

PERSONAL INFORMATION **Rosa Lasaponara**



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 rosa.lasaponara@imaa.cnr.it

Sex Female | **Place and Date of birth** Irsina (Mt), 08 July 1965 | **Nationality** Italian

Research scientist at National Research Council, IMAA-CNR

WORK EXPERIENCE

2010 - 2012 Visiting research scientist at (i) CAS - Chinese Academy of Science, China; (ii) CONAE Space Flight Center, Argentina, and CONICET (Argentina)

2008 – Present Head of ARGON (Earth Observation for ARchaeoloGy and EnvirONment) Group of the Institute of Methodologies for Environmental Analysis of the National Research Council, IMAA-CNR

2001 – Present Research Scientist, Institute of Methodologies for Environmental Analysis of the National Research Council, IMAA-CNR

1999 – 2001 Research Scientist, at the University of Basilicata, Italy

1990– 2013 External Consultant for national and International projects (BiolItaly, Natura 2000, FesR., etc)

EDUCATION

1999 Ph.D. Methods and Technologies for Environmental Monitoring, University of Florence, Italy

1994 Master of Science : Environmental and Territory Engineering, Politecnico di Bari , Italy

1993 Laurea degree in Electronic Engineering , Politecnico di Bari (Italy)

PERSONAL SKILLS

Mother tongue(s) Italian

Other language(s)

| | UNDERSTANDING | | SPEAKING | | WRITING |
|---------|---------------|---------|--------------------|-------------------|---------|
| | Listening | Reading | Spoken interaction | Spoken production | |
| English | C2 | C2 | C1 | C2 | C2 |

Levels: A1/A2: Basic user - B1/B2: Independent user - C1/C2: Proficient user
[Common European Framework of Reference for Languages](#)

Organisational / managerial skills

Long experience in:

- organisation of scientific events, acquired as Chair (EGU, SPIE, EARSeL, ICCSA) or co-Chair of international Conferences and workshops;
- project management, acquired as PI or coordinator of research projects;
- She set up and currently chairs the special interest group " Remote Sensing for natural and cultural heritage" of the European Association of Remote Sensing Laboratories (EARSeL) in cooperation with and supported by UNESCO
- international programs, acquired as member or chair of international working groups.
- Permanent Member of the PhD committee (2006-present) of "Ingegneria dell'Ambiente" at the DIFA University of Basilicata.
- Editorial activities : (i) Editor of NHESS Natural Hazards and Earth System Sciences, (ii) member Editorial Board of (i) Sensors; (ii) Remote Sensing, (iii) Photointerpretation (iii) guest Editor for international peer reviewed journals, such as : Ecological Modeling, International Journal Of Remote Sensing, Journal of Applied Earth Observation and Geoinformation, Photointerpretation
- Managerial skills :She set up and chaired (2007-2011) the Meogeo spin off of the CNR

Job-related skills

Active in the research field of remote sensing of the (i) cultural heritage and landscape (ii) risk estimation, modelling and monitoring by passive and active sensors since 1993.

- Integration of active and passive techniques for biosphere monitoring (2003-present).
- Development and assessment of Integrated model for forest fire monitoring (1994-present).
- Development and application of algorithms for time series data analysis for change detection and operational monitoring of land degradation (1999 – present).
- Development and application of algorithms for data fusion, edge detection, and pattern recognition for investigating the dynamics of anthropogenic environmental changes (1998 – present).
- Reconstruction of paleoenvironmental scenarios aimed at understanding the mutual relationships between the dynamics of environmental change and evolutionary processes of human presence; (2003 – present).

Coordinator of International and national projects (some of the current activities are listed below):

- Smart management of cultural heritage sites in Italy and China: Earth Observation and pilot projects funded by the Ministero degli Affari Esteri –MAE PGR00570 2012-2015
- Earth Observation Technologies for the survey, investigation and valorisation of Ancient Aqueduct systems in Peru International funded in the framework of the Cooperation CNR-CONCYTEC 2012-2014 n. 0031559
- FIRE-SAT an integrated model to real time monitoring of forest FIRE Funded Protezione Civile in the framework of operational monitoring of risk using Earth Observation Technologies by 2012- 2013

Partner of EU projects (some of the current activities are listed below):

- EU funded "ArchaeoLandscapes Europe" (*ArcLand*)
<http://www.archaeolandscapes.eu/index.php/en/about/aims.html>
- FP7 Beyond Building Capacity for a Centre of Excellence for EO-based monitoring of Natural DisasterFP7-REGPOT-2012-2013-1
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External consultant for

- projects funded by the Italian Space Agency, such the current
- (i) World Heritage monitoring by Remote Sensing (WHERE)
 - (ii) Soil Slow MoTion Monitoring by interferometry (SoS-MT-Monitoring)

Reviewer of EU project proposals

Reviewer for BeLspo (Belgian Science Policy Office) funded projects

Member of steering committee of national and international projects

 ADDITIONAL INFORMATION

Publications 2014-2009

Selected publications from the last recent years: in the field of cultural heritage

1. Lasaponara; Giovanni Leucci; Nicola Masini; Raffaele Persico 2014 "": Investigating archaeological looting using very high resolution satellite images and georadar: the experience in lambayeque in North Peru JASC13-61R1 (in press)
2. Rosa Lasaponara Nicola Masini Beniamino Murgante Yong Ge, Hartmut Asche 2014 .Adance in geocomputation Int. J. Applied Earth Observation and Geoinformation vol. 26 429–431.
3. R. Lasaponara and N. Masini 2014 Beyond modern landscape features: New insights in the archaeological area of Tiwanaku in Bolivia from satellite data.. Int. J. Applied Earth Observation and Geoinformation vol. 26 464 -469
4. Rosa Lasaponara and Nicola Masini 2013. Satellite Synthetic Aperture Radar in Archaeology and Cultural Landscape: An Overview. Archeological Prospection (pages 71–78) Article first published online: 9 JUN 2013 | DOI: 10.1002/arp.145
5. Christopher Stewart, Rosa Lasaponara and Giovanni Schiavon, 2013. ALOS PALSAR Analysis of the Archaeological Site of Pelusium. Archeological Prospection (pages 109–116) Article first published online: 15 MAY 2013 | DOI: 10.1002/arp.1447
6. Francesca Cigna, Deodato Tapete, Rosa Lasaponara and Nicola Masini, 2013 Amplitude Change Detection with ENVISAT ASAR to Image the Cultural Landscape of the Nasca Region, Peru (pages 117–131). Archeological Prospection Article first published online: 21 MAY 2013 | DOI: 10.1002/arp.1451
7. Deodato Tapete, Francesca Cigna, Nicola Masini and Rosa Lasaponara 2013. Prospection and Monitoring of the Archaeological Heritage of Nasca, Peru, with ENVISAT ASAR Archeological Prospection (pages 133–147) Article first published online: 21 MAY 2013 | DOI: 10.1002/arp.1449
8. Rosa Lasaponara 2013: Geospatial analysis from space: Advanced approaches for data processing, information extraction and interpretation. Int. J. Applied Earth Observation and Geoinformation 20
9. Lasaponara . R &N. Masini "Satellite Remote Sensing: A NewTool for Archaeology" Springer February 2012 (<http://www.amazon.com/Satellite-Remote-Sensing-Archaeology-Processing/dp/9048188008>)
10. Lasaponara, R., Lanorte, A., 2012. Satellite time-series analysis. Int. J. Remote Sens.33 (15), 4649–4652, <http://dx.doi.org/10.1080/01431161.2011.638342>.
11. Forsberg Y, Holmgren R., Lasaponara R., Masini N. On the Integration of aerial and satellite remote sensing for archaeological investigations: case study of the Vignale Etruscan Journal of Geophysics and Engineering, Volume 9, Number 4, August 2012 , pp. S26-S39(14)
12. Lasaponara R., Masini N. 2011, Satellite Remote Sensing in Archaeology : past, present and future, Journal of Archaeological Science, 38, 1995–2002, doi:10.1016/j.jas.2011.02.002
13. Lasaponara R., Masini N., Rizzo E., Orefici G. 2011. New discoveries in the Piramide Naranjada in Cahuachi (Peru) using satellite, Ground Probing Radar and magnetic investigations, Journal of Archaeological Science, 38, 2031-2039, doi:10.1016/j.jas.2010.12.010
14. . Lasaponara R., Coluzzi R., Masini N., 2011, Flights into the past: Full-Waveform airborne laser scanning data for archaeological investigation, Journal of Archaeological Science, 38, 2061-2070, doi: 10.1016/j.jas.2010.10.003.
15. Lasaponara R., Masini N., Rizzo E., Orefici G. 2011. On the capability of Very High Resolution satellite and Ground Probing radar techniques for detecting buried archaeological adobe structures, Revue française de photogrammétrie et de télédétection, 193, pp. 61-70, ISSN 1768-9791.
16. . Rizzo E., Masini N., Lasaponara R., Orefici G. 2010, ArchaeoGeophysical methods in the Templo del Escalonado (Cahuachi, Nasca, Perú), Near Surface Geophysics, 8, 433-439, doi:10.3997/1873-0604.2010030.
17. . Lasaponara R., Coluzzi R., Gizzi F.T., Masini N. 2010, On the LiDAR contribution for the archaeological and geomorphological study of a deserted medieval village in Southern Italy, Journal Geophysics Engineering, 7, pp. 155-163. doi:10.1088/1742-2132/7/2/S01..
18. . Masini N., Lasaponara N., Orefici G. 2009, Addressing the challenge of detecting archaeological adobe structures in Southern Peru using QuickBird imagery, Journal of

Cultural Heritage, 10S, pp. e3–e9 [doi:10.1016/j.culher.2009.10.005].

19. . Lasaponara R., Masini N. 2009, Full-waveform Airborne Laser Scanning for the detection of medieval archaeological microtopographic relief, *Journal of Cultural Heritage*, 10S, pp. e78–e82 [doi:10.1016/j.culher.2009.10.004]
20. Ciminale M., Gallo D., Lasaponara R., Masini N. 2009, A Multiscale Approach for Reconstructing Archaeological Landscapes: Applications in Northern Apulia (Italy), *Archaeological Prospection*, 16, pp. 143–153 [doi: 10.1002/arp.356]

International Conference organization 2014-2008

1. SPIE Program committee (2008 -present)
2. ICCSA Program committee (2008 -present)
3. EARSeL Symposium Program committee (2008 -present)
4. Convener of Spatial and Temporal patterns of Forest Fire at EGU Assembly Session (2008, 2009, 2010)
5. Convener of satellite time series analysis at EGU Assembly Session (2008, 2009, 2010, 2011,2012, 2013, 2014)
6. Chairman (2008, 2011,2012,2013) of the EARSeL Conference "Remote sensing for Archaeology"
7. Chairman of the 33 EARSeL Symposium and accompanying events Matera June 2013
8. Chairman (2009) of the VII EARSeL workshop " Remote sensing for forest fire

Selected Projects

Current running

- Scientific responsible for CNR- of the EU of "*ArchaeoLandscapes Europe*" (*ArcLand*) <http://www.archaeolandscapes.eu/index.php/en/about/aims.html>
- FP7 Beyond Building Capacity for a Centre of Excellence for EO-based monitoring of Natural DisasterFP7-REGPOT-2012-2013-1
- CNR-IMAA PI of Smart management of cultural heritage sites in Italy and China: Earth Observation and pilot projects funded by the Ministero degli Affari Esteri --MAE PGR00570 2012-2015
- PI of Earth Observation Technologies for the survey, investigation and valorisation of Ancient Aqueduct systems in Peru International funded in the framework of the Cooperation CNR-CONCYTEC 2012-2014 n. 0031559
- PI of FIRE-SAT an integrated model to monitoring in real time of forest FIRE Funded Protezione Civile in the framework of operational monitoring of risk by 2013-2014
- Partecipation to ESA Project "Assessing Satellite SAR data for Landscape and archaeology" Id. 11073
- Partecipation in the Project "Smart Cities and Communities and Social Innovation" (Avviso MIUR n.84/Ric 2012, PON 2007 – 2013 del 2 marzo 2012) Misura IV.1, IV.2., 2013- 2015
- PI of Remote Sensing technologies for Natural and Cultural heritage Degradation Monitoring for preservation and valorization (MITRA) 2012-2014
- Partecipation in the Project " World Heritage monitoring by Remote Sensing (WHERE)" funded by ASI 2012-2013 (external consultant)
- Partecipation in the Project "Soil Slow MoTion Monitoring by interferometry" (SoS-MT-Monitoring) funded by ASI 2012-2013
- PI of the project "From LiDAR survey to virtual reconstruction" Basilicata Innovazione 2013-2014 FESR action
- PI of the project "Low cost technologies for fire monitoring: from the performance assessment to the availability of operative tools" funded by Basilicata Innovazione 2012-2013 FESR action

Past Projects

- PI of FIRE-SAT an integrated model to real time monitoring of forest FIRE Funded Protezione Civile in the framework of operational monitoring of risk using Earth Observation Technologies by 2010- 2012

- Scientific responsible for the CNR_IMAA activities of the FUELMAP” Development of a European fuel map” Contract notice n 2008/S 116-153998 del 17/06/06 Tender funded by Joint Research Centre- Institute for Environment and Sustainability (JRC- IES) ISPRA (Italia)
- PI “Fuel model, mapping and real time fire monitoring ” Funded by Protezione Civile 2007/2009
- PI of FIRE-SAT an integrated model to real time monitoring of forest FIRE Funded Protezione Civile in the framework of operational monitoring of risk using Earth Observation Technologies by 2008- 2010
- PI “Investigating of Landscape transformation and the impact of Human activities integrating Earth Observation and ancillary data sources” DG.RSTL.055.010 funded by CNR 2005-2010
- Scientific responsible for the CNR_IMAA activities of the “Preview Winter Fire FP6 project : framework of EURORISK/PREVIEW “Prevention, Information and Early Warning pre-operational services to support the management of risks VI FP- Integrated project
- Scientific responsible for the CNR_IMAA activities of the CYBER-PARK FESR 2000 –Pilot project for the management of natural Protected areas” funded by the Puglia Region
- Scientific responsible for the CNR-IMAA activities of the PROSCENIO funded by Protezione Civile Nazionale 2005-2007
- PI of Fire susceptibility estimation in the Mediterranean ecosystems by using AATSR, MODIS, VEGETATION, and AVHRR data” n 1503 ESA (European Space Agency)
- Participation to the programme “Development of industrial districts for the Earth Observation” (Programma PON 2000-2006, MIUR).
- Participation in the Project “Development and improvement of the CNR-IMAA Earth Observation Facility” (Programma PON 2000-2006 PC.P01.001)
- Participation in the Project Bioltaly and Natura 2000 for the Puglia Region 1994-1996

Editorial activities 2014-2008

1. Editor (since 04/2010-present) Natural Hazards and Earth System Sciences NHESS
2. Member of Editorial Board of SENSOR
3. Member of Editorial Board of Remote sensing
4. Member of Editorial Board of Archaeology
5. Member of Editorial Board of Asian Culture and History Canadian Center of Science and Education
6. Editorial advisory board (10/2008-present) European Journal of Remote Sensing

Editorial activities :Special issues

1. Lasaponara et al. 2014 Advances in geoscience International Journal of Applied Earth Observation and Geoinformation vol 26
2. Lasaponara R and Masini Special Issue on “ Satellite Synthetic Aperture Radar in Archaeology and Cultural Landscape: An Overview. Archeological Prospection (pages 71–78)
3. Lasaponara R.,. 2013 Special Issue on “Earth Observation and geoinformation for environmental monitoring” International Journal of Applied Earth Observation and Geoinformation vol 20
4. Lasaponara R., Lanorte A. 2012, Special Issue on “Satellite time series Analysis :from local analysis to a global view” International Journal of remote sensing, vol 33
5. Lasaponara R., Masini N. 2011, Special Issue on “Satellite remote sensing in archaeology: past, present and future perspectives”, Journal of Archaeological Science, vol. 38.
6. .
7. Lasaponara R., Masini N. 2009, Special Issue on “Remote Sensing for Cultural Heritage Management and Documentation”, Journal of Cultural Heritage, vol. 10S.
8. Lasaponara R., Hernandez M., Masini N., Deroin J.-P., 2010. Special Issue on “Aerial and Spatial Archaeology: from Historical Photographs to Lidar”. Photo Interpretation European Journal of Applied Remote Sensing, vol. 46.
9. Lasaponara R., 2010, Special Issue on Spatial and temporal Pattern of wildfire: Models, Theory and reality Ecological Modelling vol 221
10. : R. Lasaponara, N. Masini, M. Ciminale, S. Piro 2009 “Integrated Remote Sensing techniques for Archaeological Prospection” Journal of Archaeological Prospection vol