



President's Message

Dear all AACT members,

Since my last message in June, the new leadership team of the American Association of Chinese in Toxicology (AACT Board) has been actively working on a few key tasks that we have committed to take on. Through teleconference, emails and WeChat, the Board members have given their best to support all AACT operations. I would like to use this chance to give you all a quick update on where we are today.

We had a successful annual meeting and reception in March 2018. It was a busy night, but much was accomplished. We hosted the distinguished toxicology lecture, updated members with all AACT functions, issued awards (Distinguished Chinese Toxicologist Lectureship, Jean Lu Student Scholarship, and Best Abstracts Awards) to some outstanding winners. We also heard some constructive feedback on how we can improve the flow of a meeting by giving people more time to network and focus on specific subjects given a limited time frame. Sophie Jia and Li Zhan on the AACT Board took the initiative and conducted an AACT membership survey. This survey focused on AACT membership value, future seminar, annual reception matters, and the Distinguished Chinese Toxicologist Award lecture, etc. Thanks to all the participants, we received constructive and prevailing feedbacks that guided us in our preparation for the 2019 meeting and reception. A summary of the survey results is published in this newsletter.

One of AACT objectives is to promote the participation of scientists of any ethnic background who share common interests in toxicology and related fields. With a good strategic plan in place that engages professionals of Chinese background and/or ethnicity, it is paramount to maintain the AACT member diversity and increase the interactions and collaborations with Chinese toxicologists from all regions. While there are many overarching actions we can take to involve people from each of our networks such as continuing to broadcast the AACT membership benefits, inviting for AACT reception, awards, and webinars, etc., there are also smaller events that we can start with. We are lucky to have Dr. Ming-Wei Chao, from Taiwan Chung Yuan Christian University, who gave a webinar on November 26 to all SOT members. His topic was PM2.5-Induced Imbalance of Intracellular Reactive Oxygen Species Cause Vascular Dysfunction & Develop Disorder. Of course, this is not enough; all AACT members should continue to take proactive approaches through involvement with AACT seminars, awards, receptions, and other education, technology, employment opportunities.



**X. Sherwin Yan
PhD, MD, DABT,
ERT**

AACT President
2018-2019

Director of
Product
Stewardship &
Toxicology
Honeywell

The AACT 2019 annual meeting and reception will be on March 11, 2019 during the 58th SOT Annual Meeting in Baltimore, Maryland. I want to thank our sponsors for their generous support over the years. Because of their gracious support, we have accomplished our milestones and continued the success every year. For AACT to continue serving its members and become more impactful, a solid financial foundation is the key. We cordially invite other organizations to be one of the honorable AACT sponsors. With your support, we will be able to pervade the AACT awareness, further AACT's connection with other sister SIGs, and better serve our members and society as a whole.

Again, I would like to thank all AACT members for your vital participation in support of AACT activities. Particularly to the AACT Board, you have my immense thanks for the excellent work you have put in to the association. It is truly a pleasure working with all of you.

X. Sherwin Yan, MD, PhD, DABT, ERT
AACT President
December 2018



A brief summary of the survey conducted by AACT Board

Dr. Sophie Jia and Dr. Li Zhan

To better serve the AACT community, the AACT Board sent out a membership survey this summer. Two Councilors of the AACT Board, Dr. Sophie Jia and Dr. Li Zhan, took the major responsibility in conducting the survey and summarizing the results. The survey was composed by 5 multiple choices questions, seeking the opinion from the community regarding their perspectives of the AACT organization, the topics of future seminars, and the arrangement of AACT reception during the SOT Annual Meeting.

27 % (66 out of 241) of members responded, which provided valuable insights into our membership base. The major take home messages from the survey are as below:

1. Members value “networking” and “supporting Chinese toxicologist community” the most.
2. Members joined AACT because they want to enhance career development opportunities and leverage social network within SOT.
3. Toxicology field in China, latest trend in toxicology, and career perspectives/job hunting strategies are among the top three topics members want to see in future AACT seminars.
4. For AACT annual meeting, member prioritized items in this order: Length, agenda, attendees, food.
5. For the Distinguished Chinese Toxicologist Award lecture preceding the annual AACT reception, members want to shorten the lecture or change it to slides or poster presentation.

We promise that your voices are heard, and your opinions are valued. AACT Board is working hard to make changes and align our effort with your need. Stay tuned for changes in 2019.

2018-2019 AACT Budget and Corporate Sponsorship Fundraising Update

Dr. Qihong Huang

Over the years, AACT has grown to be an influential group associated with many outstanding Chinese toxicologists. Every year, we gather at the AACT reception to network and celebrate our achievement. Many of us also attend the AACT Career Development Workshop and listen to the enlightening talks by accomplished toxicologists from industry, academia, and government. To make all these great events happen, a strong financial foundation is the key. Our annual operating budget is approximately \$15K just to keep these events going. While membership fee makes a small portion of our budget, the majority came from the corporate sponsorship.

A while back, we sent the sponsorship letter to all AACT members and urged every member to seek support from your organization. Thanks to your help we already have the following companies pledged to support AACT. I want to take this opportunity to express our sincere appreciation to the generous support from these sponsors and especially those who worked so hard to make this happen. If you haven't had a chance, please consider helping AACT by presenting our sponsor letter to your management. I am optimistic that we will be able to reach our fundraising goal with all your contribution.

- Boehringer Ingelheim
- Covance Shanghai
- L'Oreal
- INNOSTAR
- West China-Frontier PharmaTech
- Wuxi AppTec
- Zai Lab
- Joinn Laboratories
- Genentech

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The toxicity of PM2.5 and the molecular mechanisms underlying

Notes from AACT Webinar 2018 by Dr. Zhen Ren

On November 26, we had the honor to have Dr. Ming-Wei from Taiwan Chung Yuan Christian University to give us a webinar on the topic "PM2.5-Induced Imbalance of Intracellular Reactive Oxygen Species Cause Vascular Dysfunction & Develop Disorder". PM2.5 refers to atmospheric particulate matters (PM) that have a diameter of 2.5 micrometers or less. Since PM2.5 are so small and light, they tend to stay longer in the air than heavier particles. This increases the chances of humans and animals inhaling them into the bodies. Owing to their minute size, particles smaller than 2.5 micrometers are able to bypass the nose and throat and penetrate deep into the lungs and some may enter the circulatory system. Studies have found a close link between exposure to fine particles and premature death from heart and lung disease. Fine particles are also known to trigger or worsen chronic disease such as asthma, heart attack, bronchitis and other respiratory problems.



Dr. Chao started his talk by providing an overview of the air quality around the world. Big metropolitan areas, especially in Asia, suffer greatly from poor air qualities. In Taiwan, where Dr. Chao is based, similar problem is observed. Only Eastern Taiwan meets the standards set by WHO. Dr. Chao explained that the major source of PM2.5 is industrial emissions, which generate 30% of the PM2.5. Other important sources of PM 2.5 include automobile, and BBQ or other cooking techniques especially during holidays. Different sources generate different types of PM2.5, which may have distinct effects on human health. As mentioned above, PM2.5 cause adverse systemic effects, Dr. Chao summarized the top cause of death related to PM2.5, including ischemic heart disease, bronchus and lung cancers, lower respiratory infections, chronic obstructive pulmonary disease, and stroke. According to Dr. Chao, in Taiwan, PM2.5 caused death of 6281 people in 2014 alone, suggesting the urgent requirement of improving the air qualities.

Dr. Chao continued to discuss his research work regarding the molecular mechanisms of the toxicity related to PM2.5. Using an *in vitro* model of endothelial tube network, Dr. Chao and colleagues demonstrated that exposure to PM2.5 can directly disrupt the integrity of endothelial cell-cell junctions, leading to oxidative stress and autophagy in endothelial capillary. Blockage of autophagy partially rescued the PM2.5-induced endothelial apoptosis.

Dr. Chao and colleagues also investigated the effect of PM2.5 on the brain function, especially during embryonic and infant stages. His research demonstrated that PM2.5 caused fetal brain malfunction and development delay, as well as changes of the miRNAs in fetal brain. In addition, PM2.5 increased inflammation and asthma of infants, and increased the amounts of blood vessels in the offspring dentate gyrus. Oxidative stress caused by PM2.5 might be one of the reasons behind these adverse alterations in embryos and infants. Furthermore, Dr. Chao and colleagues demonstrated that glutathione, a known antioxidative factor, might stop PM2.5 from generating oxidative stress and the following damages. Dr. Chao's lecture was well received.

2018-2019 SOT Leadership Roles of AACT members

We are proud that our AACT members have been actively serving the Society of Toxicology and playing important roles on various SOT committees and component groups. We would like to acknowledge their service.

Leadership Roles in Specialty Sections

- 1, **Qihong Huang**, PhD, DABT: Senior Councilor of the Ocular Toxicology Specialty Section.
- 2, **Karin Ke**, PhD, DABT, ERT: President of the Food Safety Specialty Section
- 3, **Robert Li**, PhD, DABT: Senior Councilor of Biotechnology Specialty Section
- 4, **Haitian Lu**, PhD, DABT: Junior Councilor of Regulatory and Safety Evaluation Specialty Section.
- 5, **Zemin Wang**, PhD, DABT: Vice President-Elect of Carcinogenesis Specialty Section.
- 6, **Donna D Zhang**, PhD: President of Mechanisms Specialty Section
- 7, **Yu Zhong**, PhD, DABT: Vice President-Elect of Drug Discovery Toxicology Specialty Section
- 8, **Yin Chen**, PhD: Secretary-Treasurer of Metals Specialty Section

Leadership Roles in special SOT Committees

- 1, **Haiyan Tong**, MD, PhD: Member of Clinician-Scientist Engagement Task Force
- 2, **Xi Yang**, PhD, DABT: Co-Chair of Contemporary Concepts in Toxicology Conferences Committee.
- 3, **Xiaozhong Yu**, M.D, PhD: Member of SOT Board of Publications
- 4, **Wei Zheng**, PhD, ATS: Chair of SOT Board of Publications
- 5, **Tao Wang**, MD, PhD, DABT: FASEB SOT Representatives, FASEB Excellence in Sci Award Committee Rep

Leadership Roles in SOT Regional Chapters

- 1, **Lu Cai**, MD, PhD: Vice President-Elect of Ohio Valley Regional Chapter
- 2, **Yin Chen**, PhD: Councilor of Mountain West Regional Chapter
- 3, **Suk K Leung**, MSc, PhD: Treasurer of Northern California Regional Chapter
- 4, **Zhoumeng Lin**, PhD: Secretary-Treasurer of Central States Regional Chapter
- 5, **Ting Wang**, PhD: Vice President of Mountain West Regional Chapter
- 6, **Wei Xu**, PhD: President of Midwest Regional Chapter
- 7, **Yi Yang**, M.D., PhD, DABT: Councilor of Midwest Regional Chapter.



Upcoming Event:

58th SOT Annual Meeting and ToxExpo
March 10-14, 2019

Baltimore Convention Center, Baltimore, MD

AACT newsletter is currently maintained by Dr. Xi Yang and Dr. Zhen Ren. If you have materials or information to share with us, please contact with either of them via yangxi@gmail.com, or zhen929@gmail.com.
Best Wishes for X'mas and New Year!