

## BRIEF PRESENTATION

### PERSONAL DATA



#### **RAFFAELE PERSICO**

*15 May 1969*

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*Researcher - Engineer  
Lecce*

### PROFESSIONAL PROFILE

- Researcher at the research Consortium CO.R.I.S.T.A., 2001.
- Researcher at the Institute for Electromagnetic sensing of the Environment IREA-CNR”, in Napoli, Italy, since December 28th, 2001.
- Researcher at the Institute for Archaeological and Monumental heritage IBAM-CNR, in Lecce, Italy, since January 3rd 2007.

### EDUCATION AND DEGREES AWARDED

- Degree in Electronic Engineering summa cum laude achieved at the University of Napoli Federico II, 1996.
- Exam for the habilitation to the profession of engineer, overcome at the University of Napoli Federico II, 1996.
- Ph.D. in Information Engineering achieved at the Second University of Napoli, 1999.
- Fellow student at the Second University of Napoli, 2000.

### PROFESSIONAL EXPERIENCE

- **Participation in national and international research projects at Universities and Research Institutes**
  - European Cost Action 1208 on Civil Engineering Applications of Ground Penetrating Radar, within which he is leader of the project 1.1 entitled “Design, realization and optimization of innovative GPR equipment for the monitoring of critical transport infrastructures and buildings, and for the sensing of underground utilities and voids”.
  - Ph.D project “The Prospecting in the field of the cultural heritage: set up of new techniques and technologies and comparison with traditional systems, in convention between University of Bari and IBAM-CNR.

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- AITECH (Applied Innovation technologies for Diagnosis and Conservation of Built Heritage), financed by the Puglia Region (published in “Bollettino ufficiale della Regione Puglia” n. 29 of February 21<sup>st</sup>, 2008).
  - PROMETEOS (prodotti, metodologie e tecnologie originali e sostenibili per la diagnosi, la conservazione e la comunicazione dei beni culturali), financed by the Puglia Region (published in “Bollettino ufficiale della Regione Puglia” n. 123 of August 4<sup>th</sup>, 2011).
  - PRIN project “Storia e Archeologia dei paesaggi rurali in Italia fra Tardoantico e Medioevo. Sistemi integrati di fonti, metodi e tecnologie per uno sviluppo sostenibile”, Research Unit “Metodologie innovative per la ricostruzione dei paesaggi di Terra d’Otranto”, financed by the Italian “Ministero dell’Istruzione, dell’Università e della Ricerca” MIUR.
- **Teaching assignment as expert in high-level educational and training programmes (i.e thematic Summer Schools, Higher education Masters) at relevant international/national Universities and Research Institutes**
    - First Summer School of the European GPR Association, held within the NSG Meeting, Athens, Greece, 14-15 September 2014.
    - Seminary entitled “Microwave tomography for the focusing of buried targets” held at the Catholic University of Leuven, Belgium, on July 5<sup>th</sup> 2014, within the tutorials associated to the XV International Conference on Ground Penetrating Radar.
    - International teaching project of CNR IBAM “Scienze per la DIPLOMAzia” - Programma di Formazione Plurisettoriale MAE DGCS – CNR “DIPLOMA”, Lecce, Italy, 2014.
    - Summer School ESA on “Remote Sensing Applications for the Study and Observation of Archaeological Sites”, lesson on “Georadar method: basic concepts and typical applications”, matera, Italy, 3-5 June, 2013.
    - Teaching task of 15 hours within the Italian project “Cultura e Formazione” financed by the Basilicata Region (Az. 7/AP/09/2009/RIF/REG CUP G35E11000240009), 2012.
  - **Collaboration with national and/or international Companies, Museums, Universities, etc.**
    - IDS Corporation S.p.A., Pisa, Italy, with which a reconfigurable stepped frequency GPR system has been projected and implemented (together also with to “Florence Engineering”, that is a Start up Company generated by the University of Florence, Italy).
    - 3d-Radar AS, Trondheim, Norway, with which the reconfigurable stepped frequency system has been tested in a Viking site and close to sources of electromagnetic interference.
    - Utsi Electronic Ltd., with which data from several sites in England have been examined, processed, and published.
    - University of Bari, with which a Ph.D. project is being carried out together.
    - Superintendence for Archaeological Heritage of Puglia, with which measurement campaigns in the archaeological site of Manduria have been performed in July 2013.

#### AWARDS, PRIZES AND RECOGNITIONS

- The paper “Effects of the Background Removal in Linear Inverse Scattering”, by Raffaele Persico and Francesco Soldovieri (*IEEE Trans. on Geos. and Rem. Sens.*, vol. 46, n. 4, pp. 1104-1114, April 2008) has been inserted in the CNR highlights for the biennial 2008-2009.
- The paper “Detection of fractures from GPR data: the case history of the cathedral of Otranto”, by G. Leucci, R. Persico and F. Soldovieri (*Journal of Geophysics and Engineering*, vol. 4, pp. 452-

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- 461, 2007) has received the best paper Awards from the Institute of Physics (IOP) as one among the best papers in the decennial 2004-2014.
- Raffaele Persico has been inserted as one of the reference authors within the on line Anthology of the European GPR Association (<http://www.eurogpr.org/joomla/> curtain menu “scientific literature”)
  - Raffaele Persico has been Member of the Jury for the assignment of a prize to a Young Researcher in the International Conferences on Ground Penetrating Radar of 2010, 2012 and 2014.
  - Raffaele Persico has written 5 invited papers and has held 4 invited talks at International Conferences, namely the Electromagnetic Theory Symposium EMTS held in Berlin, Germany, in 2010, the International Geophysical Congress and Exhibition of Turkey, held in Ankara, Turkey, in 2011, the Sixth International Conference on “Inverse Problems: Modeling and Simulations”, held in Antalya, Turkey, in 2012 and the annual EGU Meeting, held in Vienna, Austria, in 2014.

## **PUBLICATIONS, PATENTS AND/OR OTHER RESEARCH OUTPUTS (TECHNICAL REPORTS, ETC.)**

### **Patents**

- N. Masini, R. Persico, F. Soldovieri, “Sistema GPR stepped frequency riconfigurabile”, Italian Patent n. 0001395231 of September 5<sup>th</sup> 2012.

### **Books**

- R. Persico, Introduction to Ground Penetrating Radar: Inverse Scattering and data processing”, Wiley, ISBN 9781118305003, June 2014.

### **Selection of 8 papers on International Journals from 2011 on.**

- G. Leucci, N. Masini, R. Persico, F. Soldovieri.” GPR and sonic tomography for structural restoration : the case of the Cathedral of Tricarico”, Journal of Geophysics and Engineering, vol. 8, pp. S76-S92, Aug. 2011.
- F. Soldovieri, E. Utsi, R. Persico, A. M. Alani, Imaging of Scarce Archaeological Remains using Microwave Tomographic Depictions of Ground Penetrating Radar Data, International Journal of Antennas and Propagation, volume 2012 (2012), doi:10.1155/2012/580454.
- A. Calia, G. Leucci, N. Masini, L. Matera, R. Persico, M. Sileo, “Integrated prospecting in the Crypt of the Basilica of Saint Nicholas in Bari, Italy”, Journal of Geophysics and Engineering, vol. 9, n. 3, pp. 271-282, June 2012.
- F. Gabellone, G. Leucci, N. Masini, R. Persico, G. Quarta, F. Grasso, “Nondestructive Prospecting and virtual reconstruction of the chapel of the Holy Spirit in Lecce, Italy”, Near Surface Geophysics, vol. 11, n. 2, pp. 231-238, April 2013.
- R. Lasaponara, G. Leucci, N. Masini, R. Persico, Investigating archaeological looting using satellite images and GEORADAR: the experience in Lambayeque in North Peru, Journal of Archaeological Science, vol. 42, pp. 216-230, 2014.
- R. Persico, M. Ciminale, L. Matera, A new reconfigurable stepped frequency GPR system, possibilities and issues; applications to two different Cultural Heritage Resources, Near Surface Geophysics, vol 12, n. 6, pp. 793-801, 2014.
- R. Persico, J. Sala, “The problem of the investigation domain subdivision in 2D linear inversions for large scale GPR data”, IEEE Geoscience and Remote Sensing Letters, vol. 11, n. 7, pp. 1215-1219, July 2014. DOI 10.1109/LGRS.2013.2290008.
- G. Gennarelli, R. Persico, F. Soldovieri, Effective Imaging Systems Based on Periodic Lattices, Applied Physics letters, vol. 104, n. 19, pp. 194103 - 194103-5, 2014.

## OTHER

Raffaele Persico is Associate Editor of the following International and National Journals: Near Surface Geophysics, Gophysical Prospecting, Datasets International, International Journal of Archaeology, Mistral Service-Books, IDEE.

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