



ISEO 2023

53rd INTERNATIONAL SYMPOSIUM ON ESSENTIAL OILS

September 13-16, 2023 – Milazzo, Messina, Italy

FINAL PROGRAM

Chairs:

Paola Dugo and Luigi Mondello

Organizer:



Chromaleont s.r.l., Messina, Italy

Patronage:



Comune di Milazzo



AMP, Area Marina Protetta Capo Milazzo



University of Messina, Messina, Italy

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Welcome

The Organizing Committee, welcomes you at the 53rd International Symposium on Essential Oils (ISEO 2023), at the Trifiletti Theatre of Milazzo.

For the second time, the ISEO is hosted in Sicily. In 2004 the symposium was organized by the University of Messina and took place in Giardini Naxos. This year, nineteen years later, the 53rd ISEO edition is held in Milazzo, at the Trifiletti Theatre.

Milazzo was in the past traditionally famous to produce jasmine essential oil and for its Citrus plantations. Today is one of the most important sites of floriculture, horticulture nursery gardening of Southern Italy. The Congress venue is in the heart of city centre, at the "Trifiletti Theatre" built in 1911 on a project by Letterio Savoja, on the initiative of Stefano Trifiletti, a multifaceted entrepreneur who intended to create a multipurpose structure capable of hosting the most varied forms of entertainment.

This symposium series has been organized annually in Europe since 1969 (with an exception in pandemic year of 2020) to stimulate cooperation among scientists for the advancement of research and development into the science of essential oils and their constituents. The Congress aims to bring together all those scientists involved in essential oils and related natural products research and to offer unique opportunities for networking and discussion. This year we expect about 200 participants from all over the world, and a significant increased number of young participants and delegates, confirming the growth of the scientific interest towards essential oils and related topics.

The meeting will, in fact, address all aspects of essential oils and related natural products. The main discussion topics are the following: Breeding, Cultivation, Analysis, Biogenesis, Biological activity, Chemistry, Utilization.

The Organizing Committee of ISEO 2023, wishes all participants a valuable inspiration during the lectures and poster sessions stimulating scientific discussions, and a nice stay in the friendly City of Milazzo.

Organizing Committee of the 53rd ISEO

Series of ISEO conferences

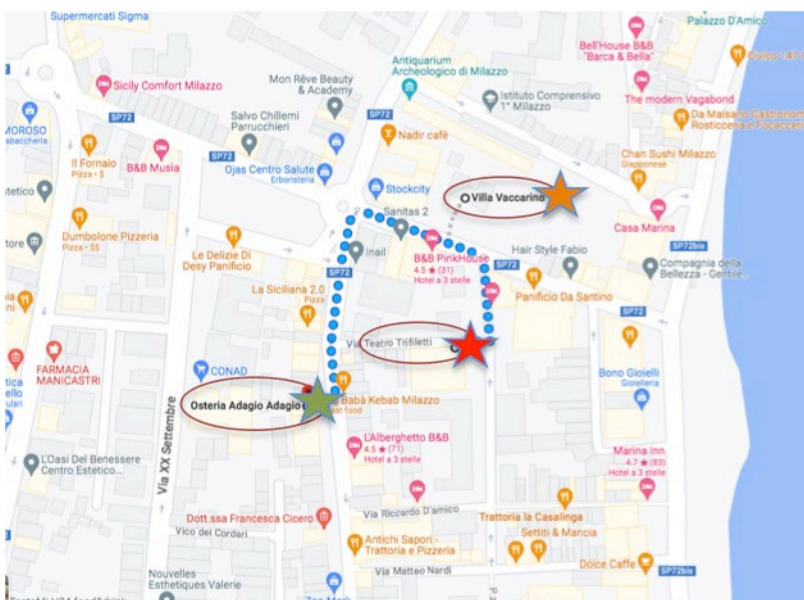
Edition	Year	Venue	Host
0	In. 1969	Leiden, The Netherlands	A. Baerheim-Svendsen
1 st	1970	Leiden, The Netherlands	A. Baerheim-Svendsen
2 nd	1971	Freiburg, Germany	F.-W. Hefendehl
3 rd	1972	Helsinki, Finland	M. von Schantz
4 th	1973	Freiburg, Germany	F.-W. Hefendehl
5 th	1974	Freiburg, Germany	F.-W. Hefendehl
6 th	1975	Leiden, The Netherlands	A. Baerheim-Svendsen
7 th	1976	Würzburg, Germany	K.-H. Kubeczka
8 th	1977	Freiburg, Germany	F.-W. Hefendehl
9 th	1978	Münster, Germany	H. Höster
10 th	1979	Würzburg, Germany	K.-H. Kubeczka
11 th	1980	Groningen, The Netherlands	M.H. Boelens, H. Hendriks
12 th	1981	Marburg, Germany	K.-H. Kubeczka
13 th	1982	Würzburg, Germany	K.-H. Kubeczka
14 th	1983	Freising-Weihenstephan, Germany	Ch. Franz
15 th	1984	Leiden, The Netherlands	A. Baerheim-Svendsen
16 th	1985	Holzminden/Neuhaus, Germany	E.-J. Brunke
17 th	1986	Bad Bevensen, Germany	E. Stahl-Biskup
18 th	1987	Nordwijkerhout, The Netherlands	J.J.C. Scheffer
19 th	1988	Zürich-Greifensee, Switzerland	D. Lamparsky, R. Kaiser
20 th	1989	Würzburg, Germany	K.-H. Kubeczka
21 st	1990	Lahti, Finland	R. Hiltunen
22 nd	1991	St. Vincent, Italy	C. Bicchi
23 rd	1992	Auchincruive, UK	S. Deans, K. Svoboda
24 th	1993	Berlin, Germany	P. Weyerstahl, H. Schilcher
25 th	1994	Grasse, France	D. Joulain
26 th	1995	Hamburg, Germany	K.-H. Kubeczka
27 th	1996	Wien/Vienna, Austria	Ch. Franz, G. Buchbauer
28 th	1997	Eskisehir, Turkey	K.H.C. Başer, F. Demirci
29 th	1998	Frankfurt, Germany	W. König, A. Mosandl
30 th	1999	Leipzig/Miltitz, Germany	Bell Flavours & Fragrances
31 st	2000	Hamburg, Germany	K.-H. Kubeczka, W. König
32 nd	2001	Wroclaw, Poland	S. Lochynski
33 rd	2002	Lisbon, Portugal	A. Figuerido
34 th	2003	Würzburg, Germany	K.-H. Kubeczka
35 th	2004	Giardini Naxos, Italy	L. Mondello, G. Dugo
36 th	2005	Budapest, Hungary	E. Németh
37 th	2006	Grasse, France	D. Joulain
38 th	2007	Graz, Austria	Ch. Franz, J. Novak, R. Bauer
39 th	2008	Quedlinburg, Germany	J. Schulz
40 th	2009	Savigliano, Italy	C. Bicchi, P. Rubiolo
41 st	2010	Wroclaw, Poland	S. Lochynski
42 nd	2011	Antalia, Turkey	K.H.C. Başer, F. Demirci

43 rd	2012	Lisbon, Portugal	A. Figueiredo
44 th	2013	Budapest, Hungary	E. Németh
45 th	2014	Istanbul, Turkey	K.H.C. Başer, F. Demirci
46 th	2015	Lublin, Poland	A. Ludwiczuk
47 th	2016	Nice, France	N. Baldovini
48 th	2017	Pecs, Hungary	G. Horvath
49 th	2018	Nis, Serbia	N. Radulovic
50 th	2019	Vienna, Austria	J. Novak, I. Stappen, Ch. Franz
51 st	2021	Nicosia, N. Cyprus (online)	K.H.C. Başer, F. Demirci
52 nd	2022	Wroclaw, Poland	S. Lochynski, D. Strub
53 rd	2023	Milazzo, Italy	P. Dugo, L. Mondello

GENERAL INFORMATION

Symposium venue

The venue of the 53rd International Symposium on Essential oils will be the Trifiletti Theatre, Via Cumbo Borgia, 98057 Milazzo (Messina).



▣ Teatro Trifiletti – Symposium venue

▣ Osteria Adagio Adagio – Lunch break

▣ Villa Vaccarino – Get-together party

Adam F. Feyaerts	KU Leuven, Belgium
Ana Cristina Figueiredo	University of Lisbon, Portugal
Toshio Hasegawa	Saitama University, Japan
Györgyi Horváth	University of Pécs, Hungary
Michael Keusgen	The Philipps University of Marburg, Germany
Eisuke Kuraya	National Institute of Technology, Okinawa College Nago, Japan
Stanisław Lochyński	Wrocław University of Science and Technology, College of Physiotherapy in Wrocław, Poland
Agnieszka Ludwiczuk	Medical University of Lublin, Poland
Luigi Mondello	University of Messina, Italy
Johannes Novak	University of Veterinary Medicine, Austria
Niko Radulović	University of Niš, Serbia
Patrizia Rubiolo	University of Turin, Italy
Iris Stappen	The University of Vienna, Austria
Daniel Strub	Wrocław University of Science and Technology, Poland
Sandy van Vuuren	University of Witwatersrand, South Africa
Alvaro Viljoen	Tshwane University of Technology, South Africa
Éva Zámboriné-Németh	University of Agriculture and Life Science, Budapest, Hungary

Conference secretariat

Margherita Barilà	Chromaleont s.r.l., Messina, Italy
Elisa Giglio	Chromaleont s.r.l., Messina, Italy

Registration and Secretariat Office

Conference materials and name badges can be obtained at the registration desk which will be open in the Trifiletti Theatre (ground floor) as follows:

Wednesday,	13 th September	15:00 - 17:00
Thursday,	14 th September	08:00 - 13:00; 15:00 - 17:00
Friday	15 th September	09:00 - 13:00; 15:00 - 17:00
Saturday	16 th September	09:00 - 13:00

Assistants and conference secretariat

If you need any help during the conference you can find the staff at the registration desk. They will help you in all practical aspects of conference participation.

Name badges

Participants and accompanying persons are obliged to wear the conference name badges during all conference events.

Opening ceremony

The opening ceremony will take place in the parterre of the Trifiletti Theatre on Wednesday, 13th September 2023 from 17:00 to 18:45.

Speaker instructions

PowerPoint, PDF presentations are accepted on USB sticks. The presentation has to be copied to the laptop before the session. Speakers are requested to copy their presentation the day prior to their speech **before** the session starts. It is crucial that speakers are on time and that they keep their presentation within the allotted time scheduled. The plenary lectures have a duration of **40 minutes**, including discussion. The time for oral presentations is **20 minutes** (Key note) and **15 minutes** (oral), including discussion. Young oral presentations have a duration of **10 minutes** for each speaker, including discussion. An audiovisual technician will be available for assistance in the conference hall.

Poster sessions

Poster sessions will take place in the poster exhibition area at the symposium location. The posters should be placed on the assigned session day in the morning and removed just after the end of the session. Maximum size of a poster is 841 l × 1189 h [mm] (A0 format).

Poster Session A	Thursday, 14 th September	17:00 - 18:30
Poster Session B	Friday, 15 th September	17:00 - 18:30

Language

The conference language is English.

Lunches and refreshments

Lunches are included in the participant's registration fee and will be served at the "*Osteria Adagio Adagio*" restaurant (via Umberto I, n. 180, Milazzo) as follows:

Thursday, 14 th September	12:30 - 14:00
Friday, 15 th September	12:30 - 14:00
Saturday, 16 th September	13:00 - 14:30

Coffee breaks will be served by the artisanal bakery *Tuppo la Brioche siciliana* every day at the Congress venue (see scientific program for scheduled times).

Social events

Get-together party

Date Wednesday, 13th September
Time 18:45 - 21:00
Place *Villa Vaccarino* (Via Cristoforo Colombo 32-58, Milazzo)

Symposium dinner

Date Thursday, 14th September
Time 19:30 - 23:30
Place *La Baia* (Capo Milazzo - Via S. Antonio 10, Milazzo)

Guided tour - Milazzo Monumental Castle

Date Saturday, 16th September
Time 15:00 - 18:00
Place Meeting point: Trifiletti Theatre

Insurance and liability

The organizers do not take any responsibility for injury or damage involving persons or property during the conference. Participants are advised to make their own arrangements with respect to health, travel, and property insurance before they depart from their country.

Conference website

www.iseoils.com

Exhibitors

The exhibition site will be located in the foyer of the Trifiletti Theatre

Emergency phone numbers

113 – Police
112 - Carabinieri
115 – Fire Department
118 – Emergency
(+39) - 090-9282979 – Municipal Police

Taxi

Mylae Taxi (+39) 327 5470875
Adige Taxi (+39) 348 1543409

ISEO MEDAL OF HONOUR

The first promoters of the ISEO Medal were Giovanni Dugo and Luigi Mondello, Chairmen of the 35th ISEO organized in Giardini Naxos, Italy, in 2004. The idea of the ISEO medal came up again in 2017, when the Permanent ISEO Scientific Committee decided to create an honorary medal to be attributed every year to a scientist that during his scientific carrier has contributed significantly and innovatively to promote the development of the scientific knowledge in the essential oil field. The scientific topics to be considered for the award must illustrate one or more aspects of the multitask discipline including botany and cultivation, chemistry, biological activity, and applications in food, cosmetic, pharmaceutical and other fields.

The ISEO Medal was officially instituted in 2019, on the occasion of the 50th anniversary of ISEO, held in Wien, Austria. With the help of the members of the ISEO permanent Scientific Committee and Sergio Tranfo, an artist from Messina, as well as the Merck company, official sponsor of the medal, the ISEO Medal of Honour was created.

Previous ISEO Medal of Honour Recipients

2019: Prof. Ian Karlsen (50th ISEO, Wien, Austria)

2021: Prof. Karl Heinz Kubeczka (51st ISEO, Turkey, on-line)

2022: Prof. Carlo Bicchi (52nd ISEO, Wroclaw, Poland)

ISEO 2023 Medal of Honour Recipients

We are delighted to announce that, by the decision of the ISEO Medal Committee, Prof. Kemal Hüsnü Can Başer and Prof. Giovanni Dugo were selected as the recipients of the ISEO 2023 Medal of Honour.



**Prof. Kemal Hüsnü Can
Başer**



Prof. Giovanni Dugo



SPONSOR of the ISEO Medal of Honour

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Young Scientists Fellowship



The ISEO 2023 Organizing Committee is very grateful to the Executive Committee of the International Federation of Essential Oils and Aroma Trades (IFEAT), which supported financially the participation of 20 selected young scientists for the participation in the 53rd International Symposium on essential Oils, twelve of which were chosen for an oral presentation, and eight for a poster presentation. IFEAT Young Scientists Fellowship comprises the reimbursement of the registration fee.

This year's awardees are:

Oral Presentation:

Filipe Arruda	Azores University, Portugal
Timur Hakan Barak	Mehmet Ali Aydınlar University, Turkey
Piyush Bhalla	Forest Research Institute, India
Hannes Bitterling	WALA Heilmittel GmbH, Germany
Furkan Coban	Ataturk University, Turkey
Ayşe Esra Karadağ	Istanbul Medipol University, Turkey
Lorenzo Lamberti	University of Turin, Italy
Ayoub Abdelkader Mekkaoui	Université Cadi Ayyad, Morocco
Davy Moussango	University of Douala, Cameroon
Branimir Pavlić	University of Novi Sad, Serbia
Antonella Porrello	University of Palermo, Italy
Alicja Surowiak	Wroclaw University of Science and Technology, Poland

Poster Presentation:

Roberta Astolfi	Sapienza University, Rome, Italy
Kinga Baberowska	Wrocław University of Science and Technology, Poland
Zuzanna Bacińska	Wrocław University of Science and Technology, Poland
Marta Klemens	Wrocław University of Environmental and Life Sciences, Poland
Nieves Melero-Carnero	Universitat Politècnica de València, Spain
Natalia Pachura	Wrocław University of Environmental and Life Sciences, Poland
Marta Pavarino	University of Turin, Italy
Natalia Torres Pagán	Universitat Politècnica de València, Spain

Special issue dedicated to ISEO2023 Journal of Essential Oil Research



Journal of Essential Oil Research will be publishing a Virtual Special Issue (VSI) of contributions presented at the "53rd International Symposium on essential Oils" (ISEO2023) from September 13-16, 2023 in Milazzo, Messina, Italy.

Special issue information:

The VSI will cover topics related to essential oils and related natural products. Including Breeding, Cultivation, Analysis, Biogenesis, Biological activity, Chemistry and Utilization.

Manuscript Submission information:

You are invited to submit your manuscript at any time before the submission deadline. For any inquires about the appropriateness of contribution topic, please contact the Guest editors.

The journal submission platform will be available from September 1, 2023 for receiving submission to this Special Issue. Please refer to the Guidelines to Authors to prepare your manuscript, and select the VSI ISEO2023 when submitting your manuscript online.

Visit Journal of essential Oil research website information.

<https://www.tandfonline.com/journals/tjeo20>

Submission deadline: March 01, 2024.

Editor:

Prof. Luigi Mondello
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Messina, Italy
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Guest editor:

Prof. Györgyi Horváth
University of Pécs
Pécs, Hungary
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Prof. Daniel Strub
Wroclaw University of Science and Technology
Wroclaw (WUT), Poland
daniel.strub@pwr.edu.pl

Scientific program

Wednesday, 13th September, 2023

15:00 – 17:00

Registration

17:00 – 18:45

Opening Ceremony and Greetings from the Authorities

Chairs: Paola Dugo, Luigi Mondello

Pippo Midili – Major of the city of Milazzo

Salvatore Cuzzocrea – Rector of the University of Messina

Milazzo and the Essential Oils

Ivana Lidia Bonaccorsi

ISEO Medal of Honour presentation

Kemal Hüsnü Can Başer and Giovanni Dugo

18:00 **Opening lecture**

Some thoughts on the future of essential oils

Kemal Hüsnü Can Başer

Near East University in Nicosia, N. Cyprus

18:30 **European Federation of Essential Oils (EFEO)**

Successful defense in Brussels for the use of natural oils in perfumery and cosmetics against the risk of a restrictive legal proposal that would limit their use

Cav. Lav. Gianfranco Capua, Vilfredo Raymo

Italian board representatives for EFEO

18:45 – 21:00

Get-together party - Villa Vaccarino

Thursday, 14th September, 2023

08:00 – 13:00 **Registration**

09:00 – 12:30 **Session 1**

09:00 – 10:30 Chairs: Carlo Bicchi, Humberto Bizzo

Plenary Lecture

09:00 (PL-1) The Sensomics approach, important tool for the characterisation of the key odorants in five species of the mint family (*Lamiaceae*): Aroma quality assessment of commercial spices and odorant receptor research

Peter Schieberle

Technical University of Munich, Munich, Germany

Oral Lectures

09:45 (OL-1) Essential oils bearing specialized metabolites with potential hypoglycemic activity: a bio-guided fractionation approach driven by *in vitro* (porcine, human and fungal) alpha-amylase inhibition assays

Barbara Sgorbini, Marta Pavarino, Salvatore Adinolfi, Francesca Spyrakis, Cecilia Cagliero, Arianna Marengo, Carlo Bicchi, Patrizia Rubiolo

University of Turin, Turin, Italy

10:00 (OL-2) Chemical words: microbial volatiles (mVOCs) interact with plants and promote growth by gene modulation and oxidative stress

Massimo Maffei

Plant Physiology Unit, Department of Life Sciences and Systems Biology, University of Turin, Turin, ITALY

10:15 (OL-3) Agarwood (*Aquilaria malaccensis* L.) a quality fragrant and medicinally significant plant based essential oil with pharmacological potentials and genotoxicity

Mohan Lal¹, Roktim Gogoi^{1,2}, Neelav Sarma^{1,2}, Twahira Begum²

¹*Academy of Scientific and Innovative Research, Ghaziabad, India;*

²*CSIR-North east Institute of Science and Technology, Jorhat, India*

10:30 – 11:00 **Coffee Break**

11:00 – 12:30 Chairs: Marina Russo, Iris Stappen

Oral Lectures

- 11:00 (OL-4) Tridimensional gas chromatographic system coupled to an olfactometric port and FID/MS detection for the qualitative and odour evaluation of trace components.
Danilo Sciarrone¹, Gemma De Grazia², Lorenzo Cucinotta¹, Luigi Mondello^{1,3}
¹University of Messina, Messina, Italy; ²Capua 1880 Srl, Reggio Calabria, Italy; ³Chromaleont s.r.l., Messina, Italy
- 11:15 (OL-5) Biocidal properties of essential oils and aromatic extracts
Lucyna Balcerzak, Alicja Surowiak, Kinga Baberowska, Zuzanna Bacińska, Daniel Jan Strub
Wrocław University of Science and Technology, Wrocław, POLAND
- 11:30 (OL-6) Exploring the stereochemical influence of essential Oil compounds on antimicrobial activity: uncovering the power of enantiomers in combination studies
Sandy van Vuuren¹, Nazihah Hoosen¹, Alvaro Viljoen²
¹University of the Witwatersrand, Johannesburg, South Africa;
²Tshwane University of Technology, Pretoria, South Africa
- 12:45 (OL-7) Influence of the selected essential oil on invasive *Solidago canadensis* L.
Mária Pluchtová, Beata Baranová, Daniela Grulová
University of Prešov, Slovakia
- 12:30 (OL-8) Biological Properties of fractions obtained from winter lemon and grapefruit essential oils
Marzia Pucci¹, Stefania Raimondo¹, Roberta Gasparro¹, Vincenza Tinnirello¹, Valeria Corleone², Gioacchino Aiello², Simona Fontana¹, Riccardo Alessandro¹
¹University of Palermo, Palermo, Italy; ²Agrumaria Corleone s.p.a., Palermo, Italy
- 12:15 (OL-9) Use of liquid and supercritical fluid chromatography for determination of coumarins, furocoumarins, and polymethoxyflavones
Marina Russo¹, Maria Rita Testa Camillo¹, Giovanna Cafeo¹, Antonella Satira², Patrik Appelblad³, Romana Rigger⁴, Paola Dugo¹, Luigi Mondello¹
¹University of Messina, Messina, Italy; ²Chromaleont s.r.l., Messina, Italy; ³Merck LifeScience AS, Norge; ⁴Merck Chemicals and Life Science GesmbH, Austria

12:30 – 14:00

Lunch - "Osteria Adagio Adagio" restaurant

14:00 – 17:00 **Session 2**

14:00 – 15:30 Chairs: Stanislaw Lochynski, Barbara Sgorbini

Plenary Lecture

14:00 (PL-2) Chemometric strategies for the verification of authenticity claims and fraud detection in essential oils

Paolo Oliveri

University of Genoa, Genoa, Italy

Young Scientists Oral Lectures

14:40 (YOL-1) Assessment and challenges of mineral oil contamination in *Citrus* essential oils

Alessia Arena¹, Mariosimone Zoccali¹, Peter Q. Tranchida², Luigi Mondello^{1,2}

¹*University of Messina, Messina, Italy*; ²*Chromaleont s.r.l., Messina, Italy*

14:50 (YOL-2) *Salvia apiana* In Vitro Shoot System as a source of biologically active volatile fraction

Agata Król¹, Adam Kokotkiewicz¹, Bożena Zabiegała², Klaudia Ciesielska-Figlon¹, Jacek M. Witkowski¹, Maria Łuczkiwicz¹

¹*Medical University of Gdańsk, Gdańsk, Poland*; ²*Gdańsk University of Technology, Gdańsk, Poland*

15:00 (YOL-3) Comprehensive chemical Characterization of Unconventional Cold Pressed Seed Oils

Cinzia Cafarella¹, Francesca Rigano¹, Emanuela Trovato¹, Paola Dugo^{1,2}, Luigi Mondello^{1,2}

¹*University of Messina, Messina, Italy*; ²*Chromaleont s.r.l., Messina, Italy*

15:10 (YOL-4) Comparative in vitro and in silico enzyme inhibitory screening of *Rosa x damascena* and *Pelargonium graveolens* essential oils and geraniol

Ayşe Esra Karadağ¹, Sevde Nur Biltekin^{1,2}, Betül Demirci³, Fatih Demirci^{3,4}, Usman Ghani⁵

¹*Istanbul Medipol University, Istanbul, Turkiye*; ²*Institute of Sciences, Istanbul University, Istanbul, Turkiye*; ³*Anadolu University, Eskişehir, Turkiye*; ⁴*Eastern Mediterranean University, Famagusta, N. Cyprus, Turkiye*; ⁵*College of Medicine, King Saud University, Riyadh, Saudi Arabia*

15:20 (YOL-5) Investigation of Coumarins, Furocoumarins and Polimethoxyflavones in Citrus Hand Gels by Hyphenated Chromatography Techniques

Giovanna Cafeo¹, Tania M. G. Salerno¹, Emanuela Trovato¹, Federica Vento¹, Mariosimone Zoccali¹, Paola Donato¹, Paola Dugo^{1,2}, Luigi Mondello^{1,2}

¹*University of Messina, Messina, Italy*; ²*Chromaleont s.r.l., Messina, Italy*

15:30 – 16:00

Coffee Break

16:00 – 17:00

Chairs: Daniel Jan Strub, Agnieszka Ludwiczuk

Young Scientists Oral Lectures

16:00 (YOL-6) Raw fragrance materials as potential antimicrobial agents

Alicja K. Surowiak¹, Lucyna Balcerzak¹, Daniel J. Strub^{1,2}

¹Wrocław University of Science and Technology, Wrocław, POLAND; ²Liquid Technologies sp. zo.o., Wrocław, POLAND

16:10 (YOL-7) Nanoformulation of a biopesticide based on combinations of essential oils of *Syzygium aromaticum* (cloves) and *Zingiber officinale* (roots) harvested in Cameroon

Davy Moussango¹, Sameza Modeste¹, Tchameni Severin¹, Ebong priscile¹, Ampère Bédine², Jazet Dongmo¹, Chantal Menut³

¹University of Douala, Douala, Cameroon; ²University of Yaoundé I, Yaoundé, Cameroon; ³Glyco and nanovectors for therapeutic targeting" team, IBMM, Montpellier, France

16:20 (YOL-8) Photo-protective effects of furocoumarins on citrus essential oils and the impact on natural perfumery

Clio Vidal, Hannes Bitterling

Department of Analytical Development & Research, WALA Heilmittel GmbH, Dorfstrasse 1, 73087 Bad Boll/Eckwälden, Germany

16:30 (YOL-9) Xanthoxylin from *Pulicaria incisa* essential oil: chemical composition of volatile fraction and their biological activities

Antonella Porrello¹, Natale Badalamenti^{1,2}, Maurizio Bruno^{1,2}, Viviana Maresca³, Adriana Basile³

¹University of Palermo, Palermo, Italy; ²National Biodiversity Future Center, Palermo, Italy; ³University of Campania "Luigi Vanvitelli", Naples, Italy.

16:40 (YOL-10) Circular Economy in the cosmetic industry: a systematic literature review

Alice Mondello, Roberta Salomone, Giovanni Mondello
University of Messina, Italy

16:50 DISCUSSION

17:00 – 18:30

Poster Presentation – Session A

19:30 – 23:30

Symposium Dinner - La Baia Capo Milazzo

Friday, 15th September, 2023

09:00 – 11:30

Session 3

09:00 – 10:30

Chairs: Eva Zamborin -N meth, Clio Vidal

Plenary Lecture

09:00 (PL-3) Laboratories facing environmental challenges: shifting the paradigm

Christophe Peres

Le Labo Durable, Paris, France

Keynote Lecture

09:40 (KL-1) Volatiles from liverworts – chemical diversity and bioactive

Angieszka Ludwiczuk¹, Yoshinori Asakawa²

¹*University of Lublin, Lublin, Poland;* ²*Tokushima Bunri University, Tokushima, Japan*

Oral Lectures

10:00 (OL-10) Seduced by our noses: odors in marketing

Nina Berg¹, Iris Stappen²

¹*Marienapotheke Baden, Baden, Austria;* ²*University of Vienna, Vienna, Austria*

10:15 (OL-11) About the use of alternative carrier gasses in gas chromatography for analysis of *Citrus* essential oils through the use of flame ionization detector and mass spectrometry

Antonio Ferracane¹, Micalizzi Giuseppe¹, Filippo Alibrando¹, Leonard M Sidisky², Luigi Mondello^{1,3}

¹*University of Messina, Messina, Italy;* ² *MilliporeSigma, USA;* ³*Chromaleont s.r.l., Messina, Italy*

10:30 – 11:00

Coffee Break

11:00 – 11:30

Chairs: Cecilia Cagliari 

Oral Lectures

11:00 (OL-12) Comprehensive study of photo- and thermal degradation of chamazulene contained in *Matricaria* and *Achillea* essential oils and setup of protection strategies

Simone Gabbanini¹, Jerome Ngwa Neba², Riccardo Matera¹, Luca Valgimigli²

¹*R&D Department, BeC s.r.l., Forl , Italy;* ²*University of Bologna, Bologna, Italy*

11:15 (OL-13) In vitro evaluation of essential oils as antioxidant and sunscreen agents for cosmetic formulations

Lucia Montenegro, Edy Angela Siciliano, Valeria Consoli, Luca Vanella, Valeria Sorrenti, Annamaria Panico

University of Catania, Catania, Italy

11:30 – 12:30 **Round Table with *Citrus* Industries**
Chairs: Paola Dugo, Ivana Lidia Bonaccorsi
Agrumaria Corleone, Agrumaria Reggina, Baller, Citrofood,
Simone Gatto

12:30 – 14:00 **Lunch - Osteria Adagio Adagio restaurant**

14:00 – 17:00 **Session 4**

14:00 – 15:30 Chairs: Kemal Hüsni Can Başer, Gianluca Gilardoni

Plenary Lecture

14:00 (PL-4) Organic synthesis: a valuable tool to explore the chemistry and the properties of essential oils

Nicolas Baldovini

Université Côte d'Azur, Nice, France

Young Scientists Oral Lectures

14:40 (YOL-11) Commercial use of *Cannabis Sativa L.* essential oil for the production of the first alcohol-free craft beer.

Lorenzo Lamberti^{1,2}, Giorgio Grillo², Giancarlo Cravotto²

¹Craft Brewery Baladin S.s.a., Piozzo, Italy; ²University of Turin, Turin, Italy

14:50 (YOL-12) Forgotten perfumery plants: fragrance revelation for innovation

Kevin da Fonte¹, A.S. Bouville^{1,2}, P. Portes², J.C. Lhomme², X. Fernandez¹

¹Université Côte d'Azur/CNRS, Nice, France; ²Laboratoires M&L, L'Occitane Group, Manosque, France

15:00 (YOL-13) Effect of essential oils on biofilm formation in different bacterial species

Francesco Buccioni, Francesca Maggio, Annalisa Serio, Chiara Rossi, Chiara Purgatorio, Antonello Paparella

University of Teramo, Italy

15:10 (YOL-14) Evaluation of *Juniperus communis* L. (Juniper) essential oil samples sold on the market in Türkiye in terms of European Pharmacopoeia 10.0 criteria

Timur Hakan Barak, Duru Düşmen, Tuğba Buse Şentürk, Engin Çelep

Mehmet Ali Aydınlar University, Istanbul, Türkiye

15:20 (YOL-15) Enantio-selective multidimensional gas chromatography coupled to isotopic ratio mass spectrometry for the authenticity assessment of *Citrus* essential oils

Lorenzo Cucinotta¹, Gemma De Grazia², Danilo Sciarrone¹, Luigi Mondello^{1,3}

¹University of Messina, Messina, Italy; ²Capua 1880 Srl, Reggio Calabria, Italy; ³Chromaleont s.r.l., Messina, Italy

15:30 – 16:00	Coffee Break
16:00 – 17:00	Chairs: Sandy van Vuuren, Massimo Maffei
	Young Scientists Oral Lectures
16:00	(YOL-16) A comprehensive evaluation of hydrolates obtained from <i>Iris</i> rhizomes <u>Maria Filatova</u> ¹ , Jana Hajslova ¹ , Petr Kastanek ² , Michal Stupak ¹ ¹ University of Chemistry and Technology Prague, Prague, Czech Republic; ² Ecofuel Laboratories s.r.o., Prague, Czech Republic
16:10	(YOL-17) Altitude-Dependent Variation in Chemical Composition of Essential Oil of <i>Origanum acutidens</i> (HAND-MAZZ.) IETSWAART <u>Furkan Coban</u> ¹ , Hakan Ozer ¹ , Ramazan Cakmakci ² ¹ Ataturk University, Erzurum, Turkiye; ² Çanakkale Onsekiz Mart University, Çanakkale, Turkiye
16:20	(YOL-18) Fast chiral GC recognition of citrus essential oils evaluated with greenness metrics: is this analysis sustainable in industrial quality control? <u>Gaia Bechis</u> , Barbara Sgorbini, Carlo Bicchi, Patrizia Rubiolo, Cecilia Cagliero University of Turin, Turin, Italy
16:30	(YOL-19) Characterization of volatile and aroma active compounds in <i>Cupressus torulosa</i> needles essential oil by GC-MS and GC-O analyses <u>Piyush Bhalla</u> ¹ , Renuka Thergaonkar ² , V.K Varshney ¹ ¹ Forest Research Institute, Dehradun, Uttarakhand, INDIA; ² R&D Global Consultants Private Limited, Hamilton, Patlipada, Maharashtra, INDIA
16:40	(YOL-20) Fractionation of <i>Cryptomeria japonica</i> essential oil by sequential elution during hydrodistillation – a preliminary study <u>Filipe Arruda</u> ^{1,2} , Ana Lima ^{1,2} , Alexandre Janeiro ² , Tânia Rodrigues ² , José S. Rosa ² , José Baptista ^{1,2} , Tanner Wortham ³ , Elisabete Lima ^{1,2} ¹ Azores University, Angra do Heroísmo, Portugal; ² Azores University, Ponta Delgada, Portugal; ³ The Perfumery, New Albany, IN, USA
16:50	DISCUSSION
17:00 – 18:30	Poster Presentation – Session B
17:30 – 18:30	Permanent Scientific Committee Meeting

Saturday, 16th September, 2023

09:05 – 12:30

Session 5

09:05 – 11:00

Chairs: Györgyi Horváth, Patrizia Rubiolo

Plenary Lecture

09:05 (PL-5) Study of aromatic plants cultivated in Colombia and development of Colombian essential oil and natural ingredient industry

Elena Stashenko

Industrial University of Santander, Bucaramanga, Colombia, South America.

Oral Lectures

09:45 (OL-14) www.ai4essoil.com: a comprehensive essential oil database empowered by machine learning: unveiling valuable tools for enhanced exploration and application

Rino Ragno¹, Filippo Sapienza¹, Roberta Astolfi¹, Alessio Ragno¹, Roberto Capobianco¹, Caterina Rossi², Stefano Manfredini²

¹*Sapienza University of Rome, Rome, Italy*; ²*University of Ferrara, Ferrara, Italy*

10:00 (OL-15) Chemical and enantioselective analyses of new essential oils in Ecuador: the genus *Gynoxys* Cass. (Asteraceae)

Gianluca Gilardoni, Omar Malagón, Nixon Cumbicus
Universidad Tecnica Particular de Loja, Loja, Ecuador

10:15 (OL-16) Ohmic heating to valorize pineapple waste: GC-MS and headspace-SPME analysis of the extracted essential oils

Mohsen Gavahian

National Pingtung University of Science and Technology, Pingtung, Taiwan

10:30 – 11:00

Coffee Break

11:00 – 12:30

Chairs: Peter Quinto Tranchida, Nicolas Baldovini

Oral Lectures

11:00 (OL-17) Fast GC(×GC)-TOFMS using Hydrogen carrier gas applied to differential analysis of Essential oils

Sebastiano Pantò, Lena M. Dubois, Dmitrii Rakov, Nick Jones
LECO European Application & Technology Center, Berlin, Germany

11:15 (OL-18) Unravelling the chemical complexity of essential oils: in-depth characterization and profiling by comprehensive two-dimensional chromatography and mass spectrometry (GC×GC-MS)

Daniela Peroni, Raul Franceschini

SRA Instruments SpA, Cernusco sul Naviglio (MI), ITALY

11:30 (OL-19) Synergy between *Cinnamomum zeylanicum* essential oil and Fluconazole to bypass the resistance of *Candida auris*

Maura Di Vito¹, S. Garzoli², R. Rosato¹, M. Mariotti¹, J. Gervasoni³, L. Santucci³, E. Ovidi⁴, M. Cacaci¹, G. Lombarini¹, R. Torelli³, A. Urbani³, M. Sanguinetti^{1,3}, F. Bugli^{1,3}

¹*Università Cattolica del Sacro Cuore, Rome, Italy*; ²*Università di Roma Sapienza, Rome, Italy*; ³*Fondazione Policlinico Universitario "A. Gemelli" IRCCS, Rome, Italy*; ⁴*University of Tuscia, Viterbo, Italy*

11:45 (OL-20) Caper leaf essential oil as antimicrobial and antioxidant agent for food applications

Fabrizio Cincotta, Maria Merlino, Luca Nalbhone, Anthea Miller, Martina Buda, Graziella Ziino, Antonella Verzera, Concetta Condurso
University of Messina, Messina, Italy

12:00 (OL-21) Boosting the confidence in identification in the Flavour and Fragrance field via a Gas Chromatography - Mass Spectrometry -Fourier Transform Infrared Spectroscopy instrument

Tania M. G. Salerno¹, Carmelo Coppolino¹, Lorenzo Cucinotta¹, Paola Donato¹, Luigi Mondello^{1,2}

¹*University of Messina, Messina, Italy*; ²*Chromaleont s.r.l., Messina, Italy*

12:15 – 12:45 Chairs: Paola Dugo, Luigi Mondello

Closing Remarks

Best Oral and Best Poster presentation sponsored by Taylor and Francis and CRC Press

Travel Grant presentation sponsored by IFEAT

13:00 – 14:30 **Lunch - Osteria Adagio Adagio**

15:00 – 18:00 **Guided Tour** - Milazzo Monumental Castle (meet at Trifiletti Theatre)

Thursday, 14th September, 2023

17:00 – 18:30

Poster Presentation – Session A

(PA-1) *Elettaria cardamomum* (L.) Maton essential oil as potential acetylcholinesterase and butyrylcholinesterase inhibitor: A bio-guided fractionation approach

Marta Pavarino, Cecilia Cagliero, Arianna Marengo, Carlo Bicchi, Patrizia Rubiolo, Barbara Sgorbini

University of Turin, Turin, Italy

(PA-2) Differentiation and Characterization of Aromatic Moroccan Plants by Ambient Mass Spectrometry Combined with Chemometrics

Domenica Mangraviti¹, Francesca Rigano¹, Paola Dugo^{1,2}, Luigi Mondello^{1,2}

¹*University of Messina, Messina, Italy;* ²*Chromaleont s.r.l., c/o, University of Messina, Messina, Italy*

(PA-3) Analysis of oxygen heterocyclic compound in cold-pressed *Citrus* essential oils and fragrances using supercritical fluid chromatography coupled to tandem mass spectrometry method

Maria Rita Testa Camillo¹, Marina Russo¹, Paola Dugo^{1,2}, Luigi Mondello^{1,2}

¹*University of Messina, Messina, Italy;* ²*Chromaleont s.r.l., c/o, University of Messina, Messina, Italy*

(PA-4) Effect of drying methods on the volatiles profile of Chamomile

Natalia Pachura, Adam Figiel, Antoni Szumny, Jacek Łyczko

Wrocław University of Environmental and Life Sciences, Wrocław, Poland

(PA-5) Chemical composition and biological activity of essential oil from *Platycladus orientalis*

Marta Klemens, Jacek Łyczko, Antoni Szumny, Przemysław Bąbalewski, Tomasz Gębarowski

Wrocław University of Life Science and Environment, Wrocław, Poland

(PA-6) Chemical composition of essential oils from different parts of Azorean *Cryptomeria japonica* (Thunb ex. L.F.) D. Don and their *in vitro* antimicrobial activity

Ana Lima¹, Filipe Arruda¹, Alexandre Janeiro¹, Tânia Rodrigues¹, José Baptista¹, A. Cristina Figueiredo², Elisabete Lima¹

¹*University of Azores, Ponta Delgada, Portugal;* ²*Centro de Estudos do Ambiente e do Mar (CESAM Ciências), Faculdade de Ciências da Universidade de Lisboa, Lisboa, Portugal*

(PA-7) Application of *Conobea scoparioides* Cham. & Schltdl essential oil in association with parabens as natural cosmetic preservative under a challenge test

Cristina M. T. S. Miguel, Cristina H. Serra, Paulo R. H. Moreno

Universidade de São Paulo, São Paulo, Brazil

(PA-8) Photosensitive screens, chlorophyll fluorescence and essential oil composition in basil

Mirian Nomura¹, José Magno O. Luz¹, Arie F. Blank², Carlos R. Rodrigues³, Sérgio M. Silva⁴, Roberta C. Oliveira¹, Mércia F. Alves², Daniela A. C. Nizio²

¹*Universidade Federal de Uberlândia-UFU, Uberlândia-MG, Brazil;* ²*Universidade Federal do Sergipe, São Cristóvão-SE, Brazil;* ³*Goiano Federal Institute, Rio Verde-GO, BRAZIL;*

⁴*Universidade Federal dos Vales do Jequitinhonha e Mucuri, Unaí-MG, Brazil*

(PA-9) In vivo elicitation improves essential oil content and modifies terpene composition in *Salvia rosmarinus* leaves

Ana Claudia Pacheco¹, Mateus Modesto Bosio¹, Tiago Benedito dos Santos¹, Héliida Mara Magalhães², Silvia Gracielle Hulse de Sousa², Alessandra Ferreira Ribas³, Cícero Deschamps³, Roger Raupp Cipriano³

¹Wester Paulista University (UNOESTE), Presidente Prudente, Brazil; ²University of Paraná (UNIPAR), Umuarama, Brazil; ³Federal University of Paraná (UFPR), Curitiba, Brazil

(PA-10) Composition of the Essential Oil from the Needles and Twigs of Organic Tyrolean Spruce - *Picea abies* (L.) H. Karst.

Alin Bosilcov, Clemens Vergeiner, Katrin Joas
Brüder Unterweger GmbH, Assling, Austria

(PA-11) GC-O and Sniff&Trap (S&T): an alternative 2D approach in sensorial aroma investigation

Thomas Albinus¹, Andrea Caretta²

¹GERSTEL GmbH & Co KG, Mülheim an der Ruhr, Germany; ²SRA Instrument, Milan, Italy

(PA-12) Characterization of avocado leaf volatiles for food flavouring applications

Fabrizio Cincotta, Concetta Conduro, Maria Merlino, Anthea Miller, Martina Buda, Ivana Lidia Bonaccorsi, Antonella Verzera
University of Messina, Messina, Italy

(PA-13) Essential oil components as GC-compatible hydrophobic deep eutectic solvents to extract regulated compounds from water-based fragrances

Cecilia Cagliero, Gaia Bechis, Arianna Marengo, Barbara Sgorbini, Carlo Bicchi, Patrizia Rubiolo

University of Turin, Turin, Italy

(PA-14) IKnife Based on Rapid Evaporative Ionization Mass Spectrometry Technology for the Safeguard of Saffron Quality

Francesca Rigano¹, Cinzia Cafarella¹, Domenica Mangraviti¹, Carmela Sottile¹, Paola Dugo^{1,2}, Luigi Mondello^{1,2}

¹University of Messina, Messina, Italy; ²Chromaleont s.r.l., c/o, University of Messina, Messina, Italy

(PA-15) Volatile Compositions of Three Different Commercial Herbal Teas and Statistical Analyses

Damla Kirci¹, Betül Demirci²

¹Selçuk University, Konya, Turkey; ²Anadolu University, Eskişehir, Turkey

(PA-16) Characterization of the volatile profile of essential oil samples distilled from drug type *Cannabis Sativa* L. flowering tops

Giuseppe Micalizzi¹, Valentina Chiaia¹, Filippo Alibrando¹, Pietro Maida², Luigi Mondello^{1,3}

¹University of Messina, Messina, Italy; ²Arma dei Carabinieri, Department of Scientific Investigations (RIS), Messina, Italy; ³Chromaleont s.r.l., c/o, University of Messina, Messina, Italy

(PA-17) Evaluation of Arabica and Robusta essential oils on the USA market

Rima Juskelis, Mark Krzeszowiec, Jonathan DeCenzi

NOW Foods, Bloomingdale, USA

(PA-18) Geographic variation and diversity of aroma characteristics of *Alpinia zerumbet*

Eisuke Kuraya¹, Akiko Touyama²

¹Okinawa College, Nago, Japan; ²Okinawa Flora Co. Ltd., Nago, Japan

(PA-19) Aroma characteristics of Okinawa finger lime (*Citrus australasica*)

Akiko Touyama¹, Eisuke Kuraya²

¹Okinawa Flora Co. Ltd., Okinawa Nago, Japan; ²Okinawa College, Okinawa Nago, Japan

(PA-20) Phytotoxic potential of five essential oils to control *Chenopodium album* L. germination

Nieves Melero-Carnero¹, Natalia Torres-Pagán¹, David López-González², Amparo Blázquez³, Herminio Boira¹, Adela Sánchez-Moreiras², Mercedes Verdeguer¹

¹Universitat Politècnica de València, Valencia, Spain; ²Universidade de Vigo, Vigo, Spain;

³Universitat de València, Valencia, Spain

(PA-21) The Chemical Composition of the Essential Oil of *Asterothamnus molliusculus* Novopokr from the Mongolian Eastern-South Gobi

Shatar Sanduin¹, Altantsetseg Shataryn¹, Nicolas Baldovini²

¹Institute of Chemistry and Chemical Technology of the Mongolian Academy of Sciences (MAS), Ulaan-Baatar, Mongolia; ²Université Côte d'Azur, Nice, France

(PA-22) The Chemical Composition of the Essential Oil of *Carduus crispus* L. from Mongolia

Shatar Sanduin¹, Altantsetseg Shataryn¹, Nicolas Baldovini²

¹Institute of Chemistry and Chemical Technology of the Mongolian Academy of Sciences (MAS), Ulaan-Baatar, Mongolia; ²Université Côte d'Azur, Nice, France

(PA-23) The Chemical Composition of the Essential Oil of leaves, stems, fruits and roots of the *Peucedanum hystrix* Bge. from the Mongolian Steppe-Gobi

Shatar Sanduin¹, Altantsetseg Shataryn¹, Nicolas Baldovini²

¹Institute of Chemistry and Chemical Technology of the Mongolian Academy of Sciences (MAS), Ulaan-Baatar, Mongolia; ²Université Côte d'Azur, Nice, France

(PA-24) Changes in accumulation and spectrum of volatiles in peppermint as result of elicitation

Zámboriné Németh É., Kandoudi W., Tavaszi-Sárosi Sz.

Hungarian University of Agricultural and Life Sciences, Budapest, H

(PA-25) Role of volatile compounds on the specificity of Portuguese honeys

Alexandra M. Machado¹, Maria Graça Miguel², Miguel Vilas-Boas³, Ana Cristina Figueiredo¹

¹Faculdade de Ciências da Universidade de Lisboa (FCUL), Lisboa, Portugal; ²Universidade do Algarve, Campus de Gambelas, Faro, Portugal; ³Instituto Politécnico de Bragança, Campus de Santa Apolónia, Bragança, Portugal

(PA-26) Herbicidal potential of *Eucalyptus camaldulensis* Dehnh. Essential oil against Mediterranean weed seeds

Natalia Torres-Pagán^{1,3}, Nieves Melero¹, David López-González², Adela Sánchez-Moreiras², Alessandra Carrubba³, Mercedes Verdeguer¹

¹Universitat Politècnica de València, Valencia, Spain; ²Universidade de Vigo, Vigo, Spain;

³Università degli studi di Palermo, Palermo, Italy

(PA-27) Minerals elements, essential oil composition antimicrobial activity of Algerian *Melissa officinalis* plant.

Eahima Abdellatif¹, Dahmane dahmane¹, Mohammed Messaoudi²

¹*Ecole Normale Superieure Kouba, Alger, Algérie*; ²*Nuclear Research Centre of Birine, Djelfa, Algeria*

(PA-28) Evaluation of half-sib progenies of *Varronia curassavica* harvested in two seasons

Arie F. Blank, Vanderson S. Pinto, W. S. Jesus, José C. F. Sá Filho, Daniela A. C. Nizio, Paulo C. L. Nogueira, Maria T. S. Leite Neta
Federal University of Sergipe, São Cristóvão, Sergipe, Brazil

(PA-29) Antimicrobial activity of essential oils from *Croton grewoides* Baill. on *Xanthomonas campestris* pv. *campestris*

Maria F. Arrigoni-Blank, Taíse C. Rodrigues, Itamara B. Gois, Roberta P. M. Fernandes, Maria T. S. Leite Neta, Arie F. Blank
Federal University of Sergipe, São Cristóvão, Brazil

(PA-30) Scaling down the sample amount in hop essential oil analysis

Humberto R. Bizzo, Rosemar Antoniassi, Paola E. Gama, Marcos J. O. Fonseca
Embrapa Agroindústria de Alimentos, Rio de Janeiro, Brazil

(PA-31) Synergism in two-component insecticides with dillapiole

Murilo Fazolin¹, André F. M. Monteiro¹, Maria E. C. Lima², Natalia S. Maisforte³, Paola E. Gama⁴, Humberto R. Bizzo⁴.

¹*Embrapa Acre, Rio Branco AC, Brazil*; ²*Universidade Federal do Acre, Rio Branco AC, Brazil*; ³*Instituto Federal do Acre, Rio Branco AC, Brazil*; ⁴*Embrapa Agroindústria de Alimentos, Rio de Janeiro, Brazil*

(PA-32) Lipid peroxidation inhibitory potential of the selected terpenoids

Jelena S Lazarević, Jelena Zvezdanović
University of Niš, Niš, Serbia

(PA-33) The effect of *Artemisia arborescens* essential oil and its constituents on the inhibition of lipid peroxidation

Jelena S Lazarević, Jelena Zvezdanović, Gordana Stojanović
University of Niš, Niš, Serbia

(PA-34) Plasticizer contamination of commercial Tunisian essential oils: a preliminary study

Angela Giorgia Potortì¹, Vincenzo Lo Turco¹, Ambrogina Albergamo¹, Federica Litrenta¹, Rossana Rando¹, Hedi Ben Mansour², Giuseppa Di Bella¹

¹*University of Messina, Messina, Italy*; ²*University of Monastir, Monastir, Tunisia*

(PA-35) Commercial Tunisian essential oils as potential food antimicrobials and antioxidants and screening of their element profile

Ambrogina Albergamo¹, Vincenzo Nava¹, Vincenzo Lo Turco¹, Benedetta Sgrò¹, Giovanni Bartolomeo¹, Asma Beltifa^{2,3}, Giuseppa Di Bella¹

¹*University of Messina, Messina, Italy*; ²*University of Monastir, Monastir, Tunisia*; ³*Direction d'hygiène du milieu et de la protection de l'environnement à la direction régionale de santé de Mahdia, Mahdia, Tunisia*

(PA-36) Evaluation of Volatile Fraction and Oxygen Heterocyclic Compounds of Mandarin essential oils.

Federica Vento¹, Filippo Alibrando², Giuseppe Micalizzi¹, Marina Russo¹, Ivana Bonaccorsi¹, Cristian Reale¹, Paola Dugo¹, Luigi Mondello^{1,2}

¹University of Messina, Messina, Italy; ²Chromaleont s.r.l. c/o, University of Messina, Messina, Italy

(PA-37) Evaluation of Volatile Fraction and Oxygen Heterocyclic Compounds of sweet orange essential oils.

Federica Vento¹, Filippo Alibrando², Giuseppe Micalizzi¹, Marina Russo¹, Ivana Bonaccorsi¹, Elisa Irrera¹, Paola Dugo¹, Luigi Mondello^{1,2}

¹University of Messina, Messina, Italy; ²Chromaleont s.r.l. c/o, University of Messina, Messina, Italy

(PA-38) Characterization of the essential oil, absolute and extract of Egyptian Calendula (*Calendula officinalis* L.)

Federica Vento¹, Emanuela Trovato¹, Domenica Mangraviti¹, Francesca Rigano¹, Hussein A. Fakhry², Fatma Salaheldin², Paola Dugo^{1,3}, Luigi Mondello^{1,3}

¹University of Messina, Messina, Italy; ²A. Fakhry & Co., Cairo, Egypt; ³Chromaleont s.r.l. c/o, University of Messina, Messina, Italy

(PA-39) Comparison between Satsuma mandarins' (*Citrus unshiu*) essential oil components sampled from Fort Beaufort farms, South Africa

Vuyokazi Mazwi¹, A.O. Oyedeji¹, and O. O. Oyedeji²

¹Walter Sisulu University, Mthatha, South Africa; ²University of Fort Hare, Alice, South Africa

(PA-40) Chemical compositions and anti-microbial activity of *Heliotropium Bacciferum* & *Anethum graveolens* essential oils

Maha Hasni, Abdelmadjid Saidani, Nasser Belboukhari, Khaled Sekkoum, Mebarka Belboukhari, Abdelaziz Berghioua

University of bechar, Algeria

Friday, 15th September, 2023

17:00 – 18:30

Poster Presentation – Session B

(PB-1) Effect of wintergreen essential oil and its solution in acute dermatitis in vivo model

Eszter Csikós¹, Sarah Shubail¹, Ágnes Kemény¹, Margita Szilágyi-Utczás², Györgyi Horváth¹

¹University of Pécs, Pécs, Hungary; ²Hungarian University of Sports Science, Center of Sports Nutrition Science, Budapest, Hungary

(PB-2) Essential oil composition of *Lithraea molleoides* (Vell.) Engler (Anacardiaceae), a controversial medicinal, edible, and allergenic species from South America

Manuel Minteguigua^{1,2}, Eduardo Dellacassa², Cecilia Rodríguez-Rego², Enzo Fagúndez², Fernando Ferreira², Marta Pavarino¹, Patrizia Rubiolo¹, Cecilia Cagliero¹, Barbara Sgorbini¹

¹University of Turin, Turin, Italy; ²University of the Republic, Tacuarembó /Montevideo, Uruguay

(PB-3) Evaluation of chemical composition and cytotoxic activity of essential oil isolated from Macedonian *Rosmarinus officinalis*

Bojana Kiprijanovska, Zoran Zivikj, Kristina Shutevska, Tanja Petreska Ivanovska, Iskra Davkova, Ana Trajkovska, Gjose Stefkov, Ivana Cvetkovikj Karanfilova, Marija Karapandzova

University in Skopje, Skopje, Republic of North Macedonia

(PB-4) Volatile constituents and cytotoxic screening using BSLA of commercially available Thymi aetheroleum

Natasa Draskovik, Zoran Zivikj, Ana Marija Bajatovska, Tatjana Kadifkova Panovska, Iskra Davkova, Ana Trajkovska, Ivana Cvetkovikj Karanfilova, Svetlana Kulevanova, Marija Karapandzova

University in Skopje, Skopje, Republic of North Macedonia

(PB-5) Biological activity and compositional analysis of essential oil of *Homalomena aromatica* Schott: A high value aromatic species from Northeast India

Raghu Tamang^{1,2}, Tanmita Gupta^{1,2}, Twahira Begum², Roktim Gogoi¹, Neelav Sarma¹, Vikash Kumar Choubey¹ and Mohan Lal¹

¹CSIR-North East Institute of Science and Technology (NEIST), Jorhat Assam, INDIA; ²AcSIR-Academy of Scientific and Innovative Research, Ghaziabad, Uttar Pradesh, India

(PB-6) *Kaempferia parviflora* Wall, ex Baker (Black ginger) a high value ethnomedicinal plant endemic to Northeast region of India: Its rhizome essential oil chemical makeup & pharmacological potential evaluation

Twahira Begum², Roktim Gogoi^{1,2}, Neelav Sarma^{1,2}, Mohan Lal²

¹AcSIR-Academy of Scientific and Innovative Research, Ghaziabad, Uttar Pradesh, India;

²CSIR-North East Institute of Science and Technology (NEIST), Jorhat Assam, India

(PB-7) Identification of a Novel Myrcene and Methyl iso-Eugenol Rich Essential Oil Variant (Jor Lab L-11) of Lemongrass (*Cymbopogon flexuosus* L.)

Mohan Lal, Twahira Begum, Sunita Munda

CSIR-North East Institute of Science and Technology, Jorhat, Assam -785006, India

(PB-8) Chemical composition and bioactivities of Azorean *Cryptomeria japonica* essential oils extracted by two different methodologies

Alexandre Janeiro¹, Tanner Wortham², Filipe Arruda¹, Ana Lima¹, Tânia Rodrigues¹, José Silvino Rosa¹, José Baptista¹, Elisabete Lima¹

¹Azores University, Angra do Heroísmo, Portugal; ²The Perfumery, 621 Park East Blvd. New Albany, IN, Usa

(PB-9) Variability in chemical composition and antibacterial activity of *Cryptomeria japonica* essential oil from different locations on São Miguel Island, Azores

Filipe Arruda¹, Tanner Wortham², Ana Lima¹, Alexandre Janeiro¹, Tânia Rodrigues¹, José S. Rosa¹, José Baptista¹, Elisabete Lima¹

¹Azores University, Angra do Heroísmo, Portugal; ²The Perfumery, 621 Park East Blvd. New Albany, IN, Usa

(PB-10) Chemical composition and antioxidant activity of *Juniperus* species found in Indian Himalayan Region

Abhishek Gupta^{1,3}, Baleshwar Meena², Abhishek K. Dwivedy³, Tikam Singh Rana¹

¹CSIR-National Botanical Research Institute, Rana Pratap Marg, Lucknow, India; ²CSIR-Traditional Knowledge Digital Library, New Delhi, India; ³Department of Botany, Banaras Hindu University, India

(PB-11) Do not waste the thyme! Essential oils and distillation by-products of different *Thymus* taxa

Zsuzsanna Pluhár, Karim Etri, Klára Ruttner, Dorisz Boros, Beáta Gosztola

Hungarian University of Agriculture and Life Science, Budapest, Hungary

(PB-12) Comparison of the two EO extraction methods and its influence on yield and composition of *Mentha×piperita* cv. Kristinka

Ivan Kron¹, Saroj Kumar Chaudhary², Jozef Fejér³, Daniela Gruľová³

¹Training & Consulting Ltd., Žilina, Slovakia; ²University, Kritipur, Kathmandu, Nepal; ³University of Presov, Slovakia

(PB-13) Development of a green pesticide based on essential oils for grain crops in Brazil

Nilson B. Maia, Jose R. Gonçalves, Sergio P. Borlina

Linax Oleos Essenciais, Votuporanga, Brazil

(PB-14) Effects of chopping and different preservation methods on the volatiles and organoleptic properties of Parsley (*Petroselinum crispum* (Mill) Nym. var. neapolitanum) leaves

Beáta Gosztola, Zoltán Kovács, Zsanett Bodor, Urbashi Hazarika

Hungarian University of Agriculture and Life Sciences (MATE), Budapest, Hungary

(PB-15) Does essential oil from invasive *Solidago canadensis* L. have herbicidal influence on the selected weeds?

Beata Baranová¹, Marta Kotuła², Saroj Kumar Chaudhary³, Joanna Kapusta-Duch², Barbara Borczak², Daniela Gruľová¹

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(PB-16) Testing of the new potential method for the evaluation of the essential oil antifeedant activity using yellow worm larvae

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(PB-17) Application of Machine Learning algorithms to essential oils to develop quantitative composition-activity relationships (QCAR) classification models.

Roberta Astolfi, Alessandra Oliva, Filippo U. Sapienza, Rino Ragno
Sapienza University, Rome, Italy

(PB-18) Investigating the Antioxidant Potential of Essential Oils Using PALMSENS-Assisted Electrochemical Analysis

Filippo U. Sapienza, Danilo Dini, Rino Ragno
Sapienza University, Rome, Italy

(PB-19) Antimicrobial evaluation of Mentha piperita & Thymus serpyllum & Pelargonium graveolens essential oil combinations with chlorhexidine for mouthwash application

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(PB-20) Subcritical extraction of *Rosa alba* L. with mode influence

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(PB-21) Yield and Composition of Rose Oil and Hydrosol from the Industrial Oil-Bearing Roses in Bulgaria

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(PB-22) A comparative chemical profiling of essential oils from oil-bearing rose varieties, grown in Bulgaria and Crimea

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(PB-23) Alternative for perfume analysis: GC×GC-TOFMS with hydrogen carrier gas

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LECO European Application & Technology Center, Berlin, GERMANY

(PB-24) Effects of Inhalation of Essential Oils (Phytinicide) extracted from *Pinus densiflora* and *Chamaecyparis obtuse* on the Physiological and Psychological Stability of College Students

Bum-jin Park, Hye-Jung Gho, Dawou Jung
Chungnam National University, Republic of Korea

(PB-25) Hydrodistillation wastewaters: a source of biologically active compounds

Edoardo Napoli¹, Giuseppe Ruberto¹, Alessandra Carrubba², Mauro Sarno², Claudia Muscarà³, Antonio Speciale³, Mariateresa Cristani³, Francesco Cimino³, Antonella Saija³

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(PB-26) *Inula chritmoides* and *Chritimum maritimum* – GC/MS analyses of essential oil and hydrolates

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(PB-27) Volatile constituents of two Corsican liverworts: *Diplophyllum albicans* and *Scapania undulata*. Evaluation of their allelopathic effect

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(PB-28) Phytotoxic essential oils, sesquiterpene lactones from the roots of the invasives *X. italicum* and *X. spinosum*

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(PB-29) Chemical composition and chemical variability of *Senecio cineraria* essential oil
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(PB-30) Natural plant extracts as antibacterial agents against periodontal pathogens

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(PB-31) Transformation and antimicrobial activity of natural and volatile phenolic compounds and their derivatives

Kinga Baberowska, Alicja K. Surowiak, Daniel J. Strub

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(PB-32) Phytochemical composition, analgesic and anti-inflammatory properties of *Pelargonium peltatum* (L.) L'Hérit. essential oils from Eastern Cape, South Africa

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(PB-33) Chemical composition, analgesic and anti-inflammatory activities of *Hypoxis hemerocallidea* Fisch. & C.A. Mey from Eastern Cape, South Africa

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(PB-34) Antibacterial activity of leather enriched with oregano essential oil under dynamic contact conditions

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(PB-35) *In vitro* and *in situ* efficacy of a nanobiopesticide formulated by combining essential oils of *Syzygium aromaticum* and *Zingiber officinale* (70/30) against pathogenic *Lasiodiplodia theobromae* associated with post-harvest *Carica papaya* L rot in Cameroon

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(PB-36) Fast and Reliable Identification of Non-Volatile Residue of Citrus Essential Oils by Supercritical Fluid Chromatography Coupled with Electron Ionization Mass Spectrometry
Roberta La Tella¹, Francesca Rigano¹, Paola Dugo^{1,2}, Luigi Mondello^{1,2}

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(PB-37) Comprehensive Chemical Characterization of Unconventional Cold Pressed Seed Oils

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(PB-38) A fast and eco-friendly HPLC-MS/MS method to determine oxygen heterocyclic compounds in Citrus essential oils

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(PB-39) Development of an environmental-friendly SFC/PDA for the quantification of oxygen heterocyclic compound in cold-pressed Citrus essential oils

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(PB-40) Development of Quality Standards for Rose Essential Oil Growing in Saudi Arabia by Using Metabolomics Fingerprinting

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(PB-41) Essential Oils Diversity of Zingiberaceae Plants from Vietnam

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(PB-42) Chemical characterization of Finger Lime (*Citrus australasica* L.) essential oil and hexane extract

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(PB-43) Bergamot essential oil: characterization of volatile fraction, Oxygen Heterocyclic Compounds and enantiomeric distribution of volatile components.

Filippo Alibrando¹, Federica Vento², Giuseppe Micalizzi², Marina Russo², Ivana Bonaccorsi², Micaela Galletta², Paola Dugo^{1,2}, Luigi Mondello^{1,2}

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(PB-44) Lemon essential oil: characterization of volatile fraction, Oxygen Heterocyclic Compounds and enantiomeric distribution of volatile components.

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