

International Society of Exposure Science

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Mission

ISES works to meet humanity's needs for public health and environmental protection through a global community of exposure science professionals. ISES encourages the open exchange of information, provides opportunities for career development, acknowledges and promotes excellence in the practice of exposure assessments and research in the field of exposure science.

For information on membership and to learn more about the ISES, please visit <http://intlexposurescience.org>.

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Acknowledgements

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President's Message

by Paloma I. Beamer

Dear Colleagues,

After spending a few months on leave for the birth of my son, Javier Sol, I am excited to return to work and tackle my next big challenge as President of ISES. While it is always hard to leave a little one at home, I feel so fortunate to return to work that I am passionate about, advancing the field of exposure science. It is a pleasure to collaborate with all of you towards making the world a better place for all children and generations to come.

I would like to thank Judy LaKind for serving as our President these last two years and for co-chairing our annual conference before that. Over these last four years, I know that we have all been impressed and grateful for her boundless energy. During her tenure she has increased member involvement by personally recruiting members to lead and serve on existing and new committees (e.g., Diversity, Communications/ Outreach, Mentorship & Professional Development). Judy also enhanced member recognition with new awards and the Member Spotlight. She increased communication by developing and helping edit our new ISES Newsletter. Perhaps most importantly for the long-term health of our Society, she worked on improving governance (e.g., updating and compliance with bylaws, electoral processes) and developing multiple policies (e.g., finance, anti-harassment) that will lay the path for the future leadership. Judy also exemplified a culture of gratitude. In that spirit, I would like to thank all of you – our ISES members – for all the time you volunteer to help ISES and our discipline continue to move forward.

While Judy has truly left big shoes to fill, I am excited about working with all of you in 2019. As many of you already know, we have transitioned to a new association management company, Wellington. Our new Executive Director is Sarah Dee. Our first goal will be to develop a strategic plan for ISES (last updated in



Welcoming Javier, the newest edition to the Beamer family!

2008). While I personally loathe strategic planning, it is essential for the wellbeing of our Society and to help us achieve our goals. With a new year upon us, I request all of you to ask yourselves the following questions:

- What goals would you like ISES to accomplish in the next 5 years?
- What should the discipline of Exposure Science be in 5 years?

I truly hope that you all take the time to provide input and get involved in this strategic planning. After all this is your Society, and our strategic goals for ISES and our discipline should be collective goals as we continue to work together to achieve our mission.

I look forward to seeing you in Kaunas for our 2019 annual conference (August 18-22) to be held jointly with ISIAQ!

Keep us posted on all your exciting updates for 2019, so we can include you in the newsletter, member spotlights, and email blasts. Don't forget to follow us on Twitter, LinkedIn, and Facebook.

Cheers,



Paloma I. Beamer, Ph.D.
President, International Society of Exposure Science



Thank you Outgoing ISES Boardmembers



Judy LaKind
President



Lisa Baxter
Secretary



Brian Curwin
Government
Councilor



Sonja Sax
Private Sector
Councilor



Cecilia Alcala
Student
Councilor

Welcome 2019 ISES Officers / Boardmembers

Officers



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President



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Marsha Morgan

Private Sector Councilors



Robin Dodson



Karen S. Galea



Jonathan Thornburg

JESEE News

by Richard Peltier, MPH, PhD

It's always rewarding to see our hard work published in our Journal – there is that moment of excitement in knowing that your work is 'out there' and being used by other professionals across our society. But our work is so important for public health, and our research often needs to impact well beyond the peer reviewed literature community.

Tweets, blogs, social postings, and news stories are all ways to publish our results. As someone who has no social media presence whatsoever, I assumed that my own work wasn't really circulating across these platforms because I wasn't doing the posting. It may be surprising to learn that other writers routinely craft news stories or social media postings to their specific audience citing your work published in our Journal, and do so without contacting you.

We have many tools to track who is using our work and where it is being published, through tools like Web of Science or CrossRef or Google Scholar. Of course, this begs the question – how does one keep track of the many non-peer reviewed references – the social media posts, the news pickups, etc. – so that we have a more complete understanding to the impact of our work?

Altmetrics is an outstanding tool that keeps track of all of this information, and is included for every article published in JESEE. Want to know how many tweets have been sent on your paper, or in

what countries they are being sent? Or perhaps you want to know which news agencies have written articles that cite your work? Or maybe you want to see if your paper is grabbing more attention than similar articles? All of this is available to you –

for free – on the journal's home page.



Altmetric score (what's this?)



Check it out for yourself – all newly published articles provide this information, and many older articles do too. Just browse the

journal's home page at <https://www.nature.com/jes/>, select an article, and click on the link to the upper right labelled 'Article Metrics >>'. You'll be surprised to see where your science is showing up in the world!

Rick Peltier is the Deputy Editor-in-Chief of JESEE and has been an associate editor for more than six years. He is an Associate Professor in the Department of Environmental Health Science at the University of Massachusetts Amherst. Contact him anytime - to talk shop, ask a question about the journal, or just send a friendly hello - at rpeltier@umass.edu.

Call for Symposium for ISEE/ISES Asia Chapter 2019

by Wonho Yang and Jin Sung Ra, ISEE/ISES AC 2019 Local Organizing Committee



It is our great pleasure to announce the call for session proposals for the ISEE / ISES AC 2019, which will be held during 17-19 October 2019 in Daegu, South Korea, under the main theme “Harmonizing Environmental Health Solutions for Individuals, Communities, and the Planet”.

Deadline for Symposium proposals is by April 30th, 2019.

The conference is dedicated to providing a highly scientific platform for communication and interaction among scientists, engineers, and decision makers, by programs in the areas of environmental epidemiology, environmental and human exposure, exposure science, environmental chemistry, risk assessment and management, environmental engineering, policy and economics, and life cycle assessment, and other relevant fields. We look forward to receiving your exciting and timely symposium proposals, which will contribute to building an undoubtedly inspiring scientific program in Daegu. To submit a symposium proposal (following the format in the next page), please provide a symposium title, a brief description of the session in < 200 words, and up to four keywords, through the ISEE/ISES AC 2019 secretariat by e-mail.

ISEE/ISES AC 2019 Secretariat

Tel: +82-53-746-8007

Fax: +82-53-742-9007

e-mail: isee.ises.ac.2019@gmail.com

Sample Proposal Format

Proposal Symposium ISEE/ISES AC 2019, Daegu

Proposed Symposium chairs:

- Name1 (Affiliation1)
- Name2 (Affiliation2)

Symposium Title: Title

Session description:

TextTextText

2019 European Toxicology Forum Workshop

Determining Relevant Low-Level Chemical Exposures for Safety Assessments of Consumer Products

May 20–22, 2019 | The Hotel Brussels | Brussels, Belgium



Additional Presentation Opportunities Remain

In order to ensure that all attendees who would like to share their research can do so, the Program Committee has allocated a few additional time-slots for platform presenters. If you are still interested in attending the meeting and sharing your research, please [submit your abstract today!](#)

Abstract Submission Site

Lastly, we would like to make sure that the opportunity to present a poster is always available to you! If you would like to submit an abstract for poster presentation and share your organizations findings, methodologies, models, etc., please submit an abstract for poster presentation and be part of the dialogue.

Summary and Scope of the Workshop

Planned as a 2.5 day workshop, organized under the principles and with the assistance of The Toxicology Forum, this meeting intends to progress towards a broadly accepted framework to assess and position the safety of trace chemicals exposure from consumer products, and in particular from articles and assembled consumer goods. Both experimental-analytical and computational

approaches, and how their respective exposure data are realistic and relevant for safety assessments, will be in scope.

Workshop Scientific Program Sessions and Goals

The workshop is split into five themes that are noted below. Sessions are scheduled covering the main themes. Each session will be comprised of a mix of invited keynote speakers, with the remaining slots determined through an open call for presentation opportunity for all interested participants. The workshop should allow for different stakeholders with potentially opposing views to present their opinion and lead to a constructive scientific debate.

Topic #1: Advances in Analytical Methods: How to Detect and Quantify Relevant Low-Level Chemical Exposure from All Routes?

Topic #2: Experimental and/or Modeling Approaches?

Topic #3: Global Databases for Exposure Information

Topic #4: Guidance for Practitioners, Recommendations for Policy Work and Public Communication

Topic #5: Towards a Risk Assessment Best Practice Framework

Learn more at <https://dialogue.toxforum.org/page/low-level-exposure-workshop>

ISES East Asian Chapter Report

by Satoshi Nakai, Dr. Hlth, Sci., Yokohama National University, Japan, President of ISES EAC (2006-2008)

East Asian Chapter of the International Society of Exposure Sciences (ISES EAC) was established in 2008. East Asia is experiencing a unique environmental health challenges from economic growth, extraordinary advances in technology, natural disaster and environmental deterioration. Although sharing common features of global environmental health issues, this region has different aspects of problems and addresses unique approach to generate future solutions to complex environmental health problems.

Our recent activities are described as follows.

EAC Symposium during ISES annual meeting

We are trying to have a symposium at each ISES annual meeting, although it was impossible to open the symposium during ISES-ISEE 2018. The theme at 2017 ISES conference was “Exposure sciences from east Asian perspectives”. We provide a forum for the presentation and discussion of key environmental health issues facing researchers in Asian countries. We believe that the symposium will be also a magnet for regional researchers as well as other researchers who may be interested in collaboration with this region.

ISEE/ISES Asian chapter Meeting 2018

ISEE Asian Chapter and ISES East Asian Chapter had a joint conference at College of Public Health,

National Taiwan University, Taipei, Taiwan, June 22-24, 2018. The theme of the conference is “Changing environment and healthy generations - How to secure human health in the dramatic changing environments”. More than 350 persons

from the Asian countries such as Taiwan, Japan, South Korea, Malaysia, China, Philippines, Vietnam, Thailand, Indonesia, Singapore and Mongolia attended the conference. Some scientists from Europe, North America and Africa were also attendants. Seven keynote sessions, twelve symposium



sessions, thirteen oral sessions and three poster sessions were opened, and we enjoyed nice talks and discussions. We had an annual member meeting during the conference and some important decisions as follows were made.

ISEE/ISES Asian Chapter Meeting 2019

During the conference, ISES EAC and ISEE AC determined to hold the next joint meeting at Daegu, Korea, Oct 17-19, 2019. Please visit to Korea, even you are not Asian people.

ISES Asian Chapter

We determined to change East Asian Chapter to Asian Chapter via the discussion at this year member meeting at Taipei, Taiwan. We welcome many new members to Asian chapter. If you believe you belong to Asia, please join us.





American Geophysical Union Embraces Intersection Between Geosciences & Health

by Aubrey K. Miller, MD, MPH and Mark M. Shimamoto, MPH

In the past year, the American Geophysical Union (AGU), an international non-profit scientific association with 60,000 members in 137 countries, launched an ambitious new initiative to expand and energize the critical, emerging, interdisciplinary area of “GeoHealth” science. GeoHealth is broadly defined to fully encompass the expansive spectrum that covers earth and atmospheric dynamics, exposure risks, and health impacts. The focus of the initiative is to nurture transdisciplinary collaborations in order to advance our understanding of the complex interactions between our geospheric environment (including earth, water, soils and air) and the health, well-being, and continued progress of human populations in concert with all ecosystems.

Through the new GeoHealth Section, the strength of AGU’s vast community of geoscientists (Hydrology, Biogeosciences, Atmospheric Sciences,

Global Environmental Change, Seismology, Natural Hazards, Mineralogy, and others) can unite to better understand exposures, risk factors, vulnerabilities, and impacts related to health and the environment. In addition, the section reaches beyond the traditional AGU community to engage and partner with other organizations that also focus on promoting health, including leaders in public health, ecology, veterinary and medical sciences, as well as socio-behavioral sciences and public policy.

The GeoHealth section is complemented by AGU’s journal of GeoHealth which provides a collaborative home for disseminating and advancing interdisciplinary research that highlights issues at the intersection of the Earth and environmental sciences, and health sciences. The GeoHealth journal is becoming one of the most exciting new venues for rapid publication of high-impact work in the field. With a focus on the

interface between environmental exposures, processes, and human health outcomes, GeoHealth has published papers that touch on issues on land, in the sea, and in the air.

For example, several papers assessed the impacts of wildfire smoke on human health, and several others examined climate change and impacts on human health. A top-cited paper used new isotopic analyses for lead in ice to better understand changing historical atmospheric lead exposures in conjunction with European industrialization, including declines during the Black Death (1349-1353 C.E.), and the clear role that society has had in spreading this pollutant around the world over the millennia.

Connections to International Society of Exposure Science

Similar to ISES, AGU places a high value on scientific collaborations that advance environmental health science and translation to a healthier world. ISES is a leading example in convening transdisciplinary sciences together to better understand and address hazardous exposures in our environment. The multidisciplinary expertise and interests of ISES members are clearly complimentary to the geosciences community, and have a strong nexus with the evolving AGU GeoHealth initiative.

In 2018, AGU was a supporter of the ISES-ISEE Joint Annual Meeting in October in Ottawa, Canada, to increase awareness about AGU and to generate dialogue and connectivity between the different communities-of-practice. Shortly afterwards, members of ISES were invited to attend AGU's 2018 Fall Meeting in Washington DC, at AGU-member rates. The 2018 Fall Meeting brought over 28,000 attendees across the Earth and space science community, and there were over 30 sessions specifically focused on topics of GeoHealth.

Currently, the GeoHealth Community website provides a forum for different communities to gather and spark new conversations and advance

science discovery that can happen outside of a formalized meeting. With over 700 members, it is a freely available service to the broad science community that simply requires users to create an account to join. Whether you are an epidemiologist, geoscientist, exposure scientist, public health practitioner, decision maker, entomologist, nurse, or interested member of the public, we hope you sign up and join the conversation.

Collectively, improved awareness, communication, and partnerships between the ISES and AGU communities will help to elevate the importance of environmental health at national and international levels, and strengthen efforts to further innovative research, build infrastructure and capacity, and foster vital collaborations towards safeguarding the Earth and humanity.

Aubrey K. Miller, MD, MPH is the President of the AGU GeoHealth Section, and the Senior Medical Advisor for the National Institute of Environmental Health Sciences. He can be reached by email at Miller.Aubrey@nih.gov.

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ACS Green Chemistry Institute® and Exposure Science

by William F. Carroll, Jr., Ph.D. and Mary Kirchhoff, Ph.D.

The vision of the International Society of Exposure Science, “To better our world, its ecosystems, and inhabitants, by creating an international community that advances and integrates exposure science into research and action,” aligns well with the American Chemical Society vision of “Improving people’s lives through the transforming power of chemistry.” Both organizations seek to improve the human condition by applying science to solving global challenges. The ACS Green Chemistry Institute® welcomes the opportunity to partner with ISES to achieve our shared goals.

The mission of the American Chemical Society Green Chemistry Institute (GCI) is to “Catalyze and enable the implementation of green and sustainable chemistry and engineering throughout the global chemical enterprise and the Society.” This focus is critical to the larger mission of the American Chemical Society, which is home to more than 150,000 members worldwide, of “Advancing

the broader chemistry enterprise and its practitioners for the benefit of Earth and its people.” GCI accomplishes this mission through its annual Green Chemistry & Engineering Conference, industry roundtables, education initiatives, and communication strategies.

The Green Chemistry & Engineering Conference brings together over 500 scientists, engineers and related stakeholders from industry, academia, government and other sectors each year for three days of technical presentations, discussions and networking. The 23rd annual conference will be held in conjunction with the 9th International Conference on Green and Sustainable Chemistry in Reston, Virginia from June 11-13, 2019. The theme of the conference is “Closing the Loop,” and additional information is available at gcande.org. We encourage interested ISES members to attend. GCI actively engages industry through its roundtables in the pharmaceutical, chemical

manufacturing, formulators, hydraulic fracturing, and biochemical technology sectors. More than 45 roundtable member companies identify pre-competitive green chemistry challenges and work collaboratively on solutions. The Pharmaceutical Roundtable, for example, has developed several tools, including solvent and reagent guides, to assist companies in making greener decisions. With support from the National Institute of Standards and Technology, the Chemical Manufacturers' Roundtable is identifying alternatives to distillation that are less energy intensive. The alternative separations roadmap will be released later this year.

GCI supports the preparation of future chemists through its education initiatives. Last year, the Committee on Professional Training approved a green chemistry supplement to the ACS Guidelines and Evaluation Procedures for Bachelor's Degree Programs. This supplement, developed by the Committee on Environmental Improvement in collaboration with GCI, provides guidance to faculty members who wish to incorporate green chemistry concepts into the curriculum.

Working with its stakeholders, GCI identified core competencies for chemistry majors to further advance the integration of green chemistry into degree programs. These core competencies support the introduction of systems thinking, a topic not commonly taught to undergraduates, into the chemistry curriculum.

Since 2003, more than 900 graduate students and postdoctoral scholars across the Americas have received advanced green chemistry training at our Summer School on Green Chemistry and

Sustainable Energy. The overall goal of this week-long, residential program is to equip the chemists of the future with the tools needed to create products and processes that are effective, efficient, safe, and benign.

A new focus area for GCI is the link between green chemistry and chemical safety because increased adoption of green chemistry presents an opportunity to create a safer laboratory environment. The safety and green chemistry communities are collaborating on programming at conferences to highlight the connection between greener experiments and safer labs.

Communication and outreach are critical to advancing GCI's mission and raising awareness of the central role that green chemistry and engineering play in achieving a sustainable society. The bimonthly Nexus newsletter informs the community of research advances, green chemistry events across the globe, and funding opportunities. Webinars share timely information on specific topics in green chemistry and engineering. We have more than 21,000 Twitter followers.

William F. Carroll, Jr., Ph.D., is an Adjunct Professor of Chemistry at Indiana University. He can be reached by email at wcarroll@indiana.edu.

Mary Kirchhoff, Ph.D. is the Executive Vice President of Scientific Advancement for the American Chemical Society. She can be reached by email at m_kirchhoff@acs.org.



ACS Green Chemistry Institute
Chemistry for Life®



Environmental Health & Exposure Research to Understand the Gulf Oil Spill

by Aubrey Miller, MD, MPH and Richard Kwok, Ph.D.

The 2010 Deepwater Horizon (DWH) disaster is the largest maritime oil spill, killing 11 workers during the initial explosion and causing incomparable damage to sensitive ecosystems throughout the Gulf coast of the United States. For 3 months, over 210 million gallons of oil spilled into the Gulf of Mexico. Additionally, an unprecedented amount of dispersants (~ 2 million gallons) were used as part of the response and clean-up efforts. This mixture of oil and dispersants impacted over 1,000 miles of the shoreline from Louisiana to Florida.

In response, the National Institute of Environmental Health Sciences (NIEHS) spearheaded novel intramural and extramural research efforts to assess the health impacts on coastal communities affected by the spill and individuals involved in various response and clean-up activities.

Studies were performed through a five-year \$25.2 million DWH Extramural Research Consortia to support an integrated network of population-based and laboratory research at: Louisiana State University; Tulane University; The University of Florida; and University of Texas Medical Branch at Galveston. The mission of the consortium was to explore the health impacts and the community resiliency related to the DWH disaster by fostering collaborative interactions among multidisciplinary, multi-institutional, basic, and clinical investigators, supported by active involvement of community partners. To ensure that the research activities were responsive to the needs of local communities, the universities partnered with more than 45 community organizations to incorporate local concerns and more effectively communicate research findings. The DWH Consortia focused on women and children, pregnancy issues, seafood

safety, the toxicology of PAH exposures, and worker training for people involved in the clean-up.

The intramural Gulf Long-term Follow-up Study (GuLF Study) looked at clean-up workers. Between 2010 and 2013, over 30,000 people joined the study by completing a telephone interview and shared information about their activities during the clean-up and their past and current health problems. Over 11,000 of these participants completed home examinations, which included additional questionnaires and collection of biological and environmental samples. Additionally, 3,500 individuals completed a comprehensive clinical exam with advanced neurologic and respiratory testing.

A team of GuLF STUDY industrial hygienists and exposure monitoring experts worked tirelessly to create a job exposure matrix to categorize individual exposures experienced as part of the oil spill response and clean-up. Efforts included evaluation of over 26,000 personal samples (150,000 individual measurements) from workers associated with the BP Gulf Mexico oil spill cleanup in 2010. The analytes included BTEX chemicals, and total hydrocarbons (THC), calculated as hexane. Some of the samples were analyzed for several additional oil light ends, i.e., cyclohexane, heptane, n-hexane and trimethylbenzenes. Additionally, some samples were analyzed for 2-butoxyl ethanol, a component of the dispersants used in the cleanup effort. Researchers estimated both dermal and respiratory exposures and developed advanced statistical methods to estimate exposures when a considerable portion of the data is censored.

Collectively, these research efforts have led to a better understanding of exposures and health outcomes among clean-up workers and communities impacted by oil spills.

Aubrey Miller, MD, MPH is the Senior Medical Advisor for the Office of the Director at the National Institute of Environmental Health Sciences, part of the National

Institutes of Health. He can be reached by email at Miller.Aubrey@nih.gov.

Richard Kwok, Ph.D. works for the Epidemiology Branch at the National Institute of Environmental Health Sciences, part of the National Institutes of Health. He can be reached by email at Richard.Kwok@nih.gov.





ISES-ISIAQ 2019 Conference, August 18 - 22, 2019, Kaunas, Lithuania

“The built, natural, and social environments: impacts on exposures, health and well-being”

The ISES-ISIAQ 2019 conference chairs would like to provide ISES members with information about our 2019 conference location of Kaunas, Lithuania (including travel details!). The chairs would also like to remind you that meeting registration opens March 6, 2019 and advise you to periodically check the meeting website (<http://isesisiaq2019.org>) for updates and announcements. You can also follow us on Facebook and Twitter!

Kaunas

Kaunas, Lithuania's second largest city balancing a contemporary European point of view and authentic Baltic values, is strategically the most convenient meeting point in Lithuania. It is also an important crossroads between the Baltic countries,

Scandinavia, Central and Eastern Europe for both travelling by land and air.

In Kaunas, contemporary business centers (with state-of-the-art technology) are complemented by an inspiring layer of interwar modernism (protected by the European Heritage label and on its way to UNESCO) spread over the city. Kaunas is compact and conveniently designed (the trip to or from the local airport takes less than 30 minutes), and the city can be explored in a couple of hours between the meetings or on the way to dinner from your hotel of choice. Speaking of dinner...

The experienced chefs of Kaunas restaurants are eager to exceed the expectations of the most sophisticated eaters, offering a wide array of time-

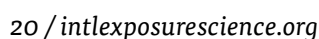
The conference itself will take place in Zalgirio Arena, which is one of the biggest multifunctional arenas in the Baltic region. The Arena opened in 2011 and has up to 20,000 seats for concerts and sporting events, but is also used for conferences and exhibitions.

Travel to Kaunas

Lithuania is an EU member country and Schengen Area member. Citizens of EU countries and 30 other states, including Australia, USA, Japan, New Zealand, South Korea, etc., can stay in the Schengen Area for a period of 90 days without a special visa.

1. By plane directly to Kaunas. Operating air companies: LOT, Wizzair, Ryanair.
2. By plane to Vilnius (100 km from Kaunas). Operating air companies: SAS, Lufthansa, Wizzair, Turkish Airlines, Norwegian, Norcida, Finnair, Brussels airline, Austrian, airBaltic, UIA, LOT, Small planet, Ryanair, RusLine, GetJet, Belavia, Aeroflot.
3. Travel between Vilnius and Kaunas
 - Train. Vilnius -> Kaunas. Duration: 1:02 -1:40. Cost: 4.80 - 6.60 Eur.
www.traukiniobilietas.lt/portal/en
 - Bus. Vilnius -> Kaunas. Duration: 1:25-1:40. Cost: 6.08 - 6.65 Eur. www.autobusubilietai.lt
 - City Bee car rental. From Vilnius airport to Kaunas centre the price is around 25 Eur.
<https://www.citybee.lt/en>
 - Taxi. Vilnius -> Kaunas. Cost: 60-100 Eur.





projects. Find out more: <https://www.facebook.com/kaunas.biennial/>

Open Kitchen

Open Kitchen is a street food festival. Open Kitchen offers street food, live music, outdoor games and entertainment, and good atmosphere.

Find out more: <https://www.facebook.com/openkitchenkaunas/>

