



PHYSIOLOGY

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SPROUT

GET THE KNOW TO GROW WITH US!

Physiology Department Team Lands Cover of Comparative Neurology Journal.



We're proud to highlight, in this issue of our newsletter, the work of Drs. Patrick Mueller, Ida Llewellyn-Smith and Nicholas Mischel. Their article "Physical (In)Activity-Dependent Structural Plasticity in Bulbospinal Catecholaminergic Neurons of Rat Rostral Ventrolateral Medulla" was not only accepted in the Journal of Comparative Neurology, but one of the figures (seen above) was selected for the cover of the journal. Their work has shown that increased responses to activation of RVLM neurons in sedentary rats is likely related to an observed structural change. Retrograde tracing, immunohistochemistry and digital reconstruction of the cell bodies and dendrites revealed for the first time that those neurons were more branched compared to those in active rats. The team would like to thank Toni Azar for his valuable contribution to the project. We wish Dr Mueller's team the best of luck in future projects.



Dr. Patrick Mueller



Dr. Ida Llewellyn-Smith



Dr. Nicholas Mischel

Congratulations!

- 12/9/2013 **Paulo Caceres Puzzella** successfully defended his dissertation entitled "Regulation of NKCC2 trafficking by vesicle fusion proteins VAMP2 and VAMP3 in the thick ascending limb."



- 12/11/2013 **Jessica Ouyang** successfully defended her dissertation entitled "Blast-induced tinnitus: a combined behavioral, MEMRI, and electrophysiology study."





Halloween Festivities: Cedar Point Trip

On October 26th 2013, students from the physiology department along with a number of their friends headed to Sandusky, Ohio for an adrenaline-full day at Cedar point. From the haunted houses to the roller coasters, the screaming and laughing were non-stop.



Students get together for a group photo before going in.



Chelsea and Carol getting ready for a crazy roller coaster ride.



Left to right: Chelsea, Emily, Carol and Moe

This trip would not have been possible without the efforts of Chelsea Richardson, who organized it and took care of all the details. As far as the reservation office at Cedar Point was concerned, we were "Chelsea's Wayne State Group" for that day.

Breast Cancer Awareness Fundraiser



On October 9th, 2013 at the front doors of Scott Hall WSU School of Medicine, students and faculty participated in the fight against breast cancer by supporting the fundraiser hosted by Maryetta (4th year Physiology Grad Student), Keyona (3rd year Physiology Grad Student) and Laura (WSU-PG employee). On Behalf of the American Cancer Society Making Strides to Walk and Fight Against Breast Cancer, THANK YOU for all your support!



Left to Right: Maryetta (4th year), Ms. Carol (School of Medicine Employee) & Keyona (3rd year)



We raised approximately \$700.00 at the fundraiser and surpassed the team goal by raising a total of \$1160.00. **GO PINK!!!**



Bowling The Night Away

One thing we pride ourselves for at the department of physiology, is that we, as a student body, make every effort to always get together. Whether it's the occasional lunch at Scott hall, or organized outings. On November 16th 2013, students from our department visited the Star Lanes bowling alley at the Emagine theater in Royal Oak, MI. Needless to say it was a great evening, where students enjoyed their time bowling and getting to know each on a more personal level. One of many outings to come.



From Left to right:
Top: Tiago, Leena, Ankita, Moe and Jasdeep. Bottom: Marty, Tohid and Rong.



From left to right:
Tiago, Jasdeep, Ankita, Moe, Leena and Yang.

The Jin Lab has a new logo!



Dr. J.-P. Jin's lab now has a new logo, representing some of their well-known qualities: innovation, ingenuity and integrity.

We think it is Awesome!

Science Apps

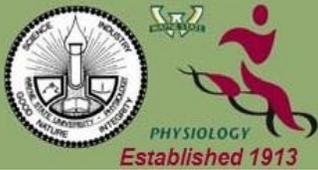
As we promised in our previous newsletter, we will try to provide you with new and innovative apps that will help you in conducting your experiments and carrying out your research. For this issue, we found 5 apps:

1. PubMed on Tap searches PubMed and PubMed Central to find, display, and import reference information and pdfs of the full article (if you have access privileges). You can search your personal reference library, organize your references in groups (static and smart), and email references from your device to yourself or others in a form suitable for reading or importing into desktop reference management applications.

2. 3D Cell. Learn about the cell and all its structures using our new 3D Cell iPhone application tool. Enjoy the ability to rotate the cell 360 degrees and zoom in on any cell structure. In this application you can also watch videos from our live cell video library as well. Features:
-Explore a 3D cell
-Learn about each cell structure
-View live cell videos.

3. The Physiology of the Respiratory System. Explore the vital role of ventilation and gas exchange with this free application on the Physiology of the Respiratory System – LITE Version. A.D.A.M. Inc. provides fully animated, fully narrated, interactive eLearning programs relevant to healthcare and life sciences. This program begins with an overview of ventilation, followed by an explanation of the factors that influence the flow of air in and out of the lungs. You will then learn about gas exchange and about factors that influence gas diffusion. This program will take you approximately 25 minutes to complete. Progress checks and a posttest are provided to help you evaluate your knowledge.

4. Real Time PCR. This app is a great reference for all real-time PCR users, whether you are new to the technique or an old pro. A primary feature of the app is the real-time PCR handbook, which provides



detailed background information about the technique, as well as practical information for experimental design, data analysis, and troubleshooting. The app also includes a reaction calculator tool as well as a video library and a set of reference documents.

5. The Promega app provides reference information and tools for life scientists.

Features:

Quick Protocols (iPad only): Easily view, run and annotate Promega protocols. Run timers directly from the relevant steps, and when complete, email the annotated protocols for printing.

Biomath Calculators: Quickly calculate melting temperature, molarity, dilution, DNA and protein concentration, and more.

Restriction Enzyme Tools: Find an enzyme by name, recognition sequence or overhang and identify compatible buffers for double digests.

Interactive Cell Signaling Pathways (iPad only): Explore two signaling pathways, MAPK/ERK and PI3K/mTOR, through interactive diagrams that link to further online resources, peer-reviewed literature and available products to aid in cell signaling research.

REMINDER OF UPCOMING EVENTS

January: No activities planned yet. Stay tuned for our email updates. Good luck to everyone applying for the American Heart Association's fellowship. Reminder that the deadline is January 24th 2014.

February: Movie Night (*details TBA and sent via email*)

March: No activities planned. **SPRING BREAK!!!**

April: Experimental Biology Annual Conference in San Diego, CA

May: "Bunchin for a Luncheon" (*details TBA and sent via email*)

June: Physiology Dept. **PICNIC** at Metropolitan Park. Staff, students and family are all invited! (*details to be sent via email*)

July: New Graduate Students representatives to be elected and the torch to be passed!

"Bundle up and stay warm!!!
Spring will be here before you know it!!!
Keyona and Moe

Information on Lab Rotation Opportunities

Dr. Sun: email is fsun@med.wayne.edu and office is located at 5229 Scott Hall

Dr. Suresh Palaniyandi Diabetic and Cardiac Pathophysiology
<http://www.henryford.com/body.cfm?id=38441&action=detail&ref=5326>

Dr. Pamela Harding cardiac hypertrophy research
<http://www.henryford.com/body.cfm?id=38441&action=detail&ref=3792>

Dr. Nour-Eddine Rhaleb Cardiovascular Remodeling during hypertension and Immunology
<http://www.henryford.com/body.cfm?id=38441&action=detail&ref=1188>

Dr. Pablo Ortiz Molecular biology and NKCC2
<http://www.henryfordmacomb.com/body.cfm?id=38441&action=detail&ref=3719>

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