

Society of Toxicology

Inhalation and Respiratory Specialty Section

50th Annual Meeting of the Society of Toxicology will be held in Washington, D.C.

Walter E. Washington Convention Center

March 6-10, 2011



PRESIDENT'S MESSAGE

My year of service as President of the Inhalation and Respiratory Specialty Section ends after this year's IRSS reception at the SOT Meeting. I wish to thank the membership for the honor of serving as an officer for this outstanding group of scientists.

I also wish to acknowledge the work of the Executive Committee. In particular, I wish to thank the following:

Dr. Jean-Clare Seagrave, Past President, for organizing an excellent list of candidates for this year's officers' election.

Dr. James Wagner, Vice President, for reviewing nominees for the Career Achievement Award and for organizing IRSS continuing education symposium, workshop, and roundtable submissions for this year's SOT Meeting.

Dr. Dale Porter, Secretary/Treasurer, for organizing the minutes of last year's meeting, tracking the budget, and making arrangements for this year's IRSS reception.

Dr. Michael Kleinman, Vice President-Elect, for handling the student, post-doc, best paper and young investigator awards.

Ms. Christina Hickey, Student Representative, for drafting the IRSS poster for this year's SOT Meeting.

Thanks also go to Dr. Harry Salem for organizing this Newsletter.

I look forward to visiting with you at the IRSS Reception scheduled for Wednesday, March 9 from 6:00 - 7:30PM.

Sincerely,
Vincent Castranova



Technical Session

Dr. Harry Salem has organized a Technical Session entitled "Casualty Overestimation from the Improper Use of Haber's Rule". The session will be held Tuesday, March 8 from 7:00-8:00AM in Convention Center RM 149.

Time Capsule

The IRSS has submitted the IRSS manuscript "A comparison of the inflammatory response of the lung to inhaled versus instilled particles in F334 rats" (Fundam. Appl. Toxicol. 24: 183-197, 1995) for inclusion in the SOT 50th Anniversary time capsule.

IRSS Sponsored Sessions at this year's SOT

Note the following sessions of interest to the IRSS membership at this year's SOT Meeting:

Roundtables

Assessment of Nanoparticle Exposure in Occupational Settings and in Inhalation Toxicology Studies:

Is There a Best Dosemetric to Use?

-Endorsed by IRSS

Wednesday, March 9, 4:40-5:50PM

Workshops

Extending Pulmonary Toxicity Findings for Nanomaterials

-Endorsed by IRSS

Wednesday, March 9, 9:00-11:45AM

Meeting the Challenges of Respiratory Toxicology Testing - In Search of Best Practices

-Sponsored by IRSS

Wednesday, March 9, 1:30-4:15PM

Symposia

Environmental Oxidative Pollutant-Induced Pulmonary Toxicity

-Endorsed by IRSS

Monday, March 7, 9:15AM - noon

Global Air Quality and Human Health

-Sponsored by IRSS

Tuesday, March 8, 9:00-11:45AM

Continuing Education Courses

Evaluating Toxicity of Engineered Nanomaterials:

Issues and Conventional Toxicology Approaches

-Endorsed by IRSS

Sunday, March 6, 1:15-5:00PM

The 25th Anniversary of the IRSS

The first IRSS Newsletter was published in the fall of 1986. Dr. Harry Salem is preparing some historical notes of the specialty section.

Call for Continuing Education, Symposium, Workshop, and Roundtable Topics to the 2012 SOT Meeting

Program concepts for next year's SOT Meeting from March 11-15, 2012 in San Francisco will be due in April. This year's meeting is an excellent time to discuss plans for submissions.

MINUTES OF INHALATION AND RESPIRATORY SPECIALTY SECTION ANNUAL MEETING

March 9, 2010

JeanClare Seagrave called the meeting to order at 6:45PM.

Vincent Castranova provided the secretary and treasurer's report. A motion to approve the minutes from the last meeting (published in the newsletter) was made by and seconded. The motion carried by voice vote.

Vincent Castranova stated that the IRSS balance as of Dec 31, 2009 was \$5,758. This does not include income from membership dues and SOT Meeting attendance nor costs incurred during the Meeting. An updated balance should be available in June.

Jan Moser presented the report from the technical committee: the committee met on March 9 and received two reports from George Woodall: first on "Graphical Arrays of Chemical-Specific Health Effect Reference Values for Inhalation Exposures" and second on "Acute Reference Concentration (ARfC): Preliminary Draft Method Document and Draft Acute Assessments". The reports were well received by the committee, and it was agreed that the proposed graphical arrays will provide easier interpretation and comparisons of exposure data. There was a suggestion by Jim Wagner to revisit and potentially update the 2000 report on intratracheal instillation methods (Driscoll et al., Tox Sci 55(1):24-35, 2000). He further suggested that a critical comparison of pulmonary functional testing approaches in toxicology studies be considered. Mike Kleinman suggested these might be good topics for a workshop.

Dr. Seagrave provided information on the current status of the Amdur fund: prior to distributions of this year's awards and without the addition of contributions made since Dec 31, the fund has \$41,697. It was suggested that we attempt to raise the fund to \$50,000 in order to fund four awards of \$500 each. Rudy Jaeger has a number of baseball hats signed by Joe Bourselica and John Doull; he will give a hat to anyone making a donation of \$500 to the fund.

Updates from headquarters: a new "Specialty Section Governance" group has been formed that currently consists of 5 VPs of specialty sections. Five more will be added next year, with each serving 2 year terms to maintain a group of 10.

ToXchange is active and will serve as a communication network. All active SOT members are listed in Toxchange, and can update their profile with CVs and photographs if desired.

Global issues are increasingly being considered. SOT has funds to support other meetings.

Vince Castranova gave an overview of the sessions sponsored and endorsed for the 2010 meeting:

Continuing Education

1. Comparative Biology of the Lung - sponsor
2. Predictive Power of Novel Technologies (Cells to Omics) - endorsed
3. Gene-Environment Interactions Influence Cytokine Biology in Immunotoxicity and Disease - endorsed

Symposia

1. Neurological Responses after Exposure to Inhaled Metal Particles - sponsor
2. Silica and Asbestos Immunotoxicity - endorsed
3. TRPing the Sensor: The Role of TRP Channel Signaling in Cardiopulmonary Toxicity - sponsor

Roundtable

1. Inhaled Particles: From Nose to the Brain - sponsor

Informational Session

2. Recent Advances in Pulmonary Surfactant Toxicological Assessment and Therapeutics - sponsor

Vincent Castranova also encouraged people to start thinking about submissions for 2011 (the 50th anniversary of SOT). Debra Laskin reported that the course sponsored by IRSS this year was extremely well attended.

Jim Wagner presented the awards:

Grad student: Angie Groves, Rutgers

Mary Amdur: Eric Liberda, NYU

Postdoc: Dr. Mehdi Hazari, EPA

New Investigator: Dr. Qinghua Sun, Ohio State

Paper of the year: "Ambient Air Pollution Exaggerates Adipose Inflammation and Insulin Resistance in a Mouse Model of Diet Induced Obesity", which appeared in *Circulation* 119(4):538-546, 2009; Several coauthors, including from SOT : Qinghua Sun (1st author), Lung Chi-Chen, and Sanjay Rajagopalan.

Vincent Castranova presented the Career Achievement award to Dr. Kent Pinkerton of UC-Davis

Lung Che Chen announced the new officers: Mike Kleinman (UC-Irvine) is the new Vice President-elect. Jacob McDonald (Lovelace, Albuquerque) and Flemming Cassee (RIVM, Netherlands) are the new councilors. Danielle Carlin is the new Postdoc rep, and Christian Hickey is the new Graduate student rep.

New business: a poll was taken regarding moving the meeting to a lunch meeting, and the majority were in favor of this. This move was considered for its cost savings.

A suggestion was made that the 50th anniversary festivities may have a potential for fund raising to add to the Mary Amdur award, perhaps through a silent auction. Creative thinking was encouraged.

Vincent Castranova presented certificates and thanked the outgoing officers: Glenn Gookin (Grad student rep), Chunli Quan (Postdoctoral Rep), Annette Rohr and Jim Antonini (Councilors), and JeanClare Seagrave (President)

Dr. Richard Parent indicated that a new edition of the *Comparative Biology of the Normal Lung* (treatise on pulmonary toxicology, 1995) is in the works, and solicited data and contributions to the draft.

Meeting was adjourned at 7:45 pm

Historical notes on the Inhalation and Respiratory Specialty Section (IRSS) as seen from the Chair of the Technical committee, Dr. Harry Salem

As we celebrate the 50th Anniversary of the Society of Toxicology, I recall having been at an organizational meeting in 1961. Having just received my Ph.D. and completing my Post Doctoral studies, I was denied founding membership. It took me ten years to earn the credentials required for membership, which was 1/1/1971.

I don't remember when the Technical committee was formed, but I remember being added to it by Gerry Kennedy, who was the Chair, followed by George Rusch. I was appointed chair in 1987 after George, and have continued in that position ever since. Among the duties of the Inhalation Specialty Section (ISS) Technical Committee are the preparation of a Newsletter, which started with volume 1 in the Fall of 1986, and to also prepare information and position papers as requested. In addition, a breakfast meeting has been held during the Annual SOT Meetings where current issues are discussed.



This year, as we celebrate the 25th Anniversary of the Newsletter, at the breakfast meeting we will feature my Senior National Research Council fellow, Dr. Stephen Chesler, as he discusses "Casualty Overestimation from the Improper Use of Haber's Rule". This presentation will take place at the IRSS Technical and Executive Committee Meeting on Tuesday, March 8, from 7:00 AM to 8:30 AM in room 149 of the Convention Center.

I have retrieved the Newsletters I have saved over the years, and will review them and provide the highlights of the Technical committee, as I see them.

Although the first edition of the ISS Newsletter was published in the Fall of 1986, the first I found in my files is from the Summer of 1987. In that issue we outlined the Continuing Education to be presented at the Annual SOT meeting in Dallas 1988 entitled "Respiratory Tract Toxicology by Classes of Agents" by Meryl Karol and Craig Barrow. The Specialty Section also planned a Symposium for the Annual Meeting entitled "The Importance of combined Exposure in Inhalation."

The proposed program included, "Experimental Problems and Strategies in Assessing Effects of Combined Exposures" by Dr. J. Doull (University of Kansas), "Radiation/Chemical Toxic Interactions" by Dr. A. Kennedy (Howard University), "Toxic Interaction Between Organic Compounds and Particles" by Dr. J. Bond (Lovelace, ITRI), and "Toxic Interaction Between Inorganic Gases and Particles" by Dr. J. Last (University of California, Davis).

In the Fall 1989 issue I highlighted the dedication of the New Berger Laboratory Complex at Aberdeen Proving Ground, where I met Dr. Seymore Silver, the scientist who developed some of the principles of Inhalation Toxicology. Specifically, Dr. Silver developed the Five Percent Rule, and described the equation to determine the time required to reach equilibrium at various percentages of the target concentration as well as constants for these percentages. These were published in his classic paper of 1946. Dr. Silver was the Technical Director of the Chemical Research and Development Laboratories, at the Edgewood Arsenal.

Following the SOT meeting in Miami Beach, the Newsletter highlighted the speaker at our Annual Business Meeting. Dr. Jan Stolwojk, Professor of Epidemiology in Public Health at Yale University, spoke on "Indoor Air: Health and Wellbeing" and associated this with the ongoing and growing concern of building related illnesses. The "Sick Building Syndrome" was also discussed at the HAZMAT 90 International conference held in Atlantic City in June. A meeting on Methodology for Assessing Health Risks from Complex Mixtures in Indoor Air was held in April in Arlington, Virginia. It was sponsored by EPA, and the ILSI Risk Science Institute. Among the common indoor air pollutants, asbestos was in the news. An article by Mossman et al. (Science 247: 294-301, 1990) stated that recent epidemiologic findings of chrysotile fibers at the current occupational standard, did not increase the risk of asbestos-associated diseases. This was followed by an editorial in Science (247: 1017, 1990), entitled "The Asbestos Removal Fiasco." Dr. Bernard Gee of Yale University, in a New England Journal of Medicine article, referred to the evidence used by anti-asbestos advocates as "paratoxicology." The EPA was also concerned by the indoor air pollutant emitted from carpets, which was identified as 4-phenylcyclohexane (C&EN, p23, April 23, 1990). Another indoor air pollutant, Radon, was reviewed

in the Newsletter by Dr. Bruce Stewart from Brookhaven National Laboratory.

In the Fall 1991 issue, we welcomed Val Roloff back from service in Operation Desert Shield and Storm. That issue contained Val's story about the role of a toxicologist in a wartime scenario. Good job Val!

At the SOT meeting in Dallas in February 1991, Dr. Harold MacFarland received the Career Achievement Award. It was a well deserved honor for a truly international expert who made numerous contributions to the field of Inhalation Toxicology. At that meeting, Dr. John James of NASA spoke on "Clean Air at the Final Frontier." We also reported in that Newsletter, that after several years and great co-operative efforts our first Position Paper on "Recommendations for the Conduct of Acute Inhalation Limit Tests" was reviewed and submitted for publication. The paper was prepared on request from the EPA. The conclusions reached were that since damage to any region of the respiratory tract can produce lethality, and it is not possible to predict *a priori* the most responsive region of the tract, or the most harmful particle size of an untested chemical, acute limit testing should therefore employ particles in a size range that deposits throughout the entire rodent respiratory tract. The paper recommended that the limit test concentration should be the highest concentration that can be attained up to 5 mg/L while maintaining a particle size distribution having a MMAD between 1 and 4 microns. Members of the subcommittee who authored the paper were, Drs. G.L. Kennedy, J.B. Morris, M.V. Roloff, H. Salem (Chair), C.E. Ulrich, R. Valentine and R.K. Wolff. The assistance of Drs. R. Henderson, J. Mauderly, and R.B. Schlesinger, as well as comments provided by various members of the Specialty Section were gratefully acknowledged.

The next Newsletter I found was published in the Summer of 1992. In this issue, we announced that the Position Paper was published in the April issue of Fundamental and Applied Toxicology (18: 321-327, 1992). Our next assignment, also requested by EPA and approved by Council, was to consider a paper on "Instillation versus Inhalation." Also in this issue was a summary of the presentation made by Dr. John Andrews, Jr., on "Kuwait Oil Fires; What We Still Don't Know." Dr. Donald Gardner received the prestigious Career Achievement Award, and Dr. Thomas T. Mercer received

a Career Achievement Recognition for their contributions to the field of Toxicology.

In the Winter 1993 Edition, we reported with sadness, that Dr. Seymore Silver had passed away following a heart attack on January 3, 1993, at the age of 86. We remember him for all of his contributions to the field of Inhalation Toxicology, and for his developmental work on mouth-to-mouth resuscitation.

In the Fall 1993 Newsletter, we reported that the EPA had published a report entitled "Pesticide Rejection Rate Analysis Toxicology" (EPA 738-R-93-004). It was the high rejection rate of inhalation limit toxicology studies that prompted EPA to request the ISS to task the Technical committee to prepare the information paper on acute inhalation limit testing. The draft publication by Whalan and Redden of the EPA entitled "Interim Policy for Particle Size and Limit Concentration Issues in Inhalation Toxicity Studies," stated that the new requirements in this document are largely based on the SOT Position Paper published by the ISS.

Following the annual SOT Meeting in Dallas, the Fall 1994 Newsletter was concerned with the second position paper on inhalation versus instillation. In addition, the other concerns addressed included the following:

PM10. An ISS-sponsored symposium entitled "Morbidity and Mortality from Acute Increases in Urban Particulates" is scheduled for the next SOT meeting. Rich Schlesinger had prepared an overview on the "Issue of Human Health Effects from Ambient Particulate Matter and the Role of Toxicology," which appeared in this Newsletter.

Maximum Tolerated Dose (MTD) and Maximum Functional Tolerated Dose (MFTD), and Lung Overload. Toxicity versus Overload was scheduled as the subject for an ISS workshop at the next SOT meeting. Dr. G. Oberdoerster had agreed to track the progress on this.

This Newsletter also contained a summary of the Workshop on "Man Made Mineral Fibers" held in Paris in September 1994.

The next Newsletter I found was from Summer 1996. This Newsletter started the electronic age for me as my computer created a new format. Included are now the minutes of the business meetings and the technical meetings. Also a message

from the ISS president is included. In this issue a ready reference including phone and fax numbers, as well as mailing addresses are provided. Dr. Costa, our President, reviewed the highlights of our guest speaker, Dr. Carl Cranor, Professor of Philosophy, and Associate Dean at the University of California, Riverside, who discussed "Risk Assessment as a Policy Tool: Possible New directions". Dr. Gunter Oberdoerster was honored as the recipient of the Award for Outstanding Achievements in the field of Inhalation Toxicology. Drs. Schlesinger and Gordon reported on the "Second Colloquium on Particulate Air Pollution and Health" held in Park City, Utah on May 1-3, 1996. Meeting Updates were provided for the American Thoracic Society/American Lung Association, and the Health Effects Institute Annual Conference on Biomarkers and Environmental Mixtures. An obituary is provided by Nabil Elsayed in Memory of Professor Mohammad G. Mustafa, an acknowledged expert on the health effects of air pollution, and published extensively on the pulmonary biochemical response to inhaled oxidants.

This Newsletter also provides a historical record of the ISS, which appears to have been started in 1983.

On January 23, 1997, an historic event occurred for the SOT and the ISS. Council recommended to chapter presidents, to co-sponsor symposia with the specialty sections separate from the national meetings. The National Capital Area Chapter of SOT (NCACSOT) took the initiative and was the first chapter to do this with the ISS. The program committee, consisting of Dan Costa, John Keller, Harry Salem, and Lorraine Twerdok, developed a program entitled "Particulate Matter-Science and Regulatory Perspectives". The two groups, ISS and NCACSOT, in association with the Association of Government Toxicologists, National Capital Area chapter of the Society of Risk Assessment, brought together a forum of scientists, regulators, and all interested parties to understand the science and regulatory perspectives behind the proposed changes in the standards. More than 130 registrants attended this very impressive program held at the National Library of Medicine, in Bethesda, Maryland. The program and abstracts of the speakers are presented in this Newsletter.

In October of 1997, the Technical Committee consisting of Driscoll, Oberdoerster, Henderson,

Costa, Hatch, Schlesinger and Salem, met at Procter and Gamble in Cincinnati, in an effort to finalize the draft issue paper on "Instillation versus Inhalation". Also in this issue we acknowledged that a new toxicology facility was dedicated at Aberdeen Proving Ground on September 26, 1997. This new Life Science Research Laboratory was dedicated in honor of Dr. Bernard P. McNamara, a founding member of the SOT, and a pioneer in Inhalation Toxicology. Dr. McNamara served as Chief of the Aerosol Branch at Edgewood before he became Chief of the Toxicology Division. He published extensively in the field of Inhalation Toxicology, and served on many prestigious scientific committees. The new Bernard McNamara Life Sciences Research Laboratory of approximately 120,000 square feet was designed to conduct state-of-the-art research and testing under Good Laboratory Practices, and with emphasis on inhalation toxicology

At the SOT meeting in Seattle, Washington, Dr. Alan R. Dahl from the Inhalation Toxicology Research Institute in Albuquerque, NM, was presented with the Career Achievement Award for outstanding research in inhalation toxicology and epithelial cell biology. Also, Dr. Jeffrey A. Whitsett, Children's Hospital Medical Center, Cincinnati, Ohio, presented a talk on "Transgenic Mouse Models of Pulmonary Disease". The work of Dr. Whitsett was of great interest, and was a good example of how transgenic mice, and animal studies in general, can be extremely valuable in leading to human screening tests and therapy for respiratory diseases. Dr. David Warheit participated in a symposium at the 18th Annual Meeting of the American College of Toxicology in McLean, VA entitled "EPA/OPPTS Testing Guidelines. The ISS has been extremely successful in getting acceptance by the SOT Program committee for 3 ISS sponsored Workshops, 1 roundtable session, as well as the major issues session of the 1998 Annual Meeting. The workshops are entitled, "Comparative Biology in Inhalation Research; Woodsmoke: Toxicological Impacts and Human Health Risks; and Short Term Tests for Predicting Respiratory Toxicity of Inhaled Particulates". The Roundtable Session is entitled "The Use of Inhalation vs Instillation Methods to Assess Pulmonary Toxicity", and the Major Issues Session is entitled "Issues in the Epidemiology and Toxicology of Airborne Particulate Matter: Death by PM_{2.5}?" The Lovelace Respiratory Research Institute's Annual Symposium for 1998 will focus on the topic of the "Validity of Animal Models of Human Respiratory

Diseases." This conference consisted of an incisive state-of-the-art evaluation of the validity with which various experimental animal models represent human respiratory disorders, with strengths and weaknesses of the various experimental animal model systems.

In the summer of 1998, the Newsletter reported that the final draft of the information paper entitled "Intratracheal Instillation Techniques for Evaluation of Respiratory Tract Toxicants: Uses and Limitations" was completed and was being circulated to the ISS membership for review and comment. Following concurrence, it will be briefed to the USEPA. We also reported on the loss of two pioneer giants in the field of inhalation toxicology, Dr. Mary Amdur and Dr. Harold MacFarland. Both were Career Achievements Awardees, Dr. Amdur in 1986, and Dr. MacFarland in 1990. Their obituaries appeared in this Newsletter. We also reported that during the previous year, the Journal Fundamental and Applied Toxicology (FAAT), was transformed into the journal, Toxicological Sciences. Apparently, FAAT was co-owned by SOT and Academic Press, while Toxicological Sciences is solely owned by SOT. Also reported was that Dr. Judith A. Graham was presented with the Career Achievement Award for her outstanding work in the field of inhalation toxicology. Dr. Don Gardner also noted the passing of Gus Friedman and Herbert Stokinger. The 1987 By-Laws for the Inhalation Specialty Section of the Society of Toxicology were included in this Newsletter.

In the Autumn 1999 Newsletter we mentioned the previous discussions about our name change to the Respiratory Tract Toxicology Specialty Section. Making such a change would require an amendment to our by-laws, and a ballot was included. Dr. Driscoll, our President, commented on his proposal to change our name to Respiratory Tract Toxicology, and announced that at the 1999 SOT meetings, the ISS sponsored 3 symposia and 2 workshops. An update was given on the Mary Amdur Memorial Fund by Terry Gordon, and a press release was provided by the Archives of Environmental Health on Multiple Chemical Sensitivities. In addition to the Student Award, Paper of the Year Award, and Young Investigator Award, write ups, the prestigious Career Achievement Award was presented to Dr. Richard Schlesinger for his outstanding contributions to respiratory toxicology.

In the Winter 1999 Newsletter we listed the ISS sponsored Sessions at the annual SOT Meeting. These were as follows:

ISS Sponsored Symposia:

- Aliphatic Ethers as Fuel Oxygenates: Health Effects and Regulatory Issues
- Reactive Oxygen and Nitrogen Species in the Lung: Cell Activation; Injury and Apoptosis

ISS Sponsored Workshops

- Animal Models of Cardiopulmonary Disease; Impact of Air Pollution on at Risk Populations
 - Relationships Between Biopersistence, In-vitro Dissolution Rate, and Fiber Toxicity
- ISS Sponsored sessions in the Innovations in Toxicological Sciences included the following poster sessions and discussions: Respiratory Tract Toxicology – Models, Methods, Safety Evaluations; Respiratory Tract Toxicology – Mechanisms; Nasal Toxicology; Airborne Particulate Matter – in vitro Toxicity; Respiratory Hypersensitivity. Dr. Bob Phalen announced the upcoming 3rd Colloquium on Particulate air Pollution and Human Health. This is being held on June 6-9, 1999 in Durham, North Carolina. It will again integrate current research in the fields of exposure assessment, epidemiology and toxicology related to human health effects of ambient particulate matter.

The Fall-Winter 2000 Newsletter announces that I have been selected to serve as the SOT Congressional Science Fellow for 2001. In this capacity I am expected to provide expertise in toxicology to support legislative and regulatory policy at the national level. More will follow at the end of the Fellowship. The program for the SOT meeting in San Francisco will include 2 symposia sponsored by ISS “. These are Critical Windows of Neonatal Sensitivity of the Respiratory Tract to Toxicants” and “Environmental Influences of the Development and Severity of Allergic Asthma”. In addition, 2 workshops entitled “Non-Invasive Approaches for Translational Research of the Lung” and “Evaluating Odorants and Sensory Irritants in the Workplace: Tools, Techniques, and Standards” were accepted by the SOT Program committee. In this issue, our President, Michelle Schaper, provided us with a breakdown of the geographic location of our membership by state and type of employer. Of the total paid membership of 206, 170 are males, and 36 are females, and 14 work outside of the United States. Schlesinger reported on the changes being made in the European OECD Toxicity Guidelines replac-

ing animal testing with in-vitro assays. Rogene Henderson presented the Career Achievement Award to Dr. Joseph Mauderly of the Lovelace Respiratory Research Institute. It was announced that the instillation paper was accepted for publication and would appear in Volume 55 of Toxicological Sciences. It was suggested that the Technical Committee consider focusing on low level exposures in terms of definition, and appropriate type of endpoints, as well as how to extrapolate from the effects of high dose to low doses, and from experimental animals to humans. The other topic open for consideration was to address the Hazardous Air Pollutant (HAP) Regulations. The new EPA test rules requirements for acute toxicity included histopathology, bronchoalveolar lavage, and macrophage phagocytosis. The other topic suggested was to address the biopersistence of fibers with special emphasis on the differences between the United States and European guidelines. It was also reported that the OECD Harmonization efforts were proceeding very rapidly, and it appears that the classical LD₅₀ testing will be eliminated in favor of the up-and-down method. This method is also being considered for acute inhalation toxicity testing.

In the Summer of 2000 Newsletter we congratulated Dr. David Warheit who received the 8th annual Robert A. Scala Award and Lectureship in Toxicology from the Environmental and Occupational Health Sciences Institute (EOHSI) at the UMDNJ-Robert Wood Johnson Medical School in New Jersey. Also the Instillation paper was published in Toxicological Sciences 55(1): 24-35, 2000. It was announced that the American Industrial Hygiene Association has been addressing “Low Dose” issues, and were just about to complete their draft paper. Several of our members were working on this and had agreed to keep us informed so that there would be no duplication. Unfortunately, no one followed up on that. If you are one of those, please provide the information. Thanks.

Also, in June of 2000, our president, Dr. Michelle Schaper, provided a reference manual that she prepared for members of the Executive committee. She prepared this manual to provide us with basic information on the ISS, to help us communicate with one another, and to improve awareness of our responsibilities and deadlines. She acknowledged that Drs. Gregory Finch and Michele Medinsky had previously summarized information

on the ISS, some of which was used in this document.

In the Summer 2001 Newsletter, I described my first few months as the SOT Congressional Science Fellow. I had been working in the office of Congressman Jim Greenwood who was Chair of the Subcommittee on Inspections and Oversight of the Energy and Commerce Committee. This subcommittee had oversight of health and the environment. Of particular interest to the ISS, I attended the Hearings of the Senate Appropriations Subcommittee on Defense. At this hearing, one of our active members Dr. Rogene Henderson presented oral testimony on the importance of mixtures in toxicological testing. She stated that this is a common problem facing military, civilian, federal, state, and local agencies. Much of the research is focused on single air contaminants, while little effort has been spent to understand the complex effects of trace pollutants as they are actually breathed in complex mixtures. Dr. Henderson also reported on their DoD supported research in on the long term effects of inhaling trace amounts of the nerve agent Sarin (GB). A month after exposure at these levels, where no measurable immediate effects were observed, neural receptors in the brain hippocampus (associated with memory) were altered. They also observed a depression in the responsiveness of T-cell lymphocytes to mitogens.

Discussions at the SOT meeting included the fact that no logo existed for the ISS at that time, so Dr. Jack Harkema volunteered to design one. Dr. Robert F. Phalen was the recipient of the Career Achievement Award for his dedication and contributions to inhalation toxicology over the past four decades. We received a letter from the EPA (John Whalan) thanking us (Salem, Driscoll, Schlesinger) for the seminar we presented to the EPA on behalf of the ISS of SOT entitled "Intratracheal Instillation as an Exposure Technique for the Evaluation of Respiratory Tract Toxicity: Uses and Limitations." The letter stated that all of the attendees came away with a better understanding of the purpose of the ISS, and the differences, advantages and disadvantages of instillation versus inhalation studies. The letter also stated that "judging by the questions posed to the presenters, there was considerable interest in the topic".

The Spring 2002 Newsletter found me back at my former position as Chief Scientist at the Edge-

wood Chemical Biological Center, after a very exciting and fulfilling year on the Hill. On that horrific September 11th, Congressman Greenwood, as Chair of the Energy and commerce's Subcommittee on Oversight and Investigations, had scheduled a hearing for 10:00 AM entitled "Review of Bioterrorism Preparedness Programs: Building an Early Warning Public Health Surveillance System". Obviously, the hearing was cancelled and re-scheduled for November 1, 2001. Also, for September 11, I had planned to meet with Rich Schlesinger for lunch to discuss the Technical committee's proposed information paper on Low Dose Toxicology. This meeting was also cancelled. In this Newsletter we also reported that Congressman George Nethercutt of the 5th District in Washington State will be the recipient for the SOT Award for his contributions to the Public Awareness of the Importance of Animals in Research. Congressman Nethercutt has taken a leading role with the media in presenting the case for research facilities and against demonstrations and terrorists. Representative Nethercutt is the co-sponsor of HR 2795, the Agro-Terrorism Act of 2001. This bill is designed to increase protection for animal and plant research facilities, and gives the FBI more tools to pursue criminal conspiracies against these research centers and established the National Animal Terrorism and Ecoterrorism Clearinghouse. The congressman will be recognized at the SOT meeting Sunday evening march 17, 2002 at the Award Ceremony for his passionate effort to educate the public on the importance of the use of animals in scientific research and for his leading legislative role in protecting this research from criminal behavior. I attended that event which was very impressive. Following the award ceremony, the congressman met with a group of us and advised us to get to know your representative and develop a relationship so that they will have confidence in you and your expertise, so that they can call you when they need your help. Don't wait until you have a problem you want to discuss with them.

In the Winter 2003 Newsletter we announced that the Plenary Lecture for the March SOT Meeting in Salt Lake City, Utah, will be Dr. Donald Henderson. Dr. Henderson is with the Office of Public Health Preparedness, HHS, and will discuss "Smallpox: the Death and Resurrection of a Virus". Dr. Henderson is noted for his leadership in the World Health Organization's Global Smallpox Eradication Program. He is also the founding director of the Center for Civilian Biodefense Strate-

gies at Johns Hopkins Bloomberg School of Public Health, where he served as Dean from 1977 to 1990.

The Summer 2004 Newsletter recalled the SOT meetings held in Baltimore in the spring. In this issue, our president, Charles Plopper, articulated one of the long-term goals of SOT is to increase student membership and participation in the Society and their involvement with Specialty Sections. He also discussed the changes in the NIH review process and the study section reorganization. The Career Achievement Award was presented to Yves Alarie for 30 years of contributions to Inhalation toxicology. Dr. Alarie is considered the "Father of the RD50, and is Professor Emeritus from the University of Montreal. Other suggestions made for consideration of the Technical committee include: pulmonary cell types and the effects of pollutant challenge on these cell types; dosing paradigms for cellular or in vitro studies (compare in vitro to human effects); models to estimate pollutant toxicant deposition; as well as low dose extrapolation.

In the Winter 2005 Newsletter we reported that the OECD new inhalation guidelines 436 and 39B have been revised, and appear to be significantly improved from the previous draft #433.

The Summer of 2006 Newsletter was now the Newsletter of the Inhalation and Respiratory Specialty Section (IRSS). We finally got the name changed. I had been invited and attended the OECD Experts meeting in Berlin, Germany on Inhalation Testing guidelines along with John Whalan and John Redden, as well as others from the US, and was honored by being asked to co-chair the follow on meeting held in Washington DC in November 2006. It was noted that our past president Maryjane Selgrade, who has dual membership in IRSS and the Immuno-toxicology SS, was awarded the Career Achievement Award of the Immunotoxicology Specialty Section at the 2006 Annual Meeting in San Diego.

In the Winter 2006 Newsletter we enclosed a copy of the latest draft of OECD 403, Acute Inhalation toxicity guidelines, and Dr. Chad Roy, of the U.S Army Medical Research Institute for Infectious Diseases discussed Infectious Disease Aerobiology: A Unique Application of Inhalation Toxicology. Dr. Roy is currently the Director of Aerobiology Primate Center, Tulane University Medical School.

The Newsletter of April/May 2007 contained information on the status of the OECD guidelines for inhalation toxicity studies. During 2007 they hope to have finalized the guidelines for the Up and Down protocol, the fixed concentration protocol and the traditional LC₅₀.

In the Feb/Mar 2008 Newsletter an update was presented on the Status of the OECD Guidelines. Dr. George Woodall discussed the inclusion of genomics and proteomics data in the risk assessment process at the technical committee meeting, and the ambiguity in the description of the IRSS awards selection process was addressed at the executive meeting. In addition, the displeasure with the new ambient air quality standards which are contrary to the scientific advice from the advisory committee and their EPA staff, was discussed. It was suggested that SOT send a letter that states that "SOT unequivocally supports the premise that the use of sound scientific information in standard setting is essential to protect the public health with a margin of safety as required by the Clean Air Act. The SOT promotes the use of science as the primary basis for health policy decisions".

In the March 2009 Newsletter, three of our members made presentations at the technical committee meeting. These were: John Whalan (EPA) provided an update on the OECD Inhalation guidelines; George Woodall (EPA's National Center for Environmental Assessment) discussed the Center's initiatives to standardize the development of arrays that compare inhalation health effects reference values, and Juergen Pauluhn (Bayer) presented the particle size distribution for repeated exposure inhalation studies as well as to evaluate substances with hepatic or other first-pass metabolism results in toxifying or detoxifying.

In the December 2009 Newsletter prior to the 49th meeting of SOT on March 2010, it was reported that Dr. Joe Mauderly presented the Career Achievement Award to Charles H. Hobbs. In addition, it was suggested that OECD should consider Guidelines for inhaled nanoparticles.

We look forward to seeing you all and having a great 50th anniversary meeting in Washington, DC.

Harry Salem