

Billiar Lab News

University of Pittsburgh

Winter/Spring 2015

Volume 25

Lab Updates

Medallion for Scientific Achievement

Dr. Timothy R. Billiar was awarded the Medallion for Scientific Achievement by the American Surgical Association. The American Surgical Association is the oldest and most prestigious surgical society in the country. The Medallion for Scientific Achievement is the highest honor bestowed by the American Surgical Association. It is awarded only when a worthy recipient is proposed- not on a yearly basis. The award is given for a long career of important, innovative and seminal scientific contributions. Other recipients include Drs. Bernard Fisher, Owen Wangenstein, Michael DeBakey, Thomas Starzl, Judah Folkman, Stanley Dudrick, Josef Fischer and Denton Cooley to name a few--- and to reflect the significance of this award.

Another reason to be very proud of our department and our chairman.

Andy Peitzman

Andrew B. Peitzman, MD
Distinguished Professor of Surgery
Mark M. Ravitch Professor and
Vice-Chairman, Department of
Surgery
UPMC Vice-President for Trauma
and Surgical Services
University of Pittsburgh School of
Medicine

Annual Richard L. Simmons Lecture & Dept. of Surgery Research Day Awards

Dear Colleagues,

I would like to thank all of the speakers and participants in Wednesday's Annual Richard L. Simmons Lecture in Surgical Science and Department Research Day. As those who attend know, we heard a fantastic talk by this year's invited speaker, Dr. Melina Kibbe from Northwestern University. I would like to congratulate all the presenters of both talks

Important Dates

•••

Simmons Research

Tu 8:00am & Th 8:30am

F1275 PUH

- May 19 Jesse Guarado
- May 21 Farzad Esni
- May 26 Jason Luciano

Billiar Lab Meeting

Wed 12:00pm F1275 PUH

- May 20 Xubo Wu
- May 27 Surgery Conference Practice

DAMPs Meeting

Thurs 10:00am F1275PUH

- Jun 18
- Jul 16
- Aug 20

Immunology Seminar Series

Thurs 12:00-1:00pm

Scaife Hall, Aud 5

- May 21
- May 28
- Jun 4
- Jun 11

Journal Club

Tu 11:30-1pm F1275 PUH

- Jun 23
- July 14
- Aug 11

For a full list of events, please go to the General and Vascular Surgery Labs website's Events page.

and posters for their outstanding presentations.

The Awards Committee had a challenge in choosing the awardees. However, it gives me pleasure to announce the following awards:

Best Research Presentation goes to Michal Radomski with a talk entitled "Complement Inhibition Enhances the Therapeutic Efficacy of a Vaccinia Oncovirus." Runners-up include Kellie Cunningham, "Peroxisome Proliferator-activated Receptor γ Coactivator 1 α (PGC1 α) Helps Maintain The Intestinal Barrier and Protect Against Inflammation in Experimental Colitis" and Samer Tohme, "The role of neutrophil extracellular traps in promoting metastatic cancer following surgical stress."

Best Poster Awards go to Stephanie Downs-Canner, Hai Huang, and Patrick Varley

Best wishes,

Timothy R. Billiar, M.D.

SIS Junior Faculty Fellowship Award

Meihong Deng received the 2015-2017 Junior Faculty Fellowship Award at this year's Surgical Infection Society Conference.

"The purpose of this fellowship is to provide the opportunity for a junior faculty member to undertake a meaningful research project in an area relevant to surgical infectious diseases, and foster interest in surgical infections and academic surgery as a career focus.

Applications in this category may entail basic, translational, or clinical research. Favorable consideration will be afforded to applications with a translational research focus. Applications will not be eligible for consideration in other award categories.

The proposed research project must be relevant to the broad discipline of surgical infectious diseases, and the application will be adjudicated primarily on the basis of scientific merit. However, the SIS Foundation recognizes the important role of mentorship in career development, and requires that a trainee, with a doctoral degree or in a doctoral degree program, who is committed to collaborate with the awardee for the duration of the award period, will be identified explicitly to collaborate with the Junior Faculty Fellow and be mentored during the

New Faces



Please welcome the following people into our labs:

Mary Jacobs – Volunteer
(Billiar Lab)

Jill McDonnell – Volunteer
(Billiar Lab)

Xibing Ding – Visiting
Scholar (Billiar Lab)

Weixi Zhong – Visiting
Scholar (Billiar Lab)

Li Xu – Visiting Scholar
(Billiar Lab)

Bin Chen – Visiting Scholar
(Geller Lab)

Zhihai Liang – Visiting
Scholar (Geller Lab)

Good Luck



We'd like to extend our best wishes and good luck in future endeavors to those individuals who have left the labs.

Mike Bauer

Trudy Clark

Marcelo Montenegro

Xiaoguang Zhu

Yao Liu

Yihe Yan

Shuhua Chen

Zhaowei Zhu

Jie Yang

Maryam Sharifi-Sanjani

collaboration. A strong mentor (applicant)-trainee/collaborator relationship and goals of the collaboration apart from the scientific work must be described as part of the application.

Favorable consideration will be afforded to applications that describe in specific detail the interaction of the mentor and trainee as collaborators in the scientific research, and in career development.

The award will be contingent on the applicant being a full member of the Surgical Infection Society at the time of application, and the trainee joining the Surgical Infection Society as a Candidate Member. Attendance by the award recipient and trainee is expected at the Annual Meeting of the Surgical Infection Society during both award years, for which the recipient shall be expected to submit an abstract each year, and will additionally be invited to address the membership briefly regarding his or her work."

~www.sisna.org

Two other recipients of this award have been from the University of Pittsburgh since 1998 – Melanie Scott, MD (2009,

Staff Highlight



Derek Barclay

I attended Clarion University, receiving a BS in Environmental Science in 2000. I have been working as a technician for the Vodovotz Laboratory since November 2002. I serve as the lab supervisor and oversee the day to day operations of the lab. My main responsibilities include: sample collection/processing/analysis for various sample types and assays, organizing all incoming collaborator samples, routine lab maintenance, and maintaining our gene knock out mice.

Currently, I am working on assaying plasma samples from the trauma cohort for epithelial cytokines using the labs Luminex machine. I am also working with Dr. Zamora on his Pediatric Acute Liver Failure (PALF) grant, running Luminex and various other assays on patient serum samples.

My wife Carmen and I live in Plum Borough and have 3 children, Nicholas (9), Angelina (8) and Vincent (5). They keep us busy with their sports and afterschool activities. In my spare time I enjoy playing racquetball, ping pong, weight lifting, watching movies, general home and car maintenance, and occasionally running.



2010) and Joanne Lomas-Neira, PhD (2011).

9th Floor BST Darkroom

Dr. Jennifer Grandis is leaving the university and thus her labs located on 9BST will be vacated by June 1, 2015. As some of you use the

9th floor darkroom, Dr.

Grandis has notified us that she is going to leave her developer here. Maria left in April, so someone from the Department will need to take over responsibility for cleaning and maintaining the

machine.

The Surgery Labs have previously purchased a UVB BioImaging System and that system is located in W913A BST that can be used in lieu of the developer as well.

UNIVERSITY OF PITTSBURGH
DEPARTMENT OF
**Pharmacology
AND Chemical
Biology**

CELEBRATING
50 YEARS

50th Anniversary Department Retreat

May 28, 2015, 8 a.m.–6:30 p.m.
Senator John Heinz History Center

Keynote Sessions (open to the University community)

- 8 a.m. Registration
- 8:30 a.m. Louis J. Ignarro, PhD
- 9:20 a.m. Mark T. Gladwin, MD
- 10 a.m. Timothy R. Billiar, MD
- 10:45 a.m. Panel discussion

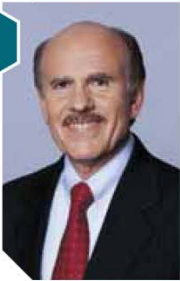
Closed Sessions

- 11 a.m. Poster session
- 12:30 p.m. Lunch
- 1:30 p.m. Presentations by postdocs and students
- 4:15 p.m. History of the Department of Pharmacology and Chemical Biology: Distinguished Professor William C. de Groat and Professor Emeritus John S. Lazo
- 5 p.m. Reception


Registration is required by e-mailing retreat@pitt.edu.
For more information, contact Barb Martin at bamartin@pitt.edu.

Keynote Speakers


“The Discovery of Nitric Oxide and Its Signaling Actions”
Louis J. Ignarro, PhD
Professor of Molecular and Medical Pharmacology
University of California, Los Angeles
Recipient of the 1998 Nobel Prize in Physiology or Medicine



“New Pharmacological Strategies Stemming from Nitric Oxide, Nitrite, and Hemoglobin Reactions”
Mark T. Gladwin, MD
Chair, Department of Medicine
Professor of Medicine, Division of Pulmonary, Allergy, and Critical Care Medicine
Director, Vascular Medicine Institute
University of Pittsburgh School of Medicine



“Nitric Oxide: A Surgeon’s Perspective”
Timothy R. Billiar, MD
Chair, Department of Surgery
George Vance Foster Endowed Professor
Distinguished Professor of Surgery
University of Pittsburgh School of Medicine



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Faculty Highlight



Rami Namas

I am currently appointed as an Assistant Professor of Surgery in the Vodovotz lab, Department of Surgery, University of Pittsburgh. Prior to this appointment, I was a Postdoctoral Fellow (2009-2011) and a Research Associate (2011-2012) in the Department of Surgery. My long-term research goals are to obtain high-dimensional, dynamic data on the etiology and progression of various inflammatory processes and diseases in samples derived from cells, animals, and human individuals; to create computational models based on these data; and to modulate the inflammatory response in an optimal spatial, temporal, and individual- disease-specific manner. More specifically, my research interests have focused on:

- Mechanisms regulating trauma-induced inflammation coupled with data-driven modeling to gain insights into the dynamics of the inflammatory response and immune phenotypes in human blunt trauma.
- Novel class of biohybrid devices for regulating inflammation that target Tumor Necrosis Factor- α (TNF- α) through delivery of a protein antagonist (sTNFR) via genetically modified human hepatocytes.
- Systems biology and mathematical modeling of inflammation in various disease states, especially infection, trauma, and hemorrhage, and the application of these computational approaches to regenerative medicine and rational drug/device design.

I obtained my Bachelor Degree in Medicine and Surgery from the Al-Fateh University, School of Medicine, Tripoli, Libya in 2002. Following completion of 5-year surgical residency program in Tripoli Central Hospital (a University affiliated hospital), I acquired the Membership of Royal College of Surgeons, Glasgow, United Kingdom. My appointments included: General Surgeon and Trauma registrar in Tripoli Central Hospital and Offshore medical supervisor with Mellitah Gas Company.

on this issue as she become aware of them.

Mouse Ordering Policy

ATTN Billiar Personnel: It is necessary to reiterate the policy for mouse ordering as there are many people placing orders for mice without a known experimental plan and dates causing mice to stay in the animal facility for extended amounts of time. This has led to an increase in per diem charges as well as mice aging out of the acceptable range for use in experiments. In order to avoid these unnecessary costs, please follow the established ordering policy:

“Prior to placing an animal order, you will need to submit a justification for your animal order and experimental outline to include:

- Experimental groups
- Number of mice/strain per group
- Endpoints
- Timeline of experiment- when the experiment will begin and expected end date.

Animal orders will not be placed until the

experimental plan has been reviewed and approved by Deb. These will be due by noon on Wednesday's in order to be approved for that week's orders."

If you need experimental plan forms, they can be found on the General Surgery Website under [Billiar Lab Animal Experiment Request Forms](#) in the Info. Handbook tab.

Annual Appraisals

It's that time of year again! All self-appraisals should have been completed and returned to your direct supervisor by now. If you have not done it already, this should be done as soon as possible.

Additionally, you must make sure that you meet to go over your appraisals with your direct supervisor by mid-May. Completed staff appraisals are due to Kathy DiGiacomo by May 20, 2015.

If you have any questions, please speak to Deb Williams.



I am married and a father of two beautiful daughters, Farah (6 years) and Marah (4 years). Their names mean happiness and joy respectively in our native language. I am also very proud of my wife, a physical therapist, who made a very courageous decision not to work (temporarily) and shared all her time and effort to take care of our children. This decision has shown to have a positive impact on my daughters' social development and educational progress and also gave me more space to focus on my research work as well. Thus, I attribute my success, if any, to the patience and endurance she has shown over the past years.

As a family, we love to go to cinemas and parks during the weekends. Personally, I love to play on musical instruments such as Oud, which is a stringed instrument similar to a guitar which I have played since I was a teen. I also have a special interest in photography with some background on the physics of lenses. My best hobby or what I call "stress reliever" are PC games that I enjoy when I feel burdened by the stress of work.



University Policy Updates

Visitors to Labs (Minors)

As an extension of its educational responsibilities, the University of Pittsburgh allows and encourages community representatives, members of the public, and students to visit University facilities. However, because of safety and liability issues, visitations by such groups and individuals to laboratories and shops must be under the direct supervision of an authorized faculty or staff member, or part of a formally organized open house, guided tour, or supervised educational program.

Children are not authorized to visit laboratories and shops, except as a participant in a formally sponsored tour or educational program with permission of an informed parent or guardian, or with parental permission and as the guest and under the supervision of a University student or faculty or staff member. At no time should children be permitted to use or be exposed to unreasonable hazardous

chemicals or materials or dangerous procedures during their visit.

Children of University students, faculty, and staff members are not authorized to be in laboratories or shops on either an attended or unattended child care basis. For the purpose of these guidelines, "children" refers to minors under 18 years of age who are not students or employees of the University.

The organization unit chair/director, shop supervisor, or laboratory principal investigator bears primary responsibility for ensuring that University students, faculty, and staff members under their direction are aware of and adhere to these guidelines.



Child Protection Clearances

Effective December 31, 2014, prior to commencement of employment or appointment, all new University employees and appointees

must satisfactorily obtain and present to Human Resources the following three child protection clearances: 1. Pennsylvania Department of Human Services Child Abuse History Clearance; 2. Pennsylvania State Police Criminal Record Check and 3. FBI Criminal Record Check. The State has posted information on how to obtain these three clearances here:

<http://www.dhs.state.pa.us/fi ndaform/childabusehistoryclearanceforms/index.htm>.

Additional information from the Office of Human Resources is posted here: <http://www.hr.pitt.edu/forms>.

Current

Employees/Volunteers: If an individual has previously submitted any one of the three child protection clearances to the University in the past, then the recertification requirements set forth will apply. By law, all others with "direct contact" with children must satisfactorily obtain and present the same three clearances required of new

employees by no later than December 31, 2015. The legal definition of “direct contact with children” is as follows: “The care, supervision, guidance or control of children or routine interaction with children.”

Recertification – By law, those individuals who have previously submitted child protection clearances must obtain and submit new ones within 3 years of the date of their most recent clearance or, if currently older than three years, by December 31, 2015.

How does this affect us within the labs?

- All current employees are required to complete the clearance process by May 31, 2015. We have an accelerated deadline from the general University because there will be high school students working in the labs over the summer.
 - This process can take several weeks, so start as soon as possible.
- There is a total of \$45.75 in fees that is associated with this process. At this time all of the PI's have agreed to provide reimbursement for the charges.

- In order to receive your reimbursement, please provide Kathy DiGiacomo with your receipts.
- Original clearance responses and/or proof of application must be presented to a University Human Resources staff member at the following location: University of Pittsburgh – Oakland Campus Human Resources – Recruiting & Client Services 100 Craig Hall, 200 South Craig Street Pittsburgh, PA 15260
 - Kathy will also require a copy to verify that you have completed this process.



IACUC Updates
New online education and training resource for animal users
The Institutional Animal Care and Use Committee announced the availability of a new online education and training resource: The

American Association of Laboratory Animal Science ([AALAS Learning Library](#)). The Learning Library offers a variety of courses which emphasize the appropriate handling, care and use of animals in research. Courses include a wide range of topics encompassing many points of interest. A few course titles include: "Anesthesia, Analgesia and Surgery", "Compliance and IACUC Training" as well as many species-specific training courses. Feel free to visit the [Learning Library website](#) to explore all the options available.

Principal Investigators and their laboratory staff members interested in receiving an account on our roster are encouraged to contact the IACUC learning library group coordinator, [Chris Gubish](#). Once the account is assigned, your laboratory group will be able to access the learning library.

Please do not hesitate to contact the [IACUC office](#) with any questions you may have regarding this educational resource.

*New Policy Regarding
the Inclusion of
Transgenic Strains on
IACUC Protocols*

In an effort to reduce administrative burden on investigators and University staff in several departments, the IACUC has recently decided to no longer require the listing of all transgenic strains to be used in research studies on IACUC protocol applications. Investigators should still include the name of background strains and the fact that transgenics will be used, but a listing of each strain is no longer required. In addition, if an

investigator wants to add a new strain to their protocol they will not have to submit a modification request unless the additional strain requires an increase in animal numbers.

The IACUC originally required the listing of each strain in an effort to ensure that strains requiring special husbandry received the necessary care and were housed appropriately. While this is still a chief concern of the animal program, it has always ultimately been the investigator's responsibility

to identify such species and provide for their specific needs. Investigators will notice that similar questions related to the identification of strains requiring special husbandry must be answered at the time that animals are ordered.

Work is underway to revise portions of the IACUC online application and modifications form in accordance with this new policy. Your patience is appreciated.

Colony Status: As of April 28, 2015

Established Colonies: Knockouts, Transgenics, and Double Knockouts

ATF3 KO	Nalp 3 KO	TLR2 KO
Caspase1KO	Myd88 KO	TLR4 KO/Caspase 11 KO
Caspase11 KO	Myd88 WT	TLR4 KO/RAGE KO
Cathespin L KO	RAGE KO	TLR9 ^{CpG1/CpG1}
iNos KO	Rorc GFP	Trif ^{LPS-2} (Jax #005037)

Established Colonies: Cell Specific Knockouts and Controls

DC TLR4 KO	HMGB1 flox/ROSA ^{mT/mG}	TACE flox
HC HMGB1 KO	iHMGB1 KO	TLR4 flox
HC TACE KO	Lyz cre HMGB1 KO	TLR4 KO (global)
HC TACE WT	Lyz Cre TLR4 KO	TLR-9 flox
HC TLR4 KO	ROSA ^{mT/mG}	Pf4cre HMGB1 KO
Het TLR4KO/TLR4flox	ROSA Pf4cre HMGB1 KO	Pf4cre TLR4 KO
HMGB1 flox	Reporter	

Colonies in Development

Staggerer KO (Set up 4/27/15)	Lyz cre TLR9 KO
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Strains Available from Collaborators

IRF-1 KO (David Geller)	PKR KO (Chen)	GDF-15 KO (Yoram Vodovotz)
HPH-1 KO (Alex Chen)	HMGB1 EC KO (Chen)	
GTPCH (Chen)		

Cryopreserved Strains *at Jackons Labs unless otherwise noted

eNos tg	EGR1 KO	TLR-4 KO (Taconic, Hackam)
CD36 KO	IFNabR KO	HMGB1 +/-
TLR2 KO	TLR-9 (eggs, in house)	Jα281-/-
AIM2 KO	TLR-4 flox (Hackam)	

Stud Colonies

HMGB1 flox x Albumin Cre	TLR4 KO x Albumin Cre
HMGB1 flox x ER cre	TLR4 KO x CD11c
HMGB1 flox x Lyz cre	TLR4 KO x Lyz Cre
HMGB1 flox x Pf4 cre	TLR4 KO x Pf4 cre
TACE flox x Albumin cre	TLR9 flox x Lyz cre

If you have any questions regarding the contents of this newsletter, contact [Deb Williams](#)

If you know of anything exciting or newsworthy going on in the lab that you want to share with others email [Alicia Frank](#) with the information

For more information, please visit the [General and Vascular Surgery Labs website](#)