

Physiology News



Department of Cellular & Integrative Physiology

Message from the Chair

Michael Sturek, Ph.D.

This issue of our *Physiology Newsletter* is being composed in a different location of the Medical Sciences Building – our newly renovated departmental office. Yes! After a long project, lots of dust, jackhammers, and anticipation, the department has renovated office and laboratory space. A look at just one of the “before and after” photos below is enough to appreciate the changes. This is an outstanding opportunity to grow the department. We are fortunate to have made two outstanding faculty recruitments to complement the increase in space. Dr. David Basile joins us from the Medical College of Wisconsin as an Associate Professor and Dr. Simon Rhodes joins us from the Biology Department at IUPUI as a Professor and Associate Dean for Graduate Studies. Both faculty will contribute to the research and educational missions of the



BEFORE



AFTER

department. We are pleased to report that the number and quality of Ph.D. students being recruited this year is exceptional and we look forward to their participation in our extensively revised curriculum. All of these developments contribute to our mission to conduct outstanding research and teaching.



A special thanks goes to Tracy McWilliams for her extra hard work in getting the job done.

See more photo's on last 2 pages.



Edited by

C.E. Patterson, Indiana University School of Medicine & Roudebush VA Medical Center, Indianapolis, IN, USA

Carolyn E. Patterson, Ph.D., was chosen to edit "Perspectives on Lung Endothelial Barrier Function", a new volume in the series Advances in Molecular and Cell Biology, published by Elsevier, Amsterdam. This edition will be available in both print and electronic format in December, 2004.

Steve Kempson was elected a Fellow of the American Society of Nephrology for 5 years, and will serve on the AHA Cell Function & Metabolism Peer Review Study Group in April 05.

Publications

[Hui, C.S., Besch, H.R., Jr. and Bidasee, K.R.](#) (2004) Effects of ryanoid on spontaneous and depolarization-evoked calcium release events in frog muscle. *Biophys. J.* 87, 243-255.

[Hui, C.S.](#) (2005) Association of the I_T and I_S charge movement with calcium release in frog skeletal muscle. *Biophys. J.* 88, 1030-1045.

[Basile DP, Fredrich K, Alausa M, Vio CP, Liang M, Rieder MR, Greene AS, Cowley Jr AW.](#) Identification of persistently altered gene expression in kidney following functional recovery from ischemic acute renal failure. *Am J Physiol Renal Physiol.* 2005 Jan 4; [Epub ahead of print] PMID: 15632414 [PubMed - as supplied by publisher]

[Spurgeon KR, Donohoe DL, Basile DP.](#) Transforming growth factor-beta in acute renal failure: receptor expression, effects on proliferation, cellularity, and vascularization after recovery from injury. *Am J Physiol Renal Physiol.* 2005 Mar;288(3):F568-77. Epub 2004 Nov 09. PMID: 15536165 [PubMed - in process]

[Zani BG, Bohlen HG.](#) Sodium channels are required during in vivo sodium chloride hyperosmolarity to stimulate increase in intestinal endothelial nitric oxide production. *Am J Physiol Heart Circ Physiol.* 2005 Jan;288(1):H89-95. Epub 2004 Aug 26. PMID: 15331363 [PubMed - in process]

[Tepper RS, Ramchandani R, Argay E, Zhang L, Xue Z, Liu Y, Gunst SJ.](#) Chronic Strain Alters the Passive and Contractile Properties of Rabbit Airways. *J Appl Physiol.* 2005 Jan 27; [Epub ahead of print] PMID: 15677739 [PubMed - as supplied by publisher]

[Zhou J, Herring BP.](#) Mechanisms responsible for the promoter specific effects of myocardin. *J Biol Chem.* 2005 Jan 17; [Epub ahead of print] PMID: 15657056 [PubMed - as supplied by publisher]

[Yin F, Herring BP.](#) GATA-6 Can Act as a Positive or Negative Regulator of Smooth Muscle-specific Gene Expression. *J Biol Chem.* 2005 Feb 11;280(6):4745-52. Epub 2004 Nov 18. PMID: 15550397 [PubMed - in process]

[Korte FS, Mokelke EA, Sturek M, McDonald KS.](#) Exercise improves impaired ventricular function and alterations of cardiac myofibrillar proteins in diabetic dyslipidemic pigs. *J Appl Physiol.* 2005 Feb;98(2):461-7. Epub 2004 Oct 01. PMID: 15465890 [PubMed - in process]

[Mokelke EA, Dietz NJ, Eckman DM, Nelson MT, Sturek M.](#) Diabetic dyslipidemia and exercise affect coronary tone and differential regulation of conduit and microvessel K⁺ current. *Am J Physiol Heart Circ Physiol.* 2005 Mar;288(3):H1233-41. Epub 2004 Nov 04. PMID: 15528227 [PubMed - in process]

[Tanner JA, Tanner GA.](#) Dietary potassium citrate does not harm the pcy mouse. *Exp Biol Med (Maywood).* 2005 Jan;230(1):57-60. PMID: 15618126 [PubMed - indexed for MEDLINE]

[Parker GE, West BE, Witzmann FA, Rhodes SJ.](#) Serine/threonine/tyrosine phosphorylation of the LHX3 LIM-homeodomain transcription factor. *J Cell Biochem.* 2005 Jan 1;94(1):67-80. PMID: 15517599 [PubMed - in process]

[Vuppalanchi R, Marri S, Kolwankar D, Considine RV, Chalasani N.](#) Is adiponectin involved in the pathogenesis of nonalcoholic steatohepatitis?: a preliminary human study. *J Clin Gastroenterol.* 2005 Mar;39(3):237-42. PMID: 15718867 [PubMed - in process]

[Nevins AK, Thurmond DC.](#) A direct interaction between Cdc42 and vesicle-associated membrane protein 2 regulates SNARE-dependent insulin exocytosis. *J Biol Chem.* 2005 Jan 21;280(3):1944-52. Epub 2004 Nov 09. PMID: 15537656 [PubMed - in process]

[Meiss RA, Pidaparti RM.](#) Active and passive components in the length-dependent stiffness of tracheal smooth muscle during isotonic shortening. *J Appl Physiol.* 2005 Jan;98(1):234-41. Epub 2004 Aug 27. PMID: 15333613 [PubMed - in process]

Invited review article: [Kempson SA & Montrose MH](#) (2004). Osmotic regulation of renal betaine transport: transcription and beyond. *Pfluegers Archiv* 449:227-234

[Mannix, E.T., H.O. Steinberg, S. Faryna, J. Hazard, R.J. Engel, M.F. Busk.](#) Chapter 13. The Role of Physical Activity, Exercise, and Nutrition in the Treatment of Obesity. In: *The Management of Eating Disorders and Obesity*, 2nd Edition, ed. D.J. Goldstein. Humana Press, Totowa, New Jersey: pg 181-207, 2004.

[Mannix, E.T., M.A. Roberts, H.J. Dukes, C.J. Magnes, M.O. Farber.](#) Airways hyperresponsiveness in high school athletes. *Journal of Asthma*, 41:567-574, 2004.

Invited Seminars

Jan 2005 [Sturek, M.](#) "Porcine diabetes models". Seminar, Swine in Biomedical Research Conference 2005, Chicago, IL.

Mar 2005 [Sturek, M.](#) "Coronary artery membrane signaling mechanisms in diabetes". Seminar, Department of Physiology, LSU Medical Center, New Orleans, LA.

New Physiology Ph.D. Students

Holly Bauser, also admitted to Medical School for 2005

Yong Gao

Ayman Mustafa

Ketrija Touw

Ryan Widau

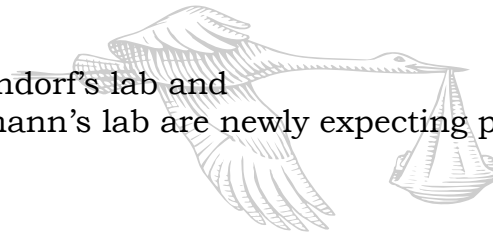
Reina Watanable

IUPUI Spring Break – March 14 – 20, 2005

Campus Spring Holiday will be Friday, March 25, 2005

Upcoming Arrivals

Padma Bhonagiri in Jeffery Elmendorf's lab and Heather Ringham in Frank Witzmann's lab are newly expecting parents. Congratulations.



Other News

Pat Gallagher received an NIH grant entitled Regulation of receptor trafficking by myosin II effective 8/1/05.

Jiliang (Leo) Zhou received an American Heart Postdoctoral Fellowship effective 1/1/05.

Brett Zani from Glenn Bohlen's lab has moved to Massachusetts Institute of Technology to Study Tissue Engineering in the Department of Medicine for his Post-doctoral training.

Welcome -

Work study students in Mike Sturek's lab:

Carla Hanafee
Kesha Fields
Caleb Jensen

Technician in Eric Mokolke's lab:

James Hidalgo

Ami Rice, MS student, with C.S. Packer has won a Society of Experimental Biology & Medicine 2005 Young Investigator Award for her abstract: "Oxidized low density lipoprotein (OX-LDL) induced arterial muscle contraction may depend on synergistic myosin light chain kinase (MLCK) and rho kinase signaling pathways." Ami will present this work at IUPS/EB'05 and will be honored at a reception in San Diego on April 1st. Co-authors are Richard Peterson (Anatomy), Jesus Dominguez (Nephrology) and C. Subah Packer.

Richa Sharma, one C.S. Packer's past Project SEED students and her current undergraduate summer research student, has been awarded an all expense-paid trip to attend the American Chemical Society National Meeting and Bader Scholars Reunion in San Diego, California March 12 - 15, 2005. Richa is also one of the first recipients of the Ellis K. Fields National Meeting Award for Project SEED.

Angelia Lockett will be going to an Inflammation and Cancer Meeting Feb 27-Mar 3 in Breckenridge, Colorado. She received a travel fellowship from Keystone Symposia to attend the meeting.

"SECURITY" In January C.S. Packer in MS 309 and others on the first floor of the medical science building had personal items stolen from their offices. Fortunately the items were returned, less the cash. Please lock up your valuables and be aware of who belongs in your area. If you suspect a person(s), please contact 4-7911, report immediately.

THIS JUST IN

Fortune Magazine

<http://www.fortune.com/fortune/thisjustin/0,15704,1025759,00.html?promoid=moreover>

Porky Pigs

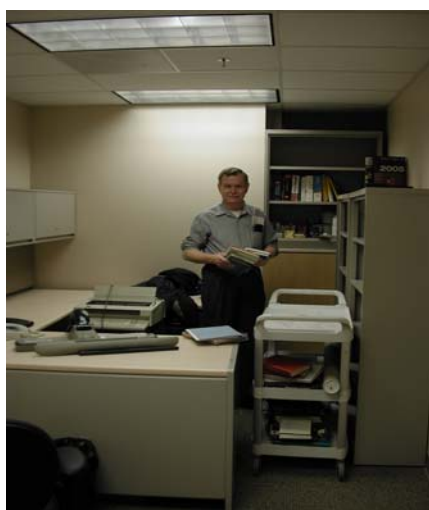
On an island off Georgia, wild hogs developed many traits of human couch potatoes. Scientists are excited.

By [Lawrence A. Armour](#)

Our story begins like a made-for-TV movie—scientists swoop in and make a daring, against-all-odds rescue from a desolate island off the coast of Georgia—and it just gets better. Instead of finding their freedom on the mainland, the island's inhabitants are tossed into steel-and-concrete cages where white-coated technicians poke and prod, take tissue samples, and have their way with the ladies. There's bloodletting, even incest.

All this drama concerns a bunch of pigs—descendants of a small herd of Iberian swine that Spaniards brought to Ossabaw Island more than 500 years ago. Read more at: <http://www.fortune.com/fortune/thisjustin/0,15704,1025759,00.html?promoid=moreover>

Physiology Finally Moves! January 2005



Photography by Jim Vuchetich

And last but not least, the move took a little more out of some.



We are all glad it is over.

Happy Spring!