

Immunotoxicology

Specialty Section Newsletter



2002 - 2003 Executive Committee

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The Immunotoxicology Specialty Section Newsletter is published 3 times/year (May, August and November). If you would like to share a book review, meeting report, interesting web site or any other item of interest with members of the Specialty Section, please send it to us by the middle of the month preceding the planned publication date. All comments on, or suggestions for, the newsletter are welcome.

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Outgoing President's Message

MaryJane Selgrade

I couldn't leave office without saying what a pleasure it has been to serve the Immunotoxicology Specialty Section the last three years. The meeting in Nashville culminated a year of activity that was made possible because many people contributed their time and talents. As always the Specialty Section made significant contributions to the meeting program; we worked hard to involve and mentor our students and postdocs; and our awards program, which was expanded significantly 3 short years ago, is thriving. In October, I challenged the membership to do 5 things:

- Pay your SOT dues and be sure to include the Immunotoxicology Specialty Section – Many people responded, but we could certainly use additional support in this area.
- Nominate someone for an award – after some initial pleading we had a wonderful response. See the Awards Committee report
- Propose a symposium, workshop, round table, or a continuing education course for the next meeting – See the Program Committee report. The 2003 program proposals are truly exciting.
- Volunteer to chair a committee – We have our chairs but several committees still need members including Awards, Communications, Education, Methods, and Membership.
- Nominate someone (including yourself) for an office in the Specialty Section – We had many good suggestions for officers. If your candidate didn't make it to the ballot this year, don't hesitate to nominate them again. In the meantime, encourage them to get involved in others aspects of the Specialty Section.

I am turning the presidency over to Robert House, whose efforts for a number of years have helped to keep the Specialty Section ticking. I know he will do a terrific job. I also know that he will need the membership to continue to do the 5 things listed above. I couldn't begin to name all the people who have helped me out over the last year, so I will just thank the membership in general and suggest that you read on. The newsletter is the best way to find out what's going on in the Specialty Section and Immunotoxicology in general.

Incoming President's Message

Robert V. House

I want to begin my tenure by expressing my deep appreciation to Dr. MaryJane Selgrade for the outstanding job she has done as President of the Specialty Section. Her contributions have enhanced our Specialty Section in many ways, and I look forward to her continuing contributions (and mentorship) in the coming year. I also sincerely thank the membership for trusting me to serve the Specialty Section for the coming year. I follow in the footsteps of many strong leaders who have all contributed to make ours one of the most active and successful Specialty Sections in the Society of Toxicology. I am indeed fortunate to begin my presidency at this time, when the Immunotoxicology Specialty Section is at the most successful and active period in its history.

Each new president seeks to contribute his or her own vision to the goals and direction of the Specialty Section, and I am no exception. My goals for the next year include the following:

- 1. Continuing our strong support for undergraduate, graduate, and postdoctoral students.** It has been gratifying to see the enthusiastic participation of students in the working of the Specialty Section, and we welcome their fresh insights and energy.
- 2. Fostering greater collaboration with other Specialty Sections.** We have already made great strides in this direction, with co-sponsorship on many proposals for the annual meeting. I would like to encourage all members to develop ideas for such interaction. Suggestions might include co-development of meetings, publications, and – of course – co-sponsorship of programs for the 2003 annual meeting. I would

be greatly interested in any and all ideas. The more novel, the better.

- 3. Increasing publication under the aegis of the Specialty Section.** This initiative may take the form of position papers, white papers, and meeting reports. Our membership includes the very brightest minds and greatest talent in the field of Immunotoxicology; unfortunately, there are limited opportunities to combine ideas and efforts in our day jobs. Publications (e.g., review articles) would be an ideal opportunity to brainstorm.
- 4. Creation of an ad hoc committee for Procedures and History.** Each Specialty Section has great autonomy in conducting its own business. However, each year's Executive Committee changes to greater or lesser degrees, and institutional memory is not always easy to develop. To ensure consistency in our procedures from year to year, and to enhance our efficiency in operation, the Procedures and History committee will be responsible for assembling an “instruction

manual” for the business of the Specialty Section. Dr. Mitchell Cohen has agreed to serve as the founding chairman of this committee. If you would be willing to help Mitch in this effort, please contact him directly.

Of course, these are personal goals. More importantly, I am highly receptive to your input on how the Specialty Section can best be served. Together, we will maintain the preeminence of our Specialty Section within the Society of Toxicology.

THANK YOU!!!

For your generous monetary support of the Immunotoxicology Specialty Section

**Burleson Research Technologies
Covance Laboratories Inc.
MB Research Laboratories
Pfizer Inc.
Sanofi-Synthelab
Taylor & Francis**

Awards Committee Report

Submitted by Dr. Mitch Cohen

The Awards Committee judged the Best Presentation by a Graduate Student and the Best Presentation by a Postdoctoral Trainee awards. I want to acknowledge the hard work put in by all the members of the Committee in helping to make the final decisions - Drs. Jeanine L. Bussiere, Don Frazier, Greg Ladics, Leigh Ann Burns-Naas, Mike McCabe, and Ed Yurkow. There were 5 submissions for the student award this year. Ladan Fakhrzadeh, working in Debbie Laskin's group at Rutgers, was the winner of the Graduate Student Award for her work entitled "Ozone Toxicity is Associated with Upregulation of Phosphatidylinositol-3-Kinase (PI3K) and Protein Kinase B (PKB) in Lung Macrophages. Role of Caveolin-1". She received a plaque, a check for \$250, and a \$130 gift certificate from Taylor & Francis. Jared Brown, working in Andrij Holian's group at the University of Montana at Missoula, was the runner up for his work entitled "Silica-Accelerated Autoimmune Disease in Lupus Prone New Zealand Mixed Mice". He received a gift certificate for \$100 from Taylor & Francis. For the Best Presentation by a Postdoctoral Trainee Award, there were 4 submissions. Dr. Mike Viana, working at the EPA in MaryJane Selgrade's and Marsha Ward's labs, received this Award for his work entitled "Respiratory Physiological Responses to an Extract of *Stachybotrys chartarum* in Balb/c mice". He received a plaque, a check for \$250 and a \$130 gift certificate from Taylor & Francis.

The Awards Committee, along with the Vice President, also judged the nominees for the Outstanding Young Immunotoxicologist Award. Robert House and I want to acknowledge the hard work put in by all the members of the Committee that took part in the decision process - Drs. Ian Kimber, Dori Germolec, Mike Holsapple, Judy Zelikoff, and Henk van Loveren. This

year Dr. Ian Gilmour, a Research Biologist at the Experimental Toxicology Division, Immunotoxicology Branch, of the USEPA in Research Triangle Park, NC, was the winner. His research interests include: the study of host defenses in relation to infectious disease; the induction of normal and allergic immune states following antigen challenge; the pathogenesis of asthma; and, the changes in pulmonary immunity that result from xenobiotic exposure. He has published over 35 papers and numerous book chapters, and is also a previous recipient of the Young Investigator of the Year Award from the SOT Inhalation Specialty Section and the EPA Science and Technology Achievement Award (Level 2).

The Councilors judged the nominees for the Best SOT Journal Paper of the Year. This year, six submissions were received that covered a wide range of topics in the field of Immunotoxicology. The scoring was very tight; so much so, that for the first time in the history of our Specialty Section, there was a tie. The first of the co-winning papers, and the recipient of framed certificates for each Author was "Modeling and predicting selected immunological effects of a chemical stressor (3,4-dichloropropionanilide) using the area under the corticosterone concentration vs time curve" (Toxicological Sciences 58:77-87, 2000) by Steve Pruitt, R. Fan, Q. Zheng, Layne P. Myers, and Pamela Hebert. The second co-winning paper and recipient of framed certificates for each Author was "The effects of TCDD on the activation of ovalbumin (OVA)-specific DO11.10 transgenic CD4+ T-Cells in adoptively transferred mice" (Toxicological Sciences 56:340-350, 2000) by David Shepherd, Erica Dearstyne, and Nancy Kerkvliet. The framed certificates were graciously produced by Marsha Ward and MaryJane Selgrade.

Finally, the Nominating Committee (President, last 3 Past-Presidents, and the Vice President-Elect) selected Dr. Albert Munson as the recipient of

the 2002 Career Achievement Award for his contributions to the field of Immunotoxicology, and the Immunotoxicology Specialty Section. He has been a leader in many facets of immunotoxicological research, from classical descriptive immunotoxicology screening studies to identifying molecular mechanisms of chemically-induced immunosuppression, inflammation and autoimmunity. His contributions to immunotoxicological risk assessment include a major role in development of the NTP immunotoxicology tier tests, and he was one of the first to formally assess the predictive value of functional assays for changes in host resistance in the whole animal. Al also served as President of the Immunotoxicology Specialty Section from 1991-1992.

... CONGRATS! ...

Career Achievement Award

Dr. Albert Munson

Outstanding Young Immunotoxicologist Award

Dr. Ian Gilmour

Best SOT Journal Paper(s) of the Year

Steve Pruitt, R. Fan, Q. Zheng, Layne P. Myers, and Pamela Hebert
Modeling and predicting selected immunological effects of a chemical stressor (3,4-dichloropropionanilide) using the area under the corticosterone concentration vs time curve.
Toxicological Sciences 58:77-87, 2000

David Shepherd, Erica Dearstyne, and Nancy Kerkvliet.

The effects of TCDD on the activation of ovalbumin (OVA)-specific DO11.10 transgenic CD4+ T-Cells in adoptively transferred mice.
Toxicological Sciences 56:340-350, 2000

Best Presentations by a Student and by a Postdoctoral Trainee

Graduate Student Award: Ladan Fakhrzadeh
Runner up: Jared Brown,
Postdoctoral Trainee: Dr. Mike Viana

Student Representative

L. Peyton Meyers

The student/post-doc membership has grown significantly in the last year. Currently we have 31 student/post-doc members in the specialty section.

At this year's meeting in Nashville, we continued the student mixer. The function of the student mixer is to create friendships and a sense of camaraderie among the students/post-docs in the Immunotoxicology Specialty Section. A door prize (*Paul's Fundamental Immunology*) was awarded this year. Congratulations go to Castle Funatake (in Dr. B. Paige Lawrence's laboratory) for winning the door prize. Many thanks go to Dr. Gary Burleson (BRT – Burleson Research Technologies, Inc.) for the donation of the book. Also, thanks goes to Dr. Susan McKarns for getting the book autographed by the editor, Dr. William Paul, and a chapter author, Dr. Ronald Schwartz. The mixer was a continued success and will be repeated in future years.

A student/post-doc dinner was also initiated this year to foster networking between established researchers and student/post-docs. Small groups of students, post-docs and established scientists (academic and industry) met for dinner and conversation after the annual Immunotoxicology Specialty Section meeting. Feedback was overwhelmingly positive! Many thanks go to Dr. Peter Thomas for assisting in organizing this function. Also, thanks to all the participants for taking the time and effort to make this a success.

Regulatory Committee Report

Submitted by Ken Hastings

The following folks have volunteered to serve on the Regulatory Committee in 2002-2003: Denise Sailstad, Ian Kimber, Kamran Ghoreishi, Marc Pallardy, Scott Burchiel, and Susan Wilson. Thanks to all for their willingness to serve.

ICH

Immunotoxicology was proposed as a topic at the ICH meeting in Brussels in February, 2002. A decision on this issue was deferred until ICH 6, which will be held in Osaka, Japan in November, 2003. At that time, there will be a scientific session, but no commitment has been made concerning a guidance document. The official reason for the decision not to pursue immunotoxicology as an ICH topic was lack of data. In response to this, FDA is now collecting all immunotoxicology data submitted to support clinical trials and marketing applications. The pharmaceutical industry is also considering an effort to collect immunotoxicology data with the help of ILSI. At this time, regulatory authorities in Japan have decided not to attempt assembling a database and the CPMP has not made a decision. Hopefully, enough information will be available for the Osaka meeting to support a decision concerning immunotoxicology as a topic.

For information related to ICH discussions, please see the report of the Drug Information Association meeting which was held in Noordwijk, The Netherlands, in November, 2001: Putman E, Van Loveren H, Bode G, Dean J, Hastings K, Nakamura K, Verdier F, Van der Laan JW. Assessment of immunotoxic potential of human pharmaceuticals, a workshop report. Drug Info J, in press.

MHLW/JPMA

The Japanese Ministry of Health, Labor, and Welfare (MHLW) and the Japan Pharmaceutical Manufacturers Association have formulated an Interim Draft Guidance for Immunotoxicity Testing. Unfortunately, this document has not appeared on a web site, but I have an electronic copy and will be happy to share it with anyone: please e-mail your request to hastingsk@cder.fda.gov.

ICCVAM

Please see the following articles for a comprehensive summary of the ICCVAM acceptance of the murine local lymph node assay as a validated method for detection of contact sensitizers:

Sailstad DM, Hattan D, Hill RN, Stokes WS. ICCVAM evaluation of the murine local lymph node assay. I. The ICCVAM review process. *Regul Toxicol Pharmacol* 2001;34:249-257.

Dean JH, Twardok LE, Tice RR, Sailstad DM, Hattan DG, Stokes WS. ICCVAM evaluation of the murine local lymph node assay. II. Conclusions and recommendations of an independent scientific peer review panel. *Regul Toxicol Pharmacol* 2001;34:258-273.

Haneke KE, Tice RR, Carson BL, Margolin BH, Stokes WS. ICCVAM evaluation of the murine local lymph node assay. III. Data analysis completed by the National Toxicology Program Interagency Center for the Evaluation of Alternative Toxicological Methods. *Regul Toxicol Pharmacol* 2001;34:274-286.

Program Committee Report

Submitted by Tom Kawabata

Once again the Immunotoxicology Specialty Section has put together an impressive list of program proposals that encompass a wide range of areas (see table below). On behalf of the Specialty Section, I would like to thank

the chairs and co-chairs for preparing the proposals. The proposals will be reviewed and selected by the SOT Program Committee in late May.

There were several good ideas that were also submitted but needed to be expanded to capture a broader audience. Please work on these proposals and resubmit them again next year.

Thank you to the members of the Immunotoxicology Specialty Section Program Committee for their review and helpful suggestions (I. Kimber, L.A. Burns-Naas, M. Lynes, M. Cohen, D. Germolec, D. Shepherd, G. Ladics, D. Sherr).

Proposals for 2003

| Program | Title | Chair/ Co-Chair | Primary SS | Endorsements |
|----------------------|---|----------------------|------------|---|
| Continuing Education | Skin Sensitization and Allergic Contact Dermatitis (Basic Science) | Gerberick, Kimber | Dermal | Immunotox |
| Continuing Education | Evaluation of Immunomodulation in Safety Assessment | Germolec, House | Immunotox | |
| Symposium | Fundamentals of Protein Allergenicity: Why are some proteins allergenic | Kimber, Sarlo | Immunotox | |
| Symposium | Children's Health Risk: What's So Special About the Developing Immune System? | Holsapple, Burns | Immunotox | Risk Assessment |
| Symposium | Gene Expression Influence on Metal Immunomodulation | Lawrence, Lynes | Metals | Immunotox |
| Symposium | Toxicology Associated with Medical Defense Against Biological Terrorism | Casillas, House | Immunotox | Inhalation |
| Symposium | Understanding Mechanisms of Toxicity of Immunosuppressive Drugs to Improve their Safety Profiles and Broaden the Scope of their Use | Christians, Kawabata | Immunotox | Mechanisms |
| Workshop | Methods for the Identification and Characterization of Chemical Respiratory Allergens | Loveless, Gilmour | Immunotox | Inhalation |
| Workshop | Modulation of Respiratory Infection by Ambient and Source Particulate Air Pollutants | Reed, Gilmour | Inhalation | Immunotox |
| Roundtable | Dermal Exposure Leading to Respiratory Tract Sensitization & Disease: A Trivial or Critical Link? | Munson | Dermal | Occupational Safety and Health, Immunotox |

Communications Committee Report

Submitted by Peyton Myers

We are in the process of updating the Immunotoxicology Specialty Section Directory for the upcoming 2003 meeting. In the next month, a committee member will contact everyone concerning the update. Included in the directory will be your name, affiliation, phone numbers, and e-mail. Also included are key words associated with your research. If any of your relevant information has changed, please submit any corrections/updates when you are contacted.

Also, please note that SOT has moved our Immunotoxicology Specialty Section web page to a new subdirectory. Web information can be accessed at:
<http://www.toxicology.org/MemberServices/SpecSection/immunotox/Index.html>

Job listings are available on the Immunotoxicology Specialty Section web site. If you would like to post a job on the Immunotoxicology Specialty Section web site, please forward the information to Peyton Myers (LMyers@LSUHSC.edu).

Committee Chairs 2002-2003

Awards Committee

Jean Meade

Communications Committee

L. Peyton Meyers

Education Committee

David Lawrence

Membership Committee

B. Paige Lawrence

Methods Committee

George DeGeorge

Program Committee

Bob Luebke

Regulatory Committee

Ken Hastings

Useful URLs

Submitted by Bob Luebke and Virginia Sanders

Current Opinion in Immunology has a section called Web Alert, as do other topical journals in the Current Opinion series. This feature provides links to a variety of resources related to the content of each issue. Some links are to databases, some to commercial sites that provide commercial-free access to overview material, some to collections of lectures, and the list goes on. Many of the sites repeat from issue to issue, while others change. It is definitely worth a look. Subscribers to the immunology email alert service from BioMedNet (<http://reviews.bmn.com/>) have probably seen this already. To access the information, go to <http://reviews.bmn.com/journals/atoz/latest?jcode=jimm>. Click on the "text" link (not "full text") under the main Web Alert heading. (Note: For some unknown reason, the above link takes both Netscape and IE to the bottom of the page on my machine; if this happens to you, simply scroll up to get to the top of the page or hit the "home" button while holding down the control key.)

Access to The PsychoNeuroImmunology Research Society (PNIRS for short) is available at <http://www.pnirs.org>. The site has information on the 9th International Annual Meeting held May 8-11 in Madison, WI, as well as society news, post-doc listings, etc.

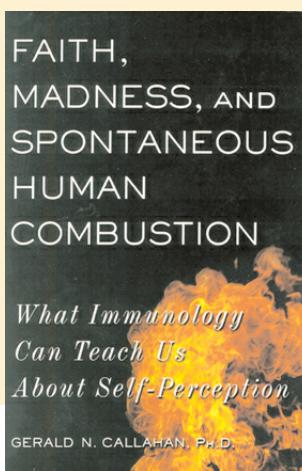
Book Review

Faith, Madness, and Spontaneous Human Combustion: What Immunology Can Teach Us About Self-Perception

By Gerald N. Callahan, Ph.D.

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ISBN 0-312-26807-6, 235 pages.



Reviewed by Robert House

I will admit that right out of the chute, this book's title is a grabber. It purports to answer, or at least address, some of the deepest issues of humanity using immunology as the overarching theme. Then, of course, there's the whole issue of spontaneous human combustion; whether you can accept the possibility (not to mention probability) of humans catching fire and burning up from the inside-out is probably related to your acceptance of the existence of ghosts and UFOs. Unless you're a completely hard-boiled "scientist", the stories make intriguing reading. [The obverse, of course, holds: the trouble with being open-minded is that your brains tend to fall out.]

With that as background, I anxiously picked up this recent book by Gerald Callahan, a professor of immunology at Colorado State University. Although textbooks are necessary for fact-checking, they tend to make for horribly boring reading (excluding, of course, any and all immunotoxicology textbooks). Passages in the book did not disappoint, reading almost like *Parasite Rex* (reviewed in a previous issue of this newsletter). Unfortunately, most of the book is a jumbled collection of experiences, anecdotes, amateur philosophy, and New Age theology (sic).

Along with immunology, water serves as a leitmotif throughout this book, for no apparent reason that I could discern other than to interject stories that range

from mildly embarrassing to outright bizarre. We are treated to poetry such as "we make water off the back stoop on a winter night and watch while our urine steams on the cold ground". [Presumably, the "we" here excludes half of the human race.] We experience the excitement of setting a wildfire while burning used toilet paper on a camping trip. Most notably, we get an abridged account of an accident that Callahan had when he was three years old that involved a vaporizer, boiling water, his lap, gym classes, and exemption from service in Vietnam. The point, best I could figure, had something to do with how water leaves its mark on us. The nature of the mark remains unsaid, leaving us to speculate all kinds of unpleasant scenarios. Much of the book is like this; flashes of the author's personal life in too much detail, a first-person account of the world that is neither wholly scientific nor philosophical, but somehow an uncomfortable amalgam of both.

The "faith" component of the book's title turns out to be a non-starter as well. Callahan dips his feet briefly into the stream of human spirituality, and even titling sections of his work with New Age-like subtitles (The Flame Within, Saved by Death), but then seemingly catches himself from falling in. In the final analysis, the concept of faith to Callahan is only part of the hard-wired neural-immunology program. By quoting Genesis, ancient

creation myths, and Darwin in the same breath, faith to Callahan becomes a cafeteria of options. He seems to want to believe in something, anything; my impression is that he finally succeeds in this quest, but in a far subtler way.

This is where the "self-perception" component of the title begins to hold sway. Some theological systems stress the absolute uniqueness of each human life; in our own way, immunologists accept the same premise. Callahan, however, seems to subvert this concept, citing the example of retroviruses.

Paraphrasing, as best as I might, Callahan argues that even though our DNA is supposed to be the source of our biological identity, retroviruses can jump between organisms, ferrying foreign DNA helter-skelter. By logical extension, by kissing my wife I forever alter my own biological identity. This is a mildly interesting concept, but carries with it the undertones of socialistic thought. None of us are unique. We are all the same, and any thought of unique identity is an illusion.

In fairness to the author, there are passages in this book that are arresting, and reached through even my self-imposed Stoicism. Callahan discusses the idea of memory, comparing our conscious memories and the unknown memories of the immune system. His example is his beloved ex-wife, who he occasionally experiences as a phantom by hearing a familiar voice or seeing a familiar face. His longing and humanity are painful for us to share, but clearly illustrate that we are often unaware of how our beings are affected without our knowledge. If only more of the book was like this, or at least organized more coherently, it would have been more interesting.

At one point in the book Callahan quotes his mother, "The things I've heard have ruined my mind." Occasionally, I have the same suspicion regarding things I've read. It's too late for me, but save yourself – and \$25 – by passing on this book.

Compiled by Helen Ratajczak

ANYTIME you have a new publication to report, please send it to hratajcz@rdg.boehringer-ingelheim.com It will be included in the next newsletter.

ASTHMA, ALLERGY AND HYPERSENSITIVITY

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Reviews

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AUTISM

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