

Society of Toxicology

Inhalation and Respiratory Specialty Section



INHALATION AND RESPIRATORY SPECIALTY SECTION (IRSS)

NEWSLETTER — JULY 2012

Dear IRSS Members,

This year's SOT meeting in San Francisco was great, and I hope that all of you who attended had a good and productive meeting.

Some of the highlights I would like to share with you are as follows. Our Specialty Session Annual Reception and Meeting was phenomenal. In all of the years I have been attending since our inception, I have never seen such a crowd. We had to bring in extra chairs, and yet not everyone was seated. You can see the crowd in one of the attached photos. The meeting itself was also great. In addition to the awards, and introduction of our new President, Michael Kleinman, Dan Costa provided us with a "dignified yet humorous" summary of our activities since 1982. Also, thanks to Terry Gordon for providing most of the photos included in this Newsletter, which captures most of the presentations made at the meeting. In addition, a letter from our past President is included here. Our past president, Jim Wagner, deserves congratulations and thanks for his great leadership over the last year, and we welcome our new president, Michael Kleinman, with great expectations and support from all of us. Hope to see you all in San Antonio in 2013.

Harry Salem

The 52nd Annual Meeting of Society of Toxicology will be held in San Antonio, Texas on March 10-14, 2013

DEADLINES

Early Bird Registration -
January 25, 2013

Housing Reservation -
February 8, 2013

Standard Registration -
February 15, 2013

Cancellations -
February 15, 2013

For additional information
please visit:
www.toxicology.org/AI/MEET/AM2013

PAST PRESIDENT'S MESSAGE

Dear IRSS Members,

The state of our specialty section in its 30th year is strong, and that showed by the large turnout at the national meeting and our annual reception in San Francisco this spring. There was a nice mix of students, mid-career members and many who have been with the Section for over 25 years to help commemorate this landmark anniversary. Special thanks to Dan Costa, a charter IRSS member who on short notice provided a dignified yet humorous summary of IRSS activities since 1982, by highlighting our role in advancing science for both the political and public good. Kudos also to our student rep Chris Carosino, whose enthusiasm was most responsible for creating the historical poster of inhalation toxicology that was displayed and distributed to members at the meeting. Another highlight of the reception was Jake McDonald's introduction of Career Award winner Chet Leach, whose work has impacted aerosol delivery for human medicine. As inhalation and respiratory toxicologists we go to work each morning because we love doing science, be it in the laboratory or classroom, with colleagues, clients or policymakers. But I thought Jake provided a nice image of how these daily efforts to promote the science of inhalation toxicology can come to fruition and make a difference to promote human health. As a group we do good work, and the accomplishments of IRSS members are significant and something for which we can be proud. Together Dan, Chris, Chet and Jake represent just some of the potential and achievements of our large and diverse membership, but I think these few examples bode well for the sustained contributions of IRSS to advance science for the next 30 years.

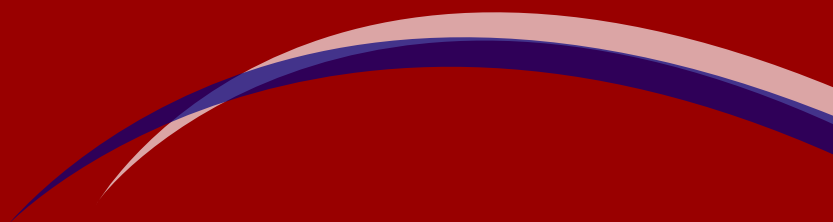
During the last 12 months your executive committee has put most of their efforts to evaluating program proposals, award applications, poster creation, and planning for the 2012 meeting.

Our primary sponsorship for this year's meeting was the symposium "Emerging Mechanistic Targets in Lung Injury Induced by Combustion-generated Particles" that was chaired by Andy Ghio and Marc Fariss, and included a talk by Ian Gilmour. IRSS also endorsed several workshops, including "Cooperative Epidemiology and Toxicology Research: HEI's National Particle Component Toxicity (NPACT) Initiative", and "Progenitor and Stem Cells as Targets of Environmental Pollutants", among others. IRSS members were also well represented as both speakers and chairs of several platform sessions on topics that ranged from air pollution, chemical agents, nanoparticles and cardiopulmonary toxicity. It was nice to see IRSS student members not only providing oral presentations, but acting as chair and facilitating discussions during these sessions. Today the IRSS executive committee is already busy planning an even bigger and better roster of sessions for next year's program in San Antonio.

It has been a privilege serving as your President this last year and I have enjoyed working with both the student and senior members to put together the 30th anniversary meeting this year, as well as plan some initiatives that will carry over to this year. I welcome incoming President Mike Kleinman and Vice President Ian Gilmour, as well as a new set of councilors and student reps. In their hands I think IRSS is in great shape for the near future.

Cheers!

Jim Wagner
IRSS Past-President



IRSS BUSINESS MEETING MINUTES

March 12; 6:30 AM - 8:00 AM; Room 256 (Convention Center)

Present: Jim Wagner (President), Ian Gilmour (VP-elect), Councilors Willie McKinney, Flemming Cassee, Aimen Farraj, Student rep Chris Carosino, incoming 2012 officers: Urmila Kodavanti (VP- elect) and Councilors Steve Gavett and Mitch Cohen.

The meeting was called to order at 6:35. Jim Wagner welcomed the presence of newly elected officers (Urmila Kodavanti; VP- elect), Steve Gavett (Councilor) and Mitch Cohen (Councilor), who are getting an early start on their duties.

Jim Wagner handed out copies of the historical poster created by Chris Carosino. All officers were impressed with the work and were very happy with the finished product. Mitch Cohen mentioned that the ImmunoTox poster from 2011 was published in a journal. A similar option will be pursued with the journal *Inhalation Toxicology* to acknowledge the 30th anniversary of IRSS.

Chris Carosino provided an update on student involvement in the Society and specialty sections. Chris showed the IRSS poster at the Sunday night mixer and discussed the SS activities with student colleagues. Approaches to expand recruitment and student involvement were discussed, with a possible creation of a student newsletter. Chris agreed to maintain communications with the incoming student rep to maintain momentum on student initiatives.

Jim Wagner presented details of the SS budget with a pre-meeting balance of \$6,733, and indicated that most will be spent on the Annual Meeting expenses, including costs for the Officers meeting, the Technical Meeting and the evening reception. These expenses include room rental and food and drinks costs. Costs for awards and certificates are also the responsibility of the SS.

Ian Gilmour inquired of the possibility to move the business meet offsite next year. The current venue in the conference center(s) is shared space with other SS officer meetings, making the room very noisy at times, with limited food options. Officers agreed to look into an external site and a possible breakfast or lunch meeting in 2013.

Jim Wagner reported on the Mary Amdur fund, which had a pre-meeting balance of \$42,839. This year, Council determined that the Executive Committee could use 4% of the balance to provide for the Mary Amdur Student Award. The committee discussed the possibility of using funds for an international student travel award. Further discussions will take place this year, and include original Amdur Fund founders.

Ian Gilmour proposed that descriptions for applications process for the Amdur and IRSS student awards be better delineated. Presently students can be eligible for both awards with the application for the Amdur requiring a specific write-up. Revised wording for the application descriptions will be worked on this year and extended to the general membership for comment.

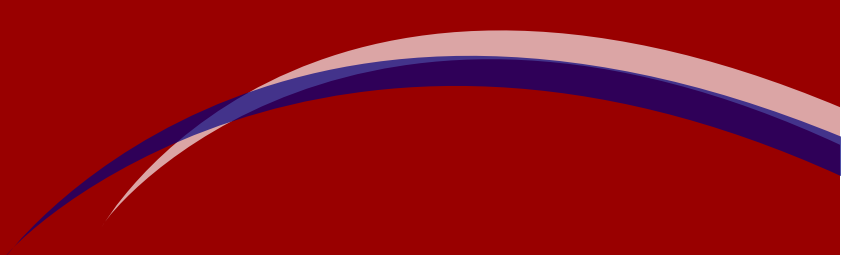
The agenda items for the evening reception were discussed. Harry Salem will make a brief announcement at the evening reception about Tuesday morning's Technical Committee Meeting. The committee felt it would be helpful for Harry to discuss briefly the purpose of the Technical Committee.

The role and future of the Technical Committee was then discussed. A more defined framework of the relationship between the technical and executive committees was discussed, and it was agreed that the serving President would serve as this liaison. The specific nature of this relationship will evolve over the next year.

Flemming Cassee had introduced the idea of soliciting input from the membership via an online survey. Flemming will generate a list of questions that will be discussed by the executive committee in the coming weeks.

The 2012 Program committee work was discussed. IRSS submitted 3 proposals last spring, of which 1 was accepted this year (Emerging Mechanistic Targets in Lung Injury Induced by Combustion-Generated Particles, by Andy Ghio and Marc Fariss). Jim Wagner urged all executive committee members to either initiate a proposal or solicit and champion one from the membership. Ian Gilmour indicated he has already received some pre-proposals. Specialty Sections can submit proposals to each 5 categories (Symposia, Workshops, Roundtables, Historical Highlights, and CE courses). A goal of submitting to every category was proposed.

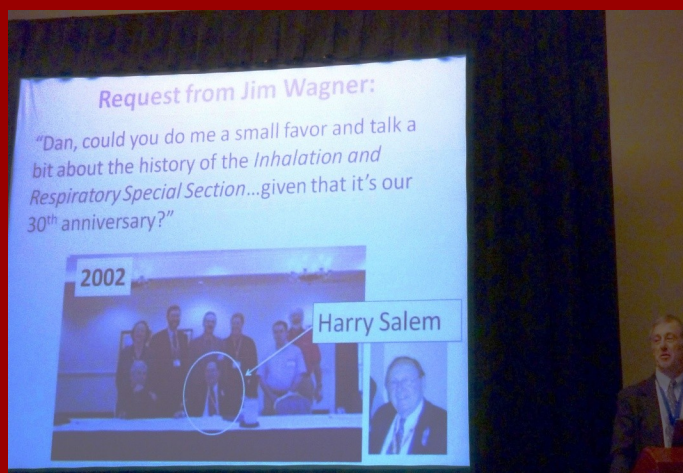
The meeting was adjourned at 8:00AM.



2012 ANNUAL MEETING



Jim Wagner, President



Dan Costa provides a reminiscence of the 30 year history of IRSS.



Jim Wagner (right) thanks outgoing Student Representative Chris Cartosino (left).



Jim Wagner (right) thanks outgoing Councilor Jake McDonald (left).



Jim Wagner (right) thanks outgoing Councilor Flemming Cassee (left).



Joe Mauderly (left) and Dan Costa (right) trade stories.

2012 ANNUAL MEETING



Ian Gilmour, Vice President-elect (right), congratulating Paper of the Year Award winner Mehdi S. Hazari (left).



Ian Gilmour, Vice President-elect (right), congratulating Post Doctoral Student Award winner Todd Stueckle (left).



Ian Gilmour, Vice President-elect (right), congratulating IRSS Student Award winner Azita Cuevas (left).



Ian Gilmour, Vice President-elect (right), congratulating Young Investigator of the Year winner Jake McDonald (left).



Ian Gilmour, Vice President-elect (right), congratulating Mary Amdur Student Award winner Alex Carll (left).



Jake McDonald (left) congratulating Career Investigator Award winner Chet Leach (right).



Harry Salem presenting technical committee report



Annual Meeting attendees, standing room only

MINUTES OF THE TECHNICAL COMMITTEE MEETING

This meeting was convened at 7:00 AM in the San Francisco Moscone Convention Center in an overfilled room. Following a brief introduction as to the purpose of this committee, including the highlighting of innovations and issues in inhalation toxicology, we heard two very interesting and timely presentations.

The first presentation by Dr. Dan Angelini, a Senior National Research Council Associate at the Edgewood Chemical Biological Center, was an overview of "Stem Cells in Pulmonary Injury." Dr. Angelini discussed, in addition to the history of stem cells, pulmonary injury in terms of acute lung injury (ALI) and acute respiratory distress syndrome (ARDS) - what it is, including its pathology, and what are its causes. The current medical treatments for ALI/ARDS are limited, and the mortality rate remains high at approximately 40% in the United States. Most current therapies are considered to be supportive, and recent studies suggest that stem cells could present a novel therapeutic option.

The second presentation by Dr. Jan Moser, a Battelle contractor supporting the Chemical Security Analysis Center (CSAC) of the Department of Homeland Security (DHS) was on "Modeling the Public Health Consequences of Release and Dissemination of Toxic Chemicals." Dr. Moser, who has previously made presentations to this group, described CSAC's mission, which is to identify and characterize the chemical threat against the American Homeland and the American Public. She described the threat from toxic chemicals and presented the Chemical Terrorism Risk Assessment (CTRA), the Chemical Infrastructure Risk Assessment (CIRA), and the hazard assessment process. Modeling methods used at CSAC such as the Hazard Prediction Assessment Capability (HPAC), the Consequences Assessment Tool Set (CATS), the Facilities Weapons of Mass Destruction Decision Analysis Center (FacDAC), and Quick Urban and Industrial Complex (QUIC) Dispersion Modeling were discussed, along with the CARVER + Shock method used to assess vulnerabilities in the food sector, from "Farm to Table".

The meeting room was packed, and there was a huge amount of interest in state-of-the-art information on the potential of stem cell therapy in pulmonary injury, and CSAC/DHS activities to combat the threat of chemical attacks through regulatory and science and technology efforts.



Dan Angelini (NRC Senior Associate, ECBC), presentation at technical committee meeting



Jan Moser (CSAC/DHS), presentation at technical committee meeting

If you are involved in exciting inhalation toxicity research and are interested in presenting to this group at next year's technical committee meeting, please contact me.

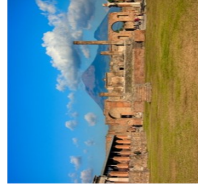
See you in San Antonio in 2013.

Respectfully submitted,

Harry Salem

**The great table on the last page
"Inhalation Toxicology Through the Ages"
was created by our student representative
Chris Carosino from UC-Davis
with some additions and revisions by Jim Wagner.*

Inhalation and Respiratory Specialty Section Inhalation Toxicology Through the Ages



79 CE

Mount Vesuvius
Erupts on August 24th, destroying the cities of Pompeii and Herculaneum and burying them in ash. Pliny the Elder suffocated from volcanic gases.

672 CE

Greek Fire
Ancient "napalm" described by the Crusaders as consisting of naphtha, quicklime, sulphur, and saltpeter.

1306

King Edward I
Bans burning of sea coal (soft coal) in England. Blacksmiths are exempt from the law, but its compliance and enforcement prove difficult.

1275

Raymundus Lullus
The Spanish chemist discovers ether, which was later called "sweet vitriol."

1530-1600

Jean Nicot
The French diplomat and scholar brings the tobacco plant to Europe. Nicotine is named after him.

16th Century

Philippus Aureolus Theophrastus Bombastus von Hohenheim (Paracelsus)
Father of Toxicology. "All things are poison; nothing is without poison; only the dose permits something not to be poisonous."

1633

Bernardino Ramazzini
The Italian physician was one of the first to make the link between worker occupation and health, which he documents in his book *De Morbis Artificum Diatriba* (Disease of Workers).

18th-19th Century

The Industrial Revolution
Mining and combustion of coal increases from 2.7 million tons in 1700 to 250 million tons in 1900.

1912-2005

Sir William Richard Shaboe Doll
A British epidemiologist and physiologist who was a pioneer in research linking smoking to health problems.

1915

Chemical Warfare A Reality
German chemist Fritz Haber (1868-1934) developed chlorine and cyanide gases, which were used as blistering agents in WWI.



1930

Hawk's Nest Incident
Hundreds of African-American workers died between 1927 and 1935 from acute silicosis while digging a tunnel for a hydroelectric project for Union Carbide.

1930

Food and Drug Administration (FDA)
Established in 1930 to regulate the content and safety of consumer drugs and food.

1948

Donora, Pennsylvania
A severe smog episode kills 20 and sickens over 7,000 more. Sulfuric acid, nitrogen dioxide and fluorine are concentrated under an air inversion.

1952

London Great Smog
Also referred to as the Big Smoke, the London Great Smog between December 5, 1952 caused or affected as many as 12,000 people and becomes a focal point for the environmental movement.

1954

Mary Amdur
Presents her work on low dose health effects of inhaled sulfuric acid and sulfur dioxide. Later adopted by the SOT until 1981, when the Fundamentals of Applied Toxicology was established (later Toxicological Sciences).

1959

Journal of Toxicology & Applied Pharmacology
Began by Arnold Lehman and adopted by the SOT until 1981, when the Fundamentals of Applied Toxicology was established (later Toxicological Sciences).

1961

Society of Toxicology Founded
Society journals included Toxicology and Applied Pharmacology (1961). Fundamentals of Applied Toxicology (1981). Toxicological Sciences (1998). Inhalation Toxicology journal is started in 1989 by Don Gardener.

1970

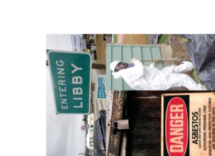
The Environmental Protection Agency was established on December 2, 1970
The EPA is responsible for developing and enforcing regulations to maintain clean air, land, and water and protecting the health of both people and the environment.

1970

The Occupational Safety & Health Act
was passed on December 29, 1970 to ensure every worker a safe and healthful workplace. NIOSH begins operations on April 29, 1971.

1975

First Modern Toxicology Textbook
Louis J. Casaretti and John Doull create the 1st edition of "Toxicology: The Basic Science of Poisons" in 1975. Key contributions by SOT IRSS members in this and successive editions.



1979

American Board of Toxicology (ABT)
The American Board of Toxicology (ABT) was founded in 1979 to establish a process to certify toxicologists and evaluate and document their competency in the field. The first board exam was given in August 1980.

1980

International Union of Toxicology
The International Union of Toxicology was founded in Brussels, Belgium.

1981

The Academy of Toxicological Sciences (ATS)
was established with the purpose of certifying toxicologists as "fellows" who are recognized by their peers for their expertise and sound scientific judgment.

1982

SOT's Inhalation Specialty Section Founded
James Stevens, President, Don Gardener, Vice President, first session sponsored in 1984, entitled "New Approaches for the Evaluation of Pulmonary Toxicology."

1984

Bhopal Disaster
On December 3, the accidental release of 40 metric tons of methyl isocyanate from a Union Carbide pesticide plant in the heart of the city of Bhopal, India, killed thousands and injured hundreds of thousands.

1986

Publications:
First SOT Inhalation Specialty Section Newsletter published by Harry Salem. IRSS members initiate seminal texts: Inhalation Toxicology (1987), Comparative Biology of the Normal Lung (1992).

1986

Lake Nyos
In 1986, the lake released a large amount of carbon dioxide (which it contained due to carbon dioxide leaking from a magma pocket beneath it) and suffocated 1800 people and livestock in surrounding villages.

1990s

Libby, Montana
The Environmental Protection Agency warns that anyone living in this northwest Montana town for six months or more before January 1991 was most likely exposed to harmful levels of asbestos.

1995

Tokyo Subway Sarin Gas Attack
Members of religious group Aum Shinrikyo released sarin gas in 5 places in Tokyo subways, killing 12 and injuring 6,000.

2012

Inhalation and Respiratory Specialty Section celebrates 30 years of supporting, educating and promoting research in the field of inhalation and respiratory toxicology.