# Mass Spectrometry Тechniques in Environmental and Food Safety Control

# 12th Mass Spectrometry School – MSS 12

**Organized by** NGO Aqualeer, Faculty of Science and Mathetmatics Niš, Analysis d.o.o.

**Accredited** by Center for professional development at Faculty of Science and Mathematics Niš

**Type:** International school

**Scope:** The School focuses on teaching and discussing modern knowledge in mass spectrometry, its application in food safety and environmental quality control with theoretical and practical aspects of mass spectrometry.

**Target group**: students, post-docs, teachers, researchers, professionals

**Duration:** 3 days

**Time**: 28.6. – 30.6.2023.

**Place**: Nis, Faculty of Science and Mathematics – amphitheater

**Lecturers:**

1. Dr. Jean Claude Tabet, professor Emeritus at Sorbonne University, Paris, France
2. Gwenaëlle Lavison-Bompard, Head of Marine Pesticides and Biotoxins Unit National Agency for Food, Environmental and Occupational Health Safety, Food Safety Laboratory, Paris France
3. Dr. Radmila Pavlovic, researcher at ProMeFa (Proteomics and Metabolomics Facility) in the Center of Omics Sciences at IRCCS Ospedale San Raffaele, Milano, Italy
4. Ljubica Svilar, Mass spectrometry engineer at Cribiom Marseille, Provence-Alpes-Côte d’Azur, France
5. Dr. Natali Stojiljkovic, Group Leader at Open Innovation & Operational Excellence, L'Oréal, Paris, France
6. Sanja Djekic, Application Specialist - Chromatography and Mass Spectrometry at ANALYSIS DOO, Belgrade, Serbia

**Theoretical lectures:**

1. Jean Claude Tabet: Fundamental background requirements for MS
2. Jean Claude Tabet: GP ionization in vacuum (EI/CI). Prompt odd-electron ion fragmentations
3. Jean Claude Tabet: API sources: gas phase ionization (APCI) and desorption (ESI). Ambient ionizations
4. Jean Claude Tabet: Ion beam and ion storage analyzer devices and tandems
5. Jean Claude Tabet: Various ion activation mode and ion dissociation
6. Jean Claude Tabet: Fragmentation of positive/negative even-electron species
7. Gwenaëlle Lavison-Bompard: Method validation and quality controls regarding european guidances and EN ISO 17025 standard for pesticides residues analysis in food
8. Radmila Pavlovic and Ljubica Svilar: Metabolomics and lipidomics approaches as new frontiers in food safety research
9. Radmila Pavlovic and Natali Stojiljkovic: Application of HRMS for investigation of exposome - impact of emergant contaminants
10. Sanja Djekic: LC-MS/MS & IC-MS/MS Analysis of polar pesticides in food

**Practical part:**

1. Gwenaëlle Lavison-Bompard: Method validation: interpretation of accuracy profiles
2. Radmila Pavlovic: Softweare application in structural identification of small molecules
3. Jean Claude Tabet: Unknown compound elucidation: a possible HRMS approach
4. Ljubica Svilar: Open source tools for data processing in metabolomics

# Mass Spectrometry techniques in Environmental and Food Safety control

# 12th Mass Spectrometry School – MSS 12

28.6. – 30.6.2023.

University of Nis Faculty of Sciences and Mathematics, Višegradska 33, Niš, Serbia

School language: English

# Tuesday, June 27 2023

Arrival of School participants. Social evening – get together.

# Wensday, June 28 2023

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| 08:30 to 09:00  | Registration. SCHOOL OPENING |
| 09:00 to 10:15  | **Lecture 1:** Fundamental background requirements for MS*Jean Claude Tabet* |
| 10:15 to 10:45 | Cofee break. Group photo |
| 10:45 to 12:00 | **Lecture 2:** GP ionization in vacuum (EI/CI). Prompt odd-electron ion fragmentations*Jean Claude Tabet* |
| 12:00 to 14:00 | Lunch  |
| 14:00 to 15:15 | **Lecture 3:** API sources: gas phase ionization (APCI) and desorption (ESI). Ambient ionizations*Jean Claude Tabet* |
| 15:15 to 15:30 | Cofee break |
| 15:30 to 16:45 | **Lecture 4:** Ion beam and ion storage analyzer devices and tandems*Jean Claude Tabet* |

# Thursday, June 29 2023

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| 09:00 to 10:15  | **Lecture 5**: Various ion activation mode and ion dissociation*Jean Claude Tabet* |
| 10:15 to 10:45 | Cofee break |
| 10:45 to 12:00 | **Lecture 6 :** Method validation and quality controls regarding european guidances and EN ISO 17025 standard for pesticides residues analysis in food*Gwenaëlle Lavison-Bompard* |
| 12:00 to 14:00  | Lunch |
| 14:00 to 15:15  | **Lecture 7:** Fragmentation of positive/negative even-electron species*Jean Claude Tabet* |
| 15:15 to 15:30  | Cofee break |
| 15:30 to 16:30  | **Practical part 1:** Method validation: interpretation of accuracy profiles*Gwenaëlle Lavison-Bompard* |
| 16:30 to 17:30  | **Lecture 8:** LC-MS/MS & IC-MS/MS Analysis of polar pesticides in food*Sanja Djekic* |
| 19:00  | Coctail  |

# Friday, June 30 2023

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| 09:00 to 10:15  | **Lecture 9:** Metabolomics and lipidomics approaches as new frontiers in food safety research*Radmila Pavlovic and Ljubica Svilar* |
| 10:15 to 10:45 | Cofee break |
| 10:45 to 12:00 | **Lecture 10**: Application of HRMS for investigation of exposome - impact of emergant contaminants*Radmila Pavlovic and Natali Stojiljkovic* |
| 12:00 to 14:00  | Lunch |
| 14:00 to 15:00  | **Practical part 2:** Unknown compound elucidation: a possible HRMS approach*Jean Claude Tabet* |
| 15:00 to 15:15  | Cofee break |
| 15:15 to 16:15  | **Practical part 3:** Softweare application in structural identification of small molecules*Radmila Pavlovic* |
| 16:15 to 17:15  | **Practical part 4:** Open source tools for data processing in metabolomics*Ljubica Svilar* |
| 17:30  | Certificates. Group Photo. SCHOOL CLOSING. |