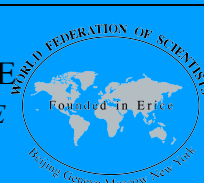


«ETTORE MAJORANA» FOUNDATION AND CENTRE FOR SCIENTIFIC CULTURE
TO PAY A PERMANENT TRIBUTE TO ARCHIMEDES AND GALILEO GALILEI, FOUNDERS OF MODERN SCIENCE
AND TO ENRICO FERMI, THE "ITALIAN NAVIGATOR", FATHER OF THE WEAK FORCES



INTERNATIONAL SCHOOL OF NEUTRON SCIENCE AND INSTRUMENTATION

4th Course: *NEUTRON PRECESSION TECHNIQUES*

ERICE-SICILY: 30 JUNE – 9 JULY 2017

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

PROGRAMME AND LECTURERS

Larmor Labelling at ESS: Opportunities and Perspectives

• K. ANDERSEN, ESS, Lund, SE

3He Polarizes

• E. BABCOCK, Forschungszentrum Jülich (FZJ); Heinz Maier-Leibnitz Zentrum (MLZ), Garching, DE

Polarized Neutrons and Larmor Precession in McStas

• E. BERGBÄCK, Technical University of Denmark, Lyngby, DK

SESANS Instrument at RID, Delft

• W. BOUWMAN, Technische Universiteit (TU) Delft, NL

Quasielastic Neutron Spin-Echo Spectroscopy

• G. EHLERS, Oak Ridge National Laboratory, Oak Ridge, NT, US

Neutron Spin-Echo Spectrometer IN15 at ILL

• P. FALUS, Institut Laue-Langevin, ILL, Grenoble, FR

Neutron Spin-Echo Spectrometer at NIST

• A. FARAONE, NIST, Gaithersburg, MD, US

Neutron Spin-Echo Spectrometer WASP at ILL

• P. FOUQUET, Institut Laue-Langevin, ILL, Grenoble, FR

RESEDA and Longitudinal NRSE at FRM II

• C. FRANZ, Technische Universität München (TUM); Heinz Maier-Leibnitz Zentrum (MLZ), Garching, DE

MIRA and MIEZE Box at FRM II

• R. GEORGII, Technische Universität München (TUM); Heinz Maier-Leibnitz Zentrum (MLZ), Garching, DE

Semi-Classical View of Larmor Precession

• K. HABICHT, Helmholtz Zentrum Berlin (HZB), Berlin, DE

Neutron Spin-Echo Spectrometer JNSE at FRM II

• O. HOLDERER, Forschungszentrum Jülich (FZJ); JCN-S-Heinz Maier-Leibnitz Zentrum (MLZ), Garching, DE

Inelastic Neutron Resonance Spin-Echo Spectroscopy

• T. KELLER, MPI, Stuttgart, Heinz Maier-Leibnitz Zentrum (MLZ), Garching, DE

Polarised neutrons capabilities at ANSTO

• L. WAI TUNG, Australian Nuclear Science and Technology Organization, Clayton, VIC, AU

Spherical Neutron Polarimetry: CryoPad

• E. LELIÈVRE-BERNA, Institut Laue-Langevin, ILL, Grenoble, FR

Neutron Spin-Echo Spectrometer MUSES at LLB

• S. LONGEVILLE, Laboratoire Léon Brillouin, LLB, Gif sur Yvette cedex, FR

Larmor Precession in Neutron Scattering Instrumentation

• F. MEZEI, ESS, Lund, SE

Targets, Moderators, Shielding

• G. MUHRER, ESS, Lund, SE

Elastic Polarized Neutron Scattering

• G. NILSEN, Science and Technology Facilities Council, Rutherford Appleton Laboratory, Didcot, UK

NSE Spectroscopy on Magnetic Samples

• C. PAPPAS, Technische Universiteit (TU) Delft, NL

Magnetic Field Simulation and Optimization

• S. PASINI, Forschungszentrum Jülich (FZJ); Heinz Maier-Leibnitz Zentrum (MLZ), Garching, DE

Spin Nutators, Foil-Based Flippers and RF-Flippers

• J. PLOMP, Technische Universiteit (TU) Delft, NL

Larmor Labelling

• R. PYNN, University of Indiana, Bloomington, IN, US

VIN ROSE at J-PARC

• H. SETO, J-PARC Center, IMSS, KEK, Tokai and Tsukuba, JP

Solid State Polarizers and Focussing Neutron Optics

• J. STAHN, Paul Scherrer Institute (PSI), Villigen, CH

Neutron Imaging with Larmor Labelling and SEMSANS

• M. STROBL, ESS, Lund, SE

Fundamental Science with Neutron Spin Precession

• A. VAN WELL, Technische Universiteit (TU) Delft, NL

ESS Testbeamline at BER II, HZB

• R. WORACEK, ESS, Lund, SE

SNS-NSE

• P. ZOLNIERCZUK, Forschungszentrum Jülich (FZJ); Oak Ridge National Laboratory, Oak Ridge, NT, US

PURPOSE OF THE COURSE

The School focuses on neutron instrumentation, mainly for large-scale facilities for compact neutron facilities. Participants are selected for the course based on their need to utilize neutron instrument design techniques as part of their present and/or future research activities. Preference is given to early stage researchers from neutron facilities, universities or other research institutions but more experienced researchers are also welcome to apply. The IVth Course is primarily aimed at young researchers, instrument and development scientists at international and national neutron facilities who have a basic understanding of neutron scattering but have less background in polarized neutron instrumentation. Graduate students or postdocs at universities with an interest in neutron instrumentation projects are also highly welcome. The Course on "Neutron Precession Techniques" aims to provide students with the fundamental concepts and the theoretical framework of neutron precession methods. It is organized as a master class and offers both, a coherent set of introductory lectures for PhD students or young researchers at the postdoctoral level as well as expert discussions led by senior scientists with the aim to exchange experience and develop novel instrumentation ideas. The specialized topic focuses on neutron instrumentation techniques, which are based on the Larmor precession of the neutron magnetic moment in dedicated magnetic field arrangements. It comprises neutron spin-echo techniques as well as novel Larmor labeling methods such as SESANS, SEMSANS and MIEZE.

APPLICATIONS

Persons wishing to attend the Course should send a letter to the Course Directors:

Dr Klaus Habicht
Helmholtz-Zentrum Berlin für Materialien und Energie, Berlin, Germany
e-mail: habicht@helmholtz-berlin.de

Prof. Peter Falus
Institut Laue-Langevin, Grenoble, France
e-mail: falus@ill.eu

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.

PLEASE NOTE

Participants must arrive in Erice on June 30, no later than 7 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>

P. FALUS – K. HABICHT
DIRECTORS OF THE COURSE

C. ANDREANI – R.G.M. CACIUFFO – R. MCGREEVY
DIRECTORS OF THE SCHOOL

A. ZICHICHI
PRESIDENT OF THE EMFCSC