



FUNCTIONS IN PHYSIOLOGY

June-August 2008

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Fellows Becomes Professor Emeritus



Robert E. Fellows, M.D., Ph.D. former Head of the Department of Physiology and Biophysics, became Professor Emeritus on June 3, 2008. Fellows served as Head of the department from 1976-2002.

Fellows earned his M.D. from McGill University in 1959 and his Ph.D. in biochemistry from Duke University in 1969. Through 1966-1970 he was an Assistant Professor in the Department of Physiology and Pharmacology at Duke before also being appointed as an Assistant Professor in the Department of Medicine from 1966-1976. In 1970 he was promoted to Associate Professor of Physiology and Pharmacology and served as the Associate Director of the Medical Scientist Training Program at Duke from 1972 until he was appointed as Head of Physiology and Biophysics in the UI College of Medicine in 1976.

During his tenure Dr. Fellows directed an active research program studying the role of insulin and related peptide factors in growth and development of cellular systems. He established the Iowa Medical Scientist Training Program (MSTP) and also played a major role in starting the Interdisciplinary Ph.D. Program in Neuroscience. He has also served on numerous national, university and collegiate committees, directed several Ph.D. students and postdoctoral fellows, and has published over 75 peer-reviewed scientific articles.

Department Welcomes New Faculty Member



Professor in the Department of Pharmacology.

Wright's laboratory focuses on defining the

composition, activity, and overall cellular function of protein complexes in higher organisms. He utilizes state-of-art methods in quantitative mass spectrometry to understand protein network function on a global scale in the normal and diseased state.

Mike and his wife, Amy Minter, announced the birth of their son, Kingston Minter Wright, on August 19th. They will move to Iowa City this fall, and Amy will begin working with the Iowa City school district's After School Program in January.

Points of Interest

- Did you know that contact information, including emergency contact numbers, are listed on our department website?
- Want to know more about the Department? Read about the history of the department on our website!

Department Receives Memorial Gift for Scholarship Fund



The Department of Molecular Physiology and Biophysics is pleased to announce the creation of a new scholarship made possible by a generous memorial gift. The Dr. Ramon D. Buckley

Graduate Student Scholarship Fund honors the late Ramon "Ray" Buckley, a 1961 graduate of our department. The fund was established by his daughter Kimberly Vargas; her husband, Robert; and grandson,

Douglas Ramon Buckley Vargas of Pasadena, CA.

After graduating from the Iowa State Teachers College in 1957 with a master's degree in education, Ray taught high school science while saving money for his Ph.D. studies. With Dr. Byron A. Schottelius as his advisor, Ray completed a dissertation on muscular dystrophy and earned his Ph.D. degree from the University of Iowa in 1961. After his UI graduation he moved to southern California to conduct Pulmonary Research at the Uni-

versity of Southern California (USC). He conducted initial smog studies, which were used to establish the Environmental Protection Agency's standards for car exhaust emissions. (*UI Foundation Buckley Bio*).

Heidi Hehnly, a graduate student in the laboratory of Dr. Mark Stamnes, is the inaugural recipient of the Dr. Ramon D. Buckley Graduate Student Scholarship Fund. Heidi was also the recipient of the 2007 Dr. Byron A. Schottelius Teaching Award.

Schmidt Visits Harvard Macy Institute

Dr. Thomas Schmidt, Assistant Dean for Student Affairs and Curriculum in CCOM and Professor of Molecular Physiology and Biophysics, was invited to serve as a Faculty Member for the 2008 Harvard Macy Institute – Program for Leading Innovations in Health Care and Education. According to their website, the program's objective is to teach "educational leaders (to) develop their own action plans for

leading and managing change to fulfill their institution's educational mission."

This summer Dr. Schmidt was also invited by the American Physiological Society to serve as a Physiologist in Residence and helped run their Frontiers Program – Teaching Workshop for High School and Middle School Science Teachers. He also attended the 12th Annual Meeting of the

International Association of Medical Science Educators in Salt Lake City, Utah. At the meeting he presented a poster in which he compared and contrasted medical student grading systems used at CCOM with those used at Jordanian medical schools.



Department Submits Nine AHA Grant Applications

During the week of July 7th the Department of Molecular Physiology and Biophysics submitted nine American Heart Association (AHA) grant applications to the National and Midwest Affiliate Research Programs. The department was the leading department at the University of

Iowa for the week's submission date to the AHA.

Congratulations to: Dr. Syed Alam, Postdoc; Matt Barnes, Graduate Student; Dr. Sarah England, Associate Professor; Dr. Renzhi Han (2), Research Scientist; Dr. Scott Moyer-Rowley, Professor; Stephanie

Pierce, Graduate Student; Dr. Rob Piper, Associate Professor; and Dr. Mark Stamnes, Associate Professor.

Grants were submitted with a significant amount of assistance from Karen Horner. Her hard work and dedication was greatly appreciated by everyone.

Congratulations for Recent Grant Awards

Dr. Michael Henry has been awarded a NIH RO1 Grant for a total of five years.

Dr. Andy Russo received a two-year Grant-In-Aid award from the American Heart Association Heartland Affiliate.

Dr. N. Charles Harata received a two-year award from the NSF.

Dr. Scott Moyer-Rowley received a competitive renewal of his NIH RO1 grant.

Dr. Robert Piper received a two-year supplement for his NIH RO1 award.

Daniel Stringer, a Ph.D Student in the laboratory of Dr. Robert Piper, received a two-year predoctoral fellowship from the AHA..

Brandy Barren was awarded a two-year predoctoral fellowship from the American Heart Association. Brandy is a graduate student in Dr. Nikolai Artemyev's laboratory.



Howard Hughes Medical Institute Contributes to UI Flood Recovery

University of Iowa News Release
August 19, 2008

The University of Iowa and the UI Roy J. and Lucille A. Carver College of Medicine have received \$1 million from the Howard Hughes Medical Institute (HHMI) to help the biomedical research enterprise recover from the effects of the summer 2008 flood.

Despite escaping the floodwaters that devastated other areas of campus, the UI Carver College of Medicine, and in particular the biomedical research community, was seriously affected by the shutting down of the UI Power Plant. The plant provides steam, which is essential for air conditioning and temperature control as well as autoclave operations and hot water production.

It is critical that these heating and cooling capabilities are maintained to keep the research enterprise operational. The HHMI contribution will help pay for a number of temporary systems that will provide steam and chilled water to the Carver College of

Medicine facilities on the west campus.

"We are extremely grateful to HHMI for this generous contribution," said **Paul Rothman, M.D.**, Dean of the UI Carver College of Medicine. "The speed at which HHMI responded to our request for help speaks volumes to the Institute's commitment to sustaining and fostering biomedical research across the nation."

The HHMI does not normally contribute to disaster recovery at educational institutions. However, in announcing the contribution, Thomas R. Cech, president of HHMI, noted that the situation at the UI provided compelling reasons for HHMI to help. According to Cech, "the Carver College of Medicine is home to four HHMI investigators -- **Kevin Campbell, Ph.D.**, Val Sheffield, M.D., Ph.D., Edwin Stone, M.D., Ph.D., and **Michael Welsh, M.D.** -- whose research contributes directly to HHMI's mission of advancing biomedical research in the United States.

"Given the magnitude of the flood and its

devastating effect on the UI campus, we needed to participate in the recovery," Cech said.

The series of events that led to the HHMI contribution was set in motion by **Kevin Campbell**, HHMI investigator at the UI and Professor and Head of Molecular Physiology and Biophysics. **Campbell** alerted HHMI to the severe consequences of the flooding to the biomedical research enterprise. Officials at the Carver College of Medicine kept HHMI administrators apprised of the situation throughout the flood emergency and into the recovery period.

Subsequently the UI and Carver College of Medicine leadership sent a formal letter to HHMI outlining the temporary systems required to safeguard and maintain the research enterprise and the cost of leasing and installing them. HHMI responded rapidly with the \$1 million.

Faculty Teaching Efforts Receive Positive Review

Chris Cooper, Associate Dean for Student Affairs and Curriculum in CCOM, was pleased to notify the department that many of our faculty members received very positive reviews for their medical student teaching efforts last year.

Overall, the department is doing very well. Human Organ Systems, of which Dr. Thomas Schmidt serves as Co-course Director, was rated as being exceptionally well planned and organized. Schmidt also received an outstanding evaluation for directing the course and the highest teaching evaluation among all the faculty who gave more than one lecture in the course. Additionally, for the past four years, the percentage of Iowa graduating medical students who ranked this physiology course as excellent, in terms of preparing them for their subsequent clinical clerkships, was well above the national average.

Medical Cell Biology, directed by Dr. Andrew Russo, received outstanding feedback from students who indicated their feeling that all lecturers (including Drs. Andy Russo, Sarah England, Michael Henry, and Tom Schmidt) were genuinely interested in teaching them, which heavily influenced students' interest and success in the course. Russo also received an outstanding evaluation for directing the course and for his teaching.

Physiology for Physician Assistants, which is Co-directed by Drs. Erwin Shibata and Ben Pardini, also received positive remarks. In addition, several of the faculty, including Drs. Michael Henry, Ben Pardini, and Francisco Mora, as well as several of our graduate students, did an excellent job teaching this past summer.

The Physician's Assistant program at the University of Iowa was ranked #1 in the nation this past year.

"Many times a day I realize how much my own outer and inner life is built upon the labors of my fellow men, both living and dead, and how earnestly I must exert myself in order to give in return as much I have received".

-Albert Einstein

Rothman Named Dean of UI Carver College of Medicine



Paul Rothman, M.D. has been named Dean of the UI Roy J. and Lucille A. Carver College of Medicine. Dr. Rothman's appointment became effective June 1, 2008.

Dr. Rothman has served as the Francois M. Abboud Chair in Internal Medicine at the University of Iowa

since 2004. Also, in 2004 he received secondary appointments in the Department of Molecular Physiology & Biophysics and the Department of Microbiology. Dr. Rothman has provided clinical care for more than 20 years as an expert in rheumatology. He has provided leadership for numerous college, university and professional committees as well as trained medical students, residents and fellows and published extensively.

As Dean, he will also serve as executive director of UI Physicians, which manages the business affairs of the College's faculty physicians.

Rothman succeeded Jean Robillard, M.D., who stepped down from the deanship to focus on serving as the UI Vice President for Medical Affairs.

Sigmund Named Chair in Hypertension Research

Curt D. Sigmund, Ph.D., Professor of Internal Medicine and Molecular Physiology & Biophysics has been appointed as the Roy J. Carver Chair in Hypertensive Research. The five-year appointment was effective July 1, 2008.

According to a recent UI news release, the endowed chair was established through gifts to the UI Foundation by the Roy J. Carver Charitable Trust of Muscatine, IA to support research in cardiovascular medicine at the University of Iowa.

Dr. Sigmund's appointment is in recognition of his international prominence in the field of cardiovascular medicine, his outstanding academic achievements, and his numerous contributions to the UI Carver College of Medicine.



Ramaswamy Joins Department



Dr. Subramanian Ramaswamy (Rams), Associate Professor of Biochemistry, joined Molecular Physiology and Biophysics in July as a secondary faculty member.

In 1992 Rams received his Ph.D. in Molecular Biophysics from the India Institute of Science in Bangalore, India. From 1992-1994 he completed his

postdoctoral work at the Swedish University of Agricultural Sciences in Uppsala, Sweden. Following his postdoctoral fellowship, Rams worked as a Researcher in the Department of Biology in the Biomedical Center. In 1997 he was appointed as an Associate Professor (Docent) at the Swedish University of Agricultural Sciences. He joined the University of Iowa as an Assistant Professor in the Department of Biochemistry in 2000 and was promoted to

Associate Professor in 2003. Rams also holds an Adjunct Associate Professor appointment in Chemical and Biochemical Engineering and in August 2006 he was appointed as the Carver College of Medicine Assistant Dean for Scientific Affairs.

Rams' research interests include: protein crystallography, structural enzymology of naphthalene dioxygenase and alcohol dehydrogenase.

Mohler and Pardini Promoted to Associate Professor

Congratulations to Secondary Faculty members Drs. Benet (Ben) Pardini and Peter Mohler on being promoted to Associate Professor, effective July 1, 2008.

Dr. Pardini earned his Ph.D. in Physiology from Loyola University of Chicago in Maywood, IL in 1983. From 1983-1985 he completed his postdoctoral work in the Cardiovascular Center in the UI Carver College of Medicine (CCOM), and went on to Woods Hole Marine Biological

Laboratory in Woods Hole, MA before returning to UI to earn his MPAS in 1998 in the UI Physician Assistant Program. Since 1998 Pardini has been a Physician Assistant in the Department of Pediatrics in the CCOM. He joined the Department of Molecular Physiology and Biophysics in 1992 as an Adjunct Assistant Professor and received a secondary appointment in 2002.

Dr. Mohler earned his Ph.D. in Cell and Molecular Physiology from the University

of North Carolina at Chapel, NC in 2000. From 2000-2004 he was a postdoctoral fellow for HHMI at Duke University Medical Center in Durham, NC. In 2004 Mohler became an Assistant Professor in the Department of Pathology at Vanderbilt Univ. in Nashville, TN before joining the Department of Internal Medicine at UI CCOM in June 2006. In December 2006 he also received a secondary appointment in Molecular Physiology and Biophysics.

Granner Receives Middleton Award from VA



Daryl Granner, M.D., was recently awarded the William S. Middleton Award by the Department of Veterans Affairs. Dr. Granner has been a Visiting Professor in Molecular Physiology and Biophysics since 1984 and became Professor Emeritus this August. He is also Professor and Past Head of the Department of Molecular Physiology & Bio-

physics at Vanderbilt University in Nashville, TN.

The Middleton Award honors outstanding achievement in biomedical or behavioral research in Biomedical Laboratory Research and Development Services (BLR&D) and is the VA's highest honor in scientific achievement. Established in 1960, the Middleton Award honors William S. Middleton, M.D., who was a distinguished educator, physician-scientist, and VA Chief Medical Director for over 60

years, beginning in 1911.

Dr. Granner, who is a recognized international leader in molecular biology and diabetes research, served as a Staff Physician in the Veteran's Administration Hospital in Nashville from 1997-2004.

Dr. James B. Peake, Secretary, Department of Veterans Affairs, presented Dr. Granner with the award at the VA Research Forum held on May 23, 2008 in Washington, D.C.

Annual Department Picnic Draws Record Crowd



A record number of faculty and staff and their families attended this year's Molecular Physiology and Biophysics picnic. The picnic, which drew over 150 people, was held the evening of Wednesday, August 13th at the S.T. Morrison Park in Coralville.

The annual event is normally held at the Iowa City Park. However, due to severe flooding in lower City Park the event was moved to Coralville this year. Picnic goers enjoyed the usual menu of grilled hamburgers, brats, hotdogs and veggie burgers, fresh fruit and vegetables, potato salad, and baked beans. They were also treated to a surprise visit from a Peppy's Ice Cream Truck for dessert.



Above - Postdoc Geoffrey Lively and Research Assistant Adam Hedberg-Buenz enjoy a game of bocce ball during the annual department picnic. Both are part of Dr. Mike Anderson's lab.

Left - Sabrina, daughter of Dr. Rongbin Guan (Postdoc in Dr. Debbie Segaloff's lab) takes a moment from playing to enjoy a cool treat delivered by the Peppy's Ice Cream truck.

Alumni News



Wei Guo, Ph.D., was notified this spring that he has been given tenure and is now an Associate Professor at the University of Pennsylvania in the Department of Biology. Wei was a graduate student in Dr. Kevin Campbell's lab Jan 1992 - Dec. 1995 and completed his postdoctoral fellowship at Yale University

School of Medicine in the Dept. of Biology.

Myoung-Goo Kang, Ph.D., has accepted a position as an Assistant Professor in the Department of Neuroscience and Cell Biology at the University of Texas Medical Branch (UTMB) in Galveston. Myoung was a graduate student in Dr. Kevin Campbell's lab from Jan 1998 - Feb 2003 and completed an HHMI postdoctoral fellowship in the lab of Dr. Richard Huganir in the Department of Neuroscience at Johns Hopkins School of Medicine.

Congratulations for Recent Publications & Reviews

Ainsley JA, Kim MJ, **Wegman LJ**, Pettus JM, **Johnson WA**. “Sensory mechanisms controlling the timing of larval developmental and behavioral transitions require the *Drosophila* DEG/ENaC subunit, Pickpocket1”. *Dev Biol*. 2008 Jul

Anderson MG, Hawes NL, **Trantow CM**, Chang B, John SW. “Iris phenotypes and pigment dispersion caused by gene influencing pigmentation.” *Pigment Cell Melanoma Res*. 2008 July.

Chang M. Cooper JD, Sleat DE, Cheng SH, Dodge JC, Passini MA, Lobel P, **Davidson BL**. “Intraventricular enzyme replacement improves disease phenotypes in a mouse model of late infantile neuronal ceroid lipofuscinosis”. *Mol Ther*. 2008 Apr.

Dylla DE, Michele DE, **Campbell KP**, McCray PB Jr. “Basolateral entry and release of New and Old World arenaviruses from human airway epithelia.” *J Virol*. 2008 Jun.

Erickson JR, Joiner ML, Guan X, Kutschke W, Yang J, Oddis CV, Bartlett RK, Lowe JS, O'Donnell SE, Aykin-Burns N, Zimmerman MC, Zimmerman K, Ham AJ, Weiss RM, Spitz DR, Shea MA, Colbran RJ, **Mohler PJ**, **Anderson ME**. “A dynamic pathway for calcium-independent activation of CaMKII by methionine oxidation”. *Cell*. 2008 May.

Gulshan K, **Schmidt JA**, **Shahi P**, **Moye-Rowley WS**. “Evidence for the bifunctional nature of mitochondrial phosphatidylserine decarboxylase: role in Pdr3-dependent retrograde regulation of PDR5 expression.” *Mol Cell Biol*. 2008 July.

Hund TJ, Zimm AP, Lederer WJ, **Mohler PJ**. “The cardiac IP3 receptor: Uncovering the role of “the other” calcium-release channel”. *J Mol Cell Cardiol*. 2008 June.

Kobuke K, Piccolo F, **Garringer KW**, Moore SA, Sweezer E, Yang B, **Campbell KP**. “A common disease-associated missense mutation in alpha-sarcoglycan fails to cause muscular dystrophy in mice. *Hum Mol Genet*”. 2008 May.

Li H, Zhou X, Davis DR, **Xu D**, **Sigmund CD**. “An androgen-inducible proximal tubule-specific Cre recombinase transgenic model”. *Am J Physiol Renal Physiol* 2008 June.

Muradov H, **Kerov V**, **Boyd KK**, **Artemyev NO**. “Unique transducins expressed in long and short photoreceptors of lamprey *Petromyzon marinus*. *Vision Res*. 2008 Aug .

Ren J, **Pashkova N**, **Winistorfer S**, **Piper RC**, “DOA1/UFD3 plays a role in sorting ubiquitinated membrane proteins into multivesicular bodies”. *J Biol Chem*. 2008 May.

Satz JS, **Campbell KP**. “Unraveling the ribbon synapse”. *Nat Neurosci*. 2008 Aug

Shi PP, Cao XR, Sweezer EM, Kinney TS, Williams NR, Husted RF, Nair R, Weiss RM, Williamson RA, **Sigmund CD**, **Snyder PM**, Staub O, Stokes JB, Yang B. “Salt-Sensitive Hypertension and Cardiac Hypertrophy in Mice Deficient in the Ubiquitin Ligase Nedd4-2”. *Am J Physiol Renal Physiol*. 2008 June.

Zhou X, **Weatherford ET**, Liu X, Born E, Keen HL, **Sigmund CD**. “Dysregulated Human Renin Expression in Transgenic Mice Carrying Truncated Genomic Constructs: Evidence Supporting the Presence of Insulators at the Renin Locus.” *Am J. Physiol Renal Physiol*. 2008 July.

Upcoming Events

Also see: http://www.physiology.uiowa.edu/news/this_week.htm



September 18th: Physiology Graduate Student Symposium

September 21st-27th: University of Iowa Homecoming Week

November 22nd-30th: Thanksgiving Recess

December 11th: Physiology Departmental Winter Party

December 15th-19th: Finals Week

December 25-26th: University Holiday, Offices Closed for Christmas

January 1st: University Holiday, Offices Closed for New Year's Day

We're on the Web! Visit us at:

<http://www.physiology.uiowa.edu>

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March
June
September

The Department of Molecular Physiology and Biophysics contributes broadly to the biomedical sciences nationally and internationally through its commitment to excellence in research, teaching and professional services. Our objectives are to play a leading role in biomedical research, to excel in the teaching of physiology and biophysics, and to maintain a creative, supportive and productive environment in which we are able to fulfill career objectives and aspirations.
