

Issue 1

Physiology News

Department of Cellular & Integrative Physiology



Statewide Department Retreat

by Dale Tang, Ph.D.

This year's Physiology Statewide Retreat was held at the Rathskeller restaurant on August 20. More than 126 faculty members, staff, and students attended the event, which is one of the most widely-attended physiology statewide retreats in Indiana.

The retreat began with a State of the Department speech by Dr. Michael Sturek, Chair of Department of Cellular and Integrative Physiology. He highlighted the significant academic success of the department in the past year, and described the mission and short/long term goals of the department, indicating an exciting and encouraging future for the years to come. Afterwards, Dr. Ken Olson of the South Bend Center provided clear and updated information on NIH AREA (Academic Research Enhancement Award) grant. Obtaining this knowledge may open new doors for some regional centers to get support from NIH. The retreat continued with oral and poster presentations. We had four PhD students, two junior faculty talks, and approximately 35 posters. These presentations were highly attended and triggered warm discussion of the many research activities of the department. It is hoped that this will facilitate new collaborations and progress toward our goal of conducting high-quality and first-class physiological research nationwide. Finally, the organizer of this year (Dr. Dale Tang) presented several "awards" to students, staff, and faculty to recognize their important presentations or contributions to this event.

Many faculty members thought that this year's retreat was successful and is enjoyable. We may continue this tradition in the future, and provide an opportunity for an Indiana physiology family reunion annually.



Welcome to new faculty, post-docs and students

In the past year the department has gone through several changes and promises for several more to come. We as a department have gone through two interim chairs. We owe thanks to Dr. Fred Pavalko, who served in this role and provided excellent leadership in the transition to our new Chair. We would like to welcome Micheal Sturek, Ph.D. from the University of Missouri, as our new Chair of Cellular & Integrative Physiology. Dr. Sturek brings with him several laboratory co-workers; Mouhamad Alloosh, M.D., M.S., Research Technician, Jason Edwards, B.S., Ph.D. Student, Pamela G. Lloyd, Ph.D., Assistant Scientist, Eric A. Mokelke, Ph.D., Assistant Scientist and Jim Vuchetich, B.S., Research Technician. Last, but not least, he brings a unique colony of Ossabaw swine that are a model of “pre-diabetes”. Visit Dr. Sturek’s website to learn more about him.

<http://www.iupui.edu/%7Emedphys/faculty/sturek/index.html>

Other new persons in the department include: Peichun Sun and Katherine Toomey with Mathias Clauss, Padma Bhonagiri with Jeff Elmendorf, Feng Yi with Paul Herring, Suzanne Ponik, Ph.D. (postdoctoral fellow) with Fred Pavalko, Taoying Hong with Dale Tang, Seok Min (David) Hong and Fengju Bai with Frank Witzmann. Not to be forgotten, the list does not include all the names of the new hourly coworkers. Welcome!!!

New graduate students: Emily Blue, Jason Edwards and Xin.

The department has offered 28 students positions in the Cellular & Integrative Physiology MS degree program positions. Courtney Allen, Bradley Berkemeier, Rao Chundury, Brian Coppinger, Erik Cox, Patrick Gentry, Karl Huesgen, Ryan Hutchinson, Girish Kunapareddy, Andrew Lutz, Peter Mehta, Adam Moss, Thomas Nelson, Joshua Neucks, Michael Otlewski, Damien Patel, Guru Pattar, Steve Perkins, John Rau, Manasa Reddy, Matthew Robertson, Joshua Scott, Alexander Sheehy, Nickolas Steffens, Matthew Stephens, Allison Sturtevant, David Yoder and Isaac Zeckel.

Good Luck!



Promotions & Awards

This year the Physiology students were very active in the Spring Sigma Xi presentations. The winners were: First place (David M. Gibson award) to Guoli Chen, Third place Eric Rodenberg and Honorable mentions to Joshua Dowell, Andrew Strawbridge and Brett Zani. Several faculty members also received membership plaques for joining Sigma Xi. The departmental Moenkhaus award went to Lauren “Nicki” Bell and the Stier award to Guoli Chen.

Congrats to Patricia Gallagher and Fred Pavalko, who were both promoted to Full Professor.

Last Spring, Larry Garetto, was elected to the office of Vice President/President Elect for the Professional Ethics in Dentistry Network (PEDNet). The mission of this organization is to support ethics as an integral value for the dental health care professions.

Emily Blue, a long-time research specialist in the Gallagher lab, has made the leap and will enter the graduate school this fall as a full-time graduate student in our department. Emily was also awarded, a university fellowship, which is based on her previous academic record.

Message From the Chair

by Michael Sturek, Ph.D.

I am pleased to see the inaugural issue of *Physiology News*, which will serve as regular update of activities in the department. This will be one of several communication media that we will use to get the word out about the significant academic activities and, also, human interests of the department. Although this is clearly an era of “information overload”, we hope that *Physiology News* will be on your list of preferred reading material. Finally, I hope you agree that this is an exciting time to be affiliated with the department and we are all looking forward to much success.



Grants and Awards 2004

Project Director	Agency	Award Type	Title	Total Award
Bohlen	NIH-NHLBI	Non-Competing	Microvascular Behavior During Intestinal Absorption	186,250
Elmendorf	ADA	Non-Competing	Regulation of GLUT4 Trafficking by a Novel Phosphatidylinositol 3-Kinase-Independent/Tyrosine Kinase-Dependent Signal	100,000
	Showalter Trust	New	Phosphoinositide and Actin Perturbations as a Molecular Basis for Insulin Resistance	60,000
	AHA	New	Dysregulation of Insulin Signaling by Endothelial-Derived Factors	24,500
	NIH	New	Chromium Enhances Insulin and GLUT4 Action Via Lipid Rafts	307,940
Gallagher	O'Brien Ctr. Pilot	New	Study to examine the intracellular trafficking of TNFR1 using sophisticated imaging approaches.	
Gunst	NIH	Non-Competing	Regulation of Actin Dynamics in Airway Smooth Muscle	338,625
	NIH	Non-Competing	Smooth Muscle Mechanisms in Dynamic Airway Properties	335,250

Herring	NIH	New	Synthetic Smooth Muscle Cell-Selective Promoters	285,950
	NIH	Non-Competing	Telokin Gene Regulation in Smooth Muscle	298,000
	NIH	Non-Competing	Visceral Smooth Muscle-Specific Gene Expression	298,000
Jin	AHA	New	Regulation of Tumore Necrosis Factor Receptor Trafficking and Signaling	65,000
Kempson	AHA	New	Localization of Betaine Transporter in Renal Cells during Osmotic Stress	66,000
Mokelke	AHA	New	Diabetic cardiomyopathy, exercise and statin therapy in miniature swine	65,000
Packer	APS	New	Frontiers in Physiology: Local Site Model	33,382
Pavalko	NASA	New	Investigating the Role of Alpha-Actinin in Osteoblast Mechanotransduction	24,000
	NIH	Non-Competing	Short-Term Training: Students in Health Professions	179,561
	NIH	Non-Competing	Fluid Shear Stress and Osteoblast Apoptosis	318,308
	NASA	New	Investigating the Role of Alpha-Actinin in Osteoblast Mechanotransduction	24,000
	Cook Biotech Inc.	New	SIS Small Diameter Conduit Biocompatibility Project	80,000
Sturek	NIH	Non-Competing	Exercise, Diabetes & Coronary Smooth Muscle Ca^{2+}	416,365
	ADA	Continuation	Coronary artery disease in a swine model of the metabolic syndrome	49,939
Tang	NIH	New	Molecular Mechanisms of Airway Smooth Function	290,125
Witzmann	U. of Pittsburgh	New	Mechanisms of Protection form Oxidative Lung Injury	29,104
	Scripps Research Ins	New	Effect of Alcohol Consumption on Roat Brain Protein Expression	59,000
	Mantech Envir.	New	Subcontract-E. Coli Proteomics	32,000

Recent Publications

Brozinick JT, Hawkins ED, Strawbridge AB, Elmendorf JS. Disruption of cortical actin in skeletal muscle demonstrates an essential role of the cytoskeleton in GLUT4 translocation in insulin sensitive tissues. J Biol Chem. 2004 Jul 6 [Epub ahead of print]

Chen G, Raman P, Bhonagiri P, Strawbridge AB, Pattar GR, Elmendorf JS. Protective effect of phosphatidylinositol 4,5-bisphosphate against cortical filamentous actin loss and insulin resistance induced by sustained exposure of 3T3-L1 adipocytes to insulin. J Biol Chem. 2004 Jul 23 [Epub ahead of print]

Other News

The department of Physiology seminars will be including several prospective new faculty, please watch the seminar schedule.

The CDR is sponsoring an invited speaker on October 4th at 4 pm in MS 326, that might be of interest to Physiology. He is Dr. Anjan Kowluru from Wayne State University in Detroit, and studies signaling mechanisms in pancreatic beta cells. The title of his seminar is "GTPases and Insulin Secretion". If anyone is interested in meeting with him while he is here on the 4th and 5th, please contact Debbie Thurmond (dthurmon@iupui.edu).

Publication of a new book, "A History of Nerve Functions: From Animal Spirits to Molecular Mechanisms," published by Cambridge University Press in July. Author: Sidney Ochs. Please keep Sid Ochs and Mrs. Ochs in your thoughts, Mrs. Ochs started chemotherapy on Thursday, August 19th, 5 more treatments to go.

Something must be in the water on the second floor of the medical sciences building in the Gallagher, Herring and Pavalko area.

Hannah Elizabeth Hoggatt 3/9/04 12:07am 8lb 11oz and 22 inches long. Born to Darin and April Hoggatt.

Amy Yamei Zhou 9/2/04 12:59pm 5lb 10oz and 18 inches long. Born to Leo (Jiliang post doc) and Heaven Zhou.

Gavin Andrew Albright 8/11/04 4:39pm 7lb 1oz and 20 inches long. Born to Suzanne Ponik (post doc) and Andy Albright

So.....“Don’t drink the water”.



And soon, estimated time of arrival, November, Wenwu Zhang and wife are expecting a baby girl. Congratulations!

One of the incoming MS degree program students, Joshua Neucks and his wife are expecting a baby boy in October. Her due date is the 29th. Best wishes!

Wedding congratulations to Heather Coppage Ringham and Amanda Kimmel Fisher, on their July nuptials.

Congratulations to all the new Families!

On September 24th, on the front lawn of Fesler Hall, Micheal Sturek, will participate as one of the dunker's in the second annual Dunk the Dean for Kenya. This fund raiser is to help raise funds for the IU-Moi University program in Kenya.

There will be two Ph.D. Thesis Defense's this Fall. Wenwu Zhang, advisor: Susan Gunst on November 18th and Guoli Chen, advisor: Jeffrey Elmendorf on October 13th. Good Luck!

Ning Zhou joined Paul Herring's lab as a research technician. Ning arrived here after completing a masters degree in biochemistry from the University of Saskatchewan in Canada.

Alonso P. Moreno D.Sc., is involved with new collaboration with personnel from the Methodist Research Institute: Dr. Rafat Siddiqui and Dr. Carlos Labarrere. Title: "Gap Junctional regulation during Asthmatic Response". Supported by a 1 year grant from the Showalter Foundation. Has a new Tech in the Lab: Jennifer T. Lopez, not the actress but a BS in Biology from Austin College TX. And a Grant renewal NIH R01, Physiological Regulation of cardiac gap junction channels. Four more years.

Two of our second year Ph.D. students, Jenny Stover and Min Zhang decided to join Paul Herring's lab after completing their rotations

Eric Mokelke, his wife Emily and their son Miles (8 months now) and several pets. They arrived from Columbia Missouri where he finished a post-doc with Dr. Sturek. His scientific interests are diabetes, heart disease and exercise. His non-scientific interests are tennis (he coached at the college level as well as private lessons to Missouri's top ranked juniors), cycling (racing as well as recreational), skiing (Emily raced in the Junior Olympics and plans to race again soon), and camping (they've camped and backpacked in many places including Alaska, Colorado, Arizona, Nevada, Idaho, Wyoming). They both were active in animal rescue in Columbia and would like to continue that here in Indy. Welcome, welcome!!!

Note from Marlene

This is our first newsletter and hope to have one quarterly. October, January, April and Jul.) Thank you, for all the information you have provided to me. I, alone cannot do this, your contributions are needed. For the next issue please send me (mbrown3@iupui.edu) your thoughts, awards, new hires, publications, student events, etc.

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"My name was David, but that sounded old fashioned. So I shortened it to DVD!"