

Dermal Toxicology Specialty Section

ANNUAL REPORT: 2010-2011

May 1, 2010 to April 30, 2011

I. Officers/Committees:

<u>Officers</u>	<u>2009-2010</u>	<u>2010-2011</u>
President:	Dr. George L. DeGeorge	Dr. William G. Reifenrath
President-elect:	Dr. William G. Reifenrath	Dr. Jeffrey J. Yourick
Vice President:	Dr. Jeffrey J. Yourick	Dr. Carol L. Sabourin
Secretary-Treasurer:	Dr. Carol L. Sabourin	Dr. Adrienne T. Black
Councilors:	Dr. Jens T. Mortensen Cynthia A. Ryan	Cynthia A. Ryan Dr. Linda Mutter
<i>Past-President</i>	Carol S. Auletta	Dr. George L. DeGeorge
SAC Representative:	Lauren Markell	Gayatri Sankaran
PDA Representative:	Dr. Dae J. Kim	Dr. Lauren Mordasky Markell

Committees: Communications Committee (Lauren Markell, Carol Sabourin and Jeffrey Yourick)

II. Activities:

The DTSS 2011 SOT Annual Meeting Reception was held in Washington, DC on March 6, 2011. Approximately 80 people were in attendance. Dr. William Reifenrath called the meeting to order at 6:30 PM on March 6, 2011. Dr. Adrienne Black presented a financial update. The meeting minutes are attached (see Attachment 1).

The Awards were presented by Cynthia Ryan.

- Informa Paper of the Year Award – Wally Hayes
 - McKim, JM., Jr., et al. 2010. A new *in vitro* method for identifying chemical sensitizers combining peptide binding with ARE/EpRE-mediated gene expression in human skin cells. *Cutan Ocul.Toxicol.* 29:171-92.
- DTSS Best Paper of the Year award - Cindy
 - Kim, DJ et al. 2009. Targeted disruption of Stat3 reveals a major role for follicular stem cells in skin tumor initiation. *Cancer Res.* 69: 7587-94.
- Sinclair Student award – Cindy
 - Lauren Mordasky Markell: Pharmacological inhibition of the TGFβ1 type I receptor induces premalignant keratinocyte terminal differentiation. (Center for Molecular Toxicology and Carcinogenesis, Pennsylvania State University, Pennsylvania).
- Stratacor Post Doctoral award – Cindy/Bill
 - Neera Tewari-Singh: Therapeutic efficacy of catalytic antioxidant AEOL 10150 in attenuating sulfur mustard analog 2-chloroethyl ethyl sulfide-induced skin injury. (Pharmaceutical Sciences, University of Colorado, Denver, Colorado).
- Battelle Student Research Proposal Awards – Cindy /Carol

- Anand Ravindran: A small molecule inhibitor of the TGF β Type 1 receptor suppresses UVB-induced mouse skin inflammation. (Center for Molecular Toxicology and Carcinogenesis, Pennsylvania State University, Pennsylvania).
- Thomas Hill: DOUX influence on epidermal barrier function: Arsenic response and possible novel biomarker of exposure? (Department of Environmental Toxicology, University of California at Davis, Davis, California)

DTSS 2011 SOT Annual Meeting Courses/Sessions:

- Symposium: Stem Cell Biology and Cell Therapy Approaches to Understanding Cellular Injury and Wound Healing in Dermal, Ocular and Pulmonary Injury. - Co-Chairs: Jeffrey Yourick and John Graham
- Symposium: Mechanisms of Inflammation in Skin Carcinogenesis. - CoChairs: Lauren Mordasky Markell and Michael Borland

Endowment Fund Details: N/A

Newsletters: Summer 2010 and Spring 2011

Teleseminars: N/A

White Papers: N/A

Contributions to SOT Web site: N/A

Other Specialty Section 2010-2011 Activities:

- William Reifenrath submitted a diffusion cell as the DTSS contribution the SOT 50th anniversary time capsule.

ATTACHMENT 1

Dermal Toxicology Specialty Section Meeting Reception/Mixer: 6:30 March 6, 2010 SOT 50th Annual Meeting

Welcome and Introduction of Current Officers – Bill

William Reifenrath (President), Jeffrey Yourick (President-Elect), Carol Sabourin (Vice President), Adrienne Black (Secretary-Treasurer), Cynthia Ryan (Senior Councillor), Linda Mutter (Junior Councillor), Lauren Mordasky Markell (Postdoctoral Representative), Gayatri Sankaran (Student Representative), George DeGeorge (Past-President)

Thanks to Retiring Officers – Jeff

Jeff thanked Bill Reifenrath for his past service as President (2010-2011). Bill was presented with a plaque and gift.

Welcome to New Officers for 2010-2011 – Bill

- Vice-President Elect – John Graham
- Junior Councillor Elect– John Harbell

Scientific Program Proposals for 2012 – Jeff

Jeff announced that the deadline for proposals, symposia, workshops, and CE courses for the 2012 meeting is April 30, 2011 and asked that anyone with an idea for one of these programs to contact him as soon as possible.

Financial update – Adrienne

The net assets at the end of the fiscal year are \$13,478. This amount includes \$8478 carried over from the previous year and \$5000 received from Battelle for the Battelle Research Award. The meeting expenses are estimated at \$8000 with \$2372.98 for the reception costs, \$5000.00 for the Battelle and \$500.00 for the DTSS awards, and approximately \$200.00 for ancillary costs including poster printing, purchase of plaques, etc. Dues have not yet been posted for 2011.

Awards – Cindy

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Reports from 2010 Battelle Award Winners - Carol

- Lauren Mordasky Markell, (Pennsylvania State University): Lauren described how the money provided by the award allowed her to finish her doctoral work which resulted in a recent first author publication (Mordasky Markell, L. et al. 2010. Use of a TGF β type I receptor inhibitor in mouse skin carcinogenesis reveals a dual role for TGF β signaling in tumor promotion and progression. *Carcinogenesis*. 31: 2127-35.
 Abstract: Pharmacological inhibitors of the transforming growth factor β (TGF β) type I receptor (ALK5) have shown promise in blocking growth of xenotransplanted cancer cell lines but the effect on a multistage cancer model is not known. To test this, we treated mouse skin with SB431542 (SB), a well-characterized ALK5 inhibitor, during a two-stage skin carcinogenesis assay. Topical SB significantly reduced the total number, incidence and size of papillomas compared with 12-O-tetradecanoylphorbol 13-acetate (TPA) promotion alone, and this was linked to increased epidermal apoptosis, decreased proliferation and decreased cutaneous inflammation during promotion. In contrast, the frequency of conversion to squamous cell carcinoma (SCC) was 2-fold higher in papillomas treated with SB. Although there was no difference in tumor cell proliferation in early premalignant lesions, those that formed after SB treatment exhibited reduced squamous differentiation and an altered inflammatory microenvironment similar to SCC. In an inducible epidermal RAS transgenic model, treatment with SB enhanced proliferation and cutaneous inflammation in skin but decreased expression of keratin 1 and increased expression of simple epithelial keratin 18, markers of premalignant progression. In agreement with increased frequency of progression in the multistage model, SB treatment resulted in increased tumor formation with a more malignant phenotype following long-term RAS induction. In contrast to the current paradigm for TGF β in carcinogenesis, these results demonstrate that cutaneous TGF β signaling enables promotion of benign tumors but suppresses premalignant progression through context-dependent regulation of epidermal homeostasis and inflammation.
- Gayatri Sankaran (University of California): Gayatri's work has focused on understanding the dermal absorption of pesticides used on strawberry plants by field workers and how protective measures such as gloves can be used to determine exposure levels. Gayatri described how the Battelle Award provided the means to travel to the strawberry fields to collect samples and used gloves that will be essential in determining the exposure levels and degree of dermal pesticide absorption by the workers.

Student / Mixer Raffle: Lauren/Gayatri/George

The Graduate Student/Post-doc mixer will be held immediately after the DTSS reception (Sunday, March 6, from 8:00 – 10:00 pm). The raffle prize will be a Kindle, provided by MB Research. The winner will be contacted by George and the prize presented.

Special Meeting Reminders - Bill

- Sunday, March 6, 8:00-9:30 PM, Salon G, Student/Postdoctoral Scholar Mixer.
- Monday, March 7, 1:00 PM, Exhibit Hall, DTSS Skin Poster Session
- Tuesday, March 8, 9:00AM, Rm. 202A, DTSS Symposium Session, Stem Cell Biology., (J. Yourick and J. Graham, Chairs)
- Tuesday, March 8, 4:30-6:00 PM, Rm 207, 50th Anniversary Member Celebration Meeting (Time Capsule)
- Wednesday, March 9, 9:00 AM, Rm. 150, DTSS Symposium Session, Mechanisms of Inflammation in Skin Carcinogenesis (L.M. Markell and M.G. Borland, Chairs)
- Wednesday, March 9, 9:30AM -4:45PM, “Meet the Director” meetings

Closing and Thank you –Jeff/Bill