

Wrocław, 20 September 2022

ISEO 2022 REPORT

ISEO symposia have been organized annually in Europe since 1969. The 52nd International Symposium on Essential Oils (ISEO 2022) was held at Concordia Design, Wrocław, Poland from 4 to 7 September 2022. This edition of the ISEO was organized by the Wrocław University of Science and Technology, the Wrocław University of Environmental and Life Sciences, the Wrocław College of Physiotherapy, the Eugeniusz Geppert Academy of Arts and Design, the Wrocław Centre for Technology Transfer, Enterprise Europe Network, and Liquid Technologies. ISEO 2022 addressed all aspects of essential oils and related natural products, ranging from breeding, cultivation, analysis, biogenesis, and chemistry to biological activity and use.

The symposium has attracted 184 academic and industrial participants from 35 countries, mainly from Europe, but also from Brazil, Canada, Egypt, India, Japan, Namibia, South Africa, South Korea, Taiwan, and United States, among others.

The scientific program of the symposium included an opening lecture, five plenary lectures, 1 Keynote Lecture, 1 ISEO Medal Lecture, 23 oral presentations, 8 young scientists' lectures, and 74 posters.

Among the plenary and keynote lecturers were world-renowned specialists, both from academia and industry.

OL-1	Natural perfumery: an olfactive journey in time and space	Clio Vidal Wala Heilmittel GmbH, Germany
PL-1	Chemistry of fragrant woods: Agarwood and Sandalwood	Nicolas Baldovini Côte d'Azur University, France
PL-2	The concept of 'buchu' and the ancient origins of aromatherapy	Ben-Erik Van Wyk The University of Johannesburg, Republic of South Africa
PL-3	Why do liverworts produce so many structurally different volatile compounds?	Agnieszka Ludwiczuk Medical University of Lublin, Poland
PL-4	Analytical strategies for the characterization of non-volatile fraction of <i>Citrus</i> essential oil: applications in food and cosmetic.	Paola Dugo University of Messina, Italy
PL-5	Biological activity of essential oils – not a single golden bullet loaded to that revolver?	Niko Radulović University of Niš, Serbia
KL-1	F&F Ingredients: World Overview on Feedstocks & Renewability	Alain Frix Allchemix (Belgium) / IFEAT (UK)
OL – Opening Lecture; PL – Plenary Lecture; KL – Keynote Lecture		

The first session was devoted to the anniversary of 45 years of scientific activity of one of the members of the ISEO Permanent Scientific Committee (prof. Stanisław Lochyński) and was focused on the chemistry of essential oils. Other sessions were devoted to aromatherapy and the biological activities of essential oils. One session focused on industrial aspects of natural volatiles, with excellent contributions from IFEAT representatives. Alain Frix (F&F Ingredients: World Overview on Feedstocks & Renewability) and Hussein Fakhry (Chemical Composition of Industrially Produced Egyptian Jasmine (*Jasminum grandiflorum* L.) Essential Oil Obtained by Steam Distillation).

The ISEO 2022 Organizing Committee founded three prizes for the best oral presentation, the best poster presentation, and the best young scientist presentation. The selection of the members of the ISEO Permanent Scientific Committee was based on the subject matter, quality of presentation and research, oral delivery, and visual impact. The winners of the best contributions were announced during the closing ceremony of the 52nd ISEO Symposium and received the book prizes. *Essential Oil Safety* by Robert Tisserand and Rodney Young.

The winners were

The best oral presentation	Mohsen Gavahian, National Pingtung University of Science and Technology, Taiwan	Essential oils from pineapple processing by-products through ohmic heating
The best poster presentation	Giulia Mastellone, University of Turin, Italy	Essential oils' components for the preparation of natural eutectic solvents
The best young scientist presentation	Lorenzo Lamberti, University of Turin, Italy	Microwave-Assisted Hydrodistillation of Hop (<i>Humulus lupulus</i> L.) Terpenes: A Pilot-Scale Study



The ISEO 2022 Organizing Committee is very grateful to the Executive Committee of the International Federation of Essential Oils and Aroma Trades (IFEAT), which financially supported the participation of 20 selected young scientists for participation in the 52nd International Symposium on Essential Oils. Due to a high number of high-quality contributions, the ISEO 2022 Organizing Committee

decided to support additional 3 young scientists from their resources. The IFEAT Young Scientists Fellowship comprised the reimbursement of the registration fee.

Therefore, 23 contributions were accepted after a thorough evaluation and selection procedure, eight of which were chosen for an oral presentation and fifteen for a poster presentation.

This year's awardees were:

Oral Presentations:

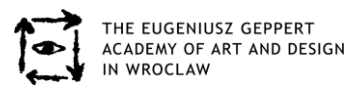
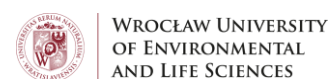
Natale Badalamenti	University of Palermo, Italy
Abhishek Kumar Dwivedy	Banaras Hindu University, India
Jena Sudipta	Siksha O Anusandhan, India
Ali Karimi	Julius Kühn Institute, Germany
Lorenzo Lamberti	University of Turin, Italy
Francesca Maggio	University of Teramo, Italy
Wan Mohd N. H. Wan Salleh	Sultan Idris Education University, Malaysia
Nikola M. Stojanović	University of Niš, Serbia

Poster presentations:

Filipe Arruda	University of the Azores, Portugal
Folajimi T. Avoseh	Vaal University of Technology, South Africa
Piyush Bhalla	Forest Research Institute, India
Veronika Chaloupková	CEDER-CIEMAT, Technical University of Madrid, Spain
Furkan Coban	Atatürk University, Turkey
Ayşe Esra Karadağ	Istanbul Medipol University, Turkey
Andreja Komnenić	University of Montenegro, Montenegro
Fotini Plati	Aristotle University of Thessaloniki, Greece
Giulia Mastellone	University of Turin, Italy
Ayoub Abdelkader Mekkaoui	Sultan Moulay Slimane University, Cadi Ayyad University, Morocco
Davy Moussango	University of Douala, Cameroon
Vidak Raičević	University of Novi Sad, Serbia
Chiara Rossi	University of Teramo, Italy
Juliana Huei Zago Wang	University of Southern Santa Catarina, Brazil
Natalia Wolan	Medical University of Lublin, Poland



ISEO 2022 52nd International Symposium on Essential Oils
Wrocław, 4-7 September



ISEO MEDAL OF HONOUR



The first promoters of the ISEO Medal were Giovanni Dugo and Luigi Mondello, Chairmen of the 35th International Symposium on Essential Oils organized in Giardini Naxos (Italy) in 2004. The idea

of the ISEO Medal came up again in 2017 when the member of the Permanent Scientific Committee Humberto Bizzo proposed to implement the award/medal for lifetime achievements in essential oil research during the Permanent Scientific Committee meeting on the occasion of the 48th ISEO symposium in Pecs (Hungary).

At the ISEO in Niš (Serbia), the ISEO Permanent Scientific Committee decided that the 50th anniversary of the ISEO symposia would be the best time to present the first medal. With the help of the members of the Permanent Scientific Committee and an artist from Messina, as well as the Merck company, the official sponsor of the medal, the ISEO Medal of Honour was created.

Previous ISEO Medal of Honour Recipients

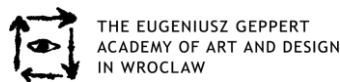
- 2019 Jan Karlsen (50th ISEO, Vienna, Austria)
- 2021 Karl-Heinz Kubeczka (51st ISEO, Turkey, online)

ISEO 2022 Medal of Honour Recipient



By the decision of the ISEO Medal Committee, Prof. Carlo Bicchi of the University of Turin was elected to be the recipient of the ISEO 2022 Medal of Honor. His main field of research is the development of analytical technologies for biologically active specialized metabolites in vegetable matrices (essential oils, terpenoids, phenolic compounds, and alkaloids) and aroma profiling and fingerprinting of important industrial food crops (coffee, cocoa, hazelnuts, olive oil, and tea). Carlo Bicchi's scientific activity is documented by 325 publications in international journals and more than 350 plenary lectures, keynote lectures, and communications and seminars. He was awarded the Giovanni Dugo's medal (the Italian Chemical Society, 2018), the Arnaldo Liberti's Medal (2019, the Italian Chemical Society), and the COLACRO Medal (2021, the Latino-American Association of Chromatography and Related Techniques).

Prof. Bicchi gave a very interesting lecture, „Essential oils: a great future behind them”, where he presented an overview of the role of the International Symposium on Essential Oils in passing on innovative research strategies to new generations, acting as a 'sentinel' against the current trend of declining knowledge.



As part of the events accompanying the ISEO 2022 International Symposium, an *AromaArt* exhibition of Wrocław artists associated with the Eugeniusz Geppert Academy of Art and Design in Wrocław was held.

AROMA ART

ISEO 2022 participants and the general public were able to see works inspired by the sense of smell by, among others: Paweł Czekański, Agata Danielak-Kujda, Panny Dziewanny (Munka Bączyk and Agnieszka Jarzab), Anna Juchnowicz, Mariusz Kosiba, Agnieszka Leśniak-Banasiak, Beata Mak-Sobota, Kamil Moskowczenko, Marta Płonka, Wojciech Pukocz, Marek Ruszkiewicz, Norman Smuźniak, Justyna Żak.

The visual interpretation of the sense of smell and odor enhanced by the scents selected by individual artists created an amazing sensation of synergy between the senses, which allowed for a different (interesting) perception of art and visual experience. During the opening of the AromaArt exhibition, on 4 September a talk and performance (**Natural perfumery: An Olfactive Journey in Time and Space**) by the perfumer **Clio Vidal** (Wala Heilmittel GmbH) was given.

The second supporting event during the ISEO 2022 was organized by the Enterprise Europe Network centre operating in the Wrocław Centre of Technology Transfer of the Wrocław University of Science and Technology: B2B meetings aimed at finding partners for potential cooperation (also between academic participants and industry) in foreign markets. ISEO B2B meetings were a hybrid event – participants could choose to have physical meetings, online meetings, or both. The meetings were dedicated to entities from various countries representing the agrifood, pharmaceutical, cosmetic, household chemicals, and cleaning products industries.

- producers /suppliers of raw materials;
- producers/manufacturers of pharmaceuticals, dietary supplements, food, cosmetics, household chemicals, and cleaning products;
- distributors, retailers, and agents;
- services;
- scientific institutions and R&D units.

This cooperation exchange was a series of bilateral, previously arranged, approximately 15-minute meetings between representatives of companies from different countries.

The ISEO Permanent Scientific Committee, whose meeting was held during the symposium, decided on the venue of the next ISEO. The 53rd ISEO will be held from 13-16 September 2023 in Milazzo, Messina, Italy.

Prof. Stanisław Lochyński

Chair of the Scientific Committee of the
52nd International Symposium on Essential Oils

Dr Daniel Strub

Chair of the Organizing Committee of the
52nd International Symposium on Essential Oils