

KNH TODAY

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Message from the Chair

Dr. Helaine Alessio



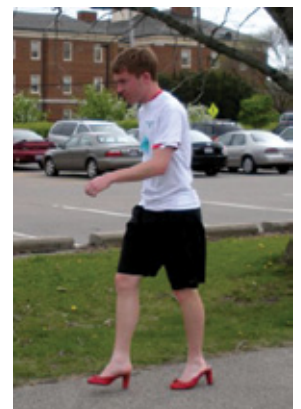
200 years and still going strong! That's Miami University. 120 years and still going strong! That's the Department of Kinesiology and Health, a.k.a. Department of Physical Activities, Department of Physical Education and Hygiene, Department of Physical Education and Intramural Athletics, Department of Physical Education for Men and Department of Physical Education for Women, Department of Physical Education, Department of Health and Physical Education and Recreation, and Department of Physical Education, Health and Sport Studies. Much has changed since 1890 when the first official Department of Physical Activities utilized a barn and field for classes and sport activities. Thanks to Miami President William Oxley Thompson for committing the first regular appropriation of state funds to Miami for a real gymnasium- Herron Gym, before he left Miami for Columbus. This served Miami students well for many years before a new, modern building was erected.

Withrow Court became the new facility for the Department of Physical Education for Men. The women had a separate department. Does anyone know where the women's department was initially located? Does anyone know what Herron Gym was renamed? Hint: A statue of this beloved Physical Educator and coach was recently erected near Yager Stadium.

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KNH's Phi Epsilon Kappa Co-Sponsors *Walk A Mile In Her Shoes*

Phi Epsilon Kappa (PEK), the professional fraternity representing students interested in sport, exercise, and health, housed in the KNH Department, co-sponsored the *Walk A Mile In Her Shoes (WAM)* event in April 2009. WAM is a national event designed to raise awareness of rape and sexual assault, particularly on college campuses. According to Ryan Chapman ('10 Sport Studies), past PEK President who suggested the event for the fraternity, WAM was a "perfect match" for PEK because of its focus on health, physical activity, and social justice. Laura Bright ('09 Sport Studies, past PEK Secretary), Caiti Bergman ('09 Sport Studies), Jeff Moher ('09 Sport Studies, PEK Treasurer), and Angela Gazzero ('09 Sport Studies) were some of the PEK members who helped organize the event that was co-sponsored as well by MU's Sexual Assault Prevention Program (Nicole Hall, Coordinator) and Campus Police, Butler County Rape Crisis Program, MARS, and SANE of Butler County. Carl Hertzberg ('09 Sport Studies; pictured in the red heels!) was one KNH/PEK student who entered the race that required him to wear high-heeled shoes as he "ran" 1-mile around the Cook Field track. According to Carl, "I hope never to wear high heels again!" Event organizers were pleased with the positive response to this first year of WAM here at Miami. PEK is looking forward to developing this into a fund-raising event next year and is looking for KNH students to help organize and participate in April 2010.



PEK's "Kick-off" meeting for the 2009/10 academic year was held Tuesday, September 1, 2009. According to Tyler Belew ('09 Sport Studies), PEK President for Fall 2009, over 20 new students attended the meeting to find out about joining the organization and how they can help with WAM and other PEK events.



As KNH alumnae, we hope that you will let us know if you work in the area or are ever planning a visit to Miami. PEK organizes both a Speaker Series (throughout the year) and Career and Internship Workshop (spring semester) inviting alums to participate. If you are willing to work with PEK in any way, please contact Tyler Belew, (belews@muohio.edu) or Dr. Valeria Freysinger, Faculty Advisor (freysivj@muohio.edu).

Message from the Chair



I did find an answer to a question raised in the previous newsletter. It had to do with the decision by Miami University's Board of Control that Miami women could no longer play out of town games, which effectively ended intercollegiate sports at Miami. Since "Cap" Stone, teacher and coach, appeared to be so dedicated to women student-athletes at Miami, I searched for the reason behind this decision and was assisted by Jen Gilbert in the Department of Intercollegiate Athletics.

It turns out that the appropriateness of Miami women competing against women in other colleges was questioned in the [Miami Student](#) in February, 1903:

"To what extent can the college woman indulge her athletic propensities without a lowering of her womanly dignities? For not the glory of victory – not the triumph even on the strenuous field of athletic championship can be half so becoming as those quiet home graces and triumphs that have established women's place in the world."

Despite the questioning, "Cap" Stone continued the activities for women, but the Miami faculty succumbed to the rationale based on the opinion and a respected theory at the time by Luther Halsey Gulick, a highly regarded physician, YMCA director, and physical educator, whose most famous student was James Naismith (inventor of Basketball). Although Gulick supported some activities for girls and women (e.g. he helped his wife found the Campfire girls because he saw the benefits of activities in the Boy Scouts organization), he had some dubious opinions about how far women could take their athletic skills and talents.



Class of 2009 at McGuffey Museum

His summary:

"I believe...that athletics for women should for the present be restricted to sport within the school; that they should be used for recreation and pleasure; that strenuous training for teams tends to be injurious to both body and mind; that public, general competition emphasizes qualities that are, on the whole, unnecessary and undesirable."

And that was it. Women's athletics was relegated to the sidelines for a decade before it resumed at Miami University. Even after women sports teams were reinstated at Miami University, fifty years passed before regular and sufficient funding was available for women athletes. Throughout the 1900's, teachers and coaches in the Department of Physical Education for Men and for Women were instrumental in providing high quality intercollegiate sport experiences for male and female Miami students and contributed to the legacy of the Cradle of Coaches.



Herron Hall

In 1962 a new building became home to the Department of Physical Education for women. It was originally named Herron Hall. Around this time, the Department of Physical Education for Men was housed in Withrow Court. In 1976 the men and women's departments merged and both were housed in Herron Hall, renamed Phillips Hall, after Margaret E. Phillips, a beloved teacher and administrator. She must have been special in every way as evidenced by her 40 years of service to Miami University as Chair of the Department of Physical Education from 1921-1961.



Phillips Hall

Prior to the 1980's Intercollegiate Athletics and Physical Education were interrelated. After the 1980's, the two departments continued so that facilities, coaches, teachers, administrators and other positions eventually found homes in one department or the other, but rarely both.

I continue to be amazed by the Miami chairs, professors, coaches, and students who have come and gone before me. I learned a lot about these people during my seminar- 200 years of KNH at Miami University. The department has nearly 1200 majors and nearly every Miami student enrolls in a KNH course before graduating. The professors continue to share their gifts and challenge students to become the best athletic trainers, dietitians, exercise scientists, health educators, physical educators, sport leaders, coaches, allied health practitioners, and professionals they can be. I thank them all for their inspiration, dedication, and spirit that I feel every day when I arrive at work here in Phillips Hall. It's a great place to be.

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KNH 453/553: A Dynamical Systems Approach to Motor Skill Acquisition



Traditional theories of motor control and learning have viewed the human as an information processing device capable of constructing internal representations of movements, and that these "motor programs" can be stored in memory and used to direct movements. Under this view, motor skill improvement comes about when practice increases the sophistication of these stored representations. Many motor skill practitioners such as coaches, physical education teachers, and rehabilitation specialists have implicitly adopted this popular view of the human performer.

In contrast, dynamical systems theory emphasizes the need to understand natural phenomena such as human movement as a system with many interacting parts, each of which is capable of affecting other parts. Dynamical systems can exhibit stable, coherent patterns when individual parts link together in synergistic ways, even without anyone or anything being in charge. This is referred to as self-organization. A classic example of self-organization is boiling water. When you heat a pan of water, the water molecules begin moving faster and faster, until they cannot go any faster in their current pattern (random collisions). An invisible crisis sets in, eventually resulting in the emergence of a coherent, circular motion (boiling).

According to dynamical systems theory, the human movement system is analogous to water. The theory contends that movement coordination is not the result of ever more sophisticated representations stored in the brain, but rather, movement coordination emerges "spontaneously" under specific sets of constraints, just as boiling emerges when water is exposed to particular conditions of heat and pressure.

Characterizing learners as dynamical movement systems provides the basis for exploring novel skill acquisition strategies such as 'nonlinear pedagogy'. Nonlinear pedagogy differs from traditional methods of teaching, coaching and rehabilitation. The movement practitioner's role has traditionally been associated with tasks such as employing practice drills to perfect performance in relation to an idealized motor pattern, evaluating technique, giving instruction and feedback, and carefully managing a learner's practice environment. A central theme emerging from nonlinear pedagogy is the importance of facilitating independent learning through search, discovery and exploitation of constraints. The purpose of KNH 453/553 is to clarify, synthesize and apply this novel approach to skill acquisition.

KNH 453/553

Dr. Spillman's Seminar on Nutrition and Cancer-Fighting Foods

Cancer is one of the most feared diseases. Cancer can harm the young, the old, the strong and even the pregnant. Cancer comes in many forms and can attack every system in the body or is localized to only one system. Nutrition plays a major role in the prevention, cause, treatment and rehab of individuals who have cancer. In the average seventy years of life, the individual consumes over ten tons of food. This combination of calories, especially high lipids, low fiber and limited anti-oxidants (vitamins and minerals) can bring about carcinogenic conditions.

The seminar was given in three different sections. The first part, primarily lecture, dealt with the state of research, as it now exists and the relationship of cancers and their known nutrition interactions. The second part, placed the students into research on cancers. Each student researched a particular cancer and the organizations or societies that dealt with that cancer. The students reported on breast cancer, prostate, lung, pancreatic, brain as well as other cancers. The third part of the seminar put students into action. Through bake sales, which included cancer-fighting foods, the students made \$80.00 which was donated to the Institute of Brain Cancer Research. This was done in honor of a KNH Support Staff member, who at the time was battling brain cancer. The students also decided to make bookmarks, which were handed out to all division offices on campus. Finally, after viewing the oncology unit at the local hospital, students either knitted or made fleece hand-tied blankets for the patients.

In the future, seminars could be offered on Food/Nutrition in the Media, Cultural Nutrition: The Meaning of Food, Obesity, Disordered Eating as well as other topics. Check the KNH web site for upcoming seminars.



The Movement Toward Wellness in the Workplace: *Walkstation*

On November 17th, the Department of Kinesiology and Health teamed up with the Department of Architecture and Interior Design to host a presentation by Steelcase entitled, "The Movement Toward Wellness in the Workplace," where over 50 students and staff attended. The presentation examined the need to create office space that allows for more movement through out the day compared to our current and very sedentary systems. As health care costs continue to rise, many employers are beginning to listen to alternatives to sitting at a desk for 8 hours while working.

Dr. Ron Cox, Professor in Exercise Science also shared his research on the Walkstation with the group. The Walkstation is a low-speed treadmill with a height adjustable desk where employees can work for one to two hours at a time. By walking at 1 mph for two hours, a person can burn approximately 200 kcals more than if they were sitting. Currently, there is a longitudinal study examining the health effects and work productivity levels of Miami employees using the Walkstation while they are at work. One of the take-away messages of the presentation was the need for KNH and Architecture and Interior Design students to work together to create spaces that are not only good for producing quality work, but also aim to keep employees healthy.

If you are interested in the Walkstation research, or would like to try using a Walkstation, please email Mandy Zylstra at zylstraj@muohio.edu.



FACULTY PROFILE

Dr. Ron Cox - Walkstation

Addressing the threat presented by the prevalence of abject sedentary behavior i.e. sitting and its attendant health consequences will require bold and innovative approaches to an ostensibly simple problem, namely "move more". There is a vast discrepancy between our cardiovascular and metabolic capabilities for generating energy and our inclination to use them. The result, of course, is the deposition of excess energy as fat on our collective waistlines and the deterioration of cardiovascular and metabolic health. Traditional approaches to rectifying the lack of physical activity (PA) have advocated daily or near daily exercise sessions of 1-1.5 hours per session of moderate to vigorous PA (e.g. Institute of Medicine &

ACSM). These fail to adequately address the problem of inactivity for two reasons. One is the abysmal adherence rates to exercise programs, common to all kinds of behavior change and two; the insidious health problems associated with prolonged sitting may not be completely addressed by exercising at some point during the day.

We have taken a different approach to the goal of increasing PA. We have instituted a "sea change" in the work environment of staff at Miami University. In short, their normal, seated computer work stations are augmented with active treadmill walking stations. Participants have the option of walking instead of sitting while performing their daily tasks. The potential energy expenditure for two hours per day of working this way (1 mph) is 200 Kcals per day over a sitting condition (25). This is a significant amount of energy when viewed over time scales of months and has the theoretical potential of yielding a 10-14 lbs weight loss in one year. Moreover, approximately 25 MET hours of PA could be accumulated each week with this light activity. The radical alteration of the work environment facilitates behavioral compliance and thus obviates a significant portion of the behavior change challenge.

We are assessing the *effectiveness* of active work stations to alter metabolic fitness variables such as cholesterol, blood glucose and blood pressure. In addition, we are also monitoring their PA during their non-working hours in the hope that it is not decreased because of the increased PA at work.

GRADUATE STUDENT

Michelle Simonsen

My name is Michelle Simonsen. I am a graduate student in the KNH department and am supported by a National Institute on Aging grant. Dr. Helaine Alessio is the Principle Investigator of the grant and I have been working as her research assistant during both my undergraduate and graduate years. The lab work has been interesting and challenging. I'd like to share one of my most interesting and challenging experiences.

It was the summer of 2009. I was working in the lab once when all of a sudden the lids of several of my test tubes starting popping off unexpectedly, sending mini pieces of frozen rat heart flying off in all directions. It was the fourth of July, and my research happened to provide explosions of its own when the dry ice began to evaporate causing the tubes to burst open. Now, that may not be my ordinary experience working with our animals...but that was how research started for me. As an undergrad I never thought that I would be involved with animal research, but when the opportunity arose I decided it would be a great experience. Little did I know it would lead to another two years at Miami where I continued my research as a graduate student.

My work began with a project already in progress, so I learned to work with prepared animal tissue, mainly extracting RNA for gene research. It was not until the next year and the new batch of 72 baby rats that I was introduced to live animal research. Each week I handled the rats, taking weight measurements and monitoring their progress in a spatial maze. With time the little guys continued to grow, as did my fondness of them.



It was interesting to observe the behaviors of the rats in different treatment groups, recognizing that the animal model is not too far off from the human model.

The different groups behaved differently and reacted differently to similar situations. They were clearly different... but how and why? Since we could not simply ask the rats questions about their physical activity levels or how they felt about their environment, it became the task of the researchers to measure activity and fitness levels among the groups. It was also of interest to study how the rats differed on the genetic level depending on these varying degrees of activity and fitness. Thus, the time came when all 72 rats were sacrificed. From that point, their blood and tissues were frozen and stored until they could be used for various assays and measurements in the future. The immediate gains from this type of research are not always easy to see, but the results of long term investment in animal models such as these can provide invaluable genetic information that could never be obtained from a human model.

It is definitely a unique experience working with animals. In some ways it is easier while in other ways it is more difficult than working with humans, but it has been an experience that I wouldn't go back and trade for anything. As for the future, I don't see myself working with rats beyond Miami University, although I do plan to stay in a health/fitness related field. Immediately upon graduation with a Masters Degree in Exercise Science I will be looking to find a job in a medical setting working with (human) patients. I may continue research at a hospital, work in cardiac rehab, or keep my eyes open for other opportunities to use my degree. As for down the road, I plan to use a few years of experience working in the medical field to get a leg up into school to become a Physician Assistant. Until then I am going to use my knowledge and skills to the best of my ability and focus on caring for and serving each person I get to work with.



Michelle Simonsen with Lab Students

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