Kinesiology Today

AKA American Kinesiology Association

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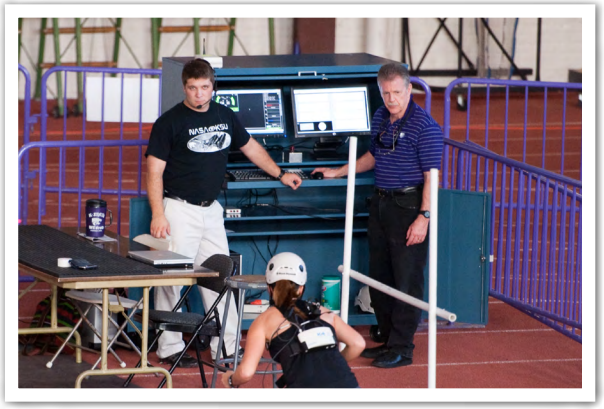
Kinesiology Goes Interplanetary: Kansas State Kinesiologists Help Prepare Astronauts for Work in Space

In a gym-sized kinesiology laboratory rigged with strange equipment, subjects move through an obstacle course, one not quite like most of us usually see. Subjects are dragging weights, stacking boxes, climbing up and down ladders, pushing wheelbarrow loads of rocks, and walking for 10 kilometers.

In another lab, electrical engineers are working to design sensors that can monitor physiological responses while subjects perform these tasks. And in yet another lab, mechanical engineers are designing a full-body support sling that can be used to support subjects as they perform these tasks. If the tasks look a bit like what astronauts might be required to perform on the lunar surface or even on the surface of Mars, that's because it is what they are intended to be.

The goal of all of this, says Tom Barstow, professor in the AKA-member department of kinesiology and principal investigator on a 3-year NASA-funded research project, is to develop a simple test or series of tests that astronauts can use while in space as a way of determining their physical readiness to perform work on lunar or planetary surfaces. "The microgravity environments in which astronauts are required to work are



Tom Barstow(right), principal investigator and doctoral student Carl Ade (left) gather data for the NASA-funded research project at KSU.

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Guskiewicz Named MacArthur Fellow

Kevin Guskiewicz, Keenan distinguished professor and chair of the department of exercise and sport science at the University of North Carolina at Chapel Hill, has been named a prestigious MacArthur fellow for 2011 for his work in sport-related brain injuries in professional and young athletes. Kevin's work at UNC was featured in a lead article in the summer issue of *Kinesiology Today*. The MacArthur Foundation named 22 individuals across a broad spectrum of fields. In addition to Guskiewicz, recipients included an architect, cellist, developmental biologist, radio producer, neuropathologist, conservator, poet, technologist, and public historian. All were selected for their creativity, originality, and potential to make important contributions in the future. To our knowledge, this is the first MacArthur Award given to anyone in the field of kinesiology.

Kevin Guskiewicz

According to the foundation's press release, each recipient received a phone call "out of the blue" that he or she would receive $500,000 in no-strings-attached support over the next five years. (Kevin reportedly received his call while in an airport. "I'll never forget that phone call," he said.)

The fellowships come without any stipulations or reporting requirements. They are intended to allow fellows unprecedented freedom and opportunity to reflect, create, and explore. The foundation points out that "the unusual level of independence afforded to fellows underscores the spirit of freedom intrinsic to creative endeavors. The work of MacArthur fellows knows neither boundaries nor the constraints of age, place, and endeavor."

See the MacArthur Foundation interview with Kevin at www.macfound.org/site/c.lkLXJ8MQKrH/b.7730971/k.9818/Kevin_Guskiewicz.htm.

The average SAT reading score for the graduating class of 2011 (497) is the lowest since 1972.

Washington Post

President's Message

Four-Plus Years and Counting: Growing and Sustaining a Commitment to Kinesiology

T. Gilmour Reeve, AKA President

T. Gilmour Reeve

In February 2007, an invited group of professionals came together to plan a new organization. The outcome of their meeting was the creation of an organization dedicated to supporting the academic discipline of kinesiology and advancing its many applications. Thus was born the American Kinesiology Association (AKA), an organization built for member departments and focused on strengthening the study of physical activity by providing support and services to academic departments. These initial efforts would not have been possible without support from Rainer and Julie Martens and the Human Kinetics Foundation. That support has continued over the past years and represents their commitment to our discipline. A sincere expression of thanks is due to Rainer and Julie for their vision and support in making AKA a reality.

Also, it is important to thank the inaugural leaders of AKA: Jerry Thomas, president; Roberta Rikli, vice president; Jim Morrow, secretary; and the other professionals who served on the founding board of directors. AKA has established itself as an important organization, supporting our member departments and collaborating with our affiliate organizations.

Early AKA programs included the Leadership and Strategic Planning Workshop (Chicago, 2008) and the workshop to Re-examine the Undergraduate Core Competencies for Kinesiology (Orlando, 2009). Following on the success of those workshops, AKA determined that it would conduct an annual leadership workshop focusing on issues and challenges facing higher education and departments of kinesiology. These annual workshops were held in 2010 and 2011 in Dallas, Texas. The next workshop will be in 2012, also in Dallas, with the theme focused on "branding" our kinesiology departments. These workshops include presentations by experienced kinesiology administrators and faculty, interactive sessions with panel discussions, and case studies. The AKA workshops are unique because they bring together individuals who have varied research interests but who are bound together by their professional and personal commitments to the study of physical activity. The workshop participants include both senior administrators and those interested in gaining knowledge about serving as administrators in kinesiology departments.

AKA continues to expand its programs and services to support kinesiology departments. During the past few years, the National Scholars Award program has grown to include both undergraduate and graduate student scholars, and a Graduate Student Writing Award has been initiated. These programs allow departments to identify and have their best students nationally recognized. Every member department should take advantage of this opportunity to have their outstanding students recognized by AKA. In support of our partnerships

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Performance Gimmicks Continue to Lure Big-Time Athletes

Was that a Power Balance Bracelet Keegan Bradley was wearing when he won the PGA Championship in August? You bet it was. It was the same bracelet worn by NBA stars Kobe Bryant and Shaq O'Neal; PGA golfers Ian Poulter, Ricky Barnes, and Hunter Mahan; New Orleans Saints quarterback Drew Brees; and a slew of other elite athletes. They don't just wear them—they swear by them.

"I don't really do a lot of testimonials, but this really works!" says Shaq. Beach volleyball star Pri Lima guarantees that "this product will raise your game and make a difference in how you feel." She adds, "I mean, there has got to be some reason almost every player on (the beach volleyball) tour is wearing it now."

Made from surgical-grade silicon and embedded with two holograms, it isn't the type of bracelet you'd give your beloved for Christmas. In fact, it isn't all that attractive. But adornment isn't the purpose. Enthusiasts claim that the bracelet's value is in the boost it gives in performance.

Truckloads of performance enhancers are being pushed on the sport market, most of which lack convincing scientific support. The Ampli5 wristband has a special stainless-steel clasp that, says its marketing department, provides "the right conductivity and frequency to affect a person's natural electrostatic state," resulting in improvements in "the body's strength, balance, energy, performance, and pain management." Ampli5 bracelets sell for $14.99 online and at convenience stores. The Phiten necklace, worn by many major league baseball players, is a late entry into the market. Its proponents claim that it improves the rate of recovery from fatigue and muscle strain, helps prevent injury, and improves performance through reduced muscle tension and increased flexibility

Reebok describes its ZigTech shoes that "transfer energy along the zigs (in the sole) to the forefoot" as "an energy drink for your feet." Peyton Manning, David Ortiz, and Allen Iverson are big customers. ZigTech shirts, which contain "optically responsive minerals" in the Celliant fibers, are said to "help boost the athlete's oxygen level by 7 percent."

Power balance bracelet


Athletic Propulsion Lab shoe

Athletic Propulsion Lab's $195 basketball shoes, which are intended to increase an athlete's vertical jump, were banned by the NBA in October 2010 shortly after they came on the market. The NBA didn't bother to test the claims before banning the shoe. (Later tests revealed much less promising gains in vertical jump performance.) As it turned out, the NBA ban was a market windfall for APL, which was beset by a surge of orders after the ban. The company's website continues to feature its "NBA BANNED Load 'N Launch Technology" even though tests by outside groups have failed to find an advantage for the shoe.

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Roberton Inducted into NASPE Hall of Fame

Dr. Mary Ann Roberton, professor emerita of human movement, sport, and leisure studies at Bowling Green State University, has been inducted into the Hall of Fame of the National Association for Sport and Physical Education (NASPE) for her exemplary career as a researcher, physical education teacher, and administrator. The award was presented last month in San Diego.

In naming Roberton for the honor, the association said, "At every point, her work and efforts have improved physical education particularly at the elementary school level, where she has had such a significant and profound effect on how children are taught motor skills."

Spanning nearly 50 years, Roberton's professional career included serving as director of the School of Human Movement, Sport, and Leisure Studies. She taught at Bowling Green State University for 15 years, retiring in 2005.

From her seminal papers in the 1970s on the developmental stages of the overarm throw to her work on locomotor skills, Roberton provided an insightful description of how the young child comes to coordinate his or her body for the achievement of specific task goals. In the last decade, she has turned her scholarly work to understanding the relationship between competence in motor skills and physical fitness in children.

Mary Ann Roberton

While her scholarship has influenced other researchers, Roberton's evidence-based research has also informed practice. Her textbook for physical education teachers, *Developing Children—Their Changing Movement: A Guide for Teachers*, is still relevant 25 years later, NASPE said.

- Courtesy of Bowling Green State University

Welcome New AKA Members

University of Wisconsin at Whitewater
Department of Health, Physical Education, Recreation and Coaching

Georgia Southern University
Department of Health and Kinesiology

Jacksonville University
Department of Sport and Exercise Science

McDaniel College
Department of Exercise Science and Physical Education

Texas Woman's University
Kinesiology Department

Barry University
Department of Sport and Exercise Science

California Baptist University
Kinesiology Department

For a complete list of AKA members, go to www.americankinesiology.org.

Executive Director's Corner

Grade Inflation in Kinesiology: Serious Problem or Myth?

Amelia Lee, AKA Executive Director

Amelia Lee

Over the last 15 to 20 years, grading practices and grade inflation have been hot topics in the higher education literature, although there is not always agreement among those making claims about the severity of the problem and the actual causes. In attempting to explain exactly what the grade inflation phenomenon means most writers describe a change in grading patterns so that everybody or most everybody does very well in a class and probably receives higher grades for the same work required of students in the past. There is some debate nationwide about how serious the problem or whether or not the problem actually exists. Some writers argue that the emphasis on grade inflation is misleading, and they go so far as to state that the claim is really a myth. Kohn, in an article in the *Chronicle of Higher Education* (November 8, 2002, p. B7), argued that there is no indication that students today get an A for the same work that once received a B or C. You can find other reports that show GPAs for all schools, both private and public, to have increased significantly since 1990.

Of course, these trends are based on information from only the institutions willing to provide grade evidence or from websites that display comprehensive data on students'grades. This information is accessible at www.gradeinflation.com. Most of the information about grading practices is focused on higher education in general rather than a specific department or major field of study, even though education is very often named as a major offender. While the debate about grade inflation and how serious the problem really is will continue, it seems to me that it is thriving at many universities.

In attempting to find some information specific to our field, I Googled "Grade inflation in kinesiology" and found 4,870 hits. There were a number of Internet forums or message boards where students and those working in the field could post notes about various aspects of their degrees in kinesiology. The topic of grades appeared often. One student selected a university based on available information about grade inflation. Another student wrote that excellent grades are essential if your goal is physical therapy school, but now good grades are not enough because grade inflation means that most of your fellow students will have high GPAs too.

In a recent commentary, Leef (2009) sums up his views on grade inflation by suggesting that students today have the belief that they're entitled to high marks if they work hard, read every chapter in the book, complete all assignments, and give maximum effort. Students are also described as consumers of education when referring to grades. They pay big bucks in tuition to attend college, and they expect to be rewarded with good grades. As consumers, they are paying for a product and they want to get their money's worth since low grades will not serve them well in the future when they apply for graduate school or search for a job (www.wisegeek.com/what-is-grade-inflation.htm). It appears that students might want to succeed more than they want to learn. (For more information, go to.)

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Exercise and Pregnancy: A Healthy Heart Starts in the Womb

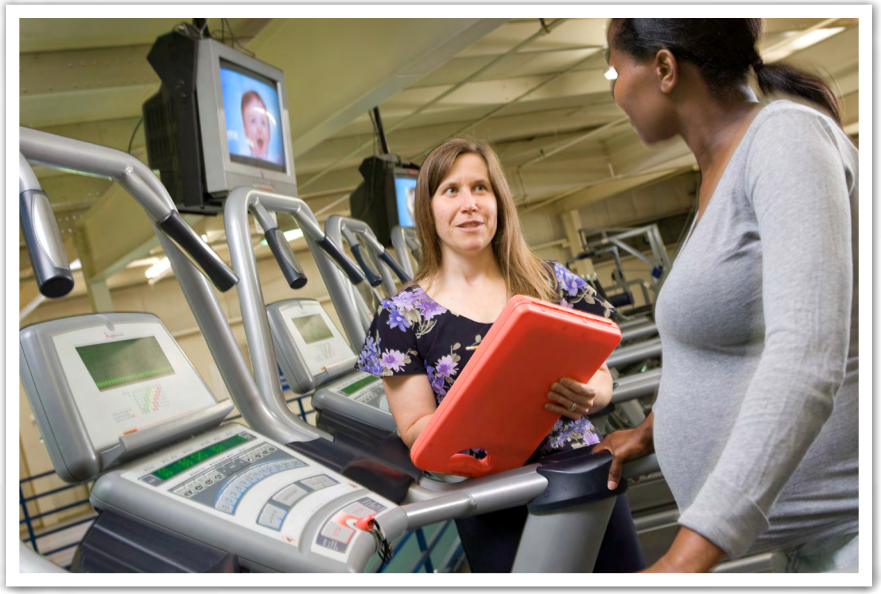
Siv Schwink, KT Writer

For children, heart-healthy habits start at home, but new evidence suggests mothers can give their kids an even earlier start on heart fitness. In a pilot study published in 2008 and a larger study presented in 2010, a research team from Kansas City University of Medicine and Biosciences (KCUMB) and University of Kansas Medical Center (KUMC) demonstrated that expectant mothers can pass on the conditioning benefits of regular exercise—decreased heart rate and increased heartbeat variability—to their babies in utero.

The team's latest findings, presented in April 2011, showed those heart-healthy benefits of maternal exercise were still present in newborns four weeks after birth. Dr. Linda E. May, exercise physiologist and anatomist at KCUMB, led the studies. Said May, "Based on what we have seen and previous research, I would hypothesize that these benefits continue into adulthood. One of the main reasons for thinking this is the idea of prenatal programming, which essentially states that the in utero environment affects or programs the development of the baby's organs, tissues, and cells in a certain way. Many examples that we see are negative (for example, gestational diabetes leads to the fetus, infant, or child developing diabetes), but our research is a positive, healthy-lifestyle influence."

Dr. Linda May, KCUMB researcher

In all of these studies, the team applied the technology of May's collaborator, Dr. Kathleen Gustafson, research assistant professor and director of fetal biomagnetometry at the Hoglund Brain Imaging Center at KUMC. Said May, "Previously, work was done with ultrasound, which does not give very accurate heartbeat-to-heartbeat recordings, or fetal ECG, which loses accuracy in late pregnancy and loses recordings when the baby moves. The biomagnetometer is basically the magnetic correlate of the ECG; therefore, we call the recording the magnetocardiogram or MCG. The advantage of recording the magnetic fields is that we do not have a loss of signal in late pregnancy or with fetal or even maternal movements, and the sampling allows very accurate beat-to-beat recordings."



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INSIGHT

Building Bridges with the National Physical Activity Plan

Dan Borstein and Russ Pate

The National Physical Activity Plan (NPAP) was launched in May 2010 with the vision that one day all Americans will be physically active through living, working, and playing in environments that support regular physical activity. Since May 2010, the focus of the NPAP has shifted from development to awareness building, implementation, and evaluation. The National Coalition for Promoting Physical Activity (NCPPA) is spearheading implementation of the NPAP, and the Prevention Research Centers from Washington University at St. Louis, UNC at Chapel Hill, and the University of South Carolina are leading the evaluation effort. Given the growing awareness of the NPAP in the kinesiology community, an important next step is to identify steps that can be taken by kinesiology departments to advance the strategies and tactics in the NPAP.

At its core, the NPAP is a road map for altering the environments in which we reside, work, learn, play, and travel. As with any road map, there are numerous routes one could take to move from point A to point B. Such is the case with the NPAP: Its strategies and tactics serve as end points. The NCPPA has taken the lead in implementing the NPAP at the national level. However, we encourage all interested parties to take action in implementing the NPAP at the community and state level. The hope is that organizations and individuals, such as kinesiology units and people associated with those units, will identify the strategies and tactics in the NPAP that align most with their own teaching, research, and departmental goals. Then, efforts to advance those strategies and tactics become a natural, impassioned process.

The NPAP is organized around eight societal sectors with strategies and tactics for each sector:

Health care
Public health
Education
Business and industry
Mass media
Parks, recreation, fitness, and sports
Transportation, land use, and community design
Volunteer and nonprofit

Additionally, there is a set of overarching strategies, which account for broad issues sweeping across the eight societal sectors. We recognize that the diversity of interests and goals within and across departments of kinesiology is great. As such, we suspect that the most value may come from reviewing the NPAP to identify the specific strategies and tactics that most closely align with those specific interests and goals. However, to initiate a thought process, we present some ways in which the NPAP could align well with departments of kinesiology and their members:

- Engage student organizations in implementing elements of the NPAP in your community or state.
- Develop and deliver a new course on physical activity policy using the NPAP as an outline.
- Offer graduate students the opportunity to review the NPAP and submit suggestions for updating the NPAP to reflect the current state of the science and practice.
- Expand awareness of the NPAP with

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Asbury Horse Major

Equine Management Program at Asbury University is Riding a Trail to Success

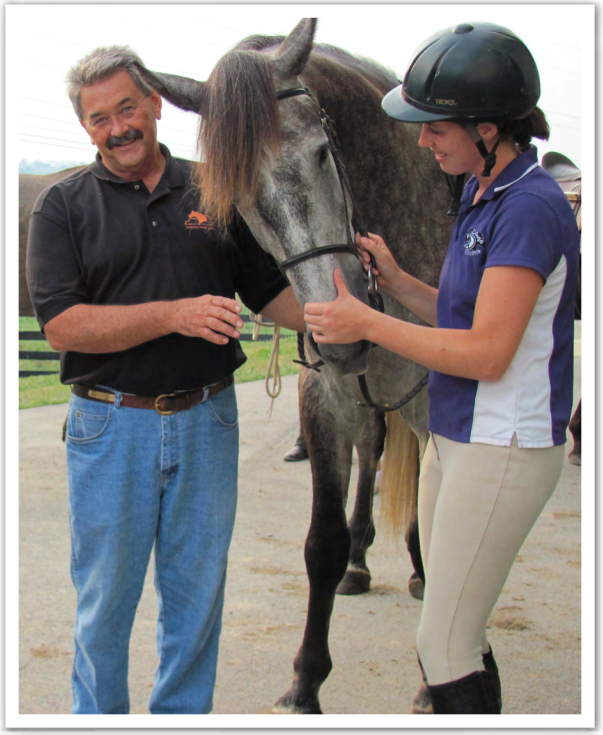
Amy Rose, KT Writer

The Asbury University Equine Center started out as a single class in horsemanship offered as a recreation class by Professor Harold Rainwater in 1978. The class met at Rainwater's house and included a handful of horses and enthusiastic students.

Through a clear vision, perseverance, and community support, the equine management program has since developed into the second-largest major at this small Christian university of 1,300 students in Central Kentucky. Asbury University is located in the heart of horse country, just 15 miles south of Lexington.

Asbury students train horses to meet the unique demands place on police mounts with a variety of tools at the Equine Center. Here they are preparing for the World Equestrian Games.

It wasn't until 1997, however, that the proposed equine center got the boost it needed to really take off. The university acquired a 351-acre farm just a few miles from campus. On this farm, they were able to construct facilities needed for the developing equine program. A large barn on the property includes horse stalls, an indoor riding arena, classrooms, and offices. Plenty of pasture space and outdoor riding areas are also available. In 2002, Rainwater's dream became a reality when the university approved a minor in equine management. With the overwhelming success of the program by 2007, they added two majors in equine management and hippotherapy. The university now also offers a double major in psychology and equine management, called equine-facilitated wellness.



Professor Harold Rainwater (left), director of the Equine Center, works with a student and her mount. Two equine majors currently are available at Asbury University: Equine Management and Hippotherapy.

"Our philosophy is to teach the whole person: body, mind, and spirit. The horses are an amazing part of that," said HPER department chair Ken Pickerill. He believes that the equine program fits well in the health, physical education, and recreation department at Asbury. It is used as an outreach ministry program to facilitate therapy and wellness to a wide-variety of people. Students and their horses provide services to people who are

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Baylor Sport Management Graduate Students Capture National Case Study Competition Title

A team of four graduate students from the Baylor University graduate sport management program brought home the championship title in the third annual Case Study Competition held during the Scholarly Conference on College Sport at Chapel Hill. The conference was held on and sponsored by University of North Carolina at Chapel Hill's College Sport Research Institute (CSRI). The Scholarly Conference on College Sport is an annual event for faculty, athletic administrators, students, sport practitioners, and others interested in research, theory, and critical thinking about college sport and surrounding issues. Baylor team members Leeann Lower, Meron Tamrat, BBA '10, Kyle Lintelman, and Lane Wakefield were honored for their accomplishments. The Baylor team outperformed the two-time defending champion team from Ball State University, which placed third. A team from Georgia State University placed second.

"This case study competition afforded our Baylor students an outstanding learning experience in a high-pressure and competitive environment that showcased their problem-solving and presentation skills," said Dr. Jeffrey C. Petersen, assistant professor of health, human performance, and recreation and graduate program director in Baylor's School of Education.

"As only the second entry by members of the Baylor sport management program into this type of competition, the results demonstrated the abilities of these students to compete with and even surpass the leading programs in the country," added Petersen, an active researcher who also serves as the team's faculty sponsor.

The initial portion of the case focused on the long-term ramifications for intercollegiate athletics at institutions, such as Elon University and the University of North Carolina at Greensboro, that have pursued membership in Division I. Addressing the construct of upward drift and the tangential benefits associated with athletic success, the competing students drafted a position statement regarding the value of intercollegiate athletics in achieving institutional goals.

The opening round included a 10-day period to develop a 1,000-word written response to the case that was reviewed by a panel of three judges. The second portion involved a 15-minute presentation before a panel of experts that analyzed whether or not the University of Nebraska at Omaha should move to Division I.

Courtesy of Baylor University Media Communications.

The percentage of students who graduate from four-year public institutions with $20,000 to $29,000 in debt is 14%; the percentage for private institutions is 17%.

Almanac 2011-2012
(Chronicle of Higher Education)

Falls Initiative: Health and Aging

Siv Schwink, KT writer

If we have not arrived already, it's the direction in which each of us is headed—the golden years (or, less poetically, old age). Probably more than in any other period of our lives, health and fitness will largely determine our individual quality of life and our ability to live independently throughout our later years.

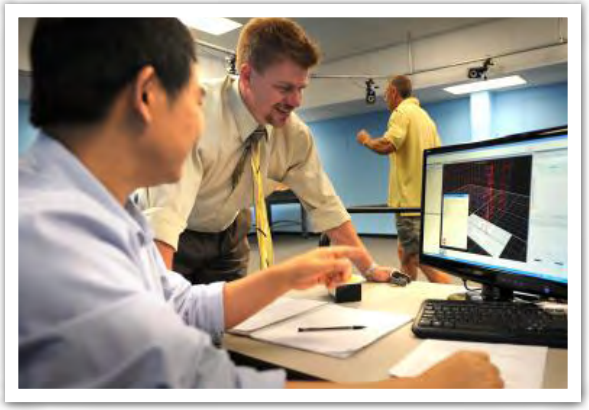
One of the biggest threats to our lasting well-being and independence, statistically, is the risk of falling. Dr. Robert Wood, professor and academic head of New Mexico State University's department of human performance, dance, and recreation, is spearheading collaborative falls-risk research among four American universities—New Mexico State University, Louisiana State University, Georgia State University, and Husson University in Bangor, Maine. The goal is to better identify the varied risk factors associated with falls in the elderly through more effective screening and ultimately to curb the growing number of falls reported each year among seniors.

Robert Wood

Wood said there is a need for state-sponsored programs in falls-risk prevention. Falls are the leading cause of injury-related death among the elderly. It is estimated that one in three seniors (adults over the age of 65) experiences a fall each year. More than half of those falls will occur among those who are over 80. An older person who has fallen is three times more likely to fall again within a year. If not deadly, a fall can still be devastating, resulting in serious injury, lasting disabilities, higher medical costs, and ultimately a loss of independent living.

The research agenda of the Falls Initiative is translational and its findings intended for clinical application. As such, its aim is to provide more accurate as well as more cost-effective falls-risk assessment and targeted intervention strategies that are easily administered. Research is ongoing, but key tools that could aid in falls prevention are ready to launch, said Wood. One of these is a new comprehensive screening tool that would replace multiple limited-scope tests that are currently in use.

Said Wood, "Not all risk factors can be lowered. But with an effective screening tool, suitable interventions can be put into place to reduce risk and prevent falls."



Wood works in the new gait analysis lab with his colleague, mechanical engineering professor Ou Ma at NMSU

Wood and his collaborators at LSU and GSU have developed the Comprehensive Falls Risk Screening Instrument (CFRSI) with corresponding training manual, using risk factors identified by the American Geriatric Society. The CFRSI was tested and validated in a 2009 study published in November 2010. Meanwhile, research at HU, funded by a grant from the United Way, has focused on "train the trainer," to teach how to administer the screening and set in place appropriate interventions.

Said Wood, "CFRSI was developed to provide a more precise, comprehensive

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Editorially Speaking

Barbarians at the Departmental Gate

Shirl Hoffman, KT editor

Shirl Hoffman

As often happens in tough economic times, the public spotlight is shining once again on faculty productivity. Civic groups and state governments have begun to ask prickly questions about how we spend our time. In May, for example, the Center for Affordability and Accountability poked a hornet's nest when they released a study showing that 20% of the faculty at the University of Texas at Austin teach 57% of the classes. A "What I do With My Time" feature appeared recently on the pages of the *Chronicle of Higher Education*, detailing the way selected faculty from Texas universities spend their time and energy. In the feature, selected faculty logged their hours including the number of students they teach, the research grants they have been awarded, and their annual salary.

At the root of this clamor is a public perception that faculty aren't very productive. All of us have heard the comments: "This guy teaches at the university but I see his car in his driveway three days a week" or "You mean to tell me that you teach only six hours each week?"

Typically we react as faculty have in the *Chronicle* feature: by explaining how many hours we spend conducting research, serving on committees, advising students, writing grants, responding to students' e-mail, and performing public service. I endured various economic crunches over a long career (although none of them topped the current crisis), and they all evoked the same touchy questions. And true to form I generally resorted to the same strategy in forming my responses. Now I've have come to doubt whether such answers will restrain the barbarians at the gate.

While the lay public generally appreciate the time that faculty spend advising students, preparing for classes, and engaging in community service, they seem increasingly impatient with faculty references to the time they spend conducting research. An administrator at the University of Nevada at Las Vegas told the *Chronicle*: "I don't think that higher education does a good job communicating what we do and what we produce."

I'm not sure what she meant by "communicating." Certainly letting the public know about the quality of the journals that publish our work and the prestige we have earned in the academic community is important, but I doubt that that alone will impede the onslaught. Endless recitations of our vitae and publications (however excellent they may be) aren't likely to cut the muster with slash-and-burn legislators, especially if the economic slump continues. The criticism that I've begun to hear isn't that faculty are slackers or that they don't produce high-quality research. Rather, it is that their research seems too divorced from the kinds of problems confronting society.

Beyond explaining how much time we spend in our laboratories or pointing to its quality, we may—in the not-too-distant future—be asked to defend the actual benefit of our research to the public and to explain it in practical terms that the public can appreciate. We really haven't been very good at this task. Even the NAK meeting in

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Short Shots

Real-Time Feedback Leads to Improved Adherence to Exercise Programs

A recent study reported in *Medicine and Science in Sports & Exercise* showed that adults are more likely to adhere to their exercise programs when given real-time feedback on their progress. The study, Physical Activity Self-Monitoring and Weight Loss: 6-Month Results of the SMART Trial, was led by Molly Conroy of the University of Pittsburgh's Graduate School of Public Health. Data were reported on 189 overweight adults at baseline and after 6 months. Subjects were sorted into one of three self-monitoring programs: paper records, personal digital assistant (PDA) without daily feedback messages, or PDA with daily messages. Feedback messages were essentially positive, motivational statements such as "Super job on the physical activity. Try to repeat this tomorrow." Subjects who received PDA messages were more likely to adhere to their exercise regimens. "Offering real-time feedback not only allows a person to make adjustments to the exercise program as needed but also holds people accountable to staying on track," said Conroy. "The feedback message tells the participant that 'someone' is paying attention, and this could provide powerful, positive reinforcement for exercising and achieving his or her goals."

Source: *Medicine and Science in Sports & Exercise*, October 2011, 1568-1574.

Stories That Warm the Cockles of Our Hearts

Amidst all of the sordid publicity about sports in high schools and colleges (see the recent issue of the *Atlantic* with its cover story "The Shame of College Sports"), it is heartwarming to read stories like this. Allan Guei, a basketball star at Compton High in Los Angeles, won the right to enter a free-throw contest based on his better-than-3.0 academic record. He won the contest and the $40,000 scholarship that went along with it. A few weeks after winning the contest, he was offered a full scholarship to California State University at Northridge. The NCAA apparently allowed Guei to accept the scholarship and to keep most of the $40,000 for himself. Then he did a remarkable thing: At his graduation ceremonies, it was announced that he had decided to donate the $40,000 to the seven other finalists in the contest. "I've already been blessed so much and I know we're living with a bad economy, so I know this money can really help my classmates," Guei said in a statement. "It was the right decision."

Rethinking How Doctoral Programs Are Evaluated

A new study of social scientists, 6 to 10 years beyond their PhDs, indicates that many assess the quality of their doctoral programs using a different dimension than typically is used in peer (faculty) ratings. The study, published in the September/October 2011 issue of *Journal of Higher Education,* found that recent alumni tend to evaluate their education in light of career experiences. As a result, they offer important and underused perspectives on the quality of PhD programs. Peer raters usually know little about the inner workings of the departments they rate, but alumni have recent and direct experience

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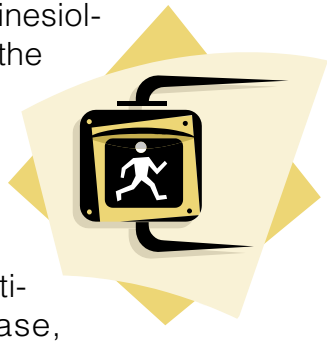
Short Shots

that allows them to evaluate how well the program prepared them for their careers. Mississippi State sociologist Emory Morrison and his colleagues found that the scholarly reputation of program faculty (i.e., NRC rating) was unrelated to alumni perceptions of overall program quality. The authors concluded that "graduates of programs considered excellent according to the NRC's (1995) reputational assessment were only slightly more likely than others to return a rating of excellent for the overall quality of their PhD program. For a slight majority of respondents, who tended to come from doctoral programs with excellent reputations for scholarly quality according to the NRC, abstract academic qualities were strongly dominant in determining assessments of overall program quality. However, another group (nearly as large) saw other elements—especially support in meeting program requirements and fostering a sense of belonging—as at least as important for evaluating overall program quality."

Source: Morrison, E., et al. (2011). What matters for excellence in Ph.D. programs? *Journal of Higher Education* (Sept/Oct). 535-563.

Athletes Better Able to Navigate Pedestrian Crossings



A study out of the kinesiology laboratories at the University of Illinois at Urbana-Champaign has examined the relationship between athletic participation and success at multitasking—in this case, crossing a virtual street in heavy traffic. Since sports require an exceptional ability to process environmental stimuli fast while dividing attention, Laura Chaddock and her colleges at the Beckman Institute for Science and Advanced Technology suspected that athletes would be better able to cross a busy street while attending to the flow of traffic and monitoring and remembering vehicle distances and speeds, even while talking on a cell phone or listening to music. Athletes demonstrated better street-crossing success by having fewer "collisions" with oncoming traffic. They also demonstrated shorter reaction times on a computer task, which were associated with higher street-crossing success rates. The authors suggest that the cognitive skills developed in sports may transfer to realistic tasks that require multitasking.

Source: Chaddock, L. et al. (2011). Do athletes excel at everyday tasks? *Medicine and Science in Sports & Exercise*, October, 1920-1926

Science of Cheating in Baseball

Alan Nathan from the physics department at the University of Illinois at Urbana-Champaign, working with colleagues in the Sports Science Research Laboratory in the School of Mechanical and Materials Engineering at Washington State University and at Kettering University, has exploded some myths long regarded as truths in the baseball world. The researchers tested three age-old assumptions: that a bat stuffed with cork will hit a ball farther, that contemporary baseballs are livelier than the balls used in the 1970s, and that storing balls at low temperatures and in high

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Short Shots

humidity (as the Colorado Rockies did in 2002 to compensate for the extra distance balls were being hit in the high, dry, thin air in Denver) will result in less distance after the bat strikes the ball. By firing balls shot through a cannon at a bat at controlled speeds, they found no measureable "trampoline effect" in corked bats, although the investigators admit that a lighter (corked) bat may allow batters to get around quicker and make more solid contact with the ball. In a second experiment, they fired balls used in the 1970s and contemporary balls at a steel plate at speeds of 60, 90, and 120 mph and measured the coefficient of restitutions (the "bouncability" of the balls). They found no difference between the two sets of balls. They did find evidence that balls were less lively if stored in humid environments. Based on their findings, they calculated that an increase in the humidity of the storage environment from 30% to 50% will take 14 feet off a 380-foot fly ball, enough to decrease the chances of the ball being hit out of the park by 25%.

Source: Nathan, A. et al. (2011). Corked bats, juiced balls and humidors: The science of cheating in baseball. *American Journal of Physics*, 79 (6), June, 575-580.

Some Exercise Is Good; More Is Better

The media is quick to pounce on anything that appears to offer an easy path to fitness. Witness the publicity showered on a study conducted by Taiwanese researchers and published in *Lancet* in August. The study followed more than 400,000 people who participated in a medical screening program in Taiwan between 1996 and 2008. Average period of follow-up was 8 years. Based on self-reported weekly exercise, participants were identified as inactive, low, medium, high, or very high. Hazard ratios for mortality risks and life expectancies were calculated for each and compared to the inactive group. Compared with those in the inactive group, the low-volume activity group that exercised only an average of 92 minutes each week (about 15 minutes a day) had a 14% reduced risk of death, a 10% reduced risk of dying of cancer, and a longer life expectancy (average of 3 years) than the inactive group. What did not receive as much publicity was the finding that additional exercise was associated with lower risks of death and specifically lower risks of death by cancer. (Each additional 15 minutes per day of exercise lowered the risk of death by 4% and cancer death by 1%.) All age groups and both sexes as well as those with diagnosed heart disease enjoyed the benefits. The investigators note, "If the minimum amount of exercise we suggest is adhered to, mortality from heart disease, diabetes, and cancer could be reduced. This low volume of physical activity could play a central part in the global war against noncommunicable diseases, reducing medical costs and health disparities."

Source: Chi Pang Wen et al. (2011) Minimum amount of physical activity for reduced morbidity and extended life expectancy: a prospective cohort study. August 16, 2011 www.thelancet.com/search/results?searchTerm=chi+pang+wen&fieldName=Authors&journalFromWhichSearchStarted=lancet

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Kids Get More Exercise When Parents Bug Out

Researchers at North Carolina State University report in the September issue of *American Journal of Preventive Medicine* that the most important factor associated with children's engagement in physical activity while on a playground was whether or not their parents were present. Kids whose parents were in the park engaged in far less physical activity than kids whose parents were absent. (The presence of nonparental caretakers was also associated with less physical activity, although the effect was not as large as with parents.) The study was based on observations of 2,712 children, most of whom were age 12 or younger. The study also showed that kids tend to be more active when surrounded by many other active kids; in such settings, girls tend to be less active than boys; and the highest levels of physical activity were in playgrounds that had basketball courts. The researchers point to earlier research that has shown that parents' worrying about their children's safety tends to hamper outdoor play.

Source: Floyd, M.F. et al. (2011). Park based physical activity among children and adolescents, *American Journal of Physical Medicine*, 41 (3) September, 258-265**.**

American Academy of Pediatrics Issues New Guidelines on Young Athletes and Heat

In a 1-month period between mid-July and mid-August 2011, five young football players died and several others were seriously injured; exertional heat stroke has been implicated. Doug Casa of the AKA-member department of kinesiology at the University of Connecticut and executive director of the Korey Stringer Institute, an information source and advocacy organization for the prevention of sudden death in sport as it relates to heat, told *USA Today,* "This is the worst heat-stroke period in 35 years."

Sensitive to the apparent increase of such incidences, the American Academy of Pediatrics has issued a new policy statement on the matter. The last AAP statement was published 11 years ago. The new statement, aimed at coaches, parents, and athletes, points out that for morphological and physiological reasons, children do not adapt as well as adults to high-climatic conditions (the capacity for adolescents falls somewhere in between). Because children have a greater surface-area-to-body-mass ratio than adults, they absorb proportionately more heat from the environment. In addition, sweating capacity is considerably lower in children than adults. The statement urges that children take time to acclimatize (8 to 10 exposures of 30 to 45 minutes each) and that they reduce activities lasting 15 minutes or more whenever humidity, solar radiation, and air temperature are above critical levels. It also emphasizes the importance of hydrating children before engaging in activity and the need to replace garments once they have become saturated.

The entire statement and accompanying tables can be accessed at "Climatic Heat Stress and the Exercising Child," http://www.aap.org/sections/sportsmedicine/

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ACSM Issues New Guidelines for Exercise

In June, the American College of Sports Medicine issued a new position stand on exercise. Titled *Quantity and Quality of Exercise for Developing and Maintaining Cardiorespiratory, Musculoskeletal, and Neuromotor Fitness in Apparently Healthy Adults: Guidance for Prescribing Exercise*, it supersedes the 1998 position stand, *The Recommended Quantity and Quality of Exercise for Developing and Maintaining Cardiorespiratory and Muscular Fitness and Flexibility in Healthy Adults.* The new statement "reflects current scientific evidence on physical activity and includes recommendations on aerobic exercise, strength training and flexibility." Consistent with ACSM's 2008 stand, it recommends that most adults engage in at least 150 minutes of moderate-intensity exercise each week. The report offers basic recommendations for cardiorespiratory exercise, resistance exercise, flexibility exercise, and neuromotor exercise. It also cautions against using pedometers as an accurate measure of physical activity and notes the importance of all people, even those who are physically active, recognizing the signs of heart disease. It emphasizes that sedentary activity such as watching television or working on a computer are separate but related factors that need to be taken into consideration. Carol Ewing Garber, chair of the writing committee, points out, "It is no longer enough to consider whether an individual engages in adequate amounts of weekly exercise. We also need to determine how much time a person spends in sedentary pursuits, like watching television or working on a computer. Health and fitness professionals must be concerned with these activities as well."

Source: http://www.acsm.org/

What Are the Chances of High School and College Athletes Making It to the Pros?

Newly published data from the NCAA show the enormous odds against high school and college athletes making it to the professional level.

- The percentage of high school basketball players who will eventually play at an NCAA-affiliated college or university is 3.1% for boys and 3.5% for girls.
- The percentage of high school basketball players who will eventually play in the NBA or WNBA is 0.03% for boys and 0.03% for girls.
- The percentage of college basketball players who will make it to the pros is 1.2% for men and 0.9% for women.
- The percentage of high school football players who will ever play at an NCAA-affiliated university is about 6%; only 0.08% of those will play in the NFL.
- Of the more than 14,700 college senior football players, only 250 (1.7%) are drafted by the NFL.
- Baseball offers the surest route to a professional career: 3.8% of NCAA players are signed by Major League Baseball.

Source: NCAA http://www.ncaa.org/wps/portal/ncaahome?WCM_GLOBAL_CONTEXT=/ncaa/NCAA/Academics+and+Athletes/Education+and+Research/Probability+of+Competing/Methodology+-+Prob+of+Competing

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Kansas Policymakers Fail to Connect the Dots

A survey conducted to assess Kansas legislators' perceptions of health issues in the state produced puzzling results. Some of the health problems they identified involved obesity. In fact, 25% of respondents rated obesity as a "problem of extreme importance" (5 out of 5 on the rating scale). At the same time, none rated lack of adequate recreation facilities as being extremely important (mean rating of 2.2). Only 2% identified lack of pedestrian walkways, crosswalks and sidewalks, poor nutrition, and access to healthy groceries as problems of extreme importance. (Note: Only 29% of 181 policymakers returned the survey.)

Source: "Kansas Policymakers Survey Report" http://kinesiologyksu.weebly.com/uploads/3/6/7/3/3673952/k-state_policymaker_report_2011.pdf

Tae Bo Workout Causes Skyscraper to Rock

A 39-story building in South Korea was evacuated in July when it experienced tremors. The cause was traced not to an earthquake but to a group of 17 middle-aged people performing a vigorous Tae Bo workout to the pop song "The Power" by Snap in a gym on the 12th floor. The tower reportedly shook for 10 minutes. Scientists were able to re-create the event. Chung Lan, a professor of architectural engineering at Dankook University, told the *Korea Times,* "We observed the vibrometer while performing the same kind of aerobic exercise that was performed at the time of the shaking which occurred on July 5. We noticed that the shaking was felt in the upper floors while the exercise was being performed while no other place showed signs of tremor. It just happens to be that the vibration cycle caused by Tae Bo collided with the vertical vibration cycle unique to the building," Chung said. "The action amplified the building's vibration and caused the shaking."

A Wisconsin firefighter who is paid $50,000 a year on permanent disability has competed in seven marathons and one Ironman triathlon. On another front, Amy McDonaugh, a 34-year-old blind woman from Irmo, South Carolina, fought off 1,775 competitors to win the Flying Pig Marathon.

The Week

Conferences, Seminars and More

American Kinesiology Association Leadership Workshop

Conference theme: "Branding" Kinesiology at Your Institution

January 29 to 31, 2012
DFW Marriott Solana, Dallas, Texas
Roundtables, case studies, and panels to focus on critical issues for kinesiology department leaders

Kinesiology is one of the fastest-growing (but often misunderstood) majors in academia. In universities across the country, kinesiology programs continue to expand and evolve as they address some of society's greatest concerns, and larger departments typically enroll over 1,000 majors. Kinesiology, the academic discipline that studies physical activity and its impact on health, society, and quality of life, has emerged in recent years as the undergraduate degree of choice for many students seeking careers in a variety of allied health and medical fields as well as in more traditional areas such as fitness, health promotion, physical education, recreation, and sport.

The interdisciplinary nature of kinesiology means that kinesiology departments around the country are often different with respect to which areas of kinesiology they choose to emphasize. Accordingly, one of the key requirements of a kinesiology program is to decide how to describe their program to important audiences both within the university and outside.

This year's AKA Leadership Workshop will explore ways in which kinesiology departments can improve how they promote themselves to current and future students, to university administrators, to colleagues across campus, and to important constituencies such as academic advisors, high school counselors, and future employees. The workshop will explore many aspects of how best to "brand kinesiology at your institution".

AKA Webinar and Youtube Contest

AKA Webinar – "Integrating 'Careers in Sport, Fitness and Exercise' into Introductory Kinesiology"

AKA will conduct its first webinar entitled, "Integrating Careers in Sport, Fitness, and Exercise into Introductory Kinesiology" Courses. The information presented in the webinar is based on the recent AKA book by the same name. The webinar will be hosted by Dr. Wojtek Chodzko-Zajko, Chair of the department of kinesiology and community health at the University of Illinois, Urbana-Champaign. The webinar is scheduled for Wednesday, November 16 at 12:00 noon Eastern Time. Attendees will be able to participate in the live webinar or view a recording at a later date.
More details and registration available here (LINK TO: http://www.humankinetics.com/upcoming-webinars/upcoming-webinars/register-now-kinesiology-an-evolving-field-of-study)

AKA You Tube Contest Submission deadline extended to November 15

The American Kinesiology Association (AKA) in support of its mission to advocate for the discipline of Kinesiology is hosting a ***Student YouTube Video Competition***. The purpose of the competition is to develop short (3-minute) videos that promote the field of kinesiology.

Students may identify other creative topics that will promote the field of kinesiology. The competition is open to both undergraduate and graduate students. AKA will provide cash awards ($100.00) to departments for award winning videos. We encourage you to share this announcement with appropriate faculty members and student organizations within your department. Each AKA member department may submit a maximum of two (2) videos. Departments may conduct their own competition to select the best videos to submit to AKA.

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Conferences, Seminars and More

National Association for Kinesiology and Physical Education in Higher Education Annual Conference
Jan 4 to 7, 2012
Omni San Diego Hotel
Conference theme: "Flourishing in a Contemporary University Culture"
Information: www.nakpehe.org/conference.html

ACSM Conference on Physical Activity, Cognitive Function, and Academic Achievement
November 17 to 18, 2011
Capital Hilton Hotel, Washington, DC
Registration information: http://www.acsm.org/attend-a-meeting/other-meetings/2011/07/19/acsm-conference-on-physical-activity-cognitive-function-and-academic-achievement

40th Annual Convention of the North American Society for Sport History
June 1 to 4, 2012
Berkley, California
Hotel Shattuck Plaza
Information: http://www.nassh.org/NASSH_CMS/index.php

North American Society for the Sociology of Sport
November 2 to 5, 2011
Minneapolis Marriott City Center
"Revolutionizing Sporting Bodies: Technologies in Practice"
Information: http://nasss.org

North American Society for Sport Management 2012 Conference
May 22 to 26, 2012
University of Washington's Center for Leadership in Athletics, Seattle University master's in sport administration and leadership program, and Seattle Pacific University's Department of Physical Education and Exercise Science
Program information: James J. Zhang (jamesz48@uga.edu)
Conference information: Hannah Owings (howings@pce.uw.edu)

International Society of Biomechanics in Sport
July 2 to 6, 2012
2012 Annual Conference
Melbourne, Australia
Conference information: http://www.isbs.org/

NCAA Ethnic Minority and Women's Enhancement Programs' Postgraduate Scholarships for Careers in Athletics

Applications are now being accepted for the 2012-13 Ethnic Minority and Women's Enhancement Postgraduate Scholarship. The scholarships are for ethnic minorities and women interested in pursuing an advanced degree in a sport-related field. The NCAA awards 13 scholarships to ethnic minorities and 13 scholarships to female college graduates who will be entering the initial year of postgraduate studies. Each award is for $6,000. Awardees of the scholarship must be entering their initial year of postgraduate studies during the 2012-13 academic year and they must be a full-time student at all times while using the award. Each student awardee must be a U.S. citizen. The application deadline is Thursday, December 1. Additional information is at www.ncaa.org. Official transcripts may be submitted online (https://web1.ncaa.org/epps/exec/appform) or by mail and must arrive (not be postmarked) by the deadline in order for the application to be complete and be reviewed**. Questions? Contact Teaera Strum at tstrum@ncaa.org or 317/917-6222.**

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Kinesiology Goes Interplanetary

inherently dangerous," points out Barstow. (The force of gravity on the moon is 17% of the force of gravity on earth; on Mars it is 38% of the earth's gravity.) "Muscles weaken and so does the immune system," says Barstow. "The ability of the astronaut's cardiovascular system to regulate blood pressure also deteriorates."

Barstow points out that attempting to carry out tasks on the lunar surface without having developed the physical capacity to do so could put astronauts in jeopardy. As one example, he notes the importance of an astronaut's "walk-back" capacity—the capacity for hiking back to the base camp from up to 10 kilometers away. "Typically such treks are taken in vehicles such as the rover, but in the event the equipment fails, astronauts must be able to walk back, something extraordinarily fatiguing to do while encased in space suits." One goal that Barstow and his colleagues have is to determine the minimal level of fitness that astronauts must have in order to complete their tasks safely.

Currently astronauts use in-flight conditioning exercises on treadmills and various resistance training devices to stave off the harmful physiological effects of microgravity. But doing so, says Barstow, requires an enormous investment of their time. "To stay fit, astronauts must exercise up to two hours daily, but time is incredibly valuable to them. If we can come up with specific exercise programs that will maintain their fitness but reduce time, that would be fantastic. More important," he points out, "there currently is no easily administered test available to astronauts for determining if they will be safe and proficient at doing work on future missions to the moon or even Mars. If we can develop such a test, it will be of great benefit to NASA."

The obstacle course simulates various lunar tasks such as climbing ladders and traversing rock walls and transporting materials in a wheelbarrow. It was designed after consultation with NASA and watching videos of astronauts during the original *Apollo* missions. Thus far the research team has tested just over 30 subjects; the goal is to test 100 (equal numbers of males and females) by December. Their sample includes subjects who are both fit and not so fit, a design feature that enables them to determine the practical costs incurred when astronauts are not at their physical best.

Results to date have been promising. By correlating times to fatigue in treadmill running, they have been able to fairly accurately predict a subject's time in the obstacle course. "What has been especially interesting," says Barstow, "is that even though the obstacle course involves not only running, but many different tasks and muscle groups, a subject's characterization of fatigue on an all-out treadmill run is a very good predictor of the time it takes them

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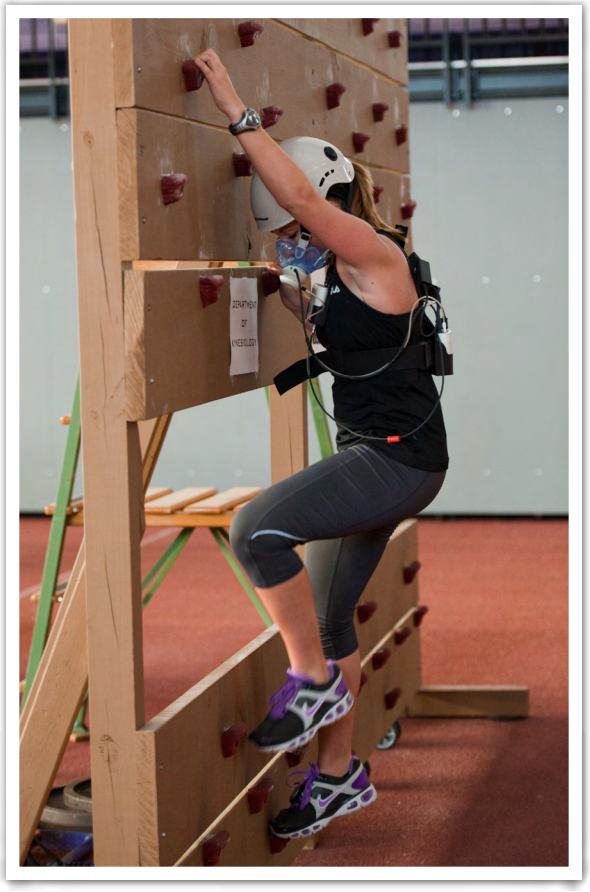

Obstacle course simulating lunar tasks at KSU.

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Kinesiology Goes Interplanetary

to complete the obstacle course." (Check out the video of subjects moving through the obstacle course at www.youtube.com/watch?v=sWdKigRJaiA.)

"Obviously no single test can measure fitness on all its parameters, but we think we have taken a big step toward developing a basic, easily administered test to assess general fitness for work in space environments."

Other research that is continuing simultaneously at Kansas State as part of the project includes development of a physiological monitoring system and a support sling that can mimic microgravity environments. Steven Warren, associate professor of electrical and computer engineering, is developing a set of sensors for measuring muscle metabolism. This will enable subjects to wear them while they perform the simulated space tasks.

Mechanical engineer Dale Schinstock, associate professor of mechanical and nuclear engineering, and Russell Taylor, an engineer in the Electronic Design Laboratory, are designing a system for mimicking microgravity environments. NASA has used a cable support system for such purposes, but it isn't mobile and thus is limited in the range of motion a subject can undergo as they carry out tasks as they would on a lunar surface.

A similar cable support system is being designed at Kansas State that will suspend participants from a mobile frame. The mobile device will permit investigators to maintain suspension of the subject in the desired microgravity (e.g., lunar or Martian) while tracking the subjects' movements across a simulated landscape.

In the final year of the study, Barstow and his colleagues will observe subjects performing the experimental tasks in the simulated microgravity environment while wearing space suits. The pressurized suits make moving very difficult, especially in tasks where hands must be used to grip objects.

Other researchers involved in the project include Carl Ade and Ryan Broxterman, doctoral students in physiology. In fact, Barstow credits Ade for steering them to the project in the first place. "Carl, who has been a space buff most of his life, came to me with an RFP (request for proposal) from NASA. I looked at it and told him, 'We can get NASA the information they want.'" A year later, they were awarded a grant for $1.2 million to carry out the project over three years. "There's a whole world of opportunity there (at NASA) for kinesiologists," says Barstow, "and its exciting work."

He also is encouraged about the possibility of fundamental applications from their research to other occupations. For example, the physiological requirements of tasks performed in the obstacle course aren't all that different from the physiological requirements of work done by police officers and firefighters. He believes that data from the Kansas State study could be relevant for evaluating the capacity of these and other populations who are engaged in similar physical work.

KSU research studies fitness levels for astronaut-related tasks.

Although NASA has recently ended its space shuttle program, he is confident that the need for basic information to ensure the safety of astronauts will continue. "The kind of information that we are collecting will be critical to NASA as long as humans are engaged in space exploration."

-SJH

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Four-Plus Years and Counting

with other kinesiology organizations, AKA representatives have participated in panel discussions and presentations at other organizations' meetings. The overarching purposes of these presentations are to focus on the importance of kinesiology being viewed as a unified field of study and how diverse perspectives on the study of physical activity, sport, and exercise benefit when collaborating within a single academic department.

To grow and sustain AKA requires seeking new opportunities to engage with our member departments and our affiliates. The recently released AKA Careers in Sport, Fitness, and Exercise book, published by Human Kinetics, introduces the field of kinesiology and career opportunities to high school students and counselors and serves as an excellent supplement to college introductory courses. AKA continues to seek opportunities to partner with our affiliates. Wojtek Chodzko-Zajko represented AKA as one of several organization participating with NAKPEHE in planning a national conference on kinesiology. Also, AKA is joining with the National Academy of Kinesiology (NAK) and ACSM in an initiative to promote healthy universities. More information will be forthcoming on these partnerships. It is clear that AKA is being recognized as a significant organization because of its unique position in our profession and our ability to reach every academic department of kinesiology in the country.

I would like to conclude my last President's Column with more words of thanks. There are many individuals who have worked tirelessly to help grow and sustain AKA during the past 2 years. Waneen Spirduso, vice president, and Jim Morrow, secretary, have provided excellent leadership to AKA. I have appreciated their commitment to our organization, their insights on the challenges facing kinesiology, and their willingness to do whatever was necessary to grow AKA. Shirl Hoffman served initially as executive director and now editor for the AKA publications. He has created an outstanding publication in Kinesiology Today and a useful source of information in our e-newsletter. Amelia Lee has stepped in as executive director, contributing to each AKA initiative and managing many of the ongoing activities. Amelia has taken the lead with preparing our strategic plan and preparing operating codes for our standing committees. These documents are important in keeping AKA focused and effective in achieving our mission. Our board of directors and the AKA committees continue to provide important guidance and service to our organization. So, thanks to all who have worked together over the last 2 years to continue to grow and sustain AKA.

In January 2012, AKA will have a new executive committee: Wojtek Chodzko-Zajko, president; Phil Martin, vice president; and Penny McCullagh, secretary/treasurer. These are outstanding leaders in kinesiology who will work well with the board of directors. AKA has been fortunate to have individuals who value the academic discipline of kinesiology and see the significance of our discipline in the university and beyond.

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Performance Gimmicks Continue to Lure ...

But of all of the performance-enhancing products on the market, none have taken the athletic community by storm quite like the Power Balance Bracelet. Testimonials from scores of professional athletes have added credibility, as have sightings of celebrities such as Bill Clinton, Kate Middleton, and Robert DeNiro wearing the ornament. According to the company, it raked in $35 million in sales of the gadget in 2010.

Enthusiasm for the bracelet hasn't been backed up by good science. The company's explanations of how the device works incorporate equal parts new age metaphysics, energy healing, and electromagnetic field theory. The Power Balance website claims that the holograms in the bracelets are embedded with "frequencies that react with your body's electromagnetic field. When the static Power Balance Hologram comes in contact with your body's energy field, it begins to resonate in accordance with each individual's biological energy system, creating a harmonic loop that optimizes your energy field, maintains maximum energy flow while it clears the pathways so the electrochemical exchange functions like the well-tuned generator it was designed to be, resulting in immediate improved balance, increased core strength, greater flexibility, increased range of motion and overall well-being."

Lacking scientific backing for their device, Power Balance Bracelet's representatives have resorted to sly demonstrations that appear to support claims for improved balance. Volunteers (usually recruited in malls and street corners) are asked to stand on one foot with arms out to the side. The demonstrator pushes the participatnt's contralateral arm down and slightly away from the body, causing the participant to topple over. Then, while the participant is wearing the bracelet, the demonstrator pushes down and toward the participant's support leg, enabling the person to maintain stability. A variation is to push down on the abducted forearm when the bracelet isn't being worn (long moment arm and hence more torque) and down on the humerus (shorter moment arm) when the bracelet is worn. (Critical analysis of the demonstrations can be found at http://insideedition.com/news/5852/inside-edition-investigates-power-bracelets.aspx and www.youtube.com/watch?v=h9c3wg34R3o.

Some of these tests have been described loosely by company representatives as using principles of "applied kinesiology," a claim vigorously rejected by leaders of the Applied Kinesiology Center in Atlanta. Dr. John Whittle of the organization told KT, "They say they are using applied kinesiology but they are not. They are using a manipulative muscle testing method, a general manual test, and that is not what professional applied kinesiology is intended for. Applied kinesiology is intended to be a functional neurological assessment of orthopedic neurologic phenomena seen by doctors."

John Pocari and his associates at the department of exercise and sport science at the University of Wisconsin at Lacrosse have published results of a test of the product in a recent issue of the *Journal of Sport Science and Medicine* (March 2011 and online at www.jssm.org/b-v10n1.php). In a randomized, double-blind placebo study they found no significant advantages for the bracelet in flexibility, balance, strength, and vertical jump. Whether subjects wore the real bracelet or the placebo bracelet, performance on the second trial of the test always exceeded performance on the first trial, an important finding since demonstrations typically test subjects without the bracelet on the first trial and with the bracelet on the second. Since publication of the article, Pocari says he has been

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Performance Gimmicks Continue to Lure ...

contacted by a number of companies who have designed similar bracelets and want him to test them. “These companies have great faith in their product, but when I tested them informally using placebo trials, I haven’t found anything that works.”

He says the real weakness in most of the studies conducted by companies is that no placebo trials are included. “Naturally, if people know they are wearing the bracelet on some trials and not on comparison trials, they might do a bit better due to a placebo effect. But when placebo trials are used in which subjects don’t know if they are wearing the Power Balance Bracelet or another bracelet, you will almost never see a difference.”

Not surprisingly, the Power Balance Bracelet company now faces a number of challenges in court. The Australian Competition and Consumer Commission pushed the company to print a “corrective statement” in which the company admitted the following: “In our advertising, we stated that Power Balance wristbands improved your strength, balance and flexibility. We admit that there is no credible scientific evidence that supports our claims and therefore we engaged in misleading conduct.” In January a class-action suit was filed in California against the company. The suit seeks $5,000,000 in reparations for customers who bought the bracelet. It also names NBA stars Shaq O’Neal and Lamar Odom for advertising the gimmick.

Some would point out that whether a device has any scientific validity may not be the most important question. The critical issue, they would say, is whether or not athletes believe such equipment boosts their performance, and there can be little doubt that belief in the Power Balance Bracelet abounds.

Neither lawsuits nor scientific debunking of the device seem to have dampened enthusiasm for the Power Balance Bracelet. Athletes continue to sing its praises. Even college athletic departments at prestigious institutions such as the University of Colorado have joined the parade, selling bracelets emblazoned with the institution’s logo. “Why on Earth would such a product be sold with a university logo on it?” asked *Discover Magazine* blogger Phil Plait. Another exasperated blogger on the American Geophysical Union website added, “These people are in college! You know that place where you are supposed to pick up some knowledge?” But resistance has been firm. According to Plait, efforts at convincing the University of Colorado to abandon endorsement of the product have been rebuffed by administrators.

As long as prominent athletes continue to wear and tout them, there will be athletes anxious to get a competitive edge who will buy them. There certainly is no sign that the company has suffered because of all the bad publicity. Next season Arco Arena in Sacramento, home of the Sacramento Kings, will be called Power Balance Arena after the company recently signed a five-year $5,000,000 naming rights deal.

-SJH

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Grade Inflation in Kinesiology

Given all the information available, there appears to be little doubt that grades are rising at American universities. Because of this, there have been numerous attempts to explore some of the causes of grade inflation so that strategies can be developed to reverse the trend. When looking at the tendency of grades for work of similar quality to increase over time many reasons have been explored. One frequently mentioned explanation is that faculty members feel pressured to give higher grades in hopes of obtaining better student evaluations of teaching, especially when this information is used by department chairs to award faculty raises.

Obviously there can be institutional pressure to retain students and keep the tuition dollars flowing in, and it is believed that awarding higher grades will accomplish this goal. In Louisiana, for example, state funding is now tied to retention and graduation rates. Professors believe that giving higher grades will make their classes more popular and will maintain good enrollment. There are many other reasons given for higher grades, such as including points for attendance and the use of more subjective grading.

Though there has been an outbreak of publicity in recent years about grade inflation, it is hard to say whether or not it is a problem in kinesiology. Several colleagues from AKA member schools I spoke with gave mixed responses. Some thought it was a problem; others weren't all that concerned, pointing out that with higher admission requirements and the elimination of remedial courses, we should expect to see higher grades. I would like to hear from you about your views on the issue. Are we rewarding mediocrity? Are A's and B's considered average in today's world? If you have opinions or information about grade inflation, you would like to share please contact me at amlee@lsu.edu.

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Building bridges with the National ...

potentially interested colleagues across your campus and community.

- As an academic unit, pick a specific strategy or tactic in the NPAP and advocate for it at the community or state level.
- Partner with a public agency or private entity in your state and develop a model initiative based on a specific strategy or tactic.
- Deliver a conference program on the NPAP in one or more professional meetings in your state.

As noted previously, the NPAP serves as a road map for getting the American public from its current low levels of physical activity to a state of meeting or exceeding federal physical activity guidelines. The field of kinesiology is poised to serve an instrumental role in contributing to population increases in physical activity. With the NPAP as a road map, we hope you will seek out opportunities to design a route that serves you, your field, the NPAP, and the American public.

Dan Bornstein is project coordinator of the U.S. National Physical Activity Plan in the Arnold School of Public Health at the University of South Carolina; Russ Pate is professor and director of the Children's Physical Activity Research Group in the department of exercise science at the same institution.

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Exercise and Pregnancy

The 2008 pilot study monitored fetal heart rate in 10 pregnant women, starting at 24 weeks, then in 4-week intervals continuing until term. One group of women engaged in moderate aerobic exercise a minimum of 30 minutes three times a week. Meanwhile, the control group engaged in normal daily activities but did not participate in any sort of physical fitness routine.

The results were clear: The heart rates among the fetuses of mothers who did not exercise were consistently higher, regardless of fetal activity or gestational age. Meanwhile, the fetuses of the physically active mothers had significantly lower heart rates during the final weeks of development and showed higher heartbeat variability.

These results held in a larger study presented in 2010. May's research team monitored fetal heart function in 61 expectant mothers; about half the women engaged in moderate aerobic activity at least three times a week for 30 minutes. Some power-walked, some ran, and some lifted weights or practiced yoga. Again, the control group kept a more sedentary routine. Fetal heart rate and heartbeat variability were measured three times during gestation, at 28, 32, and 36 weeks. Again, the data showed the fetuses of women who exercised had developed stronger, more efficient cardiovascular systems.

In a follow-up paper in April 2011, the team presented the results of the last stage of this study, based on readings taken 4 weeks after birth. The findings: The infants whose mothers had exercised while pregnant still had significantly lower heart rates and greater heartbeat variability than those born to mothers who did not exercise. What's more, the effect was strongest in the babies whose mothers had exercised the most.

"The best part of our data is that we do see a dose-response relationship. So, doctors do not have to tell the sedentary, overweight, now-pregnant mother that she needs to go power-walk for 30 minutes Monday, Wednesday, and Friday the entire time she is pregnant. It is OK to tell them to just do something," said May.

Just how the heart-conditioning benefits of exercise are passed on from mother to baby in utero is not yet conclusively known, since mother and child have separate cardiovascular systems with independent blood circulation. Said May, "We have not done a study to determine the mechanism of these differences. Perhaps it is some type of hormone or nutrients crossing the placenta as a result of the exercise that are influencing development of the fetal heart and autonomic nervous system. For now, there is a lot more work that needs to be done."

Follow-up studies are in the works to reinforce and continue the team's findings, said May. In the completed studies, the exercising mothers had all been physically active before pregnancy, so the next investigation will focus on expectant mothers unaccustomed to regular exercise:

"One could argue that it is possibly the mom's genetics, or something is different about them to choose exercise already. With that said, we are in the process of starting a follow-up study that will recruit only women who are sedentary prior to pregnancy to determine if we can duplicate our results with exercise," said May. "We are also looking at other fetal and infant measures—in utero as well as longitudinal measures postnatal."

May said longitudinal studies that track heart health further into childhood will depend on adequate funding, possibly through corporate grants. Though the team's research has gained an international audience, funding for the projects has thus far been in house through KCUMB and the Hoglund Brain Imaging Center at KUMC.

The current recommendation on exercise for expectant mothers from both the American Congress of Obstetrics and Gynecology and the American College of Sports Medicine is as follows: Moderate aerobic exercise 3 days a week for about 30 to 45 minutes. Expectant mothers should seek the advice of their physicians before starting any exercise routine. KT

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Equine management program at Asbury ...

disabled physically, mentally, and spiritually. "The horse is a great tool to help people," said Rainwater. "There's so many healing ways that a horse has with a person."

Rainwater has countless stories of interactions he has seen with horses. He recalls an autistic child who would not give up a towel that comforted her, but when she saw that the towel would scare the horses, she readily put down the towel to get near the horses. He also witnesses gruff and angry men from the prison turn into gentle caretakers when they come to work with the horses at the farm. These are just a few of the ways he sees people in need find healing powers in horses.

Dr. Marty Bilderback, associate professor of equine management, compares the human bonding of horses to that of dogs. "Horses, as do dogs, will give you their loyalty without question. They live for a pat on the neck or a kind word. They have the ability to sense our emotions and feelings as well," he said.

Bilderback and Rainwater are the two full-time professors in the program, along with three adjunct professors. Courses are offered in all aspects of horse care, stable management, camp management, and riding instruction as well as equine therapy.

The Equine Center operates on 115 acres of divided pasture land and trails.

Students come to the program with varying equine experiences. Some bring their own horses to use in class, while others know very little about horsemanship. Bilderback says sometimes those with the least amount of prior experience become the best students.

The university also has a stable of around 30 horses that are donated from various sources to the program. Rainwater says some are malnourished or neglected when they come to the farm, but others are well trained and cared for by owners who no longer want to keep the horse for a variety of reasons. "Our goal is to make a horse's life good," said Rainwater. All horses are cared for and put to work when they are ready. "Our aim is to train a 'bomb-proof' horse, one that can work in any situation with any rider," he said. "By giving horses training, we give them freedom. God gives us dominion over animals to give them opportunities, not to control them."

The main barn holds 14 stalls plus an office, a classroom and meeting room, tack rooms, storage space, restrooms and a 72x180-foot indoor riding arena.

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Equine management program at Asbury ...

A select number of horses are chosen each year for the police training program, which involves a three-year period of training horses for use on police forces. Rainwater says that horses are valuable in police work because people will react differently to a horse-mounted officer than one in a squad car. Crowds will typically not rush toward a horse but will back away and calm down instead.

Other university units also incorporate the equine students into their missionary programs. The Jessamine Connection is a wellness program for special-needs students who attend classes on the college campus. These students meet twice a week with the equine students to groom horses and perform other responsibilities around the barn. One participating student trained for the World Special Olympics in the equine competition and returned proudly with a medal.

The Mission Farm project is a collaborative program that helps prepare students for missionary work in underdeveloped countries. Students learn agricultural techniques and small livestock management to use on mission trips, where they assist villagers in growing crops and tending livestock for sustainability. According to Pickerill, the university owes the development and extent of the program's success to Professor Rainwater. "Horsemanship is in his blood and out of his passion for horses grew a passion to make it part of the educational process, if possible," said Pickerill. "His commitment to students, the university, the community, and the contacts that he has in the country and world have benefitted us in so many ways."

Rainwater has taught at Asbury University for 40 years and continues to build a legacy of quality and compassion in equine education. Bilderback has worked with the program for two years and has already been deeply touched by his experiences there. "I respect Harold tremendously. This is a very satisfying program to be a part of. Your life is better when you leave here than when you first arrive, and that's the highest praise I can think of."

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Falls Initiative: Health and Aging

screening tool with the layperson in mind. It is important for our translational work that CFRSI can be administered accurately without a high level of training, minimizing the cost of implementation for health care institutions or community organizations providing care for the elderly."

Wood said the CFRSI is the only screening tool that addresses risk across all five identified domains: individual history, physical function, vision, medicines, and environment and home safety. He said the greatest opportunity for intervention in preventing falls among the elderly is presented in the physical domain.

Wood noted, "Senior balance or fitness classes, like tai chi or A Matter of Balance, can improve strength—and improved strength reduces the risk of falling. Exercise also improves cardiovascular health and can improve overall quality of life by allowing more participation in community activities, like church or choir. We are trying to intervene in ways that optimize the functional life span."

Encouraging physical activity goes hand in hand with addressing a common psychological factor: A pronounced fear of falling can be debilitating to a senior's quality of life, whether or not that senior has fallen before, said Wood. Inactivity due to fear of falling can lead to an increased risk of falling.

Partnerships with community organizations that offer senior exercise and balance programs and with vision care providers and pharmacies are an important component of a successful program of falls-risk intervention, said Wood. Certain medications signal a higher risk of falling, as can drug interactions that result from the use of multiple pharmacies. At the same time, ensuring that vision care is up to date and lenses being worn as prescribed can also lower the risk of falls.

"Poor vision represents a big risk factor. A lot of people put off getting new lenses, whether because it's inconvenient for them to get in to see the optometrist or due to monetary concerns," said Wood.

The CFRSI also tests for home clutter and other hazards in and around the home. These are also important to address, especially since many older adults wait until they have already fallen to make any changes there.

The physical function domain already includes measures of balance and mobility, but it is hoped that data generated in a new gait analysis laboratory will increase the precision with which falls risk can be predicted. To better understand the falls risk associated with body posture and gait, a gait analysis laboratory has been developed within NMSU's Reduced Gravity and Biomechanics Lab. The gait lab is the collaborative effort of Wood and NMSU mechanical engineering professor Ou Ma and is funded through the NMSU Interdisciplinary Research Grant program. For this study, subjects are asked to walk on a treadmill with photoreflective technical markers placed at key positions on the body. A 10-camera system provides three-dimensional readings of body movements, while dual treadmill belts (one for each foot) record information on velocity, joint angles, and magnitude of force.

The readings are run through specialized software that generates data Wood and Ma can analyze to isolate abnormalities in gait that could be associated with a greater risk of falling. This work may ultimately provide clinicians with a more precise manner of assessing physical factors of falls risks to better detect where intervention might prevent a fall.

While demographic data (ethnicity, sex, education, and income) show some are more likely to fall than others, falls-risk prevention is truly a universal concern.

Said Wood, "I get calls every day from older adults who hear about our work and want to know what they can do. Legislators need to know this is an area where people have concerns." KT

Wingate Institute Invites Overseas Organizations and Agencies to Submit Applications for the Wingate Award Competition

The Wingate Institute, the Israel National Sport Institute, includes in its vision the promotion of its athletes to excellence and top achievements and the advancement of sport for all. As an organization leading the Israeli community to wellness and a healthy lifestyle, the Wingate Institute recognizes individuals and organizations who make significant contributions to advancing the community through active lifestyles and sports.

This year, for the first time, the institute has decided to open the competition to international projects worldwide, where sports serve as a platform for bridging social, cultural, and political gaps. Projects will be objectively judged by an independent committee and are subject to the following criteria:

- Novelty and creativity
- Impact and significant achievements in the relevant community
- Stability of the project
- Sustainability and potential for the long term

A description of the proposed project, not exceeding 800 words, should be submitted. The addition of a short (less than 3 minutes) film or PowerPoint presentation (up to 15 slides) is recommended.

Deadline for submission is November 11, 2011.

The prestigious Wingate Award ceremony will be held on Thursday, December 15, 2011, at the Wingate Institute, Netanya, Israel. KT

According to the AAUP, since 2008 the number of tenure-track positions nationwide has dropped by more than 3,000. Almost all of the tenure-track jobs that have been lost have been at public (mostly doctoral) universities.

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Barbarians at the Departmental Gate

2010, titled Bridging Kinesiology and Society, didn't produce much in the way of rationales.

If the economic noose continues to tighten, it isn't all that difficult to envision state legislators asking department heads to explain how the research conducted in their departments redounds to the public good. And, if we were honest, we would admit that state legislators have a right, even a responsibility, to ask us such questions.

No one knows how long this ominous cloud will hang over the academy, but in the meantime, it behooves us to go beyond adding up the hours we work each week or polishing up our vitae. Spending time thinking long and hard about how this world is better off for the research we do can be a healthy exercise for all of us. If some find that task oppressive or insulting, maybe it is because they can't think of good answers to the questions. KT

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