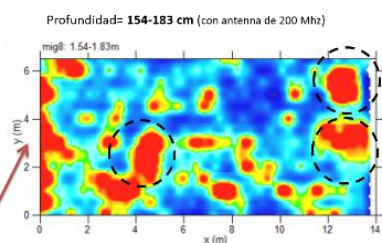
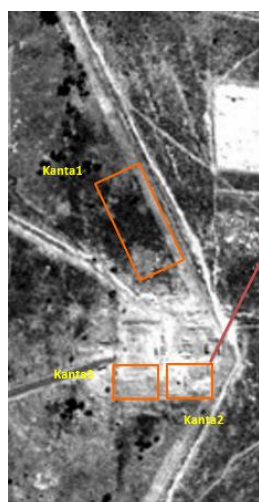


ROSA LASAPONARA CURRICULUM



GENERAL DATA, TITLES, SCIENTIFIC AND RESEARCH MANAGEMENT CAREER	3
RESEARCH ACTIVITY : BRIEFLY	4
SCIENTIFIC RESEARCH ACTIVITY	6
INTERNATIONAL COMMITMENT	8
INTERNATIONAL CONFERENCE ORGANIZATION AS CHAIR OR CONVENER	10
SELECTED PROJECTS CURRENT RUNNING (LIST)	10
LIST OF SELECTED PAST PROJECTS	11
LIST OF SELECTED RECENT AWARDS	12
PROJECTS FOCUSED ON UNESCO WORLD HERITAGE SITES	15
EDUCATIONAL AND DISSEMINATION ACTIVITIES IN COOPERATION WITH UNESCO	27
CONFERENCES, SCIENTIFIC COMMITTEE, EDITORIAL BOARD	27
PUBLICATIONS	33
TEACHING ACTIVITY	48

A) GENERAL DATA, TITLES, SCIENTIFIC AND RESEARCH MANAGEMENT CAREER

Name: ROSA

Surname : LASAPONARA

Date of birth: 8 LUGLIO 1965

Place of birth: IRSINA (MT)

Address: c.so Umberto I, 32 – 85100 POTENZA – ITALIA.

E_mail mrosa.lasaponara@imaa.cnr.it; rosa.lasaponara.cnr.it

Tel: 328/6271131 (cell), ++39 0971/427214 (CNR), ++39 340/9031154

Foreign languages: ENGLISH

□ A.2 ACTUAL POSITION

- Researcher of CNR- at the IMAA
- Chief of the ARGON Laboratory (Earth Observation for ARchaeoloGY and EnvirONment of the CNR-IMAA in Tito Scalo (Potenza).
- Manager of a CNR Research Commitment “Integrated Earth Observation technologies for archaeology and landscape archaeology since 2007 (PC.P01.001.003)
- Manager of a CNR Research Commitment “Palaeoenvironmental transformations induced by human activities using remote and in situ data analysis” (RSTL.055.010) since 2007
- Manager of a CNR Research Commitment “Remote sensing based monitoring of natural and human induced risks for Cultural heritage since 2011
- Adjunct Professor of Microwave in the Faculty of Architecture of University of Basilicata – Potenza (since 2010)
- Visiting Professor at the CONAE (Argentina).
- Italian Scientific responsible of Great Relevance Project Italy-Argentina “*Smart management of cultural heritage sites in Italy and Argentina: Earth Observation and pilot projects*” – Argentine partner: CONAE
- President of MEOGEO Spin off CNR

□ A.3 SCIENTIFIC CAREER : BRIEF CHRONOLOGY

- 1993: Degree in Electronic Engineering.
- 1993-94: MS in Environmental Engineering
- 1995-1998: PhD in Remote Sensing
- 2001: Researcher at CNR-IMAA.
- 2010: Professor of Microwave in the Faculty of Engineering of the University of Basilicata.

□

A.4 RESEARCH MANAGEMENT : BRIEF CHRONOLOGY

- 2006: Manager of a CNR Research Commitment: “ Remote sensing based monitoring of natural and human induced risks for Cultural heritage since” (at the Dipartimento of Patrimonio Culturale
- 2007: chair of the EARSeL (European Association Remote Sensing Laboratories) Special Interest Group (SIG)- on "Remote Sensing for Archaeology, Natural and Cultural Heritage".
- 2007 : President of MEOGEO spin-off of CNR
- 2009. Chief of ARGON Laboratory (Earth Observation for ARchaeoloGy and EnvirONment

□

A.5 RESEARCH ACTIVITY : BRIEFLY

- Director of International Mission ITACA-Peru
- Scientific responsible and project manager of n. 31 national and international research projects and investigation campaigns (2001-2014).
- She authored and co-authored more than 250 publications, including papers on international journals, Books, one patent, book chapters, 9 special issues of international journals
- She has been general chair of an international conference (EARSEL Symposium 2013), several workshops (EARSEL Workshop of remote sensing for Cultural heritage: Rome 2008; Matera 2013; workshops for ICCSA conference: Santander 2011; Salvador de bahia 2012; Ho Chi Minh 2013), convener of several scientific sessions (EGU2007, 2008, 2009, 2010, 2011, 2012, 2013; SPIE 2007-09), and member of scientific committees of international conferences and workshops (SPIE 2007- 2014; EARSEL 2008, 2013; ICCSA 2011-2014)
- She is associate Editor and/or component of the Editorial Board of the following journals:
 - *NHESS*
 - *Journal of Remote Sensing & GIS*
 - *Journal of Geophysics and Engineering*
 - *Remote Sensing*
 - *Remote sensing of Environment*
 - *IEEE*
 - *Ecological Modelling*
 - *American Journal of Engineering and Applied Sciences*
 - *Studies in Surveying and Mapping Sciences*
 - *Open Journal of Remote Sensing and Positioning*
 - *Archaeology*
- She is/has been Guest Editor of special issues of international journals : *Journal of Cultural Heritage* (2009, vol. 10S), *Ecological Modelling* (2010, vol. 221; 9), *International Journal of remote Sensing* (2010, vol.33(15) , *Journal of Archaeological Science* (2011, vol. 38), *Archaeological Prospection* (2013, vol. 20), *International Journal of Applied Earth Observation and Geoinformation* (2013, vol. 20), *International Journal of Applied Earth Observation and Geoinformation* (2014, vol. 26)

- Special issue coordinated as guest editor
- Lasaponara et al. 2014 Advances in geoscience International Journal of Applied Earth Observation and Geoinformation vol 26
- Lasaponara R and Masini Special Issue on “ Satellite Synthetic Aperture Radar in Archaeology and Cultural Landscape: An Overview. Archeological Prospection (pages 71–78)
- Lasaponara R., 2013 Special Issue on “Earth Observation and geoinformation for environmental monitoring” International Journal of Applied Earth Observation and Geoinformation vol 20
- 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
- Lasaponara R., Masini N. 2011, Special Issue on “Satellite remote sensing in archaeology: past, present and future perspectives”, Journal of Archaeological Science, vol. 38.
- Lasaponara R., Masini N. 2009, Special Issue on “Remote Sensing for Cultural Heritage Management and Documentation”, Journal of Cultural Heritage, vol. 10S.
- 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.
- Lasaponara R., 2010, Special Issue on Spatial and temporal Pattern of wildfire: Models, Theory and reality Ecological Modelling vol 221
- Lasaponara R., Ciminale, S. Piro 2009 Special issue “Integrated Remote Sensing techniques for Archaeological Prospection” Journal of Archaeological Prospection vol 26 issue 3

A7 H-INDEX AND CITATIONS

SCOPUS: H-index=15, Citations=261

Google Scholar: H-index=21, Citations=725

(<http://scholar.google.it/citations?user=ZcLVMlcAAAAJ&hl=it>)

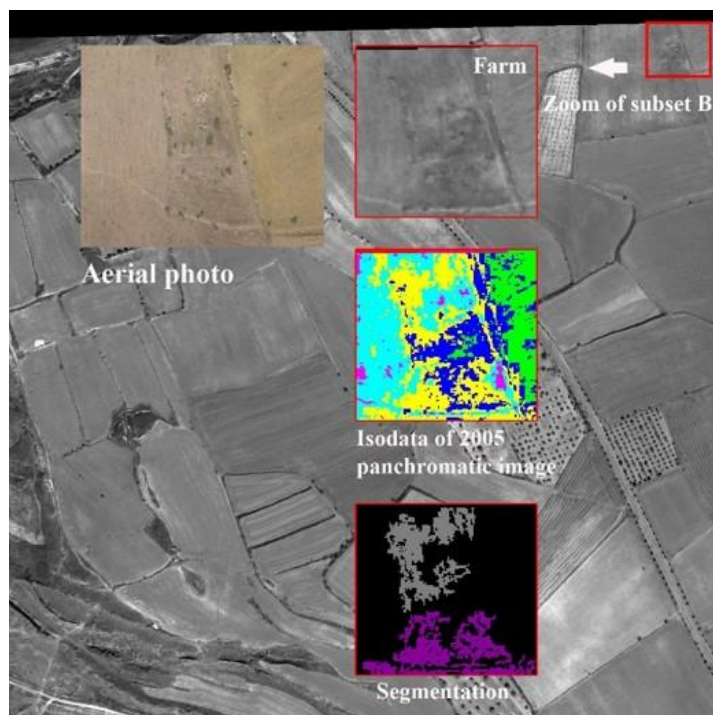
Google Scholar profile for Rosa Lasaponara. The profile includes a photo, a bio, and a list of publications with citation counts and years. A citation index table and a bar chart showing citation trends from 2006 to 2014 are also present.

Rosa Lasaponara
Phd, Reseracher, CNR-IMAA
Remote sensing, Environment
Nessuna email verificata

Indici citazioni	Tutte	Dal 2009
Citazioni	1384	1050
Indice H	21	17
i10-index	40	34

Titolo	1-20	Citata da	Anno
Detection of archaeological crop marks by using satellite QuickBird multispectral imagery	93	2007	
Evaluation of a new satellite-based method for forest fire detection	71	2001	
On the use of principal component analysis (PCA) for evaluating interannual vegetation anomalies from SPOT/VEGETATION NDVI temporal series	49	2006	
Time-scaling properties in forest-fire sequences observed in Gargano area (southern Italy)	49	2005	
Multiresolution spatial characterization of land degradation phenomena in southern Italy from 1985 to 1999 using NOAA-AVHRR NDVI data	41	2003	
On the potential of QuickBird data for archaeological prospection	39	2006	
Detection of interannual variation of vegetation in middle and southern Italy			

B) SCIENTIFIC RESEARCH ACTIVITY



B) SCIENTIFIC RESEARCH ACTIVITY

□ B.1 RESEARCH INTEREST

My dominant scientific interest, throughout my career, has been the application and the development of methodologies for the operative use of remote sensing technologies for natural and cultural heritage preservation and management set up and currently.

I set up and currently chair 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.

My dominant scientific interests deal with the operative use of EO techniques mainly in the fields of: (i) environment and risk monitoring, (ii) interactions between humans and environment systems; (iii) Anthropology, land use practices and their effects on ecosystems; (iv) innovative active and passive remote-sensed technology (LIDAR, multi-and hyper-spectral high resolution) for landscape prospection and Historical and archaeological landscape.

I set up and currently lead the ARGON Laboratory (Earth Observation for ARchaeoloGy and EnvirONment) of the CNR at IMAA in Tito Scalo (Potenza).

The research activity of the ARGON laboratory, in the international context delineated by HORIZON 2020, is mainly directed to the study of the biosphere using remote sensing techniques and in situ analysis. The specific objectives are the development of algorithms and methodologies concerning the extraction of information from historical data series collected by active and passive sensors (airborne and satellite platforms) for the characterization of phenomena and processes with particular reference to the identification of changes (on various spatial and temporal scales) and the operational monitoring of land degradation, natural and anthropic risks.

Main activities:

A) Time series analysis and development of algorithms for change detection for operational monitoring of land degradation and natural and anthropic risks:

- Land degradation
- Urban sprawl
- Desertification monitoring
- Fire monitoring: (i) estimation of hazard / risk by fire, (ii) characterization of the system of rings, (iii) integrated systems for fire detection, (iv) perimeter of the areas covered by the fire, (v) monitoring of recovery Snow vegetation, (vi) estimates of resilience to fire through the use of time-series satellite and ancillary data, (vii) the characterization and modeling of vegetation for estimating the biomass consumption, emissions, fire behaviour
- Monitoring of fire impact on hydro geological risk and mitigation strategies

B) Development of algorithms for data fusion, edge detection, and pattern recognition for archaeological and palaeo-environmental studies for investigating the dynamics of anthropogenic environmental

- Identification and characterization of buried structures of archaeological interest
- reconstruction of palaeo-environmental scenarios aimed at understanding the mutual relationships between the dynamics of environmental change and evolutionary processes of human presence;

B) C) Satellite time series analysis for investigating

- a. interactions between humans and environment systems;
- b. Anthropology: mainly land use practices and their effects on ecosystems;

- c. innovative methods for remote sensed multi-and hyper-spectral high resolution data analysis for archaeological prospection. and palaeoenvironmental reconstruction
- d. Historical risk

I have pursued this major interest through several lines of enquiry

1) *GIS and Remote Sensing for Archaeology and Cultural Heritage Management* by means of :

- the development and use of data processing algorithms of very high resolution satellite imagery for the detection of buried archaeological sites and palaeoenvironmental features;
- the application of LiDAR for investigating potential archaeological areas covered by vegetation;
- Post processing of high resolution digital models for the interpretation of microrelief of archaeological interest
- the use of local spatial autocorrelation statistics of satellite data for Very high resolution satellite imagery for the monitoring and the assessment of man-made risks of archaeological heritage
- Integration of geophysics with airborne and spaceborne remote sensing for archaeogeophysical investigations
- SAR data processing for archaeological applications

□ **B.2 INTERNATIONAL COMMITMENT**

- (10/2008-present) Photointerpretation
- 3. Editor (06/2009-present) of EARSeL NewsLetter
- 4. EARSeL Tresour (06/2010-present)
- 5. Member (06/2010-present) of EARSeL Bureau
- 6. Supporting Scientific Secretary (05/2010-present) Fire EGU Natural Hazard Division
- 7. SPIE Program committee (2007 -present)
- 8. ICCSA Program committee (2008 -present)

- 9. EARSeL Symposium Program committee (2008 -present)
- 10. Convener of Spatial and Temporal patterns of Forest Fire at EGU Assembly Session (2008 to present)
- 11. Convener of satellite time series analysis at EGU Assembly Session (2008 to 2012)
- 12 Chairman of EARSeL SIG-RESEARCH Remote Sensing and Information Technologies for archaeological investigation, protection and valorization of Cultural Heritage (2007 - present)
- 13. Chairman (2008, 2011, 2012) of the I, II, III EARSeL workshop "Remote sensing for Archaeology"
- 14 Chairman (2009) of the VII EARSeL workshop " Remote sensing for forest fire"
- 15. International external evaluator PhD committee at committee at the following University: UCL- London Alcala- Spain, Ghent-Belgium, Salonicco- Greece, Pisa-Italy, Bariloche-Argentina
- 16. Visiting professor at the University of Comahue Argentina
- 17. Visiting professor at the University of S Luis Argentina Since 2007

- Investigation campaigns.
- April 2007: aerial prospection of Rio Nasca;
- April 2008: Cahuachi, georadar prospections in Templo Escalonado;
- November 2008: Cahuachi, geomagnetic prospections in Piramide Naranjada, infrared surveys, Ground truth of archaeological features detected from satellite imagery in Rio Nasca,
- January 2009: field surveys in Ventarron
- May 2009: Tiwanaku, Geomagnetic prospections, GPS surveys, Ground truth of archaeological features detected from satellite imagery
- August 2009. Cahuachi: Geomagnetic prospections in templo Escalonado and in Rio Nasca, measurement of seismic noise, Ground truth of archaeological features detected from satellite imagery, drawing of samples of adobe to be analyzed
- August 2010. Cahuachi, Geoelectric prospections, measurement of seismic noise in Piramide Naranjada, GPS survey in the area of geoglyphs at South of Cahuachi.
- December 2010. Arenal and Ucupe (Lambayeque). Archaeogeophysical investigations

- April 2011. Titicaca Lake, field survey for the study of waru-waru and the fortress of Pukarrani.
- August-September: archaeogeophysical investigations in Huantar (Ancash) and Cahuachi (Nazca); field survey for the study of ancient aqueducts in the drainage basin of Nazca river
- November-December: archaeogeophysical investigations in Arenal, Collud and Zarpan (Lambayeque region)
- December 2012: archaeogeophysical investigations in Cahuachi, Pachacamac
- November-December 2013: archaeogeophysical investigations and field survey in Pachacamac, Cahuachi and Rio Taruga, near Nazca.
- June 2014. Tiwanaku (Bolivia) Archaeogeophysical investigations and surveys Akapana, Kantatallita and Templete.

□ **Highlights and discoveries.**

- 2008-09: Discovery of a buried pyramid near Rio Nasca by means of satellite remote sensing and geomagnetic investigations
- 2009. Cahuachi : discovery of an altar, a ritual offering in Piramide Naranjada and the tomb of the Priestness Girl.
- 2011. Arenal (Lambayeque): discovery of a Moche temple (III-IV cent. A.D.)
- 2011-12, Cahuachi: geophysical support to the discovery and the excavation of Piramide Sur
- 2013, Satellite map of ancient aqueducts in the Rio Nazca drainage basin

International Conference
organization 2014-2008

:

Selected events

1. SPIE Program committee (2007 -present)
2. ICCSA Program committee (2007 -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 Disaster FP7-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
- Partecipazione to ESA Project "Assessing Satellite SAR data for Landscape and archaeology" Id. 11073
- Partecipazione 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
- Partecipazione in the Project " World Heritage monitoring by Remote Sensing (WHERE)" funded by ASI 2012-2013 (external consultant)
- Partecipazione 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

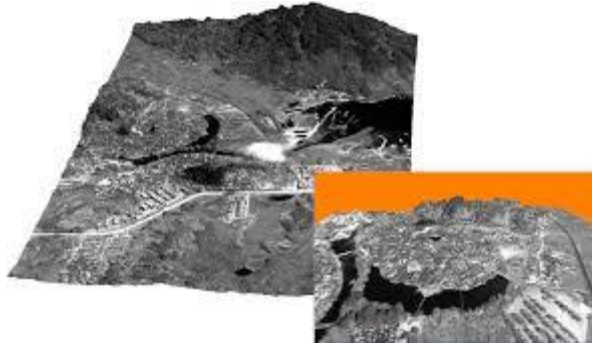
Selected Past Projects

- 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

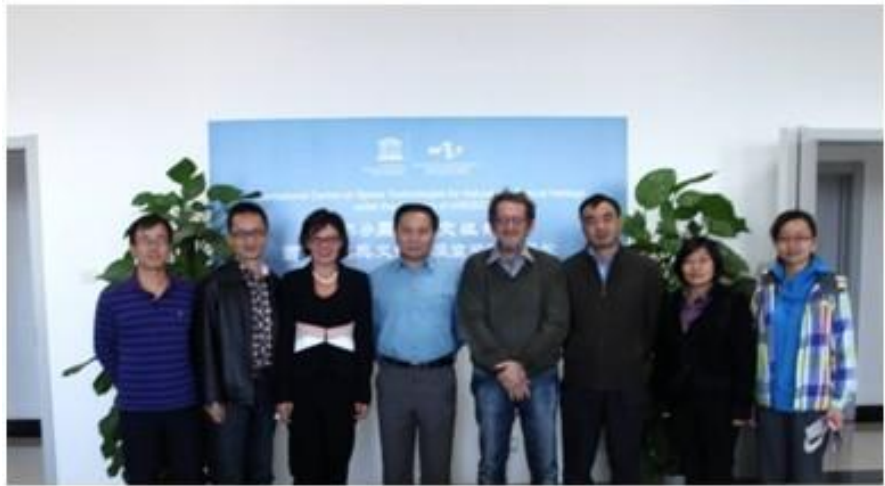
- Scientific responsible for the CNR_IMAA activities of the FUELMAP” Development of a European fuel map” Contract notice n 2008/S 116-153998 del 17/06/06 Tender funded by Joint Research Centre- Institute for Environment and Sustainability (JRC- IES) ISPRA (Italia)
- PI “Fuel model, mapping and real time 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 BioItaly and Natura 2000 for the Puglia Region 1994-1996

1. Leadership Awards from ICSSA July 2014
2. Leadership Awards from EARSEL June 2014
3. Awards BEST Innovation for 2014 year from Focus May 2014 (http://www.imaa.cnr.it/index.php?option=com_content&view=article&id=359:comunicato-stampa-premio-innovazione-2014&catid=63&lang=it&Itemid=146)
4. Best paper Awards June 1999 CNR- highlights CNR 2008/2009 (http://www.cnr.it/documenti/Highlights2008_2009.pdf)
5. Awards for Renewed expert in the field of remote sensing for archaeology from belspo 2009
6. Discovery of a buried archaeological settlement near Nazca river in Peru (2008)

7. Awards for Innovation 2014 year in the field of Environmental monitoring FIRESAT 2014 from Focus May 2014 (<http://www.cnrweb.tv/firesat-linnovazione-giusta-per-il-nostro-pianeta/>)
8. Best paper Awards RSCy 2013 (First International Conference on Remote Sensing and Geoinformation of Environment)
9. Paper of special interest “Multitemporal analysis and archaeogeophysical methods to monitor and face the archaeological looting: the experience in Nasca (Southern, Peru)” presented in the session “Satellite time series analysis”, EGU Assembly Wien 4 apr. 2011.
10. Paper of special interest “Archaeogeophysics in Peru and in Bolivia: the contribution of Italian CNR with ITACA mission (2007-10).” showed in the session “From artefact to historical site : geoscience and non invasive methods for the study and conservation of cultural heritage”, EGU Assembly Wien 5 apr. 2011
11. CNR- highlights CNR 2008/2009
12. Rotary Award “Outstanding Researchers”, assigned by Rotary Foundation



Scientific and professional activity selected from the international and national projects focused on UNESCO World heritage sites



Highlight

Scientific cooperation activity with HIST and UNESCO and research activities in Chinese UNESCO sites

Scientific and professional activity in the field of cultural heritage in UNESCO sites : Argentina

Scientific and professional activity in the field of cultural heritage in UNESCO sites: Peru

Scientific and professional activity in the field of cultural heritage in UNESCO sites: Bolivia

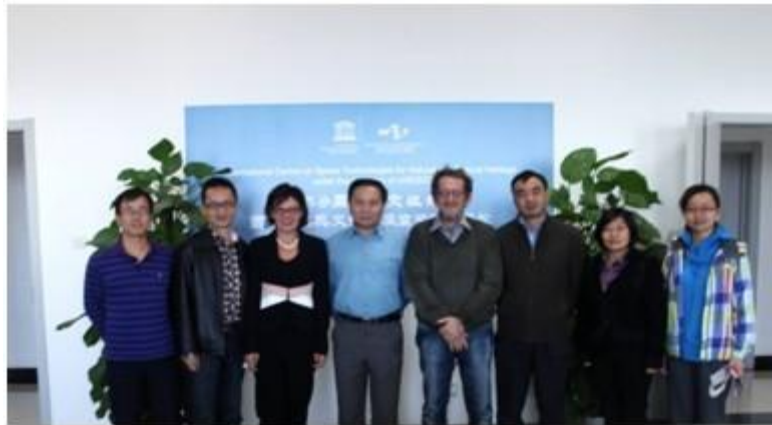
Scientific and professional activity in the field of cultural heritage in UNESCO sites : Turkey

Scientific and professional activity in the field of cultural heritage in UNESCO sites : Africa

Scientific and professional activity in the field of cultural heritage in UNESCO sites: Italy

Educational and dissemination activities in cooperation with UNESCO

Scientific cooperation activity with HIST and UNESCO and research activities in Chinese UNESCO sites



Scientific responsible for CNR-IMAA of Memorandum of Understanding between CNR-IBAM, CNR-IMAA, **HIST** and CAS- Center for Earth Observation and Digital Earth (prot. N. 3637, 26.09.2012)

Invited by Deputy Director (Tianhua Hong) to have a one day seminar on 30 November 2012 at Visited the Center for Earth Observation and Digital Earth and to visit HIST, (<http://www.unesco-hist.org/en-us/news/242.html>)

She is co-responsible of the Great relevance project Italy-China funded by MAE titled “Smart management of cultural heritage sites in Italy and China: Earth Observation and pilot projects”. Chinese partners: **HIST** and CAS- Center for Earth Observation and Digital Earth (2013-159)

Invited by Deputy Director (Tianhua Hong) of HIST from 9 to 16 october 2013 to visit HIST, to attend a bilateral meeting and field campaign in Luoyang (<http://www.unesco-hist.org/en-us/news/351.html>)

Invited by HIST to attend Conference co-organized by UNESCO and HIST “Huangshan Dialogue on Space Technologies for World Heritages sites, Biosphere Reserves, potential Geoparks” (26 to 30 May 2014) . Invited presentation entitled: “Space technologies and ICT for Cultural heritage from the Chinese and the Italian perspectives” (<http://www.unesco-hist.org/en-us/resources/HuangshanDialogue/681.html>)

Invited by Deputy Director (Tianhua Hong) of HIST from 15 to 26 october 2014 to attend a bilateral meeting and field campaign in Luoyang, Longmen and Hongcun already investigated using satellite data

Longmen (China) - Investigations

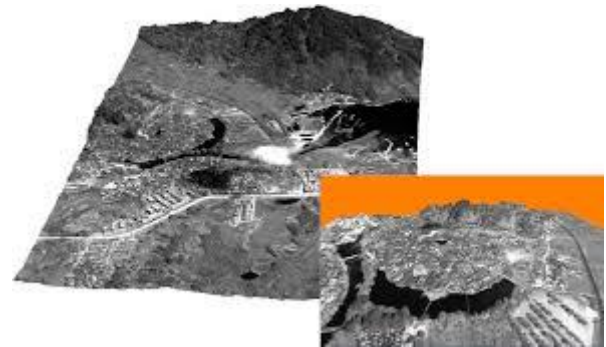
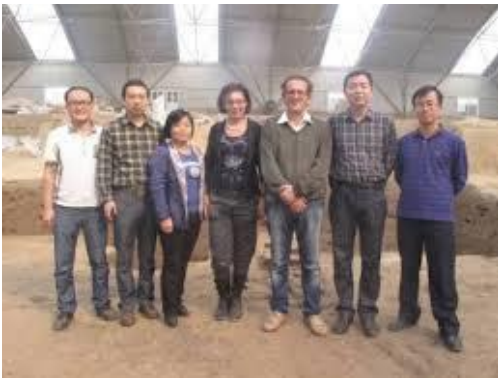
October 2013: Survey and 3d modelling of Longmen Buddhas (Scientific team: F. Gabellone, M. Chiffi, R. Lasaponara, N. Masini)



HongCun (China).- Investigations

November 2013: Survey and 3d modelling of HongCun and its surrounding”.

(Scientific team: G. Bitelli, Fulong Chen, **R. Lasaponara**, N. Masini)



Scientific and professional activity in the field of cultural heritage in UNESCO sites : Argentina

Argentina



She is responsible of the Great relevance project Italy-Argentina funded by MAE titled Argentina: Earth Observation and pilot projects funded by the Ministero degli Affari Esteri --MAE, 17/04/2014, Prot. nr. 0090692, 2014-2016;

Project rationale : Cultural heritage management and preservation is a strategic priority to assure cultural treasure and evidences of the human past to future generations but, at the same time, it also represents a strategic and valuable economic asset, if inspired to sustainable development strategies. This is an extremely important key factor for Argentina and Italy countries which are owners of an extraordinary natural and cultural legacy, which is today particular fragile due to many reasons including industrial risk, pollution impacts and degradation factors

Research activities focused on:

(i) Iguazù (UNESCO) Investigations : Monitoring human pressure using satellite and in situ data for monitoring of compliance with the requirements imposed by UNESCO in the field of protection and preservation of natural and cultural heritage for a sustainable use of them

(ii) Cueva de las Manos, Río Pinturas – UNESCO-: Investigations addressed to improve knowledge on the relationships between climatic change during Olocene and human frequentation and landscape transformation



(iii) La Payunia e Campos Volcanicos Liancanelo e Payun Matru (Dipartimento di Malargue, Mendoza) in the UNESCO nomination list. Investigations addressed to Support local authority in the production and arrangement of formal documentation for the UNESCO candidacy



Scientific and professional activity in the field of cultural heritage in

UNESCO sites : Peru



Peru NAZCA Lines

.- Scientific mission

Since 2008 : she has participated to the ITACA-PERU mission. Most of the investigations related to the use of archaeogeophysical and remote sensing technologies have been varied out in the region of Nazca (Cahuachi, Nazca lines and puquios)

B2.2 Investigation campaigns in Nazca

April 2007, April 2008, November 2008; August 2009; August 2010; September 2011; December 2012; December 2013.

B2.3 she has participated to the **Projects** financed by Italian of Ministry of Foreign Affairs (2010, 2011, 2012, 2013, 2014)

B2.4 Other Projects:

ESA-Cat1: Archaeological and environmental studies in the Nasca region using C- and L-band SAR imagery [2012-2014] P.I.: Francesca Cigna. Co-investigators: **Rosa Lasaponara**, Nicola Masini, Deodato Tapete,

B2.5 Highlights and discoveries in Nazca region

2008-09: Discovery of a buried pyramid near Rio Nasca by means of satellite remote sensing and geomagnetic investigations

2009. Cahuachi : discovery of an altar, a ritual offering in Piramide Naranjada and the tomb of the Priestness Girl.

2011-12, Cahuachi: geophysical support to the discovery and the excavation of Piramide Sur

2013, Satellite map of ancient aqueducts in the Rio Nazca drainage basin

B2.6 Publications

Cigna F., Tapete D., **Lasaponara R.**, Masini N., Amplitude change detection with ENVISAT ASAR to image the cultural landscape of the Nasca region, Peru, *Archaeological Prospection*, 20, 117-131, doi: 10.1002/arp.1451

Tapete D., Cigna F., Masini N., **Lasaponara R.**, Prospection and monitoring of the archaeological heritage of Nasca, Peru, with ENVISAT ASAR, *Archaeological Prospection*, 20, 133-147, doi: 10.1002/arp.1449

Masini N., **Lasaponara R.**, Lancho Rojas J. 2011. On the contribution of satellite data for archaeological research in the Nazca Basin: spanning from site discovery and documentation to palaeo-environmental investigations, *Thule. Rivista italiana di studi americanistici*, vol. 30/31, pp. 81-118.

R. Lasaponara, N.Masini 2009, La piramide di Cahuachi. Nell'area desertica di Rio Nazca una prospezione archeologica da satellite riporta alla luce un grande complesso cerimoniale realizzato in terra cruda, *Darwin*, 29 (2009), gennaio-febbraio, pp. 46-51

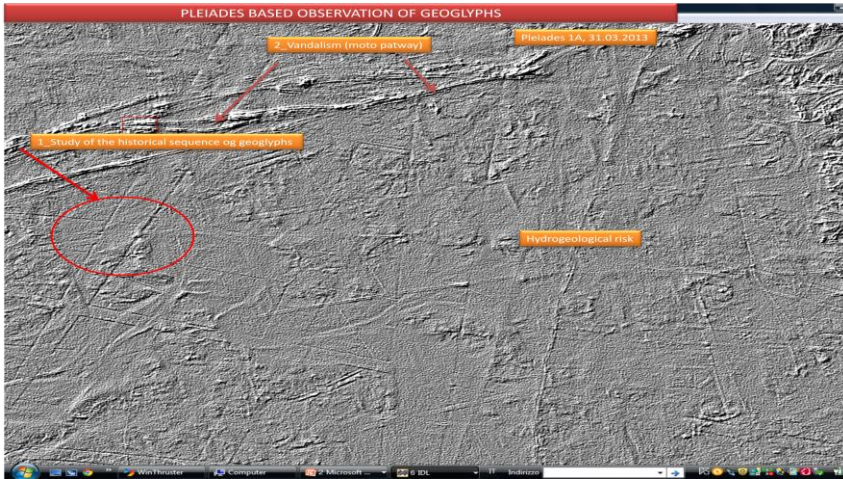
Lasaponara R., Masini N. 2012. Following the Ancient Nasca Puquios from Space, In: Lasaponara R., Masini N. (Eds) 2012, *Satellite Remote Sensing: a new tool for Archaeology*, Springer, Verlag Berlin Heidelberg, ISBN 978-90-481-8800-0, pp. 269-290

Rizzo E., Masini N., **Lasaponara R.**, Orefici G. 2010, ArchaeoGeophysical methods in the Templo del Escalonado (Cahuachi, Nasca, Perù), *Near Surface Geophysics* 8, 433-439, doi:10.3997/1873-0604.2010030.

Masini N., Rizzo E., **Lasaponara R.** 2009. *Teledeteccion y Investigaciones geofísicas en Cahuachi : primeros resultados*, in AA.VV., Nasca. El Desierto de los Dioses de Cahuachi, Graph Ediciones, Lima, pp.250-277 [ISBN-10: 6124535920 ISBN-13: 9786124535925]

Awards

Wien, 3-8 April 2011. EGU Assembly - Paper of special interest “*Multitemporal analysis and archaeogeophysical methods to monitor and face the archaeological looting: the experience in Nasca (Southern, Peru)*” presented in the session “Satellite time series analysis”, Wien 4 apr. 2011.



Archaeological Complex of Pachacamac (Peru)

3.1.- Investigations

2012: Scientific responsible of archaeogeophysical investigations for the study of the ancient water management system

2013: Scientific responsible of the investigation campaign in Tauri Chumpi Inka Palace and the study and mapping of some pyramids.

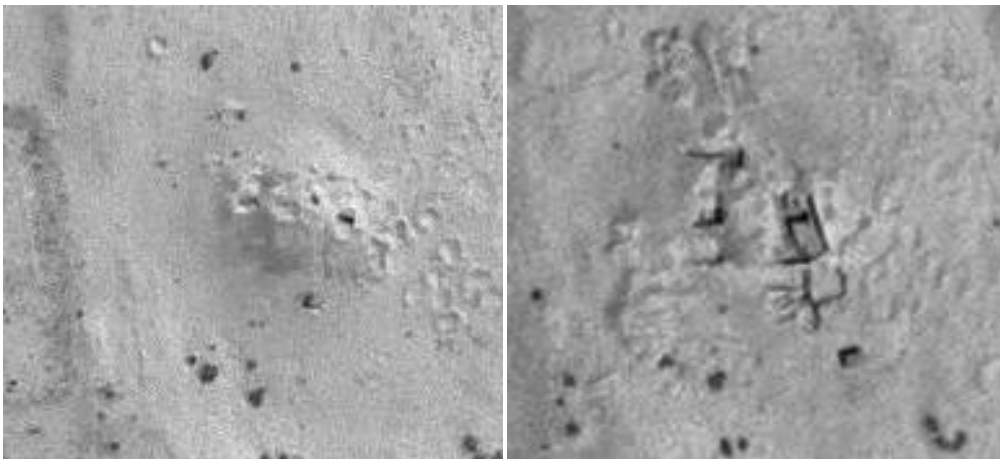
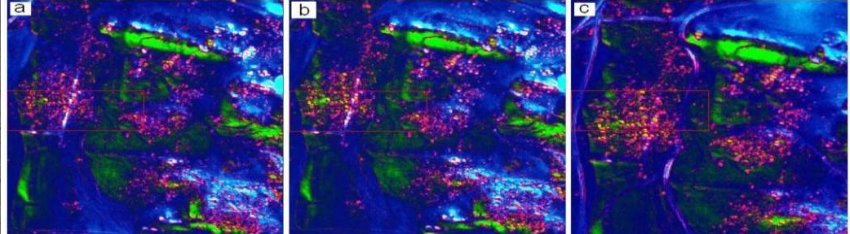


Lake Titicaca (Peru)

.- Investigations

2011: Field survey in Titicac Lake for the study of ancient system of irrigation (waru-waru) and walled inka settlement

Monitoring Looting from space: examples from Peru Nasca region



Publications

1. Lasaponara R., Leucci G., Masini N., Persico R. 2014. Investigating archaeological looting using satellite images and georadar: the experience in Lambayeque in North Peru. *Journal of Archaeological Science*, 42, 216-230, <http://dx.doi.org/10.1016/j.jas.2013.10.032>

Scientific and professional activity in the field of cultural heritage in UNESCO sites : Bolivia

Tiwanaku Bolivia

.- Investigation campaigns

May 2009; June 2014

Highlights

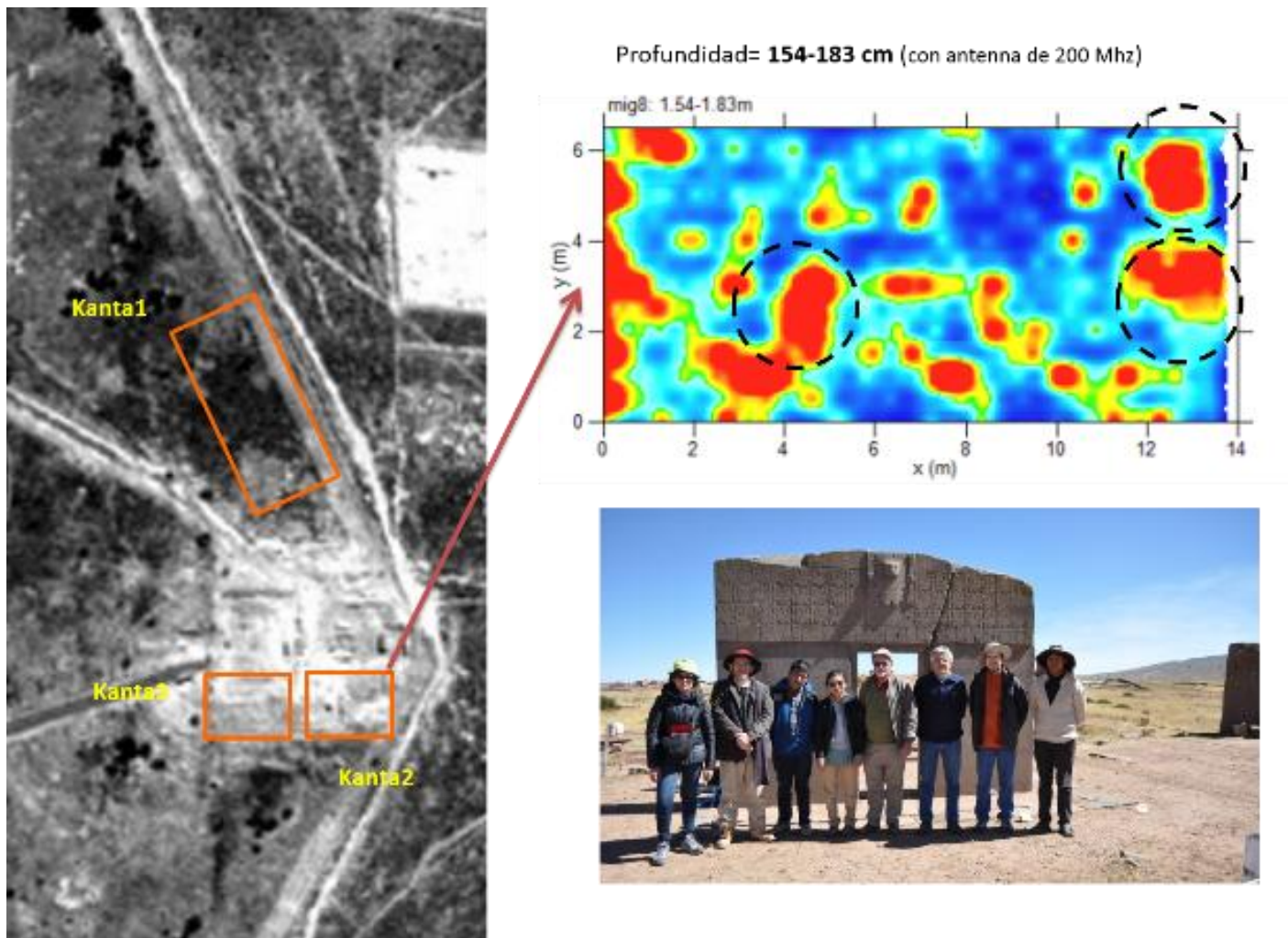
2009: Satellite and geophysical maps of archaeological features near Kantatallita

2014: Archaeogeophysical maps of Akapana, Kantatallita, Puma Punku and Temple in the ceremonial center of Tiwanaku

B3.3 Publications

Lasaponara R., Masini N. 2014. Beyond modern landscape features: New insights in the archaeological area of Tiwanaku in Bolivia from satellite data. *International Journal of Applied Earth Observation and Geoinformation*, **26**, 464–471

And numerous project report in English and Spanish

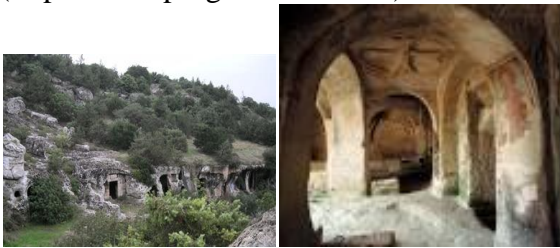


Scientific and professional activity in the field of cultural heritage in UNESCO sites :Italy

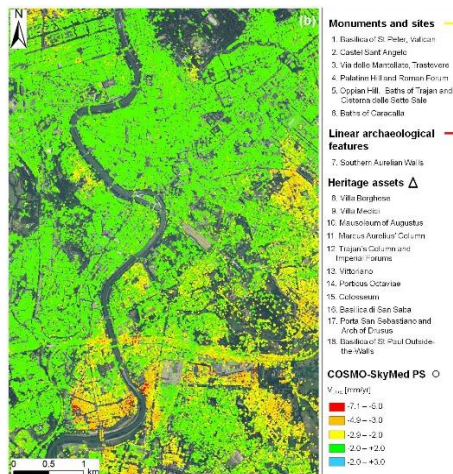
_ Italy Matera

.- Investigation campaigns 2012-2014: Scientific responsible of the MITRA project

(<http://www.progettomitra.net/>)



space monitoring of land degradation
Interferometry
Space Monitoring of Neolithic remains



_ Rome (Italy)

.- Investigations

2013-14: Deformation monitoring of the historical centre of Rome by Interferometry processing of SAR data (team : Francesca Cigna, **Rosa Lasaponara**, Nicola Masini, Pietro Milillo, Deodato Tapete

Publications

Francesca Cigna, **Rosa Lasaponara**, Nicola Masini, Pietro Milillo, Deodato Tapete, Persistent Scatterer Interferometry processing of COSMO-SkyMed StripMap HIMAGE time series to depict deformation of the historic centre of Rome, Italy, in *Remote sensing*, in print.

C Stewart, R Lasaponara, G Schiavon Multi-frequency, polarimetric SAR analysis for archaeological prospection International Journal of Applied Earth Observation and Geoinformation 28

Scientific and professional activity in the field of cultural heritage in UNESCO sites : Africa and Middle EAST

Lybia Sabratha

.- Investigations

June 2013: detection of archaeological features (microrelief) by Cosmo Sky Med (see figures below)



Integration : Very high resolution optical and SAR data. The case of Sabratha in Lybia

Pleiades 1A
(2013-03-02)



Cosmo SkyMed
Spotlight



1. C Stewart, R Lasaponara, G Schiavon 2013 ALOS PALSAR analysis of the archaeological site of Pelusium Archaeological Prospection 20 (2), 109-116

Scientific and professional activity in the field of cultural heritage in UNESCO sites : Turkey

Hierapolis Turkey Investigations

August 2010: participation at the archaeogeophysical campaign in the context of the scientific activities of the Archaeological Mission of Hierapolis (Director F. D'Andria; team: G. Leucci, N. Masini, R. Persico)

2008, 2014: archaeological prediction models for the detection of roman/hellenistic farms in the territory of Hierapolis (R. Lasaponara, N. Masini, G. Scardozi).

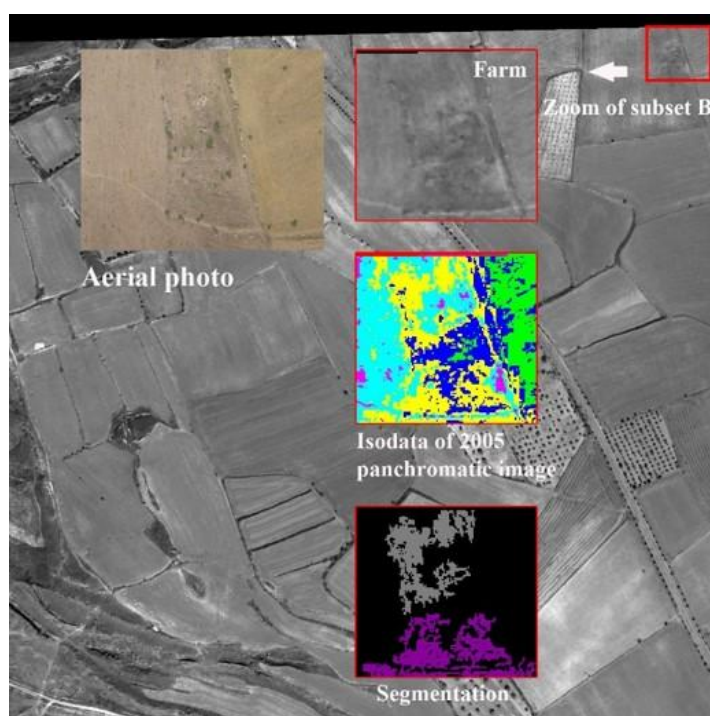
B8.2.- Publications

Lasaponara R., Masini N., and Scardozi G. 2008, New perspectives for satellite-based archaeological research in the ancient territory of Hierapolis (Turkey), *Advances in Geosciences*, 19, 87-96.

R. Lasaponara, N. Masini, G. Scardozi, *Satellite-based archaeological research in the ancient territory of Hierapolis (Turkey)*, in *Advances in Remote Sensing for Archaeology and Cultural Heritage Management*, R. Lasaponara & N. Masini (Eds), Aracne, Roma, 2008, ISBN: 978-88-548-2030-2 , pp. 11-16

Lasaponara R., Masini N., Scardozi G. 2010, Elaborazione di immagini satellitari ad alta risoluzione e ricognizione archeologica per la conoscenza degli insediamenti rurali del territorio di Hierapolis di Frigia (Turchia), in F. D'Andria, D. Malfitana, N. Masini, G. Scardozi (a cura di), *Il Dialogo dei saperi. Metodologie integrate per i beni Culturali*, ESI, Napoli, vol. II, pp. 479-494, ISBN: 8849519117.

Lasaponara R., Leucci G. Masini N., Persico R., and Scardozi G. 2014, Remote sensing integrated approach for preventive archaeology: the ancient rural farms in Phrygia (Turkey), *Remote Sensing*, vol 6, in print.



Educational and dissemination activities in cooperation with UNESCO

I set up (2007) and currently chair 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 (<http://www.ibam.cnr.it/earsel/>)

I am (and the ARGON laboratory I lead) Involved in the UNESCO Open Initiative

<http://www.unesco.org/new/en/natural-sciences/science-technology/space-activities/space-for-heritage/unesco-space-network/private-and-international-partners/earsel/>

Educational

2013 organization and scientific responsible of the II ESA course on the use of remote sensing for archaeology

Second ESA Remote Sensing and Cultural Heritage course "Radar Remote Sensing applications for the study and observation of archaeological sites", in the frame of the IV International EARSeL Workshop on "Advances in Remote Sensing for Archaeology and Cultural Heritage Management", Matera (Italy), June 3-5, 2013 (<http://www.earsel.org/SIG/NCH/2013-2nd-RS-CH-Course/index.php>)

2012 organization and scientific responsible of the I ESA course on the use of radar remote sensing for archaeology

First Remote Sensing and Cultural Heritage course "Radar Remote Sensing applications for the study and observation of archaeological sites", in the frame of the III International EARSeL Workshop on "Advances in Remote Sensing for Archaeology and Cultural Heritage Management", Ghent (Belgium), September 17-18, 2012 (<http://w3.uniroma1.it/geodgeom/corsi-convegni-educazione/2012-Corso%20Ghent/Home.htm>)

Dissemination

Exhibition Sensing the Past: COSMO-SkyMed and radar technologies for Archaeology in the framework of European Space Expo

http://www.asi.it/it/press_room/comunicati_stampa/sensing_the_past_cosmoskymed_and_radar_technologies_for_archaeology

Chair of Conferences and Workshops focused on the use of Remote Sensing for Cultural Heritage carried out with the UNESCO Patronage

Workshops:

[4th EARSeL Workshop on Cultural and Natural Heritage, 6th - 7th June 2013 Matera, Italy.](#)

[3th EARSeL Workshop - "Advances in Remote Sensing for Archaeology and Culturale Heritage Management", Gent, 19-22 September 2012.](#)

[2th EARSeL Workshop joint with AARG - "Ambitions and Realities. Remote Sensing for Archaeology, Research and Conservation", Poznan, 21-24 September 2011.](#)

[1th International EARSeL Workshop - "Advances in Remote Sensing for Archaeology and Culturale Heritage Management", Rome 30 September-4 October 2008.](#)

Sessions on Remote Sensing for Cultural Heritage within EARSeL Symposium and UNESCO Patronage

- 32th Annual EARSeL Symposium, Mykonos, 21-24 May 2012
- 31th Annual EARSeL Symposium, Prague, 30 May – 2 June 2011
- 30th Annual EARSeL Symposium, Paris, 31 May – 3 June 2010 held at the UNESCO headquarter in Paris
- 29th Annual EARSeL Symposium, Chania, 15-18 June 2009
- 28 th Annual EARSeL Symposium, Istanbul Turkey , 15-18 June 2008

C)
CONFERENCES
SCIENTIFIC COMMITTEE
EDITORIAL BOARD



C) INTERNATIONAL CONFERENCES AND WORKSHOPS

C.1 ASSOCIATE EDITOR OF INTERNATIONAL JOURNALS

She is **Editor** of NHESS

She is **component** of the **Editorial Board** of

Remote Sensing

Sensor

Journal of Remote Sensing & GIS

American Journal of Engineering and Applied Sciences

Studies in Surveying and Mapping Sciences

Open Journal of Remote Sensing and Positioning

Archaeology

C.2 GUEST EDITOR OF INTERNATIONAL JOURNALS

□ She is/has been **Guest Editor** of the following special issues of international journals :

- *Journal of Cultural Heritage*, vol. 10S (2009), entitled: "ICT and Remote sensing for Cultural Resource Management and Documentation" (guest editors Lasaponara R., Masini N.)
- *Photo Interpretation European Journal of Applied Remote Sensing* , vol. 46 (2010), entitled "Aerial and Spatial Archaeology : From the Historical Photographs to Lidar" (guest editors Lasaponara R., Hernandez M., Masini N., Deroin J.-P.)
- *Journal of Archaeological Science*, vol. 38 (2011), entitled : " Satellite remote sensing in archaeology: past, present and future perspectives" (guest editors Rosa Lasaponara, Nicola Masini)
- *Archaeological Prospection*, 20 (2013), entitled: " Satellite Radar in Archaeology and Cultural Landscape" (Guest editors: Rosa Lasaponara & Nicola Masini)
- *International Journal of Applied Earth Observation and Geoinformation*, 26 (2014), entitled: "Advance in geocomputation" (Guest editors: Lasaponara R., Murgante B., Masini N., Yong Ge, Asche H.)
-
-

C.3 CHAIR OR CO-CHAIR OF INTERNATIONAL CONFERENCES AND WORKSHOPS

2008

Chair of the I EARSel Workshop "**Advances in Remote Sensing for Archaeology and Cultural Heritage Management**" Rome, on 1-3 October 2008

2008

Chair of the VII EARSel Workshop "**Advances in Remote Sensing for forest fire**" Matera, on 1-3 September 2009

2011

- Santander (Spagna), 20-23 June 2011. Chair of the Workshop : “Remote sensing Data Analysis, modeling, interpretation and Applications: from a global view to a local analysis”, within Conference ICCSA (International Conferences on Computational Science and Its Applications) 2011

2012

- Salvador de Bahia (Brasile), 18-21 June 2012. Chair of the Workshop : “Remote sensing Data Analysis, modeling, interpretation and Applications: from a global view to a local analysis”, within Conference ICCSA (International Conferences on Computational Science and Its Applications) 2012

2013

- Matera (Italia), 3-6 June 2013. Chair of the 33rd EARSeL Symposium 2013 “Towards Horizon 2020: Earth Observation and Social Perspectives”
- Matera (Italia), 6-7 June 2013. Chair of the 4th EARSEL Workshop on Cultural and Natural Heritage in conjunction with the 33rd EARSeL Symposium 2013
- Ho Chi Minh City (Vietnam), 24-27 June. Chair of the Workshop : “Remote sensing Data Analysis, modeling, interpretation and Applications: from a global view to a local analysis” within ICCSA Conference 2013
- Potenza (Italia), 4 October 2013. Chair of the 1st International Workshop of the MITRA project : "Cultural heritage between knowledge and monitoring. Multiscale approaches and smart technologies"
- Potenza (Italia), 4 September 2014. Chair of the II International Workshop of the MITRA project : "Cultural heritage between knowledge and monitoring. Multiscale approaches and smart technologies"

C.4 CONVENER OF SCIENTIFIC SESSIONS WITHIN INTERNATIONAL CONFERENCES AND SYMPOSIUM 2007

- Firenze, 17-20 september 2007. Spie Europe Remote Sensing Symposium. Convener of session on “*Remote sensing for archaeology, cultural and natural heritage*”, within the Conference “*Remote Sensing for Environmental Monitoring, GIS Applications, and Geology*”.

2008

- Cardiff, 15-19 september 2008. Spie Europe Remote Sensing Symposium. Convener of session on “*Remote sensing for archaeology, cultural and natural heritage*”, within the Conference “*Remote Sensing for Environmental Monitoring, GIS Applications, and Geology*”.

2009

- Wien, 19-24 April. EGU General Assembly. Co-convener of the session on NP4“*satellite time series analysis*”
- Berlin, 31 august – 3 september 2009. Spie Europe Remote Sensing Symposium. Covener of session on “*Remote sensing for archaeology, cultural and natural heritage*”, within the Conference “*Remote Sensing for Environmental Monitoring, GIS Applications, and Geology*”.

2010

- Wien, 2-7 May. EGU General Assembly. Convener of the session NP4“*satellite time series analysis*”

C.5 MEMBER OF SCIENTIFIC AND/OR PROGRAMME COMMITTEE OF INTERNATIONAL CONFERENCES

2007

- Firenze, 17-20 September 2007. Spie Europe Remote Sensing Conference. Member of the Programme Committee of the Conference “*Remote Sensing for Environmental Monitoring, GIS Applications, and Geology*”.

2008

- Cardiff, 15-19 september 2008. Spie Europe Remote Sensing Conference. Member of the Programme Committee of the Conference “*Remote Sensing for Environmental Monitoring, GIS Applications, and Geology*”.
- Rome, on 1-3 October 2008. Member of the Scientific and Programme Committee of the I EARSeL Workshop “Advances in Remote Sensing for Archaeology and Cultural Heritage Management”

2009

- Kyung Hee University-Global Campus, Yongin (Korea), June 29th –July 2nd. Member of the Programme Committee of the *Fourth International Workshop on "Geographical Analysis, Urban Modeling, Spatial Statistics" GEOG-AN-MOD 09*.
- Berlin, 31 august – 3 september 2009. Spie Europe Remote Sensing Conference. Member of the Programme Committee of Conference “*Remote Sensing for Environmental Monitoring, GIS Applications, and Geology*”.

2010

- Fukuoka (Giappone), 23-26 March 2010. Member of the Programme Committee of the 5th Workshop on "Geographical Analysis, Urban Modeling, Spatial Statistics" GEOG-AN-MOD 10
- Maryland, USA 28-30 July 2010. Member of Programme Committee of the Workshop Intelligent Spatial Decision Analysis ISDA '10 in conjunction with International Symposium on Intelligent Decision Technologies (IDT'10)
-

2011

- Gosier, Guadeloupe (France) February 23-28, 2011. Member of the Technical Program Committee of the Third International Conference on Advanced Geographic Information Systems, Applications, and Services: GEOProcessing 2011

2012

- Valencia, January 30-February 4, 2012. Member of the Technical Program Committee of “The Forth International Conference on Advanced Geographic Information Systems, Applications, and Services: GEOProcessing 2012”.

2013

- Paphos (Cyprus), 8-10 April 2013.. Member of the Internationa Scientific Committee of the “First International Conference on Remote Sensing and Geoinformation” (RSCy 2014)
- Matera (Italia), 3-6 giugno. Member of the International Scientific Committee e Organizing Committee of the 33rd EARSeL Symposium 2013 “Towards Horizon 2020: Earth Observation and Social Perspectives”
- Ho Chi Minh City (Vietnam), 24-27 giugno. Member of the Programme Committee of the 33rd International Conferences on Computational Science and Its Applications – ICCSA 2013
- Danang (Vietnam), 18-21 Dicembre 2013. Member of the International Scientific Committee of the “5th FTRA International Conference on Computer Science and its Applications (CSA-13)

2014

- Paphos (Cyprus), 7-10 April 2014. Member of the International Scientific Committee of the “Second International Conference on Remote Sensing and Geoinformation”. (RSCy 2014)
- Lemessos (Cyprus), 3-8 November 2014. Member of the International Scientific Committee of the International Conference on Cultural heritage - Euromed 2014.

2015

- Paphos (Cyprus), 16-19 March 2015. Member of the International Scientific Committee of the “Third International Conference on Remote Sensing and Geoinformation”. (RSCy 2015)

C.6 CHAIRPERSON OF SCIENTIFIC SESSIONS OF INTERNATIONAL CONFERENCES

2008

- Rome, 1-3 October 2008. I EARSel Workshop “**Advances in Remote Sensing for Archaeology and Cultural Heritage Management**”. Chairperson of the session : “*3D visualization and Virtual reconstruction of landscape and sites*”

2009

- Wien, 23 April. EGU General Assembly. Chairperson of the oral session “NP4“*satellite time series analysis*””
- Berlin, 31 August – 3 September 2009. Spie Europe Remote Sensing Conference. Chairperson of the session “*Archaeology, Cultural and Natural Heritage Geospatial Infrastructure II*”

2010

- Fukuoka (Giappone), 23-26 March 2010. 5th Workshop on "Geographical Analysis, Urban Modeling, Spatial Statistics" GEOG-AN-MOD 10. Chairperson of the session “Geosimulation of urban phenomena”, 23 March 2010..
- Wien, 2-7 May. EGU General Assembly. Chairperson of the oral session “NP4“*satellite time series analysis*””

2011

- Vienna, 3-8 April. EGU General Assembly. Chairperson of the oral session NP4“*satellite time series analysis*””

2012

- Vienna, 22-27 April. EGU General Assembly. Chairperson of the oral session NP4“*satellite time series analysis*””
- Salvador de Bahia (Brazil), 18-21 June Chairperson of the oral session of the Workshop : “Remote sensing Data Analysis, modeling, interpretation and Applications: from a global view to a local analysis” nell’ambito della Conferenza ICCSA 2012

2013

- Vienna, 7-12 April. EGU General Assembly. Chairperson of the oral session NP4“satellite time series analysis”

C.10 REVIEWER OF JOURNAL, PROCEEDINGS AND PROJECTS

C10.1 Reviewer for the following journals

- American Journal of Engineering and Applied Sciences*
- Archaeometry*
- Geological Society of London*
- IEEE Journal of selected topics in applied earth observations and remote sensing (j-stars)*
- International Journal of Digital Earth*
- International Journal of Geophysics*
- International Journal of Remote Sensing*
- Journal of Archaeological Science*
- Journal of Cultural Heritage*
- Journal of Geophysics and Engineering*
- Near Surface Geophysics*
- Remote Sensing*
- Sensors*
- Applied Energy*
- Construction & Building Materials*
- The Egyptian Journal of remote Sensing and Space sciences*
- Journal on Computing and Cultural Heritage*
- Natural Hazards and Earth System Sciences*

C10.2 Reviewer for the following Proceedings of International Conferences

- Geoprocessing (2010)*
- ICCSA (2010, 2011, 2012)*
- EARSeL symposium and workshops (2008-12)*
- CAA – Computer Applications and Qualitative methods in Archaeology (2012, 2013)*

C10.3 Reviewer for the following International Research Projects and Programme

Research Programme for Earth Observation "Stereo II" (2006-13) BELSPO (Belgium)

*Portuguese Foundation for Science and Technology (FCT): proposal PTDC/EPH-ARQ/5201/2012.
Title: Multi-source 4d mapping Conimbriga: high tech tools for the diachronic study of ancient Urbanism*

C.11 Member of Committee/Panels

2012

Member of the Italian National Consultant Panel as stakeholder of activities of the Joint Programming Initiative on “Cultural Heritage and global change: a new Challenge for Europe”

D. PUBLICATIONS



D) LIST OF PUBLICATIONS

D.1A) PAPERS ON INTERNATIONAL JCR JOURNALS (ISI).

2. **Lasaponara R.**, Leucci G. Masini N., Persico R., and Scardozzi G. 2014, Remote sensing integrated approach for preventive archaeology: the ancient rural farms in Phrygia (Turkey), *Remote Sensing*, vol 6, in print.
3. G Nolè, B Murgante, G Calamita, A Lanorte, **R Lasaponara** 2015 Evaluation of Urban Sprawl from space using open source technologies *Ecological Informatics* DOI: 10.1016/j.ecoinf.2014.05.005 in print.
4. C Stewart, **R Lasaponara**, G Schiavon Multi-frequency, polarimetric SAR analysis for archaeological prospection *International Journal of Applied Earth Observation and Geoinformation* 28
5. D Tapete, F Cigna, **R Lasaponara**, N Masini Multi-scale Detection of Changing Cultural Landscapes in Nasca (Peru) Through ENVISAT ASAR and TerraSAR-X *Engineering Geology for Society and Territory-Volume 8*, 339-343
6. Danese M., Masini N., Biscione M., **Lasaponara R.** 2014. Predictive modeling for preventive Archaeology: Overview and case study. *Central European Journal of Geosciences*. March 2014, Volume 6, Issue 1, 42-55
7. **Lasaponara R.**, Leucci G., Masini N., Persico R. 2014. Investigating archaeological looting using satellite images and georadar: the experience in Lambayeque in North Peru. *Journal of Archaeological Science*, 42, 216-230, <http://dx.doi.org/10.1016/j.jas.2013.10.032>
8. **Lasaponara R.**, Masini N. 2014. Beyond modern landscape features: New insights in the archaeological area of Tiwanaku in Bolivia from satellite data. *International Journal of Applied Earth Observation and Geoinformation*, **26**, 464–471, <http://dx.doi.org/10.1016/j.jag.2013.09.00>.
9. **Lasaponara R.**, Murgante B., Masini N., Yong Ge, Asche H. 2014. Advance in geocomputation. *International Journal of Applied Earth Observation and Geoinformation*, **26**, 429–431, <http://dx.doi.org/10.1016/j.jag.2013.10.004>
10. **Lasaponara R.**, Masini N. 2013, Satellite Synthetic Aperture Radar in Archaeology and Cultural Landscape: An Overview. *Archaeological Prospection*, 20, 71-78, doi: 10.1002/arp.1452
11. C Stewart, **R Lasaponara**, G Schiavon 2013 ALOS PALSAR analysis of the archaeological site of Pelusium *Archaeological Prospection* 20 (2), 109-116
12. Cigna F., Tapete D., **Lasaponara R.**, Masini N., Amplitude change detection with ENVISAT ASAR to image the cultural landscape of the Nasca region, Peru, *Archaeological Prospection*, 20, 117-131, doi: 10.1002/arp.145
13. Tapete D., Cigna F., Masini N., **Lasaponara R.**, Prospection and monitoring of the archaeological heritage of Nasca, Peru, with ENVISAT ASAR, *Archaeological Prospection*, 20, 133-147, doi: 10.1002/arp.144
14. **Lasaponara R.**, Masini N., Holmgren R., Backe Forsberg Y., Integration of aerial and satellite remote sensing for archaeological investigations: a case study of the Etruscan site San Giovenale , *Journal of Geophysics and Engineering*, vol. 9, S26-S39, doi:10.1088/1742-2132/9/4/S26.
15. **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.
16. **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.
17. **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.
 18. 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.of the Monumental Heritage, *Journal Geophysics Engineering* 7, 190-199, doi:10.1088/1742-2132/7/2/S05.
 19. **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.
 20. Masini N., **Lasaponara R. 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].
 21. **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].
 22. Lasaponara R., Masini N. 2009, Editorial of Special Issue on “Remote Sensing for Cultural Heritage Management and Documentation”, *Journal of Cultural Heritage*, 10S, pp. e1–e2 [doi:10.1016/j.culher.2009.10.006].
 23. 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].
 24. **Lasaponara R.**, Masini N. 2007, Detection of archaeological crop marks by using satellite QuickBird, *Journal of Archaeological Science*, 34, pp. 214-221 [ISSN: 0305-4403] [[10.1016/j.jas.2006.04.014](https://doi.org/10.1016/j.jas.2006.04.014)].
 25. Masini N., **Lasaponara R.** 2007, Investigating the spectral capability of QuickBird data to detect archaeological remains buried under vegetated and not vegetated areas , *Journal of Cultural Heritage*, 8 (1), pp. 53-60. [ISSN: 1296-2074]
 26. Masini N., **Lasaponara R.** 2006, Satellite-based recognition of landscape archaeological features related to ancient human transformation, *Journal of Geophysics and Engineering*, 3, pp. 230-235. [ISSN: 1742-2132] [doi:10.1088/1742-2132/3/3/004]
 27. **Lasaponara R.**, Masini N. 2006, Identification of archaeological buried remains based on Normalized Difference Vegetation Index (NDVI) from Quickbird satellite data, *IEEE Geoscience and Remote Sensing Letters*, vol. 3(3), pp. 325-328 [ISSN: 1545-598X] [doi: 10.1109/LGRS.2006.871747]
 28. **Lasaponara R.**, Masini N. 2006, On the potential of Quickbird data for archaeological prospection, *International Journal of Remote Sensing*, 27 (15-16), pp. 3607-3614. [ISSN: 0143-1161] [DOI: 10.1080/01431160500333983]
 29. **Lasaponara R.**, Masini N. 2005, QuickBird-based analysis for the spatial characterization of archaeological sites: case study of the Monte Serico Medioeval village, *Geophysical Research Letter*, 32(12), L12313 [ISSN: 0094-8276] [doi:10.1029/2005GL022445] Impact factor : 2,959.

D.1B) PAPERS ON INTERNATIONAL JOURNALS (NON JCR)

30. **R. Lasaponara**, N. Masini 2013. Remote Sensing in Archaeology: an overview, *Journal of Aeronautics and Space Technologies*, 6 (1), 7-17
31. Masini N., **Lasaponara R.**, Lancho Rojas J. 2011. On the contribution of satellite data for archaeological research in the Nazca Basin: spanning from site discovery and documentation to palaeo-environmental investigations, *Thule. Rivista italiana di studi americanistici*, vol. 30/31, pp. 81-118.
32. **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.
33. Masini N., Coluzzi R., **Lasaponara R.** 2010, Investigating lost medieval villages using Satellite and Airborne Laser Scanning: the case of Yrsum in Basilicata (Southern Italy), *Archeologia e Calcolatori*, 121, pp. 127-144.
34. Masini N., Ciriello R., Marchetta I., Guariglia A., Coluzzi R., **Lasaponara R.** 2011, Lidar e ricognizioni sul campo: integrazione dati per la ricostruzione della forma urbana di un villaggio medievale abbandonato. Il caso di Monteserico, *Archeologia Aerea*, 5, pp. 273-282
35. Masini N., Coluzzi R., **Lasaponara R.** 2010. Contribution d'un système Lidar pour la reconstruction de la trame urbaine d'un village médiéval abandonné, *Photo Interpretation European Journal of Applied Remote Sensing*, 46: 21-27, 30-40.
36. **Lasaponara R.**, Masini N., and Scardozzi G. 2008, New perspectives for satellite-based archaeological research in the ancient territory of Hierapolis (Turkey), *Advances in Geosciences*, 19, 87-96 [ISSN: 1680-7340]
37. Masini N., Rizzo E., **Lasaponara R.**, and Orefici G. 2008, Integrated remote sensing techniques for the detection of buried archaeological adobe structures: preliminary results in Cahuachi (Peru), *Advances in Geosciences*, 19, 75-82. [ISSN: 1680-7359]
38. **Lasaponara R.**, Masini N., Scardozzi G. 2007, Immagini satellitari ad alta risoluzione e ricerca archeologica: applicazioni e casi di studio con riprese pancromatiche e multispettrali di QuickBird, in *Archeologia e Calcolatori*, **18**, pp. 187-227. [ISSN: 1120-6861]

D.2) PATENT

Lasaponara R lanorte Antonio

**An Integarted system for Fire monitoring Patent prot. 408719 del 24 agosto 2009
sistema di lotta attiva agli incendi boschivi, n. 2008 A0016**

D.3A) EDITORS OF SPECIAL ISSUES ON INTERNATIONAL JCR JOURNALS (ISI)

39. **Lasaponara R.**, Murgante B., Masini N., Yong Ge, Asche H. 2014. Special issue on "Advance in geocomputation ", *International Journal of Applied Earth Observation and Geoinformation*, 26.
40. **Lasaponara R.**, Masini N. 2013. Special issue on "Satellite Radar in Archaeology and Cultural landscape", *Archaeological Prospection*, vol. 20, issue 2
41. **Lasaponara R.**, Masini N. 2011, Special Issue on "Satellite remote sensing in archaeology: past, present and future perspectives", *Journal of Archaeological Science*, vol. 38.

42. **Lasaponara R.**, Masini N. 2009, Special Issue on “Remote Sensing for Cultural Heritage Management and Documentation”, *Journal of Cultural Heritage*, vol. 10S.

D.3B) EDITORS OF SPECIAL ISSUES ON INTERNATIONAL JOURNALS (NON JCR)

43. Lasaponara R., Hernandez M., Masini N., Derooin 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.

D.4) BOOKS WITH ISBN;

44. **Lasaponara R.**, Masini N., Biscione M., Hernandez M. 2013 (Eds). Earth Observation: a window on the Past. Proceedings of the 4th EARSeL Workshop on "Remote Sensing for Cultural Heritage", 6-7 June 2013 - Matera, Italy. EARSeL and CNR IBAM/IMAA Publishers, Potenza.

45. **Lasaponara R.**, Masini N., Biscione M. 2013 (Eds), Earth Observation and Social Perspectives. Towards Horizon 2020. Proceedings of the 33rd EARSeL Symposium. Matera (Italy), 3-6 June 2013. EARSeL and CNR publisher, 2013.

46. **Lasaponara R.**, Masini N. (Eds) 2012, Satellite Remote Sensing: a new tool for Archaeology, Springer, Verlag Berlin Heidelberg, Series: Remote Sensing and Digital Image Processing, Vol. 16, 364 p. 150 illus., 88 in color, ISBN 978-90-481-8800-0

47. **Lasaponara R.**, Masini N. (Eds.) 2008, Advances in Remote Sensing for Archaeology and Cultural Heritage Management, Proc. of I International EARSeL Workshop “Advances in Remote Sensing for Archaeology and Cultural Heritage Management”, Rome 30 settembre-4 October, 2008, Aracne, Roma, 2008. ISBN: 978-88-548-2030-2

D.5) BOOK CHAPTERS WITH ISBN;

48. Masini N., **Lasaponara R.** 2013. Airborne Lidar in Archaeology: Overview and a Case Study. In: Computational Science and Its Applications – ICCSA 2013, Lecture Notes in Computer Science Volume 7972, 2013, pp 663-676, doi: 10.1007/978-3-642-39643-4_48, ISSN: 0302-9743, Springer Berlin Heidelberg.

49. **Lasaponara R.**, Masini N. 2012. Investigating satellite Landsat TM and ASTER multitemporal data set to discover ancient canals and aqueduct systems, in Lecture Notes in Computer Science, Vol. 7335, Issue 3, 2012, Pages 497-511, 12th International Conference on Computational Science and Its Applications, ICCSA 2012; Salvador de Bahia; 18 June-21 June 2012

50. **Lasaponara R.**, Masini N. 2012. Remote Sensing in Archaeology: From Visual Data Interpretation to Digital Data Manipulation, In: Lasaponara R., Masini N. (Eds) 2012, Satellite Remote Sensing: a new tool for Archaeology, Springer, Verlag Berlin Heidelberg, ISBN 978-90-481-8800-0, pp. 3-16

51. **Lasaponara R.**, Masini N. 2012. Image Enhancement, Feature Extraction and Geospatial Analysis in an Archaeological Perspective, In: Lasaponara R., Masini N. (Eds) 2012, Satellite Remote Sensing: a new tool for Archaeology, Springer, Verlag Berlin Heidelberg, ISBN 978-90-481-8800-0, pp. 17-64

52. **Lasaponara R.**, Masini N. 2012. Pattern Recognition and Classification Using VHR Data for Archaeological Research, In: Lasaponara R., Masini N. (Eds) 2012, Satellite Remote Sensing: a new tool for Archaeology, Springer, Verlag Berlin Heidelberg, ISBN 978-90-481-8800-0, pp. 65-86.

53. **Lasaponara R.**, Masini N. 2012. Pan-Sharpener Techniques to Enhance Archaeological Marks: An Overview, In: Lasaponara R., Masini N. (Eds) 2012, Satellite Remote Sensing: a new

tool for Archaeology, Springer, Verlag Berlin Heidelberg, ISBN 978-90-481-8800-0, pp. 87-110.

54. **Lasaponara R.**, Danese M., Masini N. 2012. Satellite-Based Monitoring of Archaeological Looting in Peru, In: Lasaponara R., Masini N. (Eds) 2012, *Satellite Remote Sensing: a new tool for Archaeology*, Springer, Verlag Berlin Heidelberg, ISBN 978-90-481-8800-0, pp. 177-193.

55. **Lasaponara R.**, Masini N. 2012. Following the Ancient Nasca Puquios from Space, In: **Lasaponara R.**, Masini N. (Eds) 2012, *Satellite Remote Sensing: a new tool for Archaeology*, Springer, Verlag Berlin Heidelberg, ISBN 978-90-481-8800-0, pp. 269-290.

56. Masini N., **Lasaponara R.**, Rizzo E., Orefici G. 2012. Integrated Remote Sensing Approach in Cahuachi (Peru): Studies and Results of the ITACA Mission (2007–2010), In: Lasaponara R., Masini N. (Eds) 2012, *Satellite Remote Sensing: a new tool for Archaeology*, Springer, Verlag Berlin Heidelberg, ISBN 978-90-481-8800-0, pp. 307-344.

57. **Lasaponara R.**, Masini N. 2011. On the Processing of Aerial LiDAR Data for Supporting Enhancement, Interpretation and Mapping of Archaeological Features. In B. Murgante et al. (Eds.), *Computational Science and its applications - ICCSA 2011, Part II, LNCS 6783*, pp. 392–406, Springer-Verlag Berlin Heidelberg, ISBN 978-3-642-21886-6, doi 10.1007/978-3-642-21887-3.

58. Masini N., Coluzzi R., **Lasaponara R.** 2011. On the Airborne Lidar Contribution in Archaeology: from Site Identification to Landscape Investigation. In : *Laser Scanning, Theory and Applications*, Chau-Chang Wang (Ed.), Publisher Intech, ISBN 978-953-307-205-0, pp. 263-290.

59. Masini N., **Lasaponara R.** 2010, *Processing di immagini satellitari ad alta risoluzione per l'archeologia: metodologia e casi studio*, in F. D'Andria, D. Malfitana, **N. Masini**, G. Scardozzi (a cura di), *Il Dialogo dei saperi. Metodologie integrate per i beni Culturali*, ESI, Napoli, vol. II, pp. 463-478, ISBN: 8849519117.

60. **Lasaponara R.**, Masini N., Scardozzi G. 2010, *Elaborazione di immagini satellitari ad alta risoluzione e ricognizione archeologica per la conoscenza degli insediamenti rurali del territorio di Hierapolis di Frigia (Turchia)*, in F. D'Andria, D. Malfitana, **N. Masini**, G. Scardozzi (a cura di), *Il Dialogo dei saperi. Metodologie integrate per i beni Culturali*, ESI, Napoli, vol. II, pp. 479-494, ISBN: 8849519117.

61. Masini N., **Lasaponara R.** 2010, *Facing the archaeological looting in Peru by local spatial autocorrelation statistics of Very high resolution satellite imagery*, Proceedings of ICSSA, The 2010 International Conference on Computational Science and its Application (Fukuoka-Japan, March 23 – 26, 2010), David Taniar, Osvaldo Gervasi, Beniamino Murgante, Eric Pardede, Bernady O. Apduhan (Ed.), Springer, Berlin., pp. 261-269.

62. **Lasaponara R.**, Coluzzi R., Lanorte A., Masini N. 2010, *Estimating burn severity in a fragmented landscape using satellite MODIS data*, Proceedings of ICSSA, The 2010 International Conference on Computational Science and its Application (Fukuoka-Japan, March 23 – 26, 2010), David Taniar, Osvaldo Gervasi, Beniamino Murgante, Eric Pardede, Bernady O. Apduhan (Ed.), Springer, Berlin, pp. 372-385.

63. Danese M., Biscione M., Coluzzi R., **Lasaponara R.**, Murgante B., Masini N. 2009, *An Integrated Methodology for Medieval Landscape Reconstruction: The Case Study of Monte Serico*, in O. Gervasi et al. (Eds.), *Computational Science and Its Applications – ICCSA 2009*, Proceedings of International Conference, Seoul, Korea, June 29-July 2, 2009, © Springer-Verlag Berlin Heidelberg, part. I, LNCS 5592, pp. 328–340

64. Masini N., Rizzo E., **Lasaponara R.** 2009. *Teledeteccion y Investigaciones geofísicas en Cahuachi : primeros resultados*, in AA.VV., *Nasca. El Desierto de los Dioses de Cahuachi*, Graph Ediciones, Lima, pp.250-277 [ISBN-10: 6124535920 ISBN-13: 9786124535925]

65. **Lasaponara R.**, Masini N. 2007, *Primi rilievi dell'insediamento medievale di Monte Irsi*

attraverso tecniche di telerilevamento satellitare, in AA.VV., *Archivi e reti monastiche tra Alvernia e Basilicata: il priorato di Santa Maria di Jusso e la Chaise-Dieu*, a cura di F. Panarelli, Congedo Ed., Galatina, pp. 193-204, ISBN: 9788880867357.

66. **Lasaponara R.**, Potenza M.R., Coluzzi R., Lanorte A., Masini N., *Applicazione di tecniche di remote sensing per lo studio del primo insediamento fiorentino a Jure Vetere*, in AA.VV., *Jure Vetere. Ricerche archeologiche nella prima fondazione monastica di Gioacchino da Fiore (indagini 2001-2005)*, a cura di C.D. Fonseca, D. Roubis, F. Sogliani, Ed. Rubbettino, Soneria Mannelli (CZ), 2007, pp. 67-76. ISBN: 8849818459

D.6) PAPERS ON INTERNATIONAL CONFERENCE PROCEEDINGS

67. Gabellone F., Lanorte A., **Lasaponara R.**, Masini N. 2013. Development of a Serious Game on the history of a medieval village based on remote sensing. In: Lasaponara R., Masini N., Biscione M., Hernandez M. 2013 (Eds). *Earth Observation: a window on the Past. Proceedings of the 4th EARSeL Workshop on "Remote Sensing for Cultural Heritage"*, 6-7 June 2013 - Matera, Italy. EARSeL and CNR IBAM/IMAA Publishers, Potenza, pp. 43-54

68. Sabia C., Masini N., **Lasaponara R.** 2013. On the visibility of crop marks through seasons preliminary results from multi-date Google Earth pictures and ground truth. In: Lasaponara R., Masini N., Biscione M., Hernandez M. 2013 (Eds). *Earth Observation: a window on the Past. Proceedings of the 4th EARSeL Workshop on "Remote Sensing for Cultural Heritage"*, 6-7 June 2013 - Matera, Italy. EARSeL and CNR IBAM/IMAA Publishers, Potenza, pp. 377-388.

69. Danese M., Murgante B., Masini N. 2013. Archaeological risk and spatial analysis. How to compare urban sprawl and archaeological sensibility maps. In Lasaponara R., Masini N., Biscione M. (Eds), *Earth Observation and Social Perspectives. Towards Horizon 2020. Proceedings of the 33rd EARSeL Symposium. Matera (Italy), 3-6 June 2013*. EARSeL and CNR publisher, 2013, pp. 869-874.

70. Danese M., Masini N., Biscione M., **Lasaponara R.** 2013. GIS and archaeology: a spatial predictive model for neolithic sites of the Tavoliere (Apulia), Proc. SPIE 8795, *First International Conference on Remote Sensing and Geoinformation of the Environment (RSCy2013)*, 87950I (August 5, 2013); doi:10.1117/12.2027954

71. Masini N., Coluzzi R., **Lasaponara R.** 2011. Lidar-based remote sensing for archaeological applications, in Victoria Lenz-Wiedemann and Georg Bareth (eds), *Proceedings of the ISPRS WG VII/5 Workshop*, 18.-19.11.2010, Cologne, pp. 79-91.

72. Masini N., Ciminale M., **Lasaponara R.**, Persico R., *Integrated approach to archaeogeophysics: methodological issues, applications and new perspectives*, in S. Kadioglu (Ed.), *Proceedings of the 19th International Geophysical Congress and Exhibition of Turkey*, Ankara, 23-25.11.2010

73. **Lasaponara R.**, Coluzzi R., Guariglia A., Masini N. 2010. On the integration of airborne of full-waveform laser scanning and satellite images to detect and map archaeological remains . In Guarino A. (Ed.), *Proceedings of 4th International Congress on "Science and Technology for the Safeguard of Cultural heritage of the Mediterranean Basin*, Cairo, 6-8.12.2009, vol. I, pp. 220-223

74. **Lasaponara R.**, Coluzzi R., Masini N. 2010. On the use of VHR satellite data in Archaeology and Palaeoenvironmental studies. In Guarino A. (Ed.), *Proceedings of 4th International Congress on "Science and Technology for the Safeguard of Cultural heritage of the Mediterranean Basin*, Cairo, 6-8.12.2009, vol. I, p. 219

75. **Lasaponara R.**, N. Masini 2007, *Statistical evaluation of spectral capability of satellite*

QuickBird data in detecting archaeological buried remains. 27th EARSeL Symposium Geoinformation in Europe Bolzano/Bozen, Italy, 4-7 June 2007.

76. **Lasaponara R.**, Masini N., Aiazzi B, Alparone L, Baronti S. 2008, Satellite-based enhancement of archaeological marks through data fusion techniques, in Proceedings of SPIE, Remote Sensing for Environmental Monitoring, GIS Applications, and Geology VIII, vol. 7110, Ulrich Michel; Daniel L. Civco; Manfred Ehlers; Hermann J. Kaufmann, Editors, 711024.

77. L. Nuzzo, N. Masini; E. Rizzo, **R. Lasaponara** 2007, Integrated and multiscale NDT for the study of architectural heritage, in Proceedings of SPIE, Remote Sensing for Environmental Monitoring, GIS Applications, and Geology VIII, vol. 7110, Ulrich Michel; Daniel L. Civco; Manfred Ehlers; Hermann J. Kaufmann, Editors, 711015

78. Masini N., **Lasaponara R.**, Coluzzi R., Orefici G. 2008, *New perspectives for archaeological research by satellite imagery in Cahuachi (Peru)*, in Advances in Remote Sensing for Archaeology and Cultural Heritage Management, R. Lasaponara & N. Masini (Eds), Aracne, Roma, ISBN: 978-88-548-2030-2, pp.429-433.

79. Y. Backe Forsberg , R. Holmgren, A. Lanorte, **R. Lasaponara**, N. Masini, *Airborne and satellite Multispectral imagery at the Etruscan site of San Giovenale, Blera (Lazio) – Preliminary results*, in Advances in Remote Sensing for Archaeology and Cultural Heritage Management, R. Lasaponara & N. Masini (Eds), Aracne, Roma, 2008, ISBN: 978-88-548-2030-2, pp. 225-228

80. Masini N., Rizzo E., **Lasaponara R.**, Orefici G. 2008, *Integrated remote sensing techniques for the detection of buried archaeological adobe structures: Preliminary results in Cahuachi (Peru)*, in Advances in Remote Sensing for Archaeology and Cultural Heritage Management, R. Lasaponara & N. Masini (Eds), Aracne, Roma, ISBN: 978-88-548-2030-2 , pp. 213-218.

81. M. Ciminale, D. Gallo, **R. Lasaponara**, N. Masini, Ground-based, aerial and satellite remote sensing to investigate archaeological and palaeoenvironmental features: the study case of Tavoliere (Apulia, Italy), in *Advances in Remote Sensing for Archaeology and Cultural Heritage Management*, R. Lasaponara & N. Masini (Eds), Aracne, Roma, 2008, ISBN: 978-88-548-2030-2 , pp.31-36.

82. B. Aiazzi, S. Baronti, L. Alparone, **R. Lasaponara**, N. Masini, Data fusion techniques for supporting and improving satellite-based archaeological research, in *Advances in Remote Sensing for Archaeology and Cultural Heritage Management*, R. Lasaponara & N. Masini (Eds), Aracne, Roma, 2008, ISBN: 978-88-548-2030-2 , pp.31-36

83. **R. Lasaponara**, N. Masini, G. Scardozzi, *Satellite-based archaeological research in the ancient territory of Hierapolis (Turkey)*, in Advances in Remote Sensing for Archaeology and Cultural Heritage Management, R. Lasaponara & N. Masini (Eds), Aracne, Roma, 2008, ISBN: 978-88-548-2030-2 , pp. 11-16

84. **R. Lasaponara**, A. Lanorte, R. Coluzzi, N. Masini, Performance evaluation of data fusion techniques for archaeological prospection based on satellite data, Proc. of SPIE Remote Sensing for Environmental Monitoring, GIS Applications, and Geology VII, edited by M. Ehlers, U. Michel, Vol. 6749, 67492W, 2007, · 0277-786X/07/\$18 · doi: 10.1117/12.738204, pp. 1-11.

85. **R. Lasaponara**, A. Lanorte, R. Coluzzi, N. Masini, *Quickbird imagery processing for archaeological applications: performance evaluation from data fusion algorithms*, ISPRS International Archives of the Photogrammetry, Remote Sensing and Spatial Information Sciences, volume XXXVI-5/C53, Proceedings of 21st CIPA Symposium, Atene, 1-6 giugno 2007, pp. 817-822.

86. **R. Lasaponara**, N. Masini, *Improving satellite quickbird-based identification of landscape archaeological features through Tasseled Cap Transformation and PCA.*, ISPRS International

Archives of the Photogrammetry, Remote Sensing and Spatial Information Sciences, volume XXXVI-5/C53, Proceedings of 21st CIPA Symposium, Atene, 1-6 giugno 2007, pp. 812-816

87. **R. LASAPONARA**, N. MASINI, *Quickbird-based analyses for archaeological investigations*, in Global Developments in Environmental Earth Observation from Space, Marçal (ed.), (Proceedings of EARSEL, Porto, XXX June 2005), 2006 Millpress, Rotterdam, ISBN 90 5966 042 0, pp. 629-634.

88. **Lasaponara R.**, Masini N., Satellite-based identification of archaeological features, Proceedings of the 2nd Workshop of the EARSEL SIG on Land Use and Land Cover, Center for Remote Sensing of Land Surfaces, Bonn, 28-30 September 2006, pp. 276-281.

89. **Lasaponara R.**, Masini N., Archaeological prospection based on satellite QuickBird imagery, Proceedings of SPIE, Conference Remote Sensing for Environmental Monitoring, GIS Applications, and Geology VI, vol. 6366, 2006, doi : 10.1117/12.683087

90. **Lasaponara R.**, Masini N., *Performance evaluation of data fusion algorithms for the detection of archaeological features by using satellite QuickBird data*, in *Space to place*, S. Campana – M. Forte (Ed.), Proceedings of 2nd International Conference on Remote Sensing in Archaeology (Rome, December 4-7, 2006), BAR International Series, 2006, pp. 13-20.

91. Masini N., **Lasaponara R.**, *Evaluation of the spectral capability of quickbird imagery for the detection of archaeological buried remains*, in *Space to place*, S. Campana – M. Forte (Ed.), Proceedings of 2nd International Conference on Remote Sensing in Archaeology (Rome, December 4-7, 2006), BAR International Series, 2006, pp. 21-29.

92. **R. Lasaponara**, A. Lanorte, M.R. Potenza, N. Masini, *VHR satellite images for the knowledge and the enhancement of cultural landscapes: the medieval deserted villages in Basilicata (Southern Italy)*, in Heritage, Weathering and Conservation, a cura di R. Fort, M. Alvarez de Buergo, M. Gomez-Heras & C. Vasquez-Calvo, Proceedings of the International Conference on Heritage, Weathering and Conservation, HWC 2006, 21 – 24 June 2006, Madrid, vol II, pp. 841-846.

93. **R. LASAPONARA**, N. MASINI, *Evaluation of potentialities of satellite Quickbird imagery for archaeological prospection: preliminary results*, in Proceedings of 6th International Conference on Archaeological Prospection, Roma, CNR, september 14-17, 2005, ed. S. Piro, Roma 2005, pp. 392-395

94. **Lasaponara, R.**, Lanorte, A., Masini, N., "Estimation of seasonal trends of satellite-based parameters useful for the monitoring of surface moisture content: preliminary results by using NIR-SWIR data of SPOT vegetation" in *Remote Sensing for Agriculture, Ecosystems, and Hydrology V*, edited by Manfred Owe, Guido D'Urso, Jose F. Moreno, Alfonso Calera, Proceedings of SPIE Vol. 5232 (SPIE, Bellingham, WA 2004) pp. 408-417.

95. **R. LASAPONARA**, T. SIMONIELLO, N. MASINI, V. CUOMO, *Performance evaluation of AVHRR-based methods for the estimation of fire susceptibility in southern Italy*, in Proceedings of SPIE -- Volume 5232, Remote Sensing for Agriculture, Ecosystems, and Hydrology V, Manfred Owe, Guido D'Urso, Jose F. Moreno, Alfonso Calera, Editors, 2004, pp. 219-227.

96. pp. 795-798.

D.7) PAPERS ON NATIONAL JOURNALS.

97. **R. Lasaponara**, N.Masini 2009, La piramide di Cahuachi. Nell'area desertica di Rio Nazca una prospezione archeologica da satellite riporta alla luce un grande complesso cerimoniale realizzato in terra cruda, *Darwin*, 29 (2009), gennaio-febbraio, pp. 46-51 [ISSN: 1824-2448]

D.8) ABSTRACTS OR SHORT PAPERS ON INTERNATIONAL JOURNALS

98. **R. Lasaponara**, N. Masini 2014. Multitemporal satellite data analyses for archaeological mark detection: preliminary results in Italy and Argentina. *Geophysical Research Abstracts*, Vol. 16, EGU2014- 16920, 2014
99. **R. Lasaponara**, N. Masini, C. Sabia 2014. Multitemporal analysis of Pleiades data for study of archaeological crop marks. *Geophysical Research Abstracts*, Vol. 16, EGU2014- 7534, 2014
100. N. Masini, F. Chen, D. Feng, F. Gabellone, **R. Lasaponara**, R. Yang. 2014. Along Silk Road: Earth observation and ICT for Cultural Heritage from Italian and Chinese perspectives. *Geophysical Research Abstracts*, Vol. 16, EGU2014-15550, 2014.
101. Coluzzi R., Guariglia A., Lacovara B., **Lasaponara R.**, Masini N. 2009, On the integration of Airborne full-waveform laser scanning and optical imagery for Site Detection and Mapping: Monteserico study case, *Geophysical Research Abstracts*, Vol. 11, EGU2009-11352, [eISSN: 1607-7962]
102. Masini N., Rizzo E., **Lasaponara R.**, Orefici G. 2009, On the detection of adobe buried archaeological structures using multiscale remote sensing techniques : El Templo Naranja in Cahuachi (Peru), *Geophysical*

D.10) OTHER PUBLICATIONS : PAPERS ON NATIONAL CONFERENCE PROCEEDINGS & DIVULGATIVE PUBLICATIONS

103. **R. LASAPONARA**, N. MASINI, G. SCARDOZZI, L'uso di immagini satellitari per la conoscenza e la valorizzazione del patrimonio archeologico, in *Tecnologie dell'Informazione e della Comunicazione Culturale. Tokyo 16-17 aprile 2007.*, CNR, Dipartimento Patrimonio Culturale, Roma, Stampa IGER, 2007, pp. 55-56.
104. **R. Lasaponara**, R. Coluzzi, A. Lanorte, N. Masini, M.R. Potenza, *Integrazione dei dati satellitari QuickBird e foto aeree in ambito archeologico: il caso di Iure Vetere in Calabria*, in Atti della 9^a CONFERENZA NAZIONALE ASITA [15 – 18 novembre 2005, Centro Congressuale “Le Ciminiere”, Catania], pp. 1327-1332
105. . **LASAPONARA R.**, N. MASINI, *Primi rilievi dell'insediamento medievale di Monte Irsi attraverso tecniche di telerilevamento satellitare*, in AA.VV.: *Archivi e reti monastiche tra Alvernia e Basilicata: il priorato di Santa Maria di Juso e la Chaise-Dieu*, Eds. F. Panarelli, Proceeding of Internazionale Conference of Studies, Matera - Irsina 21-22 aprile 2005.

D.10) Selected publications in the field of risk monitoring



1. A. Lanorte, **R Lasaponara**, M Lovallo, L Telesca 2014 Fisher–Shannon information plane analysis of SPOT/VEGETATION Normalized Difference Vegetation Index (NDVI) time series to characterize vegetation recovery after fire disturbance *International Journal of Applied Earth Observation and Geoinformation* 2441-446
2. G Calamita, A Lanorte, **R Lasaponara**, B Murgante, G Nole 2013 Analyzing urban sprawl applying spatial autocorrelation techniques to multi-temporal satellite data. *Urban and Regional Data Management: UDMS Annual 2013*, 161
3. A Lanorte, M Danese, **R Lasaponara**, B Murgante Multiscale mapping of burn area and severity using multisensor satellite data and spatial autocorrelation analysis *International Journal of Applied Earth Observation and Geoinformation* 20, 42-51
4. A Lanorte, C Belviso, **R Lasaponara**, F Cavalcante, F De Santis, 2013 Satellite Time Series and in Situ Data Analysis for Assessing Landslide Susceptibility after Forest Fire: Preliminary Results Focusing the Case Study of Pisticci (Matera, Italy) *Computational Science and Its Applications–ICCSA 2013*, 652
5. A Lanorte, **R Lasaponara** 2012 FIRE -SAT un sistema satellitare per il monitoraggio sistematico, dinamico ed integrato degli incendi boschivi: la sperimentazione operativa nella regione Basilicata *GEOmedia* 16 (5)
6. **R Lasaponara** 2013 Geospatial analysis from space: Advanced approaches for data processing, information extraction and interpretation *International Journal of Applied Earth Observations and Geoinformation* 20 . 1-3
7. R Lasaponara, A Lanorte 2011 Satellite time-series analysis *International Journal of Remote Sensing* 33 (15), 4649-4652
8. G Nolè, M Danese, B Murgante, **R Lasaponara**, A Lanorte Using spatial autocorrelation techniques and multi-temporal satellite data for analyzing urban sprawl **Computational Science and Its Applications–ICCSA 2012, 512-527**

9. Telesca, L; **Lasaponara**, R 2006 : Quantifying intra-annual persistent behaviour in SPOT-VEGETATION NDVI data for Mediterranean ecosystems of southern Italy REMOTE SENSING OF ENVIRONMENT Volume: 101 Issue: 1 Pages: 95-103 Published: MAR 15 2006
 1. Lasaponara R, 2006 On the use of principal component analysis (PCA) for evaluating interannual vegetation anomalies from SPOT/VEGETATION NDVI temporal series . ECOLOGICAL MODELLING Volume: 194 Issue: 4 Pages: 429-434 Published:
 2. Simoniello, T; Cuomo, V; Lanfredi, M, and **Lasaponara**. Source On the relevance of accurate correction and validation procedures in the analysis of AVHRR-NDVI time series for long-term monitoring JOURNAL OF GEOPHYSICAL RESEARCH-ATMOSPHERES Volume: 109 Issue: D20 Article Number: D20107 Published: OCT 19 2004
 3. .Lanfredi, M; **Lasaponara**, R; Simoniello, T, et al. Source Multiresolution spatial characterization of land degradation phenomena in southern Italy from 1985 to 1999 using NOAA-AVHRR NDVI data GEOPHYSICAL RESEARCH LETTERS Volume: 30 Issue: 2 Article Number: 1069 Published: JAN 25 2003
 4. Cuomo, V; Lanfredi, M; **Lasaponara**, R, 2001 Detection of interannual variation of vegetation in middle and southern Italy during 1985-1999 with 1 km NOAA AVHRR NDVI data JOURNAL OF GEOPHYSICAL RESEARCH-ATMOSPHERES Volume: 106 Issue: D16 Pages: 17863-17876 Published: AUG 27
 5. Telesca, L; Lanorte, A;. 2007 **Lasaponara**, R Stability of surface reflectance scaling properties explored by using SPOT-VGT data . INTERNATIONAL JOURNAL OF REMOTE SENSING Volume: 28 Issue: 24 Pages: 5633-5640 Published: 2007
 6. 7. Fiorucci, P; Gaetani, F; Lanorte, A, and **Lasaponara** 2007 Dynamic fire danger mapping from satellite imagery and meteorological forecast data: EARTH INTERACTIONS Volume: 11 Article Number: 7
 7. **Lasaponara**, R; Lanorte, A Remotely sensed characterization of forest fuel types by using satellite ASTER data INTERNATIONAL JOURNAL OF APPLIED EARTH OBSERVATION AND GEOINFORMATION Volume: 9 Issue: 3 Pages: 225-234
 8. Telesca, L; Lanorte, A; **Lasaponara**, R 2007 Investigating dynamical trends in burned and unburned vegetation covers using SPOT-VGT NDVI data Author(s): Source: JOURNAL OF GEOPHYSICS AND ENGINEERING Volume: 4 Issue: 2 Pages: 128-138
 9. **Lasaponara**, R; Lanorte 2007 On the capability of satellite VHR QuickBird data for fuel type characterization in fragmented landscape: ECOLOGICAL MODELLING Volume: 204 Issue: 1-2 Pages: 79-84 Published: MAY 24
 10. **Lasaponara**, R; Lanorte, A; Pignatti 2006 Characterization and mapping of fuel types for the Mediterranean ecosystems of Pollino National Park in southern Italy by using hyperspectral MIVIS data. EARTH INTERACTIONS Volume: 10 Article Number::
 11. Telesca, L; **Lasaponara**, R; Lanorte, 2006 A Discrimination of vegetational patterns in burned and unburned areas Source: INTERNATIONAL JOURNAL OF NONLINEAR SCIENCES AND NUMERICAL SIMULATION Volume: 7 Issue: 3 Pages: 279-284

13. **Lasaponara, R;** Telesca, L Decadal variability in multitemporal satellite SPOT-VEGETATION NDII data Source: INTERNATIONAL JOURNAL OF REMOTE SENSING Volume: 27 Issue: 20 Pages: 4685-4692 Published: OCT 20
14. Telesca, L; **Lasaponara, R** 2006 Vegetational patterns in burned and unburned areas investigated by using the detrended fluctuation analysis. PHYSICA A-STATISTICAL MECHANICS AND ITS APPLICATIONS Volume: 368 Issue: 2 Pages: 531-535 Published: AUG 15 2006
15. Telesca, L; **Lasaponara R** 2006 Fire-induced variability in satellite SPOT-VGT NDVI vegetational data, INTERNATIONAL JOURNAL OF REMOTE SENSING Volume: 27 Issue: 14 Pages: 3087-3095 Published: JUL 20 2006
16. Telesca, L; **Lasaponara, R** Pre- and post-fire behavioral trends revealed in satellite NDVI time series Author(s): Source: GEOPHYSICAL RESEARCH LETTERS Volume: 33 Issue: 14 Article Number: L14401 Published: JUL 18 2006
17. **Lasaponara, R** 2006 Estimating spectral separability of satellite derived parameters for burned areas mapping in the Calabria region by using SPOT-Vegetation data Source: ECOLOGICAL MODELLING Volume: 196 Issue: 1-2 Pages: 265-270 Published: JUL 10 2006
18. Telesca, L; **Lasaponara** 2005 Discriminating dynamical patterns in burned and unburned vegetational covers by using SPOT-VGT NDVI data Author(s);, R Source: GEOPHYSICAL RESEARCH LETTERS Volume: 32 Issue: 21 Article Number: L21401 Published: NOV 1 2005
19. **Lasaponara, R** 2005 Inter-comparison of AVHRR-based fire susceptibility indicators for the Mediterranean ecosystems of southern Italy Author(s): Source: INTERNATIONAL JOURNAL OF REMOTE SENSING Volume: 26 Issue: 5 Pages: 853-870 Published: 2005
20. **Lasaponara, R;** Cuomo, V; Macchiato, MF, et al. 2003 A self-adaptive algorithm based on AVHRR multitemporal data analysis for small active fire detection INTERNATIONAL JOURNAL OF REMOTE SENSING Volume: 24 Issue: 8 Pages: 1723-1749 Published: 2003
21. Cuomo, V; **Lasaponara, R;** Tramutoli, V 2001 Evaluation of a new satellite-based method for forest fire detection : INTERNATIONAL JOURNAL OF REMOTE SENSING Volume: 22 Issue: 9 Pages: 1799-1826 Published: 2001
22. Telesca, L; **Lasaponara, R;** Lanorte, A 2006. $1/f(\alpha)$ fluctuations in the time dynamics of Mediterranean forest ecosystems by using normalized difference vegetation index satellite data Author(s): Source: PHYSICA A-STATISTICAL MECHANICS AND ITS APPLICATIONS Volume: 361 Issue: 2 Pages: 699-706 Published: MAR 1 2006
23. **Lasaponara, R** 2006 Estimating interannual variations in vegetated areas of Sardinia island using SPOT/VEGETATION NDVI temporal series Author(s):: IEEE GEOSCIENCE AND REMOTE SENSING LETTERS Volume: 3 Issue: 4 Pages: 481-483 Published: OCT 2006

24. **Lasaponara, R;** Lanorte, A; Pignatti, S 2006 Multiscale fuel type mapping in fragmented ecosystems: preliminary results from hyperspectral MIVIS and multispectral Landsat TM data in INTERNATIONAL JOURNAL OF REMOTE SENSING Volume: 27 Issue: 3 Pages: 587-593 Published: FEB 10 2006

Book chapter

1. L. Telesca, R. Coluzzi and **R. Lasaponara**, *Temporal variation of urban pattern morphology in southern Italy explored by using Landsat data*, In: Lecture Notes in Computer Science, O. Gervasi, B. Murgante, A. Laganà, D. Taniar, Y. Mun and M. Gavrilova (eds.), Vols. 5072 and 5073, 405-414, Springer-Verlag, 2008

2. L. Telesca, R. Coluzzi, and **R. Lasaponara**, *Urban pattern morphology time variation in southern Italy by using Landsat imagery*, In B. Murgante, G. Borruso, A. Lapucci (Eds.): Geocomputation & Urban Planning, SCI 176, 209-222, Springer-Verlag (2009)

Patent

Lasaponara R lanorte Antonio

An Integarted system for Fire monitoring Patent prot. 408719 del 24 agosto 2009

sistema di lotta attiva agli incendi boschivi, n. 2008 A0016

E. TEACHING ACTIVITY

E) TEACHING ACTIVITY

E.1 UNIVERSITY TEACHING

N.	Year	Teaching	Degree	Università
23	2010-11	<i>Microwave</i>	Engineering	Univ. Basilicata – Potenza
24	2011-12	<i>Microwave</i>	Engineering	Univ. Basilicata – Potenza
25	2012-13	<i>Microwave</i>	Engineering	Univ. Basilicata – Potenza
26	2013-14	<i>Microwave</i>	Engineering	Univ. Basilicata – Potenza
27	2014-15	<i>Microwave</i>	Engineering	Univ. Basilicata – Potenza

E.2 MASTER POST-DEGREE

1990-2002

Teaching activities for several Institutions and master courses organized by the University of Bari

2003-2004

Master MacBeth : “Management on cultural activity and cultural heritage by using new technologies”, organized by University of Lecce and AFOR. Teaching of “Strategies for the valorization of the Cultural Heritage”.

Master “Recpolis : Manager for the rehabilitation of historical centres” “, (University of Basilicata, Apof, CSEA, Lsidea). Teaching of “Architectural Restoration “- section Techniques of building repair.

2005

Master “New tool for the government and management of the territory (University of Basilicata) Teaching of “Census and valorization of architectural and cultural heritage”

2006

Master “GIS and remote sensing” (University of Basilicata). Teaching of “Rehabilitation of historical centres: cataloguing on GIS platform of building elements aimed at a restoration handbook”

Master “New tool for the government and management of the territory (University of Basilicata) Teaching of “Census and valorization of architectural and cultural heritage”

E.3 HIGH TRAINING COURSES

▪

2012

- Poznan (Polonia), 30/07/2012 – 3/08/2012. Teaching for the Summer School on “Potential of satellite images and hyper/multispectral recording in archaeology, nell’ambito del Progetto europe ArchaeoLandscapes Europe, organized by University of Poznan.
- Potenza, 8/10/2012 – 30/10/2012. **Docenza** di n. 18 ore dal titolo “*Telerilevamento per la ricerca archeologica e la gestione del patrimonio culturale*” nell’ambito del Corso di alta Formazione “Identificazione di buone pratiche e competenze ICT applicata alla gestione e valorizzazione del patrimonio archeologico e Culturale” facente parte del Progetto “Cultura in Formazione” cofinanziato dal FSE nell’ampito del Programma Operativo FESE Basilicata”. Organizzato dalla società EvolutionCISF srl e Co-organizzato dall’IBAM-CNR.

2013

- Matera, 24-25.10.2013 e 31.10.2013. Corso di alta Formazione “Nuove tecnologie digitali applicate ai Beni Culturali Archeologici e Monumentali” organizzato dalla Società Pragma srl con sede in Matera. Docenze di n.18 ore dell’unità didattica “*Applicazioni archeologiche dell’osservazione della terra mediante tecniche di remote sensing*”.

F) OTHER: EXHIBITIONS

F.1 EXHIBITIONS

2013, 3-6 June, Matera, Scientific responsible of the Exhibition "Archaeo-Sat: from space a window on the past"

2013, 26 August - 2 September, Roma, Scientific responsible of the Exhibition "Sensing the Past: COSMO SkyMed and radar technologies for archaeology", in the framework of European Space Expo

28.09.2014

Rosa Lasaponara

