



Torre Canne (Brindisi, Italy)

October 16-18, 2024

SCIENTIFIC PROGRAMME

8th MS FOOD DAY

October 16-18, 2024

Torre Canne (BR) - Italy

COMMITTEES

Scientific Committee

| | |
|--------------------------|---|
| Gianluca Giorgi | <i>Università di Siena</i> |
| Giuseppe Avellone | <i>Università di Palermo</i> |
| Giuliana Bianco | <i>Università della Basilicata, Potenza</i> |
| Franco Biasioli | <i>Fondazione Edmund Mach, S. Michele A/A (TN)</i> |
| Lucia Bonassisa | <i>BonassisaLab S.p.A., Foggia</i> |
| Anna Cane | <i>Istituto Nutrizionale Carapelli, Firenze</i> |
| Chiara Dall'Asta | <i>Università di Parma</i> |
| Roberta Galarini | <i>Ist. Zooprof. Sperim. Umbria e Marche</i> |
| Renzo Galli | <i>Fileni</i> |
| Davide Garbini | <i>Coop Italia</i> |
| Luciano Navarini | <i>illycaffè</i> |
| Michele Palmisano | <i>Lepore Mare, Fasano (BR)</i> |
| Michele Suman | <i>Barilla e Università Cattolica del Sacro Cuore</i> |
| Sauro Vittori | <i>Università di Camerino</i> |

Organizing Committee

| | |
|--------------------------|------------------------------------|
| Gianni Lepore | <i>Lepore Mare, Fasano (BR)</i> |
| Nicola Camarda | <i>Lepore Mare, Fasano (BR)</i> |
| Paola Cavallo | <i>BonassisaLab S.p.A., Foggia</i> |
| Claudia Vatteroni | <i>Parmalat</i> |

ORGANIZED BY



WITH THE PATRONAGE OF



Divisione di Chimica degli Alimenti

SUPPORTING INSTITUTIONS



SPONSORED BY



SCIENTIFIC PROGRAMME

Wednesday, October 16, 2024

- 2:00 p.m. Registration
- 2:30 p.m. Welcome addresses
- Gianni Lepore, Michele Palmisano**
Lepore Mare spa, Fasano (BR, Italy)
- Giuliana Bianco**
University of Basilicata, President of the Division of Mass Spectrometry of the Italian Chemical Society
- Gianluca Giorgi**
University of Siena, 8 MS Food Day Scientific Committee
- 3:00 p.m. **Session 1: Chairpersons: Franco Biasioli, Giuliana Bianco**
- 3:00 p.m. **PL1: In vivo aroma release and perception of complex food matrices**
Markus Stieger
Wageningen University & Research, Wageningen (The Netherlands)
- 3:45 p.m. **OR1: Unraveling the gut volatilome dynamics and inter-individual variability during *in-vitro* digestion and fermentation of black beans**
Andrea Dell'Olio, Josep Rubert, Iuliia Khomenko, Martina Moretton, Vincenzo Fogliano, Franco Biasioli
Food Quality and Design, Wageningen University and Research, Wageningen (The Netherlands)
- 4:00 p.m. **OR2: Driving Innovation in Food Volatiles Analyses by Mass Spectrometry**
Jonathan Beauchamp
Department of Sensory Analytics & Technologies, Fraunhofer Institute for Process Engineering and Packaging IVV, Freising (Germany)
- 4:15 p.m. **OR3: Real-time wine off-flavor analysis with chemical ionization mass spectrometry**
Luca Cappellin, Felipe Lopez-Hilfiker, Luigi Ciotti, Manuel Hutterli
Dipartimento di Scienze Chimiche, Università degli Studi di Padova, Padova (Italy)
- 4:30 p.m. **OR4: Lycopene extraction with α -pinene, natural volatile deep eutectic solvent menthol-thymol and extra virgin olive oil**
Azzurra Stefanucci, Lorenza Marinaccio, Eulogio J. Llorent-Martinez, Adriano Mollica
Department of Pharmacy, University G. d'Annunzio, Chieti (Italy)
- 4:45 p.m. **OR5: Authentication of Italian monovarietal extra virgin olive oils through HS-SPME-GC-MS, HPLC-DAD-MS and sensory analysis in combination with a GA-LDA-HCA statistical approaches for their clustering**
Tommaso Ugolini, Federico Mattagli, Alessandro Parenti, Fabrizio Melani, Marzia Migliorini, Nadia Mulinacci, Bruno Zanoni, Lorenzo Cecchi
DAGRI – Department of Agricultural, Food, Environmental, and Forestry Sciences and Technologies, University of Florence, Florence (Italy)

- 5:00 p.m. Poster session (Poster P1-P39), Coffee break
- 5:30 p.m. **Session 2:** Chairpersons: *Linda Monaci, Giuseppe Avellone*
- 5:30 p.m. **OR6: Inert columns, a “passive” solution for an active problem**
Emanuele Ceccon
Restek, Cernusco S/N (MI, Italy)
- 5:45 p.m. **OR7: Analysis of the volatilome of virgin olive oils: quality grade evaluation and study of modifications during storage**
Rosalba Tucci, Enrico Casadei, Enrico Valli, Chiara Cevoli, Silvia Mingione, Francesca Baroccio, Sara Barbieri, Alessandra Bendini, Stefania Carpino, Tullia Gallina Toschi
Department of Agricultural and Food Sciences, Alma Mater Studiorum - Università di Bologna, Cesena and Bologna (Italy)
- 6:00 p.m. **OR8: Virgin olive oil authenticity assays in a single run using two-dimensional liquid chromatography-high resolution mass spectrometry**
Irene Caño-Carrillo, Bienvenida Gilbert-López, Cristina Ruiz-Samblás, Antonio Molina-Díaz, Juan F. García-Reyes
Analytical Chemistry Research Group, Department of Physical and Analytical Chemistry, University of Jaén, Jaén (Spain)
- 6:15 p.m. **OR9: Quality and safety of a traditional and healthy Algerian product**
Benedetta Sgrò, Qada Benameur, Nadra Rechidi-Sidhoum, Giuseppa Di Bella, Vincenzo Lo Turco, Angela Giorgia Potorti
Department of Biomedical and Dental Sciences and of Morphological and Functional Images (BIOMORF), University of Messina, Messina (Italy)
- 6:30 p.m. **OR10: Liquid chromatography coupled with mass spectrometry for multiple detection of hidden allergens in bakery-products: two case studies produced at pilot plant scale**
Anna Luparelli, Elisabetta De Angelis, Rosa Pilolli, Francesca Lambertini, Linda Monaci
Institute of Sciences of Food Production, National Research Council (ISPA-CNR), Bari (Italy)
- 6:45 p.m. **IP1: SFC-MS: a viable alternative to LC-MS in food safety analysis**
Paolo Redegalli
Shimadzu Italia, Milano (Italy)
- 6:55 p.m. End of session
- 7:00 p.m. Welcome cocktail

Thursday, October 17, 2024

- 9:00 a.m. **Session 3: Chairpersons: Marco Gaspari, Maria Assunta Acquavia**
- 9:00 a.m. **PL2: Presence of microplastic in food and beverage: do analytical methods matter?**
Stefania Gorbi
Department of Life and Environmental Science, Polytechnic University of Marche, Ancona (Italy)
- 9:45 a.m. **OR11: Food-borne thermally induced contaminants: mass spectrometry platform for the determination of the S/R ratio of 3MCPD esters and for the identification of glycidyl esters in oils and fats**
Alessia Lanno, Michela Torrelli, Simone Stefano, Sofia Ghironi, Alice Passoni, Alessandra Roncaglioni, Renzo Bagnati, Elena Fattore, Enrico Davoli
Laboratory of Mass Spectrometry, Istituto di Ricerche Farmacologiche Mario Negri IRCCS, Milan (Italy)
- 10:00 a.m. **OR12: A method for determining PFASs in bovine meat and tuna fish by UHPLC- HRMS Orbitrap**
Andrea Roviaro, Aurora Scarduzio, Sara Savini, Anna Sannino
Chemical Safety Department, Stazione Sperimentale per l'Industria delle Conserve Alimentari (SSICA), Parma (Italy)
- 10:15 a.m. **OR13: Recycled and virgin PET bottles and plastic cups: migration potential of contaminants**
Laura Barp, Sabrina Moret
University of Udine, Department of Agri-Food, Environmental and Animal Sciences, Udine (Italy)
- 10:30 a.m. **OR14: Quantitative LC-MS analysis of mycotoxins in plant-based protein isolates**
Romain Gabioud, Sasa M. Miladinovic
Institute of Life Sciences, University of applied sciences Western Switzerland, Sion (Switzerland)
- 10:45 a.m. **IP2: DART-MS for food analyses: new trends and developments**
Giuseppe Labella
Bruker Italia, Milano (Italy)
- 10:55 a.m. Poster session (Poster P1-P39), Coffee break
- 11:45 a.m. **Session 4: Joint session with the Divisione di Chimica degli Alimenti-SCI**
Chairpersons: Nadia Mulinacci, Sauro Vittori
- 11:45 a.m. **OR15: A multiparametric study for the monitoring of contaminants in biological fluids**
Michele Spinelli, Carolina Fontanarosa, Stefano Lorenzetti, Rosita Gabbianelli, Alessandra Perna, Angela Amoresano
University of Campania "Luigi Vanvitelli", Department of Physical and Mental Health and Preventive Medicine School of Medicine and Surgery, Naples (Italy)
- 12:00 p.m. **OR16: Two years (2023-2024) of Perfluoroalkyl substances (PFASs) results from Italian official food control plans: what are the raising issues?**

Tamara Tavoloni, Arianna Stramenga, Ester Lucidi, Martina Ciriaci, Francesco Griffoni, Arianna Piersanti

Istituto Zooprofilattico Sperimentale dell'Umbria e delle Marche, Ancona (Italy)

- 12:15 p.m. **OR17: CP-MIMS: a new frontier for the real-time monitoring of hazardous chemical migration from food contact materials**
Maurizio Piergiovanni, Monica Mattarozzi, Federica Bianchi, Nicolo Riboni, Cristian Maffezzoni, Veronica Termopoli, Viviana Consonni, Davide Ballabio, Maria Careri
Department of Chemistry, Life Sciences and Environmental Sustainability, University of Parma, Parma (Italy)
- 12:30 o.m. **OR18: Optimising QuEChERS for the analysis of mussels: efficient extraction of Emerging Contaminants in environmental samples**
Julia Gambetta Vianna, Barbara Benedetti, Marina Di Carro, Emanuele Magi
Department of Chemistry and Industrial Chemistry, University of Genoa (Italy)
- 12:45 p.m. **IP3: Tecniche avanzate di arricchimento e di separazione combinata alla spettrometria di massa per la caratterizzazione dei profili aromatici nel settore food & beverage**
Daniele Morosini, Daniela Peroni
SRA Instruments, Cernusco sul Naviglio (MI, Italy)
- 12:55 p.m. Buffet lunch
- 2:30 p.m. **Session 5: Chairpersons: Luciano Navarini, Paola Montoro**
- 2:30 p.m. **PL3: Bitter taste and mass spectrometry**
Roman Lang
Technical University of Munich (Germany)
- 3:15 p.m. **OR19: rECOBIOpack project: optimization of lipid extraction for coffee silverskin valorization**
Chiara Scapuzzi, Tamara Chwojnik, Luisella Verotta, Luciano Navarini, Stefania Lupinelli, Stefania Marzorati
Department of Environmental Science and Policy, University of Milan, Milan (Italy)
- 3:30 p.m. **OR20: Characterization of alkylypyrazines by HS-SPME-GC-MS on roasted coffee from different botanical species and terroir**
Valentina Lonzarich, Elisabetta De Angelis, Luciano Navarini
illycaffè S.p.A., Trieste (Italy)
- 3:45 p.m. **IP4: Analisi degli Alimenti: il nuovo Triplo Quadrupolo Agilent 7010D**
Marica Beggio
Agilent Technologies Italia, Cernusco Sul Naviglio (MI, Italy)
- 3:55 p.m. Poster session (Poster P40-P78), Coffee break
- 4:45 p.m. **Session 6: Chairpersons: Riccardo Flamini, Fabiana Piscitelli**
- 4:45 p.m. **OR21: Hazelnut products traceability through combined isotope ratio mass spectrometry and multi-elemental analysis**
Michele Suman, Giuseppe Sammarco, Mattia Rossi, Daniele Cavanna, Laura Viotto, Piero Pettenà, Chiara Dall'Asta, Paola Iacumin
Analytical Food Science, Barilla G. e R. Fratelli S.p.A., Parma (Italy)

- 5:00 p.m. **OR22: Assessment of Pomodoro Riccio metabolomic profile through a multimethodological approach for food safety**
Valeria Vergine, Alba Lasalvia, Christian Rolando, Donatella Ambroselli, Luisa Mannina, Giuliana Vinci, Cinzia Ingallina, Maria Elisa Crestoni
Dipartimento di Chimica e Tecnologie del Farmaco, Sapienza Università di Roma, Roma (Italy)
- 5:15 p.m. **OR23: All-ion fragmentation and high-resolution mass spectrometry as key tools for the untargeted profiling of glucosinolates in Brassica microgreens**
Andrea Castellaneta, Ilario Losito, Giovanni Cisternino, Beniamino Leoni, Pietro Santamaria, Cosima Damiana Calvano, Giuliana Bianco, Tommaso R.I. Cataldi
Dipartimento di Chimica, Università degli Studi di Bari Aldo Moro, Bari (Italy)
- 5:30 p.m. **OR24: Antioxidant reactivity of anthocyanins in red cabbage with an AAPH-incubating method using liquid chromatography coupled with high-resolution tandem mass spectrometry**
Claudia Lombroni, Lucrezia Angeli, Giovanna Ferrentino, Matteo Scampicchio, Ksenia Morozova
Università di Torino, Department of Agricultural, Forest and Food Sciences, Grugliasco (TO, Italy)
- 5:45 p.m. **OR25: Optimization of HPLC-HRMS method for the detection of antioxidant Maillard reaction products and study of reaction conditions for their production as food preservatives**
Sara Bolchini, Ksenia Morozova, Matteo Scampicchio, Roberto Larcher, Tiziana Nardin
Faculty of Agricultural, Environmental and Food Science, Free University of Bolzano, Bolzano (Italy)
- 6:00 p.m. **OR26: Characteristics and critical issues of packaging intended for dairy products**
Flavia Cozzolino, Filippo Pratesi, Marinella Vitulli
Food Contact Center s.r.l, Serravalle Pistoiese (PT, Italy)
- 6:15 p.m. **OR27: Compounds isolated from licorice root (*Glycyrrhiza glabra L.*) as natural antioxidants in prevention of lipid oxidation**
Ksenia Morozova, Lucrezia Angeli, Maria Concetta Tenuta, Umme Asma, Giovanna Ferrentino, Matteo Scampicchio
Free University of Bozen-Bolzano, Faculty of Agriculture, Environmental and Food Sciences, Bolzano (Italy)
- 6:30 p.m. **OR28: The impact of industrial peeling on the lipidome of canned cherry tomatoes (*Solanum lycopersicum v. cerasiforme*): a HILIC-ESI-FTMS study**
Davide Coniglio, Giovanni Ventura, Cosima D. Calvano, Adriana Spinelli, Ilario Losito, Tommaso R.I. Cataldi
Dipartimento di Chimica, Università degli Studi di Bari Aldo Moro, Bari (Italy)
- 6:45 p.m. End of session
- 8:30 p.m. Social dinner

Friday, October 18, 2024

- 9:00 a.m. **Session 7: Chairpersons: Michele Suman, Giuseppe Avellone**
- 9:00 a.m. **PL4: Benchtop volatilomics and machine learning – principles, applications, opportunities**
Philipp Weller
Mannheim University of Applied Sciences, Mannheim (Germany)
- 9:45 a.m. **OR29: Exploring monacolins in red yeast rice: monitoring, quantification and cytotoxicity assessment**
Paola Nezi, Vittoria Cicaloni, Mattia Cicogni, Alessia Prete, Paolo Etiope, Barbara Barlozzini, Rita Pecorari, Laura Tinti, Laura Salvini
Fondazione Toscana Life Sciences, Siena (Italy)
- 10:00 a.m. **OR30: A method to measure the qualitative level of durum wheat and milk raw material by High Resolution Mass Spectrometry**
Angela Di Capua, Maria Assunta Acquavia, Nicola Zamboni, Rosanna Ciriello, Filomena Lelario, Carmen Tesoro, Roberto Rubino, Giuliana Bianco
Università degli Studi della Basilicata, Dipartimento di Scienze, Potenza (Italy)
- 10:15 a.m. **OR31: Empowering veterinary clinical diagnosis in industrial poultry production by ambient mass spectrometry**
Carmela Zacometti, Alessandra Tata, Andrea Massaro, Simona Ceroni, Sonia Falappa, Roberto Piro, Salvatore Catania
Istituto Zooprofilattico Sperimentale delle Venezie, Laboratorio di Chimica Sperimentale, Vicenza (Italy)
- 10:30 a.m. **OR32: Novel food production: towards a sustainable approach within a circular economy framework**
Behixhe Ajdini, Irene Biancarosa, Silvia Illuminati, Anna Annibaldi, Federico Girolametti, Matteo Fanelli, Lorenzo Massi, Gloriana Cardinaletti, Cristina Truzzi
Department of Life and Environmental Sciences, Università Politecnica delle Marche, Ancona (Italy)
- 10:45 a.m. **OR33: Nontarget Screening Workflow (NTS) for the analysis of Per and Polyfluoroalkyl Substances (PFAS) in animal products using QTof**
Andrea Perissi
Waters, Sesto San Giovanni (MI, Italy)
- 11:00 a.m. Poster session (Poster P40-P78), Coffee break
- 11:45 a.m. **Session 8: Chairpersons: Rita Petrucci, Arianna Piersanti**
- 11:45 a.m. **OR34: Automazione nell'analisi dei pesticidi in GC-MS/MS tramite μ -SPE online**
Antonello Laricchiuta
Thermo Fisher Scientific, Rodano (MI, Italy)
- 12:00 p.m. **OR35: Exploring nitrosamine formation in meat: impact of cooking, digestion, and preservation**
Tiziana Nardin, Jakob Franceschini, Francesca Martinelli, Roberto Larcher
Fondazione Edmund Mach, Technology Transfer Centre, S. Michele all'Adige (TN, Italy)

- 12:15 p.m. **OR36: Radical neutralization reaction using pre-column reactor and high resolution mass spectrometry**
Lucrezia Angeli, Maria Concetta Tenuta, Ksenia Morozova, Matteo Scampicchio, Giovanna Ferrentino
Free University of Bozen-Bolzano, Bolzano (Italy)
- 12:30 p.m. **OR37: Assessing chemical drivers of acidity in *arabica* coffee using a flavoromics approach**
Agnese Santanatoglia, Edisson Tello, Sauro Vittori, Devin G. Peterson
Chemistry Interdisciplinary Project, ChIP, University of Camerino, Camerino (Italy)
- 12:45 p.m. **OR38: Unveiling diversity in amino acid stable isotope profiles for classifying Italian rice varieties, refining types and cultivation methods**
Alberto Roncone, Zoe Giannioti, Luana Bontempo
Fondazione Edmund Mach, S. Michele all'Adige (TN, Italy)
- 1:00 p.m. Concluding remarks & Arrivederci!!!

Poster Sessions

Poster P1-P39 set up: WEDNESDAY 2:00-5:00 p.m. Removal: THURSDAY 1:00 p.m.

Poster P40-P78 set up: THURSDAY 1:00 p.m. Removal: FRIDAY 1:00 p.m.

POSTER COMMUNICATIONS

- P1** **Honey, I found the metals! The paradigm of heavy metals in honey. A comparative study of European and Argentine honey using a validated ICP-MS method**
Giacomo De Corso, Denise Decarli, Alessia Buco, Cecilia Mariani, Michela Burico, Claudio Marzio Quintiero, Mattia Gianni, Luisa Mattoli
 Metabolomics & Analytical Sciences, Aboca SpA, 52037 Sansepolcro (AR, Italy)
- P2** **Inorganic elements of different honeys from Algeria: safety and health effects**
Vincenzo Nava, Sofiane Derrar, Angela Giorgia Potorti, Giuseppa Di Bella, Vincenzo Lo Turco
 Department of Biomedical, Dental, Morphological and Functional Images Sciences (BIOMORF), University of Messina, Messina (Italy)
- P3** **Black tea infusions: mineral element transfer, safety, and health effects**
Ambrogina Albergamo, Vincenzo Lo Turco, Vincenzo Nava, Giuseppa Di Bella, Angela Giorgia Potorti
 Department of Biomedical, Dental, Morphological and Functional Images Sciences (BIOMORF), University of Messina, Messina (Italy)
- P4** **Inorganic elements in Italian and Moroccan carobs (*Ceratonia siliqua* L.)**
Vincenzo Lo Turco, Michelangelo Leonardi, Ambrogina Albergamo, Giuseppa Di Bella, Angela Giorgia Potorti, Irene Maria Spanò
 Department of Biomedical, Dental, Morphological and Functional Images Sciences (BIOMORF), University of Messina, Messina (Italy)
- P5** **Analysis of ultrashort- and short-chain Per- and Polyfluoroalkyl Substances (PFAS) in vegetables: method development and preliminary validation study**
Carolina Barola, Elisabetta Bucaletti, Danilo Giusepponi, Roberta Galarini
 Istituto Zooprofilattico Sperimentale dell'Umbria e delle Marche "Togo Rosati", Perugia (Italy)
- P6** **One method with dual detection for the analysis of PBDEs, HBCDs and eBFRs: levels in fish from the Adriatic Sea**
Tamara Tavoloni, Arianna Stramenga, Ester Lucidi, Martina Ciriaci, Francesco Griffoni, Paolo Palombo, Arianna Piersanti
 Istituto Zooprofilattico Sperimentale dell'Umbria e delle Marche, Ancona (Italy)
- P7** **Contaminanti ambientali nei prodotti ittici del Mediterraneo. qualità dell'ambiente marino in relazione alla salute umana**
Chiara Maggi, Giulio Sesta, Gianfranco Diletti, Michele Palmisano
 ISPRA, Centro Nazionale per la rete nazionale dei laboratori, Fondazione Santa Lucia IRCCS, Roma (Italy)

- P8 Long term study (2012-2021) of marine biotoxins in mussels from NW Adriatic Sea (Italy). Is rainfall a suitable forecasting tool?**
Simone Bacchiocchi, Melania Siracusa, Giulia Diomedi, Laura Ferroni, Carmen Maresca, Francesca Barchiesi, Erica Calandri, Arianna Piersanti
 Istituto Zooprofilattico Sperimentale Umbria e Marche "Togo Rosati", Ancona (Italy)
- P9 Off-odours in recirculated aquaculture systems fish**
Matteo Egiddi, Andrea Buettner, Jonathan Beauchamp
 Fraunhofer Institute for Process Engineering and Packaging IVV, Freising (Germany)
- P10 Metabolite profiling of sea buckthorn fruits (*Hippophae rhamnoides* L.) through UHPLC-Q-Orbitrap-MS/MS analysis**
Annunziata Paolillo, Maria Assunta Crescenzi, Paola Montoro, Sonia Piacente
 Department of Pharmacy, University of Salerno Fisciano (SA, Italy)
- P11 Occurrence of an emerging class of Per- and Polyfluoroalkyl Substances (PFAS) in hen eggs**
Elisabetta Bucaletti, Carolina Barola, Simone Moretti, Fabiola Paoletti, Danilo Giusepponi, Roberta Galarini
 Istituto Zooprofilattico Sperimentale dell'Umbria e delle Marche "Togo Rosati", Perugia (Italy)
- P12 Analysis of perfluoroalkyl substances (PFAS) in meat, edible offal and eggs using Xevo TQ-XS**
Luca Moscon
 Gruppo Veronesi Via Valpantena 18/G, 37142 Quinto di Valpantena (Verona, Italy)
- P13 Development of a direct mass-spectrometry approach for the real-time monitoring of PFAS release from cookware and food contact materials**
Cristian Maffezzoni, Maurizio Piergiovanni, Federica Bianchi, Nicolò Riboni, Monica Mattarozzi, Maria Careri
 Department of Chemistry, Life Sciences and Environmental Sustainability, University of Parma, Parma (Italy)
- P14 Ultra-sensitive PFAS analysis according to EU regulations in food and environment**
Diego Martin, Javier Lopez, Miguel Angel Perez
 Bruker Espanola S.A., Madrid (Spain)
- P15 Determination of phthalates in bottled water and purifier water by SPME-GC/MS**
Claudia Lino, Giuseppe Avellone, David Bongiorno, Serena Indelicato
 Dipartimento di Scienze e Tecnologie Biologiche Chimiche e Farmaceutiche, Università di Palermo, Palermo (Italy)
- P16 Clams from Sicilian transitional water zones: mineral elements and safety**
Angela Giorgia Potorti, Benedetta Sgrò, Giuseppa Di Bella, Giovanni Bartolomeo, Salvatore Giacobbe
 Department of Biomedical and Dental Sciences and of Morphological and Functional Images (BIOMORF), University of Messina, Messina (Italy)
- P17 Fingerprinting of green and roasted coffee (*Parainema* and *Obata*) volatile organic compounds (VOCs): HS-GC-IMS and GC-MS**
Matteo Bordiga, Gianluca Piana, Andrej Godina, Cesare Rossini, Marco Arlorio
 Dipartimento di Scienze del Farmaco, Università degli Studi del Piemonte Orientale, Novara (Italy)

- P18 Effect of fermentation type on VOCs profile of table olives: a case study on 'Bella di Cerignola' cultivar using PTR-MS**
Antonia Corvino, Iuliia Khomenko, Emanuela Betta, Vittorio Capozzi, Franco Biasioli
 Research and Innovation Centre, Fondazione Edmund Mach, San Michele all'Adige (TN, Italy)
- P19 Evaluating the effect of different cooking methods on polycyclic aromatic hydrocarbons formation in hamburger samples by means of GC-MS/MS**
Mariateresa Ingegno, Valeria Nardelli, Anna Accettulli, Giovanna Berardi, Ines Della Rovere, Marco Langianese, Anna Calitri, Marco Iammarino
 Istituto Zooprofilattico Sperimentale della Puglia e della Basilicata, Foggia (Italy)
- P20 Phenols and VOCs fingerprint as a reliable tool for craft beer classification based on wheat origin**
Maria Assunta Acquavia, Angela Di Capua, Rosanna Ciriello, Filomena Lelario, Carmen Tesoro, Rocco Bochicchio, Saverio Laurenza, Emanuela Gregori, Roberto Rubino, Giuliana Bianco
 Università degli Studi della Basilicata, Dipartimento di Scienze, Potenza (Italy)
- P21 First steps of a journey to detect antibiotic treatment biomarkers in pig chains**
Maria Pia Fabrice, Sergio Ghidini, Loris Alborali, Nicolò Riboni, Maurizio Piergiovanni, Monica Mattarozzi, Federico Scali, Maria Olga Varrà, Adriana Ianieri, Federica Bianchi, Maria Careri, Emanuela Zanardi
 Department of Food and Drug, University of Parma, Parma (Italy)
- P22 Veterinary drug residues in animal-origin food: an UPLC-MS/MS screening method for the determination of 21 beta-agonists in animal liver and lung**
V. Pieragostini, I. Pecorelli, I. Diamanti, C. Carloni, D. Boccia, R. Galarini, L. Fioroni
 Istituto Zooprofilattico Sperimentale dell'Umbria e delle Marche, Perugia (Italy)
- P23 Evaluation of toxicity profile of CIPFPECA-0,1 (N2) by lipidomics approach**
S. Moretti, E. Artino, G. Cruciani, L. Goracci
 Department of Chemistry, Biology, and Biotechnology, University of Perugia, Perugia (Italy)
- P24 Targeted and untargeted metabolomics profiling and evaluation of fungal communities in Italian wheat grains to assess the food security**
Leonardo Lascalea, Marzia Beccaccioli, Ilaria Montaina, Francesca Colais, Cesare Manetti, Massimo Reverberi
 Department of Environmental Biology, Sapienza University of Rome, Rome (Italy)
- P25 Indirect recycling of fast food in insect feed: the use of UHPLC-MS/MS proteomics to ensure food safety**
M.C. Lecrenier, M. Aerts, A. Cordonnier, L. Plasman, V. Baeten
 Walloon Agricultural Research Centre (CRA-W), Gembloux (Belgium)
- P26 Iterative data dependent analysis by LC-QTOF for untargeted approach in food matrices**
Simone Angeloni, Laura Alessandroni, Giovanni Caprioli, Gianni Sagratini, Massimo Ricciutelli
 Chemistry Interdisciplinary Project (ChIP), School of Pharmacy, University of Camerino, Camerino (Italy)
- P27 Aroma Profiling of Hops and Beer Using High-Capacity Sorptive Extraction with GC×GC-FID/TOF MS/SCD**
Laura McGregor, Anthony Buchanan, Daniela Peroni, Daniele Morosini
 SRA Instruments, Cernusco sul Naviglio (MI, Italy)

- P28 Characterization of the natural vanilla samples of different botanical and geographical origin based on the aromatic profile**
Mauro Paolini, Long Chen, Alberto Roncone, Tiziana Nardin, Luana Bontempo, Roberto Larcher
 Fondazione Edmund Mach (FEM), S. Michele all'Adige (TN, Italy)
- P29 Comparison of dried thyme from different geographical locations with GC-TOFMS and software tools designed to rapidly determine similarities and differences**
Elizabeth M. Humston-Fulmer, David E. Alonso, John Hayes, Joseph E. Binkley
 LECO Corporation, Saint Joseph (MI, USA)
- P30 Impact of stabilizers on ice cream's aroma release**
Camila Cossettin Teixeira, Michele Pedrotti, Lorenzo Gennari, Andrea Cavallero, Iuliia Khomenko, Flavia Gasperi, Franco Biasioli
 Fondazione Edmund Mach, San Michele all'Adige (TN, Italy)
- P31 Qualitative and quantitative characterization of free amino acids in green coffee by UPLC/ESI-MS**
Paolo Rolando, Luciano Navarini, Sara Cutroneo, Barbara Prandi, Tullia Tedeschi
 illycaffè S.p.A., via Flavia 110, 34147 Trieste (Italy)
- P32 LC-MS as a useful tool for coffee chemotaxonomy: the case of *Coffea racemosa* and *C. zanguebariae* Mozambican accessions**
Elena Guercia, Silvia Colombar, Lopes Mavunque, Gianluca Luongo, Paola Crisafulli, Luciano Navarini
 illycaffè S.p.A., Trieste (Italy)
- P33 Monitoring of roasted coffee bean freshness during storage by HS-GC/MS analysis**
Tiziana Forleo, Salvatore Cervellieri, Maria Tufariello, Alessandro Benedetti, Gianpaolo Trevisan, Erica Monticelli, Angelo Santino, Antonio Moretti, Vincenzo Lippolis
 Institute of Sciences of Food Production, National Research Council of Italy, Bari (Italy)
- P34 UHPLC-QTOF characterization of *Coffea racemosa* husks for an adequate valorization of a coffee by-product**
Silvia Colombar, Mirko de Rosso, Niquisse J. Alberto, Gianluca Luongo, Riccardo Flamini, Luciano Navarini
 illycaffè S.p. A., Trieste (Italy)
- P35 Influence of geographical origin, post-harvest processing and brewing methods on quercetin derivatives in roasted *arabica* coffee**
Agnese Santanatoglia, Luciano Navarini, Simone Angeloni, Gianni Sagratini, Sauro Vittori, Giovanni Caprioli
 Chemistry Interdisciplinary Project, ChIP, University of Camerino, Camerino (Italy)
- P36 Supercritical CO₂ extraction of lipids from Coffee Silverskin: from laboratory to Industrial scale**
Tamara Chwojnik, Chiara Scapuzzi, Luisella Verotta, Luciano Navarini, Stefania Lupinelli, Stefania Marzorati
 Department of Environmental Science and Policy, University of Milan, Milan (Italy)
- P37 Exploring the impact of roasting conditions on hazelnut quality by GC-IMS and sensory analysis**
Maria Mazzucotelli, Iuliia Khomenko, Pietro Franceschi, Emanuela Betta, Elena Gabetti, Luca Falchero, Andrea Cavallero, Eugenio Aprea, Franco Biasioli
 Research and Innovation Center, Fondazione Edmund Mach, San Michele all'Adige (TN, Italy)

- P38 Characterization of process dependent Maillard adducts and chemical modifications in wholemeal pasta by untargeted HR-MS/MS**
Chiara Nitride, Anna Luparelli, Antonella Lamonaca, Elisabetta De Angelis, Linda Monaci, Rosa Pilolli
Institute of Sciences of Food Production, National Research Council, Bari (Italy)
- P39 Glycerol as a precursor in the Maillard reaction: focus on alkylpyrazines**
Valentina Lonzarich, Elisabetta De Angelis, Luciano Navarini
illycaffè S.p.A., via Flavia 110, 34147 Trieste (Italy)
- P40 Lipidomics of edible insects: exploring Maillard reaction products with advanced chromatography and mass spectrometry**
Giovanni Ventura, Michele Pellegrino, Cosima D. Calvano, Tommaso R.I. Cataldi
Department of Chemistry Università degli Studi di Bari Aldo Moro, Bari (Italy)
- P41 Analysis of the phenolic compounds, volatile profile and evaluation of the antioxidant activity of different varieties of honey in Italy**
Laura Acquaticci, Doaa Abouelenein, Eleonora Spinozzi, Agnese Santanatoglia, Ahmed M. Mustafa, Giovanni Caprioli
Chemistry Interdisciplinary Project (ChIP), School of Pharmacy, University of Camerino, Camerino (Italy)
- P42 Amino acids, phenolic and flavonoid contents in two diverse extracts of *Spinacia Oleracea L.*: evaluation of in vitro antioxidant and enzyme inhibitory activity**
Giulia Gentile, Lorenza Marinaccio, Federica Flammini, Eleonora Procino, Gokhan Zengin, Azzurra Stefanucci
Department of Pharmacy, University of "G. d'Annunzio", Chieti (Italy)
- P43 Characterization of flavonoids in ancient Lucanian plum varieties using RPLC-ESI-FTMS: a rapid screening approach**
Giovanni Ventura, Andrea Cinnirella, Vito Nettis, Gabriella Sonnante, Emanuela Blanco, Cosima D. Calvano, Tommaso R. I. Cataldi
Department of Chemistry and Centro Interdip. SMART, Università degli Studi di Bari, Bari (Italy) Institute of Biosciences and Bioresources, National Research Council (CNR), Bari (Italy)
- P44 Antioxidant activity and MS-analysis of milk and cheese produced by ewes fed with silages of prickly pear by-products (*Opuntia ficus-indica*)**
A. D'Amico, C. Buzzanca, R. Gannuscio, M. Todaro, V. Di Stefano
Department of Biological, Chemical and Pharmaceutical Science and Technology (STEBICEF), Università degli Studi di Palermo, Palermo (Italy)
- P45 Acorn flour extracts: analysis of bioactive compounds by HPLC-ESI-MS/MS and evaluation of their antioxidant and enzyme inhibitory activities**
Laura Acquaticci, Agnese Santanatoglia, Elena Giovanna Vittadini, Daniela Beghelli, Antonietta La Terza, Gokhan Zengin, Giovanni Caprioli
Chemistry Interdisciplinary Project (ChIP), School of Pharmacy, University of Camerino, Camerino (Italy)
- P46 UHPLC/QTOF study of chemical markers in grapevine leaves as a response of plant water stress**
Mirko De Rosso, Roberto Carraro, Itay Maoz, Gianvito Masi, Annarita Panighel, Sabino Roccotelli, Luigi Sansone, Luigi Tarricone, Riccardo Flamini
Council for Agricultural Research and Economics – Viticulture & Oenology (CREA-VE), Conegliano (TV, Italy)

- P47** **SPME-GC-MS investigation on Sicilian hemp seed cake flour, with a preliminary evaluation of its sensory properties**
L. De Maria, R. Vadalà, R. Rando, C. Conduro, N. Cicero, R. Costa
 Dept. of Veterinary Medicine, University of Messina, Messina (Italy)
- P48** **Cyclic ion mobility mass spectrometry: advances in metabolite separation and identification and high spatial resolution using a Desorption electrospray ionization (DESI) source**
Demurtas Olivia Costantina, Sulli Maria, Frusciante Sarah, Diretto Gianfranco
 Biotechnologies Division, ENEA, Italian National Agency for New Technologies, Energy and Sustainable Economic Development, Casaccia Research Centre, Santa Maria di Galeria, Rome (Italy)
- P49** **An untargeted metabolomic study on Melinda Golden *Delicious* apples: a comparison between commercial bio-packaging at different times**
Alba Lasalvia, Valeria Vergine, Cinzia Ingallina, Davide Corinti, Luisa Mannina, Maria Elisa Crestoni
 Dipartimento di Chimica e Tecnologie del Farmaco, Università di Roma "La Sapienza", Roma (Italy)
- P50** **Metabolomic characterization of raw materials and novel food products for the promotion of Mediterranean lifestyle and healthy diet**
Upanshi Sharma, Eleonora Fabene, Matteo Nava, Sarah Frusciante, Maria Sulli, Carla Sandri, Elisabetta Bennici, Luca Nardi, Luca Santi, Olivia Costantina Demurtas, Gianfranco Diretto
 Biotechnologies Division, ENEA, Italian National Agency for New Technologies, Energy and Sustainable Economic Development, Casaccia Research Centre, Santa Maria di Galeria, Rome (Italy)
- P51** **A targeted approach by HPLC-ESI-MS/MS (MRM) for tryptophan metabolites in food & beverages**
Paola Di Matteo, Rita Petrucci
 Dept. Basic and Applied Sciences for Engineering, Sapienza University of Rome, Rome (Italy)
- P52** **Unraveling the prebiotic effect of *Ulva lactuca* L. by *in-vitro* colonic fermentation and metabolome investigation**
B. Zonfrillo, C.M.S. Ambrosio, M. Bellumori, M. Innocenti, N. Mulinacci, J. Rubert
 Department of NEUROFARBA, University of Florence, Sesto Fiorentino (Italy)
- P53** **Development and validation of a method for the confirmation of six allergens in food by LC-QTOF**
Fabiola Paoletti, Elisabetta Bucaletti, Danilo Giusepponi, Carolina Barola, Roberta Galarini
 Istituto Zooprofilattico Sperimentale dell'Umbria e delle Marche "Togo Rosati" - Perugia;
- P54** **Food waste into bioactives: polyhydroxynaphtoquinones from different species of edible sea Urchins**
Stefania Marzorati, Margherita Roncoroni, Giordana Martinelli, Chiara Scapuzzi, Tamara Chwojnik, Michela Sugni
 Department of Environmental Science and Policy, Milan (Italy)
- P55** **Dried olive mill wastewater: a rich source of phenols with promising anti-inflammatory and antiproliferative activities**
Cinzia Benincasa, Rosa Nicoletti, Massimiliano Pellegrino, Anna Rita Cappello, Francesca Aiello, Enzo Perri
 CREA - Centro di Ricerca Olivicoltura, Frutticoltura, Agrumicoltura, Rende (CS, Italy)

- P56 Integrated approach for the evaluation of food loss and waste of fresh spinach during its storage**
Iuliia Khomenko, Michele Pedrotti, Emanuela Betta, Danny Clicerì, Isabella Endrizzi, Eugenio Aprea, Flavia Gasperi, Franco Biasioli
 Research and Innovation Centre, Fondazione Edmund Mach, San Michele all'Adige (TN, Italy)
- P57 Storage quality of fresh-cut artichokes (*Cynara scolymus* L. Hayek) treated with dipping solution based on natural bioactive compounds**
Cristina Matarazzo, Michela Palumbo, Maria Cefola, Bernardo Pace, Laura Quintieri, Leonardo Caputo, Leonardo di Donna, Lucia Bartella, Rosaria Cozzolino
 Institute of Food Science (ISA) National Research Council (CNR), Avellino (Italy)
- P58 Prickly Pear (*Opuntia ficus-indica*) Callus Culture: Exploration of Bioactive Compounds and Future Biotechnological Prospects**
Valentina Parisi, Emanuele Rosa, Nunziatina De Tommasi, Giuliana Donadio, Daniele Fraternali
 Dipartimento di Farmacia, Università degli Studi di Salerno, Fisciano (SA, Italy)
- P59 The added value of natural flavourings: characterization and comparison of Calabrian chili pepper flavourings obtained with different extraction techniques**
Samanta Corsetti, Laura Alessandrini, Alberto Casale, Monia Floridi, Gianni Sagratini
 School of Pharmacy, Chemistry Interdisciplinary Project (ChIP), University of Camerino, Camerino (Italy)
- P60 Comparison of HS-SPME, Vac-HS-SPME and HiSorb pre-concentration techniques for profiling of volatile compounds in monovarietal extra virgin olive oil using GC×GC-MS**
Irene Digiglio, Damien Eggermont, Natasha Damiana Spadafora, Tommaso Ugolini, Lorenzo Cecchi, Nadia Mulinacci, Giorgia Purcaro
 Department of NEUROFARBA, University of Florence, Sesto F.no, Florence (Italy)
- P61 Fatty acid profiles and biological activities of the vegetable oils of *Argania spinosa*, *Pinus halepensis* and *Pistacia atlantica* grown in Tunisia**
Giuseppe Amato, Lucia Caputo, Filomena Nazzaro, Florinda Fratianni, Habiba Kouki, Ismail Amri, Laura De Martino, Vincenzo De Feo
 Department of Pharmacy, University of Salerno, Fisciano (Italy)
- P62 Software assisted approach to identify authenticity and adulteration markers for saffron quality control**
Elisabetta De Angelis, Anna Luparelli, Rosa Pilolli, Antonella Lamonaca, Linda Monaci
 Institute of Sciences of Food Production, National Research Council, Bari (Italy)
- P63 Direct analysis in real-time with high resolution mass spectrometry: a rapid tool for black truffle authentication**
Ilona Nordhorn, Klemens Losso, Matthias Rainer, Ben Young, Carsten Baessmann
 Bruker Daltonics GmbH & Co. KG, Bremen (Germany)
- P64 A rapid solution for tomato purees authentication by flow injection and high-resolution mass spectrometry detection**
Antonella Lamonaca, Anna Luparelli, Elisabetta De Angelis, Linda Monaci, Rosa Pilolli
 Institute of Sciences of Food Production, National Research Council, Bari (Italy)

- P65 Validation of an analytical method for authentication of mint essential oils: a combination of GC-IRMS and GC-MS/MS**
Long Chen, Mauro Paolini, Roberto Larcher, Luca Ziller, Alberto Roncone, Luana Bontempo
Fondazione Edmund Mach (FEM), San Michele all'Adige (TN, Italy)
- P66 Production of the Italian 'Tarallo Pugliese' (TAP) fortified with lentils hulls and its chemical characterization by LC-HRMS/MS analysis**
Federica De Bellis, Antonella Lamonaca, Anna Luparelli, Leonardo Caputo, Laura Quintieri, Rosa Pilolli, Elisabetta De Angelis, Linda Monaci
Institute of Sciences of Food Production, National Research Council, Bari (Italy)
- P67 Comparative study of carotenoid and fat-soluble vitamin levels in alpine vs. industrial dairy products**
Roberto Larcher, Giulia Vinotti, Francesca Martinelli, Tiziana Nardin
Fondazione Edmund Mach, Technology Transfer Centre, S. Michele all'Adige (TN, Italy)
- P68 Levels of 3-monochloropropane-1,2-diol (3-MCPD as sum of free and ester form) and glycidyl esters (GE) in oils and fats: results of ten-year monitoring**
Valentina Gamba, Elena Pellegrini, Barbara Albanese, Simonetta Menotta
Istituto Zooprofilattico Sperimentale della Lombardia e dell'Emilia-Romagna, Brescia (Italy)
- P69 "From field to barrel": carbon and oxygen isotope analysis in the production chain of Aceto Balsamico Tradizionale di Modena (ABTM)**
Veronica D'Eusanio
Department of Chemical and Geological Sciences, University of Modena and Reggio Emilia, Modena (Italy)
- P70 Comparison and differentiation of flavor profiles in vegan food and their non-vegan precursors by a novel GC-HRMS technology**
Marleen Vetter, Eliska Ceznerova, Sonja Klee, Steffen Bräkling, Arnd Ingendoh
Tofwerk AG, Thun (Switzerland)
- P71 Fatty acids and macro elements evaluation in wild boar meat supplemented with hazelnuts**
Carolina Fontanarosa, Michele Spinelli, Gennaro Battaglia, Marialuisa Ruocco, Alessia Brandolini, Fabio Pucci, Daniele Vigo, Angela Amoresano
University of Naples "Federico II", Department of Chemical Sciences, Naples (Italy)
- P72 UHPLC-Q-Orbitrap-MS-based lipidomic study of swine sausage produced by adding natural ingredients to replace nitrite and nitrate addition**
Annalisa Mentana, Andrea Chiappinelli, Maria Campaniello, Giovanna Berardi, Marco Langianese, Valeria Nardelli, Marco Iammarino
Istituto Zooprofilattico Sperimentale della Puglia e della Basilicata, Foggia (Italy)
- P73 Identification of phyllobilin biomarkers in apple leaves (*Malus x domestica* Borkh.) affected by fungal diseases using high-resolution QTOF-MS**
Luca Vestrucci, Lisa Marie Gorfer, Urban Spitaler, Sabine Oettl, Peter Robatscher, Matteo Scampicchio, Michael Oberhuber
Faculty of Agricultural, Environmental and Food Sciences, Free University of Bozen-Bolzano, Bolzano (Italy)

- P74 Identification and quantification of coenzyme Q10 in innovative *Brassica* vegetables by liquid chromatography/mass spectrometry coupled with atmospheric pressure chemical ionization**
Mariachiara Bianco, Ilario Losito, Beniamino Leoni, Pietro Santamaria, Cosima D. Calvano, Tommaso R.I. Cataldi
Dipartimento di Chimica, Centro Interdipartimentale SMART, Università degli Studi di Bari Aldo Moro, Bari (Italy)
- P75 Essential fatty acids and mineral elements in baby food products**
Irene Maria Spanò, Giuseppa Di Bella, Vincenzo Nava, Angela Giorgia Potorti, Vincenzo Lo Turco
Department of Biomedical, Dental, Morphological and Functional Images Sciences (BIOMORF), University of Messina, Messina (Italy)
- P76 Monitoring the volatilome of kefir and kefir-like cereal-based beverages during fermentation by PTR-Tof-MS**
Martina Moretton, Iuliia Khomenko, Hulya Cunedioğlu, Vittorio Capozzi, Franco Biasioli
Research and Innovation Centre, Fondazione Edmund Mach, S. Michele all'Adige (TN, Italy)
- P77 Stable isotope ratio analysis to detect biosynthetic citric acid addition to Italian tomato sauce**
Silvia Pianezze, Matteo Perini, Domenico Masuero, Stefania Carpino, Nicola Barilaro, Vincenzo Di Martino, Luana Bontempo
Technology Transfer Centre, Fondazione Edmund Mach, S. Michele all'Adige (TN, Italy)
- P78 Rapid detection of safflower as adulterant in saffron: development of a targeted MS/MS method on DART EVOQ platform**
Linda Monaci, Anna Luparelli, Rosa Pilolli, Elena Bueno, Alexandre Verdu, Elisabetta De Angelis
Institute of Sciences of Food Production, National Research Council, Bari (Italy)