

**DIRECTOR OF THE INTERNATIONAL SCHOOL OF GEOPHYSICS**

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**Fedora Quattrocchi** | INGV, ITALY

**Davide Scrocca** | CNR-IGAG, ITALY

**Aldo Brondi** | ex-ENEA | Tuscia University, ITALY

**Pete McGrail** | U.S. PNNL, USA

**Stuart Haszeldine** | University of Edinburgh, UK

Some grants for registration fee, accommodation and living expenses will be awarded.

For further information and to request the application form, please contact:

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# Densely populated settings: the challenge of siting geological facilities for deep geothermics, CO<sub>2</sub> and natural gas storage, and radioactive waste disposal

**UNDERGROUND COEXISTENCE AND SYNERGIES FOR A SOUND ENERGY MIX IN THE POST-KYOTO ERA**

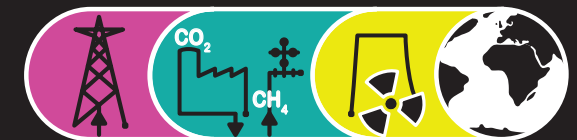
**34<sup>th</sup> Course of the International School of Geophysics**  
**September 25 | 30, 2010**

REPRESENTATIVES FROM:

ALBERTA INNOVATES, AMPHOS<sup>21</sup>, ANDRA, ASSOCARBONI, ATI, BATTELLE, CEA, CIEMAT, CNR, CSLF, ENEL, ENI - STOGIT, ERG POWER & GAS, ETHZ, EXXONMOBIL - ESSO ITALIANA S.R.L., FINPUBLIC, GEOGOERNE, GEOTERMICA AB, GOLDER ASSOCIATES S.R.L., GPC IP, IEA, IEAGHG, INGV, IPCC, IR PLC, OGS, PNNL, POSIVA OY, POWER TUBE INC., SARAS S.P.A., SCHLUMBERGER, SOGIN S.P.A., SUS - DEF, TOKYO TECH, UNIVERSITIES OF: ALBERTA, CATALUNYA, CATANIA, EDINBURGH, GENOVA, ROMA SAPIENZA, ROMA TOR VERGATA, TUSCIA

UNDER THE AUSPICES OF:

MATT, MSE, PROVINCIA DI ROMA, FONDAZIONE SVILUPPO SOSTENIBILE



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# Purpose of the International School

The Course will focus on geophysical & geochemical methods applied to the energy mix in densely populated countries, where different technologies require unique underground facilities and resources. These technologies, important in producing and storing energy, include: renewables (deep geothermics), nuclear power, cleaner coal technologies through CO<sub>2</sub> Capture and Storage (CCS) and seasonal storage of natural gas.

## Key topics

- Geological storage and disposal. Assessment of available volume/structures
- Subsurface geological resources: managing potential conflict among various technologies
- Geological background and risk assessment for policy makers and regulators. The role of the energy industry
- Recent geothermal high tech new frontiers
- New concepts in nuclear waste disposal
- Numerical simulations software. Differences between geothermal and storage reservoirs
- Common use of subsurface data coming from the oil & gas and geothermal industry
- High resolution characterization of shallow aquifers and reservoirs: multi-strata exploitation for different energy technologies
- Case histories & natural analogues: “learning by doing” and the “acceptable risk” concepts

# Structure of the International School

## SEPTEMBER 25, 2010

Participants arrival in Erice, registration and check-in

## SEPTEMBER 26, 2010

8:50 | 10:50 INTRODUCTORY PRESENTATIONS

INGV, U.S. PNNL, CNR, SAPIENZA UNIVERSITÀ DI ROMA

INVITED REPRESENTATIVES FROM:

ITALIAN MINISTRIES OF MSE, MATT AND MIUR  
INDUSTRIES, INTERNATIONAL ORGANIZATIONS AND NGOS

11:10 | 12:40 Experiences in different countries

*WHICH PRIORITIES FOR UNDERGROUND USES?*

14:30 | 19:00 Criteria and methodologies in Geological Storage

*HOW CAN WE SELECT AND CHARACTERIZE GEOLOGICAL STRUCTURES?*

20:30 | 23:00 WELCOME COCKTAIL AND DINNER

## SEPTEMBER 27, 2010

9:00 | 12:40 Case histories from different countries

*WHICH CRITERIA FOR SITE SELECTION?*

14:30 | 19:00 Nuclear waste disposal sites in densely populated countries

*ARE THERE INCOMPATIBILITIES WITH OTHER UNDERGROUND USES?*

## SEPTEMBER 28, 2010

9:00 | 12:40 Criteria for selecting deep geothermal sites

*WHICH SYNERGIES EXIST WITH OTHER UNDERGROUND STORAGE USES?*

14:30 | 19:00 Risks associated with geological storage/deep geothermics

*HOW TO REDUCE AND MONITOR INDUCED SEISMICITY, GEOMECHANICAL FEATURES AND LEAKAGE?*

## SEPTEMBER 29, 2010

9:00 | 10:40 Risks associated with geological storage/deep geothermics (CONTINUED)

*HOW CAN WE MODEL UNDERGROUND RESERVOIRS?*

11:00 | 12:40 Underground & surface infrastructures

*WHAT INFRASTRUCTURE NETWORK IS NECESSARY?*

14:00 | 16:00 Keynote Lecture & Roundtable

*PRIORITIES FOR THE USE OF DEEP GEOLOGICAL STRUCTURES IN A SOUND ENERGY BALANCE*

16:30 | 23:30 EXCURSION TO THE GREEK TEMPLE IN SEGESTA AND DINNER AT SELINUNTE

## SEPTEMBER 30, 2010

9:00 | 13:00 Short oral & poster presentations, discussion

*COMPLEX GEOLOGICAL STORAGE IN DENSELY POPULATED AREAS: RECOMMENDATION FROM THE INTERNATIONAL SCHOOL*

POSTER VIEWING AND DISCUSSIONS  
(EVERY DAY DURING COFFEE BREAKS)