

**Research suggests astronauts need more intense workouts to maintain muscle fitness in space**

The latest NASA-sponsored research from Ball State University's Human Performance Laboratory (HPL) suggests that changes are needed to optimize the inflight exercise regimen for astronauts to improve their muscle performance while in space for extended stays.

The study, found in the current issue of *The Journal of Applied Physiology*, suggests that astronauts need to modify their workouts to avoid extensive muscle loss during missions onboard the International Space Station (ISS).

Average stays on the ISS run about six months, and preservation of crewmember health in zero-gravity environments is paramount for safety and mission success. Since exercise is the primary course of action to protect the cardiovascular system, bone, and skeletal muscles, astronauts need to find the optimal exercises to stay fit.

The findings of the Ball State study were based in part on muscle biopsies taken from the astronauts, the first time this procedure has been allowed on crewmembers who have completed long-flight missions, according to Scott Trappe, HPL director.

Working with NASA, Marquette University's biological sciences department, Wyle Integrated Science and Engineering Group in Houston, and the Medical College of Wisconsin, Trappe found that even while the crewmembers exercised, they still lost an average of 15 percent muscle mass and 20 to 30 percent loss of muscle performance.

"By clinical standards, this is a massive loss," Trappe said. "This approaches what we see in aging populations in comparisons of a 20-year-old versus an 80-year-old. This poses risks to the crewmembers and could have a dramatic impact on locomotion and overall health, which would impact a variety of crewmembers' activities including future goals of planetary exploration."

Trappe and the HPL team have been conducting NASA-funded, ground-based bed rest studies of long duration — between 60 and 90 days — parallel to their ISS research.

Trappe said, "From our bed rest studies, we found that when high-intensity resistance and aerobic exercise are balanced correctly, this is an effective prescription that is quite therapeutic in protecting skeletal muscles in a simulated microgravity environment. The next step is to apply what we have learned from the ISS experience and implement the next generation of exercise prescription programs into the space environment. Intensity wins, hands down."

In November 2008, NASA delivered an Advanced Resistance Exercise Device (ARED) to ISS that now offers astronauts greater capability to exercise at higher workloads and intensity. In addition to new equipment, the astronaut trainers have provided new exercise prescriptions customized for each crewmember during ARED use. Studies are underway at NASA to further develop and validate resistance exercise prescriptions designed to improve astronaut performance and health, as well as mitigate risk, according to Judith Hayes, NASA deputy chief, human adaptation and countermeasures division based at the Johnson Space Center in Houston.

### **College of Architecture and Planning employs cutting-edge technology to showcase work**

Ball State University's College of Architecture and Planning (CAP) is using the innovation of interactive plasma screens in addition to paper and pencil to aid students in immediate, large-sized illustrations of their ideas.

With about \$100,000 in internal grant funding, CAP developed and deployed six 62-inch plasma flat screens to occupy design and planning studios. The plasma screens have interactive overlays and can be used to display design projects for review. The drawings can be uploaded to the digital screen, allowing students to forgo plotters, which use paper and ink and can take a long time to print.

The interactive flat screen technology is an innovation most large architecture firms have yet to employ. The fact Ball State has six of the screens – while most schools using them have only one, if any – is a testament to CAP's mission of providing its students with state-of-the-art materials and opportunities in the field.

"They show that we are able to influence the profession and offer students and the industry cutting-edge ideas," said Guillermo Vasquez de Velasco, dean of the College of Architecture and Planning.

Vasquez de Velasco said the added benefit of the plasma screens is that their use allows students to save a substantial amount of money, which limits the amount of printing costs. At the same time, the screens are a more eco-friendly alternative to paper drawings. "This is a good practice in times of economic shortness and sustainability needs," he said.

The plasma screens work "like a combination of a white board and a computer screen," Vasquez de Velasco said. They can be checked out and used in studios in the Architecture Building for different purposes. Students can draw on the interactive membranes with electronic ink without marking up the original product, a technology that companies such as CNN use on their programs.

BSA Life Structures, a design firm in Indianapolis, recently participated in student design reviews using CAP's plasma screens. The firm is now interested in obtaining its own.

"The screens are proving to be a great teaching and learning tool for the college," Vasquez de Velasco said.

### **'Quintessential teacher and scholar' earns top honors**

The director of Ball State University's nationally recognized professional selling program has been recognized as one of the nation's top educators.

Ramon Avila, director of Ball State's H.H. Gregg Center for Professional Selling and the George and Frances Ball distinguished professor of marketing, has been named a distinguished sales educator by the University Sales Center Alliance (USCA).

The award honors sales educators for their consistent, long-term and outstanding contributions to the quality and advancement of sales and sales management education at the college and university level.

Avila was recently recognized at the National Conference in Sales Management in Norfolk, Va. Formed in 2002, The organization's mission to advance the sales profession through academic leadership, education, research and outreach.

Rodney Davis, interim dean of the Miller College of Business, called Avila the quintessential teacher and scholar.

"No one is a better sales teacher than Ramon because his research record is extensive, and it has provided much work that has advanced professional sales literature," Davis said. "His service is incredible, including countless professional, community and charitable activities. Ramon bleeds cardinal red and white, and he has been a respected campus leader for many years."

Avila earned his bachelor's and master's degrees from Ball State and received a doctorate from Virginia Polytechnic Institute and State University. He joined Ball State faculty in 1984 and received the university's Outstanding Faculty Award in 2003.

In 2008, Avila was named the Hormel Foods Master Teacher of the Year, sponsored by the Marketing and Management Association in Chicago. He received a Leavey Award in 2002 from the Freedom Foundation at Valley Forge, Pa., recognizing him for innovation in the classroom with an advanced professional selling class.

### **Public relations students take second place in national case study competition**

Out of 40 teams, a group of eight Ball State University students placed second in the 2009 Arthur W. Page Society annual case study competition.

Students participating in the competition included: Samantha Adamczewski, Alexandra Garritano, Ashley Keebler, Matthew Kelly, Danya Pysh, Jennifer Regnier, Chanel Richards and Hillary Tribbett. The team collectively won \$1,500, and Robert "Pritch" Pritchard, their faculty advisor, received a \$350 award.

"We were stunned that we placed in the competition because it was our first year and because the other schools that have placed in the past are amazing schools," Regnier said.

The students spent about four months working on the 28-page case study about Gardasil and the public relations tactics of its manufacturer, Merck & Co. Gardasil is a vaccine approved by the Food and Drug Administration to prevent certain types of human papillomavirus (HPV). After it

hit the market in 2006, news reports surfaced alleging the vaccine caused side effects such as death and paralysis. The Ball State students analyzed the way the company dealt with the crisis and handled negative effects of the coverage.

"The significance of finishing in the competition is greatly amplified when you consider that past winners of the competition form a veritable 'Who's Who' of the top public relations programs in the country," Pritchard said.

Winners of the case study competition in past years included the University of North Carolina, the University of Notre Dame, the University of Southern California, Dartmouth College and Michigan State University.

The Arthur W. Page Society is a professional association for public relations and corporate communications professionals. Every year, the society encourages business, communication and journalism students to submit case studies. The competition aims to give students practical knowledge of research and core public relations principles.

"Everyone was excited about the win," said Regnier. "It was a great learning experience for all of us."

### **Ball State's performance of 'The Full Monty' promises night full of laughs**

Men out of work will take to showing skin to earn a day's wages when the highly entertaining musical "The Full Monty" hits the Ball State stage April 23.

The Department of Theatre and Dance will present the musical — based on the hit 1997 movie of the same name — at 7:30 p.m. April 23-25 and April 29-May 2 with a 2:30 p.m. matinee on April 26. All shows will be at University Theatre.

"The Full Monty" centers on a group of six men in Buffalo, N.Y. who find themselves unemployed due to the closing of the local steel mill. To make money, they bond together over the idea of chasing their competition (women-stealing male strippers) out of town and giving the city a show to remember.

The play's director, Harold Mortimer, describes "The Full Monty" as a great musical comedy that, ironically, is quite topical in today's economic climate.

"What is most important is that the show isn't about the stripping, but how these crazy yet brave men do something at first for themselves, but then realize their actions are uniting an entire town," said Mortimer, assistant professor of musical theater. "The stripping is a way to release the incredible energy of depression the whole community is going through."

Mortimer said the cast and crew for the production have been enjoying themselves immensely in the weeks of rehearsal leading up to the premiere. "We have a wonderful musical director from New York City, Jeff Caldwell, and our new dance faculty member Christie Zimmerman is doing a great job to create dance that tells a story," he said. "The men and women of this show will steal the hearts of our audiences, and I have no doubts those attending will love it."

"The Full Monty" contains various levels of nudity and adult language. It is not suitable for persons younger than 13 years of age. Tickets for the performance cost \$15.50 for the general public, \$13.50 for faculty and staff, \$11.50 for senior citizens and \$9.50 for students. They are available from the University Theatre Box Office, open noon to 5 p.m. Monday through Friday. Contact the box office at 765-285-8749 or visit [www.bsu.edu/theatre](http://www.bsu.edu/theatre) for more information.

### **Sociologist to be honored for her contributions to teaching**

A regional sociology organization will honor Ball State University's Melinda Messineo for her efforts to enhance teaching in her field.

Messineo, an associate professor of sociology, will receive the 2009 John F. Schnabel Distinguished Contributions to Teaching Award from the North Central Sociological Association (NCSA) at its April 18 meeting in Dearborn, Mich. She will give the organization's keynote address in 2010 at its national meeting.

NCSA seeks to further the development of sociology as a scientific and scholarly discipline. Membership includes colleges and universities from eastern Illinois, Indiana, Kentucky, Michigan, Ohio, western Pennsylvania, West Virginia and Ontario, Canada.

Messineo was described as a "bridge builder who seeks to make information accessible and relevant to students while at the same time encouraging them to challenge themselves to move beyond their current understandings" in a letter from Mellisa Holtzman, associate professor of sociology; Carolyn Kapinus, associate professor of sociology, and David Concepcion, associate professor of philosophy.

Messineo joined Ball State's faculty in 1999. Her research interests are in sociology of media, images of race and gender in advertising, and sociology of family.

She has been honored by the university for her academic efforts, including being selected in 2007 as a Fellow at the Virginia B. Ball Center for Creative Inquiry to develop an innovative emerging media project "Cyber Communities, Cyber Selves, and Constructed Realities." The project centered on research into the online world of Second Life.

Allowing students to conduct research into the academic applications of Second Life is part of Ball State's Emerging Media Initiative (EMI), a planned \$17.7 million investment focusing the university's historic strengths in this area to accelerate benefits to the state of Indiana and give students innovative and entrepreneurial opportunities.

Among her other honors, Messineo was given the Vivian Conley Award in 2004 for outstanding achievement in community service, the Green Initiative Award in 2004 for integration of environmental issues and sustainability, the Lawhead Award in 2003 for excellence in the University Core Curriculum and the Excellence in Teaching Award in 2002.

## **Textbook supplement projects generate revenue while providing students experience**

Instead of spending endless hours buried in traditional college textbooks, some Ball State University students are making their own.

Through the university's Institute for Digital Entertainment and Education (IDEE) students have helped film, edit and produce digital supplements for textbooks as well as educational videos. The initiative promotes development of the critical high-tech skills they need to excel in the workplace and provides them an educational experience wedded to a professional atmosphere, said Rodger Smith, IDEE director.

"In return the student gets not only an education, but also a professional credit for their resume, and important and valuable marketplace contacts," he added. "Ball State gets a portion of the cost of the project back from the vendor. It is a winning situation for the student, for the faculty mentor and for the university."

According to Smith, the projects have yielded results exceeding everyone's expectations. So far, outside partnerships with publishers have generated more than \$100,000 for Ball State. That doesn't include future royalties. Based on past successes, IDEE will continue to develop outside partnerships that benefit IDEE students and expand Ball State's contributions to the community.

The range of material produced is quite broad, and the money is just a small part of the cost of providing the experience, Smith said.

"Revenue is not profit, it is a contribution," he said.

One student team created five educational videos that demonstrate how to apply makeup for stage and for film using various techniques. Another extensive project saw students team up with Indianapolis-based Calamari Productions to produce 26 segments about the juvenile justice system.

"Calamari Productions is the only company with permission granted by the Indiana Supreme Court to film behind the doors of the juvenile justice system, so that experience was certainly one-of-a-kind," said Smith who also had a student coordinate hundreds of interviews for the creation of dozens of videos augmenting a psychology textbook.

The projects allow students to hone technology skills while getting a glimpse into various professions. In some cases it allows them to sense how they might fit into their chosen fields and learn the language of a particular work place. They are comfortable in the job interview and they know what to expect, Smith said.

"I've learned as much about child development and criminal justice as I have about editing from my work on educational videos," said student Jake Milliner, a senior majoring in telecommunications. "I've also learned that video is a powerful tool for teachers."

IDEE is administered by Ball State's Center for Media Design (CMD) and is part of the \$20 million Digital Exchange initiative funded by Lilly Endowment Inc. to enhance the university's innovative, immersive and educational experiences for students in digital technology. CMD also oversees the Institute for Digital Intermedia Arts and Animation, and the Institute for Digital Fabrication.

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## ON CAMPUS

### **Ball State seeks nominations for 2009 Indiana Women's Achievement Awards**

Ball State University's College of Sciences and Humanities is seeking nominations for the 2009 Indiana Women of Achievement Awards.

The awards recognize Indiana women who enrich the lives of others through outstanding accomplishments in a variety of fields.

Nominations require a letter describing the nominee's contributions and must identify an appropriate category for the award. The names, mailing addresses, e-mail addresses and phone numbers of both nominator and nominee should also be included. A current copy of the résumé is useful to the committee if available but not required. Nominations must be postmarked by May 20.

In the past, award categories have included leadership in education or research, leadership in the community or university service, leadership within the business community, leadership in advocacy for women and leadership in women's health issues. Other categories of distinguished accomplishments by and for women will also be considered.

Recipients of the Indiana Women of Achievement Awards will be recognized during the 10th annual awards dinner on Oct. 21, at the Ball State Alumni Center.

Awards should be addressed to:  
Fred A. Meyer  
Department of Political Science  
Ball State University  
Muncie, IN 47306

### **Service Superstar for March named**

Judy Blake is Ball State's Service Superstar for March. Blake is the visitor coordinator for the Office of Admissions. She was nominated as a Roll Out the Red Service Superstar by Virginia McCoy, assistant director of admissions.

According to McCoy, "Judy is often the first contact that prospective students have at Ball State. She puts all of her time and effort into accommodating every family who calls or visits our campus. She truly makes a difference in the first impression that students and families have of Ball State University."

As the Service Superstar of the Month, Blake was awarded a stadium blanket with an embroidered Roll Out the Red logo. Tom Taylor, vice president of enrollment, marketing, and communications, presented the award to Blake on April 1.

A Service Superstar will be selected monthly throughout 2009. Nominations are due by the 20th of each month in order to be honored the following month. They can be submitted online by completing the form on the Roll Out the Red Web site—[www.bsu.edu/rolloutthered](http://www.bsu.edu/rolloutthered). Contact Andy Gothreau, at 765-285-1819 if you have any questions about any of the Roll Out the Red Spirit of Service initiatives.

### **Third Red Carpet Department honored**

Ball State Dining was recognized as the third Red Carpet Department of 2009. This new customer service recognition started in January and will continue for the remainder of the year. It recognizes a university department that best exemplifies the Roll Out the Red Spirit of Service. Ball State Dining recognizes the close connection between the millennial generation and its parents. As a result, its employees strive "to provide not only information, but also a sense of comfort, empathizing with the stress parents might feel about leaving their son or daughter in the hands of someone else for the first time."

As a Red Carpet Department, Ball State Dining was awarded a framed certificate signed by Ball State President Jo Ann M. Gora. Tom Kinghorn, vice president of business affairs and treasurer, presented the award to Jon Lewis, director of Ball State Dining, and his staff on April 1.

Nominations for the Red Carpet Department recognition are due by the 20th of each month in order to be honored the following month and may be submitted online to Andy Gothreau, assistant director of human resources, training and development. Contact Gothreau at [agothreau@bsu.edu](mailto:agothreau@bsu.edu) for more information or visit the Roll Out the Red Spirit of Service Web site, [www.bsu.edu/rolloutthered](http://www.bsu.edu/rolloutthered).

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### **IN THE NEWS**

**Mike Bloxham**, director of Insight and Research, Center for Media Design

The New York Times quoted Bloxham in a March 27 article, "8 Hours a Day Spent on Screens, Study Finds." A study by Ball State and Sequent Partners for the Council of Research Excellence that was Nielsen-funded found adults are exposed to screens for about 8.5 hours per day.

Television remains the dominant medium for media consumption and advertising and computers the second. The researchers said the study is the largest observational look at media usage ever. They shadowed 350 subjects and recorded 952 observed days of behavior. The researchers also found the number of minutes with media is almost identical for every age group. "It flies in the face of conventional wisdom, of course, which tells us that the younger cohorts apparently spend more time with screen based media," Bloxham said. The study was published by 39 other news media outlets.

**Dave Ferguson**, associate vice president for emerging media initiatives

Ferguson was quoted in a March 18 Campus Technology article, "Ball State Students to Try Out Interactive TV Application Development." Starting next fall, Ball State students will be able to create interactive television applications and test them on digital cable environments. Ball State is using the Academic ITV Software Developer Kit from the OCAP/EBIF Development Network (OEDN) in programming classes. The kit is designed to let students take an application from conception to development to test and play out on a cable set-top box. "This commitment to advance the knowledge base in interactive television fits perfectly into Ball State's recently launched \$17.7 million Emerging Media Initiative," Ferguson said. The article was also featured in The Centre Daily Times (Pa.).

**Michael Hanley**, assistant professor of journalism

Cellular News quoted Hanley in an April 8 article, "Survey Finds Smartphones Transforming Mobile Lifestyles of College Students." A Ball State survey of about 300 college students found 27 percent own a smartphone compared to the national average of 19 percent of working adults. "College students are increasingly adopting cell phones – particularly the smartphone – as the core communication and entertainment device for their hectic lifestyles," Hanley said. "In the few years since instant messaging leaped from the computer to the cell phone, a new mobile lifestyle has evolved. And save for studying, the computer is quickly being left behind."

**Michael Hicks**, director of the Center for Business and Economic Research

Hicks was quoted in a MSNBC April 8 article, "A City Struggles." In hard-hit Elkhart, Ind., leaders and citizens are exploring all economic options. "The long-term prospects for the RV industry are very, very uncertain," Hicks said. "I think it's going to be very difficult to create the jobs that were lost in the RV industry, sad to say. That's the tough medicine."

**Ray Montagno**, associate dean of the Miller College of Business

The New York Daily News quoted Montagno in an April 3 article, "Jean Chatzky to Appear at Ball State." Jean Chatzky, financial coach and best-selling author, kicked off Ball State's Financial Literacy Week, April 6-10. She shared secrets to financial freedom and revealed the findings from her latest book, "The Difference: How Anyone Can Prosper in Even the Toughest Times." "One of the goals of bringing Jean Chatzky to campus is to allow the community to listen to her ideas, then apply those concepts to their financial well-being," Montagno said in the article. "She will provide insights that every person in the audience will be able to use. Without a doubt, these tips should have a major impact during these challenging times."

**Scott Trappe**, director of the Human Performance Laboratory

Trappe was quoted in a March 31 Genetic Engineering and Biology News article, "As Good As It Gets: Octogenarian Muscles Don't Get Stronger with Exercise." Women in their 80s were unable to increase muscle mass after a three-month weight lifting program targeting their thigh muscles, according to a study by the Journal of Applied Physiology. However, the women were able to lift more weight after the training program, likely because the nervous system became more efficient at activating and synchronizing muscles. "The message of the

study is that exercise is good for octogenarians, just not as good as we thought it would be," Trappe said. The study also suggests that it is better to build as much muscle mass as possible earlier in life to ensure more muscle strength in later life. "We should do all we can to educate people to build up the muscle before 80," he said.

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## SPOTLIGHT

### Publications

**Mir Masoom Ali**, Department of Mathematical Sciences, co-author, "Inference on Reliability  $P(Y < X)$  in Truncated Arcsine Distributions," *Journal of Statistical Research*, Volume 42, No. 2, pages 151-158.

**Chu-yuan Cheng**, Department of Economics, "Taiwan's Economy Under Impact of Global Financial Crisis: Deep Recession and Proposed Solutions," *Straits Review Monthly*, Taipei, Taiwan, pages 3-10, April 2009.

**Jill Christman**, Department of English, "Weaning Ella," in "Unbuttoned: Women Open Up About Pleasures, Pains and Politics of Breastfeeding," Harvard Common Press, March 25, 2009.

**Kevin Gerrity**, School of Music, "No Child Left Behind: Determining the Impact of Policy on Music Education in Ohio," *Bulletin of the Council for Research in Music Education*, No. 179, pages 79-83, Winter 2009.

**James Helton**, School of Music, piano recording, "Traditional and Modern Chinese Art Songs," Volume II, *Anthology of Chinese Songs*, page 22, Leyerle Publications, New York, 2009.

**Laurie Lindberg**, Department of English, "Not Everyone Lived Happily Ever After: The Dark Side in Fairy Tales and Fantasy," catalogue essay for the Fantasy and Fairy Tales exhibit at the Ball State Museum of Art.

**Sean Lovelace**, Department of English, flash fiction pieces, "decomp" and "The Corduroy Mountain," *Juked*, an online magazine, March 3, 2009.

**Deanna Pucciarelli**, Department of Family and Consumer Sciences, "Chocolate: History, Culture and Heritage," Wiley and Sons Inc., Hoboken, New Jersey, Feb. 20, 2009.

- "Chocolate as Medicine: Imparting Dietary Advice and Moral Values through 19th Century North American Cookbooks."
- Co-author, "Twenty-first Century Attitudes and Behaviors Regarding the Medicinal Use of Chocolate."

**Scott Trappe**, Human Performance Laboratory, "Exercise in Space: Human Skeletal Muscle after Six Months Aboard the International Space Station," *Journal of Applied Physiology*, Volume 106, pages 1159-1168, 2009.

**Mei Zhong**, School of Music, compact disc singing, "Traditional and Modern Chinese Art Songs," Volume II, Anthology of Chinese Songs, page 22, Leyerle Publications, New York, 2009.

## **Presentations**

**Jill Christman**, Department of English,

- "Memoir and Catharsis" and "Writing as Parents: Our Children as Subjects," Association of Writers and Writing Programs Conference, Chicago, Feb. 11-15, 2009.
- "Life is Big, Paper is Small: One Writer's Search for Balance and Meaning," Ball State Honors College Whiting Lecture, annual banquet, Feb. 22, 2009.

**Jeffrey Fry**, Department of Philosophy and Religious Studies, "Sport, Envy and 'Healing Virtues,'" British Philosophy of Sport Association conference, Dundee, Scotland, March 27, 2009.

**Laurie Lindberg**, Department of English,

- "The Art of the Fairy Tale," Alliance of Friends of the Museum of Art, Feb. 11, 2009.
- Introduced Kate Bernheimer's "Women in Fairy Tales" presentation March 22, 2009.

**Deanna Pucciarelli**, Department of Family and Consumer Sciences, "Chocolate: From Medicine to Confection: What Can 19th Century Cookbooks Tell Us?" Chocolate: The North American Experience, symposium, National American History Museum, Smithsonian, Washington, D.C., March 7, 2009.

**Lynne Stallings**, Department of English, "Using Teacher and Student Perspectives to Bridge Best Practices and Create Happy Endings," with nine ESL-licensure (English as a Second Language) students, Indiana K-12 ESL conference, Indianapolis, March 20, 2009.

**Scott Trappe**, Human Performance Laboratory,

- "Overview of Human Performance Laboratory Research and Programs," Mid Sweden University, Östersund, Sweden, March 23, 2009.
- "Skeletal Muscle and Sport Applications," seminar, Scandinavian National Team Coaches, Åre, Sweden, March 26, 2009.

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