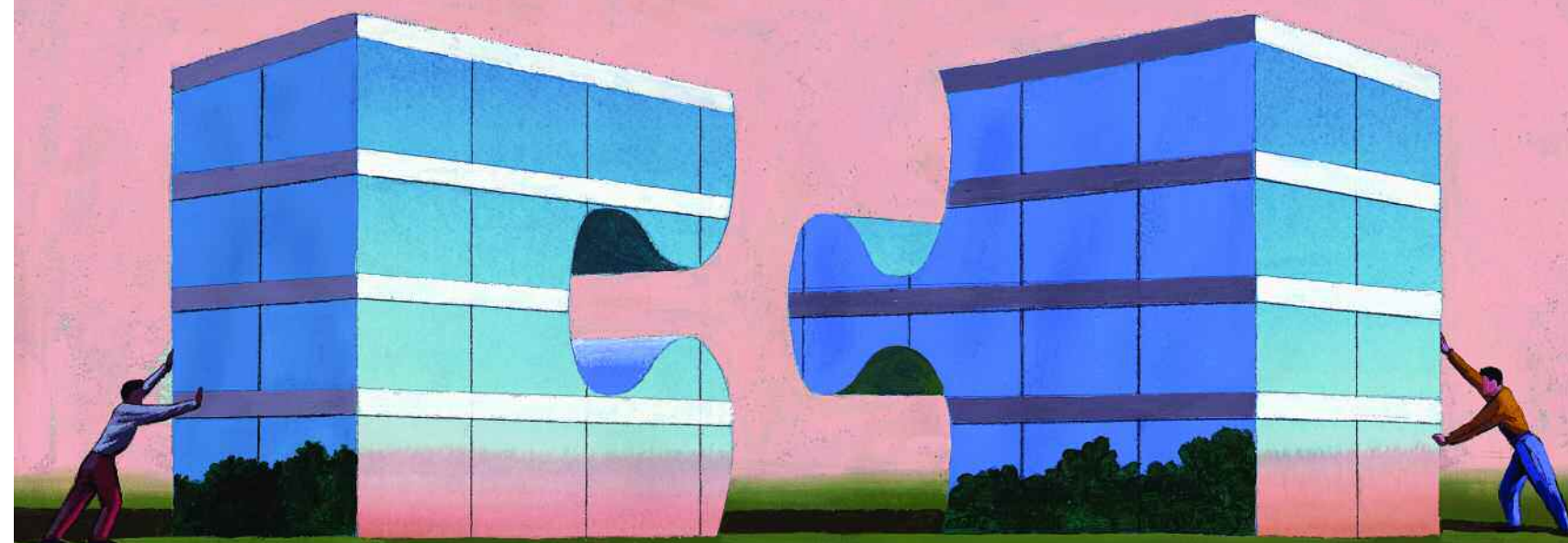
To date, the program has had an open enrollment policy. Assuming that prerequisites and minimum GPAs were met, any student with an interest in emergency medicine could enter the program. However, the recent surge in attendance may soon prompt the program to begin honing requirements and adopting a selection process.

But too many applicants is a good problem to have, especially for a program that only eight years ago numbered just one undergraduate.

And of the next eight years, Stoy predicts, "We're the only emergency medical services program in the country to have a sole focus on emergency medicine. We also have 100 percent job placement for our graduates, so we're already in a fine position. If we continue doing the things that have established us thus far, I think there is no limit to our potential." ●



THE CONVERGENCE of rehab and research



It's difficult to recognize the University of Pittsburgh Medical Center (UPMC) rehabilitation infrastructure of a decade-and-a-half ago when compared to its formidable and ever-changing present form. Fifteen years ago, the medical center had a nascent Division of Physical Medicine and Rehabilitation (PM&R), but physicians were free to take the rehabilitative approach of their choosing after a patient's discharge.

There was little academic or clinical training available in the field, inpatient rehab was not a significant focus, and rehab revenue generation was minimal.

When Dean Cliff Brubaker arrived at SHRS, he chose to focus on rehabilitation and in time rehab took on a more prominent role within the university and health sciences schools. Brubaker aligned the school's programs along a rehab-oriented axis and soon began recruiting prominent faculty intensely interested in rehab and disability.

At the time, SHRS had minimal interaction with the PM&R program, a division of the Department of Orthopaedic Surgery in the School of Medicine. But, according to Brubaker, the connection began to solidify with the creation of the Center for Assistive Technology (CAT), initially through the efforts of Dr. Douglas Hobson, associate professor, Department of Rehabilitation Science and Technology, and co-director



of the Rehabilitation Engineering Research Center (RERC). The center is currently headed jointly by Dr. Rory Cooper, professor and chair, Department of Rehabilitation Science and Technology, and director, Human Engineering Research Laboratories (HERL), and Dr. Michael Boninger of PM&R, who has an adjunct appointment in the Department of Rehabilitation Science and Technology and is medical director of HERL.

For most of the late '90s, SHRS and PM&R evolved in a complementary manner – as they continue to do to this day. In 2000, with the recruitment of Dr. Ross Zafonte as chair of PM&R, the program became a department. As Brubaker fondly recalls, "Zafonte's addition to the UPMC community forced people to finally take real notice of rehabilitation."

"Collaborations between SHRS and PM&R steadily increased with significantly expanded activity among faculty and students. This resulted in unparalleled increases in grant awards with accelerated expansion of research. We have a common appreciation

and sense of responsibility to address issues of relevance for people with disabilities. I believe this has been an essential basis for the success of our clinical research efforts and the considerable success of our respective areas."

THE RISE OF REHAB

Today, the study and practice of rehabilitation is one of the crown jewels of UPMC, western Pennsylvania's premier health system with 18 hospitals and a network of care sites across a 29-county area. The development of rehabilitation as an increasing focus of UPMC has resulted in the formation of the Institute for Rehabilitation and Research (IRR). The institute offers a combination of innovative therapies, advanced technology, and high-quality medical care. Its clinical services and research activities benefit patients with brain injury, spinal cord injury, peripheral nerve disorders, neurodegenerative diseases, stroke, and other physical disabilities.

UPMC Diversified Services, the pre- and post-acute care arm of UPMC, played an integral role in the development of the IRR and remains the institute's primary oversight body.

Michele McKenney, CEO of UPMC Diversified Services, notes, "The ground was fertile for an organization like the IRR to take root. We had clinical rehab units in place, education and research units available through SHRS and PM&R, and physicians at UPMC. All of the initial stakeholders were very passionate about rehabilitation, and all were prepared to work toward a common good. Couple this environment with the aging population of the United States and there existed a set of conditions that were ripe for the development of cutting-edge device and biomedical rehab research."

But beyond the stunning assembly of physical expertise, the changing federal reimbursement landscape also edged forward the ultimate opening of the institute. Current Medicare reimbursement is paid through the prospective payment system, but the government has created a complex classification system to put limits on the individuals who can receive acute rehabilitation care. Under the newest law, commonly referred to as the "75 percent rule," a hospital must have at least three-quarters of its patients in one of the categories considered to be rehab-worthy.

Describing the impact the new guidelines had on UPMC and the IRR, McKenney says, "Naturally, we lost a good deal of demand for rehab services as a result of the 75 percent rule. It drastically limited the number of patients who could receive inpatient care. So we decided to sell our rehab facility in Squirrel Hill and combine our inpatient services at the IRR at UPMC South Side.



Not only did this coordinate and reallocate our services, it allowed us to create a rehab hub that would draw the best and brightest from our health-related disciplines."

Continues Deborah Brodine, COO of UPMC Diversified Services, "While the consolidation was fiscally prudent, we also wanted to show UPMC's full-fledged support for rehab. We believe that the IRR has tremendous potential to become one of a handful of centers of excellence for rehabilitation in the country, and we were willing to make a significant investment to back up this contention."

THE SYNERGISTIC APPROACH

"The IRR is a collaborative in the purest sense, and it has benefited from the unique talent pools available through UPMC and through the University of Pittsburgh," notes Zafonte, the new executive director of the IRR. "The IRR is the result of a 'Marshall Plan'-style effort to quickly and forcefully develop innovative clinical treatments and technologies for people in need of rehab and for people with disabilities. By 2010, roughly 20 percent of the population will have a physical or cognitive impairment. The creation of the IRR brings together resources that are unparalleled to meet this future need."

One of the many forces that has lent support to the IRR is Dr. Tony Delitto, associate professor and chair, Department of Physical Therapy. Explaining his department's role, Delitto says, "As a physical therapist, I know that we'll have a significant role in the research and service delivery components of the IRR. The SHRS Physical Therapy program has already helped formulate best-practice guidelines, and we've developed forced-use paradigms, which are regimens of upper extremity exercises for people to work on after a stroke.

"Our clinical and academic program has received national attention, and I'm looking forward to a system-wide commitment to rehab. The IRR makes way for a far less fragmented approach to rehabilitation studies. And given the scope of resources at UPMC and Pitt, the IRR is a natural evolution."

Cooper, a member of the Institute's board of directors, has also played a strong role in the Institute's formation. The CAT will be the outpatient assistive technology service provider for the IRR, providing an instant clinical link. And if this weren't connection enough, the Department of Rehabilitation Science and Technology also has 5,000 square feet of space at the Institute's outpatient location next to its South Side facility.

But there is also a strong research-based connection between the department and the IRR. Says Cooper, "We're tied into a model systems grant with IRR and PM&R, and we're working on other formal relationships moving forward. Being located at their facility is a good start, but we have great plans for future collaborative opportunities."

"Symbiosis perfectly reflects the relationships at play in the IRR," emphasizes Zafonte. "Brilliant minds have come together, and their clinical expertise and research backgrounds will produce awesome results."

STRIVING TO BE THE NEXT STANDARD-BEARER

In the five years that Zafonte has been at PM&R, he has managed to catapult the department into *U.S. News & World Report's* Best of the Best rankings. The department ranks number eight among funding from the National Institutes of Health for programs of its kind. And UPMC, as a whole, ranks 26 on the magazine's list of top rehab health systems. Within three years, Zafonte hopes to break into the top 10.

Says Tom Hemming, senior vice president, UPMC Rehabilitation Services, "Our clinical programs are top notch. But we haven't applied our clinical research findings to the extent that we could. The more involvement we get from our tremendous researchers, the stronger we'll be. The IRR at South Side will be a three-pronged rehab center – bringing the clinical study, research, and academics under one roof – and it will compete with the top programs in the world."

Predicts Cooper, "Ultimately, I envision the IRR to resemble an institution like the Rehabilitation Institute of Chicago. If the IRR could create an infrastructure that robust, the clinical and educational resources tied in would make it a powerhouse of innovation."

Adds Zafonte, with resolve, "In five years, the IRR will be one of the top rehab institutes in the world, and I believe we'll have attained that position due to research in two areas that we've already begun to dig into. First, we will have developed person-specific frameworks that we will use to treat every person on an individual basis. Second, we will develop novel programs of care in both the neurologic and musculoskeletal arenas. We'll also have a restorative expertise that delves into stem cell-related therapies and cellularly driven therapies. By combining all of the above, the IRR will be at the forefront of the rehab industry, and I look forward to working to help get us there." ●





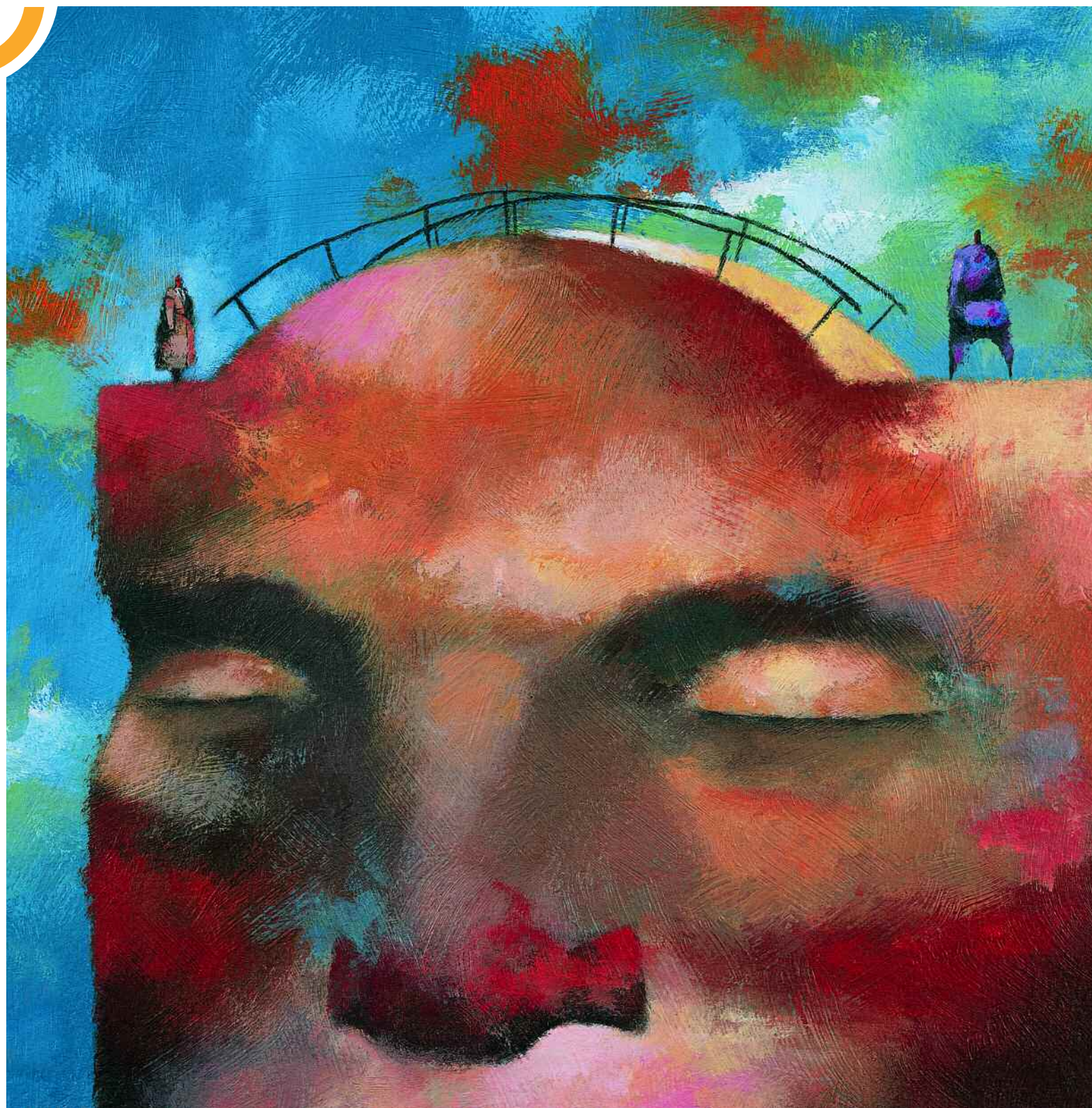
Making Connections

As occupational therapists like Dr. Elizabeth Skidmore move from the hands-on realm of clinical practice into the labyrinth of academic research, they rely on the network of close professional connections that tie people and disciplines together. Often, these natural partnerships seem a stroke of luck – a happy coincidence. In reality, they are the useful by-products of a world-class medical system and academic institution that share a mission to improve outcomes for patients.

Such was the case when Occupational Therapy Department Chair Dr. Joan Rogers introduced Skidmore to Dr. Eric Lenze, a psychiatrist at Western Psychiatric Institute & Clinic. Lenze's research, conducted in collaboration with Dr. Michael Munin of the Physical Medicine and Rehabilitation Department, explores the links among mood disorders, cognitive impairment, and functional recovery in older adults who are referred for medical rehabilitation.

"I became involved as a doctoral student, charged with measuring functional outcomes in patients receiving inpatient rehabilitation after hip fracture. This study examined the mediating effects of depression on functional recovery," notes Skidmore. "After this initial exposure, Dr. Lenze invited me to join in additional studies examining the effectiveness of pharmacological interventions for reducing cognitive impairment after stroke."

These studies looked at the influence of certain medications that delay cognitive decline in Alzheimer's patients to determine if they also improve cognition in stroke patients. Skidmore's role was to administer the Functional Independence Measure to quantify the performance of everyday functions, while Lenze and his colleague Dr. Ellen Whyte used a battery of neuropsychological tests to assess cognition and mood.



As Skidmore completed the requirements for her doctoral studies and refined her research agenda, these early interactions began to blossom into collegial research collaborations. Lenze, Munin, and Whyte invited Skidmore to join their multidisciplinary team as they plan and implement additional studies.

One such effort will examine the mechanisms through which certain drugs influence recovery after stroke. Skidmore's role will be to standardize and supervise the occupational therapy intervention for patients participating in the study, and to monitor outcomes. The purpose and design of this study fits nicely with Skidmore's own research questions examining the role of neurobehavioral functions in task performance and the influence of occupational therapy interventions in functional recovery after stroke.

Connecting Skidmore with Lenze and Whyte was neither coincidental nor random. "Within our vast academic and medical network, it seems there is often an ideal space for each researcher," notes Rogers. "Elizabeth's prime area of interest is the effect of brain injury

"After this initial exposure, Dr. Lenze invited me to join in additional studies examining the effectiveness of pharmacological interventions for reducing cognitive impairment after stroke."

on neuropsychological function and how that relates to disability. After mentoring with these other researchers, she has developed a network of professionals to assist her in her own research focus in neurorehabilitation. The research grant possibilities are opening before her, and she is just getting started."

Skidmore's recent research experience explored the multiple connections between occupational therapy and psychology, physical medicine, rehabilitation, neuropsychology, and neuroradiology. "It takes the expertise of multiple disciplines to address the complex questions associated with neurological disorders and neurorehabilitation," notes Skidmore. As research progresses, synergistic groups of colleagues like Lenze, Munin, Whyte, and Skidmore follow the path of connected outcomes – like the neural pathways of the brain itself – to find the answers that will lead to better patient care and an improved quality of life. ●



Deconstructing the Golf Swing

In the summer of 2000, Tiger Woods was at the top of his game. Having won four straight PGA Tour majors, his dominance was unmatched, and, at the tender age of 25, he was already being lifted to a pedestal reserved only for the game's immortals. And then, seemingly without provocation, Woods did the unthinkable. He fired his golf coach and resolved to reinvent his swing.

Though Woods exited the spotlight for several years, the swing adjustment eventually paid off. And when he returned he was arguably better than ever. This year Woods surged to victory at the British Open and The Masters, vaulting him back to the top of the player standings and earning him a seventh Player of the Year title.

Woods' case is an extreme example of the lengths to which golfers will go to develop the perfect swing. But it illustrates the narrow margin of error that is present with every swing of the club. With today's golf research and technology, even the championship-caliber swing of Tiger Woods can be improved.

And with the opening in June of the UPMC Golf Fitness Laboratory at Pinehurst Resort in North Carolina, golfers of all ages can benefit from some of the same swing mechanics technology the pros use to develop a fluid and efficient golf swing. The Pinehurst lab is the second iteration of a program started in 2004 at the UPMC Center for Sports Medicine facility on Pittsburgh's South Side by Dr. Scott Lephart, associate professor and chair, Department of Sports Medicine and Nutrition, and researchers in the Golf Injury Prevention Project.

The UPMC Golf Fitness Laboratory at Pinehurst is based on research that Lephart has conducted on the relationships among flexibility, strength, and balance and the golf swing. "Elite players possess specific physical characteristics that help them achieve success," Lephart explains. "So by examining the biomechanics of elite players and comparing them with the average player, we have been able to develop a model for golfers to improve their performance and reduce their risk of injury. By creating a better golf body, we rationalized, we could create a better golf swing."

Lephart and his team conducted a clinical trial composed of more than 2,000 swings to determine the fitness and conditioning variables that have the greatest effect on golf performance. Based on these findings, the team then developed a fitness program that it tested on golfers of varying skill levels and, in turn, created an eight-week personalized fitness program for each of the golfers to follow.

One of the main concepts of the training program is dubbed "stability from the ground up." Describes Lephart, "The program improves balance, stability and strength of the hip, and flexibility and power from the torso. Overall, the training improves rotational range of motion, allowing the golfer to coil further and uncoil faster. This technique generates more club head speed and increased driving distance."

The results of the program demonstrate a clear correlation between fitness training and significantly increased golf performance. Says Lephart, "Golfers averaged a 20-yard increase on their drives after completing the conditioning program, a 10 percent increase across the board."

According to Lephart, the partnership with Pinehurst has been a perfect match from the start. Lephart, who has consulted with the Golf Advantage School at Pinehurst for the past four years, was familiar with the resort and its facilities and confident in its commitment to develop a world-class golf education and fitness program.

"Pinehurst is the nation's premier golf resort, with eight golf courses including Pinehurst #2, which was the site of this year's PGA US Open, a five-star resort, and three fantastic hotels. Pinehurst also has a long-standing reputation as an innovator and leader in golf education, so this partnership only serves to further validate the importance of golf fitness for golfers of all ages and abilities."

The lab will be staffed with researchers who have clinical expertise in athletic training,

biomechanics, exercise physiology, and physical therapy. Each golfer who enters the three-hour assessment program will benefit from hi-tech golf simulators and state-of-the-art swing analysis instrumentation. The lab is also equipped with an eight-camera infrared high-speed video capture system combined with a ball and club tracking system to evaluate ball flight and club characteristics.

"By assessing every movement in a golfer's swing," he contends, "we can offer interventions that not only help to dramatically improve performance, but also lead to injury prevention down the road. Golf is a game that should be enjoyed by people of all ages, and we hope our research will help individuals play better, longer." ●

**"And then, seemingly
without provocation,
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Intelligent DESIGN

As SHRS has grown in size and influence, it has become increasingly involved in collaborative research and clinical efforts with other academic and health care entities under the Pitt umbrella. This issue's cover story, "The Convergence of Rehab and Research," which delves into the relationships that have helped to form the Institute for Rehabilitation and Research (featured on page 15), is just one example of these ambitious partnerships coming to life.

Another potentially groundbreaking venture has taken root in the Department of Rehabilitation Science and Technology. Dr. Rory Cooper, professor and chair of the department and director of the Human Engineering Research Laboratories, has recently begun working with Carnegie Mellon University and Dr. Takeo Kanade, director of the Robotics Institute and Helen Whitaker University Professor of Computer Science and Robotics, on a grant application to fund a new research facility, the Quality of Life Technology Engineering Research Center (QoLT-ERC). If successful, the 10-year grant will be the largest in the school's history.

The concept for the center is nothing short of revolutionary. And the thinking behind the technological solutions already on the drawing board could advance care delivery for the aging and people with disabilities to a whole new level.

The team hopes to develop and roll out complex intelligent systems and machines that will assist people in nearly every aspect of daily life. However, these machines aren't being conceptualized and designed merely for convenience. If Cooper's vision reaches fruition, these "intelligent assistants" will serve as complete substitutes for caregivers.

The need for such technology is mammoth, with initial estimates of the total economic

savings at \$1 billion by delaying the entry of all U.S. seniors into assisted living facilities by just one month.

The research at the center will be distinguished by four general theme areas, or thrusts: monitoring and modeling, mobility and manipulation, human-system interface, and person and society. As Cooper explains, the thrusts were developed to investigate improvements that could be made in different areas of people's lives. "The primary aim of this center will be to help people to better live and function in their community. So to adequately pursue this end goal, we have had to think differently about how we approach the challenges that the elderly and people with disabilities face."

The first thrust, monitoring and modeling, seeks to track and assess human behavior. Cooper explains, "The more we know about the behaviors of people with disabilities and the aging, the better we'll be able to predict and prevent injury."

One of this thrust's primary focuses is the Caremedia project, a tracking and measurement system of the activities of patients with dementia in skilled nursing facilities. The current system comprises 40 cameras that operate continuously in an Alzheimer's wing.

Cooper continues, "By tracking individuals and all of the repetitive behaviors

of their daily activities, we can gain greater insights and reach conclusions on behavioral problems, treatment effectiveness, drug side-effects, and any number of other things that will benefit geriatric care specialists."

The second thrust, mobility and manipulation, is based on removing impairments to everyday tasks by offering solutions that will help people better interact with the physical environment around them.

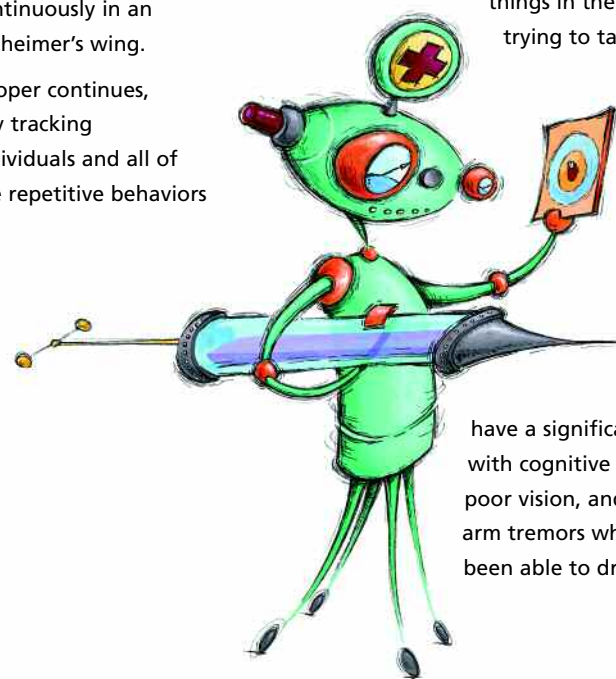
One of the technologies that Cooper highlights in this thrust is the smart wheelchair, a power chair that automatically makes driving adjustments while in motion. "The goal of the smart wheelchair is to make driving a power chair as similar as possible to the physical act of walking," he explains. "When you walk, pattern generators in your spinal cord help you on a subconscious level. Essentially, you're just walking and hardly thinking about it. But if you've ever tried to drive a power wheelchair, you quickly realize that it's not as easy as it looks."

He continues, "The small things require most of the attention of the wheelchair user. Cracks in the sidewalk have to be monitored, and the driver must always be cognizant of the people who are walking around him. Imagine paying attention to all of these things in the periphery and then also trying to talk to a friend."

The smart wheelchair will ultimately do most of the driving for the wheelchair user, making the constant minute adjustments that currently require so much attention. While all power

chair users stand to benefit from this advance, it will

have a significant impact on older adults with cognitive impairments, people with poor vision, and even those with hand and arm tremors who previously would not have been able to drive a power chair.



Other preliminary work within the mobility and manipulation thrust has focused on brain interface controllers that can be used to operate a robotic arm. "We've had great early success with a project that implants chronic microelectrodes into a monkey's brain, which allows it to direct a robotic arm to pick up pieces of food and eat. It's an amazingly impressive project, and the applications that it could have are sweeping."

The third research thrust within the QoLT-ERC examines the barriers that exist between individuals and the technologies that are meant to assist them. Aptly named the human-system interface thrust, this research area is driven by the premise that no single design is best for every user and that each and every interaction requirement of a technology user changes with time.

One of the several projects that have received attention in this thrust is SmartSeat. "One of the most dangerous problems for wheelchair users is build-up of pressure ulcers," notes Cooper. "When most people get uncomfortable in a specific seated position, they simply re-situate themselves. But wheelchair users who have difficulty moving – or simply can't move at all – can end up in the same seated position for extended periods, during which time the combined effects of heat, moisture, and pressure can lead to blistering of the skin and ulcers."

The SmartSeat will literally detect these conditions on a wheelchair seat and move. Compound sensors will be placed on areas where the wheelchair user has the highest potential for skin breakdown, and the seat will shift to improve the person's comfort level. To adjust for other problem areas, the seat itself will be able to change shape to distribute pressure and will be equipped to add or take away heat or moisture using

Continued on page 30

Adapt-to-Go

The next time you order a hot coffee "to go," think about the steps involved in completing the transaction. You place your order, retrieve your money from your pocket, purse or wallet, and then pay the cashier. Drink in hand, you walk to the condiment stand and, if necessary, remove the lid. Then you add your cream and sweetener, replace the lid, pick up the drink and any other belongings you might have with you, open the door, and exit.

This past spring, Linda van Roosmalen, assistant professor, Department of Rehabilitation Science and Technology, had students in her rehabilitation engineering design class think through the same process. Their semester project was to create a product that would help the consumer transport the hot drink. The only difference was that their "to go" customer had a mobility impairment such as the loss or lack of use of a limb, or insufficient strength to walk or to grasp or lift objects.

"The idea behind the assignment was to allow the students to use their imaginations to help address a real-world situation," says van Roosmalen.

Students were separated into design teams and permitted to choose a mobility impairment on which to base their product design. They then had to brainstorm multiple product ideas before settling on a final solution.

Four product ideas – a coffee cuff, a neoprene sleeve, the "chimemans," and a lap caddy – were made into final designs.

The coffee cuff was designed to be carried on the body, like a portable radio. The cuff, which has an attached cup, slides onto one's wrist, which allows a wheelchair user to still propel the chair while using the cuff and transporting a drink.

The neoprene sleeve has a strap that can be placed over one's neck, shoulder or wheelchair, and a sleeve that will hold the drink. It differs from the coffee cuff in that any cup can be used and thrown away afterward.

The chimemans has a cooling element built into the lid since hot drinks are usually served too hot to drink right away. The chimemans also has a latch mechanism that allows the user to pour condiments into the drink without removing the lid.

The lap caddy was built for the active wheelchair user. The device slides underneath a wheelchair cushion and folds out of the way when not in use. The lap caddy consists of a tray that unfolds across the person's lap and a stationary cup holder. It may also be used as a writing surface or a place to set other items, such as keys.

"The class was challenging for the students," she admits. "But, in the end, it's simply a design problem to be solved. It doesn't compare to the challenges that people with mobility impairments must face every day."



LISTENING IN

Sometimes it's difficult to come up with fresh, new ideas completely on your own. To really do something innovative, you often need to stimulate your gray matter by considering other points of view, comparing notes with other professionals who face challenges similar to yours, and, ultimately, looking at your situation from fresh vantage points. Once you've done that, innovative approaches to even the most routine issues begin to freely flow.

That's exactly what happened when the Independent Hearing Aid Fitting Forum (IHAF) group teamed up with University of Pittsburgh faculty and gathered at the School of Health and Rehabilitation Sciences on June 17 and 18 for a two-day conference on teaching methods in audiology. Hosted by Dr. Catherine Palmer, associate professor of Audiology; Dr. Kris English, associate professor of Audiology; and Elaine Mormer, instructor in Audiology, the conference brought together 55 attendees from 32 of the country's leading audiology programs – as well as representatives from four hearing aid manufacturers – to discuss what teaching approaches work best, which topics present particular challenges, and how information can be shared between institutions, manufacturers, and individuals more effectively.

"IHAF is an independent organization of audiology professionals that has been around for about 10 years," comments Palmer. "It's comprised of academics, audiology practitioners and equipment manufacturers who use their own financial resources to attend meetings that focus on promoting better clinical practice through research and education. At a meeting approximately two years ago, the group began to discuss strengthening audiology teaching methods. At that conference, the 'what can we do?' question was put on the table and the seeds for this conference were planted."

One of the first issues to sprout was the need for evidence-based teaching, an approach that directly links the information that's presented to students to scientific research. "In the past, quite a bit of the information shared with students was based on anecdotal evidence and expert opinion," remarks Palmer. "Going forward, we wanted to make sure that students are getting information that is grounded in fact. In addition, we noticed that the manufacturers were frequently the primary sources of education – a situation created by the fact that they needed to educate practitioners to a level that allowed them to understand new technologies and that education at the universities, in some cases, was not as advanced or detailed as the manufacturers required. We wanted to address that situation by assuming a greater role in the primary source of education which would be the University."

The conference opened with a keynote address from Patricia McCarthy, PhD, of Rush University, the 2004 Recipient of the Clinical Educator Award presented by the American Academy of Audiology. According to Mormer, "...her discussion was excellent because it concentrated on the big-picture issues of effective teaching, who our students are, and what they really need to know. It really set the tone for the information sessions that would follow over the next two days."

The keynote was followed with a joint presentation by Mormer and English that highlighted good teaching practices, discussed the issue of pedagogy, and detailed how it should be used. "For example, Kris and I talked about how to write good rubrics for grading, and then gave concrete examples of how good pedagogy can be implemented in the curriculums," comments Mormer. "We wanted to show how these concepts can be effectively integrated into nearly any clinical or classroom teaching situation."

The remainder of the conference was structured around the topics typically covered in a hearing aid fitting, such as Assessment, Prescriptive Fitting Methods and Compression, Designing Course Format, Hearing Aid Features, Pre-setting and Verification, Post-fitting Adult Aural Rehabilitation and Troubleshooting. Presenters included Ruth Bentler, PhD, University of Iowa, Robyn Cox, PhD, University of Memphis, David Hawkins, PD, Mayo Clinic, Michael Valente, PhD, Washington University, and Palmer. Gus Mueller, PhD, Vanderbilt University, moderated the conference.

On the second day of the conference, all attendees received a CD of presentation materials that had been gathered and compiled by Valente. "Mike put out a request to the conference faculty prior to the meeting and asked them to send in exam questions, homework and lab assignments, readings, and course syllabi related to all of the topics covered in the conference," recalls Palmer. "He then designated point people for each subject area and charged them with organizing the incoming material. Once the organization was complete, he burned a CD that contained a library of presentation materials. While the attendees met on the first day, a copy of the CD was duplicated for each attendee, and inserted into a sleeve featuring graphics of Pittsburgh. Attendees were thrilled with this resource."

According to English, the reviews from the participant evaluations were extremely positive. "The conference provided great opportunities to network within the profession and a chance for PhD students and recent PhD graduates to spend some quality time with many of the leaders in our field. It also enabled sharing of resources – a real benefit for new educators. Attendees also had the opportunity to share teaching methods and concerns during structured

breaks and through poster presentations that were organized by Harvey Abrams, PhD, Veteran's Administration Medical Center, Florida.

"We will be meeting again – here at Pitt – in 2007, and will be making some adjustments to the presentation format. Many people in the audience were chomping at the bit and wanting to share their ideas. We're also looking to develop a network of people who wish to participate in an ongoing discussion of teaching techniques. To keep the

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conversation going, I created a list serve that was distributed to all attendees. Hopefully, when we gather again in two years, the conversations that began at this meeting will have continued and the relationships will be stronger," notes English.

Summing up the event, Palmer praised the efforts of English and Mormer. "Kris and Elaine really did an outstanding job of pulling things together and making them run smoothly. This event was a success for IHAF, and certainly has the potential to become a signature event for Pitt in the years to come. We've grabbed the attention of our discipline, and look forward to the continued collaboration that will enhance audiology education everywhere." ●



Device Gives New Meaning to "a Change of Heart"

In 1990, 15-year-old Brian Williams became the world's first patient to be discharged from a hospital while living temporarily on a Ventricular Assist Device (VAD), a mechanical pump-type device that is surgically implanted and connected to either the left or the right ventricle to help maintain the pumping ability of a heart that can't work effectively on its own.

As an infant, Williams had been diagnosed with cardiomyopathy, a serious disease in which the heart muscle becomes inflamed and impaired. He was on medication for the disease until he was six years old. For the next eight years, his condition was relatively stable. Then, in November 1989, Williams developed flu-like symptoms. The diagnosis was heart failure. Again, medication was used to treat the condition.

In February of the following year, Williams and his family were introduced to the idea of a transplant and arranged for a consultation with physicians at the University of Pittsburgh Medical Center (UPMC). By late March, his condition was deteriorating. He was put on a transplant list and was immediately life-flighted to Children's Hospital of Pittsburgh, where he spent three weeks in the intensive care unit before being transferred to UPMC.

The condition took a heavy toll on him physically. He became so underweight that his bones could be seen through his skin. He was unable to breathe on his own or even lift an arm. A donor heart had not become available, and, even if one had, doctors were unsure if his body could handle a transplant. One option was for doctors to implant a Novacor® VAD. The device would serve as a bridge to transplant, meaning that it would be a temporary solution to provide improved blood flow, better organ function, and the ability for Williams to become stronger, while also offering him time as he waited for a donor heart. Some of the physicians thought he was even too sick for the VAD procedure, and compounding the problem was the fact that the FDA had not yet approved the use of the device for pediatric patients.

A month later, with Williams near death, the FDA gave the approval to implant the device. Because it had to be implanted in the upper left quadrant of his abdomen, doctors had to manipulate his ribs and cartilage to allow the device to fit. It was attached to his left ventricle. During surgery, doctors also noticed that Williams' thymus gland looked abnormal; they removed it and found it to be cancerous. After the surgery, doctors found that the Novacor device wasn't giving Williams enough support, so they performed another surgery to implant a Right Ventricular Assist Device (RVAD), which would assist the Novacor for only a few more days.

"We needed his body to be healthy enough to undergo a traumatic several-hour-long heart transplant. He needed to be physically fit and nutritionally sound, and to have good kidney and liver functions. That's the importance of rehab."

transplant. He needed to be physically fit and nutritionally sound, and to have good kidney and liver functions. That's the importance of rehab," says Stephen Winowich, director of clinical bioengineering for the artificial heart program at UPMC, and one of the engineers on duty at the time. "Surgeons can implant a device and engineers can make it work, but without rehab their patient does not have the quality of life that the device was intended to preserve."

THE ROLE OF PHYSICAL THERAPY

Williams remembers waking up five days after his initial surgery in excruciating pain and unable to stand up straight. The multiple surgeries and radiation treatments had exhausted him, but doctors knew that he had to begin physical therapy immediately.

Through various range-of-motion stretches, strength-building exercises, and heat therapy, Williams was gradually able to stand straighter. Because his therapy typically lasted for nearly two hours, five or six days a week, the engineers who helped develop the VAD would work side by side with the physical therapist. They took an aggressive approach to rehab using endurance-building exercises, such as walking on a treadmill or riding a stationary bike, and low-resistance training to improve stamina.

"We needed his body to be healthy enough to undergo a traumatic several-hour-long heart

Dr. Kathleen Kelly, assistant professor in the Department of Physical Therapy at SHRS, says, "The rehab that Williams received is another example of the niche practice areas that can be pursued by people who earn a degree in physical therapy. With the ever-changing scope of what can be accomplished in medicine today, I believe people will begin to realize the highly critical role that a physical therapist plays in the rehab of patients using the VAD."

In August, after three and a half months of physical therapy and five weeks of radiation, Williams checked out of the hospital and began the wait for an organ transplant. He spent a total of 121 days on the Novacor before receiving his heart transplant in late August – nearly four months to the day that the Novacor was implanted. Williams and his family returned home to Georgia in late September.

Today, Williams says, "I have nothing but respect and admiration for the Novacor. It saved my life and it bought the doctors the time to find me a good donor heart, which I believe is one of the reasons that I'm doing so well today. Other than my battles with cancer, I've been perfectly fine ever since the transplant."

CHANGES IN REHAB

Despite Williams' successful outcome, the use of aggressive physical therapy for VAD patients declined in the decade following his surgery. One reason, according to Tara Ridge (PT '99, HRS '01), director of residency programs and senior physical therapist for the Centers for Rehab Services, was effective time-management. Given the increasing number of VAD patients requiring

physical therapy, it became more convenient to deliver the therapy at bedside rather than in the PT gym. Also, as the role of the engineer changed, they could no longer be relied on to stand in for the physical therapist to monitor VAD patients on a treadmill or bike. Their availability was limited to assisting the patient in a walk down the hospital corridor.

While pragmatic, Winowich and Ridge found that this change in the location and intensity of the rehab was having a negative effect on the endurance levels of VAD patients. In February 2004, they returned to the rehab model pioneered with Brian Williams.

"Being in the outpatient setting has made all the difference," says Ridge. "We've started aggressive therapy again, and we're able to make it fun, especially for our pediatric patients."

One reason is psychological. "Physical therapy is extremely important in building the endurance of VAD patients," she explains, "but patients in a hospital setting tend to have an 'I'm sick' mentality. They're hesitant to actively participate in their therapy, and this hinders their progress. When we can get them into an outpatient setting, they become more confident and easier to motivate."

And Williams is proof of how critical active patient participation in aggressive physical therapy is not only to quality of life, but to life itself.

"Physical therapy played a significant role in helping me get to where I am today," he says. "It did more than get me ready for a transplant; it reassured me that I would live a normal life again." ●



Today, 15 years after his successful transplant, Brian Williams resides in Durham, North Carolina, with his wife, Jenny Snead Williams. He is employed by Duke University Health System at Durham Regional Hospital as a post-graduate administrative fellow.



Finding the Places Where

FRAUD HIDES

It's a well-known fact that the cost of health care has increased significantly over the past two decades. It's also a recognized fact that fraud – particularly reimbursement fraud involving the government, insurance companies, and third-party payers – has grown as well. According to the National Healthcare Antifraud Association, over \$51 billion in reimbursement dollars was lost to outright fraud in 2003. That amounts to roughly 3% of overall health-care expenditures. U.S. government figures estimate the loss to be significantly larger – as much as \$17 billion each year or 10% of U.S. health care costs. Any way you look at it, the outflow of resources to fraud is a major drain on health care system assets – one that has the potential to grow significantly larger with each passing year.

Valerie Watzlaf, associate professor in the Department of Health Information Management, is working hard to help turn off the faucet on fraud. At the request of the Foundation of Research and Education (FORE) of the American Health Information Management Association (AHIMA), which is under contract to the Department of Health and Human Services Office of the National Coordinator for Health Information Technology (DHHS ONCHIT), she and co-principal investigator Dr. Jennifer Garvin, an independent HIM consultant, have done extensive research on coding software and its use in antifraud activities. Their work will inform a second phase of the project that will look at how automated coding software and a nationwide interoperable health information technology infrastructure can address health-care fraud issues.

Specifically, Watzlaf and Garvin have been working to pinpoint the characteristics of existing systems that have the potential to detect improper coding – the process that enters vital information into billing and reimbursement systems. They have also been examining components in the coding process that have the potential to minimize fraudulent coding practices.

"So many people think that coding is about entering information into a computer system," remarks Watzlaf. "In reality, it's a complex process that requires human beings to make judgment calls on a regular basis, even if automated coding software is used. It's also the core of reimbursement, and the single place where fraud has the greatest potential for taking root. FORE, AHIMA, and the DHHS ONCHIT are understandably concerned about the effects of fraud on the overall health-care system, and asked us to do a descriptive study that examined automated coding and antifraud software applications, as well as their level of usage in the industry."

Watzlaf and Garvin began by talking to several vendors and asking them to complete a product information form that captured information about what types of coding systems were available and where they were being used. In addition, they spoke to users of coding systems, and noted their impressions about the applications

they used. With this information in hand, Watzlaf and Garvin assembled a matrix that documented the product information from vendors. They also created flow charts to show how automated coding stacked up against manual coding and where the points of fraud could occur. From there, they developed an antifraud model that touched on features, processes, and staffing needs that would comprise the "ideal" system.

"While we found that most products on the market had the potential to be effective, we didn't want to recommend what type of software an organization should use," remarks Watzlaf. "We emphasized that each user needs to make decisions on what's best for them, based on the needs of their organization."

Watzlaf and Garvin also noted that there is a need for automated systems that utilize natural language processing to read text and then employ rules-based and statistics-based analysis to assign codes. "Many systems only run on rules- or statistics-based analyses – only some systems do both," noted Watzlaf. "Not using both has the potential to create a fraudulent situation, knowingly or unknowingly. And even though automated systems are used to process natural language, the output they generate needs to be reviewed by people to ultimately ensure that the coding is correct."

To stem the tide of future fraud, Watzlaf and Garvin recommended the development of analytical neural networks – predictive modeling systems embedded in antifraud software applications that can predict the potential for fraud by looking at historical data. "Neural networks are excellent for pinpointing the areas that are traditionally fraught with fraud and are useful in predicting the likelihood of fraud in a particular facility's system," notes Watzlaf. "They are currently in use with some billing systems, but their application is not widespread. They need to be tested and used more frequently, particularly in inpatient settings, where they are currently not used much at all."

Watzlaf and Garvin concluded their work by looking at coding criteria. "As we talked to the people involved in this study, it became clearly evident that there needs to be a national coding database that would be the standard for all coding criteria. Currently, many facilities operate on their own coding systems, and that has the potential to create discrepancies and, ultimately, fraud. Compounding the confusion is the fact that payers often incorporate their own sets of standards that can convolute coding decisions even more. Combine that with more than 100 Internet resources designed to support the coding process – many with differing rules or guidelines – and it's easy to see why accuracy can be difficult to achieve. However, having the federal government involved in the study indicates that the needed changes may be made. Ultimately, we're hoping everybody will play by the same rules, but we're not there yet." ●

DESIGN

Intelligent

Continued

temperature-controlled airflow in seat chambers with a water vapor-permeable membrane.

The final thrust doesn't monitor people or target technological advances. Its objective is to determine how the breakthroughs of the other three thrusts are being adopted by the individuals they're intended to help.

"We can develop wonderful technologies for people with disabilities and the elderly, but if they aren't being accepted by the end-users, all of the time and work will have been meaningless," Cooper says. "Ensuring the viability of these systems and machines is crucial."

Several training programs and research projects have been developed to steer individuals and their families on the course of systems acceptance. And they all follow a general formula.

Initially, all machines and systems will be tested with engineers, individuals, and stakeholders to anticipate problems with the social adoption of the device. Behavioral models will be developed and learning curves for system use will help to guide end-users through the adoption process. Once all of the necessary information about the system and its use by individual end-users has been compiled, the information will be used to influence national and international standards committees and, eventually, brought to market.

While some of the technologies represented in the QoLT-ERC are easily within reach with or without the grant dollars sought by Cooper and Kanade, others are merely pipedreams – ideas that could change the lives of millions, but that are still years in the making. Regardless, Cooper will remain unabated. Ready for the next great challenge, he'll charge ahead, ever ready to develop technologies that are certain to someday help us all. ●

IN MEMORIAM Dr. Stewart R. Rood

Dr. Stewart R. Rood left a lasting impression on everyone he touched.

An indelible part of the SHRS community, he was not only an outstanding teacher and a supportive mentor of young talent, he was a courageous man, a warm and caring father, and the kindest of friends.

Stew, as he was known to many, passed away on May 12 at UPMC Shadyside hospital from complications of pneumonia and end-stage multiple sclerosis.

Dually certified as a speech-language pathologist and audiologist, Stew received his BA (1967) from SUNY Downstate Medical Center. He earned

both his PhD (1970) and his MPH (1982) from the University of Pittsburgh, where he served as associate professor of otolaryngology until

1991. He advised on dissertation committees at Pitt and was a leader in his discipline, participating in several professional and scientific societies, including the American Speech, Language and Hearing Association, the

American Cleft Palate Association, and the American Academy of Otolaryngology, Head and Neck Surgery, Inc.

After his retirement from Pitt, Stew served as editor-in-chief of the *Cleft Palate-Craniofacial Journal* from 1992 to 1997, working from his home.

He was a frequent guest lecturer at SHRS, and often invited undergraduate students and faculty into his home to learn firsthand how accessible housing and assistive technologies can enable people with advanced multiple sclerosis to live independently.

Stew has two surviving children, a daughter who works as an attorney in Washington, D.C., and a son who is a doctoral candidate in history at UC-Irvine. Stew's 90-year-old mother continues to work five days a week at the MS Society in Brooklyn, N.Y., where Stew grew up. All memorial contributions to the Multiple Sclerosis Society, in which Stew was enthusiastically involved, are welcome.



Dialogue

A Conversation with Michele McKenney

Michele McKenney is president of UPMC Diversified Services, which recently assisted in the opening of the Institute for Rehabilitation and Research (IRR), a new clinical acute care rehabilitation center at UPMC South Side hospital. UPMC Diversified Services is responsible for the oversight of UPMC's rehabilitation programs.

Q Why did UPMC and the University of Pittsburgh choose to establish the IRR?

A There were several conditions in place that encouraged us to create a central acute clinical services facility. New federal reimbursement policy made it prudent from a financial perspective. However, we also had a sizable and diverse group of rehab professionals in place who were extremely eager for such an undertaking.

The rehab talent at UPMC and the University of Pittsburgh is almost unparalleled. But prior to the IRR, there wasn't an infrastructure in place to develop the synergies we needed to have a world-class rehab research and treatment center. Now we have people from all of the rehab disciplines working together, and we've created an environment that is conducive to producing cutting-edge research and medical breakthroughs.

Q How has the change in federal reimbursement policy affected the delivery of rehab services?

A The change in Medicare reimbursement policy has had a profound effect on how we provide rehabilitation therapy to patients. The new payment system has put severe limits on the number of people who can receive acute rehab services. The regulation is commonly referred to as the "75 percent rule." The government has created a dozen or so categories that people must fit into to receive inpatient rehab services. Essentially, 75 percent of an acute care facility's occupancy must be composed of people falling into one of these treatment categories. Any patient not meeting the conditions now receives rehabilitation care in a nursing home, in an outpatient setting, or at home.

The interesting component of the "75 percent rule" is that typical orthopedic rehab diagnoses don't fall within the designated categories. In the past, if your mother fell and broke her hip or had hip replacement surgery, she would generally go to an acute rehab hospital, undergo treatment, and

recover. These and similar cases traditionally made up the majority of inpatient rehab hospitals. But with these cases no longer eligible for inpatient treatment – and subsequent reimbursement – much of the flow of patients tapered off and we had more beds than we needed. As a result, we made a decision to reconfigure the allocation of our resources and location of our facilities, and the IRR was born.

Q What changes in rehab research do you foresee given the synergies in place at the IRR?

A Academics in the university have been doing amazing things in rehab for some time. But up until now, each has been his own island. There's been little cross-pollination of ideas. We've now put a formal mechanism for interaction in place, and I believe we'll begin to see the number – and the quality – of innovations on the rise.

Q What role will UPMC Diversified Services play in the continued development of the IRR and its services?

A UPMC Diversified Services has had a strong relationship with the IRR since its inception. Right now, we're charged with overseeing the management of the IRR and of the greater rehab network within UPMC. And our role will continue to be supervisory in nature. As the IRR continues to develop, we would like to be able to be a steady source of financial support for the research that is being conducted at the IRR, and to create a program that will draw the best and the brightest clinical researchers to Pittsburgh.

We sense great potential for the IRR, and we plan on continuing to steer it in a direction that is beneficial to our patients. We are here, first and foremost, for the community, and we will continue to work to provide the best health care services in the world for the people of western Pennsylvania.

A LEG UP



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