



«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 MATHEMATICS «GUIDO STAMPACCHIA»

72nd Workshop: NEW TRENDS IN PROPAGATION OF LINEAR AND NONLINEAR WAVE PHENOMENA

ERICE-SICILY: 2 – 7 SEPTEMBER 2019

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PROGRAMME AND LECTURERS

Dispersive Partial Differential Equations
Hamiltonian Partial Differential Equations with Random Data
Birkhoff Normal Forms and Kolmogorov-Arnold-Moser Theory
Invariant and Quasi Invariant Measures
Water Waves

- R. ADAMI, Politecnico di Torino, IT
- V. BANICA, Université Paris VI, FR
- D. BAMBUSI, Università di Milano, IT
- P. D'ANCONA, Università di Roma "Sapienza", IT
- J.-M. DELORT, Université Paris XIII, FR
- F. DE LA HOZ, Universidad del Pais Vasco, ES
- S. DOVETTA, Politecnico di Torino, IT
- F. FANELLI, Université Claude Bernard Lyon 1, FR

- L. FANELLI, Università di Roma "Sapienza", IT
- R. FEOLA, Université de Nantes, FR
- V. GEORGIEV, Università di Pisa, IT
- F. IANDOLI, Université de Nice, FR
- A. MAIOCCHI, Università di Padova, IT
- R. MONTALTO, Università di Milano, IT
- G. PONCE, University of California Santa Barbara, CA, US
- M. PROCESI, Università di Roma III, IT
- R. TRISTAN, University of Edinburgh, UK
- F. ROUSSET, Université d'Orsay, FR
- C. SAFFIRIO, University of Zürich, CH
- C. SUN, Université de Cergy-Pontoise, FR
- M. TARULLI, Technical University of Sofia, BG
- I. TRISTANI, Ecole Normale Supérieure, FR

PURPOSE OF THE WORKSHOP

The Workshop aims at presenting the state-of-the-art and current research directions in evolution equations with special attention to Dispersive and Hamiltonian Partial Differential Equations.

The models of interest arise from mathematical-physics: Nonlinear Schrödinger Equation, Korteweg-de Vries Equation, Nonlinear Wave Equation, Nonlinear Klein Gordon Equation, Water Waves, to quote a few of them. In the last four decades, the field has attracted the attention of the mathematical community and fundamental progresses have been done from several viewpoints: local/global Cauchy theory, long-time existence, asymptotic behaviour, linear/nonlinear scattering, stability/instability of solutions, construction of invariant/quasi-invariant measures, probabilistic approach for random initial data, etc.

The methods used to attack the problems are at the interface between Functional Analysis, Harmonic Analysis, Number Theory, Microlocal Analysis, Probability, Spectral Theory. Most of the techniques will be discussed during the meeting, and moreover a lot of attention will be devoted to present open problems and conjectures.

APPLICATIONS

Persons wishing to attend the Workshop should apply by sending an e-mail to the Co-Director of the Workshop:

Professor Nicola Visciglia
University of Pisa, Italy
e-mail: nicola.visciglia@unipi.it

PLEASE NOTE

Participants must arrive on 2 September, not later than 6 p.m.

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.

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.info.it>

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