



Società Chimica Italiana  
Divisione di Spettrometria  
di Massa



**Camerino (Italy), September 25-27, 2019**



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# **BOOK OF ABSTRACTS**

## **PROCEEDINGS OF THE 6<sup>th</sup> MS FOOD DAY**

**September 25-27, 2019**

**Camerino - Italy**



### **Scientific Committee**

<b>Gianluca Giorgi</b> ( <i>Chairman</i> )	<i>Università di Siena</i>
<b>Giuseppe Avellone</b>	<i>Università di Palermo</i>
<b>Franco Biasioli</b>	<i>Fondaz. Edmund Mach, S.Michele A/A (TN)</i>
<b>Lucia Bonassisa</b>	<i>Bonassisa Lab, Foggia</i>
<b>Donatella Caruso</b>	<i>Università di Milano</i>
<b>Lanfranco Conte</b>	<i>Università di Udine</i>
<b>Arnaldo Dossena</b>	<i>Università di Parma</i>
<b>Riccardo Flamini</b>	<i>CREA-VE, Conegliano</i>
<b>Emanuele Forte</b>	<i>Ferrero, Alba</i>
<b>Roberta Galarini</b>	<i>IZS dell'Umbria e delle Marche</i>
<b>Renzo Galli</b>	<i>Fileni, Cingoli (MC)</i>
<b>Ivana Gandolfi</b>	<i>Parmalat, Parma</i>
<b>Davide Garbini</b>	<i>COOP Italia, Bologna</i>
<b>Luciano Navarini</b>	<i>illy caffè, Trieste</i>
<b>Paola Pittia</b>	<i>Università di Teramo</i>
<b>Gianni Sagratini</b>	<i>Università di Camerino</i>
<b>Giovanni Sindona</b>	<i>Università della Calabria</i>
<b>Michele Suman</b>	<i>Barilla, Parma</i>
<b>Sauro Vittori</b>	<i>Università di Camerino</i>

### **Organizing Committee**

<b>Martina Staffolani</b>	<i>Fileni, Cingoli (MC)</i>
<b>Giovanni Caprioli</b>	<i>Università di Camerino</i>
<b>Manuela Cortese</b>	<i>Università di Camerino</i>
<b>Renzo Galli</b>	<i>Fileni, Cingoli (MC)</i>
<b>Marco Gava</b>	<i>Fileni, Cingoli (MC)</i>
<b>Fabrizio Papa</b>	<i>Università di Camerino</i>
<b>Massimo Ricciutelli</b>	<i>Università di Camerino</i>
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<b>Elisabetta Torregiani</b>	<i>Università di Camerino</i>



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## SCIENTIFIC PROGRAMME

Wednesday, September 25<sup>th</sup>, 2019

14:00 – 14:30 Registration and reception

14:30 – 15:00 **Welcome addresses**

**Magnifico Rettore**

Università degli Studi di Camerino

**Fileni**

**Donatella Caruso**

University of Milan, President of the Division of Mass Spectrometry of the Italian Chemical Society

**Gianluca Giorgi**

University of Siena, 6 MS Food Day Scientific Committee, *Chair*

15:00 **1<sup>st</sup> Session: Toxicants, allergens, pesticides**

*Chairs: Donatella Caruso (Univ. of Milan) Gianluca Giorgi (Univ. of Siena)*

15:00 – 15:40 **PL1: Mass spectrometry – An effective platform to assess toxicants and adulterants and their impact on human health**

*Richard M. Caprioli*

Mass Spectrometry Research Center, Vanderbilt University, Nashville TN (USA)

15:40 – 15:55 **OR1: LC-MS/MS and tetrodotoxins (TTXs): a preliminary study on mussels and *Vibrios* from NW Adriatic Sea**

*Simone Bacchiocchi, Melania Siracusa, Debora Campacci, Sara Evangelista, Francesca Leoni, Arianna Piersanti*

Centro di Referenza Nazionale Molluschi Bivalvi- Istituto Zooprofilattico Sperimentale Umbria e Marche “Togo Rosati”, Ancona (Italy)

15:55 – 16:10 **OR2: Selection of proteotypic peptide markers tracing for six allergenic ingredients in incurred chocolate bar**

*Rosa Pilolli, Christof van Poucke, Marc de Loose, Nathalie Gillard, Anne-Catherine Huet, Olivier Tranquet, Collette Larré, Karine Adel-Patient, Hervé Bernard, Chiara Nitride, E. N. Clare Mills, Linda Monaci*

Institute of Sciences of Food Production, CNR-ISPA, Bari (Italy)

- 16:10 – 16:25 **OR3: Direct analysis of Glyphosate, AMPA, and other polar pesticides in food**  
Lorenzo Zingaro, Anna Cali, Jerry Zweigenbaum, Derick Lucas  
 Agilent Technologies Italia, Rome (Italy)
- 16:25 – 16:40 **OR4: Cd and Pb time trends 2008-2018 in bivalve mollusks from the Adriatic Sea, FAO 37.2.1 area**  
 Tamara Tavoloni, Roberto Miniero, Gianfranco Brambilla, Paolo Palombo, Francesco Griffoni, Martina Ciriaci, Arianna Stramenga, Giampiero Scortichini, Arianna Piersanti  
 Istituto Zooprofilattico Sperimentale dell'Umbria e delle Marche "T. Rosati", Ancona (Italy)
- 16:40 – 17:15 Coffee break
- 17:15 **2<sup>nd</sup> Session: wine & beer**  
Chairs:Riccardo Flamini (CREA-VE, Conegliano (TV)),  
Roberto Larcher (Fondaz. Edmund Mach, S. Michele a/A)
- 17:15 – 17:30 **OR5: Searching for bioactive nutraceutical and functional food ingredients in *Vitis vinifera* leaves**  
Marisa Maia, António E. N. Ferreira, Gonçalo Laureano, Ana P. Marques, Vukosava M. Torres, Anabela B. Silva, Ana R. Matos, Carlos Cordeiro, Andreia Figueiredo, Marta Sousa Silva  
 Faculdade de Ciências da Universidade de Lisboa (Portugal)
- 17:30 – 17:45 **OR6: High-resolution mass spectrometry metabolomics of different *Glera* grape clones used to produce D.O.C.G. Prosecco sparkling wine**  
Mirko De Rosso, Marina Niero, Luca Aggio, Roberto Carraro, Christine Mayr, Massimo Gardiman, Riccardo Flamini  
 Council for Agricultural Research and Economics – Viticulture & Enology (CREA-VE), Conegliano (TV, Italy)
- 17:45 – 18:00 **OR7: An investigation on the reactivity of wine polyphenols towards SO<sub>2</sub>**  
Daniele Catorci, Fulvio Mattivi, Panagiotis Arapitsas, Federico Bonaldo, Graziano Guella  
 University of Trento, Trento (Italy)
- 18:00 – 18:15 **OR8: Volatile profiles of Italian monocultivar EVOOs during 12 months of storage: different trends associated to polyphenols and fatty acids content**  
Eugenio Aprea, Emanuela Betta, Claudio Cantini, Flavia Gasperi  
 Fondazione Edmund Mach, Food Quality and Nutrition Department, IASMA Research and Innovation Centre, S. Michele all'Adige (TN, Italy)

18:15 – 18:30 **OR9: Metabolomics as a tool for the optimization of agronomical parameters of Ribolla Gialla for the production of sparkling wine**

*Domen Škrab, Paolo Sivilotti, Urška Vrhovšek*

Edmund Mach Foundation, Research and Innovation Centre,  
Department of Food Quality and Nutrition, San Michele all'Adige  
(TN, Italy)

18:30 – 18:45 **OR10: Mass spectrometry for free polyphenols in untreated samples of beer**

*Paola Di Matteo, Paola Russo, Rita Petrucci*

Sapienza Università di Roma, Dip. Scienze di Base e Applicate  
per l'Ingegneria Roma (Italy)

18:45 *End of session*

18:45 – 19:15 **Celebrating 10 years of MS Food Day!!**

*Michele Suman, Luciano Navarini, Franco Biasioli, Lucia  
Bonassisa, Davide Garbini*

19:30 Welcome cocktail & show

## Thursday, September 26<sup>th</sup>, 2019

- 9:00 **3<sup>rd</sup> Session: MS ambient, PTR**  
*Chairs: Michele Suman (Barilla, Parma), Roberta Galarini (IZSUM, Perugia)*
- 9:00 – 9:40 **PL2: Towards on-site food analysis by (trans)portable mass spectrometry**  
*Marco Blokland, Arjen Gerssen, Paul Zoontjes, Janusz Pawliszyn, Michel Nielen*  
Wageningen Food Safety Research (The Netherlands)
- 9:40 – 9:55 **OR11: Authenticity of honey: is DART-MS an effective screening tool?**  
*Tito Damiani, Nicola Dreolin, Sara Stead, Emiliano De Dominicis, Chiara Dall'Asta*  
University of Parma, Department of Food and Drug, Parma (Italy)
- 9:55 – 10:10 **OR12: UniSpray™ a novel atmospheric pressure ionization source for LC-MS/MS for routine analysis**  
*Andrea Perissi*  
Waters Italia, Sesto San Giovanni (MI, Italy)
- 10:10 – 10:35 **KN1: Proton transfer reaction mass spectrometry and sensory techniques to investigate biotransformations of hop derived compounds in beer**  
*Patrick Silcock*  
University of Otago, Department of Food Science, Dunedin (New Zealand)
- 10:35 – 10:55 **OR13: VOC profiling of raw and cooked gilthead sea bream (*Sparus aurata*) of different geographical origin by PTR-ToF-MS**  
*Iuliia Khomenko, Fabio Brambilla, Michele Pedrotti, Franco Biasioli*  
Research and Innovation Centre, Fondazione Edmund Mach, San Michele all'Adige (TN, Italy)
- 10:55 – 11:30 Coffee break  
**Poster session** (even number posters)

- 11:30 **4<sup>th</sup> Session: VOCs, volatilome & isotopes**  
Chairs: Franco Biasioli (FEM, S. Michele A/A (TN)), Davide Garbini (Coop Italia, Casalecchio di Reno (BO))
- 11:30 – 11:55 **KN2: High performing VOC phenomics to improve the horticultural production chain**  
*Brian Farneti*  
 Genomics and Biology of Fruit Crop Department, Research and Innovation Centre, Fondazione E. Mach, San Michele all'Adige (TN, Italy)
- 11:55 – 12:10 **OR14: Volatilome fingerprinting and gene expression profiling of fresh produce: a multi-trait approach to identify markers of food quality**  
*Antonella Muto, Lucia Bartella, Innocenzo Muzzalupo, Leonardo Bruno, Leonardo Di Donna, Carsten Muller, Hilary J. Rogers, Laura McGregor, Antonio Ferrante, Adriana A. C. Chiappetta, Giovanni Sindona, Maria B. Bitonti, Natasha D. Spadafora*  
 Department of Biology, Ecology and Earth Sciences, University of Calabria, Arcavacata di Rende (Cosenza, Italy)
- 12:10 – 12:25 **OR15: Coupling *in vivo* nose-space and sensory methods to investigate flavor release and perception**  
*Michele Pedrotti, Arianne van Eck, Iuliia Khomenko, Andrea Spaccasassi, Elke Scholten, Vincenzo Fogliano, Markus Stieger, Franco Biasioli*  
 Fondazione Edmund Mach, San Michele all'Adige (TN, Italy)
- 12:25 – 12:40 **OR16: Usefulness of HS-SPME-GC-MS quantification of volatile compounds for quality control of virgin olive oil**  
*Lorenzo Cecchi, Marzia Migliorini, Luca Calamai, Fabrizio Melani, Nadia Mulinacci*  
 University of Florence – Department of NEUROFARBA, Sesto Fiorentino (Italy)
- 12:40 – 12:55 **OR17: Stable isotopes and elemental profiles for botanic and geographic characterisation of gum arabic**  
*Tiziana Nardin, Daniela Bertoldi, Matteo Perini, Silvia Pianezze, Giulia Ferrari, Roberto Larcher*  
 Technology Transfer Centre, Fondazione Edmund Mach, San Michele all'Adige (TN, Italy)
- 13:00 – 14:30 Buffet lunch

- 14:30 **5<sup>th</sup> Session: food components, food testing and profiling**  
Chairs: Arnaldo Dossena (Univ. of Parma, Parma), **Giuseppe Avellone** (University of Palermo)
- 14:30 – 15:10 **PL3: Novel insights in the occurrence and bioavailability of endocrine active food components**  
Doris Marko, Benedikt Warth  
 University of Vienna (Austria)
- 15:10 – 15:25 **OR18: Exploring extra-terrestrial acceptability of inter-planetary food with the aid of mass spectrometry**  
Jonathan Beauchamp, Andrew Taylor, Loic Briand, Victor Demaria Pesce, Martina Heer, Thomas Hummel, Scott McGrane, Christian Margot, Serge Pieters, Paola Pittia, Charles Spence, Inês Antunes  
 Fraunhofer IVV, Freising (Germany)
- 15:25 – 15:40 **OR19: Robust and integrated, analytical workflows delivering improved sensitivity and compliance in routine food testing labs**  
Fausto Pigozzo, Richard Fussell  
 Thermo Fisher Scientific, Milan (Italy)
- 15:40 – 15:55 **OR20: Phospholipids profiling in San Andreas strawberries by using hydrophilic liquid chromatography coupled to ESI tandem mass spectrometry**  
Mariachiara Bianco, Lachinkhanim Huseynli, Cosima D. Calvano, Andrea Viola, Mārtiņš Šabovics, Tommaso R.I. Cataldi  
 Department of Food Technology, Latvia University of Life Sciences and Technologies, Jelgava (Latvia)
- 15:55 – 16:35 Coffee break  
**Poster session** (odd number posters)
- 16:35 **6<sup>th</sup> Session: metabolomics**  
Chairs: Paola Pittia (Univ. of Teramo), **Sauro Vittori** (Univ. of Camerino)
- 16:35 – 17:15 **PL4: Applications of MS-based metabolomics to investigate the host:microbiome co-metabolic processing of food components**  
Fulvio Mattivi, Marynka Ulaszewska, Kajetan Trost  
 University of Trento, Trento (Italy)



- 17:15 – 17:30 **OR21: Untargeted metabolomics approach and antimicrobial assays to characterize chemical profiles of different *Satureja montana* L. essential oils**  
*Alessandro Maccelli, Luca Vitanza, Anna Imbriano, Maria Elisa Crestoni, Federica Rinaldi, Catia Longhi*  
Dipartimento di Chimica e Tecnologie del Farmaco,  
“Sapienza” Università di Roma, Roma (Italy)
- 17:30 – 17:45 **OR22: Comprehensive two-dimensional gas chromatography coupled to time of flight mass spectrometry featuring tandem ionization: adding an extra-dimension to hazelnuts (*Corylus avellana* L.) primary metabolome fingerprinting**  
*Marta Cialìè Rosso, Cecilia Cagliero, Erica Liberto, Patrizia Rubiolo, Barbara Sgorbini, Carlo Bicchi, Chiara Cordero*  
Dipartimento di Scienza e Tecnologia del Farmaco,  
Università degli Studi di Torino, Turin (Italy)
- 17:45 – 18:00 **OR23: Polar pesticides method: a new and unique solution for both food complex matrix and environmental samples**  
*Alessandro Armandi, Stefano Fiorina, Samuele Scurati*  
Sciex, Milano (Italy)
- 18:00 – 18:15 **OR24: Determination of the polyphenolic fraction of food real-world samples by comprehensive two-dimensional liquid chromatography coupled to photodiode array and mass spectrometry detection**  
*Francesco Cacciola, Katia Arena, Francesca Rigano, Paola Dugo, Luigi Mondello*  
Department of Biomedical, Dental, Morphological and Functional Imaging Sciences, University of Messina, Messina (Italy)
- 18:15 End of session
- 20:30 Social dinner

## Friday, September 27<sup>th</sup>, 2019

- 9:00 **7<sup>th</sup> Session: proteins, peptides, isotopes**  
*Chairs: Renzo Galli (Fileni, Cingoli (MC)), Angelo Visconti (Bonassisa Lab., Foggia)*
- 9:00 – 9:40 **PL5: Protein oxidation and glycation compounds in food: targeting individual structures by MS techniques**  
*Michael Hellwig, Thomas Henle*  
Technische Universität Dresden, Dresden (Germany)
- 9:40 – 9:55 **OR25: Phosphopeptide profile of kefir as affected by the production technology**  
*Sandra Pati, Maria Luisa Savastano, Antonio Bevilacqua, Maria Rosaria Corbo, Maurizio Quinto, Antonio Rizzuti, Monika Pischetsrieder, Ilario Losito*  
Department of Agricultural, Food and Environmental Sciences (SAFE), University of Foggia, Foggia (Italy)
- 9:55 – 10:10 **OR26: HPLC-MS/MS method for fast and comprehensive quantification of sesame lignans**  
*Anna Rathgeb, Zana Jamal Kareem, Andargie Mebeaselassie, Petr Karlovsky*  
Molecular Phytopathology and Mycotoxin Research Unit, University of Goettingen (Germany)
- 10:10 – 10:25 **OR27: Characterization of Italian authentic saffron by using stable isotope ratio analysis**  
*Silvia Pianezze, Luana Bontempo, Federica Camin, Luca Ziller, Angelo Antonio D'Archivio, Matteo Perini*  
Fondazione Edmund Mach, San Michele all'Adige (TN, Italy)
- 10:25 – 11:00 Coffee break
- 11:00 **8<sup>th</sup> Session: MS & coffee**  
*Chairs: Gianni Sagratini (Univ. of Camerino), Luciano Navarini (illycaffè S.p.A., Trieste)*
- 11:00 – 11:15 **OR28:** Shimadzu
- 11:15 – 11:30 **OR29: Development of a new analytical method for 30 bioactive compounds quantification in Spent Coffee Ground**  
*Simone Angeloni, Giovanni Caprioli, Gulzhan Khamitova, Luciano Navarini, Gianni Sagratini, Sauro Vittori*  
School of Pharmacy, University of Camerino, Camerino (Italy)

11:30 – 11:45 **OR30: Polyphenols in coffee by-products extracts: determination and cytoprotection in an undifferentiated neuroblastoma cell line**

*Cristina Juan, Gaia de Simone, Jordi Mañes, Gianni Sagratini, Giovanni Caprioli, Ana Juan-García*

Laboratory of Food Chemistry and Toxicology, Faculty of Pharmacy, University of Valencia, Burjassot, València, (Spain)

11:45 – 12:00 **OR31: Extraction of espresso coffee by changing particle size distribution and evaluation of bioactive compounds through HPLC-VWD and HS-SPME/GC-MS**

*Gulzhan Khamitova, Simone Angeloni, Giovanni Caprioli, Lauro Fioretti, Gianni Sagratini, Sauro Vittori*

School of Pharmacy, University of Camerino, Camerino, (Italy)

12:00 – 12:30 Closing ceremony. Announcement of next MS Food Day

12:30 – 14:00 Farewell light buffet

## POSTER COMMUNICATIONS

**P1 Organic (PBDEs, NDL-PCBs) and Inorganic (Pb, Cd, Hg, As, Ni, Mn) contaminants in hunted wild boar from Central Italy**

*Tamara Tavoloni, Arianna Stramenga, Tommaso Stecconi, Massimiliano Giannotti, Paolo Palombo, Martina Ciriaci, Elisabetta Manuali, Valeria Castro, Michela Conquista, Arianna Piersanti*  
IZS-Umbria e Marche "Togo Rosati", Ancona (Italy)

**P2 Extraction and characterization of bioactive compounds from agro-industrial by-products for spray packaging applications to extend the shelf-life of highly perishable foods**

*Maria Grimaldi, Antobella Cavazza, Thekla Leone, Michele Antonio Papadopoli, Claudio Corradini*

Dipartimento di Scienze Chimiche, della Vita e della Sostenibilità Ambientale, Università di Parma, Parma (Italy)

**P3 Characterization of new putative polyphenols in post-harvest withered grapes (*V. vinifera* L.) by high-resolution mass spectrometry**

*Mirko De Rosso, Annarita Panighel, Antonio Dalla Vedova, Riccardo Flamini*

Council for Agricultural Research and Economics – Viticulture & Enology (CREA-VE), Conegliano (TV, Italy)

**P4 Determination of co-eluted isomers in wine samples by application of MS/MS deconvolution analysis**

*Marta Menicatti, Massimo Ricciutelli, Roberta Galarini, Simone Moretti, Michele Mari, Gianni Sagratini, Sauro Vittori, Simone Lucarini, Giovanni Caprioli, Gianluca Bartolucci*

Dipartimento Neurofarba dell'Università di Firenze (Italy)

**P5 Alkaloid profiling of food tannins using high resolution mass spectrometry**

*Roberto Larcher, Pietro Apostoli, Giorgio Nicolini, Tiziana Nardin*

Technology Transfer Centre, Fondazione Edmund Mach, San Michele all'Adige (TN, Italy)

**P6 Characterization of *Iris pallida* Lam. rhizomes cultivated in Chianti area by HPLC-DAD-MS, HS-SPME-GC-VUV and HS-SPME-GC×GC-TOF analysis**

*Francesca Ieri, Pamela Vignolini, Chiara Vita, Fabio Villanelli, Annalisa Romani*

QuMAP Laboratory, PIN Polo Universitario Città di Prato, Prato (Italy)

- P7 Anchovy waste-derived fish oil loaded on periodic mesoporous silica for nutraceutical applications**  
*Claudia Lino, Rosaria Ciriminna, Antonino Scurria, Giuseppe Avellone, Mario Pagliaro*  
Istituto per lo Studio dei Materiali Nanostrutturati, CNR, Palermo (Italy)
- P8 Characterisation of the methanolic extracts from the ancient apple variety “Mela Rosa dei Monti Sibillini”**  
*Joice G. Nkuimi Wandjou, Laura Lancioni, Fabrizio Papa, Gianni Sagratini, Sauro Vittori, Massimo Bramucci, Massimo Ricciutelli, Giovanni Caprioli, Filippo Maggi*  
School of Pharmacy, University of Camerino (Italy)
- P9 Influence of boiling cooking on phytochemical profile of orange cauliflower (*Brassica Oleracea* L. var. *botrytis*)**  
*Alessandra Giardinieri, Guillem Campmajó, Ancuta Nartea, Elena Bartolucci, Michele Balzano, Deborah Pacetti, Natale Giuseppe Frega, Javier Saurina, Oscar Núñez*  
Department of Chemical Engineering and Analytical Chemistry, University of Barcelona, Barcelona (Spain)
- P10 Honey discrimination by Volatile Organic Compounds analysis: comparison between GC-IMS and GC-E-Nose**  
*Fernando Gottardi, Cesare Rossini, Maria Teresa Rodriguez-Estrada, Dario Mercatante, Fabio Battaglia, Nicole Mei*  
LabService Analytica s.r.l, Bologna (Italy)
- P11 Analytical method for determination of glyphosate and other polar pesticides in vegetables and honey using Ion Chromatography coupled with High Resolution Mass Spectrometry (IC-HRMS)**  
*Barbara Angelone, Enrica Ferretti, Mara Gasparini*  
Istituto Zooprofilattico Sperimentale della Lombardia e dell’Emilia Romagna “Bruno Ubertini”, Brescia (Italy)
- P12 UHPLC-HRMS polyphenolic profile for the characterization and classification of nuts**  
*Guillem Campmajó, Javier Saurina, Oscar Núñez*  
Department of Chemical Engineering and Analytical Chemistry, University of Barcelona, Barcelona (Spain)
- P13 Preliminary characterization of a candidate reference material for poly-and perfluoroalkyl substances**  
*Roberta Galarini, Simone Moretti, Carolina Barola, Danilo Giusepponi, Fabiola Paoletti, Giorgio Saluti, Gianfranco Brambilla*  
Istituto Zooprofilattico Sperimentale dell’Umbria e delle Marche “Togo Rosati”, Perugia (Italy)

- P14 Perfluoroalkylated pollutants in liver of farm animals by LC-Q-Orbitrap: method development and validation**  
*Carolina Barola, Simone Moretti, Danilo Giusepponi, Fabiola Paoletti,<sup>1</sup> Giorgio Saluti, Severyn Salis, Cecilia Testa, Roberta Galarini*  
Istituto Zooprofilattico Sperimentale dell'Umbria e delle Marche "Togo Rosati", Perugia (Italy)
- P15 Fish oil from anchovy by-products via direct and green extraction: characterisation via mass spectrometry of nutraceutical ingredients**  
*Antonino Scurria, Rosaria Ciriminna, Claudia Lino, Giuseppe Avellone, Mario Pagliaro*  
Istituto per lo Studio dei Materiali Nanostrutturati, CNR, Palermo (Italy)
- P16 Evaluation of volatile profile of ten Italian tomato cultivars and relative processed products**  
*Sara Savini, Mirella Bandini, Anna Sannino*  
Chemical Safety Department, Stazione Sperimentale per l'Industria delle Conserve Alimentari (SSICA), Parma (Italy)
- P17 Transfer of a multiclass method for over 60 antibiotics in food from a high resolution tandem mass spectrometry platform to a low resolution one**  
*Fabiola Paoletti, Danilo Giusepponi, Carolina Barola, Simone Moretti, Giorgio Saluti, Federica Ianni, Roccaldo Sardella, Roberta Galarini*  
Istituto Zooprofilattico Sperimentale dell'Umbria e delle Marche "Togo Rosati", Perugia (Italy)
- P18 In depth characterization of dried rings and flakes from Emilia Romagna autochthon onion (*Allium cepa* L.) by GC-MS and GCxGC/TOF**  
*Lorenzo Cecchi, Francesca Ieri, Pamela Vignolini, Nadia Mulinacci, Annalisa Romani*  
University of Florence, Department of NEUROFARBA, Sesto Fiorentino (Italy)
- P19 Differentiation of Italian land snails (*Helix aspersa*) from foreign samples, using C and N stable isotopes analysis: preliminary results**  
*Simona Altieri, Vincenzo Guida, Gionata De Vico, Carmine Lubritto*  
Department of Environmental, Biological and Pharmaceutical Sciences and Technologies, University of Campania "L. Vanvitelli", Caserta (Italy)

- P20 A comprehensive analysis of volatile profile of Cannabis sativa L. variety Futura essential oil by TotalFlowUnderVacuum GCxGC-TOF and GC-VUV**  
*Eligio Sebastiani, Fabio Villanelli, Francesca Ieri, Luca Calamai, Annalisa Romani*  
SRA Instruments SpA, Cernusco S/N Milano (Italy)
- P21 Chemotype diversity of commercial essential oils**  
*Filomena Monica Vella, Roberto Calandrelli, Domenico Cautela, Immacolata Fiume, Gabriella Pocsfalvi, Bruna Laratta*  
Consiglio Nazionale delle Ricerche (CNR), Istituto di Ricerca degli Ecosistemi Terrestri (IRET), Napoli (Italy)
- P22 Fully automated determination of 3-MCPD and glycidol in edible oils and fats by GC/MS based on the commonly used methods ISO 18363-1, AOCS Cd 29(a&c)-13, and DGF C-VI 18**  
*Andrea Carretta, Federico Sacco, Dominik Lucas, Andreas Hoffman, Carlos Gil*  
SRA Instruments SpA, Cernusco S/N Milano (Italy)
- P23 Quality assessment of Tuscan extra virgin olive oil by HS-SPME-GC-MS analysis of volatile compounds, HPLC-DAD analysis of phenolic compounds and chemometrics**  
*Lorenzo Cecchi, Pujun Xie, Maria Bellumori, Fabrizio Melani, Nadia Mulinacci*  
Università di Firenze, NEUROFARBA Department, Sesto F.no, Florence (Italy)
- P24 Determination of ten mycotoxins on Moroccan medicinal and aromatic plants by liquid chromatography coupled to tandem mass spectrometry**  
*Aicha El Jai, Ana Juan-García, Jordi Mañes, Abdellah Zinedine, Cristina Juan*  
Laboratory of Food Chemistry and Toxicology, Faculty of Pharmacy, University of Valencia, Burjassot, València (Spain)
- P25 16-O-methylated diterpenes in green Coffea arabica: UPLC-MS/MS method optimization and validation**  
*Elena Guercia, Silvia Colombar, Luciano Navarini*  
Aromalab, illycaffè S.p.A., Trieste (Italy)
- P26 UHPLC-MS/MS method for rapid quantification of chlorogenic acids in roasted coffee**  
*Silvia Colombar, Elena Guercia, Luciano Navarini*  
illycaffè Spa, Trieste (Italy)

- P27 Omega-3 enriched *Hermetia illucens* as novel ingredient for insect-based food for the future: influence of growth substrate based on coffee-roasting by-product and microalgae**  
*Cristina Truzzi, Anna Annibaldi, Matteo Antonucci, Silvia Illuminati, Giuseppe Scarponi, Paola Riolo, Sara Ruschioni, Matteo Zarantoniello, Ike Olivotto*  
Department of Life and Environmental Sciences, Polytechnic University of Marche, Ancona (Italy)
- P28 Tips and tricks for handling high purity water in the LC-MS laboratory**  
*Anastasia Domanov, Matteo Cazzaniga, Stephan Altmaier, Martin Lange, Stéphane Mabic*  
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- P29 Innovative sampling approaches for drinking water in the analysis of emerging pollutants by liquid chromatography - tandem mass spectrometry**  
*Marina Di Carro, Emanuele Magi*  
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- P30 Analysis of Bisphenol A in foods using solid phase micro-extraction with an overcoated fiber**  
*Maurizio Sacchetti, Katherine Stenerson, Leonard Sidisky, Craig Aurand, Lisa McCombie*  
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- P31 Analysis of pesticides in paprika - Development of an SPE cleanup method**  
*Maurizio Sacchetti, Hugh Cramer, Katherine Stenerson, Christine Dumas*  
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- P32 Flavonoids annotation using a product ion-dependent MS<sup>n</sup> data acquisition method on a Tribrid Orbitrap mass spectrometer**  
*Igor Fochi, Reiko Kiyonami, Iwao Sakane, Seema Sharma, Graeme McAlister, Caroline Ding, Andreas Huhmer*  
Thermo Fisher Scientific, Rodano (Italy)
- P33 Multidisciplinary approach to determine botanical and geographical origin of durum wheat, semolina and pasta**  
*Elisa Gritti, Elena Poloni, Emiliano De Dominicis, Federica Cattapan, Samim Saner, Giuditta Gambardota*  
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- P34 LC simulation software employment for complex chromatographic method development in food and pharmaceutical analysis**  
*Anna Beghetto, Elisa Gritti, Valeria Meli, Gianluigi Boschello, Emiliano De Dominicis, Riccardo Arduini*  
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- P35 Characterization of the main phenolic compounds in agri-food by-products by HPLC-DAD-MS**  
*Mohamad Khatib, Lorenzo Cecchi, Enrica Bargiacchi, Maria Bellumori, Marzia Innocenti, Nadia Mulinacci*  
Università degli Studi di Firenze, NEUROFARBA Dep, Sesto F.no, Florence (Italy)
- P36 Characterization and valorization of ancient cereals by HPLC-UV and ICP-MS**  
*Marta Radaelli, Elisa Scalabrin, Marco Roman, Gabriele Capodaglio, Gabriella Buffa*  
Department of Environmental Sciences, Informatics and Statistics, University Ca' Foscari Venice, Venezia-Mestre (Italy)
- P37 Identification of emerging contaminants in wastewater and uptake in *Beta vulgaris var. cicla* and *Allium cepa* by HPLC-HRMS**  
*Elisa Scalabrin, Marta Radaelli, Mirco Zanvettore, Gabriele Capodaglio*  
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- P38 Chemometrics combined with untargeted mass spectrometry for the study of saffron adulterations**  
*Alessandro Zappi, Davide Garbini, Dora Melucci, Chiara Maria Tavilla, Angela Tartaglia, Marcello Locatelli*  
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- P39 Liquid chromatography coupled with high-resolution ESI-LTQ-Orbitrap MS and high-sensitivity ESI-Qtrap MS for the analyses of different extracts of black currant leaves**  
*Gilda D'Urso, Paola Montoro, Sonia Piacente*  
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- P40 Metabolite profiling by (HR)LC-ESI-LTQ-Orbitrap-MS(MS) of *Ocimum basilicum* plants grown in microcosm under different light exposure**  
*Paola Montoro, Gilda D'Urso, Sonia Piacente, Luigi d'Aquino*  
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**P41 Evaluation of thermo oxidation on cholesterol oxidation products in salmon and pork loin**

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**P42 Tracking sugar addition in food and beverage using isotope fingerprints**

*Christopher Brodie, Maura Pellegrini, Mario Tuthorn, Oliver Kracht, Lionnel Mounier, Dieter Juchelka, Jens Griep-Raming*

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**P43 Multiresidue determination of pesticides in soil and edible crops by using HPLC-MS/MS triple quadrupole**

*Riccardo Zeppa, Giovanni Caprioli, Andrea Cavalletti, Manuela Cortese, Caterina Renzi, Renzo Galli, Massimo Ricciutelli, Dennis Fiorini, Gianni Sagratini*

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**P44 Lipidomics profiling of donkey milk from Asinara by MSMS All technique**

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**P45 Application of PTR-MS, HS-SPME GC-MS and HILIC-HRMS to study the chemical changes during storage of ultra-high-temperature (UHT) lactose-free milk produced with different lactase preparations**

*Riccardo Bottioli, Michele Pedrotti, Antonio Dario Troise, Emanuela Betta, Eugenio Aprea, Paola Vitaglione, Flavia Gasperi*

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**P46 Food and beverage fraud prevention using isotope fingerprints**

*Maura Pellegrini, Mario Tuthorn, Christopher Brodie, Lionnel Mounier, Dieter Juchelka, Oliver Kracht, Jens Radke*

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**P47 Intelligent MS<sup>n</sup> workflow for improved metabolome coverage and increased confidence in unknown identification**

*Ioanna Ntai, Iman Mohtashemi, Ralf Tautenhahn, Graeme McAlister, Seema Sharma, Vlad Zabrouskov, Amanda Souza, Claire Dauly, Elizabeth Crawford, Andreas Huhmer*

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- P48 In the “spirit” of VOCs: sampling automation and concentration strategy for aroma profiling of alcoholic beverages**  
*Natasha D. Spadafora, Laura McGregor, Anthony Buchanan, Jody Dunstan, Nick Bukowski, Massimo Santoro, Eligio Sebastiani*  
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- P49 Non-targeted food fingerprinting of typical food products of the Basilicata region (Italy)**  
*Alberto Onzo, Raffaella Pascale, Donatella Coviello, Patrizia Iannece, Carmine Gaeta, Giuliana Bianco*  
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- P50 Nutraceutical potential of *Corylus avellana* daily supplements for obesity and related dysmetabolism**  
*Azzurra Stefanucci, Adriano Mollica, Gokhan Zengin, Marcello Locatelli, Marilisa Pia Dimmito, Ettore Novellino, Olayemi K. Wakeel, Mustapha O. Ogundeji, Adejoke Y. Onaolapo, Olakunle J. Onaolapo<sup>4</sup>*  
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- P51 Polyphenol composition of 12 apple cultivar grown in South-Tyrol (Italy) determinate by ultra-high-performance liquid chromatography mass spectrometry (UHPLC-MS)**  
*Adriana Teresa Ceci, Giulia Chitarrini, Michael Oberhuber, Peter Robatscher*  
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- P52 Monitoring of biogenic amines in organic and conventional chicken by HPLC-ESI-QTOF-MS analysis**  
*Massimo Ricciutelli, Franks Kamgang Nzekoue, Giovanni Caprioli, Manuela Cortese, Dennis Fiorini, Renzo Galli, Riccardo Zeppa, Sauro Vittori, Gianni Sagratini*  
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- P53 A new HPLC-MS/MS analytical method for isoflavone and lignan quantification in 25 green coffee samples**  
*Simone Angeloni, Giovanni Caprioli, Gulzhan Khamitova, Luciano Navarini, Gianni Sagratini, Sauro Vittori*  
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**P54 UHPLC-ESI-MS/MS for the analysis of primary aromatic amines in plastic food contact materials**

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**P55 Proteomic characterization of kefir milk by two-dimensional electrophoresis followed by mass spectrometry**

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**P56 Development of a multi-group screening method for the determination of over 270 mycotoxins, pesticides and veterinary drugs in food**

*Simone Moretti, Francesca Lambertini, Dante Catellani, Daniele Cavanna, Carolina Barola, Giorgio Saluti, Roberta Galarini, Michele Suman*

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**P57 Proteomic characterization of olives from the Marche region cultivar *Piantone di Mogliano***

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**P58 Application of metabolomics methods on LC/GC-QTOF data to discriminate extra virgin olive oils from different Protected Designations of Origin**

*Lucía Olmo-García, Karin Wendt, Aadil Bajoub, Carmen María Sánchez-Arévalo, Arsenio Muñoz de la Peña, Martina Stella, Carsten Baessmann, Alegría Carrasco-Pancorbo, Alberto Fernández-Gutiérrez*

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**P59 Volatile organic compounds produced during cooking: development and application of an SPME-GC-MS method**

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- P60 Characterization of Trentino maize flours for polenta-making using PTR-ToF-MS**  
*Linarty Linarty, Michele Pedrotti, Onu Ekpa, Teresa Oliviero, Enzo Mescalchin, Marino Gobber, Vincenzo Fogliano, Franco Biasioli*  
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- P61 Hydrophilic interaction chromatography-tandem mass spectrometric method for the simultaneous determination of polar pesticides in fruits and vegetables**  
*Stefano Ruben Di Tofano, Rocco Gerardo Ianniello, Enza Natalia D'Elia, Stefano Sportelli, Cristiana Labella, Lucia Bonassisa*  
 Bonassisa Lab S.r.l., Foggia (Italy)
- P62 Determination of main sterols in olive oil using Supported Liquid Extraction (SLE), Solid Phase Extraction (SPE) and GC-MS analysis**  
*Cristiana Labella, Luca Tommasi, Angelo Visconti, Lucia Bonassisa*  
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- P63 Analysis of polyphenols in Cocoa by means of LC-MS/MS during fermentation process**  
*Eleonora Oliva, Federico Fanti, Johannes Delgado Ospina, Clemencia Chaves, Alessia Pepe, Manuel Sergi, Dario Compagnone*  
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- P64 Cannabinoids analysis as powerful tool for the identification of commercial marijuana**  
*Sara Palmieri, Marcello Mascini, Antonella Ricci, Federico Fanti, Chiara Ottaviani, Claudio Lo Sterzo, Manuel Sergi*  
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- P65 Contemporaneous determination nitrofurans and choramphenicol in muscle fish honey and feed by liquid chromatography tandem mass spectrometry**  
*Andrea Giorgi, Luigi Giannetti, Elisa Gennuso, Francesco Necci, Valentina Gallo, Francesca Marini, Bruno Neri*  
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**P66 Detection of forbidden substances in dietary supplements by liquid chromatography coupled to high-resolution mass spectrometry (LC-HRMS)**

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**P67 Qualitative and quantitative determination of ethyl-2-hydroxy-4-methylpentanoate (ethyl leucate) in wine**

*Mauro Paolini, Valeria Bianchin, Giorgio Nicolini, Tomas Roman, Loris Tonidandel, Roberto Larcher*

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**P68 Discrimination of saffron samples using MS-based techniques (IRMS and GC-MS) and peptide gas sensors array (E-Nose)**

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