BIOCHEMISTRY & MOLECULAR BIOLOGY TODAY

NOVEMBER 2011 NO. 284

utmb Health

BMB Biochemistry & Molecular Biology

Chair's Message

Like many of you, after the last minute preparations expected of me for the Thanksgiving feast and before the arrival of the expected family and friends, I had a moment of pause and asked myself: "what exactly was I thankful for in this time of anxiety we all experience with reference to events affecting the world, the US, Texas and even our own UTMB?" Somehow amidst all this worry, I was and am thankful. I thought of how our own meal in some fashion reflected family traditions from lands far away and realized that this is a common event in America. We have friends where Thanksgiving includes a generations' old recipe for a particular lasagna to accompany the more traditional turkey and others where home-made tamales or Asian fare share the day with the traditional turkey platter. I was thankful to have made the choice to live in a country where our diversity does not have to estrange us from each other but rather can add a certain richness to the fabric of the relationships that are part of our daily lives in our neighborhoods, at work or through the interactions our children bring home from school. I think that it is this successful, if painfully achieved, blending of experiences that we should be thankful for. We retain our own traditions handed down to us from those before us even as we share our lives with those whose strands of tradition may bear a different hue. This may be America's most significant achievement. Over the next few weeks, we will all participate in a host of different celebrations of our own unique traditions with a common thread of sharing with loved ones a sense of partnership in the progress of our lives and a sincere hope that the time ahead will not affect our optimism in the face of the year to come. We always cherish how we open our hearts and minds during the holidays to come, maybe even pretending we are as the children on whom we focus. My wish for all of us is that we share in the joy of an open mind and an open heart to bring joy to us in the next few weeks and to sustain us in the days to come.

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Special Items of Interest

- Awards and Announcements—Page 2

Awards and Announcements

René Viñas, graduate student in Dr. Cheryl Watson's lab, received a Society of Toxicology 2012 Colgate-Palmolive Award for Student Research Training in Alternative Methods. The purpose of the Colgate-Palmolive Awards for Student Research Training in Alternative Methods is to enhance graduate student research training using *in vitro* methods or alternative techniques to reduce, replace or refine use of animals in toxicological research. He will be recognized in the Annual Meeting *Preliminary* and *Final Programs*, the *Membership Directory*, and on the SOT Web site.

Dr. John E. Wiktorwicz has been asked to server on the Editorial Advisory Board of the Journal of Proteome Research.

Dr. Sunil Verma, post-doc in Kuyumcu-Martinez laboratory received the best post-doctoral poster award at the Neuroscience and Cell Biology Departmental retreat held October 3, 2011.

Dr. Anil K. Mantha, received a New Investigator Research Grant (NIRG) from Alzheimer's Association, USA, (2011-2013) to study "APE1/Ref-1's Dual Functions Countering Beta-Amyloid Induced Genotoxicity".

Faculty on the Road

Dr. John Wiktorowicz attended the International Human Proteome Organization meeting in Geneva, Switzerland where he presented the following posters: *Candidate Biomarker Panel For Dengue Hemorrhagic Fever Using Multi-dimensional Discovery Proteo/Peptidomics AndNonparametric Classification;* J. E. Wiktorowicz, A. Brasier, H. Spratt, K. Soman, T. Kochel on behalf of Dengue Hemorrhagic Fever Study Investigators.

Quantification of Cysteinyl S-Nitrosylation by Fluorescence in Unbiased Proteomic Studies of Rat Brain Ischemia/Reperfusion; J. E. Wiktorowicz, S. Stafford, H. Rea, K. V. Soman, J. R. Perez-Polo, and A. Kurosky.

Dr. Catherine Schein gave a talk at the 8th Annual Biotechnology and Bioinformatics Symposium (BIOT-2011) on October 21, 2011 that was titled Physicochemical property consensus sequences for functional analysis, design of multivalent vaccines, and targeted antivirals .

Dr. Muralidhar Hegde attended the 6th Brain Research meeting on RNA-binding proteins in neurodegenerative disorders in Washington DC from November 10-11, 2011, where he presented a poster entitled: 'Novel role of TDP-43 in DNA double strand break repair in neurons: Implications to neurodegenerative diseases. He received a travel award from the organizers to attend this meeting.

Dr. Junji Iwahara was invited to give a seminar at Florida State University on November 8, 2011. The title was "Functional side-chain and inter-domain dynamics of proteins.

He also was invited to give a talk at the ISNMR2011 symposium in Yokohama, Japan on November 15-18, 2011. "Side-chain dynamics of hydrogen bonds and ion pairs". Lastly, he gave a seminar at UT Health Science Center in Houston on November 28, 2011 entitled "Dynamic mechanisms for target DNA search by transcription factors".

Graduate Program News

2011 GSBS Student Awards

Abhisek Mukherjee	Michael Tacheeni Scott Endowed Scholarship
Abhisek Mukherjee	Arthur Simmang Academic Scholarships
Keerthi Gottipati	Ann and John Hamilton Endowed Scholarship
Hung Doan	Kay and Cary W. Cooper, PhD. Scholarship
Hung Doan	Jane Welsh Award for Excellence in Cardiovascular Research
Abhijnan Chattopadhyay	Rose and Harry Walk Research Award
Christof Straub	GSBS Associates Christiana Fleischmann Travel Award
Christof Straub	James Beall II Memorial Award
Paige Spencer	Marianne Blum, Ph.D. Endowed Scholarship Award
Levani Zandarashvili	Edith and Robert Zinn Presidential Scholarship
Alexandre Esadze	Robert A. Welch Award for Excellence in Graduate Research in Chemistry

Abhisek Mukherjee was selected as the BMB nominee for the Harold M. Weintraub Graduate Student Award
Also, congratulations to Daisi Chen (BMB) for a successful final defense. He will be returning to China for employment.

Annual Holiday Toy Drive

Sponsored by the

Biological Chemistry Student Organization

Help us spread holiday cheer to children in need during this 2011 Holiday season.

Who: **Children under the care of Child Protective Services of Galveston Co.**

What: **Fundraiser to purchase toys for 5 children (goal of $500) with excess money going towards sponsoring additional children**

Name	Location	Name	Location
Vincent Dimayuga	6th floor BSB	**Paige Spencer**	Bldg 17
Alexandre Esadze	5th floor MRB	**Levani Zandarashvili**	6th floor MRB
Scott McVicar	5th floor BSB	**Barb Rolls**	7th floor MRB
Christof Straub	2nd floor BSB	**Kim Burckart**	9th & 10th floor MRB

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BCSO Biological Chemistry Student Organization

Publications

Wiktorowicz, J. E.; **Soman, K.**; Haag, A., Discovery Strategies for Proteomic Profiling of Airway Diseases. Curr. *Proteomics* 2011, 8, 97-110.

Wiktorowicz, J.E., Stafford, S., Rea, H., Urvil, P., **Soman, K., Kurosky, A., Perez-Polo, J.R.,** and Savidge, T.C. 2011. Quantification of cysteinyl s-nitrosylation by fluorescence in unbiased proteomic studies. *Biochemistry* 50:5601-5614, doi: 10.1021/bi200008b;

Savidge, T. C.; Urvil, P.; Oezguen, N.; Ali, K.; Choudhury, A.; Acharya, V.; Pinchuk, I.; Torres, A. G.; English, R. D.; **Wiktorowicz, J. E.**; Loeffelholz, M.; Kumar, R.; Shi, L.; Nie, W.; **Braun, W.;** Herman, B.; Hausladen, A.; Feng, H.; Stamler, J. S.; Pothoulakis, C., Host S-nitrosylation inhibits clostridial small molecule-activated glucosylating toxins. Nat. Med. 2011, 17, (9), 1136-41;

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Tiwari R., Negi S.S., Braun B., **Braun W.,** Pomés A., Chapman M.D., **Goldblum R.M.,** Midoro-Horiuti T. Validation of a Phage Display and Computational Algorithm by Mapping a Conformational Epitope of Bla g 2. *Int Arch Allergy Immunol* 2012;157:323-330 (DOI: 10.1159/000330108).

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Durham-Lee, J.C. , Wu, Y. , Mokkapati, V.U.L. , Paulucci-Holthauzen, A. A, and **Nesic, O.** Induction of Angiopoietin-2 after Spinal Cord Injury. *Neuroscience.* 2011 Oct 4. [Epub ahead of print].

Featured Abstract by BMB Faculty

Quantification of cysteinyl S-nitrosylation by fluorescence in unbiased pr oteomic studies.

Biochemistry. 2011 Jun 28;50(25):5601-14. Epub 2011 Jun 7.
Wiktorowicz JE, Stafford S, Rea H, Urvil P, Soman K, Kurosky A, Perez-Polo JR, Savidge TC.

Cysteinyl S-nitrosylation has emerged as an important post-translational modification affecting protein function in health and disease. Great emphasis has been placed on global, unbiased quantification of S-nitrosylated proteins because of physiologic and oxidative stimuli. However, current strategies have been hampered by sample loss and altered protein electrophoretic mobility. Here, we describe a novel quantitative approach that uses accurate, sensitive fluorescence modification of cysteine S-nitrosylation that leaves electrophoretic mobility unaffected (SNOFlo) and introduce unique concepts for measuring changes in S-nitrosylation status relative to protein abundance. Its efficacy in defining the functional S-nitrosoproteome is demonstrated in two diverse biological applications: an in vivo rat hypoxia-ischemia/reperfusion model and antimicrobial S-nitrosoglutathione-driven transnitrosylation of an enteric microbial pathogen. The suitability of this approach for investigating endogenous S-nitrosylation is further demonstrated using Ingenuity Pathways analysis that identified nervous system and cellular development networks as the top two networks. Functional analysis of differentially S-nitrosylated proteins indicated their involvement in apoptosis, branching morphogenesis of axons, cortical neurons, and sympathetic neurites, neurogenesis, and calcium signaling. Major abundance changes were also observed for fibrillar proteins known to be stress-responsive in neurons and glia. Thus, both examples demonstrate the technique's power in confirming the widespread involvement of S-nitrosylation in hypoxia-ischemia/reperfusion injury and in antimicrobial host responses.