



«ETTORE MAJORANA» FOUNDATION AND CENTRE FOR SCIENTIFIC CULTURE
TO PAY A PERMANENT TRIBUTE TO ARCHIMEDES AND GALILEO GALILEI, FOUNDERS OF MODERN SCIENCE
AND TO ENRICO FERMI, THE "ITALIAN NAVIGATOR", FATHER OF THE WEAK FORCES



INTERNATIONAL SCHOOL ON MASS SPECTROMETRY

1st Course: HIGH RESOLUTION MASS SPECTROMETRY: FUNDAMENTALS, ADVANCES & APPLICATIONS

ERICE-SICILY: 25 – 30 SEPTEMBER 2022

Sponsored by the: Italian Ministry of Education, University and Scientific Research • Sicilian Regional Government

PROGRAMME AND LECTURERS

Mass spectrometry: State of the art and beyond; Native mass spectrometry
• J.A. LOO, UCLA Molecular Biology Institute, Los Angeles, CA, US

Resolution, resolving power, isobaric ions, nominal, monoisotopic and average masses, accurate mass measurements; From accurate mass to elemental formula; FT ICR: Fundamentals, phase corrections
• P. O'CONNOR, University of Warwick, Coventry, UK

Time-of-Flight: fundamentals & innovations
• G. GIORGI, University of Siena, IT

FT-ICR: fundamentals, phase corrections; 2D-FTICR
• C. ROLANDO, University of Lille, FR

Orbitrap: Fundamentals & advances; FTMS data processing; Exercises: FTMS data simulation
• Y. TSYBIN, Spectroswiss, Lausanne, CH

Innovation in FT-ICR
• E. NIKOLAEV, Skoltech Faculty, Moscow, RU

HRMS and Petroleomics

• R. RODGERS, Florida State University, Tallahassee, FL, US

GC×GC HRMS

• J.-F. FOCANT, University of Liège, BE

Single cell metabolomics

• L. PAŠA-TOLIĆ, Pacific Northwest National Lab, Richland, WA, US

Proteomics

• M. REY, Institut Pasteur, Paris, FR

HRMS and food

• A. KAUFMANN, Official Food Control Authority of the Canton of Zurich, CH

Advanced imaging mass spectrometry: Molecular microscopy for biology and medicine

• R. CAPRIOLI, Vanderbilt University, Nashville, TN, US

HRMS & ion mobility

• S. SCARPELLA, Waters, Sesto San Giovanni, MI, IT

PURPOSE OF THE COURSE

IntSMS is a six day full immersion school aimed to give advanced and higher education in mass spectrometry to graduate, PhD, post-doc students, and all those working in different areas of science, ranging from physics, chemistry, biosciences, food, environment, omics sciences to medicine, interested to improve their knowledge and culture in mass spectrometry. The IntSMS - 1st Course is devoted to High Resolution Mass Spectrometry (HRMS): Fundamentals, Advances, and Applications, an important technology in mass spectrometry that finds applications in many fields. HRMS allows discrimination of ions differing decimal digits in their m/z values, such as isobaric or multiply charged ions, so to increase the specificity and selectivity of the experiment. The school is organized in: a) Tutorial lectures; b) Poster sessions; c) Selected flash orals; d) Exercises with the active participation of students; e) Problem solving and a social program. The school joins together participants from academia, public and private research centers and industry, and it is an useful occasion for allowing meeting of students and tutors coming from different countries and for creating new links and networking.

APPLICATIONS

Persons wishing to attend the Course should send an application, by electronic mail, to the Director of the School, Professor Gianluca Giorgi: gianluca.giorgi@unisi.it

PLEASE NOTE

Participants must arrive in Erice on September 25, no later than 6 p.m.

More information about the other activities of the
"ETTORE MAJORANA" FOUNDATION AND CENTRE FOR SCIENTIFIC CULTURE
can be found on the WWW at the following address:
<http://www.ecsem.infn.it>

POETIC TOUCH

According to legend, Erice, son of Venus and Neptune, founded a small town on top of a mountain (750 metres above sea level) more than three thousand years ago. The founder of modern history — i.e. the recording of events in a methodic and chronological sequence as they really happened without reference to mythical causes — the great Thucydides (~500 B.C.), writing about events connected with the conquest of Troy (1183 B.C.) said: «After the fall of Troy some Trojans on their escape from the Achaei arrived in Sicily by boat and as they settled near the border with the Sicilians all together they were named Elymi: their towns were Segesta and Erice.» This inspired Virgil to describe the arrival of the Trojan royal family in Erice and the burial of Anchise, by his son Enea, on the coast below Erice. Homer (~1000 B.C.), Theocritus (~300 B.C.), Polybius (~200 B.C.), Virgil (~50 B.C.), Horace (~20 B.C.), and others have celebrated this magnificent spot in Sicily in their poems. During seven centuries (XIII-XIX) the town of Erice was under the leadership of a local oligarchy, whose wisdom assured a long period of cultural development and economic prosperity which in turn gave rise to the many churches, monasteries and private palaces which you see today. In Erice you can admire the Castle of Venus, the Cyclopean Walls (~800 B.C.) and the Gothic Cathedral (~1300 A.D.). Erice is at present a mixture of ancient and medieval architecture. Other masterpieces of ancient civilization are to be found in the neighbourhood: at Motya (Phoenician), Segesta (Elymian), and Selinunte (Greek). On the Aegadian Islands — theatre of the decisive naval battle of the first Punic War (264-241 B.C.) — suggestive neolithic and paleolithic vestiges are still visible: the grottoes of Favignana, the carvings and murals of Levanzo.

Splendid beaches are to be found at San Vito Lo Capo, Scopello, and Cornino, and a wild and rocky coast around Monte Cofano: all at less than one hour's drive from Erice.