

# «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



## SUMMARY OF THE 2024 COURSES — ERICE



All Courses are sponsored by the World Federation of Scientists (WFS), the Sicilian Regional Government (ERS), the Italian Ministry of Education, University and Scientific Research and the Galileo Galilei Foundation (GGF). Some of the Courses are under the sponsorship of the Italian Ministry of Foreign Affairs, the Italian Ministry of Health, the North Atlantic Treaty Organization (NATO), the American National Science Foundation (NSF), the Italian National Research Council (CNR), the Weizmann Institute of Science, the European Physical Society (EPS), the Italian National Institute for Nuclear Physics (INFN), the Enrico Fermi Historical Museum of Physics and Study and Research Centre, the World Wildlife Fund (WWF), the Commission of the European Communities (CEC), some of the main Italian and foreign Universities and Research Centres, and the World Laboratory

- **INTERNATIONAL SCHOOL OF CARDIOLOGY**  
Directors: A. BRANZI – F. FEDELE – S. NOVO  
24th Workshop: *Advances in cardiovascular diseases and therapy*  
Director: S. NOVO  
20 – 24 March 2024
- **INTERNATIONAL SCHOOL OF PHARMACOLOGY «GIAMPAOLO VELO»**  
Directors: M. LINDQUIST – P. MINUZ – U. MORETTI  
94th Course: *Inflammation and lipid signaling in disease pathogenesis*  
Directors: B. BRÜNE – P. PATRIGNANI – A. SALA – D. STEINHILBER  
25 – 28 March 2024
- **INTERNATIONAL SCHOOL ON BIOELECTROMAGNETISM «ALESSANDRO CHIABRERA»**  
Directors: F. BERSANI – M.R. SCARFÌ  
12nd Workshop: *Electromagnetic fields and health – Epidemiological approach*  
Directors: M. GUXEN – A. HUSS  
6 – 12 April 2024
- **INTERNATIONAL SCHOOL OF EPIDEMIOLOGY AND PREVENTIVE MEDICINE «GIUSEPPE D'ALESSANDRO»**  
Directors: G.M. FARA – G. GIAMMANCO – C. SIGNORELLI – M. SZKLO – F. VITALE  
61st Course: *Embracing a one health strategy to fight healthcare associated infections and antimicrobial resistance: Public health priorities and challenges*  
Directors: A. AGODI – M. BARCHITTA – M.T. MONTAGNA – S. TAFURI  
13 – 18 April 2024
- **INTERNATIONAL SCHOOL OF MOLECULAR ONCOLOGY**  
Director: F.M. BUONAGURO  
3rd Course: *Molecular characterization of cancers and target therapy*  
Directors: F. PERRI – M.L. TORNESELLO  
19 – 22 April 2024
- **INTERNATIONAL SCHOOL OF COMPLEXITY**  
Director: A. ZICHICHI – Co-Directors: G. BENEDEK – A. RAPISARDA – C. TSALLIS  
18th Course: *Machine learning approaches for complexity*  
Directors: M. LULLI – A. MARCIANO – R. PASECHNIK – E. ZAPPALA  
22 – 28 April 2024
- **INTERNATIONAL SCHOOL OF SOLID-STATE PHYSICS**  
Director: G. BENEDEK  
85th Workshop: *Nonequilibrium phenomena in strongly correlated ultracold matter*  
Directors: G. DEL PACE – M. INGUSCIO – G. ROATI  
9 – 15 May 2024
- **INTERNATIONAL SCHOOL OF ETHOLOGY «DANILO MAINARDI»**  
Directors: P. PALANZA – S. PARMIGIANI  
54th Course: *Sexual selection in a changing world*  
Directors: A. PILASTRO – G. ROSENTHAL – T. SZEKELY  
17 – 21 May 2024

- INTERNATIONAL SCHOOL OF MATHEMATICS «GUIDO STAMPACCHIA»  
Directors: F. GIANNESSE – now G. BUTTAZZO – M. THÉRA  
76th Workshop: *Advances in nonlinear analysis and optimization*  
Directors: A. BARBAGALLO – H. FRANKOWSKA – L. MALLOZZI – G. MOSCARIELLO  
23 – 29 May 2024
- INTERNATIONAL SCHOOL OF CRYSTALLOGRAPHY  
Directors: T.L. BLUNDELL – now G. SCAPIN  
59th Course: *Powder diffraction: Advancing real materials in the information era*  
Directors: D. BILLING – M. LEONI – D. SISAK JUNG  
31 May – 8 June 2024
- INTERNATIONAL SCHOOL OF NEUROSCIENCES «SIR JOHN ECCLES»  
Directors: P.F. FERRARI – G. RIZZOLATTI  
14th Course: *Minimal cognition: Brained or brainless biological intelligence*  
Directors: P.F. FERRARI – L. REGOLIN – G. VALLORTIGARA  
9 – 13 June 2024
- INTERNATIONAL SCHOOL OF SUBNUCLEAR PHYSICS  
Directors: A. ZICHICHI – A. ZOCCOLI  
60th Course: *News from the four interactions*  
Directors: A. BETTINI – A. MASIERO  
14 – 23 June 2024
- INTERNATIONAL SCHOOL OF STATISTICAL PHYSICS  
Directors: P. HÄNGGI – F. MARCHESONI  
25th Course: *Quantum network for education and scientific training*  
Directors: M. MARSI – M.G. PALMA – R. TROTTA  
24 – 29 June 2024
- INTERNATIONAL SCHOOL OF ETHOLOGY «DANILO MAINARDI»  
Directors: P. PALANZA – S. PARMIGIANI  
55th Course: *Towards a new science of mental disorders: Bridging evolution and genetics*  
Directors: M. DEL GIUDICE – A.D. HUNT  
1 – 5 July 2024
- INTERNATIONAL SCHOOL OF NANOMEDICINE  
Directors: M. FERRARI – M. MASSERINI  
7th Course: Challenges and prospects of nanomedicine for brain targeting  
Director: F. RE  
1 – 5 July 2024
- INTERNATIONAL SCHOOL OF SOLID-STATE PHYSICS  
Director: G. BENEDEK  
86th Workshop: *Structured materials and structured light*  
Directors: F. CAPASSO – O. MITROFANOV – M.S. VITIELLO  
6 – 12 July 2024
- INTERNATIONAL SCHOOL OF SOLID STATE PHYSICS  
Director: G. BENEDEK  
87th Workshop: *Unconventional computing: Materials, science, informatics, hardware, software*  
Directors: V. BRAGAGLIA – M. FANCIULLI – S. STEPNEY – W.G. VAN DER WIEL  
6 – 12 July 2024
- INTERNATIONAL SCHOOL OF SOLID STATE PHYSICS  
Director: G. BENEDEK  
88th Workshop: *Epioptics and Xenos*  
Directors: A. CRICENTI – A. MOLLE  
6 – 12 July 2024
- INTERNATIONAL SCHOOL OF MATERIALS FOR SUSTAINABLE DEVELOPMENT AND ENERGY  
Director: A. TERRASI  
4th Course: *Nanostructured solid liquid interface – NanoSoLI 2024*  
Directors: E. ERDEM – L. FALCIOLA – S. MIRABELLA  
13 – 18 July 2024
- INTERNATIONAL SCHOOL OF BIOLOGICAL MAGNETIC RESONANCE  
Director: J.D. PUGLISI  
20th Course: *Frontiers in biophysics*  
Directors: A. GRONENBORN – J.D. PUGLISI – E. VIANI  
19 – 25 July 2024

- INTERNATIONAL SCHOOL OF COSMIC RAY ASTROPHYSICS «MAURICE M. SHAPIRO»  
23rd Course: *Multi messenger astroparticle physics*  
Directors: J.R. HÖRANDEL – R. SPARVOLI – T.S. STANEV – J.P. WEFEL  
20 – 28 July 2024
- NATIONAL SEMINAR ON: LA CASSA .... L'AVVOCATURA, IL TEMPO E LE ISTITUZIONI  
Directors: V. GALLUZZO – S. LONGO  
26 July 2024
- INTERNATIONAL SCHOOL OF NONEQUILIBRIUM PHENOMENA  
Directors: A. LANZARA – M.G. PALMA – B. SPAGNOLO  
6th Course: *Astroparticle physics, dark matter and high energy physics*  
Directors: G. MARSELLA – S. MC MULDRICH – E. PIAN  
1 – 7 August 2024
- INTERNATIONAL SEMINARS ON PLANETARY EMERGENCIES  
Chairman: A. ZICHICHI  
56th Session – Co-Chairman: C. GALBIATI  
8 – 14 August 2024
- INTERNATIONAL SCHOOL ON TREASURES OF ART AND SCIENCE  
Director: L. ZICHICHI  
17th Seminar  
Director: L. ZICHICHI  
14 – 24 August 2024
- INTERNATIONAL SCHOOL OF MUSICAL SCIENCES  
Director: R. GIULIANI  
5th Course: *L'Europa musicale di Giacomo Puccini (1858–1924)*  
14 – 24 August 2024
- INTERNATIONAL SCHOOL OF MATHEMATICS «GUIDO STAMPACCHIA»  
Directors: F. GIANNESSI – now G. BUTTAZZO – M. THÉRA  
77th Workshop: *Variational analysis and applications*  
Directors: M. AKIAN – M. HINTERMÜLLER – F. TOMARELLI  
1 – 7 September 2024
- INTERNATIONAL SCHOOL ON MASS SPECTROMETRY  
Director: G. GIORGI  
2nd Course: *Ion mobility mass spectrometry. Fundamentals, advances, and applications*  
Director: D.E. CLEMMER  
9 – 14 September 2024
- INTERNATIONAL SCHOOL OF NUCLEAR PHYSICS  
Directors: A. FAESSLER – now M. BUBALLA – C. FISCHER  
45th Course: *Nuclei in the laboratory and in stars*  
Directors: M. BUBALLA – C. FISCHER  
16 – 22 September 2024
- GIORNATE INTERNAZIONALI DI STUDI SULL'AREA ELIMA «GIUSEPPE NENCI»  
Decime Giornate Internazionali di Studi sull'Area Elima e la Sicilia Occidentale  
Directors: C. AMPOLO – R. GIGLIO – A. MAGNETTO  
23 – 25 September 2024
- INTERNATIONAL SCHOOL OF IUS COMMUNE  
Directors: M. BELLOMO – O. CONDORELLI – W. DECOCK – K. PENNINGTON  
43rd Course: *Common good and common goods in the tradition of the ius commune*  
Directors: O. CONDORELLI – W. DECOCK – F. TREGGIARI  
23 – 27 September 2024
- INTERNATIONAL SCHOOL OF STATISTICAL PHYSICS  
Directors: P. HÄNGGI – F. MARCHESONI  
26th Course: *Frontiers in quantum optomechanics*  
Directors: N. MALOSSI – P. PIERGENTILI – F. TRAVASSO  
26 September – 1 October 2024
- INTERNATIONAL SCHOOL OF SCIENCE AND DIPLOMACY  
Directors: D. BURIGANA – V. CODA NUNZIANTE – P. GRISET – G. OTTAVIANI – U. VATTANI  
1st Workshop: *Science diplomacy in XXI century. Foundations, players and dynamics for a future practice*  
Director: D. BURIGANA  
2 – 8 October 2024

- INFN ELOISATRON PROJECT  
Director: A. ZICHICHI  
67th Workshop: *High energy collider*  
Director: W.A. BARLETTA  
3 – 8 October 2024
- INTERNATIONAL SCHOOL OF NEUROSCIENCES «SIR JOHN ECCLES»  
Directors: P.F. FERRARI – G. RIZZOLATTI  
15th Course: *Emotions in the body and brain. Biological and psychological new perspectives*  
Directors: F. CARUANA – P.F. FERRARI – P. SESSA  
9 – 14 October 2024
- INTERNATIONAL SCHOOL OF NONEQUILIBRIUM PHENOMENA  
Directors: A. LANZARA – M.G. PALMA – B. SPAGNOLO  
7th Course: *Working party on quantum reservoir computing*  
Directors: S. LORENZO – M.G. PALMA – M. PATERNOSTRO  
15 – 18 October 2024
- INTERNATIONAL SCHOOL OF SCIENTIFIC JOURNALISM AND COMMUNICATION  
Director: P. CAMPANA  
12nd Course: *Underground Science. Observing the Universe from below*  
Director: P. CAMPANA  
15 – 19 October 2024
- INTERNATIONAL SCHOOL OF ETHOLOGY «DANILO MAINARDI»  
Directors: P. PALANZA – S. PARMIGIANI  
56th Course: *Beyond words: Ethology of nonverbal interactions in therapeutic setting and psychiatric disorder*  
Directors: M. BRUNE – P. PALANZA – S. PARMIGIANI – M. TONNA  
19 – 23 October 2024
- INTERNATIONAL SCHOOL OF SCIENCE EDUCATION  
Directors: P. LÉNA – A. PASCUCCI  
3rd Workshop: *Molecular biology education*  
Director: A. PASCUCCI  
19 – 23 October 2024
- INTERNATIONAL SCHOOL OF PHARMACOLOGY «GIAMPAOLO VELO»  
Directors: M. LINDQUIST – P. MINUZ – U. MORETTI  
95th Workshop  
Directors: M. LINDQUIST – U. MORETTI  
24 – 29 October 2024
- NATIONAL SEMINAR OF LABOUR ADVISERS  
Director: N. MALTESE  
28 – 30 October 2024
- INTERNATIONAL SCHOOL OF NONEQUILIBRIUM PHENOMENA  
Directors: A. LANZARA – M.G. PALMA – B. SPAGNOLO  
8th Course: *Mathematical aspects in non equilibrium systems: From micro to macro*  
Directors: F. BAGARELLO – F. OLIVERI – V. ROMANO  
30 October – 4 November 2024
- INTERNATIONAL SCHOOL OF MATHEMATICS «GUIDO STAMPACCHIA»  
Directors: F. GIANNESSI – now G. BUTTAZZO – M. THÉRA  
78th Course: *Models and optimization methods for challenging energy problems*  
Directors: M.F. ANJO – D. AUSSEL – L. BROTCORNE – D. VIGO  
5 – 10 November 2024
- INTERNATIONAL SCHOOL OF ETHOLOGY «DANILO MAINARDI»  
Directors: P. PALANZA – S. PARMIGIANI  
57th Course: *Recentring neuroscience on behavior: The key role of ethology for understanding the brain*  
Directors: I. BRANCHI – F. CIRULLI  
9 – 14 November 2024
- INTERNATIONAL SCHOOL OF NONEQUILIBRIUM PHENOMENA  
Directors: A. LANZARA – M.G. PALMA – B. SPAGNOLO  
9th Course: *Quantum Fluids of Light and Matter (QFLM)*  
Directors: A. BRAMATI – I. CARUSOTTO – C. CIUTI  
15 – 19 November 2024

- INTERNATIONAL SCHOOL OF BIOPHYSICS «A. BORSELLINO»  
49th Course: *Neuroepidemiology: Methods and clinical applications*  
Directors: M. D'AMELIO – T. KURTH – G. LOGROSCINO – P.M. PREUX – P. RAGONESE – P. RAGONESE – W. ROCCA – G. SAVETTIERI  
19 – 24 November 2024
  
- INTERNATIONAL SCHOOL OF EPIDEMIOLOGY AND PREVENTIVE MEDICINE «GIUSEPPE D'ALESSANDRO»  
Directors: G.M. FARA – G. GIAMMANCO – C. SIGNORELLI – M. SZKLO – F. VITALE  
62nd Course: *Acqua e alimenti alla luce dei cambiamenti climatici: aspetti di resilienza ed interventi di sanità pubblica*  
Directors: E. ALONZO – M. FERRANTE – M. VINCETI  
25 – 30 November 2024
  
- INTERNATIONAL SCHOOL OF COMPLEXITY  
Director: A. ZICHICHI – Co-Directors: G. BENEDEK – A. RAPISARDA – C. TSALLIS  
19th Workshop: *Complexity in high-energy and statistical physics*  
Directors: E. CURANDO – I. DE BEDIAGA-HICKMAN – A. DEPPMAN  
1 – 7 December 2024
  
- GIORNATE INTERNAZIONALI DI STUDI SULL'AREA ELIMA «GIUSEPPE NENCI»  
Undicesime Giornate Internazionali di Studi sull'Area Elima e la Sicilia Occidentale  
Directors: C. AMPOLO – R. GIGLIO – A. MAGNETTO  
8 – 14 December 2024
  
- INTERNATIONAL SCHOOL OF ATOMIC AND MOLECULAR SPECTROSCOPY  
Directors: B. DI BARTOLO – M. CESARIA  
38th Workshop: *Advances and future directions in photonic materials and devices*  
Director: M. CESARIA  
9 – 15 December 2024
  
- INTERNATIONAL SCHOOL OF BRAIN CELLS AND CIRCUITS «CAMILLO GOLGI»  
Directors: E. D'ANGELO – C. GANDINI WHEELER-KINGSHOTT  
9th Course: *Modeling the brain in health and disease: Towards digital twins*  
Directors: E. D'ANGELO – C. GANDINI WHEELER-KINGSHOTT – V. JIRSA  
9 – 15 December 2024
  
- INTERNATIONAL SCHOOL OF PRECISION MEDICINE AND LABORATORY  
Directors: M. CIACCIO – F. SALVATORE  
2nd Course: *Clinical laboratory medicine in the Third Millennium: Challenges and opportunities*  
Directors: M. CIACCIO – M. PLEBANI – F. SALVATORE  
16 – 17 December 2024

**More information about the activities of the Ettore Majorana Foundation  
can be found on the WWW at the following address:  
<https://ettoremajoranafoundation.it>**