

# The 43rd International Symposium on Essential Oils (ISEO2012)

The 43rd International Symposium on Essential Oils (ISEO2012) was held in Lisbon (Portugal), from 5 to 8 September 2012, and was hosted by the Faculdade de Ciências da Universidade de Lisboa (Faculty of Sciences of the University of Lisbon).

The symposium attracted 286 participants from 42 countries. Among the participants, 32% were students, either undergraduate, graduate or PhD students. On the occasion of the ISEO2012 the Organizing Committee distinguished two honour guests, Professor Dr Karl-Heinz Kubeczka and Professor Dr Johannes Scheffer.

Of the 337 abstract submissions, 261 abstracts were accepted and included in the abstract book (*Program, Book of Abstracts and Participants List*). The ISEO2012 featured eight plenary sessions, nine short oral presentations and two poster sessions with 238 poster contributions. A special session for the oral presentation of six selected works of young scientists was also held.

With emphasis on the role of essential oils and volatiles, data field experimental studies were combined with complex biological systems, statistical data and high technology analytical approaches. In addition, many other topics, including taste perception, ecological aspects, molecular mechanisms, analytics and human and animal applications, to name just a few, were addressed, viewing to outline the actual status, as well as the problems, and the future strategies relating to the broad field of essential oils research.

Considering that the input of young researchers is of the utmost importance to keep the vitality of this field of research, the International Federation of Essential Oils and Aroma Trades (IFEAT) joined forces with the ISEO2012 Organizing Committee to assist young researchers to attend ISEO2012, by supporting a total of 20 Registration Fellowships (14 plus six, respectively). Forty candidates from 17 countries (Algeria, Brazil, China, Czech Republic, Germany, Iran, Italy, Japan, Poland, Portugal, Romania, Serbia, South Africa, Spain, Netherlands, USA and Yemen) submitted application proposals. Of the 20 contributions selected, 14 were set as poster presentations. The remaining six were chosen for oral presentations in a special session devoted to Young Scientists ISEO2012.

ISEO2012 was an opportunity to network among colleagues, learn from world-renowned experts, share the latest research, and enable researchers to keep up to date and deepen the knowledge in the essential oils and volatiles field.

*Flavour and Fragrance Journal* dedicates the current issue to some of the contributions presented at the ISEO2012, either

as plenary lectures, oral or poster contributions, covering different aspects involved in the essential oils field. In the last several years, our understanding of the composition of essential oils and volatiles has made rapid progress. Since volatiles emitted by plants mediate a variety of interactions between plants and other plants, plants and the environment and/or plants and other organisms, these findings provide new insights on volatiles variability and on the adaptability they provide the plants with. Despite the tremendous progress in identifying the enzymes involved in the formation of molecules present in volatiles and essential oils, the biosynthetic pathways leading to their synthesis is still an open field of research showing many elusive points. Currently, research is entering other phases that will hopefully help elucidate the cellular and molecular basis of volatile molecules production. For centuries Man has taken advantage of the natural bioactivity of essential oils and volatiles by using these complex mixtures in, for example, pest control for agriculture, to aromatize and increase the shelf life of foods and beverages, and to provide a better quality of life, and health protection. There are thus fields where many exciting questions need to be answered. This Special Issue gives examples of studies being conducted on just some of these topics, but aims also to be a stimulus, mainly to young researchers, to invest deeply in gaining a better understanding on the biological role of volatiles. This extended knowledge will provide the tools and means to find innovative fields of application of essential oils and volatiles, at the agricultural, commercial, industrial and medicinal levels.

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