Letter from the President

Dear CSS Members,

It was very nice to have met many of you at the 2023 SOT Annual Meeting in Nashville, TN. I am honored to serve as the CSS president in 2023–2024, and I am very fortunate to have a strong, enthusiastic, and dedicated leadership team who started working even before the start of their term on May 1, 2023 (please see the Current CSS Officers list below). I would also like to extend my heartfelt thanks to those officers who rotated off for their service.

We had a very successful year in 2022–2023. With the devoted efforts of the Board members and great support of our members, CSS organized two webinars: “Integrating Computational Tools into Carcinogenicity Assessments” consisting of four speakers and “Revised Approach for Carcinogenicity Hazard Classification: Potency and Mode of Action Considerations” consisting of two speakers. We also organized a series of trainee webinars on subjects of interest to our Specialty Section. We updated our CSS website with the new logo and images, and our communications committee produced two high quality newsletters. We sponsored 3 sessions (two workshops and one symposium) at the 2023 SOT Annual Meeting and had an excellent CSS Business Meeting/Reception which drew great attendance in Nashville, TN.

We selected 7 recipients of the CSS awards for graduate students, postdoctoral, and junior faculty (see the 2023 Awards on page 3). Thanks to everyone who applied for CSS awards. We received many outstanding submissions and selecting award winners this year was very challenging. In addition to congratulating our recent award winners, I would like to remind everyone that the deadline for the next round of CSS awards is January 3, 2024. Awards descriptions and application requirements can be found on the CSS website and any award-related questions can be directed to our Award Committee. Please start thinking about the abstracts for your students, postdocs, and junior faculty who plan on submitting applications for the next year’s awards. Also, please encourage your students and postdocs to join the CSS and let them know about the opportunities and awards offered through CSS.

The CSS Board has kept very active and busy schedules. We reorganized our Program Committee (led by the Vice President, Dr. John Wise, Sr.), Award Committee (led by Immediate Past President,
Dr. Chad Brocker), and the Communication Committee (co-led by Drs. Jon Urban and Kelly Magurany). I would like to thank all of those who submitted proposals for carcinogenesis related topics for continuing education, symposia, workshops, and roundtables for the 63rd Annual Meeting held next March at the Salt Palace Convention Center in Salt Lake City, UT.

Many thanks are owed to our members and officers who were involved in the CSS during the past year, especially those who participated in organizing and presenting well-received webinars. We continue to provide our members with webinars and welcome ideas and proposals. If you have ideas for a webinar or webinar series or are interested in presenting, please contact the CSS Communication Committee. In addition, we will have three positions open for 2024: VP-elect, Secretary/Treasurer, and Councilor. Please consider nominating yourself or your colleagues who are interested in serving the CSS communities. Our past president, Chad Brocker, will be leading the nomination committee. Please contact him with any questions regarding the nomination process.

I look forward to working with you throughout the year.

Sincerely,

Jia-Sheng Wang, PhD, ATS Fellow
Congratulations to our 2023 CSS Award Winners!

Dharm V. Singh Graduate Student Endowment Award

Shivani Singla
First Place
National Institute of Pharmaceutical Education and Research, India

Christina Klotz
Second Place
Julius-Maximilians-Universität Würzburg

Manasi Kotulkar
Third Place
University of Kansas Medical Center

Idoia Meaza Isusi
Fourth Place
University of Louisville
Environmental Carcinogenesis Merit Award

Aggie Williams
Graduate Student Winner
University of Louisville

Masato Ooka
Postdoctoral Winner
National Center for Advancing Translational Sciences, NIH
Postdoctoral & Young Investigator Award

Haiyan Lu
University of Louisville

James A. Swenberg Carcinogenesis Merit Award

Wentao Li
University of Georgia
Celebrating Member Accomplishments

**Virunya Bhat**
Became a Fellow of the Academy of Toxicological Sciences (ATS)

**Anupam Dhasmana**


**Haiyan Lu**

**Annual Meeting of Genetic Toxicology Association Early-Stage Investigator Award**, the Annual Meeting of the Genetic Toxicology Association, Newark, Delaware, May 2023.

**Changed jobs to Research Associate**

**Aikaterini Stavrou**

**North American Graduate Fellowship by ACT.** Fall 2023

**Jia-Sheng Wang**

**William Bisson**

**Chris Corton**


**Mariam Habil**
Habil MR. (2022). Double-edged sword nature of N-acetyltransferase polymorphisms. OVSOT Annual Fall meeting; October 2022, Louisville, KY, USA.

Habil MR. Salazar-González RA, Doll MA, Hein DW. Effect of human N-acetyltransferase 1 allelic variants on metabolism, mutagenicity, DNA damage and oxidative stress induced by 3,4-dimethylaniline in Chinese hamster ovary cells. Research Louisville; September 2022, Louisville, KY, USA.

Student speaker for Winter commencement ceremony at University of Louisville

**Awarded PhD in Pharmacology and Toxicology (University of Louisville)**

**Idoia Meaza Isusi**


2023 Health and Environmental Science Institute, Genetic Toxicology Technical Committee Professional Development Award.

1st place Metals Specialty Section Graduate Student/Postdoctoral Research Award, Society of Toxicology.

2023 Honorary mention for the 2nd place Hispanic Organization of Toxicologists (HOT) Travel Award.

2023 Society of Toxicology Outstanding Graduate Student Leadership Award.

John P. Wise, Sr.


Xiang Xue


Xue X. Hypoxia-inducible factor 3alpha1 increases iron uptake and epithelial-to-mesenchymal transition to drive colorectal cancer liver metastasis. Keystone Symposia-Metastasis(Z1), Vancouver, Canada. May 10, 2023

Xue X. IDDF2023-ABS-0059 Iron promotes glycolysis to drive colon tumorigenesis. Hongkong, China, ePoster. June 10, 2023

Promoted to Associate Professor

Errol Zeiger


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We want to hear from you! Save your accomplishments and look out for a request to share in early 2024!
THE CARCINOGENESIS SPECIALTY SECTION OFFERS FIVE AWARDS:

- CSS Dharm V. 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 2024 CSS Awards are now being accepted!

Last day to apply is January 3, 2024—Apply Today!

Apply for a CSS Award!

Upcoming CSS Webinar: Register!

Carcinogenomics - Assessing the tumorigenic potential of chemicals through genomic biomarkers to reduce the reliance on the rodent cancer bioassay

February 23rd, 2024
10:00AM to 11:00AM EST

As part of the safety assessment for new agrochemicals and pharmaceuticals the rodent cancer bioassay have been a long-required study for regulatory assessment of carcinogenic hazard and risk. There is growing recognition across broad sectors of the scientific community that use of genomic biomarkers has the potential to reduce the need for conventional rodent carcinogenicity studies of industrial chemicals, agrochemicals, and pharmaceuticals through a weight-of-evidence approach. The goal of this research is to construct and qualify liver transcriptomic biomarkers of key molecular events (MIE) in short-term rat studies that inform on liver tumorigenic risk in the rodent cancer bioassay. This webinar describes a collaborative approach launched to develop and qualify biomarker gene expression panels that measure widely accepted molecular pathways linked to tumorigenesis and their activation levels to predict tumorigenic doses of chemicals from short-term exposures. Success from these efforts will facilitate the transition from current heavy reliance on conventional rodent cancer bioassays to more rapid animal- and resource-sparing approaches for mechanism-based carcinogenicity evaluation supporting internal and regulatory decision-making.

Speaker: Keith Tanis, Ph.D., Director, Systems Toxicology, Merck & Co.
Talk: Regulatory perspective and background to this project.

Speaker: Connie Mitchell, Ph.D., Senior Scientific Program Manager, Health and Environmental Sciences Institute
Talk: Goals and objectives of the carcinogenomics project.

Speaker: Chris Corton, Ph.D., Research Biologist, US Environmental Protection Agency
Talk: Knock-out study overview and progress to date, including the plans for next steps following this research currently in progress.
IARC Monographs: Transparency in the Process of Cancer Hazard Identification

Aline de Conti, Solene Quennehen, Federica Madia, Mary Schubauer-Berigan
IARC Monographs Programme, Evidence Synthesis and Classification Branch, International Agency for Research on Cancer

The Monographs Programme of the International Agency for Research on Cancer (IARC) is an established cancer hazard identification programme that provides a scientific basis for governmental and personal efforts to prevent cancer by reducing exposure to known and suspected human carcinogens. The scope of the 1045 agents that have been evaluated expands beyond chemicals to include physical and biological agents, occupational exposures, and personal habits. The IARC Monographs Programme is committed to transparency. The whole evaluation process, from agent nomination to overall classification, is fully described in the Preamble to the IARC Monographs, which depicts the highest standards of scientific and ethical conduct. Here we discuss the principles and procedures currently in use.

The selection of an agent for evaluation is based on evidence of human exposure and some evidence or suspicion of carcinogenicity. Every 5 years, IARC convenes an Advisory Group to recommend priority agents for future review. Agents can be nominated by the general public, scientists, or government agencies worldwide. Currently, IARC is requesting nominations for agents to be evaluated in the years 2025–2029. A newly formed Advisory Group will review all nominations in March 2024.

Each evaluation starts with the selection of an international Working Group of experts. The rationale for how IARC convenes expert groups was clarified in 2019 in the updated Preamble, which emphasizes the necessity for relying on international experts who are free from conflicts of interest, and clearly describes current procedures for evaluating conflicts of interest. It is important to note that a Call for Experts is announced approximately 1 year before each meeting. Scientists who wish to be considered as a Member of the Working Group can self-nominate. Eligible scientists generally have published significant research related to the exposure or carcinogenicity of the agents that will be reviewed. Nomination of women and of candidates from low- and middle-income countries is particularly encouraged. The Working Group, which is responsible for the scientific review and evaluations, comprises subgroups of experts in the fields of: (a) exposure characterization; (b) cancer in humans; (c) cancer in experimental animals; and (d) mechanistic evidence. In addition to the Working Group, four categories of participants can be present at Monographs meetings: Invited Specialists who have critical knowledge concerning the agent being evaluated; Representatives of national and international health agencies that are interested in the subject of the meeting; and Observers who have relevant scientific credentials may be admitted in limited numbers. These participants do not influence the evaluation of carcinogenicity. In addition, the process is assisted by the IARC Secretariat, which consists of IARC scientists with relevant expertise who coordinate all aspects of the evaluation and ensure adherence to the Preamble throughout the development of the scientific review.

Three streams of scientific evidence are considered for each evaluation: studies of human cancer, studies of cancer in experimental animals, and mechanistic evidence. A systematic assessment of publicly available literature is conducted, and discussions and deliberations take place during an 8-day meeting in Lyon, France. The overall conclusion regarding cancer causation comes from an integration of the three streams of evidence and represents the consensus of the Working Group of experts. To date, 127 agents have been classified as carcinogenic to humans (Group 1), 95 as probably carcinogenic (Group 2A), 323 as possibly carcinogenic (Group 2B), and 500 as not classifiable as to its carcinogenicity (Group 3).
Many of the evaluations of agents classified as Group 1 have had an impact on public-health policy for cancer prevention and public health policies. Volume 83 re-evaluated the evidence on the carcinogenicity of tobacco smoking and revealed second-hand tobacco smoke as a Group 1 carcinogen, with sufficient evidence for lung cancer. This classification has led to smoking bans in public spaces in many countries worldwide. In Volume 100D, it was observed that ultraviolet radiation-emitting tanning devices increase the risk of melanoma of the skin and of the eye, and that there is also a positive association with skin squamous cell carcinoma. After IARC published these conclusions, several organizations, including the World Health Organization (WHO), developed policies banning or limiting indoor tanning. Recently, the IARC Monographs Programme has classified occupational exposure as a firefighter as carcinogenic to humans (Group 1) based on sufficient evidence for an increased risk of mesothelioma and bladder cancer. This classification has led to intense interest among researchers, firefighting health and safety organizations, and the public in finding ways to reduce carcinogenic exposures among firefighters. Additionally, new regulations are being developed to protect firefighters.

For the agents classified in Group 2, the Working Group identified limited evidence for cancer in humans or, in cases in which evidence in humans was not available or was found inadequate, there was sufficient evidence of carcinogenicity in experimental animals and/or strong mechanistic evidence. This category is divided into higher (Group 2A) or lower (Group 2B) degrees of evidence. Data from cancer in experimental animals and mechanistic evidence have been important in assigning chemicals to Group 2 and particularly to Group 2B. Specifically, the category 2B applies when only one of the following evaluations has been made by the Working Group: limited evidence of carcinogenicity in humans; sufficient evidence of carcinogenicity in experimental animals, or strong evidence that the agent exhibits key characteristics of carcinogens. This category especially signals the need for more research on the agent being evaluated. In general, agents classified as Group 2A have been the subject of more extensive research than have agents classified in Group 2B, and the Working Group has made at least two of the above highlighted evaluations including at least one that involves either exposed humans or human cells or tissues.

Finally, 500 agents selected for evaluation on the basis of evidence of human exposure and some evidence or suspicion of carcinogenicity were classified in Group 3. These agents presented inadequate evidence regarding carcinogenicity in humans, either limited or inadequate evidence for cancer in experimental animals, and either limited or inadequate mechanistic evidence. In addition, this category includes agents that present strong evidence that the mechanism of carcinogenicity in experimental animals does not operate in humans.

The strength of the IARC Monographs Programme is the structure and transparency of its approach in providing its findings consistently across agents and classifications. This approach ensures uniformity across monographs and over time. Recently, the IARC Monographs has conducted two scientific workshops, which tackled several topics, including: (i) the assessment of bias in human cancer studies for cancer hazard evaluation, and (ii) the furtherance of the use of 10 key characteristics (KCs) of carcinogens. The activities will advance methodologies used by the IARC Monographs, enhance consistency and transparency in its evaluations, and expedite cancer hazard identification.

We welcome applications from the research community of the Specialty Section Carcinogenesis of the Society of Toxicology to participate in the IARC Monographs evaluations. If you are interested in receiving updates from the IARC Monographs, please subscribe to our newsletter by contacting imonews@iarc.who.int.