

# Biochemistry and Molecular Biology NOTES

Volume 20, No. 6 November 2006

## Biochem Notes to be issued quarterly

Biochem Notes is changing to a quarterly production with the goal of publishing in July, October, January, and April. This volume of Biochem Notes is intended as a catch-up issue as we have been on hiatus since June 2006. As a result, it is possible we have not captured all of the news in this volume. If you do not see a newsworthy item mentioned, or would like to have an item included in a future issue, please send an email to [mharden@iupui.edu](mailto:mharden@iupui.edu) so that the information may be included in the next issue. We will continue to cover the same topics that are hopefully of interest to the IUSOM biochemistry community. Thanks for your patience and support!

## Campus Holidays

**Thurs. 11/23/06** – Thanksgiving

**Fri. 11/24/06** – Day after  
Thanksgiving

**Mon. 12/25/06** – Christmas Day

**Mon. 1/1/07** – New Year's Day



## Reception to meet our new Biochem Faculty, 3-5 p.m. Thurs. Dec. 7

Biochemistry is proud to introduce our new 6 faculty who have joined the Department this Fall: **Andy Hudmon, Samy Meroueh, Jeremy Sanford, Yuro Takagi, Clark Wells, and Qi-Zhuang Ye**. In celebration of their arrival, the Department is hosting a reception on Thursday, December 7 from 3-5 p.m. on the first floor of the Med Science Building atrium. All Biochem employees including faculty, staff, and students are invited to attend. We're extending invitations to all of the other basic science departments to join us as well. It's a wonderful opportunity to meet and greet these investigators who are new to IU. Watch for an email announcement about the event in the near future.

In the meantime, please see **page 2 for a brief description of their research interests and contact information** and/or visit the Biochem website at [www.biochemistry.iu.edu](http://www.biochemistry.iu.edu) (go to Faculty and Their Research, then Primary Faculty for links to their sites).



## Annual Biochem Holiday Party on Friday, Dec. 15 at 12 noon

Join us for some holiday cheer at the annual Biochem Holiday Party on Friday, December 15 at 12 noon on the 1<sup>st</sup> floor of the MS atrium. This year we're featuring a lunch buffet with Chinese and Italian selections and an assortment of salads, including plenty of vegetarian choices. Be sure to wear a numbered nametag to be eligible for door prizes. We'll cap off the party with another rousing game of Stealing Bingo. We hope to see you there!



# Meet our New Faculty!

Biochem proudly announces the appointment of 6 new faculty members who arrived in Fall 2006:



**Andy Hudmon, Ph.D.**  
**Assistant Professor**

Andy's research involves molecular mechanisms underlying normal and aberrant  $\text{Ca}^{2+}$  signaling in neurons: kinases, molecular machines, and signaling modules.

Office location: R2 Room E 480

Office phone: 278-8513

Lab phone: 278-0037

[ahudmon@iupui.edu](mailto:ahudmon@iupui.edu)



**Jeremy Sanford, Ph.D.**  
**Assistant Professor**

His research interests are post-transcriptional control (PTC) of eukaryotic gene expression.

Office location: MS 405

Office Phone: 278-1097

Lab phone: 274-4897

[sanfordj@iupui.edu](mailto:sanfordj@iupui.edu)



**Clark Wells, Ph.D.**  
**Assistant Professor**

Clark researches epithelial cell polarity: characterization of regulatory complexes at epithelial junctions using a combination of proteomics/biochemistry and cell biology.

Office location: MS 4053

Office Phone: 278-1060

Lab phone: 274-5871

[wells4@iupui.edu](mailto:wells4@iupui.edu)



**Samy Meroueh, Ph.D.**  
**Assistant Professor**

Samy uses computational and biophysical tools to investigate the molecular dynamics, thermodynamics and kinetics of macromolecular interactions.

Office location: EF 222

Office Phone: 274-8315

[smeroueh@iupui.edu](mailto:smeroueh@iupui.edu)



**Yuro Takagi, Ph.D.**  
**Assistant Professor**

Yuro investigates the mechanism of eukaryotic gene regulation by RNA polymerase II.

Office location: MS 4003

Office Phone: 274-2719

Lab phone: 274-0889

[ytakagi@iupui.edu](mailto:ytakagi@iupui.edu)



**Qi-Zhuang Ye, Ph.D.**  
**Associate Professor**

His interests include proteases and protein phosphatases: enzyme catalysis and inhibition, protein structure and function, and drug discovery.

Office location: MS 1007G

Office Phone: 278-0304

Lab phone: 278-0465

[yeq@iupui.edu](mailto:yeq@iupui.edu)

## Noteworthy Faculty Appointments

On Oct. 1, 2006 **Zhong-Yin Zhang** was appointed as the first **Robert A. Harris Professor of Biochemistry and Molecular Biology**. The Robert A. Harris Chair was established this year by multiple donors to honor **Bob Harris**, former chair of the Department. It is the intent of the donors that the holder of the chair will be the chairperson of the department.

Bob was appointed Associate Professor of Biochemistry at IUSOM in 1970 and served as chair of the Department from 1988 to 2004. Since stepping down as chair he has continued his research on regulation of mitochondrial kinases and phosphatases, and regulation of gene expression. He was appointed Showalter Professor of Biochemistry in 1992 and named an IU Distinguished Professor in 2001.

Zhong-Yin was appointed chair and professor of Biochemistry and Molecular Biology in August 2005, having previously been Professor of Molecular Pharmacology and Biochemistry at Albert Einstein College of Medicine in New York. Dr. Zhang received his Ph.D. in Biochemistry at Purdue.

Congratulations to both Bob and Zhong-Yin!



**Keith Dunker** was appointed as the **T.K. Li Professor of Medical Research** effective Nov. 1, 2006. This Chair was created as part of the position of Director of IUSOM's Center for Computational Biology and Bioinformatics.

The new Chair is named for Dr. Ting-Kai Li who received an M.D. from Harvard in 1959. He joined IUSOM as Professor of Medicine and Biochemistry in 1971. He is renowned for a distinguished career studying alcohol metabolism and abuse and is the founding Director of the Indiana Alcohol Research Center. He was appointed the Director of the National Institute on Alcohol Abuse and Alcoholism at NIH in 2001. The School of Medicine is naming the T.K. Li Chair in Medical Research in honor of his extensive achievements as a role model, mentor, and source of inspiration to several generations of researchers.

Keith Dunker was named Director of the IUSOM Center for Computational Biology and Bioinformatics in July 2003. He previously was a Professor of Biochemistry at Washington State University since 1983. He received his Ph.D. in Biophysics in 1969 from the University of Wisconsin at Madison. Keith is nationally known for his bioinformatics expertise and his research into protein structure.

**Keith Dunker** also added the position of **Director of Bioinformatics Program at the IU School of Informatics at Bloomington and IUPUI** as of August 1, 2006. Bioinformatics plays a major role in IU's Life Sciences Strategic Plan which includes developing bioinformatics and chemical informatics as areas of strength in the School of Informatics.

Congratulations, Keith, on your new appointments!

Kudos to **Mike King** as he added the title of Associate Director for Research at IUSM-Terre Haute on 7/1/06.

Warm congratulations to **Bill Bosron** who began serving as the Interim Dean of the School of Science effective August 1, 2006. IUPUI Chancellor Charles Bantz expressed deep appreciation for Bill's willingness to take on this critical assignment for IUPUI, and that they "appreciate the energy and creativity (he) will bring to the deanship as well as (his) extensive research and administrative experience". A search for a permanent dean is currently underway.

**Hiremagalur Jayaram** retired from IUSOM on June 30, 2006. Jay was appointed Professor of Biochemistry and Molecular Biology and of Experimental Oncology in 1985. His lab moved from Med Science to the VA Hospital in May 2002. In July 2006 he accepted an appointment as a Research Scientist at the VA. Congratulations on your retirement!

## Congratulations

Congrats to **Christopher Lux**, MD/PhD student, who received the **David M. Gibson Award as the first place winner of the Sigma Xi Competition** in June 2006. Kudos also go to recent Ph.D. grad student **Angela Nevins** who received Honorable Mention from Sigma Xi in the same competition.

Cheers to **Angelia Lockett**, grad student, who received **Honorable Mention from the Ford Foundation Diversity Fellowship Doctoral Program** in their dissertation award competition.

**Mark Goebel** was selected as an **IUPUI Honors Program Research Fellow** for the 2006-07 academic year. This award recognizes faculty who show interest in mentoring undergrad students in active research projects and who make a significant contribution toward improving student academic progress on the IUPUI Campus. Congratulations, Mark!



Best wishes go to newlywed grad student **Dawn (Brown) Fitzpatrick** who married her college sweetheart, Jason, on July 21 at the Ritz Charles in Carmel, IN. They met while undergrads in Nashville, TN in 2000. Jason is a Commercial Credit Analyst at Lincoln Bank.

## Great Turnout at this year's Biochem Retreat and at the Dept. Picnic

We enjoyed the highest number of posters yet at this year's **Biochem Retreat** held on Friday, Sept. 22 in the Med Science Atrium.

Over 75 posters were presented by students, post-docs, research staff, and faculty on a wide range of Biochem topics and some "hot off the press" information. The event was a terrific opportunity for everyone to meet, especially for our new grad students to consider mentors for lab rotations.

The annual awards ceremony followed the poster sessions. Zhong-Yin Zhang provided a "state of the department" update and the new grad students were introduced. Anna DePaoli-Roach emceed the awards presentation and had organized the poster judges. Millie Georgiadis presented the **Peggy Gibson Award for best student paper in the 05-06 year to Thor Johnson**. Debbie Thurmond announced **Brandy Akin as the winner of the Jack Davis Award for best student seminar in 2005-06**. Eric Benson presented **Maureen Harrington with the Outstanding Mentor Award**. Lawrence Quilliam presented the **poster awards to grad students Jill Butler, Emily Horvath, Alice Ke, and post-doc Scott Witting**.

The Department wishes to thank all of the faculty, students, and staff who worked so diligently to make this event run so smoothly.

A lovely autumn day with sunshine and warm breezes was on hand for the **Annual Biochem Picnic** on Saturday, October 7 in Eagle Creek Group Picnic area in Indianapolis. Hamburgers and hot dogs were the lunchtime entrée with pitch-in dishes on the side. We met lots of babies, pets, families, and friends. The faculty whopped the students in the annual softball game with a final score of 11-9. No injuries were reported although sore muscles may have been silently endured the following days.

We owe a big thanks to faculty members Debbie Thurmond and Andy Hudmon, student rep Ross Cocklin and the grad students, and the office staff for organizing the event. The wonderful times enjoyed by all at the picnic were the result of their efforts. We look forward to seeing everyone next year!

## Publications

X. Lu, M. Wang, J. Qi, X. Li, **D. Gupta**, and R. Dziarski. 2006. Peptidoglycan recognition proteins are a new class of human bactericidal proteins. *J Biol Chem.* **281** (9): 5895-907.

Jill Paterson, Kathleen Renkema, Margaret Halleck, Robert Schlegel, Patrick Williamson and **David L. Daleke**. Lipid specific activation of the murine P<sub>4</sub>-ATPase Atp8al (ATPaseII). *Biochemistry* **45** (2006).

## New People in Biochemistry



**Andrea Gunawan**  
Research Analyst  
Chemical Genomics  
Core Facility



**Raphael Tonade**  
Research Technician  
Thurmond lab



**Brandon Peters**  
Computer Support Specialist  
Ctr. For Computational Biology  
and Bioinformatics



**Zhongliang Zhu**  
Post-doc  
Georgiadis lab



**Wenlong Wang**  
Post-doc  
Ye lab



**Joseph Brogan**  
Research Technician  
Hudmon lab



**Samantha Perez-Miller**  
Post-doc  
T. Hurley lab



**Aaron Watters**  
Research Technician  
Harrington lab



**Bridgette Heller**  
Research Technician  
Wells lab



**Sergio Chai**  
Post-doc  
Ye lab



**Justin Dantzer**  
Web Programmer  
Center for Computational Biology  
and Bioinformatics



**Jose Irima-Dominguez**  
Post-doc  
Roach lab

## New Biochemistry Graduate Students



**Souvik Dey**  
Ph.D. student



**Sara McNeil**  
MS student



**Jonathan Howard**  
Ph.D. student



**Lakshmi Reddy Palam**  
Ph.D. student



**Sowmya Jairam**  
Ph.D. student



**Lacey Dobrolecki**  
MS student



**Patricia Pick-Franke**  
Ph.D. student

# NEW GRANTS AWARDED TO BIOCHEMISTRY INVESTIGATORS

Updated 11-10-06

Investigator	Agency	Project Title	Start date
Harikrishna Nakshatri	Susan G. Komen Breast Cancer Foundation	CXCR4: Wnt Axis in Chemoresistance of Breast Cancer Stem Cells	5/1/06
John Turchi	University of Arizona	Test RPA Phosphorylation Effect on Protein/protein Interactions	5/1/06
Frank Witzmann	NIH-NIAAA	Protein Biomarker Profiles of Abusive Alcohol Consumption	6/1/06
William Bosron	Biomedical Research Committee	Development of Methods for Isotopic-labeled Protein Standards in E. coli for Quantitative Protein Analysis in Tissues by Mass Spectrometry	7/1/06
Anna DePaoli-Roach	Biomedical Research Committee	Role of Musclin, a Novel Muscle Secreted Protein, in Insulin Resistance	7/1/06
Millie Georgiadis	NIH-NCI	Mechanism of Redox Regulation by Ape1/Ref1	7/1/06
Mark Goebel	Biomedical Research Committee	Post-Transational Control of Glucose Uptake by SCFGrr1. (This received the Bert Elwert Award in Medicine for giving the largest incremental boost to performance and reputation in the medical/scientific community.)	7/1/06
Robert A. Harris	Grace M. Showalter Trust	Analysis of the Mitochondrion Proteome by INCAPS Reveals a New Enzyme and a Likely New Metabolic Cycle for AT Synthesis	7/1/06
Suk-Hee Lee	Biomedical Research Committee	In vivo Role for Metnase's Histone Lysine Methyltransferase in DSB Repair	7/1/06
Nuria Morral	Grace M. Showalter Trust	Intracellular Fatty Acid Transport in Liver	7/1/06
Harikrishna Nakshatri	Flight Attendant Medical Research Institute	Developing DMAPT, a NF- $\kappa$ B Inhibitor for Bladder Cancer	7/1/06
Lawrence Quilliam	Biomedical Research Committee	Identification of Novel Rheb Effectors and Regulators That Control the mTOR Pathway and Actin Remodeling	7/1/06

## NEW GRANTS AWARDED TO BIOCHEMISTRY INVESTIGATORS, continued

C. Max Schmidt	American Cancer Society	Targeting NF- $\kappa$ B in Pancreatic Cancer	7/1/06
John Turchi	Flight Attendant Medical Research Institute	Analysis of DNA Repair Capacity to Predict and Target Chemoresistant Small Cell Lung Cancer	7/1/06
Claire Walczak	American Heart Assoc. – Midwest	Structural Features and Intermediates of MCAK induced Microtubule Depolymerization	7/1/06
Mu Wang	W. M. Keck Foundation	Problems of Limbs and Spinal Cord Regenerations in Amphibians	7/1/06
Harikrishna Nakshatri	NIH-NCI	Chemoprevention Through Activation of Estrogen Receptor Alpha-Induced Senescence	7/11/06
Harikrishna Nakshatri	US Dept. of Defense	Do MicroRNAs Mediate Estrogen-Dependent Repression of Genes?	7/15/06
Raja Muthukrishnan	IUSM Travel Grant	Predocctoral Student Travel Award	8/17/06
Ross Cocklin	American Society for Cell Biology	Predocctoral Student Travel Award	9/1/06
Howard Edenberg	NIH-NIAAA	Indiana Gene Array Core	9/1/06
C. Max Schmidt	NIH-NCI	A Biomarker Study of COX-2 inhibitors in IPMN	9/1/06
William Bosron	NIH-NIAAA	Effect of Ethanol on Retinoid Metabolism and Signaling in Zebrafish Embryos	9/30/06
Mu Wang	NCI-subcontract via Purdue	Clinical Proteomic Technology Assessment for Cancer (subcontract is APT: Analytical Proteomics Team)	10/1/06
Andy Hudmon	Biomedical Research Committee	Mechanisms Coupling Gene Expression to L-type Calcium Channel Activity in Neurons	11/1/06



## Change in NIH Application Receipt Dates

Effective January 2007 NIH is changing its' standard receipt dates for grant applications. This applies to both paper and electronic applications. The changes are designed to reduce bottlenecks caused by heavy volumes of applications on particular submission dates.

Also see: <http://grants1.nih.gov/grants/guide/notice-files/NOT-OD-007-001.html>.

<b>Change in Standing Receipt Dates for NIH Applications Beginning January 2007</b>	<b>Receipt Cycle I</b>	<b>Receipt Cycle II</b>	<b>Receipt Cycle III</b>
<b>Program Project Grants and Center Grants – all P Series</b> <i>new, renewal, resubmission, revision*</i>	January 25 (old date Feb. 1)	May 25 (old date June 1)	September 25 (old date Oct. 1)
<b>Research Grants – R10, R18, R24, R25</b> <i>new, renewal, resubmission, revision*</i>	January 25 (old date Feb 1, March 1)	May 25 (old date June1, July 1)	September 25 (old date Oct. 1, Nov. 1)
<b>Research-Related and Other Programs – all S and G Series, C06, M01</b> <i>new, renewal, resubmission, revision*</i>	January 25 (old date Feb. 1)	May 25 (old date June 1)	September 25 (old date Oct. 1)
<b>Institutional Ruth L. Kirschstein National Research Service Awards - T Series (Training)**</b> <i>new, renewal, resubmission, revision*</i>	January 25 (old date Jan. 10)	May 25 (old date May 10)	September 25 (old date Sept. 10)
<b>Research Grants - R01</b> <i>new</i>	February 5 (old date Feb. 1)	June 5 (old date June 1)	October 5 (old date Oct. 1)
<b>Research Career Development – all K series</b> <i>new</i>	Feb 12 (old date Feb. 1)	June 12 (old date June 1)	October 12 (old date Oct. 1)
<b>Research Grants - R03, R21, R33, R21/R33, R34, R36</b> <i>new</i>	February 16 (old date Feb. 1)	June 16 (old date June 1)	October 16 (old date Oct. 1)
<b>Academic Research Enhancement Award (AREA) - R15</b> <i>new, renewal, resubmission, revision*</i>	February 25 (no change)	June 25 (no change)	October 25 (no change)
<b>Research Grants - R01</b> <i>renewal, resubmission, revision*</i>	March 5 (old date March 1)	July 5 (old date July 1)	November 5 (old date Nov. 1)
<b>Research Career Development – all K series</b> <i>renewal, resubmission, revision*</i>	March 12 (Old date March 1)	July 12 (old date July 1)	November 12 (old date Nov. 1)
<b>Research Grants - R03, R21, R33, R21/R33, R34, R36</b> <i>renewal, resubmission, revision*</i>	March 16 (old date March 1)	July 16 (old date July 1)	November 16 (Old date Nov. 1)
<b><u>New Investigator</u> – R01</b> <i>resubmission* for those applications involved in pilot ONLY</i> <i>(<a href="http://grants.nih.gov/grants/guide/notice-files/NOT-OD-06-060.html">http://grants.nih.gov/grants/guide/notice-files/NOT-OD-06-060.html</a>)</i>	March 20 (no change)	July 20 (no change)	November 20 (no change)

<b>Small Business Innovation Research (SBIR), Small Business Technology Transfer (STTR) Grants - R43, R44, R41 and R42</b> <i>new, renewal, resubmission, revision*</i>	April 5 (old date April 1)	August 5 (old date Aug. 1)	December 5 (old date Dec. 1)
<b>Individual Ruth L. Kirschstein National Research Service Awards (Standard) – all F series Fellowships.</b> <i>new, renewal, resubmission*</i>	April 8 (old date April 5)	August 8 (old date Aug. 5)	December 8 (old date Dec. 5)
<b>Conference Grants and Conference Cooperative Agreements - R13, U13</b> <i>new, renewal, resubmission, revision*</i>	April 12 (old date April 15)	August 12 (old date Aug. 15)	December 12 (old date Dec. 15)
<b>AIDS and AIDS-Related Grants</b> ALL of the mechanisms cited above <i>new, renewal, resubmission, revision*</i>	May 1 (no change)	September 1 (no change)	January 2 (no change)

\* The move to electronic applications also has brought a change in terminology. The new Grants.gov terminology (included in the table above) corresponds to traditional NIH terms as follows:

- New = new
- Resubmission = a revised or amended application
- Renewal = Competing Continuation
- Continuation = Noncompeting Progress Report
- Revision = Competing Supplement

\*\* **Institutional Research Training Grants (T32)** are accepted by many NIH Institutes and Centers (IC) for only one or two of the dates. Applicants should contact the relevant IC for specific dates.

## New Requirements for Travelers

Federal regulations require that by January 1, 2007 all air and sea travelers to or from Mexico, Canada, the Caribbean, Bermuda, and Central and South America will be required to have a passport or other secure, accepted document to enter or re-enter the United States. As of January 1, 2008 the requirement is extended to all land border crossings as well. This affects all US citizens entering the US from countries within the Western Hemisphere who do not currently have valid passports. The new requirements also affect most citizens of Canada and Mexico as they will be required to present a passport to travel to the US. Passport applications can be obtained at these local post offices: Main post office at 125 W. South Street, Southport, Eastgate, Park Fletcher, Eagle Creek, and Castleton.

