K*. 04
Continuous vs. Segmented Second Dimension System Gradients for Comprehensive Two-Dimensional Liquid Chromatography of Sugar-cane (Saccharum SPP.)
Francesco Cacciola 1,2, Gabriel Mazzi Leme 1, Paola Donato 1,2, Alberto Jose Cavalcanti 3, Paola Dugo 1,2, Luigi Mondello 1,2
1 Dipartimento di Scienze dell’Ambiente, della Sicurezza, del Territorio, degli Alimenti e della Salute, University of Messina, Italy
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4 Dipartimento di Scienze del Farmaco e dei Prodotti per la Salute, University of Messina, Messina, Italy
5 Institute of Chemistry, São Paulo State University, Araraquara, Brazil

K*. 05
Increase the Separation Power of Two-Dimensional Liquid Chromatography Through the Use of Shifted Gradients for Polyphenol Determination in Red Wine
Francesco Cacciola 1,2, Paola Donato 1,2, Francesco Rigano 4, Paola Dugo 1,2, Luigi Mondello 1,2
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5 Institute of Chemistry, São Paulo State University, Araraquara, Brazil

K*. 06
The On-Line Hyphenation of Comprehensive Liquid Chromatography to Triple Quadrupole Mass Spectrometry for the Elucidation of the Carotenoid Content in Foodstuffs with High Orthogonality and Sensitivity
Paola Donato 1,2, Francesco Cacciola 1,2, Francesca Rigano 4, Daniela Giuffrida 2, Paola Dugo 1,2, Luigi Mondello 1,2
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K*. 07
Coupling of New Silver Thiolate and Mono-disperse Materials in Comprehensive Two-Dimensional Liquid Chromatography for Truly Orthogonal Lipid Separation
Giuseppe Sullini 1, Paola Donato 1,2, Marco Beccaria 1, Francesco Cacciola 1,2, Paola Dugo 1,2, Luigi Mondello 1,2
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Please visit our booth # 8 on ISCC to see our latest technology and discuss with our experts.

INVITATION
Company Seminar at the 38th ISCC
Presentation of two World Premieres
Smart & powerful tools for comprehensive analysis
Wednesday, May 21th, 3.45 - 4.45 pm, Palazzo Dei Congressi, Room 1000

Presenters:
Haruhiko Miyagawa: New Smart technologies to enhance GC-MS/MS productivity, operation and performance
Megumi Hirooka: ChromSquare – Power of GCxGC-MS analysis with ease of data handling
Dr. Paola Donato: Novel powerful MS strategies in comprehensive 2D GC
Dr. Flavio A. Franchina: Double-oven comprehensive 2D GC combined with a rapid triple quadrupole mass spectrometer
Improving precision and throughput, the new GCMS-TQ8040 is the most accurate, cost effective, easy-to-use, triple quadrupole GCMS ever. The system combines Ultra-Fast Mass Spectrometry (UFMS) and Smart Multiple Reaction Monitoring (MRM) based on Shimadzu’s patented UFsweper™ technology.

Through smart technologies, the triple quadrupole GCMS provides a new level in routine work:

- **Smart Productivity** means high efficiency and sample throughput and is based on simultaneous multi-component analysis.
- **Smart Operation** facilitates rapid and easy method development.
- **Smart Performance** enables Scan/MRM for low detection limits and simultaneous target compound confirmation.

**Poster Presentations**

**P. 10** — Fast GC-MS/MS Analysis of Multicomponent Pesticides Residue (>300) in Food Matrices Using of MS Technology

Hendrik J. Schulte, Hans-Ulrich Baier, Stéphane Monneau
Shimadzu Europa GmbH, Duisburg, Germany

**P. 11** — Pesticide Residue Analysis Using a Tandem LC-MS/MS with Scheduled MRM

Anja Grünig1, Julia Sandner1, Ute Potyka1, Stéphane Monneau1, Mikhail Lev2
1 Shimadzu Europa GmbH, Duisburg, Germany
2 Shimadzu France, Marne-la-Vallée, France

**M. 05** — Fast GC-MS/MS Analysis of 76 VOC Compounds Using Headspace-Trap Sampling

Hendrik J. Schulte, Hans-Ulrich Baier, Stéphane Monneau
Shimadzu Europa GmbH, Duisburg, Germany
Poster Presentations

11th GCxGC Symposium

K. 12
Characterization Of Sebum Lipids Using Comprehensive Two-Dimensional Gas Chromatography Combined With Rapid-Scanning Quadrupole Mass Spectrometry
Laurent Boisaubert1, Valeria Manzin1, Peter Tranchida2, Luigi Mondello2
1 Advanced Research, L’OREAL R&I, Aulnay sous bois, France
2 University of Messina, Italy

K. 66
Maria E. Machado1, Flavio A. Franchina2, Claudia Zini1, Elina B. Caramao1,3, Peter Q. Tranchida4, Luigi Mondello2,4
1 Instituto de Quimica, Universidade Federal do Rio Grande do Sul, Porto Alegre, Brazil
2 Dipartimento di Scienze del Farmaco e Prodotti per la Salute, University of Messina, Italy
3 Instituto Nacional de Ciencia e Tecnologia em Energia e Ambiente, INCT E&A, Campus Universitário de Ondina, Salvador, Brazil
4 Centro Integrato di Ricerca (C.I.R.), University Campus Bio-Medico of Rome, Italy

K. 71
The Off-Line Combination of High Performance Liquid Chromatography and Comprehensive Two-Dimensional Gas Chromatography-Mass Spectrometry: a New Powerful Approach for Highly-Detailed Essential Oil Analysis
Mariosimone Zoccali1, Peter Q. Tranchida1, Paola Dugo1,2, Giovanni Dugo1, Luigi Mondello1,2
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2 Centro Integrato di Ricerca (C.I.R.), University Campus Bio-Medico of Rome, Italy

K. 87
Monodimensional (GC-FID And GC-MS) and Comprehensive Two-Dimensional (GCxGC) Gas Chromatography for the Assessment of Volatiles and Fatty Acids from Ruta Chalepensis L. Plants
Selenia De Grazia1, Rosaria Costa1, Laura Tedone1, Salvatore Ragusa2, Luigi Mondello1,3
1 Dipartimento di Scienze del Farmaco e Prodotti per la Salute, University of Messina, Italy
2 Dipartimento di Scienze della Salute, University of Catanzaro, Italy
3 Centro Integrato

K. 01
Comprehensive HPLC Analysis of Alkaloids and Permitted Additives in Dark Chocolate Products
Gesa Schad, Björn T. Erxleben, Robert Ludwig, Brigitte Richrath
Shimadzu Europa GmbH, Duisburg, Germany
The LCMS-8050 triple quadrupole mass spectrometer is perfect for definitive identification and reproducible quantification of trace level analytes in complex samples. Through its world-class features it gives access to an expanded range of LC-MS/MS applications such as pharmacokinetics in pharma, food, environmental, forensics and toxicology.

The system provides a dramatically increased analytical throughput with ultra-high speed performance. In addition, the newly improved ion source and collision cell, Heated ESI and UFsweper™ III collision cell technology, yield higher sensitivity.

The LCMS-8050 again features the world’s fastest polarity switching time of 5 msec – three times faster than the predecessor version. The leading UHPLC system and proprietary ultrafast technologies support are the backbones of resolving power.

**Oral Presentations**

**11th GCxGC Symposium**

**Monday, May 19th, 10.10 am, Room 300 + 100**

**Microfabricated Reactors for Volatiles Analysis by GCxGC-C-IRMS**

Tom Brenna, Herbert Tobias
Cornell University, Savage Hall, United States

**Monday, May 19th, 11.40 am, Room 1000**

**Flow-Modulated GC x-Low-Pressure GC: a Novel Approach for High Resolution/Sensitivity GC Separations**

Peter Q. Tranchida, Flavio A. Franchina, Paola Dugo, Luigi Mondello
University of Messina, Italy

**Monday, May 19th, 4.00 pm, Room 300 + 100**

**Comprehensive Two-Dimensional Gas Chromatography Combined with a Fast-Scanning Quadrupole Mass Spectrometer: Suitable for Metabolomics?**

Christoph H. Weinert1, Bjoern Egert1, Hans-Ulrich Baier2, Sabine E. Kulling1
1 Max Rubner-Institut, Karlsruhe, Germany
2 Shimadzu Europa GmbH, Duisburg, Germany

**38th ISCC**

**Tuesday, May 20th, 5.10 pm, Room 300 + 100**

**On-Line Liquid Chromatography-Comprehensive 2D Gas Chromatography-Triple Quad Mass Spectrometry: a Powerful and Flexible 4D Separation-Science Tool**

Marisimone Zoccali1, Flavio A. Franchina1, Maria E. Machado2, Claudia Zin2, Elina B. Caramao2,3, Peter Q. Tranchida4, Luigi Mondello1,4
1 Shimadzu Europa GmbH, Duisburg, Germany
2 Universidade Federal do Rio Grande do Sul, Porto Alegre, Brazil
3 INCT E&A, Salvador, Brazil
4 University Campus

**L. 07 – Analysis of Doping Agents Using Ultra-fast LC-MS/MS with Scheduled MRM**

Anja Grünig1, Julia Sander1, Ute Potyka1, Stéphane Moreau1, Mikael Levi2
1 Shimadzu Europa GmbH, Duisburg, Germany
2 Shimadzu France, Marne-la-Vallée, France

**Thursday, May 22nd, 9.50 am, Room 1000**

**Comprehensive 2D-LC: a Rapid Evolution of a Powerful Technique**

Paola Dugo1,2, Paola Donato1,2, Francesco Cacciola2,3, Luigi Mondello1,3
1 University of Messina, Italy
2 University Campus Bio-Medico of Rome, Italy
3 Chromaleon s.r.l. A start-up of the University of Messina, Italy

**Thursday, May 22nd, 5.00 pm, Room 300**

**Analysis of Principal Flavonoids in Citrus Juices by Nano-LC and Determination of their Antioxidant Activity**

Chiara Fanali1, Anna Rocco2, Laura Dugo1, Paola Dugo1,3, Luigi Mondello1,3
1 Campus Bio-Medico University of Rome, Italy
2 CNR, Rome, Italy
3 University of Messina, Italy

**Friday, May 23rd, 9.30 pm, Room 1000**

**New Vacuum Ultraviolet Detector for Gas Chromatography**

Kevin A. Schug1, Doug D. Carlton Jr.1, Ian Sawicki1, Harold M. McNair2, Chao Zheng3, Phillip Walsh4, Dale Harrison4
1 University of Texas at Arlington, Arlington, United States
2 Virginia Tech, Blacksburg, United States
3 The Dow Chemical Company, Freeport, United States
4 VUV Analytics, Inc, Austin, United States