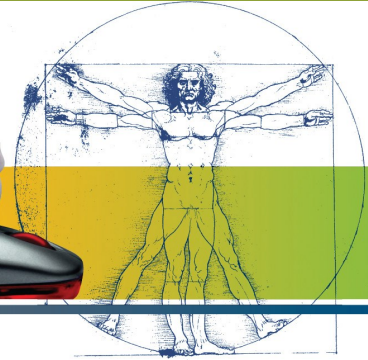
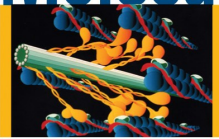


UNIVERSITY OF MICHIGAN

# Molecular & Integrative Physiology



November  
2009

## A Message From Our Chair

Dear Colleagues and Friends:

The legacy of our Physiology Department continues with 127 years and counting. It is my pleasure to take this opportunity to highlight some of the activities and events that have taken place during the past year. The most important part of the department is its people and on that front we have added to our faculty family several new members including: Malcolm Low from the University of Oregon as Professor; Scott Pletcher from Baylor College of Medicine as Associate Professor; Yatrik Shah from the National Cancer Institute as Assistant Professor; Lei Yin from the University of Pennsylvania as Assistant Professor; Nancy Linford from Baylor College of Medicine as a Research Investigator; and Xin (Tony) Tong from the University of Pennsylvania as a Research Investigator. We are also actively recruiting in the areas of reproductive sciences, cardiovascular physiology and systems biology. In addition, joint appointments were extended to Justus Anumonwo (Assistant Professor, Internal Medicine/Cardiology), Peter Arvan (Professor, Internal Medicine/Metabolism, Endocrinology & Diabetes), Lori Isom (Professor, Pharmacology) and Chung Owyang (Professor, Internal Medicine/Gastroenterology). More information pertaining to our new faculty members is provided in this Newsletter. Collectively, this brings us to a total of 27 primary faculty, 35 joint faculty, 7 adjunct and 8 active and inactive emeritus faculty members, and 5 research faculty. The depth and breadth of the expertise of our faculty place us among the elite institutions in terms of what we are able to offer to our students and trainees.

Several highlights pertaining to the University of Michigan deserve mention, which directly or indirectly have a positive impact on our department. First, is the acquisition of the former Pfizer facility located at Huron Parkway and Plymouth Road. This was formalized in June 2009 and includes a 30-building complex that will add nearly 1 million square foot of research space. The potential of having this new space is transformative and the medical school, which is a major investor and beneficiary of this purchase, is involved in discussion and planning to define the groups and areas of focus that will be moving to what is now called the North Campus Research Complex (NCRC). Second, is the manner by which the University of Michigan has been able to overcome the current economic climate because of its planning and fiscal management of its endowment and the clinical operations of the health care system. These excellent economic policies have made it feasible for us to continue to excel in our educational mission and to grow in a strategic manner. Third, the University of Michigan Medical School moved from an 11<sup>th</sup> national ranking in total NIH dollars in 2007 to 7<sup>th</sup> in 2008 (measured from Oct through Sept), which is the highest ranking the School has received. During 2008, our physiology

department ranked 10<sup>th</sup> nationally in NIH dollars, and we are even more excited because we anticipate that this ranking will improve to single digits during 2009, since our grant funding increased from 10.6 million dollars in 2008 to 13.6 million dollars in 2009.

Highlights of the 2008-2009 academic year include the John Faulkner Day event (please see more details on page 2) and the naming of John A. Williams as the first recipient of the Horace W. Davenport endowed collegiate professorship in physiology (ceremony planned for February 1, 2010). We are also embarking on an effort to establish the John A. Williams Collegiate Professorship of Gastrointestinal Physiology to honor John's contributions and service to our department and the field (please see the back of this Newsletter for our fund-raising efforts). John remains a very active and essential member of our department and he continues to hold two NIH grants (including a prestigious NIH Merit "R37" Award) and oversees our Systems and Integrative Biology Training Grant. Of course, my faculty colleagues would scold me if I did not mention as another highlight that this year's student-faculty annual softball game was won by the faculty with a score of 11-3 and I am not sure if this margin can ever be duplicated.

To our alumni and former co-workers, I hope you will stay in touch and visit us or visit our website at [www.physiology.med.umich.edu](http://www.physiology.med.umich.edu). It is an honor and a privilege for me to be part of the Physiology Department at the University of Michigan.

With very best wishes,

*Bishr Omary*

### 2009 Physiology Faculty



**1st Row:** Yatrik Shah, Dolores Sans-Gili, Lei Yin, Bishr Omary, Susan Shore, Lisa Larkin, Louis D'Alecy, Jimo Borjigin **2nd Row:** Geoffrey Murphy, Xin (Tony) Tong, Carey Lumeng, Ken Inoki, Susan Brooks, John Faulkner, Beth Rust, Michael Sutton **3rd Row:** Gary Hammer, Ormond MacDougald, Liangyou Rui, Edward Stuenkel, John Williams, Santiago Schnell, David Pinsky, Chuck Burant, Marc Hershenson **4th Row:** Daniel Michele, Malcolm Low, Shawn Xu, Rick Mortensen, Anatoli Lopatin, Scott Pletcher, Linda Samuelson



Molecular & Integrative  
Physiology

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## New Primary Faculty



**Nancy Lindford**

*"I am using *Drosophila melanogaster* as a model to understand how sleep and aging interact on a molecular level and how environmental factors influence this relationship."*



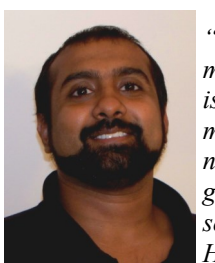
**Malcolm Low**

*"Our laboratory is pursuing the big question of how the hypothalamus integrates information coming from other brain areas and the peripheral circulation to maintain stable body weight."*



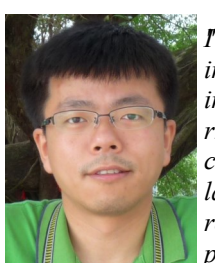
**Scott Pletcher**

*"Our goal is to identify and investigate genetic mechanisms that are likely to be important for aging and age-related disease in humans by focusing on equivalent, conserved processes in the fruit fly, *Drosophila melanogaster*"*



**Yatrik Shah**

*"The major goal of my research program is to determine the molecular mechanisms by which oxygen sensing transcription factors HIF1alpha and HIF2alpha regulate gastrointestinal homeostasis, inflammation and cancer."*



**Xin (Tony) Tong**

*"I am particularly interested in studying how the protein rhythmicity of key clock genes regulates circadian-related metabolic processes in mammals."*



**Lei Yin**

*"Our research focuses on the role of post-translational modifications, specifically ubiquitination in the regulation of circadian rhythm."*

## New Joint Faculty



**Peter Arvan**

*"The central focus of our laboratory is to examine molecular mechanisms involved in the trafficking and selective targeting of newly-synthesized endocrine secretory proteins."*



**Lori Isom**

*"Our laboratory studies the sodium channel beta subunits and their role in modulation of channel function, cell adhesion, neurite outgrowth, and transcription."*



**Justus Anumonwo**

*"Our laboratory studies the biophysical and regulatory properties of inward rectifier potassium current, which is critical for the excitability of cardiac cells."*



**Chung Owyang**

*"Our research interests focus on neurohormonal control of digestive functions including pancreatic secretion, GI motility and eating behavior."*

## John Faulkner Day



John Faulkner, Ph.D., was honored for his 49 years, and counting, of service to U-M at a luncheon at the U-M Alumni Center on June 4, 2009. This event was called "John Faulkner Day" and was attended by 130 "fans" that included faculty, staff, students, John's wife Margaret and his daughter Melanie (John and Margaret's second daughter, Megan, was unable to attend because of scheduling issues that were beyond her control). Other invited guests included President Mary Sue Coleman, Dean James Woolliscroft, Coach Lloyd Carr, Gary Sieck (American Physiological Society President), Martin Frank (American Physiological Society Executive Director), and Doug Noll (Chair of Biomedical Engineering). Dr. Faulkner was presented with a Lifetime Service Award, by University President Mary Sue Coleman, as the longest-serving active faculty member of the Medical School. John Faulkner joined the faculty of the University of Michigan in 1960 and moved to the Physiology Department as an Associate Professor in 1966. Dr. Faulkner has also been a member of the American Physiological Society (APS) for over 41 years. Gary Sieck and Martin Frank read a pro-

clamation issued by the APS acknowledging Faulkner's extensive and important contributions to research, teaching, and mentoring in the field of Physiology. John was presented with a commemorative plaque engraved with the APS proclamation. Remarks were also given by Dean Woolliscroft, then by Bishr Omary and finally John Williams (current and past chairs of our department), and by former U-M football coach Lloyd Carr who presented John with a signed U-M football helmet. The event also included a musical tribute led by faculty members James Ashton-Miller and Mark Palmer that included audience participation. The audience participation involved singing: "He's a-biking up Geddes to the U / His oldest sarcomeres to renew / Titin, Z-bands and myosin, too / John's the best o'Maize & Blue!". The highlight for the attendees was a presentation by Dr. Faulkner describing the unlikely path that brought him to the University of Michigan over 50 years ago and how he has sustained a 49-year career at Michigan. It was a wonderful opportunity to let John know how much the University, the Medical School, the Department of Molecular & Integrative Physiology, John's Colleagues and co-workers (and even the U-M football team) appreciated his contributions and how many lives he touched over the years.



## Faculty Awards & Honors 2008-2009

**Christin Carter-Su:**

**2008-2010** Gordon Conference on Prolactin and Growth Hormone Vice Chair (2008-2010), Chair (2010-2012)

**John Faulkner:**

**2009** University of Michigan Lifetime Service Award

**Lori Isom:**

**2009** Distinguished Alumni Lecturer, University of Washington, Department of Pharmacology

**2009** University of Michigan Rackham Graduate School Distinguished Faculty Award

**2009** Chair, FASEB Summer Conference on Ion Channel Regulation

**José Jalife:**

**2009** Distinguished Scientist Award of the Heart Rhythm Society

**2009** Member, Scientific Advisory Board, University of Rochester, Aab Cardiovascular Research Institute

**Fred Karsch:**

**2009** Roy O. Greep Award Lecture from the Endocrine Society

**Ormond MacDougald:**

**2009** Editorial Boards of Journal of Biological Chemistry, Obesity

**Elizabeth Rust:**

**2009** Basic Sciences Teaching Award in Physiology

**Linda Samuelson:**

**2008-2011** American Physiological Society Councilor

**Santiago Schnell:**

**2008** Member, Board of Directors of the Society for Mathematical Biology

**Jessica Schwartz:**

**2008** Distinguished Graduate Mentoring Award

**Susan Shore:**

**2008-2009** Guest Editor, American Journal of Audiology

**Michael Sutton:**

**2008** Pew Biomedical Scholar

**John Williams:**

**2008** Frank Brooks Memorial Lecture of the American Pancreatic Association

**2009** First Horace W. Davenport Collegiate Professor of Physiology

### Physiology Faculty:

**PRIMARY FACULTY (27)**

Jimo Borjigin  
Susan Brooks  
Christin Carter-Su  
Louis D'Alecy  
John Faulkner  
Ken Inoki  
Fred Karsch  
Lisa Larkin  
Anatoli Lopatin  
Malcolm Low  
Ormond MacDougald  
Daniel Michele  
Richard Mortensen  
Geoffrey Murphy  
Bishr Omary  
Scott Pletcher  
Liangyou Rui  
Elizabeth Rust  
Linda Samuelson  
Santiago Schnell  
Jessica Schwartz  
Yatrik Shah  
Edward Stuenkel  
Michael Sutton  
John Williams  
Xian-Zhong (Shawn) Xu  
Lei Yin

**RESEARCH FACULTY (5)**

Lawrence Argetsinger

Xuequn Chen  
Nancy Linfood  
Dolors Sans Gili  
Xin (Tony) Tong

**JOINT FACULTY (35)**

Justus Anumonwo  
Peter Arvan  
Robert Bradley  
Steven Britton  
Frank Brosius  
Charles Burant  
Gregory Cartee  
Mario Delmar  
Peter Dempsey  
Gary Hammer  
Todd Herron  
Mark Hershenson  
Bret Hughes  
Ao-Lin (Allen) Hsu  
Lori Isom  
José Jalife  
Richard Keep  
Carey Lumeng  
Ralph Lydic  
Ram Menon  
Juanita Merchant  
Martin Myers  
Mark Opp  
Chung Owyang  
Vasantha Padmanabhan,

Gina Poe  
David Pinsky  
Donald Puro  
Alan Saltiel  
Susan Shore  
Diane Simeone  
Gary Smith  
Michael Wang  
Margaret Westfall  
Matthew Wishart  
*(Our Joint Faculty come from  
14 departments/units)*

**ADJUNCT FACULTY (7)**

Joan Keiser  
Tatiana Kostrominova  
Nam-On Ku  
Warren Lockette  
Joseph Metzger  
Thomas Morrow  
Tadataka Yamada

**EMERITUS FACULTY (8)**

Stevo Julius  
Landis Keyes  
Richard Malvin  
John McReynolds  
Lester Rutledge  
Jurgen Schnermann  
James Sherman  
Arthur Vander

## Graduate Students



I made it through my first year as graduate director with the help of a terrific committee and lots of support from the coordinator, Michele Boggs. Of note, in the past academic year, eight students obtained their doctorates, seven passed their preliminary exams to candidacy, and six students joined Molecular & Integrative Physiology from either the Program in Biomedical Sciences or Medical Science Training Program. You can find out more about the exciting work, accomplishments and research interests of our students by visiting the graduate program webpage: <http://sitemaker.umich.edu/physgrad/home>. As we enter into the winter recruiting season, I would like to remind you that some of our greatest recruiters have been our “friends” of Physiology - particularly our alumni, former faculty, and former postdoctoral fellows. Each year several of our top applicants from across the country have crossed paths with one of you, and that influenced them to apply and/or join our program. So thank you, and please keep encouraging your best and brightest to consider the Physiology Graduate Program for their graduate studies.

We recently had a number of events to welcome our new students and celebrate the tremendous accomplishments of our existing graduate students. During our *Fall Welcome*, we introduced to the department the incoming PIBS students with an interest in Molecular & Integrative Physiology. We also presented the John A. Williams Service Award to Nathan Palpant, the Arthur J. Vander Teaching Award to Jon Mowers, and the John Bean Award for Academic Excellence to Joel McDade. Another highlight has been the *Fall Picnic* hosted by our second year graduate students during which the faculty retained the honor of winning the annual faculty-student softball game. Unlike last year, when many of the graduate students departed before the game to play intramural softball for

“The Phizz,” this year the faculty won against a full complement of students, and with only the slightest stacking of the deck. Clearly Forbes was correct when he said “Victory is sweetest when you’ve known defeat.” Thank goodness for our imported ace left fielder! Our most recent event was the *20<sup>th</sup> Annual Fall Research Forum*. There was an energetic poster session, as well as oral presentations from four graduate student finalists in competition for the Horace W. Davenport Research Award. The winner this year was Kelli VanDussen, a MIP graduate student in Linda Samuelson’s lab who presented on “Notch-Regulated Mechanisms of Intestinal Secretory Lineage Development and Stem Cell Marker Expression.” The keynote address, “Novel Mechanisms Regulating Glucose Transport in Skeletal Muscle,” was given by Laurie Goodyear of the Joslin Diabetes Center and Harvard Medical School.

The graduate students in the Molecular & Integrative Physiology department are raising funds for an endowment entitled “Graduate Education Fund in Physiology”. Their initial goal is to raise \$100,000 in three years, which will then be doubled by a match by the Medical School. Through sponsorship for the Dexter to Ann Arbor Run, sales of MIP T-shirts, and foundation support, they have achieved their first year goal of just over \$33,000. Interest generated by the endowment will be disbursed to support priorities such as research grants for high impact/high risk experiments, equipment, travel expenses for scientific meetings and stipends. Thus, this endowment will be used to propel the development of future generations of biomedical researchers & teachers, many of whom will study the mechanistic underpinnings of human maladies such as cancer, heart disease, diabetes, and obesity, translate these findings into bedside treatments, as well as train and educate future generations of our scientific community.

*Ormond MacDougald*

## 2008-2009 Recent Graduates



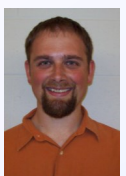
**Matthew Hyman, PhD**  
**Mentor:** David Pinsky, M.D.  
**Thesis:** Ecto-enzymes, shear stress and atherogenesis  
**Current Position:** Medical School Clinical Training, University of Michigan



**Rebecca Leshan, PhD**  
**Mentor:** Martin Myers, M.D., Ph.D.  
**Thesis:** Multiple loci of intra- and extra-hypothalamic leptin receptor expression and action in the mouse  
**Current Position:** Postdoc, Myers Lab, University of Michigan



**David Morris, Ph.D.**  
**Mentor:** Liangyou Rui, Ph.D.  
**Thesis:** SH2b1 regulates insulin sensitivity and glucose homeostasis by multiple mechanisms  
**Current Position:** Postdoc, Lumeng Lab, University of Michigan



**Nathan Palpant, Ph.D.**  
**Mentor:** Joseph Metzger, Ph.D.  
**Thesis:** Structural, functional and evolutionary implications of a histidine moiety in cardiac troponin I  
**Current Position:** Postdoc, Murry Lab, University of Washington



**Scott Robertson, Ph.D.**  
**Mentor:** Martin Myers, M.D., Ph.D.  
**Thesis:** Roles of Jak2 in leptin action: from molecular signaling to physiology  
**Current Position:** Medical School Clinical Training, University of Michigan



**Jay Salazar, Ph.D.**  
**Mentor:** Susan Brooks-Herzog, Ph.D.  
**Thesis:** Amelioration of muscle atrophy and weakness by inhibition of calpain or deacetylases during hindlimb suspension  
**Current Position:** Medical School, UCSF



**Michael Usher, Ph.D.**  
**Mentor:** Richard Mortensen, M.D., Ph.D.  
**Thesis:** Non-classical action of the mineralocorticoid receptor in macrophages controls cardiovascular inflammation  
**Current Position:** Medical School Clinical Training, University of Michigan



**Eileen Vesely, Ph.D.**  
**Mentor:** Frank Brosius, M.D.  
**Thesis:** Glut1 induced cflip expression promotes proliferation and prevents apoptosis in vsmcs  
**Current Position:** Postdoc, Martens Lab, University of Michigan



## 2009-2010 Graduate Students

*Back row:* Maeran Uhm, Jon Mowers, James Mackrell, Joel McDade, Luqia Hou, Matthew Campbell, Amy Baek, Asma Al Menhali *Middle row:* Samantha Zhang, Gwendolyn Louis, Jessica Gumerson, Sara Risley, Kelli Van Dussen, Scott Zawieja, Ryan O'Connell *Front row:* Deepti Nagarkar, Donel Sequea, Beverly Piggott, Abbie Renoux, Jordan Wright, Eneida Villanueva

### 2008-2009 Student Awards & Honors

**Anuli Anyanwu:**

Systems and Integrative Biology Training Grant

**Amy Baek:**

Systems and Integrative Biology Training Grant

**Carolyn Buller:**

Rackham Travel Award

**Katherine Campbell:**

Systems and Integrative Biology Training Grant

**Wei-Chung (Daniel) Chiang:**

Rackham Travel Award

Lapides Fellow

**Michael Doche:**

Systems and Integrative Biology Training Grant

**Jessica Gumerson:**

Rackham Graduate Research Grant

**Luqia Hou:**

Rackham Travel Award

**Gwendolyn Louis:**

Reproductive Sciences Training Grant

Rackham Travel Award

**Joel McDade:**

2009 John Bean Fellow for Academic Excellence

Systems and Integrative Biology Training Grant

**James MacKrell:**

Rackham Travel Award

**Jonathon Mowers:**

2009 Arthur J. Vander Outstanding Graduate Student Teaching Award

**Ryan O'Connell:**

Systems and Integrative Biology Training Grant

**Nathan Palpant:**

2009 John A. Williams Award for Outstanding Graduate Student Service

**Beverly Piggott:**

Rackham Travel Award

**Kelli Van Dussen:**

2009 Horace W. Davenport Award for Excellence in Research

Rackham Predoctoral Fellowship

Rackham Graduate Research Grant

Rackham Travel Award

American Physiological Society Travel Fellowship Award

American Gastroenterological Association Student Abstract Prize

2008-2009 Intramural Sports Manager of the Year (Grad/Fac/Staff Division)

**Eneida Villanueva:**

Rackham Travel Award

2009 Pat Simons Travel Award (which recognized research excellence by young investigators, The Obesity Society)

**Qiong Wang:**

Rackham Travel Award

## Karsch Retirement

After 37 years on the faculty here at Michigan, I have closed my lab and plan to begin full retirement in February 2010. This occasion causes me to reflect and put things into perspective. When I moved here with my family in 1972, my wife Nora and I considered Ann Arbor a temporary stopover until a job came up in New England, closer to where we grew up. But after being here a year or so, we came to realize this was *the* place for us. I was stimulated and challenged by the tremendous professional opportunities and great colleagues, and we were both hooked by the wonderful intellectual environment and cultural diversity of the University and Ann Arbor community, not to mention our passion for UM sports. Not only did I have a hard time imagining a better place professionally, this was a great place to raise our kids. We never regretted our decision to stay.

Sure, there have been some bumps and rough spots along my career path here, but these were far outweighed by the fabulous opportunities provided by the University and the Physiology Department. As just one example, I cannot think of another Medical School where a group of beginning faculty and their students and staff could build, from the ground up, a world-class facility for conducting research on sheep in a semi-agricultural setting – all with a total starting budget under twenty thousand dollars! This and other opportunities here have enabled me to achieve something special as we investigated neuroendocrine mechanisms that govern reproduction. For sure, the research

itself has been quite a trip and our lab has been recognized by our fair share of honors along the way. I have had wonderful colleagues, collaborators and students, and an incredibly talented and dedicated research staff. But as I think back, I am convinced that my greatest contribution has been the development of graduate students and postdoctoral fellows. Their successes both here in our lab, and especially since they have left, have given me enormous satisfaction and great pride. And as icing on the cake, I had the opportunity to direct the MIP Graduate Program during the four years before I began my retirement furlough. So as my own lab and research group were winding down, I had a new opportunity – a chance to share my insights and experiences with the entire MIP student body. I have gained great satisfaction working with this group of wonderful students and experiencing their growth as individuals and scientists.

On a personal level, my wife Nora and I have enjoyed our closely-knit scientific family that emerged over the years. This has had a huge impact on the growth and enrichment of our own biological family. We look forward to continuing these interactions for many years to come. So as I look back on my time here at Michigan, there are so many positive thoughts that will carry forward into retirement. I wish to thank all that have shared in this experience.



**Fred Karsch**



## Post-Doc Corner

Currently, there are 30 post-doctoral fellows in the Physiology department, many of whom are from outside the US. One of the biggest challenges for Kyle and me this year was to organize and coordinate MIP post-doc meetings and create a venue where post-docs can socialize, network, and present their research to fellow colleagues. The format of our meetings was simple: lunch, research data presentation, and a final discussion. The attendance has averaged 70-80% of the total number of MIP post-docs, a considerable achievement given the inception of these meetings in just the last year. A lot of questions were asked at these meetings and each of the speakers has spoken positively of the experience and ideas generated from much of the feedback. Thus, these meetings have provided an opportunity for all the post-docs to hear about one another's area of research. Most importantly, it has provided an excellent opportunity for post-docs to exchange technical know-how, reagents, share professional advice, and get to know each other.

At some of our first meetings, we had the opportunity to invite Peter Hitchcock, the Director of UMMS Office of Postdoctoral Studies, and William Brackenbury, the current President of UMPDA. Both highlighted the resources available to Physiology post-docs and discussed upcoming events.

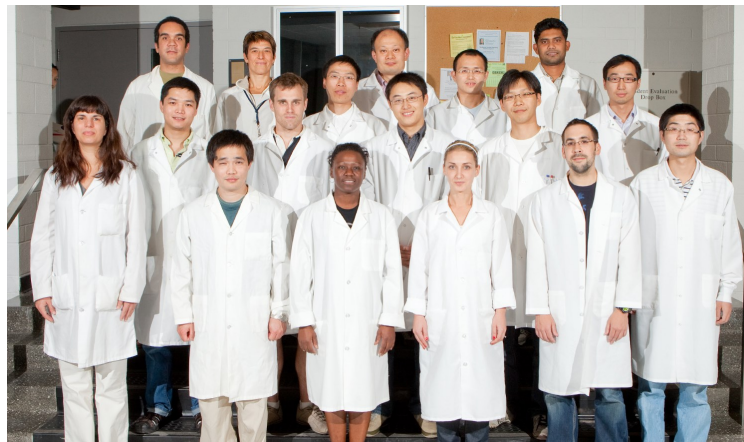
Our accomplishment this year was our invitation to host an external speaker. After submitting several names of interest, MIP post-docs voted to invite Jared Rutter, Associate Professor from the University of Utah. Dr. Rutter's research focuses on the role of the nutrient sensing PAS kinase and its control of energy metabolism. His

seminar was well attended, and in addition to his excellent presentation, Dr. Rutter provided the post-docs with helpful advice on how to search for faculty positions, lead a successful research group, and carve out a unique research niche.

Last July, a post-doc meeting was organized at the Arrhythmia Center since a number of post-docs travel from across campus to MSII to attend our monthly meetings. We would like to thank Jose Jalife for facilitating the organization of this meeting and sponsoring refreshments.

On October 10<sup>th</sup>, the university-wide post-doc association (UMPDA), hosted its first regional meeting entitled "Career Roadmaps for Post-docs" This meeting included post-docs from several institutions including the University of Michigan, Michigan State University, and Wayne State University. The upcoming months will mark a transition period where Kyle Sousa will serve as the MIP post-doc society's next President along with the election of a new Vice-President. We anticipate looking forward to continuing these organized meetings and activities. Finally, the MIP post-docs would like to extend a message of thanks to the Department of Molecular and Integrative Physiology for encouraging the inception and continued success of our departmental post-doc society.

Maria Eugenia Sabbatini, President  
Kyle Sousa, Vice-President



*Front Row:* Eugenia Sabbatini, Antonette Williams, Natasha Snider, Kyle Sousa, Zheng Chen  
*Second Row:* Yanan Hou, William Cawthorn, Haoran Su, Kaewon Cho, Hong Shen  
*Third Row:* Miguel Rodriguez Marquez, Veronica Oterto-Corchon, Liang Sheng, Hiroyuki Mori, Koksun Looi, Sujith Weerasinghe

## Summer Fellowship Program



The Department recently initiated a summer undergraduate research program that had its kick-off June-August of 2009. The program website is at <http://sitemaker.umich.edu/mipsummerfellowship/home>. The MIP Undergraduate Fellowship was overseen by Dr. Ormond MacDougald, with assistance from Dan Michele, and had as its goal, recruitment of undergraduate students from other institutions for a summer research experience in a MIP laboratory at the University of Michigan. While the long term goal was to increase the quality and quantity of strong applicants for our graduate program, in a larger context, the goal was also to increase interest in biomedical research as a career, and to make more scientifically informed citizens. We enrolled nine undergraduate students from six institutions. While the foundation of the undergraduate student's research experience was in the laboratory, we supplemented their education with a number of opportunities including a summer lecture series and a mini-symposium in which the fellows gave oral presentations on their summer research project and findings. Funding for the student stipends came from several sources, including American Recovery and Reinvestment Act funds, the National Science Foundation, the University of Michigan Horace H. Rackham School of Graduate Studies, and Calvin College. Bolstered by a highly successful initial year, the Department of MIP intends to continue the summer undergraduate research program.

## 2008-2009 Physiology Donors

### **John Williams Collegiate Professorship in Gastrointestinal Physiology**

*Francine and Horace Bomar  
Jimo Borjigin and Mike Wang  
Steven L. Britton  
Gregory D. Cartee  
Christin Carter-Su and Eugene Su  
Louis and Susan D'Alecy  
Robert De Lisle and Eileen Roach  
Matthew J. DiMagno  
Margaret and John Faulkner  
Marc B. Hershenson  
Susan Brooks and John Herzog  
Ken Inoki  
Fred and Nora Karsch  
Joan Keiser and Arthur Tai  
Nam-On Ku  
Anatoli N. Lopatin  
Ormond and Annie MacDougald  
Ram K. Menon  
Juanita L. Merchant  
Daniel E. Michele*

*Richard M. Mortensen  
Geoffrey Murphy  
Martin G. Myers  
Bishr Omary  
Vasantha Padmanabhan  
Scott Pletcher  
Donald G. Puro  
Liangyou Rui  
Elizabeth M. Rust  
Linda Samuelson and Joel Howell  
Santiago D. Schnell  
Jessica Schwartz  
Susan E. Shore  
Edward Stuenkel  
Michael M. Sutton  
John and Christa Williams  
Xiangqun S Qi and Xian-Zhong Xu  
Pfizer Foundation/Joan Keiser Matching  
funds*

### **Physiology SERF Fund**

*Gabriel and Sara Frommer*

### **David F. Bohr Fund**

*Phyllis R. Allen  
Joseph Cannon  
Kenneth G. Crump  
Louis and Susan D'Alecy  
Robert W. Doty  
John and Margaret Faulkner  
Lois J. Heller  
Anatoli N. Lopatin  
Paul and Ruth Moore  
Bishr Omary  
Henry and Lana Pollack  
Robert Rapp  
Paul and Betty G. Rondell  
William and Barbara Russell  
Jessica Schwartz  
Joni Soileau  
R. Clinton and Nancy Webb*

### **Graduate Education Fund in Physiology**

*Asma Al Menhali  
Bradford and Theresa Angelini  
Caroline Anyanwu  
Peter Arvan and Amy Chang  
Amy Baek  
Matthew Barnabei  
Tom and Currie Barron  
Christopher W. Beecher  
Christina N. Bennett  
Francine and Horace Bomar  
Jimo Borjigin and Michael Wang  
James and Merry Lou Bramer  
Susan Brooks and John Herzog  
Connie and Alex Bridges  
Carolyn L. Buller  
Charles Burant and Mary Treutelaar  
Katherine Campbell  
Matthew Campbell  
Gregory D. Cartee  
Christin Carter-Su and Eugene Su  
William P. Cawthorn  
Hyuk C. Cha  
Asamanja Chatteraj  
Wei-Chung Chiang  
Halina Chkourko  
David C. Dawson  
Michael Doche  
Heather Dupuis and Carsten Hohnke  
John and Margaret Faulkner  
Stephen and Marie Fox  
Gabriel and Sara Frommer  
Jessica D. Gumerson  
Gary and Lisa Hammer  
Kurt and Claire Hankenson  
Barbara and Ian Hawkins*

*Jill and Herb Heavenrich  
Lugia Hou  
Matthew Hyman  
Ken Inoki  
Lori L. Isom  
Jose and Paloma Jalife  
So Na Kang  
Fred and Nora Karsch  
David Klein Construction, Inc.  
Marie Kohler and Brian Mani  
Louis and Kevin Kraay  
Karen A. Lacourse  
Lisa M. Larkin  
Rebecca L. Leshan  
Anatoli N. Lopatin  
Gwen Louis  
Malcolm J. Low  
Carey N. Lumeng  
Ralph Lydic and Helen Baghdoyan  
Douglas MacDougald and Barbara Green  
Blaine MacDougald  
Clayton MacDougald  
Ormond and Annie MacDougald  
Walter and Marian MacDougald  
James Mackrell  
Joel R. McDade  
Ram K. Menon  
Daniel E. Michele  
Suzanne M. Moenter  
David Morris  
Richard M. Mortensen  
John Moses  
Jonathan Mowers  
Martin G. Myers  
Deepti R. Nagarkar  
Ravindra and Vidya Nagarkar  
Novartis Matching Funds/Karen A. Lacourse*

*Ryan O'Connell  
Bishr Omary  
Nathan Palpant  
Corinna and Walter Parker  
John T. Petrie  
Robert D. Phair  
Beverly Piggott  
Sara Risley  
Diane M. Robins  
Scott Robertson  
Amy Rothberg  
Liangyou Rui  
Elizabeth M. Rust  
Jesus Salazar  
Linda Samuelson and Joel Howell  
Santiago D. Schnell  
Jurgen B. Schnermann  
Donel A. Sequea  
Yatrik M. Shah  
Jessica Schwartz  
Susan E. Shore  
Barbara T. and Harvey V. Sparks  
Angela R. Subauste  
Michael M. Sutton  
Alan and Swanna Saltiel  
Sucharita Tilak  
Angela A. Tucker  
Maeran Uhm  
Michael Usher  
Kelli VanDussen  
Guoxiao Wang  
Marlene Calderon Welch  
John and Christa Williams  
TingTing Xiong  
Xian-Zhong Xu  
Linda and Lou Zadow  
Sempercor Foundation*

## Where Are They Now?

### Spotlight on Alumni



Nancy Wayne received her PhD from the Department of Physiology in 1988, working on “Pineal regulation of seasonal breeding in the ewe: Interactions of environment signals with endogenous rhythms” with Dr. Fred Karsch. She then spent four years at the University of Virginia with Dr. Gene Block, developing an invertebrate model of reproductive neuroendocrinology for understanding cell physiological mechanisms underlying excitation-secretion coupling. Dr. Wayne became a faculty member in the Department of Physiology at the David Geffen School of Medicine at UCLA in 1992, and was promoted to Professor in 2005. She is heavily involved in teaching the first-year medical curriculum. She still holds on to her early edition Human Physiology textbook by Vander, Sherman and Luciano, as well as Davenport’s classic Digest of Digestion – Hail! Hail! to Michigan, the leaders and the best! Her current research program uses transgenic fish to understand mechanisms regulating the cell physiology of gonadotropin releasing hormone (GnRH) neurons in the intact neural network. In addition to research and teaching, Dr. Wayne is involved in campus-wide administration as Special Assistant to the Chancellor for Academic Projects. Dr. Wayne hopes at some point to get back to The University of Michigan before she retires.



Robert D. Phair, Ph.D. University of Michigan, Physiology 1977, conducted his dissertation research on metabolic control of blood flow with Dr. Harvey Sparks and the late Dr. John Jacquez. He came to Ann Arbor after serving 5 years in the US Public Health Service, including three years in the Laboratory of Mathematical Biology in the National Cancer Institute at the NIH where he worked with Dr. Mones Berman, who, like Dr. Jacquez, was one of the pre-eminent figures in the early days of data-driven computer modeling of biological systems. Dr. Phair's undergraduate degree was in Electrical Engineering from MIT, but his dream was always to apply engineering methods to the analysis of complex biological systems. After a 1-year post-doc with Dr. Sumer Pek at the UM Medical School working on cellular endocrinology, Dr. Phair was recruited by Drs. Vernon Mountcastle and William Milnor and joined the faculty of The Johns Hopkins School of Medicine as Assistant Professor of Physiology. After 17 years studying calcium signaling in vascular smooth muscle, plasma lipoprotein metabolism, and atherosclerosis, he left Hopkins having attained the ranks of Associate Professor of Physiology and Associate Professor of Biomedical Engineering. Dr. Phair is co-founder and Chief Scientific Officer of Integrative Bioinformatics Inc (IBI), a consulting and software development firm based in the heart of Silicon Valley in the San Francisco Bay area. IBI's software product, called ProcessDB ([www.integrativebioinformatics.com/processdb](http://www.integrativebioinformatics.com/processdb)), is designed to manage the process of large scale modeling and integration of dynamic experiments from the level of molecular cell biology to physiology. Dr. Phair is married to Ann Chasson, a software engineer, with whom he travels the world and rides his snowboard whenever possible. He is proud to wear his UM MIP tee-shirt despite its being white instead of maize and blue, and is looking forward to giving a MIP Seminar in September of 2010.

## Gift Opportunities

### **David F. Bohr Professorship**

This endowment was established in honor of Dr. David Bohr and the more than six decades of enormous contributions to our department and the field of physiology at large. We are hoping to use this fund and other department resources to ultimately establish the David F. Bohr Chair of Physiology.

### **Graduate Education Endowment Fund**

The Graduate Education Fund was established in the Fall of 2008. Donations will be matched by the Medical School Dean's Office up to a total of \$500,000. The income from this endowment will be used exclusively to support graduate education in the department.

### **John A. Williams Collegiate Professorship in Gastrointestinal Physiology**

The John A. Williams Collegiate Professorship in Gastrointestinal Physiology was established in the Fall of 2008. Funds raised by the department will be matched by the Medical School Dean's Office up to \$250,000 for a total endowment of \$500,000. Once the value of the endowment reaches \$500,000 the Professorship will be conferred. This will honor the 21 year service that John Williams gave to the department as its chair, and his contributions to the field of pancreatic physiology.

If you would like to make a contribution, please enclose a check in the envelope provided. Please make checks payable to the University of Michigan and place in the notes section which fund you would like to contribute to. If you would rather contribute by credit card, you may visit [www.medicineatmichigan.org](http://www.medicineatmichigan.org) and this site will allow you to choose one of these funds to donate to. If you have any questions regarding the above funds, please contact Ann Boyd-Stewart at [aboyst@med.umich.edu](mailto:aboyst@med.umich.edu) or contact Bishr Omary at [mbishr@umich.edu](mailto:mbishr@umich.edu).

*The funds constitute a gift for endowment, and distribution from the funds will be made in accordance with the University's then existing endowment distribution policy.*