

UNIVERSITA' DEGLI STUDI DELLA BASILICATA

DIPARTIMENTO DI SCIENZE

Prof. Enzo Rizzo

CURRICULUM SCIENTIFICO

ACTUAL POSITION

Researcher at National Research Council (Institute of Methodologies for Environmental Analysis-Tito-PZ)

Main activities and responsibilities:

Electromagnetic methods (shallow and deep geoelectrical techniques, ground penetrating radar, electromagnetic in s.s. methods, self potential) for geological, hydrogeological and archaeological applications

2005 to now : In charge of Hydrogeosite Laboratory

2012 to now: in charge of research group in CNR:MISSS

Project where I am/was the Coordinator for IMAA research activities:

- (2008-2012) FP7 Model Probe (for all the IMAA-CNR research activities)
- (2009-2012) FP7 ISTIMES (for Hydrogeosite Lab. experiments of IMAA-CNR)
- (2011-2012) Basilicata Innovazione (for all the IMAA-CNR research activities)
- (2011-2013) Modello Idrogeologico dell'area Nord della Basilicata-Regione Basilicata (for all the IMAA-CNR research activities)
- (2011-2013) VIGOR (for all the IMAA-CNR research activities)
- (2011-2014) ATLANTE (for all the IMAA-CNR research activities)
- (2011-2012) Basilicata Innovazione (for all the IMAA-CNR research activities)
- (2011-2014) Eni Exploration and Production (for all the IMAA-CNR research activities)
- (2013-2016) FP7 IMAGE (for all the IMAA-CNR research activities)
- (2014-2015) PO FERS – Basilicata Region; Ticamosc and Scoprire project (for all the IMAA-CNR research activities)

RESEARCH ACTIVITIES

- Shallow surface geophysical techniques (electrical resistivity tomography, ground penetrating radar, electromagnetic, self potential) for geological and hydrogeological for characterization and monitoring of the subsoil on contaminated zone, landslide area, geological and fault system, volcano, sea water intrusion, ecc.;
- Deep surface geoelectrical method (Deep Electrical Resistivity Tomography) for geological and hydrogeological characterizations of geothermal area, sedimentary basin, ecc.;
- New geoelectrical methodology (vertical and horizontal borehole) for high resolution monitoring results of the subsoil;
- Hydrogeophysical applications.
- Archaeo-geophysical methodology to highlight remains without excavation (GPR and Magnetometric methods)

TEACHER ACTIVITIES

Qualification | National Academic Qualification (ASN):
Associate Professor (II Fascia - Settore Concorsuale 04/A4-Geofisica)

University:

- Professor of Geophysical Prospecting course at Geological Science – Master's degree Geo-Environmental prospection and monitoring at University of Basilicata (a.a. 2006/07)
- Professor of Geophysical Prospecting course at Geological Science – Master's degree Geo-Environmental prospection and monitoring at University of Basilicata (a.a. 2007/08)
- Invited Professor of Geophysical methods for geological, hydrogeological and archaeological applications at XVI Summer School of Geophysics-Departamento de Geofísica – IAG; Universidade de São Paulo, Brasil (02/2014)
- Professor of Geophysical Prospecting course at Geological Science – Master's degree Geoscience and Georesource at University of Basilicata (a.a. 2014/15)

Master School:

- Professor of Geophysical techniques for archaeological applications at Master School "GeoArcheologia" (Sept-Oct 2010)
- Professor of Geophysical techniques for archaeological applications at Master School "FAST" (Sept-Oct 2007)
- Professor of Electromagnetic techniques for hydrogeological applications at Master ARCHÉ-University II° degree (Nov. 2006);
- Professor of Electromagnetic techniques for hydrogeological applications at Master AFLUSO-University II° degree (Jun 2004);
- Professor of Electromagnetic techniques for hydrogeological applications at Master COS-OT-University II° degree (May2004)

Tutor and Co-Tutor of Master's degree (Thesis Titles)

- Caratterizzazione geofisica ed idrogeologica del lago sirino tramite un utilizzo innovativo di tecniche geofisiche - University



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of Basilicata 2011

- Tecniche geofisiche applicate a problematiche ambientali: studio di siti contaminati – University of Salerno 2011
- Analisi sperimentale sulla tenuta idraulica dei rilevati arginali - University of Perugia 2010
- Tecniche geoelettriche profonde per lo studio del bacino dell'alta Val d'Agri (Appennino Meridionale) - University of Basilicata 2010
- Integrazione fra indagini geologiche, geomorfologiche e geofisiche per la caratterizzazione della frana di Pietra Maura - Marsico Nuovo (PZ) - University of Basilicata 2010
- Tecniche idrogeofisiche per lo studio delle acque sotterranee: studi in laboratorio e applicazioni in campo - University of Basilicata 2009
- Studio della falda profonda nell'area di venosa e relativa anomalia termica - University of Basilicata 2004
- Tomografie geoelettriche dipolari profonde per l'individuazione del substrato pre-quadernario in alta val d'agri (settore sud-est) – University of Basilicata 2002
- Misure geofisiche per l'individuazione della contaminazione salina delle acque di falda dell'arco ionico tarantino - University of Taranto 2002
- Tomografie geoelettriche ad alta risoluzione per lo studio dei depositi quadernari del bacino dell'alta val d'agri (settore nord-ovest) – University of Basilicata 2001
- Tomografie geoelettriche ad alta risoluzione per lo studio dei depositi quadernari dell'alta val d'agri (Settore Sud-Est) – University of Basilicata 2001

Tutor and Co-Tutor of PhD thesis (Titles)

- Electromagnetic geophysical technique for subsoil contamination – University of Basilicata 2014
- Hydrogeophysical methods for soils and groundwater contamination – University of Basilicata 2012
- Hydrogeophysical characterization of heterogeneous porous media by means of Self Potential method - University of Basilicata 2009
- Caratterizzazione geoelettrica ad alta risoluzione per lo studio dei contatti tettonici – University of Bari 2009
- Tecniche elettromagnetiche integrate per lo studio dell'inquinamento di suoli e falde - University of Basilicata 2005

PRINCIPALI PUBBLICAZIONI / SELECTED PAPERS AND PUBLICATIONS:

H-index: Scopus and ISI web: 17 ; **Peer-review papers:** n.57

Selected Papers on Environmental and Hydrogeophysics

- Naudet V., A. Revil, E. **Rizzo**, J. Y. Bottero, and P. Bégassat (2004). Groundwater redox conditions and conductivity in a contaminant plume from geoelectrical investigations. *Hydrology and Earth System Sciences*, 8(1), 8-22 .
- Rizzo** E., B. Suski, A. Revil, S. Straface, and S. Troisi (2004). Self-potential signals associated with a pumping-test experiment. *Journal of Geophysical Research- Solid Earth*, 109, B10203 doi:10.1029/2004JB003049
- Suski B, **Rizzo** E., Revil A. (2004). A sandbox experiment of self-potential signals associated with a pumping test. *Vadose Zone Journal* 3 (4): 1193-1199.
- Bavusi M., Lapenna V. and **Rizzo** E. (2006). Electromagnetic methods to characterize the Savoia di Lucania waste dump (Southern Italy). *Environmental Geology* Volume 51, Number 2 2006
- Straface, S., E. **Rizzo**, and F. Chidichimo (2010), Estimation of hydraulic conductivity and water table map in a large-scale laboratory model by means of the self-potential method, *J. Geophys. Res.*, 115, B06105, doi:10.1029/2009JB007053
- Giampaolo Valeria, **Rizzo** Enzo, Straface Salvatore, Votta Mario (2011). Hydrogeophysics techniques for the characterization of a heterogeneous aquifer. *Bollettino di Geofisica Teorica ed Applicata*. Vol. 52, n.4, December pp. 595-606
- Giampaolo V., **E. Rizzo**, K. Titov, P. Konosavsky, D. Laletina, A. Mainault, and V. Lapenna (2014). Self-potential monitoring of a crude oil contaminated site (Trecate, Italy). *Environ Sci Pollut Res* (2014) 21, 8932–8947 DOI: 10.1007/s11356-013-2159-y

Selected Papers on Geology and Energy

- Colella A., Lapenna V., **Rizzo** E. (2004). High-resolution imaging of the High Agri Valley basin (Southern Italy) with Electrical Resistivity Tomography. *Tectonophysics*, 386, 29-40.
- Maillet G., **Rizzo** E., Revil A., Vella C. (2005) High resolution ERT applied in sand-bed channel mouth infilling. The test site of Pégoulie channel in the Rhône Delta, France. *Marine Geophysical Research*, 26, 2-4, 317-328 (DOI: 10.1007/s11001-005-3726-5)
- Lapenna V., Lorenzo P., Perrone A., Piscitelli S., **Rizzo** E. and Sdao F. (2005). 2D Electrical Resistivity Imaging of some complex Landslides in Lucanian Apennine (Southern Italy). *Geophysics*, Volume 70, Issue 3, pp. B11-B18 (May-June 2005)



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- Finizola, A. Revil, E. **Rizzo**, S. Piscitelli, T. Ricci, J. Morin, B. Angeletti, L. Mocochain, and F. Sortino (2006). Hydrogeological insights at Stromboli volcano (Italy) from geoelectrical, temperature, and CO₂ soil degassing investigations. *Geophysical Research Letters*, vol. 33, I17304, 2006
- Tamburriello, M. Balasco, E. **Rizzo**, P. Harabaglia, V. Lapenna, A. Siniscalchi. Deep electrical resistivity tomography and geothermal analysis of Bradano foredeep deposits in Venosa area (Southern Italy): first results. *Annals of Geophysics*, Volume 51, No.1, pag.203-212, February 2008
- Siniscalchi A., Tripaldi S., Neri M., Giammanco S., Piscitelli S., Balasco M., Behncke B., Magri C., Naudet V., **Rizzo** E. (2010). Insights into fluid circulation across the Pernicana Fault (Mt. Etna, Italy) and implications for flank instability. *Journal of Volcanology and Geothermal Research* 193 137–142
- Petrullo, A.V., Prosser, G., Agosta, F., **Rizzo**, E., Chiarella, D., Tamburriello, G. (2012). The geothermal area of Venosa (Southern Italy): Preliminary results of a multi-disciplinary analysis. *Rendiconti Online Societa Geologica Italiana*. Volume 21, Issue PART 2, 2012, Pages 835-836 (ISSN: 20358008)

Selected Papers on ArcheoGeophysics

- Rizzo** E., D. Chianese and V. Lapenna (2005). Integration of magnetometric, gpr and geoelectric measurements applied to the archaeological site of Viggiano (Southern Italy, Agri Valley-Basilicata). *Near Surface Geophysics*, 3, 13-19.
- S. Piscitelli, E. **Rizzo**, F. Cristallo, V. Lapenna, L. Crocco, R. Persico and F. Soldovieri (2007). GPR and microwave tomography for detecting shallow cavities in the historical area of "Sassi di Matera" (Southern Italy) *Near Surface Geophysics*, 5, 2007, 275-284
- N. Masini, L. Nuzzo, E. **Rizzo**. (2007) Investigations for the study and the restoration of the Rose Window of Troia Cathedral (Southern Italy). *Near Surface Geophysics*, 5, 2007, 287-300
- Bavusi M., A. Giocoli, E. **Rizzo** and V. Lapenna (2009). Geophysical characterisation of Carlo's V Castle (Crotona, Italy). *Journal of Applied Geophysics*. 67, 4, 386-401
- Rizzo** Enzo, Nicola Masini, Rosa Lasaponara, Giuseppe Orefici (2010). ArchaeoGeophysical methods in the Templo del Escalonado (Cahuachi, Nasca, Perù). *Near Surface Geophysics* Vol 8, No. 5, October 2010, pp. 433-439 doi: 10.3997/1873-0604.2010030

ORARIO E SEDE DI RICEVIMENTO

- Dopo la lezione presso la stanza dei docenti esterni
- Con appuntamento, presso la sede del CNR-IMAA c.da S.loja ZI Tito Scalo

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