**Heart Association Awards Research Grant to Debold**

Edward Debold, assistant professor in the Department of Kinesiology, has received a three-year, $197,294 American Heart Association Scientist Development Grant to study the molecular mechanisms that underlie heart failure during heart attacks.

For his project, “The Molecular Basis of Depressed Cardiac Contractility During Acute Myocardial Ischemia,” Debold will use the single molecule laser trap and in vitro motility assays to determine the effect that ischemic conditions have on the ability of the heart’s molecular motor, myosin, to generate force and motion. Ultimately, the findings will improve understanding of myocardial ischemia and reveal new therapeutic targets for agents capable of reversing the devastating consequences of the highly prevalent condition.

June 24, 2009.

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**Nutrition Faculty Present Research in Portugal**

Jean Anliker and Elena Carbone, associate professors of Nutrition, presented some preliminary research findings at the International Society for Behavioral Nutrition and Physical Activity from June 17-20 in Lisbon, Portugal.

Carbone, who is interim department head, said a platform talk introduced their group’s eight-week healthy eating and physical activity intervention program known as SPIN. Strength and Power in Nutrition was designed to appeal to adolescents at a time when they are going through dramatic physiological, hormonal and psychological changes but do not yet have fully developed critical thinking skills.

“To develop SPIN, we combined the results of formative research with 11- to 14-year-olds, (‘tweens’) and Lindstrom’s marketing model, retaining elements of social cognitive and social ecological theories,” the researchers say. They tested the program’s effectiveness with 77
culturally-diverse low-income tweens in Massachusetts, collecting survey data after each session, with focus groups after interventions and observing the young people as they shopped for groceries. The tweens reported what they learned and what they would tell a friend about the session, for example, the message, “You are stronger than advertising.”

Focus groups showed that SPIN participants were able to identify core values including humor and fun, fear (suspense), mastery, fantasy, love and stability, as well as the three tactics of gaming, collection value and mirror effect. The young people said these components made them want to attend, and helped them to learn. Observing tweens shopping showed that they applied the learned information. Carbone and colleagues concluded that “a marketing model-based healthy eating and physical activity intervention can help adolescents become engaged, want to attend sessions, and remember and apply key messages.”

The second presentation, a poster, also was based on SPIN. The study explored the effects of SPIN interventions on food shopping behavior in tween boys and girls recruited from Massachusetts Boys and Girls Clubs. The 17 young people attended SPIN sessions, then were taken shopping once a week for three weeks. They were given $2 per week to spend or save. Ten were also asked to “think aloud” into a cassette recorder about their choices and purchases. In addition, the researchers collected the purchases and calculated three data points per subject: a naturally nutrient rich” (NNR) score, total calories and calories per dollar spent. Carbone and colleagues found significantly higher NNR, fewer total calories and fewer calories per dollar purchased after the SPIN intervention compared to before.

Both studies were conducted with Laura Hutchinson of Holyoke Community College and funded by the National Research Initiative of the USDA Cooperative State Research, Education and Extension Service.

Andrianopoulos Gives Invited Address in Brazil
Mary Andrianopoulos, associate professor of Speech-Language Pathology in the Department of Communication Disorders, was an invited speaker at the XIX Scientific World Congress of Oto-Rhino-Laryngology held June 1-5 in Sao Paulo, Brazil.

She spoke on her empirical research addressing “Evidence-Based Treatment Practices for Rehabilitation of Vocal Neuropathologies.”

In March, Andrianopoulos was an invited guest speaker at the second annual Symposium for Voice and Swallowing and their Disorders held in Athens.
June 7, 2009.
Recipients of 21st Century Leadership Awards

Pictured left to right are Lauren Scheiper, Communication Disorders and Abby Harper, Public Health Sciences

Lauren Scheiper, a Communication Disorders major and Abby Harper, a Public Health Sciences major received The 21st Century Leaders Awards at the University Commencement on Saturday, May 23, 2009. The 21st Century Leaders Award recognizes graduating seniors who are academically accomplished and who have contributed to the university by exceptional achievement or have enhanced the reputation of the campus. The recipients are nominated by faculty for strong leadership qualities; noteworthy original research; community service; the achievement of success by overcoming extraordinary personal circumstances, or public presentation through art, performance or athletic ability. The awards are presented during the Undergraduate Commencement celebrations each May.
May 30, 2009

Patty Freedson to Receive a Citation Award

Patty Freedson will be receiving a Citation Award from the American College of Sports Medicine at their annual being held in Seattle, Washington May 27th-30th, 2009. The Citation Award of the American College of Sports Medicine is granted to an individual or group who has made significant and important contributions to sports medicine and/or the exercise sciences. These contributions may include, but are not limited to, research and scholarship; clinical care; and/or administrative or educational services in sports medicine or exercise science. ACSM membership is not a requirement for this award.
May 27, 2009

Jane Kent-Braun to Give President's Lecture

Jane Kent-Braun, Professor in Kinesiology, will give a President's lecture at the upcoming annual meeting of the American College of Sports Medicine meeting in Seattle, Washington May 27th-30th, 2010. The title of her talk is "Skeletal Muscle Physiology in Vivo: Aging Comes of Age."

Sturgeon Given Grant to Develop Blood Test for Breast Cancer

Susan R. Sturgeon, associate professor in the Department of Public Health, has been awarded a two-year, $232,588 by the Susan G. Komen Breast Cancer Foundation to
develop a diagnostic blood test for breast cancer.

Sturgeon is working with Kathleen Arcaro, associate professor of Veterinary and Animal Sciences, and Andrea Foulkes, associate professor of Public Health, on the study.

The concept is based on the premise that breast cancer tumors have certain DNA changes known as promoter hypermethylation, and that breast cancer tumors shed sufficient quantities of DNA into the blood to allow detection of the presence of such epigenetic changes. Epigenetic literally means “on the gene,” and promoter hypermethylation is when a methyl molecule is added to the DNA backbone of a gene causing a loss of normal function.

A series of small clinical studies have shown the feasibility of this approach, with moderately high accuracy of breast cancer detection achieved using a relatively small number of genes (usually three to four) in blood. It is likely that expansion of the panel to include other breast-cancer related genes would markedly increase the accuracy of the test. Thus, DNA in serum will be evaluated for promoter hypermethylation in 12 candidate genes from approximately 250 node-positive postmenopausal breast cancer cases, 75 node-negative postmenopausal breast cancer cases, and a comparison group of 250 postmenopausal benign breast disease control subjects who were part of the Mayo Serum Bank, a resource established in the 1970s to identify early markers of breast cancer. The objective will be to determine whether this panel of genes can be used to accurately detect breast cancer.

While early detection by screening mammography has led to a decline in breast cancer mortality over the past decade, mammography has several well-known limitations, including a high rate of false positives, reduced sensitivity in dense breasts, and concerns over radiation exposure, particularly in high-risk women who may benefit by more than annual screening. Limitations of mammography screening combined with a rapid revolution in available molecular tools have led to renewed and vigorous research interest in developing a complementary molecular biomarker for early detection of breast cancer.

Changes in DNA methylation patterns are a common feature of malignant cells, and promoter hypermethylation in key genes is considered one of the most promising biomarkers for a reliable and sensitive screen for early breast cancer.

“Detection of methylation status in serum could lead to the development of an inexpensive, minimally invasive blood test to complement mammography screening,” said Sturgeon. “A methylation-based blood test would be valuable as it could be used between annual mammograms in high-risk women or to evaluate suspicious mammogram findings.”

The test could also assist in identifying women at high-risk of developing breast cancer who may benefit from additional screening methods or other prevention strategies, and could be a valuable intermediate endpoint in chemoprevention trials, she said.
SPHHS, Education Faculty Share $799k Grant

Faculty in the School of Public Health and Health Sciences and the School of Education have been awarded a four-year, $796,809 Personnel Preparation Grant from the U.S. Department of Education to support speech-language pathology doctoral students focusing on special education.

The participating faculty are Mary Andrianopoulos, Elena Zaretsky, Shelley Velleman and Patricia Mercaitis in the Speech-Language Pathology (SLP) program in the School of Public Health and Health Sciences, and Mary Lynn Boscardin of the Special Education concentration in the School of Education.

According to Andrianopoulos, the grant will help address a critical shortage of speech-language pathology Ph.D.s nationally and support the development of the next generation of research scientists and faculty. The grant will support between five and seven Speech-Language Pathology doctoral students planning to major in topics related to SLP with a minor in Special Education between 2009-13, she said. The doctoral students will conduct empirically-based research to assess the effectiveness of various remedial approaches to manage and educate individuals with communicative disabilities, including autism spectrum disorders.

It is the second such grant given to the group by the U.S. Department of Education (DOE) in two years. Last year, they received a four-year, $799,602 award. According to Andrianopoulos, the faculty members have been awarded more than $2.3 million by the federal agency over the past five years. “These faculty were funded thanks to their significant contributions to the professions and empirical research,” she said.

Two previously awarded autism personnel preparation grants from DOE are supporting 48 master’s students in Speech-Language Pathology between 2005 and 2013.

“Both grants allow the SLP concentration in Communication Disorders to attract and recruit higher-caliber students to the department, and also to enhance its national reputation,” Andrianopoulos said. “In 2008, U.S. News and World Report ranked the Speech-Language Pathology program in the Department of Communication Disorders in the top 30 graduate programs in the country. Moreover, the Special Education concentration at UMass Amherst was ranked in the top 50 programs nationally.”

The autism training grants also provide strong support for the Communication Disorders Department’s service mission, she said, by increasing and improving clinical services for people with autism in the Center for Language, Speech and Hearing. The center is an on-campus graduate teaching clinic that provides assessment and treatment services for residents of the Pioneer Valley and New England. SLP faculty and grant-related supervisors also send their
practicum students to carry out graduate internships in local area schools, early intervention programs and other acute care and rehabilitation agencies. “They also contribute to community awareness and support for families with children with autism spectrum disorders,” said Andrianopoulos.

In addition, she said, the autism training grants enhance and support the research focus within the Department of Communication Disorders with respect to neurodevelopmental communication and motor speech disorders as well as literacy development in children with autism spectrum disorders. Graduate students supported by the grant carry out cutting-edge research projects and as members of the autism community, including school systems, learn about their work and volunteer to assist in the research endeavors of the five faculty members.

The team of faculty also networks and collaborates with other autism specialists in the Pioneer Valley and across the state, as well as in other countries, including Greece, Morocco, India and South Africa, said Andrianopoulos.

**Photo:** Participating faculty are (clockwise from top left) are Patricia Mercaitis, Mary Lynn Boscardin, Elena Zaretsky, Mary Andrianopoulos and Shelley Velleman. May 20, 2009.

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**Chipkin Appears on Cable TV Program**

Stuart Chipkin, M.D., research professor in Kinesiology, is a principal guest this month on a one-hour cable television program, “The State of our Health, The Health of our State: Obesity in Massachusetts.”

Part of a regular feature sponsored by the Massachusetts Medical Society (MMS) called Physician Focus, it airs on public access cable channels and online at www.hcam.tv/obesity. Chipkin suggests ways to add more physical activity into one’s daily routine such as taking the stairs, shoveling snow instead of using a machine and raking leaves. If one can also remove 250 calories a day from the diet at the same time, the combined relatively modest changes can make a difference over the long term.

Chipkin, who is also an endocrinologist with Valley Medical Group in Amherst and a medical consultant for the Massachusetts Department of Public Health’s Diabetes Control and Prevention Program, appears on screen with Denise Rollinson, chair of the medical society’s Committee on Nutrition and Physical Activity. This is Chipkin’s second appearance on Physician Focus; in 2007 he was a guest on another show about the health impact of obesity, when he was chair of the society’s Committee on Nutrition.

The cable TV program is a collaborative production of the medical society with the Department of Public Health and Hopkinton Community Television. In addition to Chipkin, other speakers
note that obesity and overweight have been linked to dozens of chronic illnesses such as diabetes and heart disease and are fast becoming the nation’s leading causes of preventable disease and death. According to the medical society, more than one in five Massachusetts residents – about one million people – are obese and almost one in three of Massachusetts high-school and middle-school students are either obese or overweight.

Founded in 1781, MMS is the oldest continuously operating medical society in the country and has more than 21,000 physicians and student members. It publishes the New England Journal of Medicine plus newsletters in 13 specialties.

May 19, 2009.

_**Umberger Visits Vrije Universiteit in Amsterdam**_

Brian Umberger, assistant professor of Kinesiology, gave an invited lecture on the biomechanics and energetics of human locomotion on May 11 at the Vrije Universiteit (Free University) in Amsterdam, Netherlands.

During the visit, Umberger also participated in the dissertation defense ceremony of a Ph.D. candidate and met with several faculty members at the university to discuss common research interests, and to compare doctoral training in the U.S. and the Netherlands.

May 18, 2009.

_**Kinesiology PhD student receives research grant**_

Sarah Kozey, a Ph.D. student in Kinesiology, has been awarded a $5,000 doctoral student research grant from the American College of Sports Medicine Foundation.

The grant will support her project, “Validation of Objective Measures for Sedentary and Light Intensity Activity,” which will examine wearable motion sensors as potential tools to assess sedentary behavior in adults.

May 11, 2009.

_**UMass Amherst Researcher Edward Calabrese Receives Marie Curie Prize**_

AMHERST, Mass. – Edward Calabrese, a professor in the School of Public Health and Health Sciences at the University of Massachusetts Amherst, has been awarded the Marie Curie Prize for “outstanding achievements in research on the effects of low and very low doses of ionizing radiation on human health and biotopes.”

At an international conference this week at UMass Amherst, Andre Maisseu, president of the Paris-based World Council of Nuclear Workers, announced that Calabrese is the council’s 2009 Curie Prize winner. Maisseu saluted Calabrese during the annual meeting of the International
Dose-Response Society, of which Calabrese, an environmental toxicologist, is a founder and current director. Maisseu said the prize recognizes an entire body of research that has improved scientific knowledge of low-dose ionizing radiation effects on human beings and biological communities. A formal award ceremony will be held in Rio de Janeiro, Brazil, in September.

While Calabrese is the foremost expert in the world on a chemical dose-response phenomenon known as hormesis, he has done little dose-response work with ionizing radiation, he observes. However, he feels deeply honored by the council’s recognition. “I accept that I’m being given credit for bridging the gap between chemical hormesis and ionizing radiation,” he says, “and I do believe there is evidence to bridge it. What I have urged all along is for mainstream science to see hormesis as a basic biological principle.”

Hormesis describes the fact that low doses of some chemicals are stimulative or promote growth but higher doses are toxic or inhibit growth, for example. The Marie Curie Prize winner, who joined the UMass Amherst faculty in 1976, says, “We need to conduct the research—which has been long neglected—to understand hormesis more fully, with all its implications.”

The theory’s proponents suggest that low doses of minerals in multivitamin pills such as chromium and selenium, for example, boost health not because they provide required nutrients but because low doses of many toxins stimulate biological systems with beneficial mild stress, while higher doses are toxic. By contrast, the prevailing linear threshold model of toxin behavior says the absence of harmful effects below the threshold assumes there are no effects relevant to health.

Calabrese and colleagues’ work on chemical hormesis sparked vigorous scientific debate and a special section in the journal, *Science*, in 1989. Challenged to subject hormesis experiments to more rigorous statistical standards, Calabrese and his longtime UMass Amherst collaborator, Linda Baldwin, created a database of 21,000 papers. In 2003, they reported in a ground-breaking paper that the low-dose stimulatory effect of chemicals is typically about 40 percent enhanced growth, for example.

“It was a coming-out party for hormesis,” Calabrese recalls. “We made a credible case and we did it by following the scientific rules of the game,” he says of their work over the past 30 years. By contrast, he says, the two leading risk assessment models used by the Environmental Protection Agency and the Food and Drug Administration have been imposed on society and the scientific community without being vetted or validated.

Everyday implications of hormesis for risk assessment are significant. If chemical hormesis is a basic biological principle, Calabrese says, society is needlessly over-regulating the environment to protect against low exposures that are not dangerous, and we’re missing possible benefits. “The traditional threshold model is not very good at explaining or accounting for data that’s below the toxic threshold, and that’s where we live. But hormesis is quite good at that.”
Major Implications for Public Health Policy

Mark Mattson, chief of the Laboratory of Neurosciences at the National Institute on Aging, one of Calabrese’s past co-authors, agrees that the findings for which Calabrese is being recognized with the Marie Curie Prize “have major implications for public health policy regarding environmental ‘toxins,’ for the design of biomedical studies, and for the discovery of new therapeutic interventions for a range of diseases.”

Mattson adds that the UMass Amherst research clearly reveals that “hormesis as a widespread feature of biological systems (cells, tissues, organisms and populations) that was previously either unrecognized or ignored by scientists in the fields of biology, biomedical research and toxicology. Calabrese and colleagues have shown that biological systems very often respond adaptively to low amounts of toxins and other stresses (radiation, heat, etc.) so as to increase their resistance to more severe stress and disease.”

Maisseu says it’s unfortunate that most research on ionizing radiation conducted since nuclear weapons were developed has focused on its harmfulness. This has prevented valuable work on possible beneficial low-dose effects, including adaption and repair mechanisms, he feels. Further, anti-hormesis prejudice has deprived the scientific community of fundamental knowledge which might be uncovered, and which is needed to pursue the fight against the different forms of cancer, Maisseu adds.

He therefore salutes Calabrese’s “courageous opposition to this indefensible position with regard to scientific research.” Recalling the famous statement by the 15th century toxicologist, Paracelsus, that all substances are poison and only dose makes a poison, Maisseu adds, “Calabrese dared to undertake work making it possible to correctly appreciate the relationship between dose and effect in many areas of toxicology and biology, and to highlight numerous examples of the hormesis phenomenon.”

Dean Aelion Receives ESE Distinguished Alumnus Award

The Department of Environmental Sciences and Engineering is pleased to announce C. Marjorie Aelion (PhD '88, Pfaender Advisor) as the recipient of an ESE Distinguished Alumnus Award for 2009. Aelion is Dean of the School of Public Health and Health Sciences at the University of Massachusetts, Amherst. She previously worked for the U.S. Geological Survey, Water Resources Division as a hydrologist for three years before beginning her academic career at the University of South Carolina (USC) in Columbia in 1991. She was an Assistant Professor, Associate Professor, and Professor in the Department of Environmental Health Sciences, and the Associate Dean for Research for the Arnold School of Public Health while at USC.
Dean Aelion obtained her SMCE in Civil Engineering from the Massachusetts Institute of Technology in Cambridge, Massachusetts and her PhD from UNC's Department of Environmental Sciences and Engineering. She was a Fulbright awardee to the Université de Bretagne Occidentale in France, and the University of Wageningen in the Netherlands. She received the National Science Foundation Presidential Faculty Fellow Award in 1993, one of 30 awarded in all science and engineering disciplines. Dean Aelion serves on the Editorial Board of Bioremediation Journal, Oceans and Oceanography, and is Managing Editor for Biodegradation. She is the author of over 70 peer-reviewed scientific articles and one edited book.

Her research is in the area of biodegradation of organic contaminants, tools for assessing remedial technologies, including stable isotopes and naturally-occurring radiocarbon, and the application and development of enhanced remediation systems for contaminated ground water. She has additional interests in the impact of land use on coastal contaminant removal and nutrient cycling, and the associations of metals in residential soils with negative health outcomes in children.

Her nomination for the ESE Distinguished Alumni Award was led by ESE Professor Fred Pfaender who praised her in his letter, "Dr. Aelion has been a respected scientist working in the area of bioremediation for most of her career after leaving Carolina. She has recently been named Dean of the School of Public Health at the University of Mass. This is significant recognition of her achievements as a scientist, professor and academic administrator. We are extremely proud of her accomplishments and contributions to the field of Environmental Sciences."

Dean Aelion was the featured guest of the Department on Friday, April 17, 2009. During her visit, Dean Aelion presented a seminar entitled "What Happens When You Get an Epidemiologist, an Environmental Health Scientist and a Biostatistician in a Room? A Study of the Associations of Soil Metals with Mental Retardation and Developmental Delay in Children" and was the guest speaker at Learning & Libations (L & L) held at the Carolina Brewery.

**Poissant Receives 2009 SPHHS College Outstanding Teacher Award**

Dr. Sarah Poissant, associate professor of Communication Disorders, has been named the SPHHS College Outstanding Teacher for 2008-2009. Dr. Poissant teaches both undergraduate and graduate students and is absolutely convinced that fostering a classroom of fully-engaged students is the best way to maximize learning. She views her role as a teacher as evolutionary where her approach and techniques will change over time, based upon updated knowledge of best practices - and perhaps a bit of experimentation. While Dr. Poissant could conduct her research and serve her profession in any
number of jobs, she chooses an academic position because of her students; she is most honored by this award.

Many students wrote letters of support for Dr. Poissant when she was nominated for the SPHHS College Outstanding Teacher Award for 2008-2009. Each student commented that Dr. Poissant takes pride in her job as an educator, making classes more lively and interesting. She has a strong desire to help her students learn and is passionate about the material she teaches, which directly enhances the students' level of interest in the classroom.

Arctic Communities Partner with UMass Amherst Researcher to Learn How Indigenous Young People Avoid Alcohol Abuse, Suicide

AMHERST, Mass. – Researchers in four countries, including health educator Lisa Wexler of the University of Massachusetts Amherst, have begun a three-year study of how indigenous young men and women in Arctic communities avoid pitfalls such as alcohol abuse and suicide to become healthy adults.

A key to the $1.09 million grant from the National Science Foundation’s International Polar Year initiative is that it brings tribal leaders from five communities in Norway, Canada, Siberia and Alaska to collaborate with the social scientists. Over the coming year, they’ll listen together to life stories of up to 120 young adults who successfully avoided potentially life-crippling obstacles and have achieved a balance between the modern world and traditional culture.

The elders and researchers want to learn, simply, what works on the path to healthy adulthood. They’ll share findings, created new links where needed and start new programs based on the new knowledge.

Wexler of UMass Amherst and the university’s Institute for Global Health, with colleagues from five other universities will hold their first meeting with Inupiat, Yup’ik, Sami, Eveny and Inuit community leaders at Cambridge University in the UK on March 29. Wexler, a longtime resident of Kotzebue, Alaska, agrees with co-investigator Michael Kral of the University of Illinois, who points out that “We’re actually hoping to see the knowledge go sideways in this study.” This approach is more acceptable to local people who too often see power in outsiders’ hands, Wexler and Kral say. Collaboration is an appropriate model because the knowledge is ultimately being gathered to benefit the communities. The process will uphold respect for cultural identity, subsistence lifestyles, basic human dignity and values, and a concept known in northwest Alaska as Inupiat Ilitquisiat, or “those things that make us who we are.”

Inupiat elder Willie Goodwin hopes the study will “open some doors to figure out how to support our youth in doing their best.” He and the social researchers know that much previous research focused on negative statistics and risk factors. They note that indigenous peoples’ resilience and
healthy adaptation have not been adequately considered, while the impact of colonial and contemporary suffering has been extensively documented. They hope to identify similarities across communities, young peoples’ strengths and resources, and develop new ideas for supporting them.

Wexler says, “Our study fits well into the larger scope of what the people are trying to create in their communities and in the circumpolar region. We are trying to build onto and learn from what the community is already creating.”

Joe Garoutte of the Kotzebue Tribal Council says his community “has changed a lot for the better in the last 30 years.” He hopes the study will show participants how change affects today’s youth. Natar Ungalaq, a young sculptor from the Igloolik and Inuit communities in Nunavut, Canada, is eager to be a part of the project. “We already know what the problem is,” he says. Ungalaq, star of the movie, The Fast Runner, adds, “We need action. This is action. Let other people see successful young people.”

Wexler expects setting up steering committees, deciding on questions, agreeing on shared focus areas and recruiting participants to take about a year. Data collection and preliminary analysis will be conducted in the second year, followed by final analysis. Results will be reported not only in scholarly journals but in community presentations and on the Internet. The researchers will invite interested youth and community members to help shape the scientific study.

In addition to Wexler at UMass Amherst, other co-principal investigators are: James Allen and Gerald Mohatt, University of Alaska Fairbanks; Olga Ulturgasheva, Cambridge University, UK, and Eveny native of Topolinoye, Siberia; Michael Kral, University of Illinois Champaign-Urbana and University of Toronto; Kristine Nystad, Sami University College, Kautekeino, Norway, and Benedicte Ingstad, University of Oslo.
February 12, 2009

C. Marjorie Aelion named Dean Effective January 1, 2009

AMHERST, Mass. – C. Marjorie Aelion has been named the new dean of the School of Public Health and Health Sciences (SPHHS) at the University of Massachusetts Amherst. The announcement was made by Charlena Seymour, provost and senior vice chancellor for academic affairs. Aelion will begin her new duties Jan. 1, 2009.

Since 2006, Aelion served as associate dean for research at the Arnold School of Public Health at the University of South Carolina. She is also an alumna of UMass Amherst and received a Fulbright Advanced Student Award to carry out research in France as a senior undergraduate honors student at UMass.

Robert C. Holub, UMass Amherst chancellor, welcomed the appointment of Aelion. “She is a
talented and highly skilled individual who will help us move this university into the top ranks of
the nation’s public research schools,” Holub says. “We are very pleased she is joining our
administration.”

Seymour says Aelion will bring solid leadership to the School of Public Health and Health
Sciences: “We’re looking forward to her arrival and the energy and commitment she will bring
to this important school on our campus.” Seymour also expressed appreciation, on behalf of the
campus, to Nancy Cohen who will continue to serve as interim SPHHS dean until Aelion’s
appointment takes effect.

Aelion says, “The School of Public Health and Health Sciences has great potential and I am
honored to be chosen to work with the faculty, staff and students to realize that potential. I look
forward to becoming an integral part of the UMass community, which has been so welcoming to
me. In many ways, I feel I am coming home.”

Aelion’s research is in the area of environmental contamination. She received the National
Science Foundation Presidential Faculty Fellow Award, one of 30 awarded nationally in all
fields, in 1993. She currently has a National Institutes of Health R01 research award in
collaboration with a faculty member in the School of Medicine at the University of South
Carolina to examine metals in soils and their potential associations with children’s health
outcomes. She has received funding from several federal agencies including the National Science
Foundation, the Department of Energy and the National Oceanic and Atmospheric
Administration.

Aelion served as graduate director for the University of South Carolina’s environmental health
sciences department from 2003-06. In 2002 she was a Fulbright Faculty Scholar as well as a
visiting professor at the University of Wageningen in the Netherlands and at the ?cole
Polytechnique Federale de Lausanne, in Lausanne, Switzerland. She has been a professor of
environmental health sciences at South Carolina since 2001 and was an associate professor from
1997-2001 and assistant professor from 1991-97. Aelion was also the assistant director of the

In 1997 Aelion was a visiting scientist at Chelyabinsk State Technical University in Russia, and
in 1995 she was a visiting scientist at Irkutsk State University in Russia. She has been an
associated faculty member of the School of the Environment at South Carolina since 1995 and an
associated faculty member with the Marine Science Program since 1993. Aelion was an
appointed faculty member at U.S. Geological Survey in Columbia, S.C., from 1991-94 and was a
hydrologist from the U.S. Geological Survey, Water Resources Division in Columbia, S.C., from
1988-91.

Aelion is a member of the American Chemical Society, the American Public Health Association,
and the Association of Environmental Engineers and Science Professors. She also is a lifetime
member of the American Geophysical Union and the Society of Women Engineers, and is a member of the American Society for Microbiology and the Society of Environmental Toxicology and Chemistry. She is a managing editor for the journal *Biodegradation*.

Aelion earned her bachelor’s degree in environmental sciences from UMass Amherst in 1980, a master’s degree in civil engineering from the Massachusetts Institute of Technology in 1983, and a doctorate in environmental chemistry and biology from the University of North Carolina School of Public Health at Chapel Hill in 1988.

January 2009

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**Andrea Foulkes Publishes Introductory Graduate Level Text Book**

*Applied Statistical Genetics* (Springer, 2009) is an introductory graduate level text in which Dr. Foulkes elucidates core concepts for the analysis of data arising from population-based genetic association studies. These studies present an exciting opportunity to uncover the genetic underpinnings of complex diseases, such as cardiovascular disease and cancer, while discovering novel biological pathways to disease progression. This book provides students and researchers with key genetic concepts and statistical principles that undergird the rapidly developing field of genomics and public health.

Dr. Andrea Foulkes is an Associate Professor in the Biostatistics Division of the Department of Public Health in the School of Public Health and Health Sciences.

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**UMass Amherst Kinesiology Department Partnership to Provide Cybex with Science about Exercise Machines**

**AMHERST, Mass.** – The kinesiology department at the University of Massachusetts Amherst is working with Cybex International, a leading manufacturer of exercise equipment based in Medway, Mass., to provide research data on how the company’s machines affect the human body. The partnership offers UMass an opportunity to work with advanced prototypes of exercise equipment and gives the company a better scientific foundation for developing new equipment, says Patty S. Freedson, department chair.

The department is working on the project with the Cybex Institute, which is directed by UMass Amherst alumnus Paul Juris. He says the kinesiology department is the ideal place to test his company’s equipment. “In my opinion,” Juris says, “the department is a standard bearer for this
Freedson says UMass researchers have prototypes of a treadmill and strength-training equipment from Cybex and are in the process of developing and conducting studies on their use. “We’re trying to create a relationship that allows Cybex to share its equipment with us in exchange for us providing Cybex with empirical evidence from our equipment testing results generated by our faculty and students,” Freedson says. “It’s a great opportunity for our students to be involved with all aspects of project design, data collection and learning how to analyze and interpret what they discover.”

Frank Rife, professor of kinesiology, is working with the strength training machine, including a user observation study where his team watches people interact with the machine without giving them instructions. Professor Joseph Hamill is researching the new treadmill prototype examining lower extremity kinetics and kinematics and muscle activation patterns. He is also working with Professor Barry Braun, to simultaneously examine metabolic response.

Freedson says the Cybex partnership is important because it allows faculty and students to provide important quantitative information about exercise response to the scientific community and to Cybex. That information helps inform further investigation and will assist Cybex in tailoring its machines to more specific exercise outcomes.

November 19, 2008

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UMass-Amherst SPHHS Participates in Panel on Education in the New Global Century

Dr. Dan Gerber, director of the public health sciences program at the University of Massachusetts-Amherst School of Public Health and Health Sciences and founding member of the ASPH/Pfizer Public Health Academy of Distinguished Teachers, joined a panel at the Association of American Colleges and Universities (AACU) conference called "Engaging Science, Advancing Learning: General Education, Majors and the New Global Century" on Sunday, November 9 in Providence, RI.

The Educated Citizen and Public Health initiative serves the broader higher education community, exploring the many ways to infuse the study and work of public health throughout liberal education. The initiative simultaneously aims to fulfill the Institute of Medicine’s recommendation that "... all undergraduates should have access to education in public health." This session provided promising models for program development, one geared to larger institutions (often including an array of health professional programs), and one geared to smaller institutions (often including community health and nursing).

The University of Massachusetts’s new interdisciplinary major in public health sciences provides one model. An integrative model emerging from nursing and community health presents a set of

work in both academia and industry.”
possibilities for smaller institutions. Facilitators explored models and practices that may be adapted by any institution and address the challenges and promise of collaboration in an emerging field of undergraduate education.

Other participants included Drs. Susan Albertine, senior director for LEAP State Initiatives, AACU; Shari Goldberg, assistant professor in the department of nursing at Colby-Sawyer College; and Denise Koo, director of the Career Development Division at the Centers for Disease Control and Prevention.

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**Kinesiology graduate students win awards**

Two graduate students from the Kinesiology Department received awards during the New England American College of Sports Medicine meeting held Nov. 13-14 in Providence.

Sarah Kozey received the Master's Student Investigator Award and Rebecca Hasson received the Doctoral Student Investigator Award for their oral presentations at the meeting, according to professor Patty Freedson, who chairs the department.

November 20, 2008.

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**Patty Freedson receives Graduate School Centennial Award**

9 faculty honored for service by Graduate School

Faculty members representing the nine schools and colleges were recognized Sept. 23 for their service to the Graduate School through participation on thesis and dissertation committees.

Graduate School dean John R. Mullin presented the Graduate School Centennial Award to the nine professors, who have supervised 1,405 graduate students during the past 25 years. The awards were given at a luncheon celebrating the Graduate School’s 100th anniversary. The honorees are Genevieve E. Chandler, Nursing; Patty S. Freedson, Kinesiology; Ronnie Janoff-Bulman, Psychology; C. Mani Krishna, Electrical and Computer Engineering; Robert D. Marx, Management; Thomas J. McCarthy, Polymer Science and Engineering; Bernard J. Morzuch, Resource Economics; Gretchen B. Rossman, Education; and Dara Wier, English.

“As we look forward to a second century of groundbreaking transformation of knowledge to a new generation,” said Mullin, “the Graduate School is delighted to have this opportunity to celebrate the successes of all faculty who have guided graduate students in their pursuit of knowledge and scholarship through our graduate programs while continuing to seek new insights and discoveries in their own scholarship. Those discoveries, in turn, have expanded knowledge...
and created new visions. This cycle of achievement will continue, as the Graduate School looks back with pride, and forward with renewed commitment.”

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**Communication Disorders Graduate student receives Scholarship**

Tracy Conner, a Speech-Language Pathology graduate student in the Department of Communication Disorders has been chosen as a recipient of a 2008 Graduate Student Scholarship by the American Speech-Language-Hearing Foundation.

The Foundation acknowledged all award recipients at the ASHA Convention in Chicago on Friday, November 21, 2008 at the Chicago Hilton.

The Foundation supports promising students who are pursuing a graduate education in audiology and speech-language pathology.

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**Faculty awarded $799k to train speech-language pathologists with special focus**

Two faculty members have been awarded a four-year, $799,602 grant by the U.S. Department of Education to train the next generation of doctoral leaders in speech-language pathology to provide better services to public school students with speech and language disabilities.

The grant to associate professor Mary Andrianopoulos of the Department of Communication Disorders and professor Mary Lynn Boscardin in the Special Education Concentration in the School of Education will support five doctoral students in speech-language pathology with a minor in special education. The competitive grant was awarded through the Department of Education’s Preparation of Leadership Personnel program.

According to a 2004 study by the Department of Education, approximately 65.4 percent of public school students ages of 3-21 receive special education services for communicative disabilities. At the same time, the U.S. Department of Labor projects a total of 49,000 job openings for speech-language pathologists between 2002 and 2012. It is also anticipated that there will be a shortage of qualified speech-language pathology faculty to train master’s-level clinicians to provide services to students with communicative disabilities in public schools, a situation the American Speech Language Hearing Association considers a national crisis.

According to Andrianopoulos, speech-language pathologists play a critical role in the assessment, intervention, and management of students with communicative disabilities in the public schools. They contribute to the development of academic interventions for students with communicative disabilities, which range from mild to severe.
“It is evident that when it comes to training speech-language pathologists who will serve these varied populations with communicative disabilities, it is the faculty who must not only be knowledgeable, but able to apply effective evidence-based interventions in general and special education settings,” she said.

According to Boscardin, speech-language pathology faculty must also be knowledgeable of special education practices, policies and laws so the students they train can better assist general and special educators and school administrators to meet the requirements of the Individuals with Disabilities Education Act (IDEA 2004) and the No Child Left Behind Act of 2001.

With the reauthorization of IDEA 2004, Boscardin said speech-language pathologists will be called upon to deliver services that employ scientifically-based research practices that increase educational outcomes for students with disabilities in general and special education settings. “As members of the special education workforce, IDEA 2004 and NCLB require that speech-language pathologists improve student achievement outcomes relevant to state standards.”

School-based speech-language pathologists who acquire a knowledge base and expertise in the use of valid and effective interventions will be able to contribute to improved student outcomes, she said.

Communication Disorders faculty members Shelley Velleman and Elena Zaretsky will also participate in the project.

Andrianopoulos and Boscardin credited the collaborative work and effort between several state and local officials and public school systems in securing the grant. They cited the strong support from Provost Charlena Seymour, U.S. Senators Ted Kennedy and John Kerry, state Sen. Stan Rosenberg (D-Amherst), off-campus colleagues in the Agawam, Amherst, Chicopee, Holyoke and Springfield public schools, the Medical School in Worcester and the Eunice Kennedy Shriver Center.