

S P R I N G 2 0 1 6

Under the Microscope

The Physiology Newsletter



Welcome to the Physiology Newsletter

After a long break and with the first day of spring not too long past us, it's a perfect time to release the new and revamped newsletter, "Under the Microscope". In these quarterly newsletters, the goal is to keep everyone up to speed on everything that is happening within the department. This includes conferences, awards, new faculty, new students, graduations, social events, and much more. So without further ado, let us welcome the latest faculty and the new students!

Save the Date!

Basketball! April 1st

Come out and play some hoops with us at the Matthei Center at 4pm.

Student Meeting April 15th

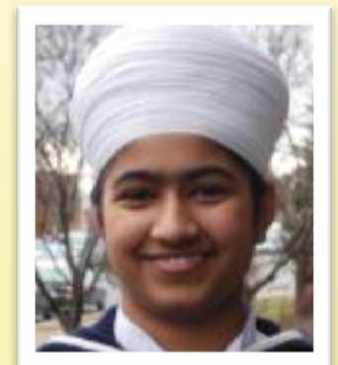
Student meeting to be held in the Physiology Library at 5pm. We will be heading to Hopcat afterwards!

Ping Pong Bar TBD: May

Come join us for some drinks and fun at the Ping Pong bar downtown!

Congratulations!

Congratulations are in order for Jasdeep Kaur, **Ph.D.**. She successfully defended her dissertation titled, "Muscle Metaboreflex and Arterial Baroreflex Action, Interaction and Altered Control in Heart Failure" on March 15th. Jasdeep hopes to continue her career in science with post-doctoral training leaning towards clinical research and human studies. Another big congratulations to Dr. Kaur and her mentor Dr. O'Leary.



New Faculty

Here are some of the new faculty that have joined the Department of Physiology since the last newsletter

Fei Sun, MD, Ph.D.

Dr. Sun first obtained his MD in 1983 at Nanjing Medical University in Nanjing, China. After completing his MPH in epidemiology in 1990 at the University of Alabama, he then obtained his Ph.D. in Cell Biology in 2000 at the University Of Pittsburgh School Of Medicine. He continued his post-doc there and was fast track for a faculty position in the department of Molecular Biology. Dr. Sun has since joined the Physiology Department in 2011. His lab is centered on the disease cystic fibrosis and consists of two main goals. The first is by using in vitro systems to investigate the mechanism behind early protein biogenesis and premature degradation of the cystic fibrosis transmembrane conductance regulator (CFTR). The second is to develop a large animal model to study the pathogenesis of the disease.



Charles S. Chung, Ph.D.

Our newest faculty, Dr. Chung, received his Ph.D. in Physics at Washington University in St. Louis in 2007. He went on to do his post-doc training at the University of Arizona (Physiology) in 2012 and at the University of Kentucky (Physiology) in 2014. Dr. Chung's lab is primarily interested in clinically translatable and basic science problems in diastolic function, using integrative muscle physiology methods. Their goals include determining targets for pharmacologic improvement of cardiac performance and/or determining improved non-invasive measures of cardiac function to assist in care. Currently, his lab is looking at understanding how the myocardium relaxes and using ultrasound to measure organ structure and physical properties such as fibrosis.



Robert J. Wessells, Ph.D.

Dr. Robert Wessells obtained his PhD in Molecular genetics from Ohio State University and did his postdoctoral work in fruit fly genetics at the University of Michigan. He moved to the Department of Physiology from the University of Michigan in 2014 where he was Assistant Professor at the Department of Internal medicine. Using the *Drosophila melanogaster* model his lab studies how endurance training affects aging of cardiac and skeletal muscle. The long-term goal of the lab is to understand the metabolic changes and underlying gene mechanisms induced in the muscle due to training exercise. Understanding these pathways will ultimately lead to development of therapeutic targets for helping people with disabilities.



New Faculty

Jennifer Condon, Ph.D.

Dr. Jennifer Condon moved to Wayne State in 2014 from the University of Pittsburg. She is an Associate Professor in the Department of Obstetrics and Gynecology (recruited by the Wayne State University Perinatal Initiative in support of the Perinatology Research Branch) and part of the Reproductive Science faculty at the Department of Physiology. Her lab focusses on studying the molecular mechanisms that maintain the uterine quiescence. Rather than search for what makes a pregnant uterus contract prematurely, her team focuses on studying the adaptive processes that keep the uterus in a quiescent, stage throughout the term in most pregnancies. Their recent findings were accepted for publication at PNAS journal and also highlighted in the School of Medicine E-news bulletin. (<http://prognosis.med.wayne.edu/article/condon-lab-defines-mechanism-pregnant-uteruses-use-to-avoid-premature-contractions>).



Sascha Drewlo, Ph.D.

Dr. Sascha Drewlo came to Wayne State after completing his postdoctoral studies at the Samuel Lunenfeld Research Institute at Mount Sinai Hospital, affiliated with the University of Toronto. He is an Assistant Professor in the Department of Obstetrics and Gynecology and also a part of the Reproductive Science faculty at the Department of Physiology. His lab focuses on elucidating the molecular mechanisms regulating onset of preeclampsia, exploring the role of a number of genes in the pathogenesis of preeclampsia and mechanisms of potential therapeutic agents for the condition. He recently received the RO1 grant for studying the effectiveness of the diabetic drug Rosiglitazone, in stimulating a placental signaling channel to halt severe preeclampsia. (For more information on the lab visit www.drewlolab.com)



Pancharatnam Jeyasuria, Ph.D.

Dr. Jeyasuria Pancharatnam received his bachelors from Brock University in Canada and initially was interested in oceanography and coral reef ecology. He did some work in the caribbean and Trinidad and Tobago. He moved to Miami and worked on sex determination in Alligators which prompted his PhD in Marine Estuarine, Environmental Science at the University of Maryland in 1997. After completing his post-doctoral work from at the University of Texas Southwestern Medical Center in both the Department of Internal Medicine and Biochemistry, Dr. Jeyasuria obtained a faculty position at the University of Pittsburgh. In 2014, he moved to Wayne State University as an Assistant Professor in the Department of Obstetrics and Gynecology (and a part of the WSU Perinatal Initiative in support of the Perinatology Research Branch). Dr. Jeyasuria has had a long-standing interest in sexual determination/differentiation, gonadal development and spermatogenesis. His lab currently is focused on the characterization and functional analysis of alternate ER α isoforms, which he proposes plays a critical role in regulating estrogen (E2) responsiveness in a spatial and gestationally regulated manner in the myometrial compartment of the pregnant uterus.



The Comp's are Coming! The Comps are Coming!

For all second year PhD students, the end of the winter semester can be an extremely stressful time. With spending hours in the lab optimizing models, acquiring useful data for their thesis project, finishing their last semester of a full load of classes, and preparing for the dreaded comprehensive exams. Although the comprehensive exam pushes students to their limits, there are ways to relieve some of the stress of the ultimate challenge of mental, emotional, and even physical tests. Here are some tips into making this time a little less stressful.

Plan

- **Study Early and Often:** Arguably the most important thing you can do. Preparing as early as you can set's you up for success. Don't put off studying until the end of the semester. **START NOW!**
- **Schedule Your Time:** Making a schedule can really make the difference in keeping you on track for being completely prepared. Schedule certain units to study for specific days and leave extra time between those units to catch up if you fall behind or to review what you've already went over.

Practice

- **Practice with an Audience:** Practice as many times as you can with your presentation and answering questions out loud. Get comfortable with talking out loud and thinking on your feet. Practice in front of many/different audiences not only to practice answering good questions, but also making sure you are clearly presenting your work to people who aren't knowledgeable in your subject.
- **Study in a Group:** A great way to practice answering questions out loud is to study with another person or in a group. Ask each other questions about material that you just went over and practice explaining those concepts out loud.

Stay Healthy

- **Be Active:** We know working 10-12 hrs per day doesn't leave much time for exercise, but do you best to be as active as possible. Even if it means just standing while study or walking while you discuss concepts. Keeping your body sharp goes a long way to keeping your mind sharp.
- **Eat Healthy and Sleep:** Make sure you are eating a healthy diet full of veggies and fruits to give your body and brain the energy it needs to keep going. (See Tim's Power Smoothie) Sleep is absolutely imperative for proper cognitive function, 6-8 hours of sleep every night does great wonders.

Do your best to plan accordingly, practice often, and stay healthy to maximize your preparation for the comprehensive exams. Don't think of these exams as a grueling task set out to make your life miserable, but rather a tool set in place to help you become the best scientist you can be. Good luck to all and happy studying!



Tim's Strawbana Power Smoothie

This Power Smoothie is a healthy way to keep your mind and body fueled while you study

- 1 cup of strawberries (~4-5 med strawberries)
- 1 whole banana
- ½ cup unsweetened vanilla almond milk
- 1/3 vanilla Greek yogurt

First, add the strawberries into a blender. Second, add a chopped up banana. Third, add the unsweetened vanilla almond milk. Fourth, add the vanilla Greek yogurt. Lastly, blend for about a minute or until blended well. Pour into a glass and enjoy!

New Physiology Students

Adrian Vasquez (Fall 2015, PhD)

Adrian obtained a B.S. in Biology at Corozal Junior College in Belize in 2003, a M.S. in Cellular Biology at Oakland University in 2006 as well as a M.S. in Molecular and Developmental Biology at Wayne State University in 2013. He is currently working in Dr. Ram's lab investigating the physiological mechanisms that allow aquatic organisms to invade and persist in new habitats. Don't let that smoulder fool you, on the weekends he enjoys long fishing trips and piña colada's.... for research purposes of course.



Ali Al-Housseini (Winter 2016, PhD)

Ali received a B.S. in Chemistry at the American University of Beirut in Lebanon in 1999 and then went on to obtain his MD at the same university in 2003. Since then he has been hard at work throughout the U.S. From 2003-2005 he was a Post-Doctoral Fellow at Wake Forest University Baptist Hospital in North Carolina, had an internship in Ob-Gyn at Baylor Univ in Texas in 2006 and finally his residency in Ob-Gyn at Georgia Regents Univ in 2009. Ali is currently rotating in the with the reproductive sciences faculty and is interested in maternal-fetal medicine and high-risk pregnancies.



Carthic Rajagopalan (Fall 2015, CoS to PhD)

Carthic is certainly one of a kind in the department. Carthic obtained his B.S. in Biology at the University of Waterloo in Ontario in 2009. After a couple years in the master's program at Wayne, he decided he loved research and the Physiology Department so much he wanted to lengthen his stay and made the switch to PhD. Currently Carthic is working in Dr. Sun's lab and is investigating the molecular mechanisms of biogenesis and quality control pathways that regulate protein expression and trafficking of cystic fibrosis membrane conductance regulator (CFTR).



Sarah Aldhaheri (Winter 2016, Masters)

Sarah obtained her MBBS at King Abdulaziz University in Saudi Arabia in 2010. She later was appointed junior faculty in the Ob-Gyn at King Abdul-Aziz University Hospital in Jeddah in 2011. Later Sarah spent one year at MSU as an adjunct instructor in the department of hematology in 2013 and then continued her work as a research fellow at NIH in the Perinatology Research Branch at WSU in 2015. Currently she is rotating and will certainly bring a wealth of knowledge, expertise, and extensive experience to the Physiology Department.



New Physiology Students

Dean Bakoulas (Fall 2015, Masters)

Dean, a.k.a. saganáki kouzína, obtained his B.S. here at Wayne State in Psychology. He really enjoys the research aspect of science and has taken a great interest in studying the brain. “I decided on Physiology because it is incredibly fascinating how everything works together as one unit and it all begins with the brain.” He is currently in Dr. Mueller's lab and is studying the neural control of blood pressure and how changes in brain activity ultimately have an affect on cardiovascular disease.



Geoff Ginter (Fall 2015, Masters)

Geoff packs one powerful punch when it comes to science. He obtained his B.S. in Biology and German at the University of Michigan just down I-94. He came to Wayne State because of his passion for medical research and is currently in Dr. Jin's lab studying the contractility of different muscle types in aged ssTnT knockout mice. If anyone has any questions about muscle physiology, Geoff is the person to go to. Even better he will explain it to you in both English and German!



Peter Levanovich (Fall 2015, Masters)

Peter isn't your average student, but don't let that fool you, he means business. In fact, he received a B.S. in business at the University of Denver in 2010. He stayed in Denver for a pre-medical prerequisite program, which lead him to a research position at Royal Oak Beaumont Hospital performing translational urologic research. “A successful publication in this field inspired me to further my education in physiology.” Peter is currently working in of Dr. O'Leary's lab and hopes to take part in upcoming hypertension studies.



Michael Sears (SS 2016, Masters)

Michael obtained a Bachelor's in Arts with a Biology and Spanish double major at Albion University in 2015. So just in case you couldn't understands Geoff's German, Michael can do his best to explain physiology in Spanish. He has a great interest in Physiology and will be rotating in the Spring/Summer semester.



General Announcements

Social Events

- Friday April 1st, Pick-up Basketball 4:00PM

As we learned in Dr. Mueller's seminar any physical activity is better than none! So come out April 1st to the Matthei Center at 4pm and play some hoops with us. There has been talk about making something like this a weekly thing for those who are interested. As the flowers begin to bloom and the weather gets warmer we will be looking into playing softball, soccer, and football towards the fall.

- Friday April 15th, Student Meeting 5:00PM

A student meeting will be held in the Physiology Library at 5 PM that you won't want to miss. The meeting will be focused on several different things including a student seminar series we would like to start during the summer, planning different social events, ways to get involved in the department, brainstorming ideas for more teaching opportunities, and general inquiries on what the students want out of the department. Please be there because you really won't want to miss it. We will also be heading out to HopCat for food and drinks afterwards.

Upcoming Conferences

- Experimental Biology, April 2-6, 2016 San Diego, CA

EB will be held in beautiful, sunny California this year and a bunch of Physiology Students will be presenting their work there. Let's all wish them the best of luck!

- Annual EB Poster Review Session, March 31st, 2016. 5th Floor Scott Hall

With EB right around the corner, Dr. Mueller is having his annual poster review session this upcoming Thursday right after the noon seminar speaker. Come see you what your fellow students and postdocs are doing for their latest research projects and give them a chance to polish up their presentation skills. If you would also like to practice your presentation skills, please email Dr. Mueller at pmueller@med.wayne.edu to coordinate the location of your poster.

- 3rd Annual Michigan Physiological Society Conference May 12 -13, 2016, Detroit, MI

MPS will be hosted by us (WSU SOM) this year so make sure you get involved. Hopefully you all got a chance to send in your abstracts. It's shaping up to be a really wonderful event this year.

Until next time...

Hope this rendition of the quarterly newsletter finds you well! Stay tuned for the next issue in June. If you would like to be involved in the newsletter process (writing, design, etc.) please contact Anthony Anzell (aanzell@med.wayne.edu) or Leena Kadam (lkadam@med.wayne.edu).

Happy Spring!

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