



NEWSLETTER

International Society of Chemical Ecology

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— Important Date —

31 January 2025

Deadline for nominations of a new vice-president, councilors, and candidates for ISCE awards

Message from the Past-president

Dear ISCE members,

It has been great to serve as president of your society. It was fun and, thanks to our former president Nicole van Dam and the other members of the executive committee, it was rather easy. It was a good year, with as highlight the superbly organized annual meeting in Prague. Many thanks to Pavlina, Robert, Anna and their team! Overall, the ISCE is in good shape. Our funds are in the very competent hands of our treasurer Kerry Mauck. Most of our main sponsors have committed again, and I would like to particularly thank Coby Schal, Jocelyn Millar and Walter Leal for helping to get some of them back on board. Corrine and Cesar Rodriguez-Saona have wonderfully transformed and updated our website and have taken the lead in revitalizing our presence on social media, which before was very successfully initiated and coordinated by Christelle Robert. Gary Felton continues to do a great job as editor-in-chief of

the Journal of Chemical Ecology. Please help him with this and keep the journal in mind when you are reflecting on where to send your next top manuscript; publishing in the JCE guarantees that your true peers will learn about and cite your work. I am also particularly excited about the fact that the society will now be in the hands of Jeremy Allison (our current president) and after him Rob Raguso. Their experience, competence and commitment to the society will ensure that the ISCE will continue to thrive. Please think about how you can contribute yourself; encourage everyone in your group to become a member and consider to offer your candidacy to become a councilor. You will discover that serving the society is mutually beneficial and can be very enjoyable and satisfying.

There were sad moments too, as we lost some of our dearest society members. One of the most notable members to depart, Jeremy McNeil, set the record in faithfully attending our annual meetings for more than 40 years. As a personal friend to many, including me, he will be dearly missed. His contagiously motivating attitude will continue to inspire the generations that he helped to educate on multiple continents. In this spirit I hope to continue with my own modest contributions. I am now officially retired from my position at the University of Neuchâtel but maintain a small research group there with European funding. Simultaneously, I will be working at a Chinese and an American University. Probably naïvely, I hope to play a small role in bringing these and other countries together and promote collaborative efforts that may make our world more sustainable and peaceful. Although to many this may seem in vain and even silly, especially considering the ever-increasing global mayhem, but I truly believe that scientists can play an important role in such efforts, chemical ecologists in particular. Please reflect on your own potential role in this. I hope to see many of you in Christchurch next year to further discuss how chemical ecology can contribute to a better world. All my best wishes to you and the ISCE.

Your former president, Ted Turlings



Message from the President

Dear ISCE members and friends

I would like to start this message by acknowledging the efforts of Drs. Pavlina Kyjaková, Anna Jirošová and Robert Hanus and the rest of the team involved in planning and running the 39th Annual Meeting of the ISCE. The science, planning and venue were exceptional. The meeting provided welcome opportunities to connect with



old friends, make new ones, and learn about the latest discoveries in our discipline. These experiences will undoubtedly serve as a catalyst to inspire attendees professionally for the coming year. The 2025 ISCE Annual Meeting will take place 18-22 August in Christchurch, New Zealand and will offer our next opportunity to connect as a society with friends and our most recent discoveries; I hope to see all of you there.

In large part the impetus for my desire to serve the ISCE is a commitment to pay back the society for its service to me over the years. Access to the professional network provided by the ISCE has been instrumental to my career and development as a scientist. The ISCE is in excellent shape by all accounts thanks to the efforts of past (and current) executive committees and its membership. In addition to maintaining this excellence, a primary objective of my term as President of the ISCE is to grow the ISCE network so that as diverse a community as possible can benefit. I strongly believe that the most valuable resource we have as scientists is our professional networks. I am writing you, an important part of my professional network, in the hope that I can engage you in this objective. I ask that you take a few minutes to contemplate how the ISCE has benefited you and what the ISCE can do to deliver these benefits to others. Additionally, some of you may have ideas for new programming/ activities that we can develop.

I consider myself privileged to serve all of you as President of the ISCE and look forward to hearing from you as we continue to shape the future of the ISCE.

Sincerely,

Jeremy Allison, ISCE President

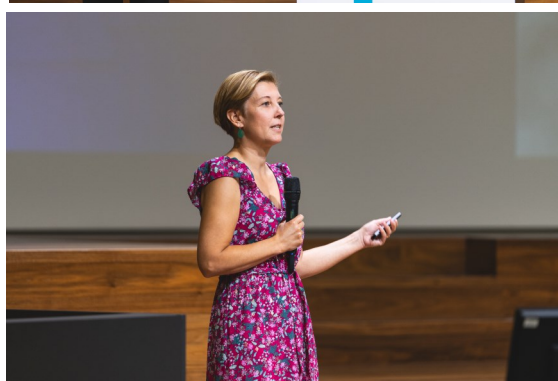
Summary of the ISCE Meeting 2024

The 39th Annual ISCE Meeting took place in Prague, Czechia from July 14-18, 2024, hosted by Anna Jirošová, Pavlína Kyjaková, and Robert Hanus at the Czech University of Life Sciences in Prague, Czechia. The meeting was attended by 358 participants from 41 countries, with a significant representation from Europe, including 61 Germans, 38 Czechs, and 30 French attendees. Delegates also came from the USA (35), Japan (15), and Canada (8). There was a good mix of speakers and poster presenters from across the globe. We heard 4 award lectures, the Daaks Chemicals Memorial lecture, and 215 short lectures in 21 symposia, alongside 90 engaging posters that sparked lively discussions. The meeting was attended by many students (88) and early-career researchers. The successful acquisition of sponsors and support grants contributed to the meeting's financial viability.

Thank you for coming to Prague, it was a true pleasure to host you here.

More photos available at <https://www.isce2024.cz/>

Pavlína Kyjaková
ISCE Secretary





ISCE Business Meeting 2024

115 members participated at ISCE BM 2024. Ted Turlings, ISCE President, presented the results of the elections, winners of ISCE awards, hosts and locations of future ISCE meetings, and winners of student presentation awards. Thanks to outgoing councilors. New webpage is working well, renewals of membership is smooth. The Treasurer's report was reviewed and approved by business meeting attendees. Gary Felton reported on Journal of Chemical Ecology

The presidency was transferred from Ted Turlings to Jeremy Allison. For more details, see the ISCE documents in the membership portal at <https://chemecol.org/minutes.aspx>.

Congratulations to Student Presentation and Poster Awardees 2024

Winners of the presentation awards:

- ◆ **Anton Möllerke**, Institute of Organic Chemistry, TU Braunschweig, Braunschweig, Germany: "Benzooxathiols and aryl methyl sulfides: New compound classes in the chemical weapon arsenal of Collembole".
- ◆ **Léa Bolis**, Faculty of Biology, University of Neuchâtel, 2000 Neuchâtel, Switzerland: "Impact of faba bean on oilseed rape glucosinolates profile and cabbage stem flea beetle foraging behavior".
- ◆ **Johannes Joubert**, Department of Zoology and Entomology, Forestry and Agricultural Biotechnology Institute, University of Pretoria, Pretoria, South Africa: "The effects of defoliation and egg deposition by the Eucalyptus snout beetle, *Gonipterus* sp. n. 2 on the chemistry and gene expression of Eucalyptus leaves".

Winners of the poster awards:

- ◆ **Johanna Kuhn**, Institute of Organic Chemistry, Technical University of Braunschweig, Braunschweig, Germany: "Ethyl-branched sesquiterpenes: Chemical signals in tropical frogs?".
- ◆ **Baoyu Hu**, Department of Biochemistry, Max-Planck Institute for Chemical Ecology, Germany: "Metabolism of spruce defensive phenolic compounds by bark beetle's symbiotic fungus".
- ◆ **Ludvine Brajon**, Institut d'écologie et des sciences de l'environnement de Paris – iEES Paris, Sorbonne Université, France: "Function and evolution of weevil pheromone receptors".

The Kenji Mori's Chirality Award:

- ◆ **Johanna Kuhn**, Institute of Organic Chemistry, Technical University of Braunschweig, Braunschweig, Germany: "Ethyl-branched sesquiterpenes: Chemical signals in tropical frogs?".

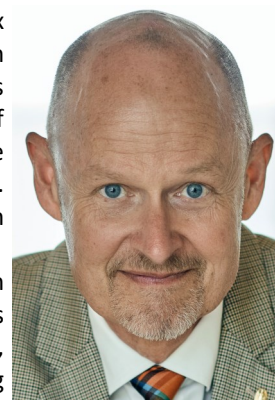
The Syntech Electrophysiology Award:

- ◆ **Bretor Katuku Mutua**, International Centre of Insect Physiology and Ecology, Nairobi, Kenya: "Electrophysiological and behavioral responses of cabbage aphid (*Brevicoryne brassicae*) to rosemary (*Rosmarinus officinalis*) volatiles, a potential push plant for vegetable push-pull cropping system".



The ISCE Silver Medal goes to Bill Hansson

Bill Hansson is a Swedish neuroethologist based at the Max Planck Institute for Chemical Ecology in Jena, Germany. He studies how insects detect and identify odors at all levels of the nervous system and how they use this information to optimize behavior. All studies are performed in an evolutionary context.



Bill Hansson studied ecology through all levels including the PhD. This is obvious in his studies of flies, moths, locusts and land-living crabs. Among the many scientists who study the *Drosophila* model system, he was one of the first to bring an ecological view to the olfactory system and to introduce a more comparative approach, venturing outside *melanogaster*, a philosophy now adapted by many labs over the world. The study of geosmin detection and its behavioral effects shows the power of the approach. With the resources at hand in the Jena laboratory Bill Hansson has worked to allow genetic manipulations also outside the traditional model species. The latest tour-de-force is the study of different aspects of olfactory functions and odor-dependent behavior in the migratory locust. By using *crispr-cas9* technology, Bill Hansson's laboratory managed to both knock out genes underpinning olfactory function and knock in genes coding for calcium imaging agents. By combining these novel techniques with more traditional chemical ecology and olfactory physiology/anatomy it was e.g. possible to reveal a new anti-cannibalistic pheromone and to dissect the highly unorthodox olfactory pathway of the locust, from the antenna to the antennal lobe. Another major undertaking during the recent five years was the Max Planck Center "next Generation Insect Chemical Ecology (nGICE) between the institute in Jena, the Swedish University of Agricultural Sciences (SLU) in Alnarp and Lund University, both in Sweden. The general topic of the center has been to investigate the effect of human activities on insect odor-driven behavior and to foster a new generation of insect chemical ecologists.

Beyond his scientific activities in Lund, Alnarp and Jena, Bill Hansson worked as vice president for the entire Max Planck Society 2014-20. He has been acknowledged by memberships in

a number of academies over the world and in 2021 he received the Cross of Merit 1st Class of the German Republic.

The ISCE Silverstein-Simeone Award goes to Caroline Müller



Caroline Müller has been full professor for Chemical Ecology at Bielefeld University, Germany, since 2007. She received her PhD from Free University of Berlin in 1999. She then spent a year as postdoc at Boyce Thompson Institute Ithaca, USA, and three years at Leiden University, The Netherlands. In 2004, she became independent group leader for Chemical Ecology at

Würzburg University, Germany.

Caroline is fascinated by the manifold functions of natural products in plant-insect interactions. She has elucidated central aspects of how these compounds direct insects to their host plants and initiate feeding, how insects detoxify these compounds and use them for their own defense against predators, and which role they play in invasions. This fundamental work has been performed mainly using Brassicaceae, with emphasis on the glucosinolate-myrosinase system and its impacts on insects. She also contributed significantly to revealing how various aspects of global change, including pollutants such as heavy metals, microplastics and pesticides as well as climate change factors, affect plants and their interaction partners. Caroline is particularly enthusiastic about the individual differences within species that lead, for example, to high chemodiversity in exceptional study systems such as the aromatic plant *Tanacetum vulgare*, but also to unexpected differences in behavioral personalities of insects.

Caroline has been a member of the ISCE since 1998 and was a Councilor of the ISCE from 2007 to 2010. Since 2020, she has been the spokesperson of a Research Unit on the topic of "Ecology and Evolution of Intraspecific Plant Chemodiversity" funded by the German Research Foundation (DFG). Moreover, she is initiator and member of the steering committee of a multidisciplinary Collaborative Research Center on "A Novel Synthesis of Individualisation across Behaviour, Ecology and Evolution: Niche Choice, Niche Conformance, Niche Construction (NC3)" since 2018. She has been Executive Board Member of the German Society for Plant Sciences since 2017. Recently, she was busy organizing the 18. Symposium on Insect-Plant Relationships (SIP) in Bielefeld.

The Applied Chemical Ecology Award to Jürgen Gross

Prof. Dr. Jürgen Gross has emerged as a leading authority in the field of applied chemical ecology. His remarkable career, defined by a commitment to innovative research and education, spans over two decades of significant contributions to plant protection

and entomology. Currently, Prof. Gross holds the position of Head of the Institute for Plant Protection in Fruit Crops and Viticulture at the Julius Kühn Institute (JKI) in Dossenheim, Germany. This appointment, effective since March 2024, marks a culmination of his extensive experience in various leadership roles within prominent research institutions. Simultaneously, he serves as a Professor of Biotechnical Plant Protection at Geisenheim University, where he continues to inspire future scientists through his engaging teaching.



Prof. Gross's academic journey began at the Free University of Berlin, where he completed his PhD in 2001, studying the evolution of host plant specialization in leaf beetles. His work in this area laid the foundation for his future endeavors in chemical ecology. Following his doctoral studies, he advanced as a postdoctoral researcher, ultimately leading multiple research groups focused on applied chemical ecology at renowned institutions, including the Federal Biological Research Centre for Agriculture and Forestry and Justus Liebig University Giessen.

Throughout his career, Prof. Gross has made significant strides in understanding the complex interactions between plants and pest organisms. His most notable invention, an innovative dynamic headspace collection device (HSCD), addresses the challenges of collecting volatile organic compounds (VOCs) emitted by plants and insects. This device allows for precise regulation of mass flow and collection volume, ensuring accurate quantitative comparisons of VOCs, a critical advancement for both research and practical applications in pest management.

In addition to his groundbreaking research, Prof. Gross has been an active educator. He has taught a variety of courses in chemical ecology and related fields at institutions such as the Technical University of Darmstadt and the University of Ulm. His teaching philosophy emphasizes integrating theory with practical applications, preparing students to address real-world ecological challenges.

Prof. Gross's contributions extend to scientific service, where he has held editorial positions in leading journals, including Editor-in-Chief of the *Journal of Pest Science* and Associate Editor of *Frontiers in Ecology and Evolution*. His extensive service as a reviewer for over 50 international journals further highlights his commitment to maintaining high standards in scientific research.

Recognized for his leadership, Prof. Gross serves as the President of the German Society for General and Applied Entomology (DGaaE) and has held key positions in various international organizations. His dedication to the scientific community is evident in his role as the convenor of the Working Group on Pheromones and other Semiochemicals within the International Organisation for Biological Control, where he fosters collaboration and innovation in pest management.

With an impressive publication record of approximately 400 scientific contributions, including 101 peer-reviewed articles, Prof. Gross has established himself as a leader in his field. His research has not only enhanced our understanding of chemical ecology but has also contributed to innovative applications in phytomedicine, further validating this award.

In summary, Prof. Dr. Jürgen Gross is a distinguished scientist whose work in applied chemical ecology has had a profound impact on pest management and plant protection. His recognition with the Applied Chemical Ecology Award underscores his significant contributions to the field and the lasting influence he has had on both research and education. As he continues to delve into plant-pest interactions, the ultimate beneficiaries of his work will undoubtedly be the agricultural practices and ecological sustainability efforts that benefit from his innovations.



Society News

ISCE: Call for Nominations

2026 ISCE Silver Medal and Silverstein-Simeone Award, 2025 Early Career Award, and 2026 Applied Chemical Ecology Award

The **ISCE Silver Medal Award** recognizes career achievement by an outstanding scientist working in the field of Chemical Ecology. The **Silverstein-Simeone Award**, established in 1995, to honor Milt Silverstein and John Simeone, is made on the basis of recent or current work of an outstanding nature at the “cutting edge” of Chemical Ecology. The recipient must deliver a plenary lecture at the annual ISCE meeting and publish a paper on the same topic in the *Journal of Chemical Ecology*. The Society gratefully acknowledges the very generous support of the Jean-Marie Delwart Foundation and Springer for the Silver Medal and Silverstein-Simeone Awards, respectively. Nominators should be ISCE members in good standing. Nominations will be reviewed by the President and Vice President for relevance to the appropriate award, before forwarding them to the full ISCE Executive Committee and Councilors. Should a nomination for one award be considered more relevant for the other award, the President will contact the nominator(s) regarding reconsideration. Current ISCE officers or councilors are not eligible for the awards because of a conflict of interest. Note that previous, unsuccessful nominations must be re-nominated to be considered for an award and the nomination packets for an individual resubmitted.

The **Early Career Award** in Chemical Ecology recognizes an emerging leader in chemical ecology and honor cutting-edge

research that will influence the future direction of the field of Chemical Ecology. It was established in 2014. The award is limited to persons who graduated from their Ph.D. studies no longer than 10 years previously. The recipient must deliver a plenary lecture at the annual ISCE meeting in the year of the application. The conference fee, reasonable economy travel, and hotel expenses of the recipient of the Award will be paid for by the society. The nominations will be reviewed by the ISCE Executive Committee and Councilors. Note that previous, unsuccessful nominations must be re-nominated to be considered for the award. An applicant can nominate him/herself or be nominated by an ISCE member.

The **ISCE Applied Chemical Ecology Award** was established to recognize career achievements by an outstanding chemical ecologist for her/his significant contribution in developing novel semi-chemical-based technologies for advancing practical applications in chemical ecology.

Nominations for each of four awards require documents listed on the ISCE website:

<https://chemecol.org/nominations.shtml>

Please include all parts of the nomination packet (including supporting letters) in one PDF file and submit in electronic format to the ISCE President:

Prof. Dr. Jeremy D. Allison

E-mail: president@chemecol.org

The deadline for all nominations is January 31, 2025!

Call for Vice-President and Four Councilors

The **Vice-President** is a voting member of the Executive Committee. The Vice-President becomes the Society President in the year following tenure as Vice-President, Past President in the next year, and remains as councilor for three years after that. **ISCE Councilors** are elected for a term of three years. Councilors contribute to the running of the society and should attend at least two ISCE Executive meetings during their three-year tenure. Principal responsibilities include participation in the selection of the Silver Medal and Silverstein-Simeone Awards, providing general guidance, advice and assistance to the Executive Committee, and

judging student competitions at the annual meeting. It is recommended that a person nominated for the above positions should have a strong record of participation in the Society's activities and meetings.

Please send names, contact addresses, phone numbers, and e-mail addresses of candidates along with a short description of why you think the candidate(s) would be suitable. Please ensure that the person agrees to being nominated before you nominate them.

Prof. Dr Ted Turlings

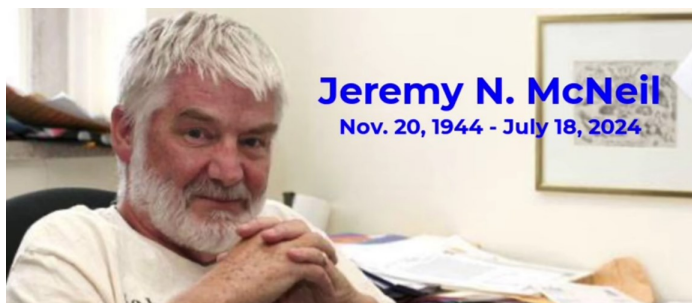
E-mail: past.president@chemecol.org



Invitation to 2025 ISCE Annual Meeting



In memoriam of Jeremy Mc Neil



A Tribute to Jeremy McNeil - one of the pillars of the International Society of Chemical Ecology can be found at the Biochemistry Channel <https://www.youtube.com/watch?v=6rv91wUIWLM>

In memoriam of Robert Bedoukian



"Robert was a visionary who dedicated his life to his family, to his company and to the industry and inspired us all with passion, commitment, and kindness. "

An obituary at <https://bedoukian.com/the-life-and-legacy-of-dr-robert-bedoukian/>



Most downloaded articles from June — October 2024:

Orubuloye, O.Y., Mbewe, N.J., Tchouassi, D.P. *et al.* An Overview of Tsetse Fly Repellents: Identification and Applications. *J Chem Ecol* (2024). <https://doi.org/10.1007/s10886-024-01527-5>

REVIEW PAPER

Pogue, T., Malod, K. & Weldon, C.W. Effects of Physiological Status and Environmental Factors on the Lure Responses of Three Pest Fruit Fly Species (Diptera: Tephritidae). *J Chem Ecol* (2024). <https://doi.org/10.1007/s10886-024-01516-8>

ORIGINAL PAPER

Larsson, M.C. Pheromones and Other Semiochemicals for Monitoring Rare and Endangered Species. *J Chem Ecol* **42**, 853–868 (2016). <https://doi.org/10.1007/s10886-016-0753-4>

REVIEW PAPER



International Society of Chemical Ecology

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Vice-President
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