

50th International Symposium on Essential Oils

9-11 September 2019

Vienna, Austria



ISEO 2019 REPORT

November 12th, 2019

The 50th International Symposium on Essential Oils took place at the University of Veterinary Medicine, Vienna, from September 9 to 11, 2019. It was organized by Johannes Novak (Institute of Animal Nutrition and Functional Plant Compounds, Veterinary Medicine) in cooperation with Iris Stappen (Department of Pharmaceutical Chemistry, University of Vienna). The venue achieved its goal to provide an excellent possibility for researchers from academia and industry to exchange their experience and to discuss their results and findings in the field of essential oils and volatile compounds. More than 200 participants from all over the world joined this year's symposium, mainly coming from Europe but also from Argentina, Brazil, Canada, China, Columbia, Guatemala, Iran, Israel, Japan, Mongolia, New Caledonia, South Africa, Taiwan, Turkey and the USA.

The scientific program included seven plenary and three invited lectures (one of which included a panel discussion (PD)) as well as 15 oral and 140 poster presentations on topics related to essential oils and plant volatiles. Prior to the welcome reception the symposium started with a workshop on Openchrom[®], an open source software for chromatography and mass spectrometry, conducted by *Philip Wenig* (Lablicate GmbH, Germany) entitled **"Analysis of chromatographic fingerprints"**. The Honorary Lecture on the occasion of ISEO's 50th anniversary was held by *Carlo Bicchi* (University of Torino, Italy). In his talk **"Essential oils: Are these traditional/national products the "seed" of a multitask future discipline"** he highlighted the multidisciplinary research of essential oils. He also paid a tribute to *Jan Karlsen* (Oslo University, Norway), one of the founders of ISEO 50 years ago, who unexpectedly died in spring this year. A novelty at ISEO2019 was the award of the **"ISEO Medal of Honor"**, sponsored by Merck, for outstanding achievements for the essential oil community given posthumously to the late Jan Karlsen. In a moving ceremony the medal was handed over to his widow, who for this occasion travelled to Vienna together with her two daughters and two granddaughters.

The lecturers of the plenary (PL) and invited (IS) talks were specialists in their specific fields, namely the essential oil industry, biological activity, analytic, chemistry, essential oil use in animal health and welfare as well as plant biology:

- PL1** *Eva Heuberger* (Forum Essenzia, Germany)
Essential oils: From marketing to psychopharmacology

- PL2** *Michel Meneuvrier* (SAPAD - Robertet, France)
The industrial production of essential oils: From theory to reality

- IS1** *Alastair Hitchen, Wladyslaw Brud* (IFEAT, UK)
Industrial uses versus scientific research of essential oils

- PL3** *Sandy Van Vuuren* (University of the Witwatersrand, South Africa)

Antimicrobial activities of essential oils: Lessons from the past and recommendations for the future

- IS2** *Nurhayat Tabanca* (USDA-ARS-SHRS, USA)
Tea tree essential oil: A source of potential new attractants for Mediterranean fruit fly
- PL4** *Niko Radulovic* (University of Nis, Serbia)
Essential oils are a gold mine for an organic/medical chemist
- PL5** *Ivana Bonaccorsi* (University of Messina, Italy)
Carbon Isotope ratios of volatiles as a powerful parameter for genuineness assessment of essential oils
- IS3 PD** *Alain Chaintreau, Daniel Joulain, Carlo Bicchi* (FFJ)
The survival of essential oils calls for a revolution!
- PL6** *Johanna Fink-Gremmels* (University of Utrecht, The Netherlands)
Essential oils in veterinary medicine and animal nutrition
- PL7** *Massimo Maffei* (University of Torino, Italy)
Plant volatiles: The language of plants

One session was reserved for young scientists to present their results on essential oil research. Thanks to the generosity of the *International Federation of Essential Oils and Aroma Trade* (IFEAT) 20 selected young researchers could be supported by a fellowship that comprised the reimbursement of the registration fee, a certificat and a Viennese souvenir. Since there were 50 submissions this year and it was ISEO's 50 anniversary, the fellowship was extended to another five young scientists financed by the Organizing Committee. Therefore 25 contributions were accepted after an intense evaluation and selection procedure, seven of which were chosen for oral presentations and the other young scientists were invited to present their findings in a poster:

Carmen M. Sinche Ambrosio	(<i>University of São Paulo, Brasilia</i>)
Nurunajah Ab. Ghani	(<i>Atta-ur-Rahman Institute for Natural Product Discovery, Malaysia</i>)
Jelena Aksic	(<i>University of Nis, Serbia</i>)
Ina Aneva	(<i>Bulgarian Academy of Science, Bulgaria</i>)
Francesca Capetti	(<i>University of Turin, Italy</i>)
Aurélien Cuchet	(<i>Albert Vieille SAS; Analytical Science Institute, France</i>)
Stephanie de Rapper	(<i>University of the Witwatersrand, South Africa</i>)
Mohammad-Taghi Ebadi	(<i>Tarbiat Modares University, Iran</i>)
Leila Gimenes	(<i>Agronomic Institute of Campinas, Brasilia</i>)
Juan Henríquez	(<i>CENIVAM, Columbia</i>)
Maja Ivic	(<i>Faculty of Technology Novi Sad, Serbia</i>)
Francesca Maggio	(<i>University of Teramo, Italy</i>)
Ana Miltojevic	(<i>University of Nis, Serbia</i>)
Marko Mladenovic	(<i>University of Nis, Serbia</i>)
Javzmaa Namshir	(<i>Mongolian Academy of Sciences, Mongolia</i>)
Milan Nešic	(<i>University of Nis, Serbia</i>)
Milica Nikolic	(<i>University of Nis, Serbia</i>)

Cristian Andrés Oliveros	(Universidad Industrial de Santander, Columbia)
Angela Pawlowski	(Instituto Federal Farroupiha, Campus Santo Ângelo, Brasilia)
Bartłomiej Piasecki	(Medical University of Lublin, Poland)
Milica Stevanovic	(University of Nis, Serbia)
Nikola Stojanovic	(University of Nis, Serbia)
Dilek Türkmen	(Hatay Mustafa Kemal University, Turkey)
Ayaka Uehara	(Université Côte d'Azur, France)
Hongxia Zhang	(Kunming Institute of Botany, China)

In two poster sessions, held on two days, 140 posters were presented. Jury members chose three posters each day, based on innovation, quality of research and presentation, visual impression and oral discussion, which were recognized for excellence. The six winners of the Best Poster Award were announced during the symposium's Closing Ceremony. Besides an award certificate they received equal monetary prizes as well as a Viennese souvenir:

Aurélien Cuchet (France):	Authentication of the naturalness of wintergreen (<i>Gaultheria</i> genus) essential oils by gas chromatography, isotope ratio mass spectrometry and radiocarbon assessment
Alexis St.-Gelais (Canada):	Chemometric exploration of <i>Rhododendron groenlandicum</i> reveals complex patterns
Barbara Sgorbini (Italy):	Essential oils and hypoglycemic activity: Bio-guided fractionation approach looking for plant bioactive secondary metabolites with alpha-amylase inhibition capacity
Juan A. Llorens-Molina (Spain):	Implementation of an ultrasound-assisted extraction/dispersive liquid-liquid microextraction method to study diurnal changes in volatile composition of <i>Mentha longifolia</i> (L.)L.
Toshio Hasegawa (Japan):	Structure-odor relationships of pinene derivatives
Kazutoshi Sakurai (Japan):	The volatile components emitted from <i>Marchantia paleacea</i> subsp. <i>diptera</i>

ISEO 2019 abstracts will be published in a special issue of the open access journal NVEO (Natural Volatiles & Essential Oils). Abstracts of oral and poster presentations were reviewed by at least two independent referees. Young scientist abstracts and applications were rated by up to four reviewers. Further information can be found at www.iseo2019.com

In 2020 the 51st ISEO will take place from September 6-9 at the Near East University in Northern Nicosia, Northern Cyprus. It will be organized by Hüsnü Can Baser (Near East University) and Fatih Demirci (University of Eskisehir, Turkey).

Yours sincerely,



Johannes Novak and Iris Stappen
 Presidents of the ISEO2019 Organizing Committee