

• MECHANISMS •

A Specialty Section of the Society of Toxicology

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Fall, 2007

Top Ten Reasons to Submit Your Abstract for the Carl C. Smith Award

10. At least six respected scientists (judges) will know your name.
9. Your name will be listed in the Fall 08 newsletter for Mechanisms Specialty section.
8. Your picture will be on the web
7. You have an opportunity for your work to be reviewed by a panel of experts.
6. You'll be in the company of some pretty impressive people
5. You'll be called up to the dais at the Mechanisms reception so at least 100 more people will know your name and face.
4. You'll make your advisor happy.
3. You'll have a good start on writing your dissertation and/or a manuscript.
2. You'll have a respectable bullet to add to your CV
1. For the top three places, the money (\$1000 for first place!) will come in handy.

Top Ten Reasons to Submit your Abstract for the Merck Post-Doctoral Award

10. At least three respected scientists (judges) will know your name.
9. Your name will be listed in the Fall 08 newsletter for Mechanisms Specialty section.
8. Your picture will be on the web (hopefully!)
7. You have an opportunity for your work to be reviewed by a panel of experts.
6. You'll be in the company of some pretty impressive people
5. You'll be called up to the dais at the Mechanisms reception so at least 100 more people will know your name and face.
4. You'll make your mentor happy.
3. You'll have a good start on writing a manuscript.
2. You'll have a respectable bullet to add to your CV
1. For the winners, the money (\$500) will help defray meeting expenses.

Seriously, please think about submitting your abstract for one of the Mechanisms awards. Advisors and mentors, please encourage your students and post-doctoral fellows to apply. One misconception is that students may apply for only one award. This is not correct: students may apply for and receive multiple awards. There's no penalty for not being a top finisher so go ahead and give it a whirl. For more information, please see:

<http://www.toxicology.org/AI/AF/awards.aspx>
<http://www.toxicology.org/ai/af/StudentFAQ.asp>

We Want Your Submissions For Mechanisms Symposia, Workshops and Continuing Education Courses!



Dennis Petersen (Vice President-Elect)

The Mechanisms Specialty Section has completed the review process for selection of symposium, workshops and continuing education courses for the upcoming 2008 Society of Toxicology meeting which will be held in Seattle, Washington. As you all know the Mechanisms Section has an established a long record of sponsoring high-quality programs focused on diverse topics relevant to mechanistically-oriented research in toxicology.

The success of the Mechanisms Section in sponsoring high-quality is attributable to members of the Society, such as you, who identify opportune topics which can be transitioned into well-organized instructional symposium, workshops or education courses. In this context, it is not too early to begin identifying timely topics and emerging areas which can be developed into symposia or education courses for the 2009 Society of Toxicology Meeting to be held in Baltimore, Maryland. Proposals for the 2009 meeting will be due the end of April, 2008. Applications for submission of a proposal are available on the SOT website under the “Forms and Applications” link. Be sure to identify the Mechanisms Specialty Section as your primary sponsor and do not hesitate to contact any of the officers in the Mechanisms Section should you have questions.



Baltimore Inner Harbor



Camden Yard



From the Editor's Desk
Joan Tarloff

One of my special projects this year was to update our Mechanisms web page. Please take a look and let me know what you think. It's still a work in progress as we need to update individual items. In case the link (below) doesn't work, you can find the Mechanisms web page by scrolling down the left side of the SOT web page to Specialty Sections, then Mechanisms. The updated information is on the History page.

<http://www.toxicology.org/ISOT/SS/mechanisms/history.html>

Fall is the time of year that we put together a slate of candidates for the specialty section offices of Vice President-Elect, Junior Councilor, Graduate Student Councilor and Post-Doctoral Councilor. Self-nominations are more than welcome! If you want to serve in one of these positions, please let either Terry Kavanagh (tjkav@u.washington.edu) or Brian Day (dayb@njc.org) know!

Some special reminders:

1. Please make sure that your graduate students sign up for student membership in the Mechanisms Specialty Section. Student membership in SOT includes one free Specialty Section membership. Additional Student Specialty Section dues are \$15 per Specialty Section.
2. When you make a donation to the Carl C. Smith Fund, please e-mail me (j.tarlof@usip.edu) with your contribution amount. This helps the Specialty Section keep an accurate account of the annual donations to this fund. Thank you in advance for your support! There are many quality students that have benefited from your contributions.
3. The Mechanisms Specialty Section is pleased to announce that travel awards for post-doctoral fellows will be available for the 2008 SOT meeting. The Merck post-doctoral travel award of \$500 will be given to two (2) individuals. Please read more information regarding eligibility and deadlines in this newsletter.

In this issue, you will find a report on our 2007 Mechanisms Specialty Section Business meeting that includes a list of the winners and judges for the 2007 Carl C. Smith Graduate Student Awards. Information on requirements, deadlines, and application process is provided for the **2008 Carl C. Smith Graduate Student Awards**. These awards are one way of recognizing the excellence of our students' research efforts, so please consider having your students apply. The Carl C. Smith Graduate Student Award is one of only two named awards in the SOT specialty sections. The roster of previous award winners is impressive and has been updated on our Web site. The number of submissions has declined in the last few years and we urge mentors, advisors, and faculty members to encourage students to submit abstracts for this prestigious award. The monetary considerations alone are worth the price of postage! We are fortunate to have Tee Smith lending her interest, energy and continued support to these awards.

At the close of the business meeting, we took a photograph of all past and present Carl C. Smith award winners. Many of you have been extremely helpful in identifying these people but a few gaps and omissions remain. Please take a look at the photo and the unidentified people. If you know one or more, please send me (j.tarlof@usip.edu) the individual's name and ID number. Thanks so much! I will be posting this photo on our Mechanisms web site as soon as everyone is identified.



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|---|------------------|----|------------------|
| 1 | Sarah Barnes | 9 | Lorraine Twerdok |
| 2 | Chirag Kariya | 13 | Mark Hahn |
| 4 | Pat Hayden | 14 | Jon Cook |
| 5 | Vishakha Bhawe | 15 | Jeff Handler |
| 6 | Midhun Korrapati | | |

Summary of the Mechanisms Specialty Section Business Meeting

The Business Meeting of the Mechanisms Specialty Section was held Monday, March 26th at the Charlotte Convention Center.

The meeting was called to order by President Kenneth Ramos at 6:45 PM. He welcomed all in attendance and introduced the officers in attendance: Vice-President Dean Jones, Vice President Elect Gary Rankin, Secretary/Treasurer Joan Tarloff, Senior Councilor Qin Chen, and Junior Councilor Terry Kavanagh.

Secretary/Treasurer Joan Tarloff gave the Financial Report for the General Budget and Carl C. Smith Fund. For the Mechanisms General Fund, the balance on June 30, 2006 was \$27, 843 and the balance as of June 30, 2007 was \$29,218. Projected expenses from the meeting, plaques, non-labor expenses and miscellaneous expense was estimated at \$5,250. The Mechanisms income at the end of the fiscal year should be around \$ 30,000. The Carl C. Smith fund beginning June 30, 2006 had a balance of \$52,733 and has generated an interest of \$ 2,667 along with a current contribution level of \$615 for total of \$56,016 as of June 1, 2007. The estimated cost for award checks and plaques is \$1,800.

Gary Rankin reviewed the symposia, workshops and Continuing Education courses sponsored by the Mechanisms Specialty Section at the 2007 Annual Meeting. We sponsored or co-sponsored 11 symposia, 5 workshops, and one roundtable. Gary reminded attendees of the April 30 deadline and indicated that officers are able to help people with the proposal submission process.

The Mechanisms Specialty section is pleased to sponsor or co-sponsor the following symposia:

Symposia

Application of Humanized Mouse Lines to Toxicological and Pharmacological Studies (Richard Pollenz and Daniel Nebert)

Non-Classical Mechanisms of Receptor-Mediated Transcription (Gary Perdew and Michael Gallo)

Mechanistic Biomarkers and Innovative Methodologies to Detect Acute Kidney Injury (Dean Jones and Vishal Vaidya)

Critical Roles of C-Activators and Co-Repressors During Transcriptional Activation by Xenobiotic Receptors (Richard Pollenz and Oliver Hankinson)

Emerging Technologies for Imaging for Toxicology (Craig Marcus and Jeffrey Peters)

The Vascular System as a Target of Metal Toxicity (Walter Prozialeck and Joshua Edwards)

Biliary Hyperplasia and Cholestasis: Relevance to Human Risk Assessment (Michael Santostefano and James Klaunig)

Epigenetic Regulation in Development, Reproduction and Disease: Implications for Toxicology (Dana Shuey and Rebecca Watson)

Cardiovascular Effects of Inhaled Ultra-fine and Fine Particles in Human Volunteers (Flemming Cassee and Robert Devlin)

Aging as a Modulator of Chemical Toxicity (Harihara Mehendale and Chris Corton)

Impact on Drug Development and Regulatory Review of the Qualification of Novel Safety Biomarkers by the Predictive Safety Testing Consortium (I.Y. Rosenblum and Denise Robinson-Gravatt)

Workshops

Methods for Investigating Skin Irritation (Mandip Sachdeva and James McDougal)

Advances and Challenges in Incorporation of Mode of Action in Human Health Risk Assessment (Nagu Keshava and Reeder Sams)

Advances in Causation and therapy of Parkinson and Parkinson-Like Movement Disorders: Views from Toxicologists and Clinicians (Wei Zheng and Gary Miller)

Can Species and Strain Differences in Dioxin Sensitivity be Explained by Differences in the AH Receptor? (J. Craig Rowlands and Timothy Zacharewski)

Target-Based Toxicity of Novel Pharmaceutical Targets (Glenn Cantor and Paul Ciaccio)

Roundtables

Beyond the Single Point: the Use of Dose and Time in Genomic Data for Mechanistic-Based Risk Assessment (Chris Corton and William Mattes)

Ken Ramos introduced the new officers for the Mechanisms Specialty Section who will assume their duties May 1, 2007. These officers are: Vice-President Elect Dennis Petersen (right); Junior Councilor Brian Day (left); Student Councilor Lisa Ahern (absent); and Post-Doctoral Councilor Lauren Aleksunes (center of photograph). Ken noted that Lauren is our first post-doctoral councilor and we look forward to her fresh perspective.



Qin Chen (left) presented the Merck Post-doctoral Travel Award winners. There were six abstracts submitted for screening and three winners were determined based on merit. The judges and winners are listed below.

Terry Kavanagh (right) noted that this marks the 25th year of the Carl C. Smith award. For the 2007 meeting, a panel of screening judges invited 12 applications to submit manuscript. The full length manuscripts were reviewed by a panel of Final Judges and the winners selected. Terry acknowledged the judges involved in the screening and final selection

process. The panels of judges for screening and manuscript review and winners are listed below.

No other business was brought forth, and the meeting was adjourned at 7:30 PM.

Special thanks to Tom Weber for photography at the Mechanisms reception.

MERCK POST-DOCTORAL TRAVEL AWARD

Merck Post-Doctoral Travel Award Judges

Qin Chen, University of Arizona (Chair)

Kenneth Ramos, University of Louisville

Gary Rankin, Marshall University

Joan Tarloff, University of the Sciences in Philadelphia

Dean Jones, Emory University

Dan Liebler, Vanderbilt University

2007 Merck Mechanisms Post-Doctoral Travel Award Recipients

Benbrahim-Tallaa, Lamia

Acquired Androgen Independence During Cadmium-Induced Malignant Transformation of Human Prostate Epithelial Cells.

Benbrahim-Tallaa L¹, Liu J¹, Webber MM² and Waalkes MP¹.

NCI at NIEHS, RTP, NC; ²Michigan State University, East Lansing, MI

Covington, Marisa

Mitochondrial Calpain 10 Regulates ATP Synthesis in Renal Proximal Tubule Cells

Marisa D Covington, David D Arrington, and Rick G Schnellmann

University of South Carolina

Luyendyk, James

Modulation of LPS-induced cytokine and tissue factor expression in macrophages by the PI3K-Akt pathway

James P. Luyendyk, Michael Tencati, Todd Holscher and Nigel Mackman

Department of Immunology, The Scripps Research Institute, La Jolla, CA

MERCK MECHANISMS POST-DOCTORAL TRAVEL AWARDS



Terry Kavanagh (Councilor)

DEADLINE: January 31, 2008

The Mechanisms Specialty Section of the Society of Toxicology is pleased to announce a competitive travel award to support the travel of two post-doctoral fellows (up to \$500 each) to attend the 46th annual meeting of the Society of Toxicology.

For consideration as a candidate for an award:

1. An abstract must have been submitted to the 2008 Annual SOT Meeting with the post-doctoral fellow as the presenting author. **A copy of the abstract and a statement that it is to be considered for this award** must be sent electronically as a file attachment (WORD or pdf) to **Dr. Terrance Kavanagh** at (206) 685-8479; FAX: (206) 685-4696; e-mail tjkav@u.washington.edu no later than **January 31, 2008**.
2. Two letters recommending the post-doctoral student and the research project must accompany the abstract. One letter must be from the post-doctoral fellow's mentor and must specifically state the role and contribution of the fellow in the completion of the work, especially when there are multiple authors.
3. The post-doctoral fellow may be sponsored for this award by any person who is a member (active or pending) of the Mechanisms Specialty Section of the Society of Toxicology. Member sponsorship from the Mechanisms Specialty Section should be noted in one of the letters of recommendation.

Selection of the awardees will be based on the strength of the mechanistic focus of their research and letters of recommendations. Any questions concerning this award should be directed to **Dr. Terrance Kavanagh** at (206) 685-8479; FAX: (206) 685-4696; e-mail tjkav@u.washington.edu

CARL C. SMITH AWARD

SOT Mechanisms Specialty Section 2007 Carl C. Smith Graduate Student Awards
Terry Kavanagh (Chair)

Abstract screening judges:

Dr. Patricia Ganey, Michigan State University
Dr. James Kehrer, Washington State University
Dr. Greg Reed, University of Kansas Medical Center

Finalist manuscript judges:

Dr. Cecile Krejsa, Zymogenetics Inc.
Dr. Howard Shertzer, University of Cincinnati
Dr. Craig Thomas, E.I. Lilly and Co.

1st Place winner:

Chirag Kariya, in the lab of Dr. Brian J. Day,
Departments of Medicine, Immunology, and
Pharmaceutical Sciences, University of Colorado Health
Sciences Center and National Jewish Medical & Research
Center

**“Mycoplasma pneumoniae Infection Increases
Oxidative Stress by Inhibiting the Lung’s Glutathione
Adaptive Response to Environmental Tobacco Smoke”**



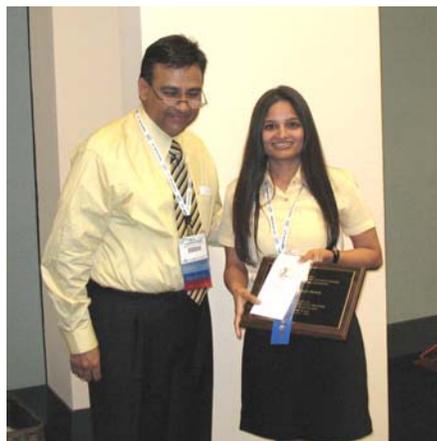
2nd Place winner:

Sarah N. Barnes, in the lab of Dr. José E. Manautou,
Department of Pharmaceutical Sciences, University of
Connecticut, Storrs, CT

**“Hepatic Mrp4 Induction Following Acetaminophen
Exposure is Dependent on Kupffer Cell Function”**

3rd Place Winners:

Vishakha S Bhave, in the lab of Dr. Harihara M Mehendale, Department of Toxicology, College of Pharmacy, University of Louisiana at Monroe
“Inhibition of COX-2 Aggravates Secretory Phospholipase A2- Mediated Progression of Acute Liver Injury in Rats”



Hao Sun, in the lab of Dr. Garold S. Yost, Department of Pharmacology and Toxicology, University of Utah
“Dehydrogenation of Indoline by Cytochrome P450 Enzymes: a Novel “Aromatase” Process”

Honorable Mentions (in alphabetical order):

Lauren M Aleksunes, in the lab of Dr. José E Manautou Department of Pharmaceutical Sciences, University of Connecticut, Storrs, CT
“Induction of Mrp3 and Mrp4 transporters during acetaminophen hepatotoxicity is dependent on Nrf2 transcription factor”

Xiaomin Deng, in the lab of Dr. Robert Roth, Departments of Biochemistry and Molecular Biology, and Pharmacology and Toxicology, Michigan State University
“Neutrophil interaction with the hemostatic system contributes to liver injury in rats cotreated with lipopolysaccharide and ranitidine”

Jacqueline Heilman, in the lab of Dr. Walter H. Watson, Department of Environmental Health Sciences, Johns Hopkins Bloomberg School of Public Health
“Thioredoxin reductase is required for maximal NFkB-mediated gene expression.”

Bo Jiang in the lab of Dr. Tammy R. Dugas, Department of Pharmacology, Toxicology and Neuroscience, Louisiana State University Health Sciences Center
“HIV Antiretroviral Drug Combination Induces Endothelial Mitochondrial Dysfunction and Reactive Oxygen Species Production, But Not Apoptosis”

Gilbert R. Kinsey, in the lab of Dr. Rick G. Schnellmann, Department of Pharmaceutical Sciences, Medical University of South Carolina

“Role of Ca²⁺-Independent Phospholipase A₂ γ in Ca²⁺-Induced Mitochondrial Permeability Transition”

Timothy M. O’Brien, in the lab of Dr. Kendall B. Wallace, Department of Biochemistry and Molecular Biology, Toxicology Graduate Program, University of Minnesota Medical School, Duluth

“Inhibition of the Adenine Nucleotide Translocator by N-acetyl Perfluorooctane Sulfonamides In Vitro”

Yuhui Shi, in the lab of Dr. James J. Pestka, Dept. of Food Science and Human Nutrition and the Center for Integrative Toxicology, Michigan State University

“Docosahexaenoic Acid Consumption Suppresses Multiple CREB Phosphorylation Pathways in Murine Peritoneal Macrophages”

CARL C. SMITH MECHANISMS GRADUATE STUDENT AWARDS



Tee and Carl Smith

DEADLINE: OCTOBER 12, 2007

The Mechanisms Specialty Section of the Society of Toxicology is pleased to announce the Twenty-sixth Annual Graduate Student Awards for Meritorious Research in Mechanisms of Toxicology. The awards will be presented during the 47th Annual Meeting of the Society of Toxicology in Seattle WA, March 16-20, 2008.

For consideration as a candidate for an award:

1. An abstract **must be** submitted to the 2008 Annual SOT Meeting with the graduate student as the presenting author.
2. A **copy of the abstract** and a **statement** that it is to be considered for this award must be **sent as an electronic file attachment (Word or pdf) to Dr. Brian Day (dayb@njc.org)** and must be sent no later than **October 12, 2007**.
3. Two letters recommending the graduate student and the research project must be sent for each abstract. One of the recommendations must be from the Department or Section Head. The letter must verify that the work reported in the abstract was done while the student was enrolled in the graduate program and that this is the only specialty section to which this abstract is being submitted for an award. The letter must also specially cite the role and contribution of the student in the completion of the work, especially when there are multiple authors. Letters should be sent electronically to Dr. Day (dayb@njc.org) by the individuals making the recommendations.
4. Up to three candidates may be nominated by a department or program. The department or program must decide which graduate students best represent them.
5. The graduate student may be sponsored for this award by any person who is a member (active or pending) of the Mechanisms Specialty Section of the Society of Toxicology. Member sponsorship from the Mechanisms Specialty Section should be noted in one of the letters of recommendation.



Brian Day (Councilor)

As many as twelve finalists will be selected to submit a full-length manuscript on the research described in their abstract. Instructions for preparing and submitting the manuscript will be provided in the letter announcing their selection as a finalist. The deadline for submission of the full-length manuscript will be **January 18, 2008**. First, second and third place winners will receive a plaque and a cash award of \$1,000, \$500 and \$300, respectively. Remaining finalists will receive honorable mention awards (framed certificates).

Any questions concerning these awards should be directed to **Dr. Brian Day at (303) 398-1121; FAX: (303) 270-2263; e-mail dayb@njc.org** or the President, Dr. Dean Jones, e-mail <mailto:dpjones@emory.edu>.

Current Officers and Councilors of the Mechanisms Specialty Section (2007-2008)

President	Dean Jones (dpjones@emory.edu)
Vice-President	Gary Rankin (rankin@marshall.edu)
Vice-President Elect	Dennis Petersen (dennis.petersen@uchsc.edu)
Secretary/Treasurer	Joan Tarloff (j.tarlof@usip.edu)
Councilor (Senior)	Terry Kavanagh (tjkav@u.washington.edu)
Councilor (Junior)	Brian Day (dayb@njc.org)
Councilor (Graduate Student)	Lisa Ahern (ahern@pharmacy.arizona.edu)
Councilor (Post-Doctoral)	Lauren Aleksunes (laleksunes@kumc.edu)
Past President	Ken Ramos (kenneth.ramos@louisville.edu)