

USC & Rancho Los Amigos National Rehabilitation Center: A Partnership That Changed the Practice of Physical Therapy

For the USC Division of Biokinesiology and Physical Therapy, 1971 was a landmark year. The Division moved—temporarily, as it turned out—to Rancho Los Amigos Hospital in Downey to help create a new paradigm in U.S. medicine: university-level care in a hospital rehabilitation center. (Long known as a chronic-disease hospital, Rancho was accredited in 1970 as an inpatient rehabilitation facility.)

Equally groundbreaking, USC began offering a pioneering master's degree in clinical physical therapy in 1971, with clinical fellows pursuing their rotations at Rancho. Twelve years later, the American Physical Therapy Association (APTA) officially endorsed this program.

Rancho's desire to affiliate with USC did not come out of the blue. Because of Rancho's high profile in clinical rehabilitation, a portion of the 1967 federal grant that funded the USC Rehabilitation Research and Training Center—precursor of today's Rehabilitation Engineering



The first graduating physical therapy Bachelor of Science class (1972) at Rancho Los Amigos Hospital, with faculty members (from left, in long lab coats) Lenore Krusell, Margaret Bryce, and Helen Ziler.

Research Center (USC RERC)—was shared with Rancho's research programs.

In late 1967, a coalition of three teaching hospitals—Los Angeles County+USC Medical Center, Rancho, and Orthopaedic Hospital—established a new physical therapy

student internship program in which students rotated through each hospital during their year of clinical training. This was the first such program of its kind in the nation.

The contractual agreement between USC and Rancho, signed in December 1969, stipulated

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Reflections on the Rancho Years **Dr. Lucinda Baker, associate professor**

1971 It's the middle of summer, and the second-year physical therapy class (BS and MA students) were just notified that the program has moved from our barracks on the University Park Campus to someplace on the campus of Rancho Los Amigos Hospital. We all have housing at UPC. How to get from UPC to Rancho and back—now, that's a trick. I guess it's good that I will have a car this semester. We know Rancho a little; our neuropathology class with Dr. Hislop was down there. But to be there all the time?

1972 I'm finding that it's not so bad down here, lots of room for classes and labs. At least

anatomy isn't in a little house in the middle of a parking lot. We have some great new instructors, the staff from Rancho's Physical Therapy Department, who actually treat patients and teach therapists—real therapists—on a regular basis. This has been a major upgrade for our educational program.

1973-75 The clinical specialists program is just what I needed. After practicing for a year, I found out what I didn't know. Now I can live at Rancho, take classes at USC and Rancho, and see patients—all at the same time. What a treat, to have access to all of Rancho's facilities and staff, and all of USC's staff as well. I could

do without the all-nighters in the statistics office on the Health Sciences Campus, but otherwise, this is heaven!

1975-78 Now that I'm working at Rancho, I'm *really* learning, because I'm teaching students, patients, and staff all the time. Coordinating the research students from USC is a bit of a challenge, but worth the effort. It's fun to have students here in the clinic, learning from patients as we do research together. I think I'm really getting the research bug—more and more questions with each new treatment program we keep coming up with.

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Inviting You to Invest in Excellence: The Campaign for the University of Southern California



John Wallace Jr.

This fall, the University of Southern California embarked on the largest higher-education fundraising campaign in U.S. history: **The Campaign for the University of Southern California**. USC will endeavor to raise \$6 billion by 2018 to increase its endowment for faculty and research programs and student scholarships, and to support academic priorities and new campus facilities. The results of the Campaign will touch every aspect of USC.

USC President C.L. Max Nikias has invited all of us to become active participants in shaping the future of USC: "Let us write the most glorious chapter ever for the University of Southern California."

Over the past four years, the Board of Councilors has worked closely with Dr. Gordon and the faculty to build an effective development infrastructure for the Division. Our strategic thinking about development has already resulted in remarkable successes: Bice Clinical Research Center, Sullivan Clinical Skills Technology Center, and the USC Community Health and Wellness Research Center at CATZ in Pasadena.

Yet there is still much more to accomplish. During the Campaign, the Division of Biokinesiology and Physical Therapy will focus its efforts on enhancing student scholarships, faculty research, and facilities. With the strong leadership of Dr. Gordon and the partnership of the Division's Board of Councilors, senior leadership, faculty and staff of all departments, students, alumni, and friends, we hope to ensure our success and influence for the next century.

The Division will play a key role in the Campaign. More information will be available soon, as well as news about how *you* can be part of this transformative endeavor. For more information about The Campaign for the University of Southern California, visit www.campaign.usc.edu.

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In Motion

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Dr. James Gordon, associate dean and chair, with members of the Class of 2010—the class with the best Homecoming attendance this year.

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Dr. Lucinda Baker in 1977—the year she received her MS degree in physical therapy from USC—using electrical stimulation to improve a stroke patient's gait at Rancho Los Amigos Hospital.

1979-85 Dr. Helen Hislop [chair of the USC Department of Physical Therapy] asked me a year ago when I would return for a PhD, now that USC is offering the first physical therapy doctorate in the nation. When I asked how it would make me a better clinician, she didn't have an answer, but I can answer for her now: How can I apply a treatment without understanding the means by which I think it should work? Trial and error isn't enough. I need to design a study to evaluate options before I can make a recommendation to my fellow clinicians. So I guess it's back to the books for me. Thank goodness for the USC presence at Rancho and my continued clinical trials here to keep me sane while I poke around in basic neurophysiology. Single-cell recordings aren't all that engaging.

1985-1987 The program has grown so much, and I am still figuring out how to teach. I wonder if it's as hard on my students as it is on me. After only a year, I became the acting chair of the department. With accreditation in that first year, we needed to figure out how to make our location at Rancho an asset. After the Whittier Earthquake, our buildings were condemned.

My big worry is, where can we hold classes *right now*? Thank goodness Rancho has lots of large meeting rooms.

1988-1989 It was finally decided to move the Physical Therapy Department up to HSC. The move will take place during the semester break—an unusual Christmas and New Year's for the faculty and staff. So we'll have new digs in an old building—makeshift classrooms—but still a step back into academia for all of our students, from the MPTs to the PhD students. Our time at Rancho was an important growing experience. Now we need to maintain those clinical ties as we rebuild our academic connections with the University.

The rest is history.

Dr. Baker earned her BS (72), MS (77), and PhD (85) in physical therapy from USC. As director of the Clinical Electrophysiology Laboratory, she continues her research focus on the implementation of electrotherapeutic programs in clinical practice, with a recent emphasis on implanted stimulation systems. Dr. Baker teaches courses in electrophysiology, neurophysiology, and neuroanatomy.

USC & Rancho Los Amigos

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that the schools of medicine, engineering, and dentistry, and departments of social work, occupational therapy, and physical therapy would use Rancho as a teaching hospital. This resulted in several new patient-care programs and faculty appointments at USC for many Rancho staff.

Directed by Dr. Jacquelin Perry, the Pathokinesiology Lab at Rancho was an integral component of USC's PhD program in physical therapy, which enrolled its first students in 1978. (Pathokinesiology is the study of movement dysfunction.)

Although the Division moved back to the USC Health Sciences Campus in 1988, its ties with Rancho—renamed Rancho Los Amigos National Rehabilitation Center (RLANRC) in 1999—have only strengthened and deepened in the 21st century.

Established in 2002, the USC/RLANRC Residency Program in Neurologic Physical Therapy, directed by Dr. Beth Fisher, combines the academic resources of a premier physical therapy education and research institution with the clinical expertise of one of the nation's leading rehabilitation centers. With a curriculum that includes mentored inpatient and outpatient care at Rancho, teaching assistantships in the DPT program at USC, and preparation of a scholarly project, the program was the first university-based neurologic residency program to be credentialed by the APTA.

Seven years later, the USC RERC was established with a five-year, \$4.75 million grant to USC and Rancho from the National Institute on Disability and Rehabilitation Research. Directed by Dr. Carolee Winstein, the USC RERC is studying the challenges of growing older with disabilities and the positive effects that new technologies can have on independence, health, and quality of life.

The four USC RERC projects are: Optimizing Mobility in the Home and Community for Manual Wheelchair Users (examining methods for teaching movement techniques that minimize and prevent shoulder damage to wheelchair users); Neuromuscular Electrical Stimulation for Mobility (examining the use of wireless microstimulators implanted in muscles to automatically shift an immobile patient's weight, preventing pressure ulcers); Dexterous Manipulation with the Fingertips (developing a reliable method of assessing hand function and dexterity, and creating immersive activities to help patients improve hand and finger movement); and Virtual Reality and Gaming for Home-Based Motor Assessment & Training.

In the Spring/Summer 2012 issue, In Motion will revisit the USC-Rancho legacy of Drs. Jacquelin Perry, the pioneering expert on human gait, and Helen Hislop, who introduced the concept of biokinesiology to the physical therapy field.

Dr. Mulroy Looks Back: USC & Rancho in the 1980s



Dr. Sara J. Mulroy

start at 7:30 a.m. on Saturdays. (As a full-time staff member at Rancho, Dr. Perry was busy with her clinical duties during the week.)

“Dr. Perry was very intimidating in many ways,” Dr. Mulroy says. “But she was always focused on good science and good patient care. She had high standards, but she was more patient with students than she was with clinicians.”

“Dr. Perry was always focused on good science and good patient care.”

“I came to USC and Rancho at almost the same time,” says Sara J. Mulroy, PhD, PT. “I started the graduate program in 1986—my classes were split between the main USC campus and Rancho—and took a part-time research job that December at Rancho. So my experience has been a bridge between the two institutions. I learned a lot in both places and brought my experience to both places.”

Today, Dr. Mulroy is adjunct assistant professor of clinical physical therapy at USC and director of the Pathokinesiology Laboratory at Rancho Los Amigos National Rehabilitation Center (RLANRC). With the goal of pursuing a PhD, she began her graduate studies in what was then the advanced master’s program, along with five or six other students.

Dr. Mulroy was a teaching assistant for anatomy classes, held on the University Park Campus, and also took certain prerequisite courses there. But most of the physical therapy graduate-level classes were at Rancho, including kinesiology and her Saturday morning gait class with Dr. Jacquelin Perry.

A graduate of the University of Oklahoma, accustomed to a normal Monday-through-Friday class schedule, Dr. Mulroy wondered “what kind of strange place I was coming to” when she was told that Dr. Perry’s class would

Sharing a car with her husband, who worked in Santa Monica, Dr. Mulroy often had to beg rides between USC and Rancho or take the bus from campus to Downey. This involved a change at the intersection of Vermont Avenue and Imperial Highway, a potentially dangerous place to wait for a bus. Fortunately, she says, “I was coming from the anatomy lab and had on my anatomy clothes, so nobody bothered me because I smelled like a cadaver.”

Dr. Mulroy notes that students at Rancho didn’t interact much with the hospital. The school and the Pathokinesiology Laboratory were on the south campus—south of Imperial Highway—and most of the hospital was on the north campus. “It felt like an army barracks,” she says. “The buildings were old and spread out over a huge acreage. When the lab moved to the north side, I would get lost even though I had worked there for 10 years.”

The Pathokinesiology Laboratory has always been a gait and motion analysis lab, evaluating patients by using instrumentation to look at the problems underlying their movement disabilities. But in the 1980s, before the development of the EMG analyzer, “we were still measuring output with rulers,” Dr. Mulroy says.

Data was collected on Visicorder paper, coated with a light-sensitive emulsion that captured a beam of light reflected on the mirror of a galvanometer responding to variations in movement. The sheets of paper were subsequently pasted in large books, a cumbersome method compared with the ease of retrieving computerized data.

During her student years at Rancho, Dr. Mulroy met G. Maureen Rodgers (PT ’74), one of a trio of physical therapists working with Dr. Perry in the early 1970s to develop a method for systemically analyzing a patient’s gait. In 1977, Rodgers was appointed director of the Allied Health Education Department, which made slides and posters for public presentations by Rancho’s physicians and therapists, and managed community workshops.

Now retired, Rodgers served Rancho for more than three decades. In her honor, Rancho created the G. Maureen Rodgers “Visions for Physical Therapy” Lecture, which was delivered this year by Dr. Mulroy. (Please see page 5 for more information.)

While interaction between USC and Rancho has ebbed and flowed over the years, Dr. Mulroy notes that collaboration is now at an all-time high: “I work collaboratively with Philip Requejo, director of the Rehabilitation Engineering Program at Rancho, on all our projects—it becomes very seamless. You can attribute a lot of this to the past history but the PTClinResNet [Physical Therapy Clinical Research Network] established many of the connections. A lot of current work resulted as a spinoff from those projects.”

Dr. Mulroy Delivers G. Maureen Rodgers Lecture

Sara J. Mulroy, PhD, PT, adjunct assistant professor of clinical physical therapy and director of the Pathokinesiology Laboratory at Rancho Los Amigos National Rehabilitation Center (RLANRC), delivered “Individualized Neurorehabilitation . . . by the Numbers,” the 10th annual G. Maureen Rodgers “Visions for Physical Therapy” Lecture, on November 2 at RLANRC.

The lecture dealt with the use of evidence from research collected from groups of patients to treat individuals. Because randomized clinical trials are extremely expensive and time-consuming, medical science has begun to incorporate “practice-based evidence”—detailed documentation of patient factors, specific interventions, and relevant outcomes. This approach, made feasible by electronic health records that help document not only patient characteristics but also interventions, is now being applied to physical therapy.

“You can develop prognostic models that can be individualized,” Dr. Mulroy said in an interview before her lecture. “You can control for individual severity level or individual chronicity, or multiple chronic medical conditions, and [specify] for someone with these characteristics what interventions are correlated with the best outcomes.”

Dr. Mulroy said that developments in smart technology will make it possible for a physical

therapist working with a patient wearing an activity monitor to document how many steps the patient took during gait training, the effect on the patient’s heart rate, and how much muscle activity was involved. All the data will be uploaded when the patient wearing the monitor walks by a docking station.

This data will be extremely helpful in encouraging long-term self-management of patient rehabilitation—giving patients the information they need to manage their own rehabilitation as they recover at home. The key, Dr. Mulroy said, is being able “to convince patients that [the activity] is really going to help them and that they have the capacity to do those exercises” as well as being able to explain “how much improvement to expect realistically for how much input.”

Dr. Mulroy’s honors include the CPTA Award for Outstanding Clinical Research and the Division’s Distinguished Alumnus award. She has contributed to more than 50 peer-reviewed publications and has been the principal investigator or co-investigator on numerous research grants funded by the National Institutes of Health and the National Institute on Disability and Rehabilitation Research that document mobility issues for individuals with spinal cord injuries or stroke.

How Will the Division Help Host 2015 Special Olympics?



Special Olympics

The Special Olympics World Summer Games are coming to Los Angeles in 2015, and USC will play a major role in hosting the event. Several contests will take place at USC and Exposition Park, and the University Park campus will serve as Olympic Village for athletes, coaches, staff, and families.

While 2015 may seem far in the future, it’s time to start thinking about how students and faculty at the Division of Biokinesiology and Physical Therapy can lend their expertise to this unique event. More than 7,000 athletes will compete in 21 Olympic-type sports. The games are expected to bring more than a half-million people to the greater Los Angeles area.

This will be the first time in 16 years that the Special Olympics, founded in 1968 by Eunice Kennedy Shriver, take place in the United States. The games bring public attention to the talents and capabilities of people with intellectual disabilities, and provide these athletes with a gateway to empowerment, competence, acceptance, and joy.

So . . . will Division faculty plan a coordinating conference or symposium? Will Division students devise a unique way to get involved? Will the PTAA sponsor an event of their own? Stay tuned as the Division and its friends put on their collective thinking caps.

USC Neighborhood Outreach Program Funds ‘Fit Families’ Program



Sara Jean Train, nutritionist, involves Fit Families participants in food preparation as part of the education program funded by USC Neighborhood Outreach.

For the fifth consecutive year, the USC Neighborhood Outreach (UNO) program has funded the USC Physical Therapy “Fit

Families” program. The award for fiscal year 2011-2012 is \$14,988.

Serving the community surrounding the Health Sciences Campus (HSC), Fit Families provides pro-bono preventive, wellness, and rehabilitative physical therapy services to underserved youth in elementary, middle, and high schools who have been diagnosed with, or are at higher risk for, diabetes and conditions associated with physical inactivity.

L.A. City Parks is a new partner in Fit Families, providing the program with free facilities at Hazard Park, adjacent to the HSC campus.

'Speed Dating' Leads to Research Project Funding

Suppose you're a member of the clinical faculty with a potential research idea. How can you find the right faculty researcher to work with? At the USC Division of Biokinesiology and Physical Therapy faculty retreat in June, the solution was speed dating.

Faculty and clinicians sat in two rows, clinicians on one side, researchers on the other. Each pair had five minutes to discuss their research ideas. Then one row would move one chair to the right, until all possible faculty pairs had discussed their ideas. Next steps for each pair involved writing a brief letter of intent, followed a week later by a formal proposal.

To make the exercise more enticing, the "daters" were informed that the Division would support the winning collaborative research project with \$15,000.

The judges were the organizers of the event, Dr. Carolee Winstein and Dr. Robert Gregor. When two proposals tied for first place, Dr. James Gordon, associate dean and chair, decided that both would be funded— at \$7,500 each.

The funded proposals are: "Yoga as an intervention for postural and neuromuscular dysfunction in persons with cystic fibrosis," by Dr. George Salem, associate professor, and Dr. Scott Russell, instructor of clinical physical therapy; and "A critical evaluation of physical therapy for Chronic Prostatitis/Chronic Pelvic Pain Syndrome (CP/CPPS)," by Dr. Jason Kutch, assistant professor, and Dr. Daniel Kirages, instructor of clinical physical therapy.

Yoga as an intervention for people with cystic fibrosis

Drs. Russell and Salem's proposal is based on the rationale that little information exists about the treatment of neuromuscular dysfunction caused by musculoskeletal deformities in people with cystic fibrosis (CF). Now that the CF population is living

longer—the median lifespan is projected to approach the fifties in the next 10 years—there is a need for research dealing with the biomechanical and orthopedic deformities that occur as the disease progresses.

The Phase I feasibility study will examine the appropriateness of using yoga as therapy for people with CF to treat abnormal posture and the resulting neuromuscular impairments. Drs. Russell and Salem plan to develop a yoga program specifically for people with CF and evaluate it in a 10-week trial.



"We will design the yoga intervention program based on previous research conducted in the Musculoskeletal Biomechanical Research Lab [MBRL]," Dr. George Salem said. Above, a patient in the MBRL.

Participants will be recruited from the USC Cystic Fibrosis Clinic, which has more than 180 patients. A yoga instructor will give 20 classes during the trial period. The working hypothesis is that physical function, balance, kyphotic angle (spine curvature), scapular (shoulder) posture, flexibility, and health-related quality of life will improve, and that adverse effects will be minor.

Evaluating physical therapy for CP/CPPS



Dr. Dan Kirages (left) and Dr. Jason Kutch with a CP/CPPS patient.

Physical therapy has been shown to be effective for treating Chronic Prostatitis/Chronic Pelvic Pain Syndrome (CP/CPPPS), but it is not known why some people respond to physical therapy and others do not.

The goal of Drs. Kutch and Kirages' study is to classify patients with CP/CPPS according to pelvic pain and muscle activity changes in response to manual physical therapy and body-awareness relaxation training, to determine whether treating muscles with physical therapy is actually effective for reducing muscle overactivity and reducing pain in CP/CPPS patients.

Twenty CP/CPPS patients beginning treatment at USC Physical Therapy Associates will be enrolled at staggered intervals during the one-year study. Each patient will be treated by a licensed physical therapist twice a week for a 10-week period. Pain will be assessed before and after each session, using the NIH Chronic Prostatitis Symptom Index. Electrical activity in pelvic muscles will be assessed to determine if muscle overactivity decreases.

The outcome measures will allow the patients to be classified according to four categories that take into account whether physical therapy is effective and whether pain is or is not directly related to muscle overactivity. Follow-up studies will determine how to screen incoming patients and design patient-specific therapies to minimize recovery time.

Sullivan Clinical Skills Technology Center Opens in October

The Robert J. Sullivan Family Foundation Clinical Skills Technology Center was envisioned as a learner-centered environment with multimedia capabilities—a technologically advanced yet cost-competitive way for the USC Division of Biokinesiology and Physical Therapy to increase its scope of influence nationally and internationally. Opened in October, the 1,600-square-foot facility is changing the way human movement and patient care are taught.

“Teaching in that classroom is a fantastic opportunity,” says Dr. Robert Landel, professor of clinical physical therapy. “Having every wall turned into a white board expands what I can do with the students. Even the furniture promotes learner-centered instruction.”

Located on the first floor of the Center for Health Professions, the Sullivan Center accommodates up to 56 students, each working on a laptop, in small groups. Collapsible tables, flexible seating, and a plug management system enable students to transition easily from small-group collaboration to larger-group discussions.

A control console mounted on wheels for convenient access enables movement capture and skills demonstrations to be projected from a small group to the main projection



Sullivan Center signage.

and lecture capture system. This system enables lectures, demonstrations, and patient interactions to be recorded in high-quality sound and video, and transmitted on the Web for distance-learners. The system can also send and receive streaming video.

Dr. Julie Tilson, assistant professor of clinical physical therapy, served as chair of the Sullivan Center Development Committee, composed of faculty and staff. “Having the opportunity to dream up the optimal environment for learning about human movement and then seeing it become reality has been incredibly rewarding,” she says.

“The Sullivan Center is the Division’s first major step into 21st-century physical therapy education.”

The center is named for the Robert J. Sullivan Family Foundation, whose seed donation helped make the facility a reality. Robert Sullivan’s daughter Katherine Sullivan, PhD, PT, associate professor of clinical physical therapy, notes that her father’s aims are epitomized in a quote from Ralph Waldo Emerson: “Do not go where the path may lead; go instead where there is no path and leave a trail.”



Dr. Julie Tilson, assistant professor of physical therapy, interacts with students seated in a “pod” arrangement. She writes on the rear-projection interactive display wall.



The flexible space of the Sullivan Center, shown in a studio setup.



Physical therapy students in a class at the Sullivan Center.

Optimizing Quality of Life in Wound Care

A decade ago, Dr. Rose Hamm, assistant professor of clinical physical therapy, saw a need that had gone unfilled at Keck Hospital of USC: wound management.

“I came to the hospital with the understanding that if the physical therapy department had any wound-care referrals, I’d be allowed to see them,” she says. “I’m passionate about taking care of these patients. One of the goals is always to prevent amputation whenever possible for patients with diabetes and arterial insufficiency, and to optimize their quality of life.”

Initially, Dr. Hamm says, the challenge was to educate the physicians about what physical therapists had to offer patients with wounds. Today, the six-person Wound Management Team—including three Certified Wound Specialists—provides evidence-based care to patients with non-healing acute and chronic wounds, in both inpatient and outpatient settings.

The Physical Therapy Services Wound Management Program is comprehensive—“we try to follow the patients through the whole continuum; if we start seeing them as inpatients, we follow them as outpatients”—and fully integrated with other disciplines, including nutrition, nursing (wound- and ostomy-care nurses), infectious disease, vascular surgery, plastic surgery, and dermatology. Types of wounds treated include arterial, venous, neuropathic, pressure, radiation, surgical, and atypical.

“The first thinking we do when we see a patient is to determine what is causing the wound and why it’s not getting better,” Dr. Hamm says. “With some patients it’s quite obvious, but with other patients you have to dig deep.

“The cause may be activities, medications, certain disease processes, uncontrolled blood sugars, or undetected infection. Sometimes the cause is nutrition; for example, if a person is protein-energy malnourished or has other nutritional deficiencies.”



Dr. Rose Hamm bandages a wound-care patient.

And sometimes the cause is as mundane as footwear. The most serious footwear problems occur when a patient with prolonged diabetes has motor and sensory neuropathy, causing bony abnormalities and loss of sensation in the feet. In these cases, patients may not feel the wound until serious infection occurs.

“We try to eliminate the cause of the wound, whether it’s friction or pressure or edema,” Dr. Hamm says, “and then we work with the patient in managing co-morbidities. Exercise and gait are included when necessary to help the patient maintain an active yet safe lifestyle. We work very closely with the referring physician to make all this happen.”

Over the past 10 years, Dr. Hamm has witnessed the increase of diabetes and community-acquired infections, such as staph. On the positive side, there are new systemic antibiotics, more effective antimicrobial dressings for the wound site that are not toxic to cells, and new biophysical technologies that facilitate wound healing. Another notable advance is the introduction of wound care to the entry-level physical therapy curriculum.

Asked for her wish list, Dr. Hamm says that the team—which currently works through the Outpatient Physical Therapy Department—would like to have space for a

designated wound-healing clinic. Equipment needs include pressure mapping for diabetic foot wounds and for patients confined to wheelchairs, as well as more diagnostic and debridement equipment. As the program grows, Dr. Hamm says, “I can certainly see needing more staff.”

During the past decade, wound care has become recognized as its own medical specialty, and wound-care programs or clinics can be found in every hospital or university medical center. The difference at Keck Hospital of USC is that outpatient wound care is physical therapy-driven. Some of the modalities physical therapists can offer for wound healing, such as electrical stimulation and compression, are not provided by other disciplines.

“The main thing I would like to stress,” Dr. Hamm says, “is when these patients come in, we’re looking at them with the knowledge and expertise of physical therapists—evaluating gait, strength, and range of motion, in addition to the mechanical and systemic causes of the wounds. We look at the whole patient.”

Grateful Patient Program Debuts

See page 10 for more information.

Honor Roll of Donors

We gratefully acknowledge the following alumni and friends for their financial contributions and the trust their support represents. This Honor Roll of Donors includes gifts recorded from January 1 to June 30, 2011. Every effort has been made to ensure accuracy. Please accept our apologies for any discrepancies. To notify us of any errors or omissions, or to make a donation, contact Art Aghourian at 213-740-7889 or artem.aghourian@usc.edu. To make a donation online, please visit <http://pt.usc.edu/donate>.

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PHIBUN NY
LORRAINE OGG
MICHAEL DEAN PARKER
MICHELLE GOOD PRETTYMAN
MARK GERARD PYNES
DIANE REID
JOHN WILLIAM RICH
LINDY RINKY
SANTO STEFANO RIVA
G. MAUREEN RODGERS
DEAN C. ROHRER
NANCY DEACON RUSSELL
KHALID SAEED
STEPHANIE SETSUKO SAITO
JASON SCOTT SANDERS
BRIANA MAE SATHER
LAURIE JANE SAWIN
REBECCA ELIZABETH SCHNEIDER
JANICE MARIE SHERMAN

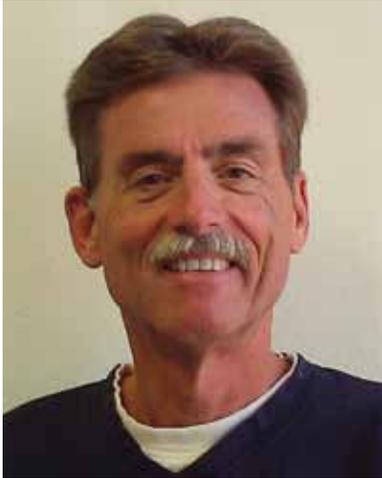
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TENET HEALTHCARE
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DEAN MIYOSHI YAMANUHA
CATHERINE MARY YAUSSEY
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MOST LOYAL DONORS: Jamie Lynne Hart, MS '87 Division Donor Since 1989

“I have watched the Division grow and change from the days when we were a Master of Science program primarily based at the Rancho Los Amigos campus. I support the Division to enable it to update facilities, promote new endeavors, and enhance the learning experience for future physical therapists.”

David Hayes Joins Board of Councilors



David Hayes

David Hayes has been a physical therapist since 1981 and serves as chief financial officer and co-owner of Rehab Alliance, in Laguna Hills, California. His company has provided rehabilitative services to acute and skilled nursing and private clinic communities throughout California since 1987. He was a member of the voluntary faculty at USC in 1995-1996.

A two-time past president of the California Physical Therapy Association, Hayes has been a member of the American Physical Therapy Association's Advisory Panels on Practice and Reimbursement, and has held numerous APTA offices at both the district and state levels. For 17 years, he has also proudly served as a delegate to the House of Delegates, the APTA's highest policymaking body.

As an APTA chapter president, Hayes has led many battles in the California state legislative arena, including practice infringements by athletic trainers, chiropractors, and occupational therapists, and has helped draft legislation permitting partial direct access (initial evaluation by a licensed physical therapist, with a doctor's referral required for treatment).

Hayes received the Charles Magistro Service Award from the APTA in 2005 and the Physical Therapist of the Year award from the Orange County District of the APTA in 1993. He holds a BS in physical therapy from Texas Woman's University and a BS in kinesiology from UCLA.

▶ BOARD OF COUNCILORS

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Grateful Patient Program Debuts



Physical therapists Dr. Lori Ginoza (standing) and Dr. Robbin Howard work with a patient on the suspended treadmill.

Patients at Division clinics often mention how grateful they are for the treatment—or simply the encouragement—they have received from their physical therapist. Now there's a way for patients to recognize an outstanding physical therapist by making a gift in his or her name.

Available at all our clinics (Keck Hospital of USC, UPC, and Marengo), the Grateful Patient Program enables patients to make a tax-deductible gift to the Division that will support the clinics as well as research and education, ultimately ensuring a continuing legacy of superior patient care. The physical therapist being honored will receive a special lapel pin to wear during clinic rounds.

Brochures with donation forms—including space to share your patient story—are available at all Division clinics. For additional information, please email fighton.pt@usc.edu or phone Art Aghourian: 213-740-7889.

DPT Students Help Local Community as They Learn

“I chose USC because I’d have access to kids in an urban setting,” says Holly Kolar, a second-year DPT student in the Division of Biokinesiology & Physical Therapy. The Division provides rewarding opportunities for students to practice their newly acquired skills while helping youth in USC partner schools near the Health Sciences Campus.

Doctor of Physical Therapy (DPT) students in the Division participate in three community-based curriculum activities—Playground Pals, fitness testing, and lower-extremity screening—planned, organized, and implemented by Dr. Sharon DeMuth, adjunct assistant professor of clinical physical therapy. She works with school principals and staff to integrate the USC students with the elementary and high school students.

As part of their first Therapeutic Exercise course, first-year DPT students meet weekly for four

weeks with children in kindergarten through third grade at Sheridan Street, Griffin Avenue, and Murchison Street elementary schools. Students design games and activities to promote exercise and fitness, and work with the children in small groups. Known as Playground Pals, this program is organized in cooperation with LA’s BEST. The mission of LA’s BEST is to provide a safe and supervised after-school education, enrichment, and recreation program for elementary-school children ages 5 to 12 in the City of Los Angeles.

Second-year DPT students in the Clinical Exercise Physiology course perform fitness tests at the partner elementary schools and Francisco Bravo Medical Magnet High School. A modified Fitnessgram® (health-related fitness tests for youth), the assessment includes measures of cardiovascular fitness, strength, flexibility, and endurance. Division students screen more than



USC DPT students (on right side of table, foreground) counsel ninth- and tenth-grade students at Bravo Medical Magnet High School about the results of their fitness tests.

200 elementary and 300 high school students during the testing period.

In their third year, DPT students participate in lower-extremity screening of second grade students in two of the partner schools. This activity includes testing for strength and flexibility of the lower extremities, high blood pressure, and scoliosis.

Division PT Students Participate In ‘Shane’s Inspiration’ 5K/10K Walk & Roll Event



Division physical therapy students led stretching exercises for participants and walked in the 14th annual Shane’s Inspiration 5K/10K Walk & Roll event at Griffith Park on September 25. The event’s mission is to create inclusive playgrounds and programs that unite children of all abilities, fostering a bias-free world for children with disabilities.

Mark Blanchette Receives ASTM International Graduate Scholarship



Mark Blanchette

PhD candidate Mark Blanchette, MS ’07, was awarded the 2011 ASTM International Graduate Scholarship. His research focuses on the relationship between footwear tread design and slip resistance, slip testing, tribometer validation, and high-heeled gait. A student member of ASTM International (formerly known as the American Society for Testing and Materials), Blanchette is also a member of the American Society of Biomechanics and the Footwear

Biomechanics Group of the International Society of Biomechanics. In the field of forensic biomechanics, he has worked as an independent contractor for Semper Scientific Inc. in Mission Viejo and as an independent contractor conducting biomechanical and J2 Engineering in Fresno. The ASTM International Graduate Scholarship rewards graduate students who have demonstrated a high level of interest in or involvement with ASTM International standards.

USC PT Program Commended for Student Contributions to CAL-PT-PAC



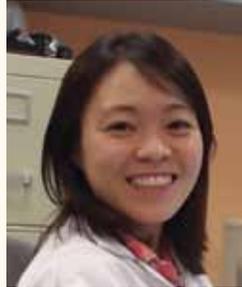
The USC Physical Therapy program was recognized at the 2011 CPTA Annual Conference for collecting the most Cub-level contributions to the California Physical Therapy Political Action Committee (CAL-PT-PAC). PAC Cub is a new program that enables students to be recognized for CAL-PT-PAC contributions of at least \$20 in a calendar year. PAC Cub supporters receive a thank-you letter and a CAL-PT-PAC pin, and their names are published on the CPTA website.

Hyeshin Park and Sooyeon Sun Receive Fellowship for USC PhD Student Summer Institute



Hyeshin Park

Hyeshin Park and Sooyeon Sun, Biokinesiology PhD candidates, were accepted to the 2011 USC PhD Student Summer Institute. The institute and corresponding fellowship award is sponsored in part by the USC Graduate School, USC Office of the Provost, and multiple USC



Sooyeon Sun

academic departments. Weekly institute seminars and activities are designed to promote scholarly and professional development, and to help foster a multicultural, interdisciplinary USC PhD student community.

Matt Gaston Villanueva Receives Doctoral Research Grant from NSCA



Matt Gaston Villanueva

Biokinesiology PhD candidate Matt Gaston Villanueva received a Doctoral Research Grant from the National Strength and Conditioning Association Foundation (NSCAF) for his dissertation project, "Adaptations to resistance training with very dissimilar rest intervals." The purpose of this study is to examine and compare chronic muscular strength; hypertrophic, acute hormonal response; and functional performance adaptations in response to two separate 12-week periodized resistance-training programs for recreationally active men aged 60 to 80.

The grant program funds graduate research in the fields of exercise science, and strength and conditioning that is consistent with the association's mission. Funding is provided for educational and research activities that enhance the practical application of strength and conditioning. Villanueva's faculty advisor, Dr. E. Todd Schroeder, director of the Clinical Exercise Research Center, will serve as co-investigator of the study.

Joanne Smith, Sooyeon Sun, and Hyeshin Park Attend Motor Control Summer School



Joanne Smith

Three Biokinesiology PhD candidates were selected to attend the Eighth Motor Control Summer School in June, a three-day event in Ligonier, Pennsylvania, sponsored by the Penn State Department of Kinesiology. Sooyeon Sun, Hyeshin Park, and Joanne Smith were accepted on the basis of their publications, CVs and written statements. The program included lectures, poster presentations,

and animated interactive seminars led by the faculty, which included Anatol Feldman (University of Montreal), Ziaul Hasan and David Vaillancourt (both, University of Illinois), Mark Latash (Penn State), Mindy Levin (McGill University), and Monica Perez (University of Pittsburgh).

Barbara Sargent Receives PODS II Scholarship and Erickson Award



Barbara Sargent

Biokinesiology PhD candidate Barbara Sargent was awarded a Promotion of Doctoral Studies (PODS) II Scholarship from the Foundation for Physical Therapy. She also received the 2011 Viva J. Erickson Award for exceptional achievement in a PODS II Scholarship. Working under the guidance of Dr. Linda Fetters, director of the Development

of Infant Motor Performance Laboratory (DIMPL), Sargent is focusing on differences in early task-specific leg action between three-month-old infants developing typically and preterm infants at high risk for cerebral palsy. Her research is the first step in a continuum of research expected to lead to the development of more relevant and successful therapeutic intervention programs for infants at high risk for cerebral palsy.

The Viva J. Erickson Fund was established in 1995 in memory of the physical therapist and APTA leader. The Foundation for Physical Therapy was established in 1979 as a national, independent nonprofit organization dedicated to improving the quality and delivery of physical therapy care by providing support for scientifically-based and clinically relevant physical therapy research and doctoral scholarships and fellowships.

Dr. Jason J. Kutch Joins the Division



Dr. Jason J. Kutch

Jason J. Kutch, PhD, BSE, assistant professor, joined the faculty of the USC Division of Biokinesiology and Physical Therapy in August 2011. He will direct the Division's Applied Mathematical Physiology Laboratory (AMPL). Dr. Kutch was previously research assistant professor in the USC Department of Biomedical Engineering.

His research is focused on three goals: 1) to understand how the complex networks in the central and peripheral nervous systems produce coordinated activity in muscle fibers; 2) to engineer practical, non-invasive systems to study these networks in humans; and 3) to apply the findings and technology to improve the lives of people with neuromuscular disorders, particularly chronic pain.

To locate the central and peripheral sites of impairment in individuals with chronic pelvic pain, Dr. Kutch is using electrophysiology and brain imaging. His previous research has shown that micro-fluctuations in human muscle force contain a wealth of information about how the central nervous system (CNS) controls multiple muscles. Dr. Kutch has also developed mathematical algorithms to associate these fluctuations with electrical activity in muscles, which may reveal how the CNS is regulating the activation of neurons in the spinal cord.

These two findings form the basis for noninvasive technology that can assess whether the CNS is properly controlling muscle at the spinal level. Dr. Kutch is currently using these approaches to identify new avenues for treating chronic pain disorders.

At the Dana & David Dornsife Cognitive Neuroscience Imaging Center at USC, Dr. Kutch is also looking into how changes in the brain might affect muscle contraction in patients with chronic pain. His study, "Pathological insula connectivity and neural control of muscle in Chronic Prostatitis/Chronic Pelvic Pain Syndrome (CP/CPPS)" may identify the neural circuitry that causes pelvic muscles to contract involuntarily during times of stress. Studies have shown that CP/CPPS is the most frequent urological diagnosis for men under 50, with quality-of-life scores consistently lower than for congestive heart failure, diabetes, and Crohn's disease.

Applying research into the nervous system and noninvasive technology to improve the lives of people with neuromuscular disorders, particularly chronic pain.

Physical therapists are at the front lines in treating this perplexing disorder. In collaboration with Daniel Kirages, DPT, PT, OSC, FAAOMPT, instructor of clinical physical therapy, Dr. Kutch recently received Division funding for a pilot study, "A critical evaluation of physical therapy for Chronic Prostatitis/Chronic Pelvic Pain Syndrome (CP/CPPS)." (Please see story on page 6.)

In August, Dr. Kutch presented "Biomechanics to Brain: Unraveling the complex neural connectivity of multi-muscle control" at the annual meeting of the American Society of Biomechanics and "Applying mathematical physiology to unravel compromised neuro-

muscular control in chronic pain" at the USC Engineering, Neuroscience and Health Seminar Series.

Other recent presentations include "Is math the cause of or cure for chronic pain? New approaches to the perplexing problem of pain" (Sixth Annual Symposium, UCLA Biotechnology Training in Biomedical Sciences and Engineering Program) and "EMG is not recruitment" (Myths and Monsters in Motor Control Symposium at the Annual Meeting of the Society for the Neural Control of Movement).

As a post-doctoral research associate (2008-2010) in the USC Brain-Body Dynamics Lab of Dr. Francisco J. Valero-Cuevas, Dr. Kutch investigated the necessity of particular muscles and the biomechanical basis for muscle synergies. With Dr. Valero-Cuevas as principal

investigator, Dr. Kutch coauthored "Control of Finger Motion and Force for Precision Pinch," supported by a National Institutes of Health (NIH) R01 grant. Dr. Kutch's recent publications include "Muscle redundancy does not imply robustness to muscle dysfunction," with Dr. Valero-Cuevas (*Journal of Biomechanics* 44:1264-1270, 2011).

Dr. Kutch earned a BSE in mechanical engineering from Princeton University in 2001 with minors in engineering biology, and robotics and intelligent systems, and a PhD in applied and interdisciplinary mathematics in 2008 from the University of Michigan, in collaboration with The Rehabilitation Institute of Chicago.

Dr. Susan Sigward Is Rehabilitation Research Career Development K12 Scholar



Dr. Susan Sigward

The K12 Rehabilitation Research Career Development (RRCD) Program was created for junior faculty in physical therapy and occupational therapy to increase the number of rigorously trained, scientifically competent rehabilitation scientists. Dr. Susan Sigward,

PhD '04, assistant professor of clinical physical therapy in the USC Division of Biokinesiology and Physical Therapy, was chosen this fall as a K12 Scholar.

Dr. Sigward's current research interest is in understanding the mechanics and motor control of maneuverability. She is pursuing two projects aimed at understanding: 1) the mechanics and motor control of running maneuvers; and 2) the development of locomotor skills needed to perform running maneuvers in children and adolescents.

"While maneuverability during running tasks is associated with sports-related injury risk," she says, "it may have an even greater implication for a child's willingness to participate in physical activity. Children and adolescents who do not develop age-appropriate locomotor skills are less likely to be successful in recreational and sports activities, and tend to exclude themselves from organized and non-organized games and exercise."

The five-year K12 scholarship provides salary support, mentorship, and training in a two-

phase program that involves progressively more independent and productive mentored research activities. Dr. Sigward's lead mentor will be Dr. Robert Gregor, adjunct professor, whose research interest is musculoskeletal biomechanics and the neural control of movement.

Phase I (years one to three) consists of an individualized career development plan focused on research methodology, with specialized seminars and courses, and mentored grant writing. Phase II (years four and five) does not include funding, but the scholar remains associated with the program and with her mentor.

Funded by the National Center for Medical Rehabilitation Research and the National Institute of Neurological Disorders and Stroke, the RRCD Program utilizes the research infrastructure of the University of Texas Medical Branch, the University of Florida, and Physical Therapy and Occupational Therapy at USC.

Faculty & Staff on the Move

In Motion congratulates the following faculty and staff for their promotion or new appointment, and wishes all the best to those who have moved on to new positions elsewhere.

Faculty Promotions

JANELLE GILMER

Staff Physical Therapist to
Instructor of Physical Therapy

CHERISE LATHAN

Resident to Instructor of
Clinical Physical Therapy

NICOLAS SCHWEIGHOFER

Associate Professor (tenured)

JEFF THOMPSON

Staff Physical Therapist to
Instructor of Clinical Physical Therapy

Faculty Appointments

LIZ BOTTRELL

Adjunct Instructor of Clinical
Physical Therapy

COLE HUGHLETT

Instructor of Clinical Physical Therapy

JASON KUTCH

Assistant Professor

DAVID RICHARDS

Instructor of Clinical Physical Therapy
at Keck Hospital of USC

New Staff

JANET BURNLEY

Student Affairs Coordinator

YA-TING HSU

Project Specialist, DOSE (Dose
Optimization for Stroke Evaluation)

KRYSTAL WALDEN

Clinic Assistant

Departures

JILL HOPKINS

former Student Affairs Coordinator (retired)

JASON GENCO

former Clinic Assistant, HSC Clinic

In Brief

Lucinda L. Baker, PhD, PT, associate professor at USC and director of the Clinical Electrophysiology Laboratory, was recognized at the faculty retreat in June for her 30 years of service to the Division. Dr. Baker was a senior at USC in 1971 when the program moved from the University Park Campus to what was then known as Rancho Los Amigos Hospital. In 1988, when the program moved back to USC, she was the acting chair.

She writes, “We first revamped the Ortho curriculum, then developed the DPT program. As the third graduate of the PhD program, I am excited that each year we can now graduate several exceptional students who go on to post-doc positions and move into prestigious faculty appointments. It has been a wonderful ride. I look forward to working with you all for years to come.”

Dr. Baker has provided content and narration for *Electrode Placement and Functional Movement*, a 41-chapter video dealing with both upper and lower extremities. The video, sponsored by Axelgaard Manufacturing Co., Ltd., maker of PALS® Platinum neurostimulation electrodes, is available at www.palsclinicalsupport.com/buydvd.html.

Christina Dieli-Conwright, PhD, adjunct instructor of clinical physical therapy at USC, has received a five-year Cancer Prevention, Control, Behavioral, and Population Sciences Career Development Award (K07) from the National Cancer Institute. The award—specifically for early-career investigators—will support 75 percent of Dr. Dieli-Conwright’s salary, enabling her to participate in a rigorous career development curriculum and to conduct her research project, *Metabolic Syndrome and Breast Cancer: Effects of a Combined Exercise Intervention*.

Beth Fisher, PhD, PT, associate professor of clinical physical therapy at USC, has received a one-year \$30,000 grant from the Southern

California Clinical and Translational Science Institute (SC CTSI) at USC to conduct a pilot research project, “Accelerated Arm Recovery after Stroke through Cortical Modulation: an rTMS study.” Dr. Fisher hypothesizes that low-frequency repetitive transcranial magnetic stimulation (LF rTMS) during the acute post-stroke phase will help restore interhemispheric inhibition. The study aims to achieve arm recovery in a shorter period of time after a stroke, using a combination of LF rTMS and focused, skill-based intervention.

The National Institutes of Health established the SC CTSI in July 2010 with a landmark \$56.8 million award to USC. A partnership of leading academic, clinical, and community health institutions and organizations in Los Angeles, the SC CTSI will create new translational research projects and teams to apply multidisciplinary research to point-of-care practice and to establish new approaches to health and health care in urban communities.

Joe Godges, DPT, OCS, adjunct associate professor of clinical physical therapy, participated in a *Physical Therapy Journal* discussion podcast about the paper, “Development of Clinical Guidelines in Physical Therapy: Perspective for International Collaboration” (*Physical Therapy* 91[10]:1551-1563, October 2011) by Philip J. Van der Wees, Ann P. Moore, **Christopher M. Powers**, Aimee Stewart, Maria W. G. Nijhuis-van der Sanden, and Rob A. de Bie.

Rose Hamm, DPT, PT, CWS, assistant professor of clinical physical therapy at USC, participated in a two-day multidisciplinary Advances in Wound Care course in Puerto Rico, sponsored by the American College of Certified Wound Care Specialists (ACCWS). Five board members gave presentations on best practices to an audience of more than 175 clinicians.

Dr. Hamm also presented “Ultrasound for Ultra Wound Bed Preparation and Healing” at the Symposium on Advancing the Standards in Wound Care in Dayton, Ohio, sponsored by the ACCWS. With Dr. Alex Wong, she presented “Pathophysiology and Treatment of Radiation Wounds” at The Symposium on Advanced Wound Care in Las Vegas, sponsored by the Association for the Advancement of Wound Care.

Julia Burlette Itamura, DPT, PT, OCS, adjunct assistant professor of clinical physical therapy at USC, is coauthor, with Craig P. Hensley, of “A Nonfunctioning Pituitary Adenoma in a Patient with Dizziness” (*JOSPT, Journal of Orthopedic & Sports Physical Therapy*, 41[5]:364, May 2011).

Sean Johnson, DPT, PT, OCS, instructor of clinical physical therapy at USC, received the 2011 Rising Star Award from the California Physical Therapy Association (CPTA). The award recognizes early-career CPTA members who have made valuable contributions and demonstrated enthusiasm, creativity, and exceptional service at the chapter or district level.

Kornelia Kulig, PhD, PT, FAPTA, associate professor of clinical physical therapy at USC, has coauthored “Women with Posterial Tibial Tendon Dysfunction Have Diminished Ankle and Hip Muscle Performance” (*JOSPT, Journal of Orthopedic Sports Physical Therapy*, 41[9]: 687-694, September 2011) with **John M. Popovich Jr.**, **Lisa M. Noceti-Dewit**, **Stephen F. Reichl**, and Dong Kim.

The controlled laboratory study involved an assessment of ankle plantar flexor strength and hip muscle performance of 35 middle-aged women, 17 with posterial tibial tendon dysfunction. The posterial tibial tendon—which starts in the calf, stretches behind the inside of the ankle and attaches to bones in the middle of the foot—helps maintain the arch of the foot and supports the lift-off on your toes as you take a step.

Robert F. Landel, DPT, PT, OCS, CSCS, MTC, professor of clinical physical therapy at USC, was invited to work at the U.S. Olympic Training Center in Chula Vista in November. Dr. Landel was quoted in a *Los Angeles Times* article, “Getting Back in the Game After a Long Layoff” (June 10, 2011). The article was prompted by NFL wide receiver Plaxico Burress’s attempt to resume his career.

“You can lift weights, you can train aerobically,” Dr. Landel said. “But short of having people tackle you, preparing for that is a different dimension.” He noted that baseball is one of the easier sports to reenter after a layoff, because so many aspects of the sport can be simulated.

CONTINUED ON NEXT PAGE ►

In Brief *continued*

A golf comeback like Tiger Woods' is physically demanding in a different way from football, Dr. Landel said. "Your lumbar spine, your back, is not made to golf."

Yogi Matharu, DPT, OCS, director of physical therapy clinical services at USC, has coauthored a chapter, "Functional Restoration of Patients in Pain," with Dr. Ali Nemat for the textbook *Essentials of Pain Management* (N. Vadivelu, R. D. Urman, R. L. Hines, eds., Springer, 2011). Dr. Matharu also co-taught a course, Multidisciplinary Treatment of Chronic Pain, at the 2011 annual meeting of the American Psychiatric Association in Honolulu.

Sara J. Mulroy, PT, PhD, adjunct assistant professor of clinical physical therapy at USC, coauthored "Secondary Mediation and Regression Analyses of the PTClinResNet Database: Determining Causal Relationships Among the International Classification of Functioning, Disability and Health Levels for Four Physical Therapy Intervention Trials" with fellow investigators at the Physical Therapy Clinical Research Network: **Carolee J. Winstein, Kornelia Kulig, George J. Beneck, Eileen G. Fowler, Sharon K. DeMuth, Katherine J. Sullivan**, David A. Brown, and Christianne J. Lane (*Physical Therapy* 91[12], December 2011).

Cheryl Resnik, DPT, PT, associate chair and associate professor of clinical physical therapy at USC, received the Diversity 2000 Award of the Committee on Cultural Competence of the American Physical Therapy Association at the 19th annual Celebration of Diversity Fundraiser on October 1 in Clearwater, Florida. The award recognizes individuals or organizations that have demonstrated commitment to increasing cultural diversity and cultural competence in the profession and have worked to increase the APTA's Minority Scholarship Fund. Dr. Resnik's relevant activities include supporting the fundraiser, supporting USC students pursuing community service projects, and speaking about the importance of cultural competence in the physical therapy profession.

E. Todd Schroeder, PhD, assistant professor of clinical physical therapy at USC and director of the Clinical Exercise Research Center, was interviewed in July by KABC-

TV about the accuracy of the calories-burned readout on exercise machines. Dr. Schroeder cautioned that "people don't exercise at a continuous level—they are always changing speed, grade of the treadmill, inclines, declines, things . . . that will affect the workout."

Nicolas Schweighofer, PhD, associate professor of biokinesiology and physical therapy at USC, published a paper, "Mechanisms of the contextual interference effect in individuals post-stroke," in the *Journal of Neurophysiology* (August 2011) that was publicized by USC News.

Dr. Schweighofer and his research team discovered that, in spatial working-memory tests, individuals who had experienced a stroke and had short-term memory damage demonstrated better long-term retention than non-disabled participants. The team concluded that motor memory is the product of both short-term and long-term memory. "Continually wiping out motor short-term memory helps update long-term memory," Dr. Schweighofer told USC News. Thus, switching from learning one motor skill to learning another (rather than mastering one at a time) will make it more likely that you will retain them over time.

Katherine J. Sullivan, PhD, PT, associate professor of clinical physical therapy at USC, and **Steven Y. Cen, PhD**, assistant professor of research physical therapy at USC, coauthored "Model of Disablement and Recovery: Knowledge Translation in Rehabilitation Research and Practice" (*Physical Therapy*, 91[12], December 2011).

Dr. Sullivan also coauthored—with **John G. Wallace Jr.**, Margaret E. O'Neil, Gina Maria Musolino, MaryBeth Mandich, Mike T. Studer, Jennifer M. Bottomley, **Jody C. Cormack**, Sheila K. Nicholson, and Gail M. Jensen—"A Vision for Society: Physical Therapy as Partners in the National Health Agenda" (*Physical Therapy*, 91[11], November 2011).

Jonathan C. Sum, DPT, PT, OCS, SCS, instructor of clinical physical therapy at USC and Dr. George F. Hatch III, assistant professor of orthopedic surgery at the Keck School of Medicine of USC, coauthored "Osteochondritis Dissecans" (*JOSPT, Journal of Orthopedic &*

Sports Physical Therapy, 41[10]:796, October 2011). The patient was a 21-year-old man who sustained a noncontact twisting injury of his left knee while playing basketball.

Julie Tilson, DPT, PT, NCS, assistant professor of clinical physical therapy, was quoted by the Canadian Stroke Congress about the need for better identification of post-stroke individuals at risk of falling; for post-stroke rehabilitation, including exercises and techniques to prevent falls; and for proactive measures in the home.

Dr. Tilson led the Locomotor Experience Applied Post Stroke (LEAPS) study, which found that more than 70 percent of falls were in the home, and three-quarters of those who fell were unable to get up afterward. Ten percent of those who fell had serious injuries. "As patients start to recover and regain mobility," Dr. Tilson said, "the risk for falls may actually increase." The Canadian Stroke Congress is a joint initiative of the Canadian Stroke Network, Heart and Stroke Foundation of Canada, and the Canadian Stroke Consortium.

Francisco J. Valero-Cuevas, PhD, professor of biokinesiology and biomedical engineering at USC, will be a keynote speaker at the 2012 Canadian Society of Biomechanics Conference at the Burnaby campus (British Columbia) of Simon Fraser University, June 6-9.

Rami Weinberg, DPT, PT, OCS, CSCS, adjunct instructor of clinical physical therapy at USC, and **Stephen F. Reischl, DPT, PT, OCS**, adjunct associate professor of clinical physical therapy at USC, coauthored "A Persistent Lateral Foot Pain in a Patient with a Fifth Metatarsal Fracture" (*JOSPT, Journal of Orthopedic & Sports Physical Therapy*, 41[5]:365, May 2011).

Kimiko A. Yamada, DPT, PT, OCS, ATC, CSCS, assistant professor of clinical physical therapy at USC, coauthored "The Low Back Activity Confidence Scale (LoBACS): Preliminary Validity and Reliability" with fellow investigators at the Physical Therapy Clinical Research Network: **Rebecca Lewthwaite, John M. Popovich Jr., George J. Beneck**, and **Kornelia Kulig** (*Physical Therapy*, 91[11], November 2011).

Bold names indicate Division students, alumni, and current and former faculty.

▶ SPOTLIGHT

Dr. Janet Wessel Looks Back on 61 Years of Teaching, Research, and Publishing



Dr. Janet Wessel

Best known for her I CAN Achievement-Based Curriculum (ABC), Dr. Janet Wessel, (MS PT '49, PhD Ed '50), is still going strong at age 92. She divides her time between her homes on Lake Michigan and in Phoenix—which first attracted her when she taught at the University of Arizona in 1943 and continued to inspire her in the mid-1980s, when she directed I CAN Leadership Training as an adjunct professor at Arizona State University. “Hiking, river rafting, and

just enjoying the vistas, I found my place in the West,” she writes.

Dr. Wessel was teaching kinesiology at Michigan State University in 1964 when someone at the Michigan Department of Special Education called her to plead, “Janet, get out of your ivory tower and help us!” The task was to design a physical education curriculum for students with special needs, who were being mainstreamed from state institutions.

In the 1970s, the U.S. Bureau of the Handicapped funded Dr. Wessel’s I CAN- ABC project, published in 1976 by Hubbard Scientific and in 1980 by PRO-ED. During the 1980s, Dr. Wessel presented I CAN-ABC workshops throughout South America in collaboration with MSU

and the Organization of American States. In 2000, the U.S. Department of Defense Educational Agency asked Dr. Wessel to design an I CAN-ABC project for physical education personnel at U.S. military bases in the United States, Europe, and the Pacific.

The I CAN-ABC model is based on the premise that every student can learn and participate in the “achievement cycle.” Teachers are provided with materials that define the decisions they need to make to turn the core standards into a high-quality curriculum.

Dr. Wessel’s most recent publication (2010) is *Everyone Can! Skill Development and Assessment in Elementary Physical Education*, with co-authors Luke Kelly, Gail Dummer, and Thomas Sampson (Human Kinetics). Addressing the needs of all students, the book includes hundreds of assessment-based instructional activities and games, providing teachers with a systematic way to foster and monitor student learning. Portable teacher task cards enable activity and game information to be carried to the gym or field.

In April 2011, Dr. Wessel was honored with a Lifetime Achievement Award from MSU for her contributions in working with and establishing programs for individuals with disabilities.

▶ IN MEMORIAM

Marion Elaine Olmon March 2, 1922 - September 29, 2011



Marion Elaine Olmon

Born in Cottage Grove, Wisconsin, Elaine Olmon graduated in 1942 from St. Mary’s Nursing School in Madison and started her career at St. Mary’s Hospital as a surgical nurse. During World War II, she volunteered for the Army Nurse Corps. One of the American POWs she cared for was a doctor and professor who encouraged her to study physical therapy at USC.

Olmon graduated in 1948 and began her career as a physical therapist. She married Luther Olmon, who was working on his PhD at USC. After the birth of her second son, she returned to work part-time as a nurse at Mt. Sinai Hospital in Los Angeles. She continued her career at Village Physical Therapy in West Los Angeles until her retirement in 1988. In 2008, she was honored as a Half-Century Trojan at the Division’s Commencement Ceremony.

Fondly remembered as a loving wife, mother, and grandmother, she is survived by her three sons, Mark, Stephen, and Krister, and six grandchildren, Kari, Genevieve, Cole, Sydney, Milan, and Harper.

Continuing Education

WINTER & SPRING COURSE OFFERINGS

Sports Rehabilitation Seminar Series, Module II

JANUARY 12 – 15
2.8 CEUs

High-Velocity, Low-Amplitude Techniques for Spinal Manipulation

Module One: MARCH 16 – 17
Module Two: MARCH 18 – 19
1.4 CEUs PER MODULE

2nd Annual Sykes Symposium on Pediatric Physical Therapy, Health, and Development

MARCH 16 – 17
1.1 CEU

Management of the Foot and Ankle: An Evidence-Based Approach

MAY 19 – 20
1.4 CEU

Staying in Touch

1959 CARRIE SUSSMAN DPT, PT, and Barbara M. Bates-Jensen's fourth edition of their textbook, *Wound Care: A Collaborative Practice Manual for Health Professionals* (Lippincott, Williams & Wilkins), was published in October. Dr. Sussman was honored in 2009 as a Half-Century Trojan at the Division's Commencement Ceremony.

1962 ROBERT ALLAN, PT, writes that he is retired, living in Palm Springs, and enjoying life.

1969 MITCHEL KAYE, PT, received the Clarence W. Hultgren Service Award at the 2011 California Physical Therapy Association (CPTA) Conference in Long Beach. The award acknowledges and honors individuals who have provided exceptional service to the CPTA and its members. It was named for Clarence (Clancy) Hultgren, PT, CPTA, the first executive director of the California Chapter.

1980 ANDREW HARRAH, MS, PT, writes that he is celebrating 31 years of practice, "thanks to USC PT" and his two-year anniversary at Girard Orthopaedic Surgeons Medical Group in La Jolla, California.

1992 ANDREA AVRUSKIN, DPT, PT, LAT, ATC, CKTP, was named an Emerging Leader by the APTA for her work as chair of the Public Relations Committee of the Nevada Physical Therapy Association. To commemorate National Physical Therapy Month, Dr. Avruskin organized and ran the third annual statewide Peanut Butter & Jelly Challenge, in which physical therapists throughout Nevada collected jars of the sandwich filler to donate to local food banks. She also designed billboards educating the public about physical therapy, and negotiated for advertising space in Las Vegas and Reno with the help of a Component Grant from the APTA. Dr. Avruskin blogs about physical therapy issues on her website and dedicates another blog to Las Vegas performing arts events.

1993 PAUL GASPAR, DPT, PT, CCS, received the 2011 APTA State Legislative Leadership Award for his work on the successful defeat of California Assembly Bill 783, which would have nullified the California law that prohibits physician referral for profit in physical therapy (POPTS). The award was presented in September at the APTA's State Policy and Payment Forum in Austin, Texas.

JENNIFER NUCKTON, MPT, continues to work per diem in acute care at Salinas Valley Memorial Hospital in Salinas. She became a clinical specialist in hippotherapy last year just as the clinic in Carmel where she was working, Equine Assisted Therapy at Mountain Valley, closed. Nuckton is planning to open a new hippotherapy clinic in 2012.

1994 SCOTT EDWARDS, PT, CSCS, is the inaugural Sports Physical Therapy resident in the Athletic Medicine Department at Heritage Hall, home of USC's Department of Intercollegiate Athletics, where he is working with the athletic training staff and with John Meyer, Drew Morcos, and Steve Reischl. Edwards' residency continues until June 30, 2012.

1995 DON DENDINGER, MPT, opened his second clinic, Walnut Creek Physical Therapy, in February 2011. His first clinic, Tice Valley Physical Therapy, opened in May 2001 and is going strong. Both clinics primarily treat orthopedic and sports cases.

1996 MICHAEL O'DONNELL, DPT, PT '83, OCS, FAAOMPT, assistant professor of clinical physical therapy at USC, received a Lifetime Achievement Award from the Professional Lifeguard Foundation, a nonprofit organization that provides scholarship awards for lifeguards in Los Angeles County who are enrolled full-time in college or graduate school.

1997 JIM DAGOSTINO, PT, received the 2010 State Legislative Commitment Award from the APTA, in recognition of his long-

term commitment to the California Chapter's state legislative activities and for consistently providing assistance in the statehouse.

1998 KYLE BALDWIN, DPT, PT, has opened his new physical therapy practice, The Center for Physical Therapy, in Long Beach, California. He will also continue to run his home care business for joint replacements, and is interviewing physical therapists to help fill that position.

FABRICE ROCKICH, DPT, OCS, CSCS, and his wife Lindsay recently welcomed a baby boy, Owen Thomas Rockich (born October 6, 2011). Dr. Rockich owns OPTM Physical Therapy of Saratoga, an outpatient orthopedic clinic in the San Jose area. His company recently celebrated its seventh anniversary in July.

2001 LISA (SHEPARD) MEYER, DPT, PT, OCS, and her husband John welcomed another baby girl to their family. Kendall was born August 25, 2011. Dr. Meyer writes that two-year-old Jayden is excited to show everyone her baby sister.

2003 JUDITH M. BURNFIELD, PHD, is director of the Institute for Rehabilitation Science and Engineering at Madonna Rehabilitation Hospital in Lincoln, Nebraska. She was a member of the team of researchers at the institute who worked with colleagues at the University of Nebraska-Lincoln, to develop the ICARE (Intelligently Controlled Assistive Rehabilitation Elliptical) system, an affordable therapeutic device enabling people with mobility limitations to regain or improve their ability to walk and enhance their physical fitness.

The ICARE provides customized propulsion via a sensor that automatically adjusts the level of support depending on the individual's needs. Madonna partnered with NUtech Ventures, affiliated with the University of Nebraska-Lincoln, to commercialize

the ICARE. National distribution was announced in August.

2004 NICOLE GALLAHER (JAHNE), DPT, gave birth to Eden Marie Jahne, 8 lbs. 4 oz., 21 inches long, on September 11, 2011.

AARON KRAAI, DPT, PT, was honored by the selection of his company, Doctors of Physical Therapy, as one of 54 finalists—out of a field of hundreds of competitors—in the Inc. Magazine and Winning Workplaces "Top Small Company Workplaces 2011." Based in Naperville, Illinois, Doctors of Physical Therapy hires only DPT-level physical therapists from the top 20 U.S. schools. Nominated companies were evaluated based on their vision and mission, leadership, retention of personnel, compensation and healthcare, growth, and stability.

2005 TRISHA SANDO, DPT, CWS, began a Master of Science program in Wound Healing and Tissue Repair in September through Cardiff University in Wales. Course work for this international, multidisciplinary program is primarily Web-based distance learning with a focus on assessing available literature and applying it to the practice of wound care. Dr. Sando, a staff member in the Department of Physical Therapy at Keck Hospital of USC, plans to complete the degree by 2014.

2006 THAOMY NGO BELTRAN, DPT, was honored by UCSF as a 2011 Thanks Superstar at the UCSF Medical Center 10th Annual Honors and Awards Celebration in May. The award recognized her outstanding efforts in patient care and exceptional contribution toward making UCSF Medical Center the best place to work, the best provider of health care services, and the best environment for teaching and research.

KARA KESSANS, DPT, PT, ATC, CSCS, has been working as a physical therapist and assistant athletic

CONTINUED ON NEXT PAGE ►

USC Division Alumni Reunion Cheers on the Trojans

A lively group of alums enjoyed delicious food and a sweet Trojans victory over the Fighting Irish at the USC Division Alumni Reunion, organized by the Physical Therapy Alumni Association, on October 22. Held at Pockets Sports Bar in Manhattan Beach, the event featured yummy baked treats by Lindsey Fong '05 organized by the Physical Therapy Alumni Association.

Everyone who joined us received a wineglass etched with "USC PTAA." The half-time raffle included great items generously donated by Blue Dog Beer Tavern, Blue Water Grill, Helen's Cycles, Trader Joe's, Lindsey Fong, and the USC Division of Biokinesiology and Physical Therapy. We also sold several PTAA logo shirts. By the way, it's true when they say, "It's never too early to become a Trojans fan." A four-month-old baby dressed in Trojan gear slept peacefully through most of the cheering.

Special thanks to Patricia Greaney Williams '80, Tracy Sykes '98, and Covey Lazouras '01 for their donations, to the Events Committee and Sara Villagran Palafox, and to everyone who pitched in to make this reunion such a fun time.

Jo Ochoa

USC PTAA, Membership and Events Committee Chair



trainer at Purdue University in West Lafayette, Indiana, for the past six years. Dr. Kessans works mornings in an outpatient orthopedic clinic and afternoons, in the athletic training room, primarily with football and men's and women's track and field/cross-country teams.

2008 CHRISTIAN LITTLE, DPT, OCS, began teaching as a full-time instructor at Regis University in Denver in 2010. At the faculty practice, she treats collegiate athletes, students, and faculty. Dr. Little recently completed her Manual Therapy Fellowship at the university. She led planning for the Move Forward 5K/10K event in September to raise funds for The Argyle Foundation, which provides support services to low-income residents of The Argyle Senior Living Center in Denver.

Dr. Little presented at the 2011 APTA Annual Conference on aging joints and to the Redwood (California) Empire District Chapter of the CPTA on osteoarthritis of the hip and knee. At the 2011 American Academy of Orthopaedic Manual Physical Therapists (AAOMPT) Conference, Dr. Little and colleagues

Drs. Tim Noteboom and Bill Boissonnault received a fellowship to investigate manipulation in the curriculum. Dr. Little also presented a poster at the conference with Dr. Tom McPoil. At the APTA Combined Sections Meeting 2012 in Chicago, Drs. Little and Stephanie Albin will present a pre-conference laboratory-based course, Manual Therapy Interventions for Individuals With Acute and Chronic Foot and Ankle Pathologies.

ANDREW PRITIKIN, DPT, AND TRINA ROWE, DPT, participated in the Youth Summit of the Foundation for Second Chances in October on the USC campus. Created to inspire underserved Los Angeles youth in grades 9 to 12 to actively plan for their futures, Youth Summit featured workshops and educational programs. In a *Daily Trojan* interview before the event, Dr. Pritikin said he would be talking to youth who play sports and are interested in physical therapy as a profession about the types of injuries that occur at college games.

Drs. Pritikin and Rowe are on the staff of the Bauerfeind Performance Center in Santa Monica. The

facility provides services and solutions specific to active adults' biomechanical profile and performance goals, including high-speed digital motion analysis and MediLogic wireless pressure readings, which enable physical therapists to see how the foot moves during walking, running, or lateral motion. Through Bauerfeind, which has partnered with an Olympic Games organizing committee, Dr. Pritikin will run the PolyClinics—physical therapy clinics for athletes from all countries—at the London 2012 Olympic Games this summer.

RICHARD B. SOUZA, PHD, PT, received the 2011 CPTA Publication Award for "The effects of acute loading on T1 rho and T2 relaxation times of tibiofemoral articular cartilage," *Osteoarthritis Cartilage*, 18(12)1557-63, December 2010; PMID 20950693.

Dr. Souza also received an RO1 Research Project Grant from the National Institutes of Health for "Contact mechanics, neuromuscular control, and cartilage composition in knee OA." This four-year study, funded through the National

Institute on Arthritis and Musculoskeletal and Skin Diseases (NIAMS) at the National Institutes of Health (NIH), investigates early markers of disease onset and predictors of disease progression in persons with knee osteoarthritis.

KELLY WILLIAMS, DPT, and her husband Russ Guinane are parents of a baby boy, Mason Blake Guinane, 8 lbs. 6 oz., 20.5" long, born April 16, 2011.

2009 Jared Vagy, DPT, OCS, writes that he has been able to maintain a balance between his professional and personal life. After passing his OCS exam in June, he climbed Naranja De Bulnes, a technical big wall in Spain, and the nose of El Capitan in Yosemite—both in September.

2010 JENNIFER REYNOLDS (CARR), DPT, completed her orthopedic residency at USC in August, married Timothy Carr on September 4, honeymooned in Fiji and New Zealand, and is newly employed at Gail Wehner and Associates Physical Therapy in Santa Monica. Her next step, she writes, is to sit for the OCS exam in March.

USC Division of Biokinesiology and Physical Therapy

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ALUMNI NEWS

From the Outgoing USC PTAA President

Dear Alumni and Friends,



Dr. Thaomy Ngo Beltran

Season's greetings! As the weather gets colder and the year is winding down, we celebrate with family and friends, enjoying each other's company and looking forward to new adventures in 2012.

Exciting changes are coming to the USC PT Alumni Association, including plans for more programming, professional development, and social networking, and a new PTAA Board. As I transition out as president, I am proud to announce our interim PTAA Board leaders: Dr. Kathy Sullivan, interim president; Dr. Sean Johnson, interim vice president; and Dr. Janis Brown, Dr. Lindsey Fong, Dr. Steven Lee, and Dr. Carin Shuler, committee directors.

During the past four years, I have had the gratification of forming a group of alumni who are proud to be Trojans. I would not have been able to do this without the support of the Board of Councilors and the founding PTAA Board members. I would also like to thank Dr. Gordon for his continued support of the PTAA from its inception

and Sara Villagran Palafox, who has devoted her time, knowledge, and creative energy to making the PTAA what it is today. To current Board members and alumni, thank you for all the hard work that you do for the PTAA. You make this organization extraordinary.

We are looking for exceptional alumni to nominate for our spring election, so please contact us if you or someone you know is interested. And don't forget to make an end-of-year donation to support the PTAA in its endeavors. Thank you all for your spirited support over the years. It has been an honor and a privilege to serve as your inaugural president.

Fight on!

A handwritten signature in black ink, appearing to read "Thaomy Ngo Beltran".

Thaomy Ngo Beltran, DPT '06
President, USC PTAA



Join Us. Search "USC Physical Therapy Alumni Association."

To join USC PTAA or to update your information, please visit:
<http://j.mp/USCPTAA>