Greetings from Department Head Gary Klug

In Vivo or "in the living" connotes a focus common to those who study the science of exercise and human movement; hence, it is the title of the Department of Human Physiology alumni newsletter. Our goals for In Vivo are to:

• Honor the department’s past
• Acquaint department alumni with current student and faculty member successes
• Highlight new and exciting directions
• Provide opportunities for alumni to communicate with the department.

If you did not receive the initial issue of In Vivo (fall 2004) and wish to acquire a copy, please let us know via e-mail, hphy@uoregon.edu, or by regular mail, Department of Human Physiology, University of Oregon, Eugene, OR 97403-1240, or by phone, (541) 346-5430. We will send one to you right away!

Petrone Gift Creates New Center for Biomedical Research and Health Assessment

A recent $150,000 gift from Dave and Nancy Petrone to the Department of Human Physiology has begun creation of the University of Oregon’s new Center for Biomedical Research and Health Assessment. This center, named in honor of the Petrones, will provide teaching, research and diagnostic experiences to students as they investigate and learn techniques for evaluating bone density, body composition, cardio-ventilatory and heart function, muscle mass and strength, and neuromuscular and joint function. The Petrones’ gift creates the infrastructure and provides the technology necessary to expose students to critical health issues such as aging, balance, obesity, Parkinson’s disease, stroke, osteoporosis, hypertension, sarcopenia (muscle wasting) and women’s health. The new center will facilitate collaboration with local health care providers to assist public schools, clinical patients, and community members with comprehensive evaluations of health and fitness.

Dave Petrone is chairman of Housing Capital Co. in San Mateo, California, is a graduate of the UO business school, and was the volunteer chair of the university’s last fund-raising campaign. He has served on the UO Foundation Board of Trustees since 1991 and is also a member of the Campaign Leadership Council for the university’s current fund-raising effort, “Campaign Oregon: Transforming Lives.”

Why would a couple with no prior connection to the department or introduction to its mission choose to donate such a magnanimous gift?

“We were overwhelmed with the professionalism and leadership Gary [Klug] and his colleagues exhibited for the research center . . . .” the Petrones said. “We felt this was a perfect example of how a gift can make a difference in the lives of not only the faculty, but to the lives of those who will benefit from the medical research done by the center.”

In January, the first piece of equipment, a dual energy x-ray absorptiometer (DEXA), for the measurement of bone and muscle mass, was delivered and installed. The necessary certification processes and training of personnel were completed in late winter, and additional equipment is forthcoming. The Department of Human Physiology thanks you who took time to communicate with us and provide feedback about the first edition and our department website. We are grateful for your comments and hope that communication between our department and its alumni will continue to grow.

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Human Physiology to Participate in Medical School Education Initiative

In an effort to ward off the state's looming doctor short-age, Peace Health Oregon, Oregon Health & Science University, and the University of Oregon have made a commitment to educate a substantial number of medical students in Eugene. Some 120 medical students per year would be trained in the new medical school intake, which will expand the capacity of the Portland-based OHSU medical school. The UO and Peace Health Oregon, which operates Sacred Heart Medical Center, are pledging to develop a satellite medical school program in Eugene.

Along with other science departments at the UO, the Department of Human Physiology will play an important role in the education of these medical students. The department's faculty members are pleased to be involved in this initiative and look forward to investigating the department's role in the expanded department mission.

Faculty Member Receives Prestigious Award in China

Li-Shan Chou, assistant professor of human physiology, received the Excellent Paper Award for his presentation, “Gait Stability Following Mild Traumatic Brain Injury.” Chou addressed the Second World Congress of Chinese Biomedical Engineers in September 2004 in Beijing, China. His presentation highlighted his current work on the neurological and biomechanical effects of concussion that is funded by a multiyear grant from the Centers for Disease Control and Prevention.

“During my graduate studies at the University of Oregon, I was privileged to have been associated with outstanding faculty members such as Doctors Osternig, Broekhoff, Woolacott, McCue, and many others,” Hamill remarks. “In particular, I owe a great debt of gratitude to Doctor Barry Bates, my graduate mentor. These wonderful faculty members gave me an opportunity and prepared me for my career, and I hope I have honored the department and the University of Oregon by being the best person and faculty member that I could be. I will always consider myself a Duck.”

Hamill currently resides in Amherst, Massachusetts, where he continues his work at the University of Massachusetts.

We salute our Distinguished Alumnus, Joseph Hamill.

DEPARTMENT NEWS

Students Receive Broekhoff, Grigsby Awards

PHY doctoral students Jessie Chen and Britta Torgrimsen have been selected to share the 2005 Sue Broekhoff Scholarship, and sophomore Lindsey Noll was awarded the 2005 Sue Grigsby Scholarship. The Broekhoff scholarship honors the lifetime of teaching and research by Broekhoff, while the Grigsby award goes to a sophomore or junior major who demonstrates superior academic promise, and commitment to good citizenship and ethics. Chen is currently studying mechanisms underlying accurate performance of string musicians while Torgrimsen is investigating how agonistic hormones influence blood vessel function in young women. Noll's goal is to become a physical therapist. Kudos to Jesse, Britta, and Lindsey!

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Alumni website goes live!

The Department of Human Physiology alumni website is now ready for your access. You can check past issues or in vivo as well as learn about department events and highlights. Go to http://www.uoregon.edu/~hphy, select your browser (Internet Explorer, Netscape, or Safari), and then click on “Alumni” in the lower left-hand column. The comments we received from the alumni regarding the inaugural issue of In Vivo were very highly valued, and we hope you will continue to communicate with the department. You can contact us through e-mail at hphy@uoregon.edu or by regular mail at Department of Human Physiology, 1240 University of Oregon, Eugene OR 97403-1240.

Keep in touch, and we'll do the same!

FACULTY PROFILE: Li Shan Chou

Li-Shan Chou arrived at the University of Oregon in 2000 as an assistant professor in biomechanics. Chou graduated with a B.S. degree in mechanical engineering from the Taitung Institute of Technology, Taiwan, in 1987 and received his master's and Ph.D. degrees, both in mechanical engineering, from the University of Illinois at Chicago in 1990 and 1995, respectively.

As an engineering student, Chou conducted his doctoral research jointly with the University of Chinese Hospitals in the Department of Surgery, where he was subsequently trained as a postdoctoral research associate. In 1997, he was awarded a Mayo Rehabilitation Research Fellowship (sponsored by the National Institutes of Health) and became a research fellow in the Biomechanics Laboratory at the Mayo Clinic in Minnesota.

Chou’s teaching focus is in the areas of biomechanical analysis of human movement, orthopedic biomechanics, and rehabilitation engineering. His research applies engineering theories to synthesize biomechanical mechanisms governing human locomotion, with topics ranging from basic research to clinical applications.

Research projects being performed in his Motion Analysis Laboratory include the development of sensitive and accurate biomechanical models for early detection and quantification of the risk of falls in the elderly, and identification of individual-specific biomechanical factors that are important for the restoration and maintenance of balance during locomotion. The latter could lead eventually to the design of more effective therapies and rehabilitation programs for the prevention of falls in the elderly and for patients with movement disorders.

Chou is also the principal investigator for a multisyear study on hand injuries (see concussion articles). His research projects are currently funded by the Centers for Disease Control and Prevention, the National Institute on Aging, and the National Institute of Child Health and Human Development.

“Interdisciplinary and integrated research training and education offered by our department provides students keys to their future success in the highly competitive society,” Chou remarks.

Chou resides in Eugene with his wife Su-Ling and children, Julia and Dean.

FACULTY PROFILE: Joseph Hamill

Hamill is with great enthusiasm that we recognize Joseph Hamill as a Distinguished Alumnus of the Department of Human Physiology. Hamill is in the midst of a celebrated twenty-three-year career of teaching and research that has led to his position as an international expert in biomechanics. He received his Master of Science and Ph.D. degrees in physical education from the University of Oregon in 1977 and 1981, respectively. Before initiating his graduate studies, he received a B.A. from York University, Toronto, and a B.S. from Concordia University, Montreal. Currently, Hamill is a professor in the Department of Exercise Science at the University of Massachusetts and has been the director of the Biomechanics Laboratory for the past nineteen years. He has served as chair of the department for the last ten years and as associate dean of the School of Public Health and Health Sciences for the last two years. Hamill’s research interests are focused on lower extremity biomechanics during normal and pathological locomotion. He has authored more than seventy-five research papers, some 100 research proceedings and abstracts, several book chapters, and three books, one of which, Biomechanical Basis of Human Movement (with Kathleen Knutzen), has been a staple text at universities for several years. He also has presented more than 130 papers at both national and international conferences, and has received grants from the Department of Defense, the U.S. Army and the National Science Foundation. Hamill is a member of several organizations including the American, Canadian, and International societies of biomechanics, as well as the American College of Sports Medicine. He is a fellow of the American College of Sports Medicine, of the Research Consortium of the American Alliance for Health, Physical Education, Recreation and Dance (AAHPERD), and of the Academy of Kinesiology and Physical Education. Professionally, he has served on the executive boards of the New England Chapter of the American College of Sports Medicine, the International Society of Biomechanics and the Canadian Society of Biomechanics and the International Society of Biomechanics in Sports.

Hamill is a member of several editorial boards of professional journals and conducts reviews for all major professional biomechanics journals. He has been an invited speaker in many countries around the world (e.g., Australia, Germany, Hong Kong, Korea, Portugal, Spain, Italy, and New Zealand). During his academic career, he has mentored more than 25 doctoral degree students. Last year, Hamill received the Ruth B. Glasgow Honor Award. This award, presented by the Biomechanics Academy of the National Association for Sport and Physical Education, recognizes a scholar for a lifetime of service to the field of biomechanics.

“During my graduate studies at the University of Oregon, I was privileged to have been associated with outstanding faculty members such as Doctors Osternig, Broekhoff, Woolacott, McCue, and many others,” Hamill remarks. “In particular, I owe a great debt of gratitude to Doctor Barry Bates, my graduate mentor. Those wonderful faculty members gave me an opportunity and prepared me for my career, and I hope I have honored the department and the University of Oregon by being the best person and faculty member that I could be. I will always consider myself a Duck.”

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We salute our Distinguished Alumnus, Joseph Hamill.
Concussion Research Underway

A research grant from the Centers for Disease Control to the UO Department of Human Physiology is supporting a four-year study on how college students recover from concussions. Principal investigator Li-Shan Chou and co-investigators Paul van Donkelaar and Louis Osternig are studying how head injuries affect various neuropsychological and motor functions over time.

Sports and physical activity provide significant exposures to traumatic brain injury, with some 300,000 sports-related concussions or mild traumatic brain injuries estimated to occur each year in the United States.

The investigators assess college students who have suffered a concussion immediately after the injury and a number of times during the following month to determine the recovery rates of specific neuromotor and biomechanical functions. Age- and activity-matched control subjects are assessed during the same periods.

One of the goals of the study is to provide objective and quantitative measurements of the residual impairment resulting from a head injury. It is believed that this information can lead to increased safety and faster integration into the community following concussion.

Tonya Parker, Robert Cetema, and Charlene Halterman, all human physiology graduate students, are leading experiments in two department laboratories. The subjects undergo three types of tests following the concussion including: 1) a computerized neuropsychological test that measures sustained attention and memory under time pressure; 2) a dynamic-balance test while walking under conditions of undivided and divided attention; and 3) sensorimotor tests of hand-eye, sculomotor, and attentional functions. Future work includes the use of functional magnetic resonance imaging (fMRI) to assess actual brain activity of concussed subjects while they are performing sensorimotor tests.

It is hoped that these studies will lead to a better understanding of the residual effects of traumatic head injuries and to interventions that can improve the rate and quality of recovery.

UNDERGRADUATE STUDENT PROFILE: Julie Beasley

Julie Beasley is a senior in the Department of Human Physiology. She has had a fulfilling undergraduate career while completing the requirements for her major in human physiology and for her minor in biology. She is on track to complete the Bachelor of Science degree in spring 2005.

Beasley’s previous clinical experiences as a certified nurse’s assistant and first responder have expanded her interest in human physiology research. She is currently serving as an undergraduate research assistant in the Exercise and Environmental Physiology Laboratory working under John Halliwell. She will act as a co-operator of the laboratory’s new dual x-ray absorptiometry (DXA) scanner, which measures bone mass density and body composition.

After completion of her undergraduate degree, Beasley will continue to work in the DXA laboratory until June 2006. Following her pursuit of further human physiology research opportunities, she intends to focus upon health and wellness promotion.

“When I initially came to Oregon, I was interested in the clinical aspects of human physiology,” she says. “I was excited about the program here, and intended to focus upon athletic training. As my studies at the university continued, my eyes were opened to the world of research, and I began to re-evaluate my goals.

“The faculty and staff in the department have provided me with a wealth of knowledge,” she notes. “Their desire to see students succeed has fueled my interest in this field and led me to strive for further knowledge and understanding of the human body.

“It given the opportunity, I would gladly repeat my experience here at Oregon! The educational and hands-on opportunities that have been made available to me have opened the doors for a fulfilling and successful future.”

GRADUATE STUDENT PROFILE: Jeanne Langan

Jeanne Langan graduated with a baccalaureate degree from the College of St. Scholastica in Duluth, Minnesota. After several years of clinical work as a physical therapist, she began pursuing a graduate degree at the University of Oregon in 2000.

“The time spent working in a variety of clinical settings in the United States and abroad has been instrumental in shaping my interests as a graduate student,” Langan says. “Neurological rehabilitation is intriguing to me and is what motivated me to join the Motor Control Lab at the UO."

She completed her Master of Science degree in exercise and movement science in 2002 and then stayed on to continue work toward a Ph.D. in human physiology.

A combination of things attracted Langan to the University of Oregon.

“The professors in the motor control department, Paul van Donkelaar and Marjorie Woollacott, are much respected in their fields and have a history of producing robust research,” she says. “In addition, the Lewis Center for Neurological Imaging located on campus provides an exceptional opportunity to use magnetic resonance imaging (MRI) to assess the plasticity of the brain. Of course, the fact that Eugene is close to great winter recreation areas and the coast was also enticing.”

The University of Oregon provided an excellent opportunity to conduct research in her area of interest, cortical plasticity following stroke. For Langan, it has been very rewarding and inspiring to work with individuals that have suffered a stroke.

“The drive these individuals have and the ability of the nervous system to adapt is amazing,” she notes. Her dissertation work uses MRI to investigate how the degree of handedness prior to stroke may influence the way the brain recovers following stroke. This research has been funded by the American Heart Association, the Medical Research Foundation, the Betty Foster McCue Scholarship, and the Eugene and Clarissa Evonuk Graduate Fellowship.

Returning to graduate school has been a positive experience,” Langan says. “I appreciate the mentorship that I have received from many of the professors here. The interaction with other departments through the Motor Control Lab’s involvement in the Institute of Neurosciences has also been very beneficial. I look forward to graduation and building on the foundation set at the UO.”
Many of our former faculty members are plenty active, either in retirement or in continuing their careers. Jack Adler is retired and residing “up the McKenzie” east of Springfield, Oregon. Barry Bates is president of Human Performance and Wellness, Inc., in Eugene, Oregon. Diane Baxter is retired and residing in Carthage, Illinois. Jim Blanchard is a senior instructor in the Outdoor Pursuits Program at the UO. Ann Bode is a research assistant professor and associate director of the Homel Institute, Austin, Minnesota. John Borchardt is retiring and residing in Eugene, Oregon. Cliff Brubaker is dean and a professor at the University of Pittsburgh School of Health and Rehabilitation Sciences. Janet Dudek is a visiting research associate professor at the University of Nevada, Las Vegas. Mike Ellis is retiring and residing in Lopez Island, Washington. Krystyna Gilo-Perezak is a scientist in biomechanics at the Liberty Mutual Research Institute for Safety, Hopkinton, Massachusetts. Elizabeth Glover is retiring and residing in Eugene, Oregon.

Kim Graber is an associate professor in the Department of Kinesiology at the University of Illinois, Campau-Urbana. Alan Hreljac is an associate professor in the Department of Kinesiology at Sacramento State University in California. Jody Jensen is an associate professor in the Department of Kinesiology and Health Education at the University of Texas, Austin. Sean Kohles is an adjunct associate professor in the Materials Science Group at Portland State University. Cani Loken is a coordinator and senior instructor in the Physical Activity and Recreation Services Program at the UO. Pat Lombardi is a research assistant professor in the Department of Biology at the UO. Eddie McAuley is a professor in the Department of Kinesiology at the University of Illinois, Campau-Urbana. Peter McGinnis is a professor in the Department of Exercise Science and Sport Studies at the State University of New York, Cortland, New York. Janice Radcliffe (Lettunich) is fitness director and instructor in the Physical Activity and Recreation Services program at the UO. Kelly Ramin is retiring and residing in Vancouver, Washington. Karla Rice is retiring and residing in Eugene, Oregon.

From left to right: Tom Abelow, Rick Showchek, Warren Friedrichs, Hiroshi Kinoshita, John Civi, Paul Avery, Mary Beth Floyd, Jim Agnew, Cath Hendon, David Szymons, still unidentified, Lars Naughton, Jaynise Heigel, Maria Hyne, Ray Nevarred, Sharon Jubrias, Lori Huestle Clark, Krisann Meyer, still unidentified, Peter Hamer, Ron Leiman, Deborah Nystrom, Paul Webb, John Downing, Rod Harter, still unidentified, still unidentified, Pat Lombardi, and Vito Nethery.

Petronio Gift, cont. from page one

coperated with the Department of Athletics and its medical staff to locate the Center for Biomedical Research and Health Assessment in the Bowerman Family Building, 1580 E. 18th Ave., at Hayward Field. The location is fitting as the center's mission fits perfectly within Bill Bowerman’s original vision of the building as a nexus for scholarship, research, community health, and athletics.

The impact of the Petronio's generous gift on the Department of Human Physiology does not stop at the development of the center. Within the donation is financial support for extensive site modification in Eastinger Hall for a second new facility—an environmental chamber for study of the physiological effects of temperature, humidity and altitude. This new chamber is funded by a $250,000 U.S. Department of Defense grant to faculty members John Hallwell and Christopher Minson, awarded in recognition of the quality of their existing work and the likelihood of continued success in this area of research. This facility will be a focal point for the work done in the Exercise and Environmental Physiology Labs (http://exp.pl.uoregon.edu/).

Thank you for your help!

With your assistance, we have identified most of the alumni in this photo, ca. 1981.

Greetings from the Department Head, cont. for page one

However, the increased number of majors has produced some growing pains as laborato-
ries for teaching began to disappear, and research competed for space. In response, 1999 saw the construction of a new lab in Eastinger Hall that is now devoted 100 percent to teaching. We invested $200,000 initially to most teaching laboratory equipment needs through a grant from the National Science Foundation and matching support from the UO College of Arts and Sciences. An additional $100,000 was invested, in recent years, to further support this endeavor.

You may have already read in this issue of In Vivo that a recent gift from Dave and Nancy Petronio has allowed HPHY to open a second teaching facility, which provides a quantum leap in training capabilities on sophisticated clinical instrumentation. For these two labs, the department will have invested nearly $500,000 to improve the environment for teaching undergraduates.

High quality teaching, outstanding research, and superb scholarship are indeed compat-
ible. This combination epitomizes the very best of a research university. It is our goal to provide the highest quality education possible for our students and to prepare them for rewarding careers and the new challenges of the twenty-first century.