

# Physiology Department Newsletter

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Dr. Jin (Chairman)



*"Welcome to the Department of Physiology! We look forward to your addition to our glorious history. The wonders of nature are yours to explore."*

Bes wishes,  
J.-P.

Dr. Yingst (Graduate Officer)



*"Welcome! I hope you are all off to a great start. Remember the harder you work, the luckier you get!" Best, Doug Yingst*

Christine Cupps (Program/Project Assistant & Assistant to the Graduate Officer)



*"The only silly/stupid question is the one that's asked long after it should have been." Chris*

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## Fun Pics of the Physiology Team that Participated in the Walk to Fight Diabetes



Go WSU Physiology Dept. Students! Left to Right: Keyona (3<sup>rd</sup> yr), Maryetta (4<sup>th</sup> yr), Melissa (1<sup>st</sup> yr) and Fika (2<sup>nd</sup> yr).



## WSU Students from ALL Departments Coming Together for a Good Cause



Left to Right: Katy C. (1<sup>st</sup> yr Social Work), Nurul H.R. (Nutrition & Food), Keyona, Maryetta, Melissa, Fika, Khadija S. (3<sup>rd</sup> yr Pharmaceutical Sciences) and a Friend.

On September 14<sup>th</sup>, 2013 at the Detroit Zoo several Graduate Students and Faculty members of the Physiology Dept. at WSU School of Medicine participated in the walk to fight against diabetes. Participating in this event was both important for increasing recognition of this chronic and debilitating disease that leads to other medical conditions, such as atherosclerotic disease, renal disease/failure, pancreatic and liver dysfunction as well as other medical conditions that require routine management and treatment. This is a disease that affects millions in the U.S. alone and by volunteering your time and making monetary donations we as a society can move closer to winning the war to fight against diabetes. We hope to have more of you "Step out to Walk to Fight Diabetes" next year!

**We must fight for those we've lost and for those we know who are still battling diabetes. Never lose hope and never give up for victory is ours!**



Left to Right: Melissa and Keyona.

## Science Apps

Let's face it. Most of us are addicted to our smart Phones and tablets. So why not channel that addiction towards apps that are of scientific value! We found some apps that you might find helpful in your lab work. We will try to incorporate a few in every issue, in order to keep up with the fast evolving world of apps and cover as many disciplines and areas as possible.

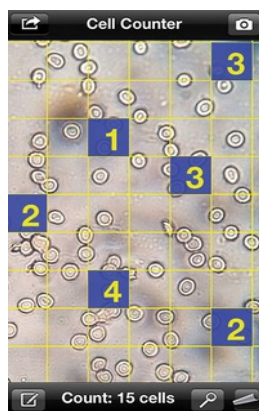
### 1. Proteomics Community

**Calculator** provides a tool to view peptide fragments resulting from a variety of digestion conditions as well as a peptide fragmentor that displays ions resulting from a user-specified peptide sequence. The app requires that users search for specific proteins by either human gene symbol or UniProt ID. The app also has a number of useful features, such as information about amino acids and some unit conversion calculators.



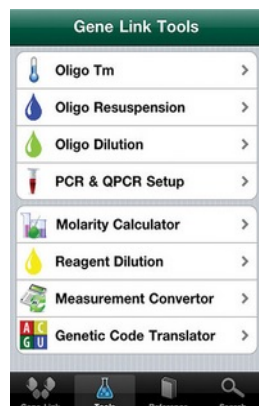
Sequence	MW	Hydro1	Hydro2
MIQTVDPAAHIK	1 - 13	>	
EALSVVS...GTPHLAK	14 - 37	>	
TEMTASS...YGQTSK	38 - 53	>	
MSPR	54 - 57	>	
VPQQDWLSQPPAR	58 - 70	>	
VTIK	71 - 74	>	
MECNPSQVNGSR	75 - 86	>	
NSPDECSVAK	87 - 96	>	
MVGSPDT...SYMEEK	100 - 118	>	
HMPPPNMTTNER	119 - 130	>	

**2. MiCellCount** allows users to import a photo of cells from their camera roll (or users can take a photo directly from within the app). Users can subsequently use the gridded image to count cells simply by tapping on individual squares of the grid. Individual counters corresponding to each square increase by one each time you tap; additionally, a cumulative counter appears at the bottom of the screen



### 3. An Array of Genetic Tools from Gene Link, Inc.

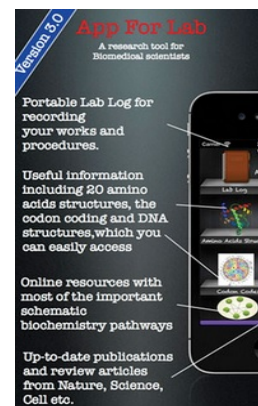
This poorly named app is definitely not poorly designed. This free app is divided into two sections: tools and reference. Under the "tools" heading one will find an oligo Tm calculator, tools to calculate concentration for oligo resuspension and dilution, typical reaction and cycler conditions for PCR/qPCR, and a molarity calculator, among a few other tools. The other half of the



app, the "reference" section, contains some nifty resources like the chemical structures of the nucleotide bases, a table of oligo modifications, a fluorescent dye and quenching table, and a table of amino acids, as well as a couple other resources. The app is nicely organized, with the homescreen clearly displaying the two main sections of the app and all of their corresponding features.

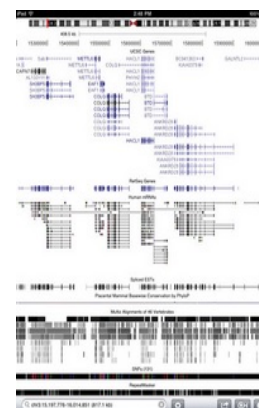
### 4. AppForLab

provides some useful features for the biological bench scientist. The calculators section of the app contains the usual suspects, including molarity and dilution calculators, a Tm calculator, as well as calculators to compute the recipes for SDS-Page stacking and resolving gels. The buffer list contains a number of recipes for common lab stocks such as LB media and 50x TAE. Conveniently, the recipe pages are editable, so users can add their own notes. Users can add pages to the buffer list, as well. The lab log is a simple note-taking feature, but is useful within the context of the app. Unfortunately, while users can easily add new entries, there does not seem to be a way to delete entries (although perhaps in the context of a laboratory notebook that makes sense...). Graphics depicting amino acid and nucleotide structures, as well as a codon table round out the built-in features of the app.



### 5. Genome Wowser

brings the known-and-loved University of California, Santa Cruz (UCSC) genome browser to your iPad, allowing users to search for genes, navigate the results using the standard touchscreen maneuvers (pinch and zoom, etc.), and customize which annotation tracks are displayed on the screen. The annotations range from mapping and sequencing tracks, to genes and gene prediction tracks, to tracks displaying variation and repeats, among others. While the default genome is set to human, researchers will be pleased to know that the genomes of many other organisms are also included in the app, ranging from the more common (i.e., mouse and rat) to the exotic (i.e., panda and platypus).



## Halloween Festivities, October 26<sup>th</sup>



Join on Saturday October 26<sup>th</sup> 2013 as we head to Cedar Point theme park in Sandusky Ohio. Whether you like roller coaster, Halloween, hanging out with friends or all of the above, this trip promises to be loads fun. At least 15 students and friends already signed up for the event just from word-of-mouth, and the more the merrier. Feel free to purchase your tickets online or inform your graduate student representatives (see contact information below) so we can purchase your ticket as part of our group (a 7\$ discount applies when purchased in group). Please RSVP before October 8 to be included in the group purchase.

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### Information on Lab Rotation Opportunities

**Dr. Sun:** email is [fsun@med.wayne.edu](mailto: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>

*\*\*\*A Special Thanks to Kevin Gordish for providing information about the PIs at Henry Ford Hospital (HFH) that are seeking students for their labs.*

*Emails will be sent out throughout the Dept. (likely be Chris) as more lab rotation opportunities become available.*

## Let's carpool!!



Instead of driving individually to Cedar Point, let's carpool! We can divide up in our cars and split the gas expenses. Gathering will be on Saturday October 26<sup>th</sup> at 8:30am. At 9:00am sharp we should be ready to hit the road!

Feel free to invite your family members and/or friends.

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### REMINDER OF UPCOMING EVENTS

**October:** Fight Against Breast Cancer Fundraiser located at the front doors of Scott Hall on Oct. 9<sup>th</sup> (Wed.)

Breast Cancer Walk on Oct. 12<sup>th</sup> in Downtown Detroit, MI.

Halloween festivities on Oct. 26<sup>th</sup>, 2013 (see to the Left)

**November:** Bowling on Nov. 16<sup>th</sup>, 2013. Location TBA via email.

**December:** Department Christmas Party on Dec. 13<sup>th</sup>, 2013 (details TBA).

**January:** No activities planned.

Winter Term Newsletter will be available in the Physiology Dept. Office on the 5<sup>th</sup> Floor of Scott Hall. Be sure to check your mailbox in the Physiology Dept. Office.

Bundle up and stay warm!!!

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### Graduate Student Representatives Contact Information

Keyona: [kingmed@med.wayne.edu](mailto:kingmed@med.wayne.edu) or 313-213-5904

Moe: [melchami@med.wayne.edu](mailto:melchami@med.wayne.edu) or 734-834-9618

*"We are here when you need us!" Keyona and Moe*