

CARCINOGENESIS

Specialty Section | Society of Toxicology | Founded 1986

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Letter from the President

Dear CSS Members,

Our Carcinogenesis Specialty Section (CSS) was one of the first Specialty Sections organized within the Society of Toxicology (SOT). With the recent annual cancer progress report from The American Association for Cancer Research, the implications for chemical carcinogenesis and the relevance of understanding carcinogenesis for reducing and preventing the risk of cancer development highlights the critical role of our study section and shows there is still much work to do. The report shows death rates from cancer between 1991 and 2021 are down, likely reflecting improvements in diagnosis, prevention, and treatment. Importantly, it also shows cancer incidence is becoming more common and particularly impacting people at younger ages, indicating more basic and translational toxicology research is needed to understand the causes of cancer, including exposure to chemicals of risk, early biology of carcinogenesis to ultimately improve treatments and the evaluation and risk assessment of cancer hazards. It will be important in the coming decades that we refresh and renew our efforts to advance the understanding of carcinogenesis including the utilization of the next generation state-of-the-art technology and assays.

CSS continues to do its part to help promote and consider carcinogenesis. We continue to support and provide important and informative sessions at the SOT Annual Meeting and through webinars during the year. We also host a reception at the SOT Annual Meeting where we can gather to connect, catch up, and share our news from the year while also celebrating the next generation of CSS researchers through our awards program. Our newsletters, websites, and email strive to highlight these events for you throughout the year. We welcome your ideas and offerings for more sessions and webinars. Please reach out to CSS leadership to share your ideas and perspectives and for guidance on how to propose a session or a webinar. I would like to thank everyone who submitted proposals for carcinogenesis related topics for continuing education, symposia, workshops, and roundtables both for the past SOT meeting in Salt Lake City, Utah and for the upcoming SOT Annual Meeting in Orlando, Florida.

For CSS, encouraging and investing in young emerging scientists to help us tackle the challenge of cancer in the coming decades remains a key focus. We offer a total of seven CSS awards to graduate students, postdoctoral, and junior faculty. We congratulate the seven 2024 Awardees (see pages 3-6) and all of the nominees, for it is indeed an honor to be nominated for these important awards. Each year, we receive outstanding submissions, and

selecting the award winners is challenging. I thank the judges from last year, Jia-Sheng Wang, Maria Lucia Zaidan Dagli, Chad Brocker, Jon Urban, June Yan, and Kelly Magurany, for their efforts to choose the best of the best. As we look forward to the 2025 SOT meeting, I encourage everyone to consider nominating students, postdoctoral fellows, and junior faculty candidates for the 2025 awards. Award descriptions and application requirements can be found on the CSS website, and any award-related questions can be directed to William Bisson, our Vice President who will be overseeing the Awards Committee.

It is important that we meet the rising numbers of people with cancer with an increase in the number of scientists focused on the challenge of carcinogenesis. You can help with this challenge by encouraging colleagues to join CSS to increase our membership and enhance our voice and impact within SOT. I encourage each of you to invite a friend, a colleague, and/or a trainee to join CSS as a member and to come to our reception in March. Personal encouragement can have a major impact on someone's Specialty Section choice. Let's expand our CSS footprint at SOT!

If you are interested in becoming a part of the CSS leadership, we will have three positions open for 2025: VP-Elect, Councilor, and Graduate Student Representative. Please consider nominating yourself or your colleagues who are interested in serving the CSS community. Our past president, Jia-Sheng Wang, will be leading the Nomination Committee. Please contact him with any questions regarding the nomination process.

I look forward to the year's activities and to working with you throughout the year. Have a great Fall season!

Sincerely,

John Pierce Wise, Sr. PhD

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Call for **NOMINATIONS!**

For open 2025 officer positions

Attention CSS Members!! Please consider nominating yourself or a colleague for the upcoming open positions:

- **VP-elect**
- **Councilor**
- **Graduate Representative**

Congratulations to our 2024 SOT Award Winners!

Here are the awards and awardees:

Dharm V. Singh Graduate Student Endowment Award:

First Place: Samantha Musso Michigan State University



Second Place: Akiterini Stavrou NYU Grossman School of Medicine



Third Place: Aggie Williams University of Louisville



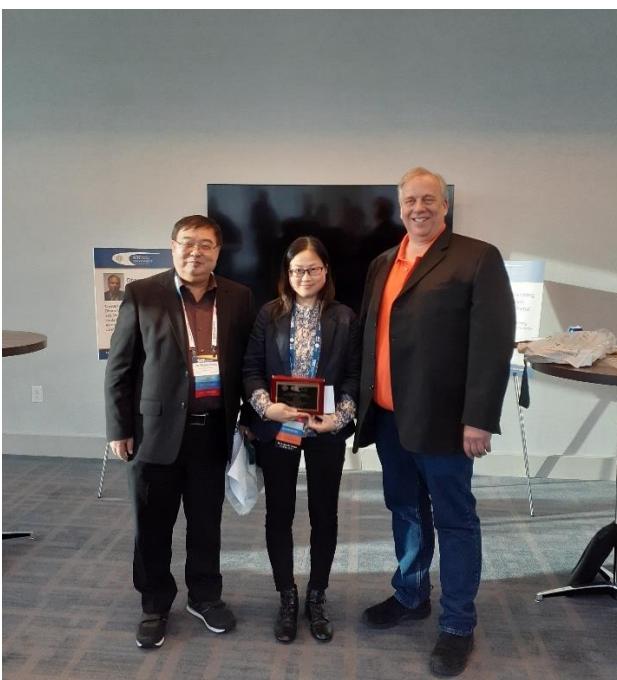
Environmental Carcinogenesis Merit Award for Graduate Students:

Idoia Meaza Isusi University of Louisville



Environmental Carcinogenesis Merit Award for Postdoctoral Researchers:

Haiyan Lu University of Louisville



Carcinogenesis Specialty Section Young Investigator Award

Jamie Young Wise University of Louisville



James A. Swenberg Carcinogenesis Merit Award for Junior Faculty Members:

Sandra S. Wise University of Louisville



Celebrating Member Accomplishments

Publications

Corton JC, Ledbetter V, Cohen SM, Atlas E, Yauk CL, Liu J. A transcriptomic biomarker predictive of cell proliferation for use in adverse outcome pathway-informed testing and assessment. 2024. *Toxicol Sci*. Aug 13:kfae102. doi: 10.1093/toxsci/kfae102.

Corton JC, Matteo G, Chorley B, Liu J, Vallanat B, Everett L, Atlas E, Meier MJ, Williams A, Yauk CL. A 50-gene biomarker identifies estrogen receptor-modulating chemicals in a microarray compendium. 2024. *Chem Biol Interact*. May 1;394:110952. doi: 10.1016/j.cbi.2024.110952. Epub 2024 Apr 2.

Faske JB, Myers MB, Bryant M, He X, McLellen F, Bourcier T, **Parsons BL**. CarcSeq detection of lorcaserin-induced clonal expansion of Pik3ca H1047R mutants in rat mammary tissue. 2024. *Toxicol. Sci*. 201: 129-144.

Brasky TM, Jager LR, Newton AM, **Li X**, Loomans-Kropp HA, Hays JL, Margolis KL, Luo J. Use of non-steroidal anti-inflammatory drugs and pancreatic cancer risk in the Women's Health Initiative. *Cancer Epidemiology, Biomarkers & Prevention*. 2024. *Cancer Epidemiol Biomarkers Prev*. Jun 20.

Li X, Wang Z, Wu Q., Klaunig, JE. Evaluating the mode of action of perfluorooctanoic acid-induced liver tumors in male Sprague-Dawley rats using a toxicogenomic approach. *Journal of Environmental Science and Health, Part C*. 2024. Mar 18:1-25.

Schrenk D, Allemand A, Fahrer J, Harms H, **Li X**, Lin G, Catherine M, Mulder P, Peijnenburg A, Pfuhler S, Punt A, Sievers H, Troutman J, Widjaja F. Toxins in Botanical Drugs and Plant-derived Food and Feed –from Science to Regulation: A Workshop Review. *Planta Medica*. 2024. Mar;90(3):219-242.

Chen S, **Li X**, Wu Q, Li Y, Puig M, Moulin F, Choudhuri S, Gingrich J, Guo L. Investigation of cannabidiol-induced cytotoxicity in human hepatic cells. *Toxicology*. 2024. Aug;506:153884. doi: 10.1016/j.tox.2024.153884. Epub 2024 Jul 14.

Kouokam, J. C., Speer, R. M., **Meaza, I.**, Toyoda, J. H., **Lu, H.**, & **Wise, J. P., Sr.** (2024). Transcriptomic analysis reveals particulate hexavalent chromium regulates key inflammatory pathways in human lung fibroblasts as a possible mechanism of carcinogenesis. *Toxicology and applied pharmacology*, 116889. Advance online publication. <https://doi.org/10.1016/j.taap.2024.116889>

Wise, J. T. F., Lu, H., **Meaza, I.**, Wise, S. S., Williams, A. R., Wise, J. Y., Mason, M. D., & **Wise, J. P., Sr** (2024). Prolonged Particulate Hexavalent Chromium Exposure Induces DNA Double-Strand Breaks and Inhibits Homologous Recombination Repair in Primary Rodent Lung Cells. *Biological trace element research*, 10.1007/s12011-024-04136-1. Advance online publication. <https://doi.org/10.1007/s12011-024-04136-1>

Lu, H., Toyoda, J. H., Wise, S. S., Browning, C. L., Speer, R. M., Croom-Pérez, T. J., Bolt, A., **Meaza, I.**, & **Wise, J. P., Sr.** (2024). A whale of a tale: whale cells evade the driving mechanism for hexavalent Chromium-Induced chromosome instability. *Toxicological sciences : an official journal of the Society of Toxicology*, kfae030. Advance online publication. doi.org/10.1093/toxsci/kfae030

Lu, H., Wise, S. S., Speer, R. M., Croom-Perez, T. J., Toyoda, J. H., **Meaza, I.**, Williams, A., **Wise, J.P., Jr**, Kouokam, J. C., Young Wise, J., Hoyle, G., Zhu, C., Ali, A. M., & Wise, J.P., Sr (2024). Acute particulate hexavalent chromium exposure induces DNA double strand breaks and activates homologous recombination repair in rat lung tissue. *Toxicological sciences: an official journal of the Society of Toxicology*, kfae076. Advance online publication. <https://doi.org/10.1093/toxsci/kfae076>

Vielee, S. T., Isibor, J., Buchanan, W. J., Roof, S. H., Patel, M., **Meaza, I.**, Williams, A., Toyoda, J. H., **Lu, H.**, Wise, S. S., Kouokam, J. C., Young Wise, J., Abouissa, A. M., Cai, J., Cai, L., & **Wise, J. P., Jr** (2024). Employing a Toxic Aging Coin approach to assess hexavalent chromium (Cr[VI])-induced neurotoxic effects on behavior: Heads for age differences. *Toxicology and applied pharmacology*, 489, 117007. Advance online publication. <https://doi.org/10.1016/j.taap.2024.117007>

Vielee, S. T., Isibor, J., Buchanan, W. J., Roof, S. H., Patel, M., **Meaza, I.**, Williams, A., Toyoda, J. H., **Lu, H.**, Wise, S. S., Kouokam, J. C., Young Wise, J., Abouissa, A. M., Cai, J., Cai, L., & **Wise, J. P., Jr** (2024). Female Rat Behavior Effects from Low Levels of Hexavalent Chromium (Cr[VI]) in Drinking Water Evaluated with a Toxic Aging Coin Approach. *Appl. Sci.* 2024, 14(14), 6206; <https://doi.org/10.3390/app14146206>

Tariq Ahmad Sheikh, Shahid Yousuf Ganie, Darakhshan Javaid, Deepa Yadav, and **Mohd Salim Reshi***. *Apium leptophyllum: Phytochemical Analysis and Cytotoxicity Evaluation*. *Pharmacological Research-Natural Products* 2024; 100075.

Younis Ahmad Hajam, Hilal Ahmad Rather, Neelam, Rajesh Kumar, Muddasir Basheer, **Mohd Salim Reshi**. A review on critical appraisal and pathogenesis of polycystic ovarian syndrome. *Endocrine and Metabolic Science*. 2024; 100162

Shahid Yousuf Ganie, Darakhshan Javaid, Ajeet Singh, Fozia Jawaad, Syima Anjum, Minakshi Kumari, Shashank K Singh, Madhulika Bhagat, **Mohd Salim Reshi***. Chemoprofiling and in vitro Evaluation of Anticancer, Antioxidant and Antibacterial Activities of Asparagus racemosus (Willd). *Pharmacological Research - Natural Products*. 2024; 100015

Shahid Yousuf Ganie, Darakhshan Javaid, Younis Ahmad Hajam, **Mohd Salim Reshi***. Arsenic Toxicity: Sources, Pathophysiology and Mechanism. *Toxicology Research*. 2024.

Senga S, **Bisson W**, Colacci A. 2024 Key characteristics of carcinogens meet hallmarks for prevention-cutting the Gordian knot. *Frontiers in Oncology*. In press. DOI: 10.3389/fonc.2024.1420687

Bisson W, Liby K, Bernard, J. 2024 Editorial: Further precision medicine and cancer prevention through novel insights in molecular and chemical carcinogenesis. *Frontiers in Oncology*. In press.

Presentations

Parsons BL. Clonal Expansion of Cancer Driver Mutants by CarcSeq: A Biomarker of Carcinogenicity. ICCVAM Method Developers Forum New Approaches for Carcinogenicity Testing, August 21-22, 2024, Online. <https://ntp.niehs.nih.gov/go/developers-forums>

Meaza I. Seminar presentation for the Brown Cancer Center University of Louisville seminar series titled: Chromate Chronicles: Mapping Shifts in the Somatic Genomic Landscape

Meaza I. Platform presentation in the symposium “Mechanisms of Carcinogenesis” at Society of Toxicology 2024. Talk titled “Particulate Hexavalent Chromium Targets the Expression of Genes Involved in Lung Cancer and DNA Repair Pathways in Human Lung Cells”.

Mohd Salim Reshi. “Transition of Tradition to Technology: Role of Phytotherapy in Cancer Research” During three-day “International Conference on Monitoring Biodiversity for Action (ICMBA-2024)” organized by the Department of Zoology, University of Kashmir, India from June 25–27, 2024.

Bisson W. 2024. Framework for evaluating the level of evidence of carcinogenicity for mechanistic studies: The Report on Carcinogens Handbook. SOT ANNUAL MEETING 2024- March 2024- Salt Lake City, UT, USA.

Book Chapters

Younis Ahmad Hajam, Disksha, Rajesh Kumar, and **Mohd Salim Reshi**. Reproductive Physiology and Breeding Biology of Rainbow Trout (*Oncorhynchus mykiss*). In *Coldwater Fisheries and Aquaculture Management*. Mohd Ashraf Rather, Faisal Rashid Sofi, Adnan Amin, Kawkabul Saba (eds.) Apple Academic Press, 2024. 259-278.

Invited Services

Mohd Salim Reshi. Invited as Expert/ Judge: during 39th M P Young Scientist Congress & Science festival organized by MPCST Bhopal & hosted by Madhav Institute of Science & Technology, Gwalior, M.P. India held during February 21 – 23, 2024

Mohd Salim Reshi. Chaired Session, “Gaps in Biodiversity Research and Sustainability”: During three-day “International Conference on Monitoring Biodiversity for Action (ICMBA-2024)” organized by the Department of Zoology, University of Kashmir, India from June 25–27, 2024.

Idoia Meaza. Member of organizing committee of the International Society of Trace Element Research in Humans annual meeting in Murcia 2024

Relevant News

The Wise Laboratory was featured in a video on the SOT TV channel titled: Of Whales and Men: Tales from The Wise Laboratory. Full video can be seen here: https://www.youtube.com/watch?v=8tYYQvehl2I&list=PL9CZabk3nD4Fk-YSaLfA_660Or1bUd1H&index=12

John Pierce Wise, Sr., Ph.D., Chosen for National Institute of Environmental Health Science’s (NIEHS) Story of Success for the NIEHS website. Story can be seen here: <https://www.niehs.nih.gov/research/supported/success/2024/wise>

The Carcinogenesis Specialty Section offers three awards:

- ❖ CSS Dharm Singh Carcinogenesis Graduate Student Endowment Award
- ❖ CSS Environmental Carcinogenesis Merit Award for Graduate Students
- ❖ CSS Environmental Carcinogenesis Merit Award for Postdoctoral Researchers
- ❖ CSS James A. Swenberg Carcinogenesis Merit Award for Junior Faculty Members
- ❖ CSS Postdoctoral Researcher and Young Investigator Award

Nominations and/or applications for 2025 CSS Awards are now being accepted!

Last day to apply is January 12, 2025—Apply Today!!

Apply to the CSS awards [here](#)

Webinar announcements

SOT CSS, MSBSS, and Toxicologists of African Origin SIG Cosponsored Webinar

Title: Deeper understanding of chemical early carcinogenesis for the development of new and more effective preventive strategies, October 4, 2024

[**Register Here**](#)

SOT CSS and Women in Toxicology Co-Sponsored Webinar

(1) Introduction to Toxicology and overview of Safety Pharmacology (2)

Genotoxicity/carcinogenicity and Reproduction toxicology, October 25, 2024

[**Register Here**](#)

For detailed webinar registration information please follow SOT announcements or check our [Events Page](#)