«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

EMFCSC

WORLD FEDERATION OF SCIENTISTS
Founded in Erice
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INTERNATIONAL SCHOOL OF MATHEMATICS «GUIDO STAMPACCHIA»

66th Workshop: *ADVANCES IN CONVEX ANALYSIS AND OPTIMIZATION*

ERICE-SICILY: 5 – 12 JULY 2016

Sponsored by the: · Italian Ministry of Education, University and Scientific Research · Sicilian Regional Government ·
· Istituto Nazionale di Alta Matematica (GNAMPA) · STAR 2014 (VAEMPSEP) ·
· University of Naples "Federico II" (Dept. of Mathematics and Applications "R. Caccioppoli") ·

PROGRAMME AND LECTURERS

Nonlinear Optimization
Stochastic Optimization
Variational Inequalities
Differential Inclusions
Differential Variational Inequalities
Optimization for Imaging
Optimization for Finance
Optimal Transportation Theory
Optimization for Machine Learning
Convex, Nonsmooth and Energy Optimization
Optimization and Dynamical Systems
Equilibrium Problems

- S. ADLY, Université de Limoges, FR
- H. ATTOUCH, Université de Montpellier, FR
- R.I. BOT, University of Vienna, AT
- G. BUTTAZZO, University of Pisa, IT
- P. CANNARSA, University of Rome "Tor Vergata", IT
- P.L. COMBETTES, Université Pierre et Marie Curie, Paris 6, FR
- A. DANIILIDIS, Universidad de Chile, Santiago de Chile, CL

- M.B. DONATO, University of Messina, IT
- N. FUSCO, University of Naples "Federico II", IT
- S. GAUBERT, INRIA Saclay and CMAP, École Polytechnique, Palaiseau, FR
- M. HINTERMÜLLER, Humboldt-Universität, Berlin, DE
- W. KRYSZEWSKI, Nicolaus Copernicus University, Toruń, PL
- M. LASSONDE, Université des Antilles et de la Guyane, Fouillole, FR
- A.S. LEWIS, Cornell University, Ithaca, NY, US
- T. LORENZ, RheinMain University of Applied Sciences, Wiesbaden, DE
- L. MALLOZZI, University of Naples "Federico II", IT
- S. MARANO, University of Catania, IT
- B. MORDUKHOVICH, Wayne State University, Detroit, MI, US
- T. PENNANEN, King's College London, UK
- A. PORRETTA, University of Rome "Tor Vergata", IT
- J. PUERTO, Universidad de Sevilla, ES
- M. QUINCAMPOIX, Université de Brest, FR
- M.A. RAGUSA, University of Catania, IT
- L. ROSASCO, University of Genoa, IT, and MIT, Cambridge, MA, US
- C. SBORDONE, University of Naples "Federico II", IT
- M. THÉRA, Université de Limoges, FR
- L. THIBAULT, Université de Montpellier, FR
- C. ZALINESCU, Alexandru Ioan Cuza University, Iasi, RO

PURPOSE OF THE WORKSHOP

The aim of the Workshop is to review and discuss recent developments of the theory of Convex Analysis and Optimization and to provide a forum for fruitful interactions in closely related fields of research and their applications. Optimization is a rich and thriving mathematical discipline. Properties of minimizers and maximizers of functions rely in an essential way on richness of techniques from mathematical analysis, including tools from calculus and its generalizations, topology and geometry. The theory underlying current computational optimization techniques grows evermore: sophisticated duality-based algorithms, interior point methods, and control-theoretic applications are typical examples. The powerful and elegant language of convex analysis unifies much of this theory. Many important analytic problems have illuminating optimization formulations and hence can be approached through main variational tools: subgradients and optimality conditions, the many forms of duality, metric regularity and so forth. More generally, the idea of convexity is central to the transition from classical analysis to various branches of modern analysis: from linear to nonlinear analysis, from smooth to nonsmooth, from the study of functions to multifunctions and has important applications in optimal control, mathematical economics, and other areas of infinite-dimensional optimization. Particular emphasis will be placed on novel ideas and promising research developments.

APPLICATIONS

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

Professor Annamaria BARBAGALLO
Department of Mathematics and Applications "R. Caccioppoli"
University of Naples "Federico II" - Via Cinthia – 80126 Naples, IT
E-mail: *annamaria.barbagallo@unina.it*

They should specify: date and place of birth, together with current nationality; affiliation; address, e-mail address. Additional information about the Workshop can be found at the following address:
http://www.dma.unina.it/CAO2016
Closing Date for Applications: 31 May 2016.

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 Sicanians 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.ccsem.infn.it

PLEASE NOTE

Participants must arrive on 5 July, not later than 6 p.m.

A. BARBAGALLO – H. FRANKOWSKA – G. MOSCARIELLO
DIRECTORS OF THE WORKSHOP

F. GIANNESSI
DIRECTOR OF THE SCHOOL

A. ZICHICHI
PRESIDENT OF THE EMFCSC