Message from the Associate Dean

Elizabeth Wuorinen, Ph.D.

Dear SHHP Friends and Family

Happy Spring! We have reached the end of the academic year here in beautiful Marquette, and I have had the opportunity to reflect upon the incredible year we had at the SHHP. As I am sure you can all imagine, we have been experiencing spring, summer, fall and winter all within a short-span of a few weeks. However, the trees are budding, the flowers are popping through the ground’s surface, birds are singing, and students are preparing for summer. The academic year raced by with some exciting happenings, such as updating our academic hallway, new faculty, faculty led-study abroad trips, grant writing, research, and a tremendous amount of excellent faculty teaching and student learning. I feel very fortunate to be a part of this extraordinary staff here at the SHHP, and NMU as a whole. I hope that you will all keep in touch with us here at NMU. Let us know any exciting news that may be happening with you.
Great Lakes Athletic Trainers’ Association’s (GLATA) Annual Meeting and Symposium 2017. This year, NMU Athletic Training sent 24 athletic training students to the conference in Wheeling, IL. After winning the Michigan Athletic Trainer’s Associations Student Quiz Bowl in October, the NMU student team of Duane Bair, Tyler Hillstead and Avery Rochester had the privilege of competing in the GLATA Student Quiz Bowl, representing the state of Michigan. While Avery was unable to compete due to a scheduling conflict, Justin Young filled in and the team placed a respectable 4th!

NMU also proudly had two student research teams present poster presentations and one oral presentation during the GLATA Free Communications session. The research team of Janice Hamachek, Justin Young, Courtney LaFreniere, Holly Nieman, and Michael Smithson presented: “Reasons Collegiate Athletes are Dishonest or Deceptive about Injuries and Illnesses” (poster and oral presentation) and the research team of Halie Marmalick, Duane Bair, Ryan Schiller, and Jordan Devenney presented “Perceived Preparedness of Newly Certified Athletic Trainers” (poster presentation).
NMU Athletic Training students were the winners of the “NPI” compliance contest at GLATA!! Because all of our students now have NPI Numbers (National Provider Numbers), we were entered into a drawing. The NMU Athletic Training team was awarded with a breakfast with GLATA President Scott Lawrence on the final morning of the GLATA meeting.

Our students are getting internships, graduate assistant positions, and jobs! Here are some of the latest:

**Jordan Devenney (Schoolcraft, MI)** – Graduate Assistant; Missouri State University
**Ryan Schiller (Traverse City, MI)** – Full time-Intern Athletic Trainer, Webber International University; Doctoral Program in AT, University of Idaho
**Treven Gezella (Crivitz, WI)** – Graduate Assistant; University of Florida
**Justin Young (Ishpeming, MI)** – Graduate Assistant; Missouri State University
**Shannon Flynn (Canton, MI)** – Graduate Assistant; Adams State University
**Allia Stewart (Menominee, MI)** – Summer Internship, Bay Area Medical Center
Community Health Education - Ashley Short is our Outstanding Graduating Major:

Ashley Short is completing her bachelor’s degree with a community health major and a Spanish minor. Ashley has a 3.86 GPA, and has completed NMU’s Student Leader Fellowship Program. Ashley is a Gilman scholar and recipient of a Harden Scholarship. Ashley gave numerous alcohol and sexual awareness presentations for students while working as a student health educator at NMU’s Health Promotion Office. She conducted diabetic screenings in rural clinics in Belize through the HL/NU 386 FLSA and did her multiple Spanish courses at Costa Rica through a study abroad course. She served as a president of the Health Promotion Society. Ashley procured a job in the Peace Corps, and will be working as a school health coordinator in Guatemala.

Food Waste AWARENESS

Dr. Joubert, along with community health major Casey Devooght and hospitality management major, Kelsey Weyland, conducted a food waste awareness project at a local elementary school. For three days during NMU’s spring break, they helped Cherry Creek Elementary students separate garbage waste from food waste and weighed the results.

Elementary students competed by lunch period to try to produce the least amount of waste over the three days. The Fuel Up To Play 60! Student Leadership Team at Cherry Creek, which Dr. Joubert advises, helped advertise the project with announcements at school and posters they made. They also helped collect the waste, took part in measuring the waste, and recorded results.

Dr. Joubert and the college students collaborated with members of Partridge Creek Farm in Ishpeming, who graciously took the food waste to their farm for compost material. The results were 258 pounds of waste collected (117 pounds of which were diverted from the landfill), and the second graders produced the least amount of total waste (i.e., 32 lbs) over the three days. Cherry Creek students increased their awareness of garbage production and food waste, NMU students learned more about school and local food systems, and we helped a local farm acquire compostable material to help grow more local food. A triple win!

NMU Students Casey Devooght and Kelsey Weyland recording data with students
Health Fair W17

Once again, NMU Professor Barb Coleman worked with health major students, faculty, and the community to plan, implement, and evaluate NMU’s Health Fair. It was, as always, a resounding success.

Here are some pics of our students working the health fair.... Wildcat Willy made an appearance and got some measures done on him.

Awesome students working at the Health fair.

Wildcat Willy getting measurements taken.

Gabrielle Revord graduated with a B.S. in management of health and fitness, as well as with a dance minor. She was the NMU Hip Hop Dance Crew president. She also is an acrobatics instructor at New Attitudes Dance Studios. Gabrielle was the assistant choreographer for the Addams Family musical production for the NMU Theatre Department. She is also a Dancing Pro for Dancing with Our Stars Marquette County Style, a fundraiser for U.P. Home Health and Hospice. Gabrielle will be pursuing her career as a dance choreographer/instructor in the fall at Julie’s Top Hat Dance Studio, where she will lead contemporary, hip-hop, and lyrical styles of dance. Gabrielle would like to thank all of the faculty and staff she has been with in her journey at Northern Michigan University. Because of them, she was able to successfully follow her passion for dance, and make it into her career.

Management of Health & Fitness- Gabrielle Revord is our Outstanding Graduating Major:
Grants for collaborative programming with our NMU students, Michigan State Extension, and the Community.

Alumni Bree Carlson and associates were successful in procuring grants (from the Children’s Trust Fund and the Department of Health & Human Services, and from the Superior Health Foundation) to address issues related to health of students. These grants were substantial and allowed for the recruiting, educating, and deployment of NMU students to help address health needs in students in schools in the UP. The (S)Partners for Health research project is designed to give 5th grade students and parents the knowledge and skills to achieve national recommendations for nutrition, physical activity, and to reduce “screen time.” Additionally, through the SHHP, academic service learning courses are being offered to certify and provide “hands-on” training to the (S)Partner Measurement & Mentorship Teams. This project involves partnerships between public schools and NMU/MSU/LSSU/MTU students and faculty. This phase of (S)Partners for Health project was fully funded through the Superior Health Foundation & Blue Cross Blue Shield of Michigan. Primary outcomes include nutrition and physical activity behaviors and a cardiovascular health risk appraisal.
A recent graduate, Maureen Sullivan is in our spotlight for this edition of our newsletter. Maureen is originally from Anchorage, AK and came to the U.P. for college because the U.P. reminded her so much of home while also offering something unique. While at NMU, Maureen majored in management of health and fitness with a minor in dance. She graduated in May of 2016 with a BS and accepted a position with Superior Alliance for Independent Living (SAIL) as a Health and Recreation Specialist. She says, “One of the things that attracted me to SAIL was SAIL’s way of eliminating barriers for people with disabilities. I wanted to be part of something like that and make people realize that health, fitness, and recreation are for everyone.”

As a Health and Recreation Specialist at SAIL, Maureen helps people with their individual health goals and facilitates many group activities and programs such as sled hockey, adaptive dance classes, hiking, and biking. She attributes her success to the professors that she had at NMU, saying that they prepared her to have to think outside of society’s norm and apply her skills to any situation. Her goals are to continue her education and advocate for health and wellness across all populations. One of her favorite quotes: “Life isn’t about waiting for the storm to pass. It’s about learning to dance in the rain.” (Vivian Greene)
Community Meeting on Placemaking and Ecotourism

On Friday, April 7, community leaders, business owners, interested citizens and representatives from the Munising Chamber of Commerce and the Visitor's Bureau met for an afternoon to discuss the future of Munising and how "Placemaking" and "Ecotourism" could benefit the community. The meeting was organized by the Sustainable Ecotourism Organization for Alger County (SEO), which is a project of the Outdoor Recreation Leadership/Management Program led by Dr. Scott Jordan and Instructor David Kronk.

David Kronk presented information about the SEO and brought in presenters from the MSU Extension Service who summarized the role of placemaking and ecotourism in other communities and how these strategies could be implemented in Munising. Placemaking is an economic development tool that involves a process of creating quality places where people want to live, work, play, shop, learn and visit while protecting the existing community and environment. Ecotourism is about uniting conservation, communities, and sustainable travel. The basic principles of ecotourism are:

1. Minimize impact on a community and the area resources;
2. build environmental and cultural awareness and respect;
3. provide direct financial benefits for conservation;
4. provide financial benefits and empowerment for local people;
5. raise sensitivity to the host community's environmental and social climate.

"There appears to be a great deal of enthusiasm to continue this dialogue, which is a good thing", Kronk concluded.
Recently, eight of our physical education majors completed their course work and successfully passed the Michigan High School Athletic Association Coach Advancement Program (CAP) to receive their Advanced Coaching Certification. The CAP program is a nationally recognized coach pedagogy program that certifies future school-sponsored sport coaches in a variety of content areas. These students have already passed and received their beginning and intermediate certificates, and now have earned the CAP 4 level advanced certificate, which is a great accomplishment. In Michigan, effective this 2016-2017 school year, all newly hired sport coaches must have completed the CAP 1-2 certification courses. Our NMU students are currently graduating with CAP 1-4 certification levels, making them highly qualified and more marketable for competitive coaching positions.

Congratulations to this fine group of future coaches!

A glimpse at what our CAP course students are preparing for:

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<th>CAP</th>
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<td>1</td>
<td>Coaches Make the Difference</td>
<td>Effective Instruction</td>
<td>Sports Medicine/First Aid</td>
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<td>2</td>
<td>Effective Communication</td>
<td>Legal Issues in Sport</td>
<td>Psychology of Coaching</td>
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<td>3</td>
<td>Additional Coaching Responsibilities</td>
<td>Effectively Working with Parents</td>
<td>The Coach as a Performer</td>
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<td>4</td>
<td>Understanding Athlete Development</td>
<td>Preparing for Success</td>
<td>Strength and Conditioning</td>
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2016-2017 HHP Outstanding Graduating Senior
Amelia Richards, ORLM

A student in the Honors Program, Amelia has a 3.98 GPA and a double minor in art & design and accounting. Amelia received a 2015 Honors Summer Research Fellowship to explore sense of place development in communities. She was the featured artist at the NMU Student Art Gallery in winter 2015 and published two articles in the 2016 NMU Conspectus Borealis (undergraduate research journal). Amelia presented her scholarly work at the 2016 National Collegiate Honors Conference and 2015 North American Association for Environmental Education conference. Amelia is a member of the Student Leader Fellowship Program and an editor of the Conspectus Borealis. She has served as a student leader/teacher with K-12 outdoor programs and has completed the Leadership Edge within the Superior Edge program.

Dr. Jacquie Medina, NMU outdoor recreation leadership & management faculty, and Kate Hargreaves, North Star Montessori 4-6 grade classroom teacher, received a 2017 Upper Peninsula Environmental Coalition Environmental Education Grant for the “Winter into Spring -- Inquiry and Art in our Local Environment” program. The grant purchased equipment and supplies to implement field outings in the Marquette area. ORLM students enrolled in RE 250 Education in Outdoor Settings led three field outings designed to help the 4-6th grade students foster mindfulness, observe the landscape, and record their observations through journal writings and drawings.
In the winter 2017 semester, the RE 382 Interpretation II: Self-Guided Media class collaborated with the Upper Peninsula Land Conservancy on a service learning project to design interpretive signs and panels for the Tory’s Woods Conservation Preserve and the Vielmetti-Peters Conservation Reserve. Throughout the semester, ORLM students worked closely with ORLM alumna and U.P. Land Conservancy Assistant Director Andrea Denham to develop interpretive plans, site surveys, conceptual media plans and designs for 13 interpretive signs and panels that could be produced and used at the designated sites. Interpretive products included orientation signs and interpretive panels on topics such as sustainable forestry, vernal pools, forest succession, and fungi.

Dr. Jean Kinnear Outstanding Student Interpreter Award Recipients for 2016-2017

ORLM seniors Jessica Bale and Emily Sherek were the recipients of the 2016-2017 Outstanding Student Interpreter Award. Voted on by their peers, each exemplify the integrity, professionalism, generosity and high standards fostered and modeled by Dr. Jean Kinnear during her 30-year career at NMU. This in-class award honors Jean’s work and supports the continued professional development of young interpreters studying at NMU. The recipients of this award receive a one-year student membership to the National Association for Interpretation.
Cancer Survivorship and Exercise Training Research

During winter 2017 NMU School of HHP faculty Drs. Liz Wuorinen, Lanae Joubert, Phil Watts, and Scott Drum implemented a cancer survivor and exercise training study. Five cancer survivors from the local Marquette community participated. Each was, on average, a few years beyond cancer treatment (e.g., surgery, radiation, chemotherapy) for various types of cancer.

The primary aim of the study was to harness the specifics, literally, of rock climbing body movements, handholds, foot placements, and vertical/roped climbing to augment psychological (via questionnaires) and physiological (via general fitness measures) outcomes, assessed in a repeat measures fashion (i.e., at baseline, 4-weeks, 8-weeks). Initially, the entire group underwent traditional circuit weight, aerobic, balance, and flexibility training for 4-weeks, 90-min per session twice weekly, of the 8-week exercise protocol. The last 4-weeks the whole group transitioned to the aforementioned, non-traditional rock climbing specific training matched on duration, frequency, and volume-load.

Although the results are pending, the research group expects to find greater psychological improvement (e.g., less perception of fatigue and depression, increased self-efficacy and quality of life) after 4-weeks of rock climbing training. General fitness should stay the same between types of training. The pictures illustrate some of the rock climbing training, including a “robot game” where one participant walked around with their eyes closed while their partner tapped them on the shoulder to signal turning left or right to avoid obstacles. It was a fun game of trust, adding to the non-traditional nature of climbing.

This story was featured on Channel 3 here in Marquette: http://www.upmatters.com/news/local-news/group-of-cancer-survivors-are-going-beyond-typical-exercises-at-nmu/706916854
Stay tuned for the full manuscript, which will be submitted to ACSM’s Health and Fitness Journal by June 2017.

Lastly, check out this video link (~55 sec), below, of participants during 10-15 minutes of circuit weight training targeting the lower body. This type of training was completed in between 10-15 minute bouts of circuit-like climbing moves, per the static pictures. Of course, all exercise sessions began with an aerobic warm-up (5-10 min) and dynamic, full body movements. Afterward, an aerobic cool-down (5-10 min) ensued with static stretching.

**Video link to sample lower body circuit:** [https://drive.google.com/file/d/oBw3yRAJpZqq2NLq3VXcyZoUxdzg/view?usp=sharing](https://drive.google.com/file/d/oBw3yRAJpZqq2NLq3VXcyZoUxdzg/view?usp=sharing)

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**44th Annual Midwest American College of Sports Medicine Conference • November 4-5, 2016**

Eleven graduate and undergraduate exercise & sports science students plus the trusty driver and organizer, Dr. Scott Drum, fit into a 12-passenger van and drove 9-hours to Fort Wayne, IN, for the 44th annual Midwest American College of Sports Medicine (MWACSM) Conference. Keynote speakers were the famed Dr. William Kraemer of Ohio State University and well known Dr. Stella Volpe of Drexel University, who spoke about Neuroendocrine Basis for Strength and Power Exercise and Adaptations and Update on Sports Nutrition, respectively.

Undergraduate sports science students included: Logan Dahlback, Kailey Nelson, Alyssa Rebensburg, Jake Winkler, Bailey Widman, and Devin Rettke. Graduate students included: Brandon Jones, Stephanie Moore, Mindie Clark, Ryan Meidinger, and Marisa Heckendorn. Notably, all students attended multiple clinical and sport science talks over two days and even got a chance to sit and chat one-on-one with Dr. Kraemer for about half an hour before his final keynote session. Ultimately, all students walked away with a sense of new found purpose to pursue advanced degrees, including applying for a Ph.D. with Dr. Kraemer as an option. In the end, 554 students, faculty, and professionals from WI, MI, IN, OH, IA, and IL attended. More information about the MWASCM can be found at [www.MWACSM.org](http://www.MWACSM.org).
The Experience of Research in the SpeedMaker Study

By Ryan Meidinger, Graduate Student

The SpeedMaker study was a culmination of learning, stress, and many more experiences. Any human research is about gathering knowledge of how humans use information, adapt to stimuli and carry out many complicated processes.

**Personal reflections:** We became more acquainted and confident with each other and the equipment we were working with. I found it interesting to hear Dan Szuba (graduate student) talk about what he thought of the product from a strength and conditioning point of view, recognizing ways it could be used to improve performance. We had too small of a group of participants to allow us to truly see a conclusion about the device. The students, myself included, gained respect for what it takes to conduct research. Dan and I learned how we can improve our time management and we all improved our critical thinking skills. This was something that both Dr. Jensen and Dr. Clarke noticed and remarked that this is a favorite part of being a professor, to see the students learn and grow from their experiences.

**Challenges faced by graduate students:** Mindie Clark (graduate student) stated that a large challenge for her, as the main person scheduling testing, was the misunderstanding that ended up happening with a part of our group of participants. For Dan, the hardest part was doing the analysis of the force plate data. For myself, I worked more than six hours each day for a month on the data analysis of the electromyography. I found out later I accidentally made it difficult for myself, as I did not use excel to my advantage.

**Equipment used:** The SpeedMaker study called for the use of 7 motion analysis cameras, 7 large tripods, 5 timing gates with small tripods, 2 tables, 1 force plate, 1 large metal plate, 3 computers (1 laptop and 2 desktops), all of the preparation equipment and 2 dollies that carried all of the equipment. Once in the dome, we had to work with lighting, as the motion analysis cameras need a particular type of lighting environment to decrease issues with loss of markers.

**Adaptation:** Both the faculty and the students thought that together they were able to adapt and improvise new strategies to allow the project to run smoothly. We acknowledged that some things were just out of our control. For example, I had to work the BTS electromyography system and it often would stop responding, not gather any data, and/or not work for some unknown reason. Luckily, we were able to adapt and find funding to buy a new system and now future studies should not have that problem. Even though we had challenges with the systems we were using, we ended up with strong and clean data that we could work with.

**Advantages for students doing research:** Dan had never experienced doing research before so he did not know what to expect. From this, he gained respect for people who do research fulltime. Mindie used this opportunity to network with and get to know the professors and develop future opportunities for research. We were all thankful to have had the opportunity to work with each other and learn from each other. The professors echoed this outcome and were happy to watch us learn and grow with the project.

**What was learned:** In the long-term jumping and sprinting study; we found that sprint time and knee flexion improved from the use of the device. We found that in the short-term jumping study there was an improvement in all of the measurements that could improve jump height... but no improvement in jump height, which could have resulted from the participants unknowingly changing their movement pattern. It would be helpful in the future to assess the participant’s movements to make sure they are replicating the movement. In the short-term sprinting study, there were no significant changes other than decreased knee range of motion. This is an odd change, but resistive sprint devices have been known to change human movement and not always in the best way. Through any experience, there are lessons learned. We all learned something about ourselves, the people we worked with, and what it takes to conduct research. Research is about questions and in my point of view, which is what life is about.
EXERCISE SCIENCE SEMINAR SERIES 2017

Learning Resource Center
LRC - Room 109

Presentations are by second-year graduate students in Exercise Science
A question/answer period will follow each presentation

Schedule of Speakers and Topics – Monday Evenings

March 20 6:15 Meagan Hemekens "Different Styles of Yoga and the Stress Hormone: Cortisol"
March 27 6:15 Mansi Trivedi "Effects of exercise on atherosclerosis"
7:15 Nara Paulson "Fermented Foods and Athletic Performance"
April 3 6:15 John Evans "Biomechanics of the High Jump: Coaching Considerations"
6:15 Ryan Meidinger "The vestibular system's control of posture in a varying gravitational environment"
April 10 6:15 Gabbie McAlary "Physiological Profile of Firefighters"
7:15 Jessica Coullard "Causes and outcomes of foot strike pattern alteration"
April 17 6:15 Alicia Denherder "Exercise and Quality of Life in Parkinson's Patients: Improving bradykinesia, balance, and tremors"
7:15 Rachel Greco "The effects of exercise training on improving strength and cardiovascular fitness in people's with Down syndrome"
April 24 6:15 Brandon Jones "The Effect of Ice Application on Soft Tissue Injury"
7:15 Dale Hubbard "Motor Imagery and Mental Rehearsal"

Presentations can be viewed at: https://tinyurl.com/zshkhkrs

For more information contact: Randy Jensen, PhD - 227-1184 - rajensen@nmu.edu
COSTA RICA with SCOTT JORDAN

FACULTY

LED STUDY

ABROAD
BONAIRE with SCOTT THOMAS

FACULTY LED STUDY ABROAD
New Posters in the SHHP Hallways
Guest presenters for the Graduate Seminar this year were Dr. Phil Watts, professor emeritus in the School of Health & Human Performance and Mitchell L. (Mitch) Stephenson, sports science undergrad (2013), who is now a PhD student at Iowa State.

Dr. Watts presented “A Physiological Model for Rock Climbing: The first 200 years.” His presentation called on his research over the past 38 years, as well as that of others in the field.

Mitch presented “Brain in the Game: How Neurocognition affects ACL injuries”. His talk included research from his time at NMU and Iowa State; as well as the University of Wyoming, where he obtained his MS, and current work for Homeland Security and the Department of Defense. The latter was restricted to “Unclassified” data as noted in the slide below.