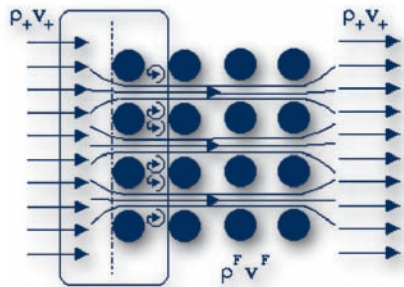


The participation to the short course is free of charge but limited to 50 participants. For registration please send an email to info@eucentre.it.

The workshop has been organised with the contribution of: Fondazione Cariplo and Regione Toscana Seismic Risk Section.

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B. Albes 2005

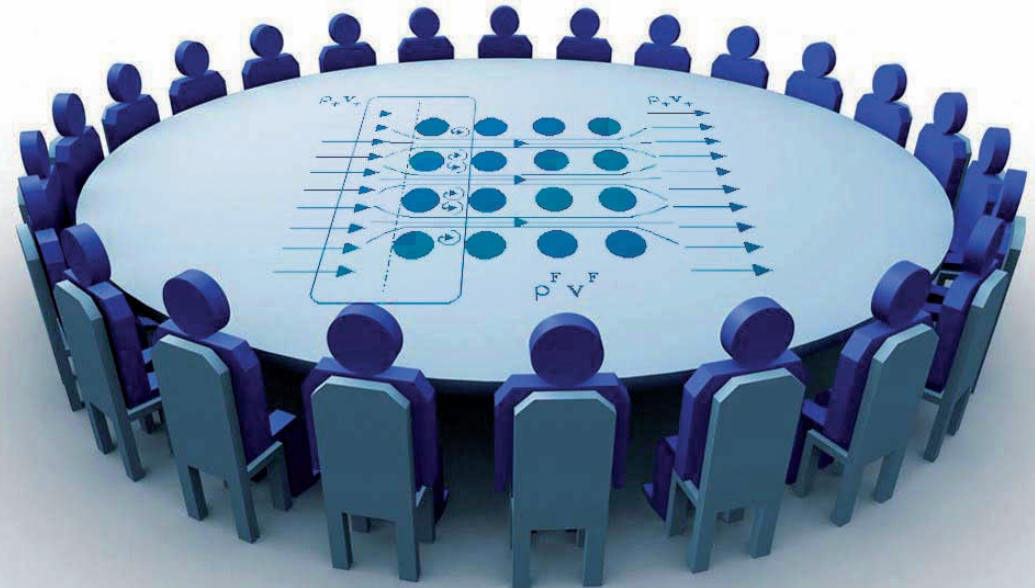
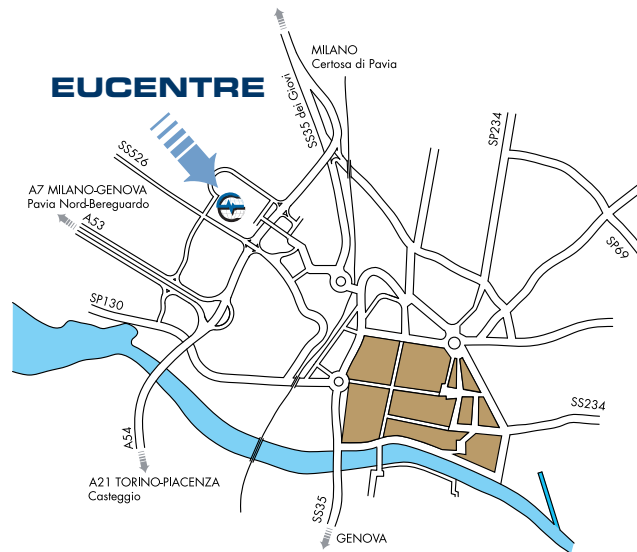


MECHANICS OF POROUS MEDIA: FROM THERMODYNAMICS TO APPLICATIONS

**A SHORT INTRODUCTORY COURSE
UNIVERSITY OF PAVIA, FEBRUARY 10, 2011**

■ Reaching us

Eucentre main buildings are sited within the University of Pavia, Polo Cravino area. Further information can be found at www.eucentre.it



■ PROGRAM

9.00 – 9.10 Course presentation
Ferdinando Auricchio

1 – Motivations

9.10 – 9.30 Relevance of the mechanics of porous media in engineering and geosciences: from geophysical exploration to earthquake engineering
Krzysztof Wilmanski

9.30 – 9.50 Relevance of the mechanics of porous media in civil, environmental, material and medical engineering: from dams to living tissues
Carlo Callari

2 – Thermodynamics and constitutive modeling

9.50 – 11.10 Thermodynamics of multi-components continua
Krzysztof Wilmanski

11.10 – 11.30 *Coffee break*

11.30 – 12.50 Modeling porous media in the Biot's thermodynamic framework
Carlo Callari

12.50 – 13.40 *Lunch break*

3 – Analytical solutions and numerical formulations of BIVPs

13.40 – 14.30 A few remarks on micro-macro transitions and Gassmann relations for poroelastic materials
Krzysztof Wilmanski

14.30 – 15.20 Finite element formulations for porous media
Carlo Callari

15.20 – 15.40 *Coffee break*

4 – Research applications

15.40 – 16.30 On the stability of the inversion of measured seismic wave velocities to estimate porosity in fluid-saturated media
Carlo Lai

16.30 – 17.20 Estimation of parameters in linear porous models - magnetic resonance methods in geotechnics
Krzysztof Wilmanski

17.20 – 18.10 Applications in civil engineering: dams and tunnels. Simulation of strain localization in porous media
Carlo Callari



■ Lecturers:

Krzysztof Wilmanski

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