

# College of Human Sciences

## Research and Graduate Education News

### College of Human Sciences:

#### FUNDED GRANTS & CONTRACTS

Kandauda Wickrama, Human Development & Family Studies, Carolyn Cutrona, Psychology, \$60,508 from Penn State University, *A Study of African American Marriage and Health*

Kevin Schalinske, Food Science & Human Nutrition, \$71,465 from National Institutes of Health, *The Etiology of Birth Defects; Implications for GNMT Activation*

Lance Gibson and Kenneth Moore, Agronomy, Pamela White, Food Science & Human Nutrition, \$305,040 from the Department of Agriculture, ARS, *Association Genetics of B-Glucan Metabolism to Enhance Oat and Barley Germplasm for Food and Nutritional Function*

Lesia Oesterreich, Human Development & Family Studies, \$26,200 from the University of Kentucky, *Cyfernet Early childhood Editorial Board*

Cynthia Fletcher, Human Development & Family Studies, \$35,537 from the Ames Public Library, *Smart Investing-The Times of Your Life*

Jacobus Lempers, Human Development & Family Studies, \$66,517 from the Iowa Department of Human Services, *Child Support Training BOC-07-021 Third Amendment*

Gary Phye and Arlene Delamora, Curriculum & Instruction, \$7,500 from the Iowa Department of Education, *Teacher Development Academy*

Gregory Welk, Kinesiology, \$2,500 from the Polk County Agricultural Extension District, *Polk County BMI Data Collection-Elementary Schools*

*A goal of the college is to enhance communication among departments. As part of that process, the newsletter plans a series of short articles by the department chairs that provide an overview of research activities in their departments. Jerry Thomas, Chair, Kinesiology, agreed to provide the first article. Thank you, Jerry!*

#### Funded Research in Kinesiology: Categories of Studies and Types of Data Jerry R. Thomas, Chair and Professor

Kinesiology is the study of physical activity and in particular (although not exclusively), the implications of physical activity on healthy lifestyles. The nature of research programs by faculty in Kinesiology can be classed along two dimensions: *Clinical to Experimental* and *Biological to Behavioral*.

In the description of projects below, I have purposefully selected funded projects from the past few years that demonstrate these dimensions of our research. Most of these projects have involved multiple faculty, sometimes only within Kinesiology, but often from other Departments. All of the projects have involved Ph.D. students; often M.S. students, sometimes undergraduate students and post-doctoral students.

Experimental-Biological –Research in this category typically involves random assignment of subjects and uses measures from blood or tissue collected from subjects

Dr. Doug King, Professor, is currently working with Otsuka Pharmaceutical Co., Ltd. Tokyo, Japan. The first project 'Nutritional Impact of Branched Chain Amino Acids on Muscle Recovery following Exercise', was funded for

\$187,000, has been completed, the results have been presented at a national meeting and manuscripts are in preparation. The most important finding of this study was that the loss of power after exercise designed to induce muscle damage was eliminated when middle aged women took branch chain amino acids before and after exercise. The next project will examine the interaction of resistance and aerobic exercise and chronic BCAA supplementation on exercise performance, strength, body composition, protein turnover, muscle fiber size and oxygen-carrying capacity in college aged women. This project has been approved by Otsuka for \$233,688, and the contract is being worked on in Tokyo

Dr. Marian Kohut, Associate Professor, has recently completed an NIH R01 award (-\$800,000 over 3 years) where the research was focused on exercise and immune system function in the elderly. Results indicated that cardiovascular exercise maintained and improved the immune system in elderly participants and thus their ability to resist disease, especially influenza type infections. Numerous papers from this work have been presented at national meetings and published in excellent journals. She has just begun work on a second NIH R01 (-\$2.5 million for 5 years) that will explore the underlying mechanism of the immune systems response to exercise using 'elderly mice'; this allows the study of the immune system at the micro-level.

Experimental-Behavioral—Subjects are typically randomly assigned but measures are more likely to use movement recording devices (high-speed cameras, movement time)

The purpose of this research by Dr. Ann Smiley-Oyen, Associate Professor, was to examine motor learning of four fundamentally different skills in people with Parkinson's disease (PD) given extensive practice (three weeks) and to determine the degree to which improvements could be retained up to three weeks. This research was funded through an R21 by National Institutes of Health (NINDS) in cooperation with the Michael J. Fox Foundation. The results indicated that people with PD require more practice than neurologically healthy age-matched controls to exhibit improvement on complex skills, but once learned, they retained the improvements

as well as age-matched controls. Multiple presentations, including one invited symposium, and two publications (one in *Movement Disorders* and one in *Journal of Motor Behavior*) have resulted from this research, and several more publications are in preparation.

Dr. Tim Derrick, Associate Professor, and others in biomechanics have been active in testing the cushioning and motion control characteristics of athletic shoes for the past 10 years. They have assessed these characteristics for agency's such as Runners World Magazine, Consumer Reports and the US Army Soldier Systems Center. The results of these tests have been used to provide information that could be used to reduce the incidence of injury in the military and active adults.

Clinical-Biological—Subjects are often a specific target group and may use both biological markers as well recordings of movements (e.g., high-speed cameras)

In Fall semester 1992, Dr. Warren Franke, Associate Professor, with a contract from the State of Iowa began coordinating the annual medical examinations for approximately 550 sworn officers of the Iowa Department of Public Safety. This project entailed providing a medical "physical" (by a physician), a symptom-limited maximal graded exercise test to screen for the presence of coronary artery disease, complete blood work, and a fitness assessment. The officers have returned annually. Dr. Franke immediately began using this clinically-oriented project as a source of data for studying the relationship between cardiovascular diseases (CVD) and the law enforcement profession. He has shown that the above-average prevalence of CVD in this profession can not be explained by conventional risk factors. Job-related stress and shiftwork are likely important aspects of this relationship. Consequently, he is now focusing on assessing the biological link between stress and CVD by studying the extent to which highly-stressed officers have an enhanced inflammatory profile. Inflammatory mediators (e.g., cytokines) have been linked to atherogenesis and stress can increase these inflammatory mediators. This research project is currently funded by the

National Institute for Occupational Safety and Health.

Dr. Jason Gillette, Assistant Professor, and Dr. Tim Derrick, Associate Professor conducted this study on farm children to determine the effects of age, bucket size, loading symmetry, and amount of load on upper body torques during carrying tasks. Seventy-two volunteers in four age groups (8-10 years, 12-14 years, 15-17 years, and adults 20-26 years) participated in the study. Video and force platform data were collected as research participants carried combinations of large or small buckets, unilateral or bilateral carrying, and load levels of 0%, 10%, or 20% of body weight. Carrying loads bilaterally instead of unilaterally or reducing loads from 20% body weight to 10% body weight both significantly reduced elbow flexion, shoulder flexion, shoulder abduction, shoulder external rotation, low back lateral bending, and low back axial rotation torques. This 3-year study was funded by a grant from that National Institute of Occupational Safety and Health.

Clinical-Behavioral—Subjects are often a specific target group on which data about physical activity may be collected with surveys or external recording devices

Team Nutrition (TN) is an initiative of the USDA designed to improve children's lifelong physical activity and nutrition habits. Dr. Katherine Thomas, Associate Professor, has been one of several leaders of this project. Funding is available to states for training and technical assistance to support schools, communities and professionals. The Iowa Department of Education (IDE) has had funding since the inception of TN and Iowa State University has worked consistently with IDE to change the health of the school and child-care environment. Twice Iowa has been selected as a demonstration project state, the only state to be so recognized (other demonstration states in the current project are California and Pennsylvania). From the various TN projects we have numerous presentations including training 900 childcare trainers in California, presentations at the USDA's FNS biannual meeting, and other scholarly work. A highlight has been working with Iowa Public Television and the Teletubbies®.

Dr. Ann Smiley-Oyen leads a Kinesiology team (Derrick, Ekkakekis, Gillette) to establish a clinical gait assessment program that provides objective, reliable, and repeatable measurements of walking for patients referred by physicians and health care professionals (funded for 3-years by internal CHS grant). We are currently testing people with different conditions, for example, neurological diagnoses such as stroke and Parkinson's disease and orthopedic problems, and conferring with physical therapists and physicians to identify key gait variables that can be captured using the GAITRite System. These gait variables will be placed in a report that can be used by health care professionals to, for example, assess changes in gait after therapy, surgery, or some other treatment. We are also exploring avenues to recruit healthy older adults to develop norms for specific age groups and to follow changes in gait in healthy older adults for up to five years. The intent is to have a self-sustaining clinical gait analysis program working with health care providers.

#### Summary

Of course I have forced studies on continuums into the categories since nearly all of the studies have some biological and behavioral components and some are more experimental or more clinical. However, I hope you see the purpose of this short article—to emphasize the breadth of areas covered by scholars in Kinesiology as well as the sources of funding to support these research projects. If something is of particular interest to you, please contact the researcher I have listed for each project.

We believe our research should have both theoretical and applied components to better help people understand the value of regular exercise from childhood through the elderly. Kinesiology is fortunate to have this group of scholars (and several others not included) who contribute significantly to the knowledge base as well as the laboratory facilities allowing the high quality of this work.

## ITEMS OF NOTE

Lester Wilson, Food Science and Human Nutrition, was recently named a *Fellow of the Institute for Food Technology*. This is a high honor recognizing many years of dedication to the disciplines of food science.

**Innovation 2008 Conference** will be held in Breckenridge, CO April 14 – 15, 2008. The conference brings together researchers, educators, and government and business leaders to formulate a vision for the future of education. If you are unable to attend, all sessions of the conference will be broadcasted through ULiveandLearn. For more information you can go to <http://tinyurl.com/2nrhxa> to register.

**\*\*VEISHEA Opening Ceremony with Clayton Anderson**  
Friday, April 11, 2008, 12:00 PM @ Central Campus (Rain location: Campanile Room, Memorial Union) - Astronaut and Iowa State alum Clayton Anderson will share his experiences spending 152 days in space and on the International Space Station. He joined the Johnson Space Center in 1983 and held a number of positions before being selected as a mission specialist in 1998. In June 2007 he launched to the International Space Station aboard Shuttle Atlantis with the crew of STS-117. During his 152 day stint onboard the ISS, Anderson performed three spacewalks, totaling 18 hours of extravehicular activity. He holds a master of science degree in Aerospace Engineering from Iowa State University (1983).  
**Part of the Iowa State 150th Anniversary Alumni Lecture Series.**

**Participants are needed for an exercise research study** being conducted in the Exercise Psychology lab (0164M Forker Building) at Iowa State University. Criteria for participating include being (a) a non-smoker and (b) between the ages of 18 to 35 years old. The study is designed to examine the physiological and psychological responses to exercise. The anticipated time commitment is approximately 5 hours total and involves 4 visits to the lab. Participants that qualify and complete the study will receive:

- A free fitness assessment and personalized exercise prescription plan
- Monetary compensation for your time

For more information, please contact:

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**Greg Welk**, Associate Professor of Kinesiology, has been elected to the Dannon Institute's Scientific Council. Members of the council advise the board of directors of the Dannon Institute on programs and serve on program selection committees. The Dannon Institute promotes research, education and communication about links between nutrition and good health.

**Brenda Lohman**, Assistant Professor, Human Development & Family Studies, was elected the 2008-2010 Secretary/Treasurer of the Family Policy Section for the National Council on Family Relations.

## FUNDING OPPORTUNITIES

**The Grow Iowa Values Fund (GIVE)** provides funding to support the development of ISU innovations with commercial potential and to help more ISU technology reach the market place as the foundation for new Iowa companies and/or the growth of existing Iowa companies. Submit proposals by April 18 to the Vice President for Research and Economic Development 's office.

<http://www.vpresearch.iastate.edu/docs/applications/GrowIowaApp.pdf>

**Publication Subvention Grants Program** has just been posted on the website of the Office of the Vice President for Research and Economic Development. See [http://www.vpresearch.iastate.edu/guidelines/pub\\_subvention.html](http://www.vpresearch.iastate.edu/guidelines/pub_subvention.html) for these guidelines--the deadline for applications is April 15, 2008. The guidelines are also copied below. These grants are made possible by an endowment that was formed from the proceeds of the sale of the ISU Press. The grants are offered twice a year.

## PUBLICATIONS

Brotherson, M.J., Summers, J., Bruns, D., & Sharp, L. (2008). Family-centered practices: working in partnership with families. In P. Winton, J. McCollum, & C. Catlett (Eds). *Practical approaches to early childhood professional development* (pp. 53-80). Zero to Three.

Chandler, L., & Maude, S. (2008). Teaching about inclusive settings and natural learning environments. In P. Winton, J. McCollum, & C. Catlett (Eds). *Practical approaches to early childhood professional development* (pp. 207-225). Zero to Three.

Nancy Evans: Reason, R. D. & Evans, N. J. (2007). The complicated realities of Whiteness: From colorblind to racially-cognizant. In S. Harper & L. Patton (Eds.), *Responding to the Realities of Race*. New Directions for Student Services, no. 120, pp. 67-75. San Francisco: Jossey-Bass.

Whitmore, K.F. & Norton-Meier, L.A. (2008) Pearl and Ronda: *Revaluing Mothers' Literate Lives to Imagine New Relationships between Homes and Elementary schools*. *Journal of Adolescent & Adult Literacy*, 51:8, 450-461.

Thomas, K.T., Lee, A.M., & Thomas, J.R. (2008). *Physical Education Methods for Elementary Teachers*. (3rd. Ed.). Champaign, IL: Human Kinetics Publishers.

Thomas, K.T., & Thomas, J.R. (2008). *Principles of Motor Development for Elementary School Physical Education*. *The Elementary School Journal*, 108, 181-195.

## PRESENTATIONS

Axton Betz, Ph.D. student in **Family and Consumer Sciences Education**, authored the research abstract, "*Are Consumer Perceptions of Identity Theft Affected by Demographics?*", American Association of Family and Consumer Sciences (AAFCS) Conference and Expo, Milwaukee, Wisconsin, June, 2008.

Michelle Garland Stern, Ph.D. Candidate in **Multicultural Education and International Curriculum Studies**, "*Christian Privilege: Do*

*Jewish Students Feel Marginalized in U.S. Public Schools?*", Annual National Conference of Race & Ethnicity in American Higher Education May 2008, in Orlando, Florida.

## PRESENTATION/PUBLICATIONS OPPORTUNITIES

The Asia-Pacific Council on Contraception (APCOC) seeks conference paper submissions for its Second Congress, Macau, China, December 4-6, 2008. Submission deadline, August 15, 2008. For more information, see <http://www.apcoc.net>.

The IADIAS e-Learning 2008 seeks conference papers. The conference accepts submissions in the following seven main areas: Organisational Strategy and Management Issues; Technological Issues; e-Learning Curriculum Development Issues; Instructional Design Issues; e-Learning Delivery Issues; e-Learning Research Methods and Approaches; e-Skills and Information Literacy for Learning  
**Types of submissions:** Full and Short Papers, Reflection Papers, Posters/Demonstrations, Tutorials, Panels and Doctoral Consortium. Conference will be held in Amsterdam, The Netherlands July 22 – 25, 2008. All submissions are subject to a blind refereeing process. **Deadline** for submissions: April 14, 2008.

**E-Learn 2008 World Conference on E-Learning in Corporate, Government, Healthcare, & Higher Education**-November 17-21, 2008 \*Las Vegas, Nevada\* (Riviera Hotel & Convention Center), \*\* Submission Deadline: April 29, 2008. See: Association for the Advancement of Computing in Education (AACE), (<http://www.aace.org>) or International Journal on E-Learning, (<http://www.aace.org/pubs/ijel>)

## NEWS FROM E LPS

Congratulations to **Troyce Fisher**, our own former clinician and partner with EDAD, and currently director of a Wallace Foundation leadership grant for the School Administrators of Iowa, on being quoted in Education Week. See for more information.

<http://www.edweek.org/ew/articles/2008/02/27/25islc.h27.html?tmp=790810548>

Congratulations to **Dan Robison** on being honored for his 35 years of service to ISU. Professor Robinson was honored at a banquet last month.

Congratulations to ELPS Graduate Assistants - **Terry Frazier, Noreen Siddiqui, John Gardner** and **Gia Mason** on their article in *Diverse Issues in Higher Education* based on a NASPA program.

[http://diverseeducation.com/artman/publish/article\\_10822.shtml](http://diverseeducation.com/artman/publish/article_10822.shtml)

Congratulations to **Riyad Shahjahan, Nancy Evans,** and **Nana Osei-Kofi** on receiving a Diversity Grant for a Social Justice Speaker Series.

Congratulations to **John Schuh** on being selected as Book Review Editor for the *Review of Higher Education*. As the RHE Book Review Editor, Dr. Schuh will oversee the solicitation, editing, and publication of approximately 15 reviews per quarterly issue of the journal.

### NEWS FROM CTLT

#### **Turkish Student Day a Success!**

The U.S. student teacher internship experience for the 40 Turkish Students visiting Ames as part of the U.S. Department of State Turkish Student Teacher Internship Project culminated on February 28, 2008 with Turkish Student Day. The evening was a cultural celebration of Turkey and a thank you to the host families and 26 local high school teachers who mentored students during the project. The Turkish Students prepared presentations about life in Turkey, slideshows, song, dance, and traditional Turkish foods which were shared with the almost 350 people in attendance. The crowd was comprised of ISU faculty, staff, and students, host families, and teachers, students, and their families from area high schools including Ames, Gilbert, Nevada, Huxley, and Boone. The evening was bittersweet for the Turkish Students as it marked the end of their internship experience and the end of their stay in Ames. Their internship experiences included daily student

teaching in area high schools, weekend home stays, and school visits and trips to Central Campus in Des Moines, Perry High School, Westside High School in Omaha, Nebraska, and Whitney Young Magnet High School and Chicago High School for Agricultural Sciences in Chicago, Illinois.

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Please forward any faculty, staff, and graduate student awards/recognitions and publication/presentations received in your department so we can share them with the entire College of Human Sciences.

*Archived copies of this newsletter are available on the College of Human Sciences Website at*  
<http://www.hs.iastate.edu/facstaff/news.php>

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