



PHD PROGRAMME IN CHEMICAL SCIENCES

Courses (18 h)

Mass spectrometry: principles and applications to Omics

Dr. Maria Fedorova

TU Dresden, Dresden – Germany

May 17,18 and 20, 2022 (Virtual) at 2 pm

May 24-26, 2022 (on site, “Aula B”) at 2 pm

All interested are invited to participate. Full program is shown in the next page.

Laura Goracci





Mass spectrometry: principles and applications to Omics

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First week (May, 17-20)

17.05 at 2 pm (3 h, online Zoom Meeting) Topic: *Mass Spectrometry Omics part 1: Introduction to mass spectrometry, main principles and definitions (m/z, monoisotopic vs average mass, molecular/quasi-molecular ions, resolution, mass accuracy), ionization techniques and ion source (electron ionization, chemical ionization, matrix assisted ionization methods, electrospray ionization);*

<https://tu-dresden.zoom.us/j/69954952554?pwd=TU5rSkhMU0gvWUFMWmM4ZHBkUTVwUT09>

18.05 at 2 pm (3 h, online Zoom Meeting) Topic: *Mass Spectrometry Omics part 2: mass analysers (time-of-flight, quadrupole, ion trap, FT ICR, orbitrap)*

<https://tu-dresden.zoom.us/j/64591921189?pwd=ckRXRCtyTjZkdzJrS3NFNElybVlTUT09>

20.05 at 2 pm (3 h, online Zoom Meeting) Topic: *Mass Spectrometry Part 3: hybrid mass spectrometers and tandem mass spectrometry; principles of methods design of mass spectrometry experiments for omics applications*

<https://tu-dresden.zoom.us/j/66750313716?pwd=YnZpanZpd2NjNUZuWUkwbfFQzZjc3QT09>

Second week (May, 24-26)

24.05 at 2 pm (3 h, onsite “Aula B”) Topic: *Introduction to MS based omics*

25.05 at 2 pm (3 h, onsite “Aula B”) Topic: *Principle of MS based proteomics and metabolomics*

26.05 at 2 pm (3 h, onsite “Aula B”) Topic: *Principle of MS based lipidomics*

