



# International School on Geothermal Development | (2723)

Monday, 7 December 2015

08:30 - 17:30

- 08:30 **Welcome and Introduction 30'** ( Leonardo Building - Euler Lecture Hall )  
Speaker: A. Aoudia & M. Pipan (ICTP/University of Trieste)
- 09:00 **Registration & Coffee 30'** ( Leonardo Building - Lobby )
- 09:30 **Financial formalities at the Fermi Building 1h30'**
- 11:00 **GENERAL ISSUES ABOUT GEOTHERMAL ENERGY: geology, structure of the Earth, applications, global overview and perspectives 1h30'** ( Leonardo Building - Euler Lecture Hall )  
Speaker: R. Bertani/A. Manzella
- 12:30 **Lunch 1h30'** ( Leonardo Building - Cafeteria )
- 14:00 **Geothermal projects: exploration, drilling, plants, exploitation, monitoring 1h30'** ( Leonardo Building - Euler Lecture Hall )  
Speaker: R. Bertani (ENEL, Green Power SpA, Pisa)
- 15:30 **Coffee Break 30'**
- 16:00 **Conventional and non-conventional systems: EGS, geopressured, magmatic, supercritical, brines 1h30'** ( Leonardo Building - Euler Lecture Hall )  
Speaker: A. Manzella (Istituto di Geoscienze e Georisorse, Pisa)

Tuesday, 8 December 2015

09:00 - 20:30

- 09:00 **Geology: from exploration to reservoir modelling 1h0'** ( Leonardo Building - Euler Lecture Hall )  
Speaker: D. Scrocca (Universita' della Sapienza, Rome)
- 10:00 **Coffee Break 30'**
- 10:30 **Geochemistry: water-rock interaction, water and gas geochemistry, isotopes, geothermometry 1h0'** ( Leonardo Building - Euler Lecture Hall )  
Speaker: O. Vaselli (CNR-IGG, Florence)
- 11:30 **Geophysics: thermal, electromagnetic, magnetic, gravity & seismic methods 1h0'** ( Leonardo Building - Euler Lecture Hall )  
Speaker: A. Manzella/M. Pipan (Istituto di Geoscienze e Georisorse, Pisa/Univ. of Trieste)
- 12:30 **LUNCH 1h30'** ( Leonardo Building - Cafeteria )
- 14:00 **Laboratory Training and Case Studies 1h30'** ( Leonardo Building - Computer Lab (Leonardo Building) )
- 15:30 **Coffee Break 30'**
- 16:00 **Laboratory Training and Case Studies 1h30'** ( Leonardo Building - Computer Lab (Leonardo Building) )
- 19:00 **RECEPTION 1h30'** ( Adriatico Guest House - Cafeteria )

Wednesday, 9 December 2015

09:00 - 17:30

- 09:00 **Ground response test (GRT) and heat pump design 1h0'** ( Leonardo Building - Euler Lecture Hall )

Speaker: P. Conti (University of Pisa, Pisa)

10:00 **Coffee Break 30'**

10:30 **Reservoir engineering (production tests, injection, interference, lumped models) 1h0'** ( Leonardo Building - Euler Lecture Hall )

Speaker: M. Antics (GPC Instrumentation Process, Roissy)

11:30 **Numerical simulation of geothermal reservoir 1h0'** ( Leonardo Building - Euler Lecture Hall )

Speaker: R. Bertani (ENEL, Green Power SpA, Pisa)

12:30 **LUNCH 1h30'** ( Leonardo Building - Cafeteria )

14:00 **Modelling LAB training on PC 1h30'** ( Leonardo Building - Computer Lab (Leonardo Building) )

Speaker: R. Bertani (ENEL, Green Power SpA, Pisa)

15:30 **Coffee Break 30'**

16:00 **Modelling LAB training on PC 1h30'** ( Leonardo Building - Computer Lab (Leonardo Building) )

Speaker: R. Bertani (ENEL, Green Power SpA, Pisa)

## Thursday, 10 December 2015

09:00 - 17:30

09:00 **Geothermal electric power plant (Binary, flash, dry steam,H2S abatement) 1h30'** ( Leonardo Building - Euler Lecture Hall )

Speaker: P. Bombarda (Politecnico di Milano, Milano)

10:30 **Coffee Break 30'**

11:00 **Direct uses/heat pumpus (district heating, greenhouses, etc.) 1h30'** ( Leonardo Building - Euler Lecture Hall )

Speaker: P. Conti (University of Pisa, Pisa)

12:30 **LUNCH 1h30'** ( Leonardo Building - Cafeteria )

14:00 **District heating and direct uses: the Grado case history 1h30'** ( Leonardo Building - Euler Lecture Hall )

Speaker: B. Della Vedova (University of Trieste, Trieste)

15:30 **Coffee Break 30'**

16:00 **Lab Training 1h30'** ( Leonardo Building - Computer Lab (Leonardo Building) )

## Friday, 11 December 2015

09:00 - 17:45

09:00 **Environmental aspects (induced seismicity, subsidence, land occupation, gas emmissions) 1h0'** ( Leonardo Building - Euler Lecture Hall )

Speaker: A. Manzella (Istituto di Geoscienze e Georisorse, Pisa)

10:00 **Coffee Break 30'**

10:30 **Regulatory framework, relationships with Energy market, development perspectives 1h0'** ( Leonardo Building - Euler Lecture Hall )

Speaker: P. Cociancig (Petroleum Projects Management, Pola)

11:30 **Business planning 1h0'** ( Leonardo Building - Euler Lecture Hall )

Speaker: R. Bertani/B. Della Vedova

12:30 **LUNCH 1h30'** ( Leonardo Building - Cafeteria )

14:00 **Energy as a global issue 45'** ( Leonardo Building - Euler Lecture Hall )

Speaker: V. Lughì (University of Trieste, Trieste)

14:45 **Student presentations 1h30'** ( Leonardo Building - Euler Lecture Hall )

16:15 **Coffee Break 30'**

16:45 **Open Discussion and conclusion 1h0'** ( Leonardo Building - Euler Lecture Hall )