I want to welcome our students back for the Fall semester and hope they had a little time to vacation over the summer. Also, I want to welcome the new students joining our program. We have three new Ph.D. candidates, two M.S. candidates and four Perfusion/M.S. candidates. Let's make sure that we make them feel at home.

There have been a number of changes within the department over the summer with the retirement of three faculty and one staff member. Drs. Halonen, Lai and Sipes have all retired in 2011 and have been granted Professors of Emeritus within the Department of Pharmacology, College of Medicine.

Dr. Halonen earned her PhD. from the University of Arizona in 1973 and has been with the department since July, 1995. Dr. Halonen has made great advances in our knowledge about asthma and respiratory physiology/pharmacology.

Dr. Lai earned her Ph.D. degree from the Imperial College, University of London and has been with the department since February, 1988. Dr. Lai has been instrumental in discovering novel mechanisms that underlie and maintain chronic pain.

Dr. Sipes earned his PhD. degree from the University of Pittsburgh in 1969 and has been part of the university since July, 1973. Dr. Sipes has been the Department Head in Pharmacology for 20 years. Dr. Sipes has made great advances in understanding the metabolism of xenobiotics and liver functions.

All three will continue to be active faculty emeritus in the department guiding current students and strengthening the mission of the department.

One of our star staff members, Jane Ageton, also retired this June, after 30 years of service to the University. Jane was with the department for 21 years adding great strength and consistency to the graduate program and the department.

Another change that will occur this fall, is the departing of Dr. Dan Stamer who has accepted a position at Duke University. Dr. Stamer has been a solid participant in our graduate program and department and will be dearly missed. Dan earned his Ph.D. degree in Pharmacology and Toxicology at the University of Arizona in 1996. As we move into the Fall semester, we will have some changes within the graduate program curriculum. Dr. Patrick Mantyh will be the course director for the Scientific Writing, Strategy Skills and Ethics Course, PHCL (595B) previously directed by Dr. Stamer. In addition, Dr. Frank Porreca will be the new director of Principles of Pharmacology (PHCL 420/520) taught this Fall, as I have assumed directorship of the Human Neuroscience Course for the Medical School. Our new required course will be offered this Fall, Pharmacological Basis of Therapeutics II, PHCL 502 (aka 501B), directed by Dr. Edward French. The course will offer understandings in immunology, endocrine, ocular, bacterial and cancer pharmacology.

Have a great semester!
The Department of Pharmacology would like to welcome the following students to the program.

**PhD.**

Carolina Burgos-Vega received her undergraduate degree from New Mexico State University – Las Cruces. Some of you may know Carolina, as she worked in Dr. Porreca’s lab in the Summer of 2010. Carolina is also the recipient of an IMSD award.

**MS Perfusion**

Seana Hall received her undergraduate degree from the University of Arizona.

**Shaness Grenald** received her undergraduate degree from Saint Johns University, New York. Shaness is also the recipient of an IMSD award and Yamamura Fellowship.

**Benjamin Mills** received his undergraduate degree from Arizona State University.

**Lauren Slosky** received her undergraduate degree from the University of Arizona. Lauren is also the recipient of the Yamamura Fellowship.

**Heather Nitka** received her undergraduate degree from the University of Arizona.

**MS**

Aaron Bloom received his undergraduate degree from Ithaca College. Aaron will be working in Dr. Mantyh’s Lab.

**Joshua Wright** received his undergraduate degree from the University of Arizona.

Alex Sandweiss received his undergraduate degree from the University of Arizona. Alex will be working in Dr. Vanderah’s Lab.
Dr. Yamamura, a Regents Professor at the University of Arizona, was a distinguished researcher, teacher and mentor. Fellowships as a tribute to his contributions to pharmacology are awarded to one or two first year students in the Graduate Program in Medical Pharmacology.

This year’s recipients are:

Shaness Grenald — Ms. Grenald majored in Psychology

Lauren Slosky - Ms. Slosky majored in Molecular and Cellular Biology, and Psychology.

Each Spring, graduate students nominate and vote for two fellow 3rd/4th year students to serve as Representatives of the Graduate Program in Medical Pharmacology.

This year Katherine Hanlon and Gabriel Knudsen were elected as the Graduate Reps.

This year and in the future, we will be calling for nominations in December, so start thinking now for who you would like to nominate.

Graduate Recruitment will be held February 9–11. Please mark your calendars. We expect all current students and faculty to participate in recruiting future graduate students.

Please see Vickie Healey, Graduate Coordinator, to reserve a room. Students can either email Vickie at vhealey@email.arizona.edu or she is located in LSN room 646.

Graduate student mailboxes are located in front of the Admin Office located on the 5th Floor. Please check at least once a week.
Congratulations to the following students for moving on to the next stage of their academic work and becoming ABD (all but dissertation).

**Fall 2010**
Lucy Sanchez Covarrubias

**Spring 2010**
Dipti Tillu

---

**Congratulations To Our Fall 2010 and Spring 2011 Graduates**

**Fall 2010**
Tally Largent-Milnes (PHD)
“Neurokinin 1 Receptors and Their Role in Opioid-Induced Hyperalgesia, Antinociceptive Tolerance and Reward”

**Spring 2011**
Jorge Garcia (MS—Perfusion)
“Cardiac Power Output, Its Role in Defining Heart Failure for Future Mechanical Circulatory Support”

Crista Lickteig (MS—Perfusion)
“Probiotics: Healthy Bacteria Used in Heart Surgery Patients”

Sheyda Seyedan (MS—Perfusion)
“Pediatric Heart Transplants and Compliance”

---

**Pharmacology Student Rotations**

Beginning Fall 2011 student rotation schedule is as follows:

- **Rotation 1**: August 15 - August 31
- **Rotation 2**: October 15 - October 31
- **Rotation 3**: January 15 - January 31

Once your rotation is finished, please complete and return “Lab Rotation Evaluation” form. The form can be found at http://www.pharmacology.arizona.edu/graduateforms.cfm
**Expected Graduate Date Change**

For complicated systems reasons, the Graduate College will handle expected Graduation Date a little differently. The Graduate College will continue to use the Master’s Program of Study and the Committee Appointment Form for master’s and doctoral students respectively to record expected graduation date.

Prior to receiving these forms, the Graduate College will use the standard length of study. This is five years from first enrollment for doctoral students and two years from first enrollment for master’s students. This tentative date will avoid having a blank in the expected graduation field which can be problematic for students wanting to defer loans. As long as master’s students submit their POS before the end of two years and doctoral students submit their Committee Appointment Form within five years. And, of course, all students should be doing this anyway! When the Grad College receives the form, they will update the expected graduation date. (This has nothing to do with time to degree—that is still 6 years for master’s, 5 years from comps for doctoral.)

**Pilot Program: Parental Leave for Graduate Assistants**

In recognition of the demands on parents of newborns* or newly adopted* children, continuing Graduate Assistants anticipating the arrival of a new baby or child may apply for a paid Graduate College Parental Leave for up to six weeks of new parenthood. The applicant must attest that he or she will be the primary caregiver for a newborn or a newly adopted child. If both parents are graduate assistants, only one leave will be available per family, which may be allocated between the parents, but not to exceed 6 weeks total leave. *Please note that hiring units may impose restrictions during which 6-week period works best to accommodate the hiring unit’s general course of business.*

Eligibility:
1. Previously hired as a GA for at least one semester (this program is not available to those who are hired as a GA for the first semester of matriculation)
2. Attest to being the primary caregiver for the newborn or newly adopted child
3. If requesting summer coverage, the GA must have been hired as a GA for the previous spring term.

For more information or to apply go to http://grad.arizona.edu/parentalleave
**Graduation Exam Deadlines**

**Masters**
- 2nd Semester in Residence
- December 16, 2011
- Submit Masters/Specialist Plan of Study form
- Degree Requirements (All degree requirements must be met by this date (including defense/revision of thesis, coursework etc.))
- December 16, 2011
- Archiving the thesis submitted on or before this date.
- December 23, 2011
- Submit Completion of Degree Requirements form.

**Doctoral**
- 3rd Semester in Residence
- Submit Doctoral Plan of Study form
- As soon as course work is completed.
- Schedule the Oral Comprehensive Examination. The Results of Oral Comprehensive Exam for Doctoral Candidacy form must be returned to the Grad College. There are fees associated with this form
- As soon as Comps Passed
- Submit Committee Appointment Form
- November 14, 2011
- Last day to TAKE the Final Oral Examination/Defense.
- The Announcement of Final Oral Defense form, is due at least seven (7) working days prior to the date of the examination.
- December 5, 2011
- Deadline to submit dissertation to Degree Certification.

**PhRMA Foundation Deadline**

PhRMA Foundation (Pharmaceutical Research and Manufacturers of American Foundation is accepting applications for Pre Doctoral Fellowships, Post Doctoral Fellowships Sabbatical Fellowships and Research Starter Grants. DEADLINE: September 1.

For more information and criteria can be found on the Graduate Bulletin Board or see Vickie Healey (LSN, Rom 646) for a brochure.
National Research Council of the National Academies sponsors a number of awards for graduate, postdoctoral and senior researchers at federal laboratories and affiliated institutions. These awards include generous stipends ranging from $42,000 - $75,000 per year for recent Ph.D. recipients, and higher for additional experience. Graduate entry level stipends begin at $30,000. These awards provide the opportunity for recipients to do independent research in some of the best-equipped and staffed laboratories in the U.S. Research opportunities are open to U.S. citizens, permanent residents, and for some of the laboratories, foreign nationals.

Detailed program information, including online applications, instructions on how to apply and a list of participating laboratories, is available on the NRC Research Associateship Programs website.

Questions should be directed to the NRC at (202)3342760 (phone) or rap@nas.edu.

There are four review cycles annually. Upcoming deadlines are:
November 1 2011
February 1, 2012
May 1, 2012

Applicants should contact prospective Adviser(s) at the lab(s) prior to the application deadline to discuss their research interests and funding opportunities.

More detailed information and an online application can be found at www.nationalacademies.org/rap

<table>
<thead>
<tr>
<th>Activity Codes</th>
<th>Program Description</th>
<th>Application Form</th>
<th>Cycle I Due Date</th>
<th>Cycle II Due Date</th>
<th>Cycle III Due Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>F Series Fellowships</td>
<td>Individual National Research Service Awards (Standard) (see NRSA Training Page—<a href="http://grants.nih.gov/training/nrsa.htm">http://grants.nih.gov/training/nrsa.htm</a>)</td>
<td>SF424 (R&amp;R)</td>
<td>April 8</td>
<td>August 8</td>
<td>December 8</td>
</tr>
<tr>
<td>F31 Diversity Fellowships</td>
<td>Individual Predoctoral Fellowships (F31) to Promote Diversity in Health-Related Research (see NRSA Training Page—<a href="http://grants.nih.gov/training/nrsa.htm">http://grants.nih.gov/training/nrsa.htm</a>)</td>
<td>SF424 (R&amp;R)</td>
<td>April 13</td>
<td>August 13</td>
<td>December 13</td>
</tr>
</tbody>
</table>

For more information, please go to http://grants.nih.gov/training/index.htm or http://grants.nih.gov/training/nrsa.htm
Graduate Student Awards

Aguilar, David
- 2011, Society of Toxicology Travel Award ($1,000)

Asiedu, Marina
- 2011, American Pain Society Young Investigator Travel Award ($750).

Hanlon, Katherine
- 2011, Arizona Cancer Center Spring Symposium, Best Poster ($100),

Kong, Weixi
- 2010, Society of Toxicology 50th Annual Meeting, Graduate Student Travel Award ($1000)
- 2011, Graduate and Professional Student Council, University of Arizona, Travel Grant Fund ($500)

Ondoua, Alysia
- 2011-2012, Biodiversity from Molecules to Ecosystems Graduate Fellowship, funded by National Science Foundation ($30,000)

Shy, Adia
- 2011, Received NIH supplement funding to cover graduate studies

Skinner, David
- 2010, NIH Medical Student Research Program Fellowship, (PI) Marlys H. Wittie. “Cutaneous Alloodynia in a Model of Cortical Spreading Depression in Freely Moving Rats.” ($3,864)
- 2010, University of Arizona, Graduate and Professional Student Council Travel Grant ($500).
- 2010, University of Arizona, College of Medicine Student Council Grant, Poster Presentation: “Cutaneous Alloodynia in a Model of Cortical Spreading Depression in Freely Moving Rats.” Neuroscience, San Diego, CA, ($280).

Tawinwung, Supannikar
- 2010, A Keystone Symposia Scholarship

Tillu, Dipti
- 2011, APS Young Investigator Travel Award Program

Please contact Vickie Healy (vhealey@email.arizona.edu) if you need help finding information on funding.
Graduate Student Publications


Kong W, Kuester R, Gallegos A, Sipes IG. “Oxidative DNA damage and DNA binding induced by 2, 2-Bis (bromomethyl)-1, 3-Propanediol in Human Bladder Cells: Possible Dual Mechanisms Implicated in its Carcinogenicity.” The Toxicologist, 2011, Vol 120, 566.


Conferences Attended by Graduate Students

Asiedu, Marina
- American Pain Society’s 30th Annual Scientific Meeting, May 19-21, 2011

Hanlon, Katherine

Knudsen, Gabriel
- Society of Toxicology Annual Meeting, 3/6-10/2011

Kong, Weixi

Okun, Alec
- Neuroscience, November 13-17, 2010. Presented: “Nerve-Injury Induced Spontaneous Pain is Driven by TRPV1 Sensitive Afferents.”

Ondoua, Alysia
- The American Pain Society 30th Annual Meeting, Austin, TX, May 2011.

Shy, Adia

Tawinwung, Supanikar

Tillu, Dipti

Xu, Haili

Yan, Jin
- IASP 13th World Congress on Pain, Montreal, Canada, 2010. Poster: “Dural Afferents Respond to Decreased pH Via Activation of Acid sensing Ion Channels.”
Pharmacology Faculty Honors/Awards

Tom Davis
Dr. Davis was invited to give a talk at the “Membrane Rafts in Endothelial Function of the Cerebral Circulation” symposium, to be held in San Diego, CA., April 12-25, 2012.

In addition Dr. Davis was invited to speak at the FASEB-American Physiology Society, entitled “Transcellular versus Paracellular Pathways to the CNS,” chaired by David Lominadze, Ph.D. and also the Symposium of the FASEB-AFMR conference on “Neurovascular Stroke Session,” chaired by Ming Ming Ning, MD.

Frank Porreca Honored at Johns Hopkins
Dr. Porreca recently gave two prestigious talks at Johns Hopkins University School of Medicine. On June 9, he delivered the Ninth Donald W. Benson Lecture on Pain Medicine, presenting his lecture, “Descending Control Mechanisms in Acute and Chronic Pain.” The following day he delivered “Measurement and Mechanisms of Stimulus-Independent Pains” as part of the Blaustein Pain Lecture Series.

The Benson Lectureship is in honor of the comprehensive contributions made by Donald W. Benson, MD, PhD, during his career as an associate professor of anesthesiology at Johns Hopkins and anesthesiologist-in-charge at John Hopkins Hospital.

Dr. Porreca is widely regarded for his work as a principal investigator with the UA Pain Research Group, one of the world’s foremost pain research programs. His current research focuses on the mechanisms of chronic pain states including neuropathic, inflammatory, visceral, headache and cancer pain and mechanisms of opioid-induced hyperalgesia, a clinical phenomenon characterized by worsening pain despite increasing doses of opioids.

He is editor-in-chief of Life Sciences and Pharmacology Section, editor for Pain and has authored more than 400 peer-reviewed papers. He heads a number of societies and conferences and is the founder and scientific organizer of the Spring Pain Research Conference, a biennial conference that attracts world-renowned members of pain laboratories in both academia and industry.

John Bloom
Congratulations to Dr. John Bloom who has taken on the duties of Co-director of the CBI cases for the medical school COM. Although John is very busy with clinical and teaching duties, he and Dr. Paul St. John have taken the lead on helping develop new clinical/basic science case based instructions for the medical students.

Ted Price
Dr. Price has been named the 2011 recipient of the John C. Liebeskind Early Career Scholar Award from the American Pain Society. The award recognizes early career achievements that have made outstanding contributions to pain scholarship. The John C. Liebeskind Early Career Scholar Award was named in 1998 to honor the memory of John C. Liebeskind, PhD, a past president of the American Pain Society, who was a noted pain researcher, scientist and teacher.
Pharmacology Faculty Honors/Awards

Ted Price
Dr. Price has been appointed as Chair of the Space Committee.

Todd Vanderah
2011—Appointed as Neuroscience Block Director for the College of Medicine
Dr. Vanderah was inducted into the Academy of Medical Education Scholars, 2011

Pharmacology Faculty Grants

NIH funded grants/research contracts or a high priority score:

Greg Dussor
- Received five (5) years funding from NIH/NINDS on his first R01

Pat Mantyh
- Awarded two grants totaling $3.8 million over 5 years by the NIH National Cancer Institute.
  Preventive Analgesia for Bone Cancer Pain
  Metastatic Prostate Cancer-Induced Pain

Frank Porreca
- Receive an R25 with co-PIs Marlys Witte
- Research contracts with Genzyme Inc. and Ferring Research Inc

Ted Price
- Received a 3rd percentile priority score on an R01 with co-PIs Scott Boitano and Josef Vagner
- Received NIH supplement funding to cover his graduate student, Adia Shy.

Patrick Ronaldson
- Received the 2011 AAPS New Investigator Grant Award in Pharmacokinetics, Pharmacodynamics and Drug Metabolism. The award provides research funds of $10,000 and travel to the AAPS annual meeting in Washington D.C. in October.

Protein kinase C activation modulates reversible increase in cortical blood-brain barrier permeability and tight junction protein expression during hypoxia and posthypoxic reoxygenation. Willis CL, Meske DS, Davis TP. J Cereb Blood Flow Metab. 2010 Nov;30(11):1847-59.


Administration of a tropomyosin receptor kinase inhibitor attenuates sarcoma-induced nerve sprouting, neuroma formation and bone cancer pain. Ghilardi JR, Freeman KT, Jimenez-Andrade JM, Mantyh WG, Bloom AP, Kuskowski MA, Mantyh PW. Mol Pain. 2010

The effect of aging on the density of the sensory nerve fiber innervation of bone and acute skeletal pain. Jimenez-Andrade JM, Mantyh WG, Bloom AP, Freeman KT, Ghilardi JR, Kuskowski MA, Mantyh PW.


ON THE PERSONAL SIDE

Congratulations to Milena and Giovanni. They welcomed their 1st child, a beautiful baby boy, born March 5, 2011. Lorenzo weighed in at 7 lbs 2 oz.

Lorenzo Federico

Congratulations Chaoling and Hongzhang. They welcomed their beautiful baby boy, May 5, 2011. Andrew weighed in at 9 lbs 12 oz.

Andrew Ma

POSITIONS ACCEPTED

Tally Largent-Milnes accepted a Post-Doc position at Oregon Health Sciences Center.
Calendar of Events

August 2011
22
Fall Session Begins
24  12:00-1:00  AHSC 8403  Yamamura Recipient Presentation

September 2011
5
No Classes (Labor Day)

October 2011

November 2011
3-5  Homecoming Weekend
11
No Classes (Veterans Day)
12-16  Society for Neuroscience Conf.
       Washington, DC
24-25
No Classes (Happy Thanksgiving)

December 2011
7
Last Day of Classes
9-16  Finals
26-27  Christmas Break
28-30  University Closure

January 2012
12  Spring Session Begins
16
No Classes (MLK Day)

February 2012
9-11  Graduate Recruitment

March 2012
11-15  Toxicology Conference
       San Francisco, CA
14-18  UA Spring Break

April 2012
21-25  ASPET Conference
       San Diego, CA

The Journal Club meets on Wednesday,
11:00-11:50, SHC 4137.

August
24  Adia Shy / Gabe Knudsen
31  Beenish Majeed (AHSC 2500C)

September
7  Josh Strom
14  Kevin Xu
21  Alec Okun / Dipti Tillu
28  Xiaome Wei/Jin Yan

October
5  Alex Sandweiss
12  Ashley Symons
19  Alysia Lozano-Ondoua
26  Hamid Badghisi/Lauren Slosky

November
2  Marina Asiedu
9  Ji-Young Kim/Fai Tawinwung

Department of Pharmacology
Life Sciences North Bldg
Phone: 520-626-7218
Fax: 520-626-2204
E-mail: vhealey@email.arizona.edu

We’re on the Web
WWW.PHARMACOLOGY.ARIZONA.EDU