

54th INTERNATIONAL SYMPOSIUM ON ESSENTIAL OILS

8-11 September 2024, Hunguest BAL Resort,
Balatonalmádi, Hungary

PROGRAMME



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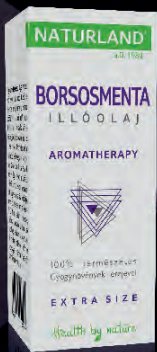
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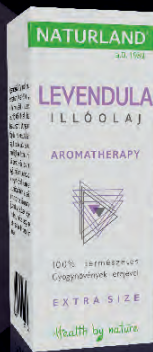
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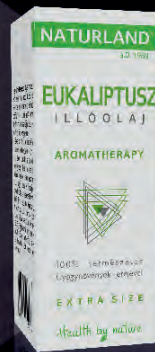
Essential oils



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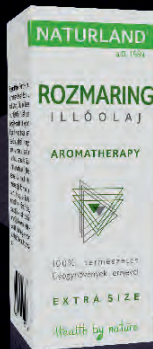
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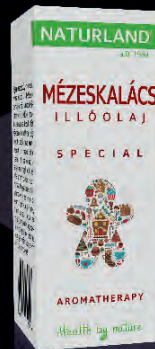
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Day 1 – Sunday, 8th September 2024

14:00-

Registration

16:30

Opening Ceremony

Györgyi Horváth, Éva Zámboriné Németh – Symposium Chairs
+ Short musical performance

16:50

Traditions of essential oil production in Hungary

Zsuzsanna Pluhár
MATE University, Budapest

17:20

ISEO Medal of Honor Presentations

Yoshinori Asakawa: *Biologically Active Volatile Components from Liverworts and Their Application to Cosmetics Foods and Medicines*
Chlodwig Franz: *Application of essential oils in animal health from the 'One Health' perspectives*

18:20

Opening lecture – Plenary lecture (PL-1)

Global Trade of Essential Oils

Kemal Hüsnü Can Baser
Near East University in Nicosia, N. Cyprus



18:50

Keynote lecture

The value of having a multidisciplinary approach to essential oil research – reflecting on two decades of studying the medicinal-aromatic flora of South Africa

Alvaro Viljoen
Tshwane University of Technology, South Africa

19:15

Welcome dinner

Restaurant of Hunguest Hotel BÁL Resort

Day 2 - Monday, 9th September 2024

08:15 Registration desk is open

09:00-10:40 **Session 1**
Chairs: Agnieszka Ludwiczuk, Nicolas Baldovini
Oral lectures

09:00-09:30 **Plenary lecture (PL-2)**
Advanced sustainable analytical methods for the analysis of essential oils
Luigi Mondello
Università degli Studi di Messina, Messina, Italy



09:45 ***Use and abuse of retention indices in essential oils analysis*** (OL-01)
Humberto Bizzo, Nathália S. Brilhante, Yada Nolvachai, Philip J. Marriott
Embrapa Agroindústria de Alimentos, Rio de Janeiro, Brazil

10:00 ***Predicted response factors as an efficient and validated analytical method to screen for volatiles in Cannabis sativa inflorescences*** (OL-02)
Alexis St-Gelais, Hubert Marceau, Rachel H. Fontaine, Sylvain Mercier, Dany Massé
Laboratoire PhytoChemia, Saguenay, Canada

10:15 ***Preparative gas chromatography for the isolation of volatile terpenes for diabetes treatment*** (OL-03)
Danilo Sciarrone, Lorenzo Cucinotta, Francesca Cannizzaro, Luca Santi, Elisa Pannucci, Luigi Mondello
Messina Institute of Technology c/o Department of Chemical, Biological, Pharmaceutical and Environmental Sciences, Messina, Italy

10:30 Discussion

10:40 ***Coffee break***

Day 2 - Monday, 9th September 2024

11:00-12:10

Session 1 (cont.)

Chairs: Éva Zámboiné Németh, Kemal Hüsnü Can Baser

Oral lectures

- 11:00** ***Verification of Agarwood essential oil authenticity with handheld near infrared spectrometer*** (OL-04)
Mohammed Z.H. Chowdhury
Oudh Analytics, Rotterdam, The Netherlands
- 11:15** ***Investigating adulteration in commercial true lavender oils*** (OL-05)
Katarzyna Pokajewicz, Darya Lamaka, Piotr P. Wieczorek
Institute of Chemistry, University of Opole, Poland
- 11:30** ***Application of Artificial Intelligence in predicting essential oil composition and correlating with biological activity using NMR and IR data*** (OL-06)
Rino Ragno, Alessio Ragno, Roberto Capobianco, Eleonora Truzzi, Davide Bertelli, Sara de Siena and Stefania Benvenuti
Rome Center for Molecular Design, Department of Drug Chemistry and Technology, Sapienza University, Rome, Italy
- 11:45** ***Unfolding seasonal and diurnal variations of leaf aroma volatiles in Indian bay leaf – a potential source of valuable essential oil*** (OL-07)
Adinpunya Mitra, Sulagna Saha
Natural Product Biotechnology Group, Agricultural and Food Engineering Department, Indian Institute of Technology Kharagpur, India
- 12:00** Discussion
- 12:10** ***Group photo***
- 12:20** ***Lunch***
Restaurant of the Hunguest Hotel BÁL Resort

Day 2 - Monday, 9th September 2024

13:40-15:20

Session 2

Chairs: Fatih Demirci, Johannes Novak

Oral lectures

13:40

Plenary lecture (PL-3)

Healthy smells and beyond: Aromatherapy today

Iris Stappen

University of Vienna, Vienna, Austria



14:25

Effects of Alpinia zerumbet essential oils on human olfactory receptors and depressive symptoms of postmenopausal women (OL-08)

Je Tae Woo, Aki Yamano, Keisuke Ito, Saori Nishizima, Kimio Sugaya, Eisuke Kuraya, Takayuki Yonezawa, Hsueh-Kung Lin and Mark Bartlett

Research Institute for Biological Function, Chubu University, Nagoya, Japan

14:40

Aromatogram testing: Standardization of the clinical broth microdilution test to support the development of appropriate integrated antimicrobial therapies and address antibiotic resistance (OL-09)

Maura Di Vito, Mattia Di Mercurio, Melinda Mariotti, Abdesselam Zhiri, Maurizio Sanguinetti, Francesca Bugli

Dipartimento di Scienze Biotechnologiche di Base, Cliniche Intensivologiche e Perioperatorie, Università Cattolica del Sacro Cuore, Rome, Italy

14:55

Synergistic solutions: Essential oil compounds with conventional antimicrobials for skin infections (OL-10)

Sandy van Vuuren, Shivar Simbu, Ane Orchard, Maryna van de Venter

Department of Pharmacy and Pharmacology, Faculty of Health Sciences, University of the Witwatersrand, Parktown, South Africa

15:10

Discussion

15:20

Coffee break

Day 2 - Monday, 9th September 2024

15:45-17:00

Session 2 (cont.)

Chairs: Sandy Van Vuuren, Humberto Bizzo

Young scientists' oral lectures

- 15:45** ***The combination of gas chromatography-based analysis and spectroscopy techniques for a thorough characterization of the essential oil of *Piper gaudichaudianum* Kunth from Brazil*** (YOL-01)
Paola Donato, Lorenzo Cucinotta, Humberto Ribeiro Bizzo, Cicero Deschamps, Laura A. Duarte, Roger R. Cipriano, Wanderlei do Amaral, Wilson Loureiro, Danilo Sciarrone, Luigi Mondello
Messina Institute of Technology c/o Department of Chemical, Biological, Pharmaceutical and Environmental Sciences, Messina, Italy
- 15:55** ***Chritmum maritimum L., an edible plant. Chemical composition, PCA analysis and food safety*** (YOL-02)
Antonella Porrello, Alessandro Vaglica, Dario Savoca, Maurizio Bruno, and Francesco Sottile
Dipartimento di Scienze e Tecnologie Biologiche, Chimiche e Farmaceutiche (STEBICEF), Università degli Studi di Palermo, Palermo, Italy
- 16:05** ***Hemisynthesis of limonaketone a barely available monoterpene in *Cedrus atlantica* essential oil: Viable route and MEDT study*** (YOL-03)
Ayoub Abdelkader Mekkaoui, Hicham Ben El Ayouchia, Hafid Anane, Rachid Chahboun, Larbi El Firdoussi, and Soufiane El Houssame
Laboratoire de Chimie Moléculaire, Equipe de Chimie de Coordination et Catalyse, Département de Chimie, Université Cadi Ayyad, Faculté des Sciences Semlalia, Morocco
- 16:15** ***Exploring the anxiolytic potential of *Cupressus torulosa* essential oil: an in vivo approach*** (YOL-04)
Piyush Bhalla, HR Chitme, VK Varshney
Chemistry and Bioprospecting Division, ICFRE-Forest Research Institute, Dehradun, India
- 16:25** ***Interplay of drought and salt stress on the yield and composition of essential oil in *Thymus pannonicus**** (YOL-05)
Etri Karim, Gosztola Beáta, Pluhár Zsuzsanna
Department of Medicinal and Aromatic Plants, Institute of Horticultural Science, Hungarian University of Agriculture and Life Sciences, Budapest, Hungary

Day 2 - Monday, 9th September 2024

- 16:35** ***Exploring the selective inhibitory activity of essential oils on the Alzheimer associated enzymes AChE and BChE: a comprehensive screening based on a bio-guided fractionation approach. Focus on Mentha sp. essential oils*** (YOL-06)
Marta Pavarino, Cecilia Cagliero, Arianna Marengo, Carlo Bicchi, Sveva Dallere, Marina Boido, Alessandro Vercelli, Patrizia Rubiolo, Barbara Sgorbini
Department of Drug Science and Technology, University of Turin, Turin, Italy
- 16:45** Discussion
- 17:00** ***Poster presentations***
Hunguest Hotel BÁL Resort, Tramontana II. room
- 17:30** ***Permanent Scientific Committee meeting***
Hunguest Hotel BÁL Resort, Nevera room

Day 3 - Tuesday, 10th September 2024

08:15 *Registration desk is open*

09:00-10:40



Session 3 - EFEO IFEAT Scientific Platform on Proving Essential Oils' Unique Nature 1st part

Chairs: Daniel Strub, Jonathan Bonello

Oral lectures

09:00

General introduction to the EFEO IFEAT Scientific Platform

Jocelyn Kurtz

EFEO IFEAT Scientific Platform Coordinator

Mane SA., Regulatory Affairs and Product Safety, Vouvry, Switzerland

09:30

Multidimensional complexity of natural complex substances: the case of essential oils

Sylvain Antoniotti

Université Côte d'Azur, CNRS

10:00

Evaluation of the Endocrine Disruptor Risk on Essential Oils: Is Constituent Analysis Sufficient?

Mathilde Hagege

Léa Nature, Périgny, France

10:30

Discussion

10:40

Coffee break

Day 3 - Tuesday, 10th September 2024

10:50-13:20



Session 3 - EFEO IFEAT Scientific Platform on Proving Essential Oils' Unique Nature 2nd part

Chairs: Daniel Strub, Jonathan Bonello

Oral lectures

10:50

Essential Oils & Skin Sensitization Quenching effect: myth or reality?

Marc Vocanson

Centre International de Recherche en Infectiologie, INSERM, Lyon, France

11:20

Genotoxicity, More than One Constituent Substances (MOCS), and Essential Oils

Peter Jenkinson

Consultancy for Environmental & Human Toxicology and Risk Assessment, CEHTRA SAS

11:50

Metabolism matters – understanding positive test results and relevance of reproduction studies on isolated essential oil constituents

Andreas Natsch

Givaudan

12:20

An experimental definition and an in silico methodology to predict biodegradation of mixtures

Paul Thomas

KREATIS. L'Isle d'Abeau, France

12:50

Environmental Assessment of Natural Complex Substances' constituents

Sylvia Gimeno

DSM-Firmenich AG, Kaiseraugst, Switzerland


13:20

Lunch

Restaurant of the Hunguest Hotel BÁL Resort

Day 3 - Tuesday, 10th September 2024

14:30-16:40 **Session 2**
Chairs: Chlodwig Franz, Patrizia Rubiolo
Oral lectures and Young Scientists' Oral lectures

- 14:30** **Plenary lecture (PL-4)**
Pampering or stress? - Optimisation of volatile formation in plants
Éva Zámборiné Németh
Hungarian University of Agriculture and Life Sciences, Budapest, Hungary
- 
- 15:10** ***Influence of water supply on essential oil of annual caraway (Carum carvi var. annuum L.)*** (OL-11)
Noémi Júlia Valkovszki, Tímea Szalóki, Árpád Székely, Ágnes Kun, Ildikó Kolozsvári, Szilvia Tavaszi-Sárosi, Mihály Jancsó
Research Centre for Irrigation and Water Management, Institute of Environmental Sciences, Hungarian University of Agriculture and Life Sciences, Szarvas, Hungary
- 15:25** ***Does the availability of water affect the biomass and secondary compound production in Ocimum basilicum L. 'Genovese'?*** (OL-12)
Péter Radácsi, Sintayehu Musie Mulugeta
Department of Medicinal and Aromatic Plants, Institute of Horticultural Sciences, Hungarian University of Agriculture and Life Sciences, Budapest, Hungary
- 15:40** ***Repellent and attractant activity of ten plant essential oils and their compounds against the pea aphid*** (OL-13)
Virginie Lacotte, Marjolaine Rey, Sergio Peignier, Pierre-Edouard Mercier, Sébastien Livi, Pedro da Silva
INSA Lyon, INRAE, BF2I, UMR203, Villeurbanne, France
- 15:55** ***How sublethal concentrations of Origanum vulgare L. essential oil affect the growth potential of the pathogen Listeria monocytogenes in food environments*** (OL-14)
Annalisa Serio, Chiara Rossi, Francesco Buccioni, Francesca Maggio, Chiara Purgatorio, Antonello Paparella
Department of Bioscience and Technology of Food, Agriculture and Environment, University of Teramo, Teramo, Italy

Day 3 - Tuesday, 10th September 2024

- 16:10** ***Insights into the chemo-profiling of rhizome essential from Northeast Indian *Zingiber officinale* germplasm*** (OL-15)
Mohan Lal, Twahira Begum, Saikat Halder
Agrotechnology & Rural Development Division, CSIR-North East Institute of Science & Technology, Jorhat, India
- 16:25** ***Exploring synergistic and antagonistic interactions: investigating antimicrobial and biofilm inhibitory activity in the oral cavity*** (YOL-07)
Zuzanna Bacińska, Lucyna Balcerzak, Daniel J. Strub
Department of Chemical Biology and Bioimaging, Faculty of Chemistry, Wrocław University of Science and Technology, Wrocław, Poland
- 16:35** ***Innovative approach for improvement of essential oil yield and quality in patchouli (*Pogostemon cablin* (Blanco) Benth.) through coloured shade net cultivation*** (YOL-08)
Lopamudra Ballabh, Amardeep Yadav, Adinpunya Mitra
Agricultural and Food Engineering Department, Indian Institute of Technology Kharagpur, Kharagpur, India
- 16:45** Discussion
- 17:00** **Poster presentations**
Hunguest Hotel BÁL Resort, Tramontana II. room
- 19:30** **Symposium dinner**
Hunguest Hotel BÁL Resort, Tramontana I. room

Day 4 - Wednesday, 11th September 2024

08:30 Registration desk is open

09:00-10:40 **Session 5**
Chairs: Alvaro Viljoen, Iris Stappen
Young Scientists' Oral lectures

09:00 **Plenary lecture (PL-5)**
Antimicrobial activity of essential oils and essential oil components on food-borne pathogens – recent applications and future perspectives
Judit Krisch
University of Szeged, Szeged, Hungary



09:45 **Plenary lecture (PL-6)**
Formulation of essential oils: Rational design and nanotechnology
Aleksandar Széchenyi
University of Pécs, Pécs, Hungary



10:30 **Coffee break**

10:45-12:50 **Session 5 (cont.)**
Chairs: Alvaro Viljoen, Iris Stappen
Young Scientists' Oral lectures

10:00 ***Essential oils combined with tetracycline restore antibiotic effectiveness against resistant strains of Salmonella enterica*** (YOL-09)
Francesca Maggio, Chiara Rossi, Carlotta Lauteri, Alberto Vergara, Antonello Paparella, Annalisa Serio
Department of Bioscience and Technology for Food, Agriculture and Environment, University of Teramo, Teramo, Italy

10:55 ***Lily of the valley odorants: synthesis and potential applications – preliminary result*** (YOL-10)
Kinga Baberowska, Alicja K. Surowiak, Milena Z. Živković Stošić, Niko S. Radulović, Daniel J. Strub
Department of Chemical Biology and Bioimaging, Faculty of Chemistry, Wrocław University of Science and Technology, Wrocław, Poland

Day 4 - Wednesday, 11th September 2024

- 11:05** ***Extraction and fractionation of Azorean Cryptomeria japonica female cones essential oil via hydro distillation: antifungal effects against Thielaviopsis paradoxa*** (YOL-11)
Filipe Arruda, Ana Lima, Alexandre Janeiro, José Baptista, José S. Rosa, Alexandra Machado, A. Cristina Figueiredo, Elisabete Lima
Institute of Agricultural and Environmental Research and Technology, Azores University, Angra do Heroísmo, Portugal
- 11:15** ***Quantitative activity-composition relationships through machine learning algorithm. Application to essential oil tested as acetylcholinesterase inhibitors*** (YOL-12)
Roberta Astolfi, Eleonora Proia, Valentina Noemi Madia, Davide Ialongo, Luigi Scipione, Rino Ragno
Rome Center for Molecular Design, Department of Drug Chemistry and Technology, Sapienza University, Rome, Italy
- 11:25** ***Cinnamomum tamala leaf essential oil attenuates lipopolysaccharide-induced inflammation in RAW 264.7 macrophage cells via regulation of the NF- κ B signaling pathway*** (YOL-13)
Sudipta Jena, Asit Ray, Ambika Sahoo, Omprakash Mohanta, Prabhat Kumar Das, Sanghamitra Nayak, Pratap Chandra Panda
Centre for Biotechnology, Siksha O Anusandhan (Deemed to be University), Kalinga Nagar, Bhubaneswar, India
- 11:35** ***Exploring natural alternatives for preserving cosmetics: essential oils as antimicrobial agents*** (YOL-14)
Alicja K. Surowiak, Aleksandra Kołodziej, Lucyna Balcerzak, Kinga Baberowska, Zuzanna Bacińska, Daniel J. Strub
Department of Chemical Biology and Bioimaging, Faculty of Chemistry, Wrocław University of Science and Technology, Wrocław, Poland
- 11:45** ***Chemical diversity of essential oils from Hyptis suaveolens: Implications for management strategies of a global invasive weed*** (YOL-15)
Sneha Rajput, Sanjay Gupta, V. K. Varshney
ICFRE-Forest Research Institute, Chemistry and Bioprospecting Division, Dehradun, India
- 11:55** Discussion
- 12:05** ***Closing remarks***
Györgyi Horváth, Éva Zámboriné Németh – Symposium Chairs
Best Oral and Best Poster presentation sponsored by Taylor and Francis and CRC Press
Welcome to ISEO 2025
- 12:50** ***Lunch***
Restaurant of the Hunguest Hotel BÁL Resort
- 14:30** ***Post-conference guided tour to Balatonfüred – Tihany***

List of posters

- P-Y-01 ***Chemical composition, in vitro antioxidant and anti-inflammatory properties of essential oils of sawdust and resin-rich bark from Azorean Cryptomeria japonica (Cupressaceae)***
Filipe Arruda
- P-Y-02 ***AI4EssOil: Revolutionizing essential oil insights through Artificial Intelligence***
Roberta Astolfi
- P-Y-03 ***Fractionation of specific terpene families prior to biological assays exploiting preparative gas chromatography***
Francesca Cannizzaro
- P-Y-04 ***Annual yield variation of labdanum resin obtained from Cistus ladanifer L. plants of different age***
Veronika Chaloupková
- P-Y-05 ***Extraction and bio-conversion of Limonene from waste sweet lime (Citrus limetta) peels by baker's yeast***
Olivia Dhara
- P-Y-06 ***In vitro and in vivo Antihyperglycemic effect of Curcuma amada rhizome essential oil in STZ induced diabetic rats***
Avinash Gangal
- P-Y-07 ***In vitro antimicrobial evaluation of Salvia sclarea and Origanum vulgare essential oils in combination against Sinusitis pathogens***
Ayşe Esra Karadağ
- P-Y-08 ***Chemical composition of essential oils from different parts of Heracleum crenatifolium Boiss. in Türkiye***
Damla Kirci
- P-Y-09 ***Exploring the potential biological activities and chiral composition of Lippia origanoides Kunth essential oil: inhibition of enzymes linked to Alzheimer's disease and type 2 diabetes***
Marta Pavarino
- P-Y-10 ***Effect of wintergreen essential oil and black seed fatty oil in contact dermatitis in vivo model***
Sarah Shubail
- P-Y-11 ***Nanoencapsulated Coriandrum sativum essential oil as shelf-life enhancer of bananas***
Monisha Soni
- P-Y-12 ***Bifora testiculata (L.) Spreng. essential oil and its principal constituent as anticancer agent***
Alessandro Vaglica
- P-Y-13 ***Valorization of ginger leaf and peel waste into essential oils as natural grain protectants against major stored product insects***
Naduvilthara U. Visakh
- P-Y-14 ***Phytochemical profiling and bioactivity assessment of volatile components of Nectaroscordum tripedale Trautv. from Iran: Antioxidant, antimicrobial, and cytotoxic investigations***
Mahdi Yaghoobi
- P-15 ***Aroma profile of fresh R. alba L. blossom by solid-phase microextraction and head space gas chromatography***
Daniela Antonova
- P-16 ***Volatile organic compounds in traditional Bulgarian red wines - development of fast and easy analytical method using solid-phase microextraction and head space gas chromatography***
Daniela Antonova
- P-17 ***Quality of the essential oil from two hop varieties introduced in Rio de Janeiro, Brazil***
Humberto Bizzo
- P-18 ***Combination of thyme, tea tree essential oils and antibiotics against MRSA and Pseudomonas aeruginosa***
Bence Bordás

- P-20 **Studies on the composition of floral scent and essential oils of soapwort (*Saponaria officinalis*), growing in the wild in Lithuania, and the antioxidant activity of these oils and alcoholic extracts**
Jurga Būdienė
- P-21 **Chemical composition and biological activity of *Juniperus sabina*, *Juniperus foetidissima*, and *Juniperus phoenicea* essential oils**
Danka Bukvički
- P-22 **In vitro wound healing evaluation of *Mentha spicata*, *Matricaria chamomilla* essential oils with *Cocos nucifera* oil nanoemulgel formulations**
Fatih Demirci
- P-23 **Chemical and biological evaluation of three Cineol rich herbal drug and infusion volatiles**
Betül Demirci
- P-24 **Wound care formulation using Chitosan and Hamamelis preparations**
Fatih Demirci
- P-25 **Essential oil profile of pellets from hop cultivars produced in South Brazil**
Cicero Deschamps
- P-26 **Effects of solvent free-microwave green extraction of essential oil from orange peel (*Citrus sinensis* L.) on shelf life of flavoured liquid whole eggs during storage under commercial retail conditions**
Djamel Djenane
- P-27 ***Mentha gentilis* var. *citrata* essential oil phytochemical constituents and antiproliferative activity** Abozaglo
Hurija Džudžević-Čančar
- P-28 **Essential oils of garden-growing lavender species: In vitro antimicrobial activity**
Hurija Džudžević-Čančar
- P-29 **New advances from the Corsican Liverwort *Porella arboris-vitae***
Manal El Ali
- P-30 **Comprehensive assessment of hydrolates produced from different medicinal plants**
Maria Filatova
- P-31 **Effects of different preservation methods on the active substances and colour properties of Lemonbalm (*Melissa officinalis* L.) leaves**
Beáta Gosztola
- P-32 **Evaluation of *Thymus serpyllum* L. and *Pinus nigra* Aiton. essential oil combinations against human pathogens**
Ayşe Esra Karadağ
- P-33 **Terpenoids diversity of *Cannabis* essential oil**
Iskra Davkova
- P-34 **Antibacterial and antibiofilm effect of fennel essential oil, fennel honey and their combination**
Regina Koloh
- P-35 **Diversity of aroma characteristics of *Alpinia zerumbet* and differences from its closely related species**
Eisuke Kuraya
- P-37 **Biological activities, GC/MS analysis and computational approaches of rhizome *Homalomena aromatica* (Spreng.) Schott essential oil - an indigenous plant to Northeast India**
Mohan Lal
- P-38 **Essential oil from basil genotypes: fertilizers, seasons and growing conditions**
José Magno Queiroz Luz
- P-39 **Characterization of yield, chemical profile and antioxidant capacity of *Salvia rosmarinus* Spenn. essential oil**
Veronika Chaloupková
- P-40 **Vapour phase anticandidal activity from *Pimenta pseudocaryophyllus* (Gomes) Landrum essential oil**
Paulo Moreno

- P-41 ***Investigation of the anti-biofilm and anti-QS effect of selected essential oils tested on nosocomial bacteria***
Viktória Lilla Balazs
- P-42 ***Comparison of the free volatile compounds composition isolated from wild and cultivated species of the Genus Veronica from moderate habitats***
Marija Nazlić
- P-43 ***The essential oil of Alpine Rhododendron honey***
Johannes Novak
- P-44 ***Directed evolutionary engineering of the non-mevalonate pathway for efficient terpenoid production as aroma ingredients***
Yumi Onozato
- P-45 ***Inhibitory effects of lavender (*Lavandula angustifolia* Mill.) essential oil and main component (linalool) against biofilm-forming bacteria causing respiratory diseases***
Edit Ormai
- P-46 ***Lavandula species and varieties: resources of essential oils and distillation by-products of different quality***
Zsuzsanna Pluhár
- P-47 ***Essential oil intervention: The antimicrobial and anti-biofilm properties of clove oil and Eugenol against vibrio cholerae O1***
Lipi Poojara
- P-48 ***Comparative GC-MS study of essential oil constituents: Headspace vs condensed phase methods with steam-distilled extracts***
Filippo Sapienza
- P-49 ***Quality assessment and authentication of lavender essential oil***
Brett Smith
- P-50 ***Evaluation of different spearmint populations***
Szilvia Tavaszi-Sárosi
- P-51 ***Aroma characterization of commercial *Alpinia zerumbet* essential oils by fingerprinting analysis***
Akiko Touyama
- P-52 ***How effective are essential oils in inhibiting polymicrobial environments?***
Sandy van Vuuren
- P-53 ***Effect of *Alpinia zerumbet* essential oils on behavioral characteristics in ovariectomized mice***
Yamano Aki
- P-54 ***Identification of 4,8-dimethyldeca-4,7,9-trienal compounds in the headspace aroma of blooming gardenia flower***
Hiroki Yamagiwa
- P-55 ***Study of the essential oil and conservation of the Andean aromatic species *Aloysia fiebrigii* (Hayek) Moldenke, from the Cusco region, Peru***
Alberto Martín Abozaglo Jara