

NICOLA MASINI



MULTIDISCIPLINARY APPROACH FOR THE KNOWLEDGE AND ENJOYMENT OF CULTURAL HERITAGE

CURRICULUM

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

□ A.1 GENERAL DATA

Name: NICOLA

Surname : MASINI

Date of birth: 14 JUNE 1965

Place of birth: CALVELLO (PZ)

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Foreign languages: ENGLISH and SPANISH



A.2 CITATION DATA BASES

ORCID Number: <http://orcid.org/0000-0002-8804-5718>

Web of Science ResearcherID: H-3889-2012

Scopus: 8931289200

Scholar: <https://scholar.google.it/citations?user=XElCdZUAAAAJ&hl=it>

Semantic scholar: <https://www.semanticscholar.org/author/N.-Masini/2572730>

□ A.3 ACTUAL POSITION

- **Research Director** of CNR-ISPC (Istituto di Scienze del Patrimonio Culturale / Institute of Heritage Science)
- **Director** of CNR International Mission for Archaeogeophysics and Heritage Conservation in Peru and Bolivia (ITACA)
- **Co-founder and Co-Editor in Chief** of *Heritage* (<http://www.mdpi.com/journal/heritage/editors>)
- **Deputy Director** and Responsible of CNR-ISPC - Seat of Potenza.
- **Member** of the **International Doctorate College - Cities and Landscapes: Architecture, Archaeology, Cultural Heritage, History and Resources** – University of Basilicata, School of Architecture - Matera
- Professor of *Ancient building systems and restoration* in the Postgraduate School of Archaeology of Matera, University of Basilicata
- Professor of *Fundamentals of Restoration and Science for Conservation and Restoration of Architectural Heritage*, Department of European and Mediterranean Cultures, Environment, and Cultural Heritage, School of Architecture of Matera, University of Basilicata

- Scientific responsible for CNR-ISPC of the H2020 Project: HERITAGE WITHIN (Cross Sectoral Strand Action Innovlab - Bridging culture and audiovisual content through digital)
- **Scientific responsible** of the Project "*Space-to-Tree: Earth Observation based monitoring of Natural and historical Park*" funded by **European Space Agency** (Initiative " IAP-5G for L' ART")
- Scientific responsible of the Project “Basilicata Heritage SmartLab” . PO ERDF Basilicata (2014-20)
- Coordinator of Research Infrastructure IRPAC: “Technological and Research Infrastructure for the study of the human past, Conservation and Management of Cultural Heritage” - PO ERDF 2014-20
- Deputy Director of Creative Cultural Industry Cluster "*Basilicata Creativa*”
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□ **A.4 SCIENTIFIC CAREER : BRIEF CHRONOLOGY**

- 1990: Degree in Civil Engineering.
- 1993-94: Grant at CNR-IISF
- 1995-2000: Researcher on contract at CNR-IISF
- 2001-2003: Researcher at CNR-IBAM (Istituto di Scienze del Patrimonio Culturale / Institute of Architectural and Archaeological Heritage).
- 2002-2012: Professor of Architectural Restoration in the Faculty of Engineering of the University of Basilicata - Seat of Potenza
- Since 2003: Senior Researcher at CNR-IBAM.
- 2005-2015: Manager of a CNR Research Commitment: “Integrated diagnostic Methodologies for preservation of the architectural and archaeological heritage in the Mediterranean basin” (IBAM, seats in Lecce and Potenza)
- Since 2007 : Director of CNR International Mission for Archaeogeophysics and Heritage Conservation in Peru and Bolivia (ITACA)
- 2002-2012: Professor of Science for Conservation and Restoration of Architectural Heritage in the Faculty of Engineering of the University of Basilicata - Seat of Potenza
- Since 2011, November: Responsible of CNR-IBAM, Seat of Potenza
- Since 2012- Professor of Architectural Restoration in the School of Architecture of the University of Basilicata - Seat of Matera
- 2014: Visiting Professor at the Universita Politecnica of Valencia (Spain).
- 2015: Visiting Professor at Henan Academy of Sciences in Zheng Zhou (Cina)
- Since 2015: Member of the International Doctorate College - *Cities and Landscapes: Architecture, Archaeology, Cultural Heritage, History and Resources* – University of Basilicata, School of Architecture - Matera
- 2016: Visiting Professor at the Universitat de les Illes Balears – Palma del Mallorca (Spain)
- 2016-17: Visiting Professor of Institute of Remote Sensing and Digital Earth, Chinese Academy of Sciences, Beijing, China
- 2016: Member of the Regional Observatory of Cultural Heritage of Basilicata
- 2018: Deputy Director of Creative Cultural Industry Cluster "Basilicata Creativa"

- Since 2019, October: Responsible of CNR-ISPC, Seat of Potenza
- Since 2020, March 1: Research Director at CNR-ISPC

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- **A.5 Research Activity : Briefly**

- Director of International Mission ITACA-Peru
- Scientific responsible and project manager of n. 26 national and international research projects and investigation campaigns (2004-2017), among which n.3 H2020 and n.2 Interreg, n.1 ERDF
- He authored and co-authored 394 publications, including 105 papers on international journals, 15 Books (authored or edited), one patent, 61 International book chapters, 17 special issues of international journals, 65 papers for international conference proceedings, 2 encyclopedic entries
- He has been general chair of international conferences (EARSEL Symposium 2013, YOCOCU 2018), 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 of conferences (EGU 2009-2016; SPIE 2007-09; MetroArcheo 2020), and member of scientific committees of international conferences and workshops (GPR 2010; EARSEL 2008, 2013; ICCSA 2011-2017; RSCY 2014-20; YOCOCU 2016, 2018; REUSO 2019)
- He is **Editor in Chief** of *Heritage* (<http://www.mdpi.com/journal/heritage/editors>)
- He is **Associate Editor** of *Geoscientific Instrumentation, Methods and Data System (GI)*
- He is **component of the Advisory Board** of
 - **Journal of Archaeological Method and Theory**
 - **International Journal of Architectural Heritage**
 - **Sci**
- He is **member** of the **Editorial Board** of the following journals:
 - ***Remote Sensing***
 - ***Journal of Geophysics and Engineering***
 - ***Sustainability***
- He is/has been Guest Editor of special issues of international journals : *Journal of Cultural Heritage* (2009, vol. 10S), *Journal of Geophysics and Engineering* (2010, vol. 7; 2011, vol. 8; 2012, vol. 9), *Near Surface Geophysics* (2010, vol.8(5)), *Advances in Geosciences* (2010, vol. 24), *Journal of Archaeological Science* (2011, vol. 38), *International Journal of Geophysics* (2011), *Archaeological Prospection* (2013, vol. 20), *International Journal of Applied Earth Observation and Geoinformation* (2014, vol. 26), *Remote Sensing* (2015), *Heritage* (2018-19), *Heritage* (2019), *Sustainability* (2019)
- 2006-07: Scientific responsible of ByHeriNet (*Byzantine Heritage Network: Rehabilitation, highlighting and management in the Eastern Mediterranean Basin*) Project [Interreg III B – Archimed]
- 2007: Co-chairman of the EARSeL (European Association Remote Sensing Laboratories) Special Interest Group (SIG)- on "Remote Sensing for Archaeology, Natural and Cultural Heritage".
- 2007-08: Scientific responsible for CNR-IBAM of Project PALAIS (*Patrimoine Architectural Locale t Aménagement Innovante et Stratégique*) [Interreg III C – Zone Sud]

- Since 2011 He has been **Science Officer** of “Cultural and Archaeological Heritage” within the division Geoinstrumentation and Geoscience of EGU
- Since 2010 Membership: EGU (European Geosciences Union), EARSEL
- From 2013 to 2015 he has been Scientific responsible of Great Relevance Project Italy-China “*Smart management of cultural heritage sites in Italy and China: Earth Observation and pilot projects*” within the framework of Executive Programme for Scientific and Technological Cooperation between Italy and China (Chinese partner - Chinese Academy of Sciences – Center for Earth Observation and Digital Earth)
- 2015-16 - Scientific responsible of Bilateral project CNR/IBAM - Università di Cartagena (Colombia) “Tecnologie e strumenti di diagnostica e conservazione degli insediamenti fortificati di Cartagena de Indias (COL) e Acaia (ITA)” funded by CNR-ACAC Agreement
- 2016-2018: Scientific responsible of Project ATHENA. "Remote Sensing Science Center for Cultural Heritage" (H2020-TWINN-2015), Grant agreement ID: 691936
- 2017-2020: Scientific responsible of Project GeoMOP "Modern Geospatial Practices for Ancient Movement Praxis" (H2020-MSCA-IF-2016), Grant agreement ID: 747493
- 2020-on going: Scientific responsible of Project HERITAGE WITHIN " (Programme CROSS-SECT - Cross Sectoral Strand) - Grant agreement ID: 614719

□ **A.6 TEACHING ACTIVITY : BRIEFLY**

□ **PROFESSOR OF PhD SCHOOL N.5**

- **2014-15 - University of Catania** - PhD School "Studi sul Patrimonio Culturale" of Dipartimento di Scienze Umanistiche (XXX Cycle)
- **2015-on going- University of Basilicata, Department DICEM, Matera** - PhD School " Cities and Landscapes: Architecture, Archaeology, Cultural Heritage, History and Resources " of (XXXI-XXXII-XXXIII-XXXIV Cycles)

• **University Teaching courses (1998-2016): n. 31**

- Faculty of Engineering of Potenza
 - *Laboratory of Technical Architecture*: n.2 [1998-99 / 1999-2000]
 - *Architectural Restoration* : n. 11 [2002-03 / 2003-04 / 2004-05 / 2005-06 / 2006-07 / 2007-08 / 2008-09 / 2009-10 / 2010-11 / 2012 – 13 / 2013 – 14]
 - *Restoration of Architecture*: n. 2 [2002-03 / 2003-04]
 - *Laboratory of Architectural Restoration* : n. 7 [2002-03 / 2004-05 / 2005-06 / 2006-07 / 2007-08 / 2008-09, 2009-10]
 - *Science of Conservation and Restoration of Architectural Heritage* : n.3 [2011-12, 2012 – 13, 2013-14]
- Faculty of Engineering of Matera
 - *Restoration*: n. n.2 [2002-03 / 2003-04]
- Faculty of Architecture of Matera
 - *Fundamentals of Restoration*: n. 3 [2013-14, 2015-16; 2016-17; 2017-18]
- **Master Post-Degree courses : n. 5**
- **Visiting professor: n.4**

Universita Politecnica de Valencia (2014), Henan Academy of Sciences a Zheng Zhou (Cina) (2015; 2017), Chinese Academy of Sciences – RADI Beijing(2016; 2017), Universitat de les Illes Balears – Palma di Maiorca (2016)

- **A7 H-INDEX AND CITATIONS**

- SCOPUS: H-index=27, Citations=2037 (Scopus Author ID [8931289200](#).)
- Google Scholar: H-index=33, i-10 index= 84, citations=3547
- ISI-WEB of Science: H-index=25, citations=1760 (H-3889-2012)
- ResearchGate RG score 37.32, Research Interest Score= 2407, citations= 3043, h-index=31, h-index= 24 (excluding self-citations)
- Semanthisc Scholar: H-index=30, citations=2641

A8 AWARDS

2010: Certificate of public merit of the first class - Gold Medal of the National Civil Protection

2011-2015. Best paper award in international conferences among which RSCY (2015), paper of special interest in EGU (2011), EGU (2012)

2016: **Winner of CAS (Chinese Academy of Science) President's International Fellowship Initiative (PIFI).**

2017: American Library Association's Choice Magazine Award as "Outstanding Academic Title" for 2017 for the volume "Ancient Nasca World. New Insights from Science and Archeology " (Springerv 2017)

B) SCIENTIFIC RESEARCH ACTIVITY



B) SCIENTIFIC RESEARCH ACTIVITY

□ B.1 RESEARCH STATEMENT

My dominant scientific interest, throughout my career, has been the development and application of new methodologies and technologies for the conservation of Cultural Heritage and the archaeological research.

I have pursued this major interest through the following **research lines**

- 1)** Archeogeophysics, remote sensing and spatial analysis for the knowledge and enhancement of archaeological heritage and ancient landscapes.
- 2)** Methodologies for the knowledge, conservation of the built historical heritage and monuments
- 3)** Integrated approaches to the study of the dynamics of human frequentation and environmental changes in the Andean civilizations (ITACA Mission)

Line 1) is aimed at i) the identification and spatial characterization of proxy indicators and patterns referable to buried archaeological sites through the integrated use of aerial and satellite images, ii) the creation of predictive models and maps, iii) the study of human presence dynamics in relation to the environment setting and changes

The activity is divided into the following topics:

- 1.a) Development of models and analysis procedures, based on earth observation sciences, such as remote sensing and archeogeophysics, and predictive models to support preventive archaeology
- 1.b) Development of automatic extraction methods from multispectral satellite images of features related to clandestine excavation activities and archaeological disturbance (Applications carried out and on-going in Syria and Peru)
- 1.c) Analysis of spectral properties and multitemporal observations of archaeological proxy indicators with particular reference to crop-marks
- 1.d) Development and application of prospecting methods for the identification and characterization of archaeological contexts buried in alluvial areas: the case of Henan (China)
- 1.e) LiDAR based investigations, GIS-based analyses and other remote sensing dataset applied to the study of post-classical landscapes in the late Middle Ages in Southern Italy with particular reference to the phenomenon of abandonment of villages

Currently I am involved in several research projects aimed at promoting the development of diagnostic, archeogeophysical and remote sensing methodologies through:

- The creation of a center of excellence for remote sensing applied to cultural heritage in Cyprus as part of the project "ATHENA Remote Sensing Science Center for Cultural Heritage" (H2020-TWINN-2015)
- the ITACA mission involved since 2007 in several scientific projects in South America for preventive archaeology (Peru and Bolivia), landscape protection (Peru and Argentina) and conservation of architectural heritage (Colombia)
- cooperation activities with various research institutions in China (Chinese Academy of Sciences (CAS)-RADI, HIST, Henan Academy of Science) in the context of bilateral projects financed by MAECI, the CAS, a visiting professor activity, aimed at developing earth observation based approaches for the management of cultural heritage in China and archaeological prospection with particular reference to regions and areas crossed by Silk Road.

Line 2) is focused on the following topics:

- a) Integrated and fusion of diagnostic investigation methodologies based on the use of non-invasive in situ tests and geophysical techniques (IRT, GPR, sonic/ultrasonic/seismic tests,) for the diagnosis of the state of conservation and restoration of historical buildings and monuments.
- b) Study of construction techniques for the restoration and structural rehabilitation of monuments;
- c) Study of historical building techniques and seismic damage scenarios.

In the past, as Research grantee and Researcher of CNR-IISF (1993-2000) I studied medieval building techniques of fortified architecture in Southern Italy and I worked in the field of aerial and architectural photogrammetry.

Line 3) is focused on the following topics:

- a) **The Nasca civilization, environment and sacred landscape.** Interdisciplinary investigations aimed at understanding the strategies of adaptation to the environment and climate of the Nasca civilization through the study of the management methods of environmental resources, with particular reference to water, and the cultural and religious implications analyzed through the study of geoglyphs of the Pampas of Atarco and Cahuachi. The project (in cooperation with the Proyecto Nasca project directed by the archaeologist Giuseppe Orefici) relies on the expertise in the field of earth observation technologies.
- b) **The Sanctuary of Pachacamac between Ichma and Incas:** study of settlement patterns and water canalization systems. It is based on archeogeophysics and geoarchaeology (in collaboration with the Museo de Sitio of Pachamaca directed by Denise Pozzi-Escot), for the reconstruction of water management systems, with particular reference to the Urpiwacha lagoon, and the creation of an archaeological prediction model, related to Ichma and Incas periods, with particular reference to the Taurichumpi Palace sector.

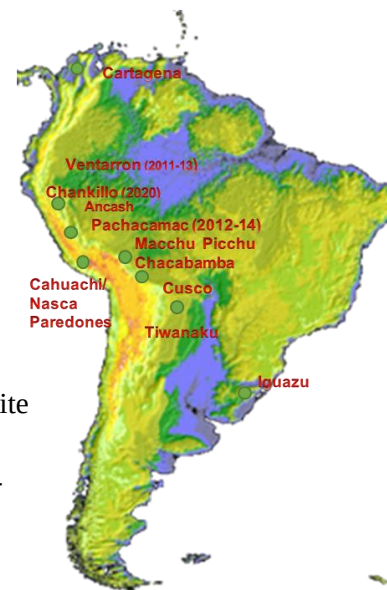
In 2017 the ITACA Mission of the CNR has been involved by the University of Warsaw in a multi-year project in the Rio Urubamba Valley. The ITACA mission performed archeogeophysical investigations in the Sanctuary of Machu Picchu, and in the sites of Chachabamba and Inkarakay.

❑ B.2 INTERNATIONAL SCIENTIFIC MISSION

❑ B.2.1 ITACA MISSION IN SOUTHERN AMERICA

Since 2007 he has been **Director** of CNR **International Mission for Archaeogeophysics and Heritage Conservation** in Southern America (ITACA), financed by Italian Ministry of Foreign Affairs and CNR

- ❑ **Director:** Nicola Masini.
- ❑ **Staff:** The following researchers, archaeologists and research granters have participated: N. Abate, L. Capozzoli, M. Danese, M. Delle Rose, G. Di Giacomo, C. Fattore, F. Gizzi, A. Higuera, R. Lasaponara, M. Lazzari, G. Leucci, G. Nolè, A. Pecci, R. Persico, E. Rizzo, G. Romano, P. Romano, A. Sanchez, C. Sabia M. Scavone, M. Sileo, D. Vera.
- ❑ **Activity:** Archaeogeophysics, archaeological investigations, Geomorphology, Science for Conservation of Earthen Architecture, Satellite remote Sensing, Field survey, Exposition
- ❑ **Scientific partners:** CNR-IBAM, Potenza, Lecce and Catania; CNR-IMAA, Potenza, INFN-Catania, University of Bologna
- ❑ **Collaboration and agreement:** Centro de Estudios Arqueológicos Precolombinos in Nasca; Museo Tumbas Reales de Sipan, Universidad de Ingenieria de Lima, Museo de Sitio de Pachacamac
- ❑ **Financed by:** Italian Ministry of Foreign Affairs, CNR, CNR-IBAM, CNR-IMAA.
- ❑ **Investigated sites.** Peru: Ceremonial Centre of Cahuachi, Geoglyphs of Pampa de Atarco, Puquios of Rio Taruga and Rio Las Trancas, Rio Taruga geoglyphs and settlement, Paredones, Pachacamac, Ventarron, Arenal, Collud, Zarpan, Ucupe; Bolivia: Tiwanaku; Bolivia: Cartagena
- ❑ **Investigation campaigns.**
 - I. April 2007: aerial prospection of Rio Nasca;
 - II. April 2008: Cahuachi, georadar prospections in *Templo del Escalonado*;
 - III. November 2008: Cahuachi, geomagnetic prospections in *Piramide Naranja*, infrared surveys, Ground truth of archaeological features detected from satellite imagery in Rio Nasca,
 - IV. January 2009: field surveys in Ventarron
 - V. May 2009: Tiwanaku, Geomagnetic prospections, GPS surveys, Ground truth of archaeological features detected from satellite imagery
 - VI. 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
 - VII. August 2010. Cahuachi, Geoelectric prospections, measurement of seismic noise in Piramide Naranja, GPS survey in the area of geoglyphs at South of Cahuachi.
 - VIII. December 2010. Arenal and Ucupe (Lambayeque). Archaeogeophysical investigations
 - IX. April 2011. Titicaca Lake, field survey for the study of waru-warú and the fortress of Pukarrani.
 - X. August-September: archaeogeophysical investigations in Huanter (Ancash) and Cahuachi (Nazca); field survey for the study of ancient aqueducts in the drainage basin of Nazca river
 - XI. November-December: archaeogeophysical investigations in Arenal, Collud and Zarpan (Lambayeque region)
 - XII. December 2012: archaeogeophysical investigations in Cahuachi, Pachacamac
 - XIII. November-December 2013: archaeogeophysical investigations and field survey in Pachacamac, Cahuachi and Rio Taruga, near Nazca.



- XIV. June 2014. Tiwanaku (Bolivia) Archaeogeophysical investigations and surveys Akapana, Kantatallita and Temple.
- XV. December 2014. Pachacamac (Peru): Field survey, archaeogeophysical investigations, aerial prospection by UAV, mapping archaeological features from satellite SAR data
- XVI. September 2015. Nasca : Rio Taruga, Paredones, Pampa de Atarco and Cahuachi. Field survey and mapping by aerial surveys based on UAV of geoglyphs in Rio Taruga and Pampa de Atarco; Archaeogeophysical investigations in South Temple of Cahuachi, Inca settlement of Paredones and a settlement dating to later Intermediate Period in Taruga by means of the integration of geomagnetic prospections and aerial surveys based on UAV.
- XVII. June 2016. Cartagena de Indias (Colombia) :aerial survey, mapping and diagnostics investigations in the City Walls of Cartagena
- XVIII. December 2017. Pachacamac: geomagnetic investigations and trial excavation in the inka palace of Taurichump; Cahuachi: geomagnetic investigations in Monticolo 1,
- XIX. May 2017. Archaeogeophysical investigations (GPR and gradiometry) in Cahchabamba, Machu Picchu, Inkaraqay
- XX. November 2018. Archaeogeophysical investigations in Cusco: Plaza de Armas and historical centre
- XXI. June 2019. Archaeogeophysical investigations (ERT and UAV-based multispectral imagery) in Machu Picchu
- XXII. February 2020. Archaeogeophysical investigations and syrveys in Chankillo

□ **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 Naranja 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
- 2016: Archaeological Atlas of Cahuachi and the geoglyphs of Pampa de Atarco
- 2017: Atlas of the City Walls Cartategena de Indias (Colombia)
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□ **B.2.2 SCIENTIFIC MISSION IN CHINA**

In the context of the Bilateral Project between Italian CNR and Chinese Academy of Sciences (CAS) some scientific missions for archaeological purposes have been conducted from 2013 to 2015 in the Henan and Anhui provinces.

- **Responsibles:** Nicola Masini (CNR/IBAM), Fulong Chen (CAS/RADI and HIST)
- **Staff:** n. 5 researchers (N. Masini, R. Lasaponara, F. Gabellone, E. Rizzo, G. Romano. M. Sileo; n. 2 Research Granter (L. Capozzoli, A. Pecci)



- **Activity:** Archaeogeophysics, Satellite remote Sensing, Field survey, Photogrammetry, Science for Conservation
- **Scientific partners:** CNR-IBAM, CNR-IMAA, CAS-RADI
- **Collaboration and agreement:** HIST, Henan Academy of Sciences
- **Financed by:** Great Relevance Project of Italian Ministry of Foreign Affairs, CNR-IBAM, CNR-IMAA, Hundred Talents Program of the Chinese Academy of Sciences (CAS) [Y5YR0300QM], Youth Director Fund Category-A of Institute of Remote Sensing and Digital Earth, CAS
- **Investigated sites.** Han-Wei city in Luoyang, Longmen, Kaifeng, Zheng Zhou
- **Investigation campaigns.**

October 2013: field survey in Luoyang, surveys in Longmen.

October 2014: archaeogeophysical investigations and aerial surveys (drone) in Han-Wei city in Luoyang and Dinding gate of Sui Tang dynasties (Luoyang), terrestrial surveys and infrared thermography in Hong Cun

November 2015: archaeogeophysical investigations and field survey in Kaifeng, Han-Wei city in Luoyang, Zheng Zhou.

□ **Research and studies.**

2014-15: Satellite based detection of archaeological features in the HanWei city in Luoyang (Henan)

2015: SAR based investigations in Niya (Xinjiang region)

2014-15: Archaeogeophysical investigations in Kaifeng (Henan)

□ **B.2.3 OTHER SCIENTIFIC MISSION**

□ **B.2.3.1 COLOMBIA**

July 2016: As Scientific responsible of the Bilateral Project CNR-ACAC Colombia, he coordinated the close ranging remote sensing campaigns and diagnostic investigations for the conservation and documentation of the City Walls (Ciudad Amurallada) of Cartagena de Indias

□ **B.2.3.2 CYPRUS**

2017 March / 2018 September: As scientific responsible of Project Athena (H2020) he coordinated the scientific investigation of Tombs of Kings in Paphos

□ **B.3 RESEARCH MANAGEMENT EXPERIENCE**

B.3.1. CNR Research Commitment

2005-in progress Manager of a **CNR Research Commitment**: “Integrated diagnostic Methodologies for preservation of the architectural and archaeological heritage in the Mediterranean basin” (IBAM, seats in Lecce and Potenza)

- **Manager**: Nicola Masini. **Staff (2010)**: n. 9 researchers n. 1 technologist, n.2 technicians, n.3 administratives; n. 6 Research Grant
- **Activity**: diagnostic for architectural and structural restoration, material characterization, archaeometry, archaeogeophysics, non invasive for diagnostics, study of provenance of materials, Virtual reality
- **Methodologies**: XRD, infrared thermography, georadar, sonic and ultrasonic tests, Laboratory of chemical and physical analyses.
- **Funds**: between 2007 and 2010 the ratio (ratio of amplification) between ordinary and external funds for research is around 1:12÷1:15

B.3.2. Laboratory of GIS and Remote Sensing

□ **2007-2010. Responsible** of Laboratory of GIS and Remote Sensing for Archaeology and Cultural Heritage Management.

- **Activities**: LiDAR for Archaeology and Palaeoenvironmental Analysis, Spatial Analysis for archaeological predictive modelling, Image processing of multispectral satellite data for site discovery, mapping of cultural sites, monitoring of archaeological sites.
- **Staff**: n. 2 researchers, n. 1 researcher-technologist, n. technician, n. 2 Research Granters

B.3.3. IBAM-CNR Seat of Potenza

□ **November 2011-September 2019. Responsible of** IBAM, UOS of Potenza.

- **Current Staff of IBAM seat of Potenza**: n. 10 researchers, n. 1 researcher-technologist, n.3 technicians, n.2 administratives

B.3.4. ISPC-CNR Seat of Potenza

□ **October 2019-on going. Responsible of** ISPC, Seat of Potenza.

- **Current Staff of ISPC seat of Potenza**: n. 10 researchers, n.4 technicians, n.2 administratives

❑ **B.4 INTERNATIONAL RESEARCH PROJECTS*: MANAGEMENT EXPERIENCE**

** For sake of brevity, I only refer to projects, which I am in charge of.*

B.4.1. INTERREG IIIB - Project Manager of ByHeriNet (2006-07)

Transnational cooperation project in the framework of Archimed Interreg IIIB, entitled: “Byzantine Heritage Network: Rehabilitation, highlighting and management in the Eastern Mediterranean Basin”

The Project has created a network addressed to valorization and integrated management of the byzantine cultural heritage in the Mediterranean East basin.

The outcomes have been : the development of itineraries, pilot-projects, studies, best practices and international protocols complying with the highlighting and management of the byzantine cultural heritage, through tools and systems of the Information Society, by means of the cooperation and the exchange of know-how. The countries involved in the project have been: Italy, Greece and Cyprus.



Project manager: Nicola Masini. **Staff:** n.5 researchers, n. 7 research granter. **Budget:** € 125.000,00. **Financing Programme:** Archimed Interreg IIIB

B.4.2. Interreg III C SUD - project PALAIS (2007-08)

Responsible of the agreement with Region of Basilicata within the European transnational cooperation project, **PALAIS** : *Patrimoine Architectural Local t Aménagement Innovante et Stratégique*

IBAM-CNR activity was focused on the set up and validation of a methodology aimed at the creation of a guide line framework for the study of feasibility and business plan for the reuse, valorization and management of architectural heritage. The countries involved in the project have been: Italy, Greece and Slovakia.



Responsible: Nicola Masini. **Staff:** n.3 persons. **Budget:** € 60.000,00. **Financing Programme:** Interreg III C SUD

B.4.3. Bilateral Programme CNR Italy-CSIC Spain (2007-08)

Scientific responsible for IBAM-CNR of the project “Exchange of methodologies and knowledge for the preservation and promotion of Geomonumental routes: historical bridges built by the granite of Madrid and the calcarenite of Salento” with CSIC-IGE of Madrid.

Responsibles: Nicola Masini (IBAM-CNR) and Monica Alvarez de Buergo (CSIC-IGE, Madrid). **Staff:** n.5 researchers; n.2 research granter; n.1 administrative. **Budget:** € 10.000,00. **Financing Programme:** Bilateral Programme CNR Italy and CSIC Spain

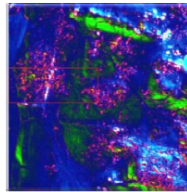
B.4.4 European Regional Development Fund (ERDF) - Project PRO-CULT (2012-15)

Title *Advanced methodological approaches and technologies for Protection and Security of Cultural Heritage*

Lead partner: *CNR-IBAM*; **other partners:** CSIC -IGE of Madrid (Spain); Adam Mickiewicz University of Poznan (Poland)

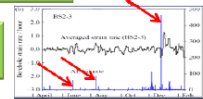
Responsible: Nicola Masini. **Financing:** Operative Programme ERDF Basilicata (2007-2013). **Budget** € 430.000,00

Sistema di tracciabilità dei beni artistici mobili a basso costo e di facile utilizzo da impiegare in situazioni di emergenza, quali terremoti, alluvioni, o altre calamità naturali che richiedano strumenti di supporto alla logistica e al trasporto e alla protezione



Routine di software e procedure basate sull'Image processing e sull'informazione geografica utilizzando dati ed immagini telerilevati da piattaforma aerea e satellitare per l'osservazione, monitoraggio e valutazione dei danni di natura antropica recati al patrimonio archeologico

Protocolli per la valutazione dello "stato di salute" dei monumenti tramite monitoraggio dell'emissione acustica



Monitoraggio intelligente delle condizioni di degrado del patrimonio costruito monumentale

Redazione di un Atlante degli effetti sismici di centri storici della Basilicata e mappe della frequenza fondamentale di vibrazione dei suoli

B.4.5 - 2012 - 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,

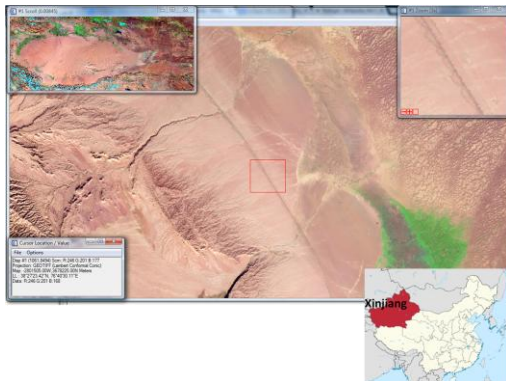
B.4.6 - 2013 – DLR (German Aerospace Center). Co-investigator of the project of Utilisation of TerraSAR-X / TanDEM-X Data and Products for Scientific Use

B.4.7 – 2013-15

Title: “Smart management of cultural heritage sites in Italy and China: Earth Observation and pilot projects (2013-2015).

Partners: *CNR-IBAM; CNR-IMAA*; Chinese Academy of Sciences – Center for Earth Observation and Digital Earth)

Responsible: Nicola Masini.



Financing/Programme: Executive Programme for Scientific and Technological Cooperation between Italy and China of Italian Ministry of Foreign Affairs

Budget € 40.000,00

Investigation campaigns and meeting

October 2013

Investigation campaign in the ancient city of Luoyang (11-13/10/2013) invited by HIST (International Centre on Space Technologies for Natural and Cultural Heritage) in Beijing of CAS (Chinese Academy of Sciences)

Bilateral meeting with HIST-CAS in Zheng Zhou, 10.10.2013

B.4.8 - 2014

ESA project, entitled : " Apply PALSAR data for the study of ancient Silk Road and archaeological sites in Xinjiang region (China)"

Principal investigator: Nicola Masini

B.4.9. Bilateral Programme CNR Italy-ACAC Colombia (2015-16)

Scientific responsible for IBAM-CNR of the project “*Technologies and tools for diagnosis and conservation of the fortified settlements of Cartagena de Indias (COL) and Acaia (ITA)*” with University of Cartagena.

Responsibles: Nicola Masini (IBAM-CNR) and Jorge Luis Alvarez Carrascal (University of Cartagena). **Staff:** n.5 researchers; n.2 research granter; n.1 administrative. **Budget:** € 12.000,00.

Financing Programme: Bilateral Programme CNR Italy and ACAC Colombia

B.4.10 [2016-18] Responsible for CNR-IBAM of the Project ATHENA Remote Sensing Science Center for Cultural Heritage (2016-18) Staff: n.3 researchers; n.2 administrative.
Financing Programme: Horizon 2020, Twinning 2015 (2015-2018)

B.4.11 - [2018-2020 January] Primary Coordinator of the Project GeoMOP (2018 on going) entitled: “*Modern Geospatial Practices for Ancient Movement Praxis*” **Staff:** n.2 researchers; n.2 administrative. **Budget:** € 88.125,00. **Financing Programme:** H2020-MSCA-IF-2016.

B.4.12 - [2020-ongoing] Responsible for CNR-ISPC of the Project HERITAGE WITHIN - Programme Cross Sectoral Strand Action INNOVLAB - Bridging culture and audiovisual content through digital (dal 1.01.2020) - Grant agreement ID: 614719

B.4.13 - [2020-ongoing] Responsible for CNR-ISPC of the Project Space-to-Tree: Earth Observation based monitoring of Natural and historical Park – (Call ARTES IAP-5G for L’ART Demonstration Projects - European Space Agency

□ B.5 MAIN SCIENTIFIC RESULTS, HONORS AND AWARDS

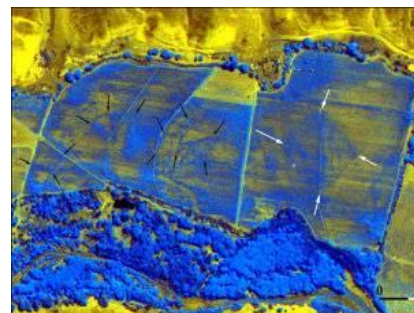
2007: Rotary Award “Outstanding Researchers”, assigned by Rotary Foundation - Italy

2008-09: Discovery of a buried archaeological settlement near Nazca river in Peru (2008-09)

2009: Distinction award by Italian Ministry of Education, University and Research for BYHERINET Project

2008-09: CNR Highlights 2008-09

2009-10: CNR Highlights 2009-10



Satellite image of the buried settlement in Peru

2010 - November 9

As a **responsible of task force of CNR-IBAM** operating in L'Aquila, after the 6 April 2009 earthquake, received **Certificate of public merit of the first class - Gold Medal of the National Civil Protection** which awarded to the CNR research groups of ITC U.O.S. L'Aquila, IRPI Perugia and IBAM (N. Masini, S. Del Lungo, E. Gherardi, FT Gizzi) operating in L'Aquila in the two-year period 2009-10, with the following motivation: "For the concrete and effective support for the resumption of administrative, cultural and social life of the victims of the disaster »(Undersecretary of State to the Presidency of the Council of Ministers - SSPCM protocol No. 865 / CD / 2010, of 4.11.2010).

2011

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.

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", Wien 5 apr. 2011.

1st paper most cited of Journal of Geophysics and Engineering in the years 2010-11 (Masini N., Persico R., Rizzo E. 2010, Some Examples of GPR Prospecting for Monitoring of the Monumental Heritage, *Journal Geophysics Engineering* 7, pp. 190-199)

2012 - Wien, 22-27 April 2012. EGU Assembly

Paper of Special interest "Thermographic inspection of bond defects in Fiber Reinforced Polymer applied to masonry structures" (N. Masini, M. A. Aiello, L. Capozzoli, and E. Vasanelli) showed in the session "From artefact to historical site : geoscience and non-invasive methods for the study and conservation of cultural heritage"

Paper of Special interest "Electrical Resistivity Tomographies on the detection of adobe buried archaeological structures in Piramide Sur in Cahuachi (Peru)" (L. Capozzoli, N. Masini, E. Rizzo, R. Lasaponara, and G. Orefici) showed in the session "From artefact to historical site : geoscience and non-invasive methods for the study and conservation of cultural heritage"

Member of Italian Consultant Panel Stakeholders for Joint Programming Initiative on "Cultural Heritage and global change: a new Challenge for Europe"

2013

Best paper award at the Conference RSCy 2013 (First International Conference on Remote Sensing and Geoinformation of Environment, 8-10 April 2013 Paphos, Cyprus) with a paper entitled: "Gis and Archaeology: A Spatial Predictive Model For Neolithic Sites Of The Tavoliere (Apulia)" (Authors: Maria Danese, Nicola Masini, Marilisa Biscione e Rosa Lasaponara)

2016

2016 Winner of CAS (Chinese Academy of Science) President's International Fellowship Initiative (PIFI).

2017

4-5 October. Capri, ex Osservatorio Svedese. He has been part of the Italian Delegation which attended "High Level Research" Italy – Uk Bilateral Meeting, with particular reference to "Innovative Technologies for Cultural Heritage"

2019

Most cited paper of Journal of Cultural Heritage from 2013 up to 2019 (paper entitled: pappa

□ **B.6 MANAGEMENT EXPERIENCE : NATIONAL RESEARCH PROJECTS*:**

- *For sake of brevity, I only refer to projects which I am in charge of.*

B.6.1 Project of Cataloguing of Cultural heritage in Basilicata (2015)

Customer: Basilicata Region.

Responsibles: Nicola Masini and Fabrizio T. Gizzi

B.6.2 High Training Project (2012-13): “Identification of best practices and ICT competencies for the management and valorization of Archaeological and Cultural Heritage”

Financing: Basilicata Region, Programme FSE Basilicata 2007-2013.

Responsible: Nicola Masini.

Budget € 20.220.

Staff: Stefano Del Lungo, Francesco Gabellone, Giovanni Leucci, Raffaele Persico, Canio Sabia

B.6.3 – Scientific consultant of the Project of CNR-IMAA financed by Basilicata Regione (Programma Basilicata Innovazione) of the bilateral project CNR-IMAA and CNR-IBAM for the validation of ultrasonic tests and tomographies and infrared thermography on concrete infrastructures

Budget € 2.500,00

Responsible: Nicola Masini. **Financing:** CNR-IMAA

B.6.4 Project CNR-MIUR for the strengthening of technological infrastructures and laboratories (2009-11).

Responsible: Nicola Masini. **Financing:** MIUR (Ministry of Education, University and Research).

Budget € 517.058,00

B.6.5 Project of strengthening of professional competence of young researchers of GEL Project¹ (June 2009-June 11).

Project financing Scientific Research and training

Responsible: Nicola Masini. **Staff** :n. 5 Researchers as scientific tutors (F.T. Gizzi, M. Lazzari, N. Masini, D. Roubis, F. Sogliani); n.1 administrative (A. Briuolo). **Financing:** Basilicata Region.

Budget € 250.000

B.6.6 Project GEL (2007-08).

Responsible of IBAM of the GEL project for scientific Research and training financed by Basilicata Region

Responsible: Nicola Masini. **Staff** : n. 5 Researchers as scientific tutors (A. Calia, F. Gabellone, N. Masini, D. Roubis, F. Sogliani); n.1 administrative (A. Briuolo) **Financing:** Basilicata Region. **Budget** € 225.000

B.6.7 Agreement between Province of Lecce and IBAM-CNR for a research aimed at the preservation and valorization Byzantine Architectural Heritage (2007-08)

Responsible of IBAM of the GEL project for scientific Research and training financed by Basilicata Region

Responsible: Nicola Masini. **Staff** : n. 4 Researchers (A. Calia, F. Gabellone, M.T. Giannotta, G. Quarta); n.1 research granter (M. Sileo). **Financing:** province of Lecce. **Budget** € 85.000

¹ GEL is the acronymous of “Giovani eccellenze Lucane”, that is “Young out standing of Basilicata”



B.6.8 Triennial plan of IBAM (2001-03)

Scientific activities on : Building techniques and architectural types of medieval castles in the South of Italy; Castles and quarries; Identification of building materials and spotting of quarries

Responsible: Nicola Masini; **Financing:** CNR

□ B.7 MANAGEMENT ROLE IN NATIONAL BODIES AND INSTITUTIONS:

Since 2018: Deputy Director of Creative Cultural Industry Cluster "Basilicata Creativa

□ B.8 NATIONAL PROJECT FOR TECHNOLOGICAL DEVELOPMENT AND TRANSFER.

- *For sake of brevity, I only refer to projects which I am in charge of.*

B.7.1 Georadar Stepped frequency reconfigurable

Description: Georadar stepped frequency offers many advantages respect to the classic pulsed georadar, because it allows us to set the parameters of the system in function of the frequency.

Responsible: Raffaele Persico, Nicola Masini, Francesco Soldovieri. **Staff :** n.2 researchers.

Financing: AITECH Project financed by Apulia Region and CNR Research Commitment: "Integrated diagnostic Methodologies for preservation of the architectural and archaeological heritage in the Mediterranean basin". **Budget** € 150.00,00

B.7.2 Tracking System of Movable Cultural Objects (July 2010-june 2011)

Description: System of traceability of movable cultural artefacts useful both to manage the emergency (from carriage of artefacts to logistics) and to safeguard movable artistic heritage. It is based on the integration of sensors with mobile network and geographic information, managed by means of Location Based Services; thus making the technology low cost, modular, user friendly and easily integrable with other localization sensors

Such technology is in progress. It is conceived to assure two different levels of functionality: i) the first, static, is based on the use of RFID (Radio Frequency IDentification) to control openings or passages; ii) the second one is dynamic. It is composed of active localization sensors, capable to connect to a network as well as to use GPS signals and GSM infrastructures. They allow us to send the change of position of artistic objects with a given temporal frequency.

Responsible: Nicola Masini. **Staff :** n.1 researcher (Stefano. Del Lungo) and n.1 research granter (M. Biscione and M. Danese). **Financing:** Programme Basilicata Innovazione / Area Science Park of Trieste. **Budget** € 66.788,00 (including co-financing of IBAM-CNR of € 30.788)

B.7.3 SATOR Project

Description : Study and development of innovative models for the analysis and processing of satellite data for achieving high performance in terms of spatial and temporal resolution)

Scientific Responsible: Nicola Masini.

Financing: Ingenia srl

❑ **B.8 NATIONAL INVESTIGATION CAMPAIGNS OF DIAGNOSTICS FOR CONSERVATION, ARCHAEOGEOPHYSICS AND STUDIES.**

- *For sake of brevity, I only refer to investigations campaigns which I am in charge of.*

2015



Diagnostics investigation for the Restoration of Regio VIII in the archaeological area in the archaeological area of Pompeii

Purchaser: Private

Scientific Responsible: Nicola Masini.

Technical coordinator: Maria Sileo. **Staff:**

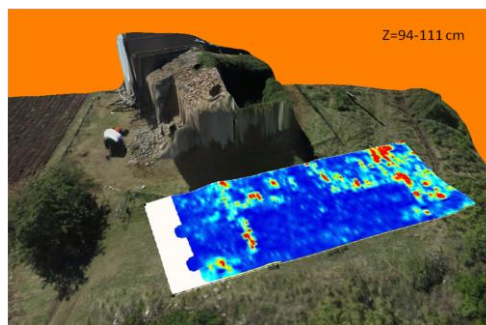
Gianni Leucci, Giovanni Quarta, Antonio D'Antonio, Lara De Giorgi, Davide Melica, Antonio Pecci, Manuela Scavone. **Budget** = € 14.000

2013-14

Archaeogeophysical investigations in san Pietro - Calvello

Purchaser: Municipality of Calvello

Scientific responsible: Nicola Masini. **Staff:** Gianni Leucci, Enzo Rizzo, Cosimo Marzo, Luigi Capozzoli, Lara de Giorgi, Gregory De Martino, Loredana Matera, Antonio Pecci, Manuela Scavone, Maria Sileo; **Budget** =



2010-11

Cataloguing, diagnostics, conservation and valorization of the Cultural heritage in the territory of Cancellara.

Purchaser: Municipality of Cancellara

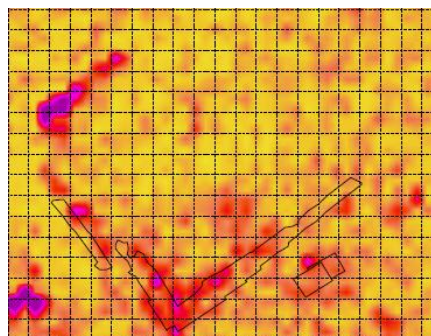
Scientific responsible: Stefano De Lungo & Nicola Masini. **Staff:** n.3 Researchers; **Budget** = € 15.000.

2010

Archaeogeophysical investigations in Vagnari, Gravina (Bari).

Purchaser: Archaeological Mission of Saint Mary's University, Halifax, Canada

Scientific responsible: Nicola Masini. **Staff:** Gianni Leucci, Raffaele Persico, Dimitris Roubis; **Budget** = € 2.000



Geophysical investigations in the Cathedral of Tricarico (Potenza).



Purchaser: Dioceses of Tricarico

Scientific responsible: Nicola Masini. **Staff:** n. 2 Researchers (G. Leucci, R. Persico); **Budget** = € 4.500

Diagnostic investigation for the restoration of the Cathedral of Tricarico (Potenza).

Purchaser: Regional Superintendence of Cultural Heritage of Basilicata

Scientific responsible: Nicola Masini. **Staff:** n. 5 Researchers (E. Gerdali, F. Gizzi, G. Leucci, G. Quarta, R. Persico); **Partner:** University of Rome “La Sapienza. **Budget** = € 9.500

2007-08

Diagnostic investigations for the restoration of the medieval “Palombaro” in the historical centre of Matera (UNESCO)

Purchaser: Archaeological Superintendence of Architectural Heritage of Basilicata

Scientific responsible: Nicola Masini. **Staff:** n.1 Researcher (A. Calia), n.2 Research Granter (L. Fragasso, M. Sileo) **Budget** = € 7.000.

Diagnostic investigations for the restoration of the Cathedral of Matera

Purchaser: Archaeological Superintendence of Architectural Heritage of Basilicata

Scientific responsible: Nicola Masini; **Staff:** n.1 Researcher (R. Persico); **Budget** = € 4.800.

2007

Diagnostic investigations for the restoration of the Castle of Cancellara

Purchaser: Municipality of Cancellara

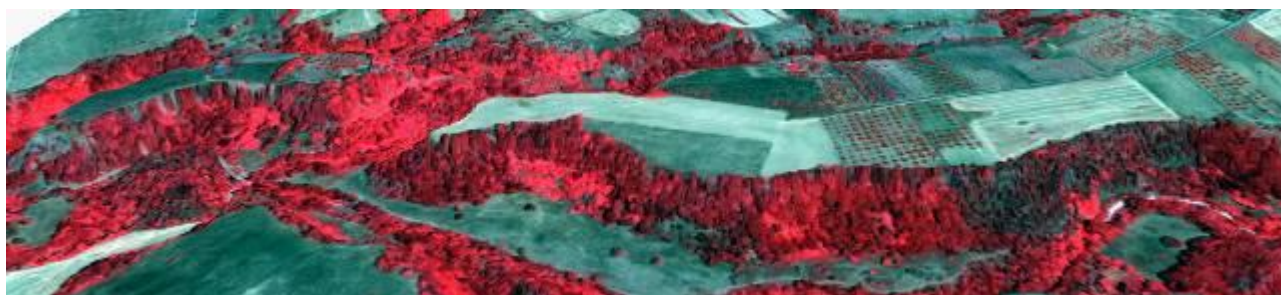
Scientific responsible: Nicola Masini. **Staff:** n.1 Researcher (A. Calia), n.3 Research Granters (A. Cinnella, D. Sanseverino, M. Sileo); **Partner:** DAPIT, University of Basilicata; **Budget** = € 9.000.



Archaeogeophysical investigations in the archaeological site of San Giovenale (agreement with Institute of Swedish Classic Studies of Rome)

Purchaser: Swedish Classic Studies of Rome

Scientific responsible for IBAM: Nicola Masini. Other partners: CNR-IMAA



2006

Study aimed at the reconstruction of historical seismic damage scenario of Melfi

Purchaser: Municipality of Melfi

Scientific co-responsibles: Fabrizio Gizzi & Nicola Masini. **Partner:** CNR-IMAA;

Budget = € 5.000.

Diagnostic investigations for the restoration of the of the Annunziata church in Salandra

Purchaser: Municipality of Salandra
Scientific responsible: Nicola Masini..

2004

Diagnostic investigations for the restoration of the Cathedral of Troia (FG)

Purchaser: Dioceses of Lucera-Troia

Scientific responsables: Domenico Liberatore and Nicola Masini;

Partners: DISGG, University of Potenza; CNR-IMAA; University of Lecce; **Staff:** A. Calia, D. Liberatore, N. Masini, L. Nuzzo, E. Rizzo;

Budget = € 4.800.



C) EDITORIAL ACTIVITY

D) CONFERENCES

E) PROJECT REVIEWER

C) EDITORIAL ACTIVITY

C.1 EDITOR IN CHIEF OF INTERNATIONAL JOURNALS

He is Editor in Chief and **co-founder** of **HERITAGE**
(<https://www.mdpi.com/journal/heritage/editors>)

C.2a ASSOCIATE EDITOR OF INTERNATIONAL JOURNALS

He is **Associate Editor** of *Geoscientific Instrumentation, Methods and Data System*

C.2b MEMBER OF ADVISORY BOARD OF THE FOLLOWING INTERNATIONAL JOURNALS

- **Journal of Archaeological Method and Theory** (since 2019)
- **International Journal of Architectural Heritage** (since 2019)
- **Sci** (since 2018)

C.23 Member of Editorial Board of the following international journals

- **Remote Sensing** (since 2010)
- **Journal of Geophysics and Engineering** (since 2010)
- **Sustainability** (since December 2019)

C.3 GUEST EDITOR OF INTERNATIONAL JOURNALS

- He 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.)
 - *Journal of Geophysics and Engineering*, vol. 7 (2010), entitled: “Near surface geophysics for the study and the management of historical resources”(guest editors Lev Eppelbaum, Nicola Masini, Francesco Soldovieri)
 - *Near Surface Geophysics* vol. 8/5 (2010), entitled: “GPR in Archaeology ”(guest editors Nicola Masini, Francesco Soldovieri)
 - *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.)
 - *Advances in Geosciences*, vol. 24 (2010), entitled: “Near surface geophysics for the study and the management of historical resource” (guest editors Nicola Masini, Lev Eppelbaum, Francesco Soldovieri).
 - *Journal of Archaeological Science*, vol. 38 (2011), entitled : " Satellite remote sensing in archaeology: past, present and future perspectives” (guest editors Rosa Lasaponara, Nicola Masini)
 - *Journal of Geophysics and Engineering*, vol. 8 (2011), entitled: “Integrated non-invasive sensing techniques and geophysical methods for the study and conservation of architectural, archaeological and artistic heritage” (guest editors Nicola Masini, Francesco Soldovieri)
 - *International Journal of Geophysics* (2011), entitled: “ Noninvasive Sensing Techniques and Geophysical Methods for Cultural Heritage and Civil Infrastructures Monitoring” (guest editors Francesco Soldovieri, Jean Dumoulin, Nicola Masini, and Erica Utsi)

- *Journal of Geophysics and Engineering*, vol. 9 (2012), entitled: “Cultural heritage and civil engineering” (editors Masini N., Soldovieri F., Alvarez De Buergo M., Dumoulin J.)
- *International Journal of Geophysics* (2012), entitled: “ Noninvasive Sensing Techniques and Geophysical Methods for Cultural Heritage and Civil Infrastructures Monitoring” (guest editors Francesco Soldovieri, Jean Dumoulin, Nicola Masini, and Erica Utsi)
- *International Journal of Geophysics* (2012), entitled: “ Noninvasive Sensing Techniques 2012” (guest editors Francesco Soldovieri, Jean Dumoulin, Nicola Masini, Raffaele Solimene, and Erica Utsi)
- *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.)
- *Remote Sensing* (2014-15), entitled: "New Perspectives of Remote Sensing for Archaeology" (Guest editors: Lasaponara R., Masini N.), ISSN 2072-4292
- *Heritage* (2018), entitled: " Features Papers" (Guest editors: Masini N., Soldovieri F.)
- *Heritage* (2018-19), entitled: " Sharing and Discussion of Experiences and Approaches to Interpretation, Conservation and Management of Archaeological and Architectural Heritage" (Guest editors: Masini N., Prestileo F., Schiavon N.)
- *Sustainability* (2019), entitled: " New Perspectives of Remote Sensing for Archaeology" (Guest editors: Lasaponara R., Masini N.)

C.4 REVIEWER OF JOURNAL, PROCEEDINGS AND PROJECTS

C4.1 Reviewer for the following journals

- ☐ *African Archaeological Review*
- ☐ *American Journal of Engineering and Applied Sciences*
- ☐ *Applied Energy*
- ☐ *Archaeometry*
- ☐ *Archaeological Prospection*
- ☐ *Archaeological Research in Asia*
- ☐ *Archaeology*
- ☐ *Archeologia e Calcolatori*
- ☐ *Big Earth Data*
- ☐ *Construction & Building Materials*
- ☐ *Digital Applications in Archaeology and Cultural Heritage*
- ☐ *European Journal of Remote Sensing*
- ☐ *Geoheritage*
- ☐ *Geological Society of London*
- ☐ *IEEE Journal of selected topics in applied earth observations and remote sensing (j-stars)*
- ☐ *International Journal of Architectural Heritage*
- ☐ *International Journal of Digital Earth*
- ☐ *International Journal of Geophysics*
- ☐ *International Journal of Remote Sensing*
- ☐ *Journal on Computing and Cultural Heritage*

- ☐ *Journal of Applied Geophysics*
- ☐ *Journal of Archaeological Science*
- ☐ *Journal of Archaeological Method and Theory*
- ☐ *Journal of Architectural Conservation*
- ☐ *Journal of Cultural Heritage*
- ☐ *Journal of Geophysics and Engineering*
- ☐ *Latin American Antiquity*
- ☐ *Measurement*
- ☐ *Natural Hazards and Earth System Sciences*
- ☐ *Near Surface Geophysics*
- ☐ *Remote Sensing*
- ☐ *Remote Sensing of Environment*
- ☐ *Sensors*
- ☐ *The Egyptian Journal of remote Sensing and Space sciences*

C4.2 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)*
- ☐ *Digital Heritage International Congress 2015, Granada (Spain), 28 September - 2 October 2015.*
- ☐ *Geomedisland*
- ☐ *YOCOCU 2016*

D) INTERNATIONAL CONFERENCES AND WORKSHOPS

D.1 CHAIR OR CO-CHAIR OF INTERNATIONAL CONFERENCES AND WORKSHOPS

2008

Co-chair of the I EARSeL Workshop “**Advances in Remote Sensing for Archaeology and Cultural Heritage Management**” Rome, 30 September-4 October 2008

2011

• Santander (Spain), 20-23 June 2011. Co-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 (Brazil), 18-21 June 2012. Co-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. Co-chairman of the 33rd EARSeL Symposium 2013 “Towards Horizon 2020: Earth Observation and Social Perspectives”
- Matera (Italia), 6-7 June 2013. Co-chairman 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. Co-chairman 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. Chairman of the 1st International Workshop of the Project PRO_CULT : "Cultural heritage between knowledge and monitoring. Multiscale approaches and smart technologies"

2014

- Guimarães (Portogallo), 30 June-3 July. Co-chairman of the IV Workshop : “Remote sensing Data Analysis, modeling, interpretation and Applications: from a global view to a local analysis” nell’ambito della Conferenza ICCSA 2013

2015

- Banf, AB, Canada, 22-25 June. Co-chairman of the V Workshop : “Remote sensing Data Analysis, modeling, interpretation and Applications: from a global view to a local analysis” nell’ambito della Conferenza ICCSA 2015

2016

- Beijing, 4-7 July 2016. Co-chairman of the VI Workshop : “Remote sensing Data Analysis, modeling, interpretation and Applications: from a global view to a local analysis” within Conference ICCSA ICCSA 2016

2017

Trieste 6-8 June 2017. 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) 2017

2018

- Matera, 23-25 May - **General Chair** of the International **Conference** YOCOCU 2018 "Dialogues in Cultural Heritage

D.2 CONVENER OF SCIENTIFIC SESSIONS WITHIN INTERNATIONAL CONFERENCES AND SYMPOSIUM 2007

- Florence, 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 “*Near surface geophysics for the study and the management of historical resources: past, present and future*”
- 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 GI9: “*Integrated non-invasive sensing techniques and geophysical methods for the study and conservation of architectural, archaeological and artistic heritage*”

D.3 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 (Japan), 23-26 March 2010. Member of the Programme Committee of the 5th Workshop on "Geographical Analysis, Urban Modelling, 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)
- Lecce, 21-25 June 2010. Member of the Organizing Committee of the XIII International Conference on Ground Penetrating Radar.

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

- Nice, February 24-March 1 2013. Member of the Technical Program Committee of “The Fifth International Conference on Advanced Geographic Information Systems, Applications, and Services: GEO Processing 2013”.
- Paphos (Cyprus), 8-10 April 2013.. Member of the International Scientific Committee of the “First International Conference on Remote Sensing and Geoinformation of Environment” (RSCy 2014)
- Matera (Italia), 3-6 June. 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 December 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 of Environment”. (RSCy 2014)
- Seville (Spain), 24-27 June 2014. member of the Scientific Committee of the International Congress on "Cultural Heritage, Science and Technology"
- 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 of Environment”. (RSCy 2015)
- Munich (Germany), 24-25 June 2015. Member of the Conference Committee of Conference "Optics for Arts, Architecture, and Archaeology V" in the context of SPIE Optical Metrology 2015
- Granada (Spain), 28 September - 2 October 2015. Member of the International Committee of "Digital Heritage International Congress 2015.

2016

- Madrid (Spain), 25-27 May 2016. Member of the International Committee of the International Conference YOCOCU (YOUTH in CONSERVATION of CULTURAL heritage)
- Paphos (Cyprus), 4-8 April 2016. Member of the Scientific Committee of the “Forth International Conference on Remote Sensing and Geoinformation of Environment”. (RSCy 2015)
- Sofia (Bulgaria), Bulgarian Academy of Sciences , 11-12 October 2016. Member of the Scientific Committee of the Third European SCGIS (Society for Conservation GIS) Conference of Geoinformation technologies for natural and cultural heritage conservation

2017

- Paphos (Cyprus), 20-23 March 2017. Member of the Scientific Committee of the “Eighth International Conference on Remote Sensing and Geoinformation of Environment”. (RSCy 2020)

2018

- Paphos (Cyprus), 26-29 March 2018. Member of the Scientific Committee of the “Sixth International Conference on Remote Sensing and Geoinformation of Environment”. (RSCy 2018)
- Matera, 23-25 May - Member of the Scientific Committee of the International **Conference** YOCOCU 2018 "Dialogues in Cultural Heritage"

2019

- Paphos (Cyprus), 18-21 March 2019. Member of the Scientific Committee of the “Seventh International Conference on Remote Sensing and Geoinformation of Environment”. (RSCy 2019)
- Matera, 23-26 October - Member of the Scientific Committee of the International **Conference** REUSO 2019 " *Documentazione, conservazione e recupero del patrimonio architettonico e tutela paesaggistica/ Documentation, conservation and recovery of the architectural heritage and landscape protection*"

2020

- Paphos (Cyprus), 16-18 March 2020. Member of the Scientific Committee of the “Eighth International Conference on Remote Sensing and Geoinformation of Environment”. (RSCy 2020)
- Tbilisi, 19-23 May - Member of the International Committee of the International **Conference** YOCOCU 2018 " *Hands on Heritage: Experiencing Conservation, Mastering Management*"

D.4 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 “*Near surface geophysics for the study and the management of historical resources: past, present and future*”
- Berlin, 31 August – 3 settembre 2009. Spie Europe Remote Sensing Conference. Chairperson of the session “*Archaeology, Cultural and Natural Heritage Geospatial Infrastructure II*”

2010

- Fukuoka (Japan), 23-26 march 2010. 5th Workshop on "Geographical Analysis, Urban Modelling, 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 “*From instrumentation to data analysis*”, of the scientific session GI9”*Integrated non-invasive sensing techniques and geophysical methods for the study and conservation of architectural, archaeological and artistic heritage.*”
- Lecce, 23 June 2010. XIII International Conference on Ground Penetrating Radar. Chairperson of the oral session “*Diagnostic of historical buildings*”.

2011

- Vienna, 3-8 aprile. EGU General Assembly. Chairperson of the oral session GI9 "From artefact to historical site : geoscience and non-invasive methods for the study and conservation of cultural heritage"

2012

- Vienna, 22-27 aprile. EGU General Assembly. Chairperson of the oral session GI3.4 "From artefact to historical site : geoscience and non-invasive methods for the study and conservation of cultural heritage"
- 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" in the framework of the Conference ICCSA 2012

2013

- Vienna, 7-12 April. EGU General Assembly. Chairperson of the oral session GI3.4 "From artefact to historical site : geoscience and non-invasive methods for the study and conservation of cultural heritage"

2014

- Seville (Spain), 24-27 June 2014. International Congress on "Cultural Heritage, Science and Technology", Chairperson of the oral session entitled: " Security technologies, remote sensing and G.I.S. for the protection and management of Cultural Heritage" held on June 26.
- Vienna, 27 April-2 May. EGU General Assembly Chairperson of oral session GI3.4 "*From artefact to historical site : geoscience and non-invasive methods for the study and conservation of cultural heritage.*"

2015

- Vienna, 12-17 April. EGU General Assembly Chairperson of oral session GI3.4 "*From artefact to historical site : geoscience and non-invasive methods for the study and conservation of cultural heritage.*"

2016

- Paphos, 4-7 April - RSCy 2016, Forth International Conference on Remote Sensing and Geoinformation of Environment. Chairman of the scientific session "*Sensing the Past: Remote Monitoring for Archaeology and Cultural Heritage*"
- Madrid (Spain), 25-27 May 2016. International Conference YOCOCU (YOUTH in CONSERVATION of CULTURAL heritage). Chairman of an oral session

2017

- Cyprus, 20-23 March, 2017- Member of the International Scientific Committee of the Fifth International Conference on Remote Sensing and Geoinformation of Environment'

2018

- Cyprus, 26-29 March, 2018- Member of the International Scientific Committee of the Sixth International Conference on Remote Sensing and Geoinformation of Environment'

- Matera (Italia), 23-25 May 2018. Member of the International Committee of International Conference YOCOCU (YOUTH in CONSERVATION of CULTURAL heritage) "Dialogues in Cultural Heritage"

2019

Cyprus, 18-21 March, 2019- Member of the International Scientific Committee of the Seventh International Conference on Remote Sensing and Geoinformation of Environment' - Cyprus

- Matera (Italy), 24-26 Ottobre 2019. Member of the Scientific Committee of the International Conference REUSO - "Patrimonio in divenire"

D.5 INVITED SPEAKER OR KEYNOTE AT INTERNATIONAL CONFERENCES.

2010

- Colonia, ISPRS Workshop on Remote Sensing Methods for Change Detection and Process Modelling, 18-19 November 2010. **Invited presentation entitled:** *LIDAR Remote Sensing for Archaeology Applications*
- Ankara, 19th International Geophysical Congress and Exhibition of Turkey, 23-25 November 2010. **Lecture entitled:** *Integrated approach to archaeogeophysics: methodological issues, applications and new perspectives*

2012

University of Cartagena (Colombia), 27 June 2012. Lecture entitled: "*Ciencias para la Conservacion y Puesta en Valor del Patrimonio Cultural*"

2011

Universidad Católica del Perú (PUCP), Lima 9 september 2011. Lecture entitled "Patrimonio y territorio: Conservacion y Tecnologia"

Istituto Italiano di Cultura a Lima, 7 December 2011. Lecture entitled : "*Más allá de lo visible*", una ventana sobre el pasado prehispánico. Estudios e investigaciones en arqueogeofísica y teledetección en el Perú (2007-2011)"

2013

Rome, Accademia dei Lincei, 3-5 April 2013. Bilateral Conference Italia-Brazilian "Culture, Science, Diritto and Sustainability: Tools for the Protection of Cultural Heritage". Lecture (3 April) entitled: "Key enabling technologies of earth observation for archaeology and the protection of cultural heritage"

Lima, UNIFE-Lima, 18 April 2013. Lecture entitled titolo "Conservación del patrimonio arquitectónico: enfoques metodológicos y nuevas tecnologías de diagnóstico"

Lima, 19 April 2013, Museo de la Nacion. Lecture entitled: "Arqueo.geofisica y teledeteccion. Aplicaciones y perspectivas futuras para la investigacion arqueologica y el manejo del Patrimonio Cultural"

Ho Chi Minh (Vietnam), 27 June 2013. Within Conference ICCSA 2013, he had a tutorial entitled: "Geospatial Analysis from Space: Data processing, information extraction and interpretation for Natural and Cultural heritage studies"

Rome, 28.10.2013. EUDAT 2nd Conference, Workshop "Social Sciences and Humanities (SSH) Tackle the big data challenge". Lecture entitled: "Satellite digital data for Cultural heritage: new strategies to share and extract information. The Virtual laboratory Italy-China".

2014

Roma, 28.10.2013. EUDAT 2nd Conference, Workshop "Social Sciences and Humanities (SSH) Tackle the big data challenge". Invited oral presentation entitled: "Satellite digital data for Cultural heritage: new strategies to share and extract information. The Virtual laboratory Italy-China".

Valencia, Universidad Politecnica. 7-8 April 2014.

Lecture 1: "Non invasive and integrated Diagnostics for conservation and structural rehabilitation of Monuments" [*Integracion de metodos diagnosticos non invasivo para la conservacion y restauracion estructural de monumentos*]

Lecture 2: "Architectural ruins: study approach, conservation and valorization" [*Las ruinas arquitectonica: enfoque al estudio, coservacion y puesta en valor*"]

Huangshan city, Anhui, China, 26-29/05/2014. Conference co-organized by UNESCO and HIST "Huangshan Dialogue on Space Technologies for World Heritages sites, Biosphere Reserves, potential Geoparks". Invited presentation entitled: "*Space technologies and ICT for Cultural heritage from the Chinese and the Italian perspectives*"

Seville (Spain), 24-27 June 2014. International Congress on "Cultural Heritage, Science and Technology", Invited lecture entitled: "*Remote Sensing for the study, protection and conservation of cultural heritage. The experience of ITACA Mission in Southern America (2007-2013)*"

2015

Matera (Italy), 9 June. "Smart Spec Project", Programme ERRIN, Workshop " Smart Specialization Strategy (S3) and Creative Cluster strategies on CCI - "the case on Matera 2019" ". Invited presentation entitled : "The experience of Basilicata Region on S3 clustering"

Roma, Seat of MIBACT (Italian Ministry of Cultural heritage, Culture and Tourism), 28 July 2015. VII Bilateral Seminar of the Italian National School of Administration and Shanghai Administration Institute entitled " *Policies for the protection and management of cultural heritage in Italy and in China*". Invited oral presentation entitled" *Along the Silk Road: Archaeology and ancient landscapes observed by Space* "

Nasca (Peru), 5.09.2015. II SIMPOSIO DE ARQUEOLOGIA "Avances de las investigaciones arqueologicas de las misiones Italiana y Japonesa. Lecture entitled "*Arqueo-geofísica y teledetección para la investigacion arqueológica en el territorio de Nasca: resultados y perspectivas futuras*"

Frascati, Seat of European Space Agency, 12-13/11/2015. 5th EARSeL Workshop on "Advances in remote sensing for cultural heritage: from site detection, to documentation and risk monitoring". Invited keynote entitled : "Prayers and aqueducts: the response of Ancient Nasca to water shortages".

2016

Palma di Maiorca (Spain), Universitat de les Illes Balears 19 September 2016. Lecture: " *Conservacion y Restauracion : desde el conocimiento a la intervencion. El contributo de las ciencias y las tecnologías*"

Varsavia (Poland), University of Varsavia, 24 october 2016. Thirty years of Italian-Polish Cooperation in the Andes. Invited Lecture: "*Paisaje y arqueologia andina a través de la lente de sensores geofísicos y de satélite*"

Genova (Italy), Palazzo Ducale, Sala del Maggior Consiglio, **Festival della Scienza** (Science Festival), 28 October 2016. Conference "Tracce del tempo dall'Universo L'archeologia spaziale". Invited Lecture entitled: "*Miradas de los Dioses. Spatial observation of Andean Past and Landscape*"

University of Varsavia, 24 october 2016. Thirty years of Italian-Polish Cooperation in the Andes. Invited Lecture: "*Paisaje y arqueologia andina a través de la lente de sensores geofísicos y de satélite*"

2017

Matera (Italy), 19.01.2017. School of Post-Graduate Studies in Archaeology at the University of Basilicata, Matera. **Lecture** entitled: "Archeologia e antichi Paesaggi dallo Spazio"

Zheng Zhou (China), 24.02.2017. Henan Academy of Sciences. **Invited lecture** entitled: "*Remote sensing and Digital technologies for archaeological research in Europe, Southern America and China*"

Beijing (China), 1.03.2017. Chinese Academy of Sciences, Institute of Remote Sensing and Digital Earth.. Lecture entitled: “*Archaeology and Cultural Heritage. The role of Remote Sensing*”

Matera (Italy), 21.06.2017. PhD School at University of Basilicata, Matera "Cities and Landscape: Architecture, Archaeology, Cultural heritage, History and resources". Invited Seminar entitled: " *Non invasive diagnostics for the knowledge and restoration of architectural heritage*"

Matera (Italy), 22.06.2017. PhD School at University of Basilicata, Matera "Cities and Landscape: Architecture, Archaeology, Cultural heritage, History and resources". Invited Seminar entitled: "Archaeological Proxy indicators archeologici: reconnaissance and processing of remotely sensed data for the study of ancient landscapes"

Prague (Czech Republic), 18-22.09.2017. Conference “ *Natural stone for cultural heritage: local resources with a global impact*”, organized by Charles University of Prague, Faculty of Science and Academy of Fine Arts Prague. **Keynote** hel 21.09.2017, entitled “*Knowledge and Restoration of Architectural and Archaeological Monuments: from historical sources to in situ/remote sensing technologies*”

2018

London, 2.06.2018. 4th International Conference on Science and Engineering in Arts, Heritage and Archaeology (SEAHA) – London, Institute for Sustainable Heritage, University College London, 4-6 June 2018. Invited **Lecture** entitled: “*Earth Observation for archaeological research and cultural heritage management and monitoring. Approaches, Challenges and new Perspectives*”

Nasca (Peru), 25.08.2018. III SIMPOSIO DE ARQUEOLOGIA “Avances de las investigaciones arqueologicas de las misiones Italiana y Japonesa. **Lecture** entitled “*La “Re-descubierta “ de los geoglifos de Pampa de Atarco: Nuevas informaciones sobre los geoglifos y la relación entre el hombre y el medio ambiente a los tiempos de los Nascas*”

Lima (Peru), 27.09.2018. Museo Nacional de Arqueología, Antropología e Historia de Lima - Lecture entitled: "Mas alla de lo visible en Machu Picchu y Chachabamba"

El Cairo (Egypt), 24.11.2018. Mena House Hotel Greater Cairo. Workshop Eye on the Glòobe. COSMO SkyMed for Cultural Heritage. Lecture entitled: Study of human past by SAR: overview, use cases and future challenges using Cosmo SkyMed

Nuova Delhi (India), Auditorium of the National Museum Institute, 4-5.12.2018. Conferenza "EU-India Partnership for Cultural Heritage Conservation“. Lecture dal titolo: " *Earth Observation for the study of human past and cultural heritage management. State-of-the-art, case studies and new perspectives*"

Paris, École française d'Extrême-Orient , 11-12 December 2018. "Paris Dialogue on Archaeological Lidar". Relazione dal titolo: "*LiDAR and its impact to Medieval Archaeology in Southern Italy.*"

2020

Warsaw (Poland), 8.06.20120 In the context of Webinar "Archaeology of Asia", organized by the Institute of Archaeology of University of Warsaw, he kad a keynote entitled" *Remote sensing based view of archaeology and archaeological landscape in China and in Asia*"

D.6 INVITED ORAL PRESENTATION AT NATIONAL CONFERENCES.

1995

- Acerenza, 27-29 April International Conference entitled “Città e cattedrale” (Nell'ambito delle celebrazioni del IX centenario della Cattedrale di Acerenza). Invited oral presentation entitled: "*La Cattedrale di Acerenza : aspetti tecnico-costruttivi e analisi morfologica dell'impianto*". [trad. it. Acerenza Cathedral building features and morphological analysis of the architectural plan]

1997

- Castello di Lagopesole, 16-19 October 1997. Partecipa al Convegno Internazionale “*Castra ipsa possunt et debent reparari. Indagini conoscitive e metodologie di restauro delle strutture castellane normanno-sveve*”,

con una relazione su invito, dal titolo: *“La fotointerpretazione aerea finalizzata allo studio morfologico dei siti urbani e fortificati medioevali della Basilicata”*.

2001

- Taranto, 18-21 ottobre. Partecipa su **invito** al III Convegno internazionale di Studi Melitensi, “Gli Archivi per la storia del Sovrano Ordine Militare di Malta”, con una **relazione** dal titolo *Dall’architettura degli ordini cavallereschi in età medievale all’architettura militense in età moderna: quando il documento illustra.*

2003

- S. Giovanni in Fiore (CS), 25-30 marzo 2003. Partecipa su **invito** al Convegno internazionale di studio “I Luoghi di Gioacchino da Fiore”, con una **relazione** dal titolo *“Complesso monastico e chiesa di S. Giovanni in Fiore : Analisi statistica per l’individuazione delle unità di misura.”*

- Savelletri di Fasano, 27-29 novembre 2003. Partecipa su **invito** al I Convegno internazionale “La civiltà rupestre. Quando abitavamo in grotta”, una **relazione** dal titolo *“Metodologie di rilievo e di analisi della cultura costruttiva dell’architettura ipogea”*

2006

- Roma, Consiglio Nazionale delle Ricerche, p.le Aldo Moro, 14 giugno 2006. “Il CNR e le strategie per la conservazione del Patrimonio Culturale.” Convegno di studio in occasione del centenario della nascita di Cesare Brandi, una **relazione** dal titolo *“Metodologie di indagine diagnostica per la conservazione del patrimonio architettonico: i casi della Cattedrale di Troia e del Teatro Petruzzelli di Bari”*.

2009

- Venosa, Castello ducale del Balzo 6 – 7 novembre 2009. Conference on “Il Vulture: una via per la Pace”. Invited oral presentation entitled: *Il castello di Melfi dai Cavalieri Normanni ai Principi Doria*

2013

L'Aquila, Archivio di Stato, 7.02.2013. Conference entitled " L'Aquila come cantiere per la ricostruzione. Innovazione e ricerca per tutelare dal rischio sismico il patrimonio culturale, modelli e tecniche di intervento nel post terremoto, ricostruzione del centro storico" Invited oral presentation entitled: *" Approcci e tecnologie abilitanti per la diagnosi di pronto intervento e la gestione dell'emergenza: l'esperienza del CNR-IBAM sul patrimonio culturale a L'Aquila"*

2019

- Rome, seat of Embassy of Brasil in Rome. 31 May. Conference organized by Embassy of Brasil in Rome in collaboration with Italian-Latin America Institute entitled: *“La Cooperazione Spaziale come strumento per il progresso economico, scientifico e culturale”*. Presentation entitled *“Space technologies and remote sensing the study of human past and cultural heritage management”*

D.7 PARTECIPATION WITH ORAL PRESENTATION AT INTERNATIONAL CONFERENCES.

1996

- Roma, 4-8 March 1996. UNESCO International Congress on Environment/Climate (ICEC-96) Oral presentations entitled: *Morphological analysis, study of the materials and constructive techniques and photogrammetry applied to the Acerenza cathedral and Reconstruction of Monte Serico's medieval forma urbis.*

1997

- Rhodes, 6-11 May 1997 - 4th International Symposium on the Conservation of Monuments in the Mediterranean. Oral presentation entitled: *Reconstruction of the medieval forma urbis of some demic sites in terra of Lucania (Basilicata, Italy).*

1998

- Tricesimo (UD), 20-21 November 1998. Colloqui internazionali "Castelli e Città Fortificate" dal titolo *De castelli di pietra e di .. cristallo* , organizzati dal Dipartimento di Ingegneria Civile dell'Università degli Studi di Trieste e Udine. Oral presentation entitled : *“Icnografia*

dell'architettura federiciana in Italia meridionale: analisi metrologica dei castelli a "Pyramidenturm"

1999

- Dresda, 22-25 june 1999. 6th International Conference "Structural Studies, Repairs and Maintenance of Historical Building" STREMAH 99. Oral presentation entitled: *"Conservation of the Cathedral of Acerenza by means of a multidisciplinary approach"*.
- Paris, 5-9 july 1999. 2^{ème} Congrès International sur "Science et technologie pour la sauvegarde du patrimoine culturel dans la Pays du Bassin Méditerranéen". Two oral presentations entitled: *"Statistical method for the individuation of the original units of measure of an historical architecture: criteria, boundaries and application of a relative dating instrument"* e *"Survey and analyses for the study of the rupestrian environment: Santa Maria delle Grazie di San Marzano di San Giuseppe"*.

2001

- Bologna, 27-29 may 2001. 7th International Conference "Structural Studies, Repairs and Maintenance of Historical Building" STREMAH 2001. Oral presentation entitled: *"Interdisciplinary approach for the restoration of the Church "La Madonna della Pietà"*
- Alcalà (Spagna), 9-14 july 2001. 3rd International Congress on Science and Technology for the Safeguard of Cultural Heritage in the Mediterranean Basin. Oral presentation entitled: *Statistical analyses for the individuation of the original units of measure of an historical architecture: criteria and application of a relative dating method*
- Stoccarda (Germania) – Biblioteca dell'Università, 26 novembre 2001. Partecipa su **invito** al Simposio "Itinerari federiciani. Viaggio nei castelli di Federico II in Basilicata", con una **relazione** dal titolo *L'architettura fortificata nel segno di Federico II in Italia meridionale e in Basilicata*.

2006

- Madrid, 21-24 june 2006. International Conference on Heritage, Weathering and Conservation. Three Oral presentations entitled:
 - *Integration of NDT techniques for the restoration of a rose-window: case study*
 - *Catalogue of building techniques of vernacular architecture: case study in Southern Italy*
 - *VHR satellite images for the knowledge and the enhancement of cultural landscapes: the medieval deserted villages in Basilicata (Southern Italy)*
- Rome, 4-7 dicembre 2006, 2nd International Conference on Remote Sensing in Archaeology. Oral presentation entitled : *Evaluation of the spectral capability of quickbird imagery for the detection of archaeological buried remains*

2007

- Firenze, 17-20 september 2007. Spie Europe Remote Sensing Conference. Oral presentation entitled : *On the use of satellite QuickBird imagery in an archaeological context*
- Athens, 1-6 October 2007. XXI Cipa International Symposium. Oral presentation entitled *QuickBird imagery processing for the extraction of archaeological features: performance from data fusion algorithms*.

2008

- Cardiff, 15-19 september 2008. Spie Europe Remote Sensing Conference. Oral presentation
- Rome, 31 September-4 October 2008. I EARSel Workshop "Advances in remote sensing, GIS and ITC technologies for Archaeology and Cultural Heritage". Two Oral presentations

- Tolosa, 24 april 2008. Atelier CNES “Archeologie et Teledetection”. Oral presentation entitled : *Satellite Image and signal processing for archaeological applications*.

2009

- Vienna, 19-24 April. EGU General Assembly. Oral presentation entitled: *On the detection of adobe buried archaeological structures using multiscale remote sensing techniques: Piramida Naranjada in Cahuachi (Peru)*
- Berlino, 31 August – 3 September 2009. Spie Europe Remote Sensing Symposium. Oral presentation entitled: *An integrated methodology for landscape reconstruction ; the abandoned villages in Basilicata*.
- El Cairo, 4-8 december 2009. IV International Congress "Science and Technology for the Safeguard of Cultural Heritage of the Mediterranean Basin". Oral presentation entitled: *On the use of VHR satellite data in archaeology and paleoenvironmental studies*

2010

- Fukuoka (Japan), 23-26 march 2010. 5th Workshop on "Geographical Analysis, Urban Modeling, Spatial Statistics" GEOG-AN-MOD 10. Oral presentation entitled :*“Facing the archaeological looting in Peru by local spatial autocorrelation statistics of Very high resolution satellite imagery”*
- Vienna, 2-7 May. EGU General Assembly. Session G19 Integrated non-invasive sensing techniques and geophysical methods for the study and conservation of architectural, archaeological and artistic heritage. Oral presentation entitled: *“Correlation between porosimetric and penetrometric test on masonry mortar”*

2012

Salvador de Bahia (Brasile), 18-21 giugno. 12th International Conference on Computational Science and Its Applications, ICCSA 2012. Oral presentation entitled: *“Investigating satellite Landsat TM and ASTER multitemporal data set to discover ancient canals and aqueduct systems”*

2013

- Milano, 20 June. Built Heritage 2013 Monitoring Conservation Management. n. 2 Oral presentations entitled : *“Enhancement of the information content available from non invasive diagnostics for restoration and knowledge of architectural heritage”* and *"Approach to the study of conservation of historical masonry mortars by means of the correlation between porosimetry and penetrometric test. First results”*

2015

- Vienna, 12-17 Aprile. EGU General Assembly.n. 2 Presentazioni orali dal titolo: *"Stability and subsidence across Rome (Italy) in 2011-2013 based on COSMO-SkyMed Persistent Scatterer Interferometry"* ; *" Satellite SAR data assessment for Silk Road archaeological prospection"* e presentazione di un poster dal titolo : *"On the use of COSMO-SkyMed time series for the identification of Archaeological traces dating from the Eastern-Han to Northern-Wei Dynasties in Luoyang city"*
- San Salvador (Salvador), 13-17 Luglio 2015, Congreso Internacional de Americanistas " Conflicto, paz y construcción de identidades en las Américas". 3 presentazioni orali dai seguenti titoli: *"Monitoring and facing man-made risks affecting the archaeological heritage in the Nazca region by Remote Sensing"* ; *"New approaches for the investigations of ancient Nazca acueducts"*; *"Geophysics and remote sensing for the Prehispanic preventive Archaeology: the experience of ITACA Mission (2007-2013) in the Nazca drainage basin"*

2016

- Paphos, 4-7 April - RSCy 2016, Forth International Conference on Remote Sensing and Geoinformation of Environment. Oral presentation entitled: "*Remote sensing Nasca aqueducts and geoglyphs in Southern Peru*".
- Beijing, 7-8 July - 6th Digital Earth Summit. Oral presentation entitled: " *Proxy Indicators for the Detection of Archaeological Features by Active and Passive Remote Sensing: Strategies of Data Processing and Interpretation*".
- Beijing, 4-7 July - International Conference on Computational Science and Its Applications, ICCSA 2016. Oral presentation entitled: " *Spatial analysis for the study of environmental settlement patterns: the archaeological sites of the Santa Cruz County*"
- Madrid (Spain), 25-27 May 2016. International Conference YOCOCU (YOUTH in CONservation of CULTural heritage). Oral presentation entitled: "*Diagnostics for the conservation of frescoes in Pompeii. Preliminary results from GPR and IRT investigations* "

D.8 WEBINAR

2021

11.02.2021 - MEETINGS ON THE THEME: Landscape and fortifications. Organized by the Italian Institute of Castles. Webinar entitled: "Landscape and Rncastellation: the case of Basilicata"

E. Reviewer of Projects

E.1 Reviewer for the following National and International Research Projects and Programme

- ☐ **2011. Research Programme for Earth Observation "Stereo II" (2006-13) BELSPO (Belgium).** Reviewer of a project
- ☐ **2012. Portuguese Foundation for Science and Technology (FCT): proposal PTDC/EPH-ARQ/5201/2012.).** Reviewer a project
- ☐ **2013. Czech Science Foundation.** Reviewer of a project
- ☐ **2014/15: Italian Ministry of Economics: reviewer of "Fondo Crescita Sostenibile" (Sustainable Growth Fund)**
- ☐ **2017. Italian Ministry of Economics: "Fondo Crescita Sostenibile" (Sustainable Growth Fund).** Horizon 2020 - PON 2014/2020.
- ☐ **2017, October: National Science Center of Poland.** Review of a grant proposal for the section *The study of the human past which encompasses history, archeology, ethnology and cultural anthropology*
- ☐ **2017, November: National Centre of Science and Technology of Kazakhstan.** Review of two projects
- ☐ **2018, November: Pontificia Universidad Catolica del Perú (PUCP).** Concurso Anual de Proyectos - CAP 2019. Reviewer of a Project
- ☐ **2019, February:** Reviewer of postdoctoral fellowship application in the frame of Research Foundaton Flanders' (FWO).
- ☐ **2019, December: National Centre of Science and Technology of Kazakhstan.** Review of two projects
- ☐ **2020, April. Aarhus Institute of Advanced Studies COFUND fellowships** for researchers in 2020/2021 funded by the European Union's Horizon 2020 Research and Innovation Programme under the **Marie Skłodowska-Curie** actions
- ☐ **2020, September: National Centre of Science and Technology of Kazakhstan.** Review of eight projects
- ☐ **2020, December: Institut Català d'Arqueologia Clàssica .**

- **2021, March: National Centre of Science and Technology of Kazakhstan.** Review of three projects
- **2021, October: National Science Center of Poland.** Review of two projects for the section : *The study of the human past which encompasses history, archeology, ethnology and cultural anthropology.*
- **2021,** National Agency for the Evaluation of Universities and Research Institutes of Italy. VQR Auditor (Research Quality Assessment) - Years 2015-2019

E.2 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”

2015

Member of the Joint Committee of the Framework Convention between the National Research Council and the University of Basilicata

F. PUBLICATIONS

F) LIST OF PUBLICATIONS

F1A	Papers on international journals	108
F1B	Papers on national journals	11
F2	Patent	1
F3	Editors of Special issues of International journals	17
F4A	International Books	7
F4B	National Books	8
F5A	International Book chapters	64
F5B	National Book chapters	50
F6A	Papers on international conference proceedings	65
F6B	Papers on national conference proceedings	22
F7	Encyclopedia articles	2
F8	Abstracts or short papers on international journals	37
F9	Preface of International Books	1
F10	National Books without ISBN	3
F11	Divulgative publications	7
Total		304
Total SCOPUS indexed		184

F.1A) PAPERS ON INTERNATIONAL JOURNALS

[N.108]

1. F. Chen, H. Guo, D. Tapete, N. Masini, F. Cigna, R. Lasaponara, S. Piro, H. Lin and P. Ma (2021) Interdisciplinary approaches based on imaging radar enable cutting-edge cultural heritage applications. *National Science Review*, Volume 8, Issue 9, September 2021, nwab123, <https://doi.org/10.1093/nsr/nwab123>
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F.7) ENCYCLOPEDIA ARTICLES

[N.2]

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F.8) ABSTRACTS OR SHORT PAPERS ON INTERNATIONAL JOURNALS

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392. Gizzi F. T., Lazzari M., Masini N., Zotta C., 2007 *Geological-geophysical and historical-macro seismic data implemented in a geodatabase: a GIS integrated approach for seismic microzonation*, *Geophysical Research Abstracts*, Vol. 9, 09522 [ISSN: 1029-7006]

F.9) PREFACE OF INTERNATIONAL BOOKS

[N.1]

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F.10) BOOKS WITHOUT ISBN

[N.3]

- 394. N. Masini, *Potenza nel XV secolo. Ricostruzione dell'impianto urbano e architettura*, STES, Potenza 1996.
- 395. N. Masini, *Potenza in età fascista, tra progetti e trasformazioni urbane*, STES, Potenza 1996
- 396. Masini N., *Il castello di Lagopesole nel contesto dell'architettura dell'Italia meridionale nel segno di Federico II. Brevi note*. Rotary Clu Potenza, Potenza, 2015.

F.11) DIVULGATIVE PUBLICATIONS

[N.7]

- 397. Masini N., Roubis D., Sogliani F. 2010. ByHeriNet, nuove metodologie per la valorizzazione e fruizione del patrimonio culturale bizantino, in AA.VV., *Le tecnologie del CNR per i beni culturali*, CNR, BetMultimedia, Roma, p. 22
- 398. Masini N. 2010. Tecniche di diagnostica non invasiva per la tutela e la conservazione dei beni architettonici e monumentali, in AA.VV., *Le tecnologie del CNR per i beni culturali*, CNR, BetMultimedia, Roma, p. 52
- 399. Masini N. 2010. Procedura di monitoraggio dei siti archeologici dal rischio di scavi clandestini mediante metodi di autocorrelazione spaziale applicati a immagini satellitari ad alta risoluzione, in AA.VV., *Le tecnologie del CNR per i beni culturali*, CNR, BetMultimedia, Roma, p. 53
- 400. Masini N. 2010. Sensoristica e location based services per la tracciabilità dei beni artistici mobili, in AA.VV., *Le tecnologie del CNR per i beni culturali*, CNR, BetMultimedia, Roma, p. 54
- 401. Calia A., Giannotta M.T., Gabellone F., Masini N., Quarta G. 2007. Gli ipogei funerari e le cripte in Puglia: problemi di conservazione, valorizzazione e fruizione, in *Tecnologie dell'Informazione e della Comunicazione Culturale. Tokyo 16-17 aprile 2007*, CNR, Dipartimento Patrimonio Culturale, Roma, Stampa IGER, pp. 15-16.
- 402. 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.
- 403. Calia A., Gabellone F., Giannotta M.T., Masini N., Quarta G., Roubis D., Sogliani F., *ByHeriNet (Byzantine Heritage Network). Recupero, valorizzazione e gestione del Patrimonio Culturale Bizantino nel Mediterraneo Orientale*, in *Tecnologie dell'Informazione e della Comunicazione Culturale. Tokyo 16-17 aprile 2007.*, CNR, Dipartimento Patrimonio Culturale, Roma, Stampa IGER, 2007, pp. 62-63.

G. TEACHING ACTIVITY

G) TEACHING ACTIVITY

G.1 VISITING PROFESSOR

2014, 4-10 April: Visiting professor at **Universidad Politecnica de Valencia** (ETSIE) – (Escuela Técnica Superior de Ingeniería de Edificación) in the framework of Erasmus Programme Staff Mobility - Teaching Assignment

2015, 20-30 November : Visiting Professor at **Henan Academy of Sciences** di Zheng Zhou (Cina)

2016, 20 June-20 July: Visiting Professor at **Chinese Academy of Sciences** (CAS), Institute of Remote Sensing and Digital Earth (RADI), Pechino (assigned after winning the PIFI CAS President's International Fellowship Initiative (PIFI))

2016, 18-22 September: Visiting Professor at the Universitat de les Illes Balears – Palma di Maiorca (Erasmus Staff Mobility for teaching)

2017, 8 February-9 March: Visiting Professor at **Chinese Academy of Sciences** (CAS), Institute of Remote Sensing and Digital Earth (RADI), Pechino (assigned after winning the PIFI CAS President's International Fellowship Initiative (PIFI))

2017, 13-26 November : Visiting Professor at **Henan Academy of Sciences** di Zheng Zhou (Cina)

G.2 PROFESSOR OF PhD SCHOOL

2014-15 - Component of the PhD School "Studi sul Patrimonio Culturale" of **University of Catania** Dipartimento di Scienze Umanistiche (XXX Cycle)

2015-on going- Component of the PhD School " Cities and Landscapes: Architecture, Archaeology, Cultural Heritage, History and Resources " of **University of Basilicata, Department DICEM, Matera** - (XXXI-XXXII-XXXIII-XXXIV Cycles)

G.3 UNIVERSITY TEACHING

N.	Year	Teaching	Degree	Università
1	1998-99	<i>Laboratory of Technical Architecture</i>	Building Engineering.	Univ. Basilicata – Potenza
2	1999-00	<i>Laboratory of Technical Architecture</i>	Building Engineering	Univ. Basilicata – Potenza
3	2002-03	<i>Restoration</i>	Building Engineering (triennial degree)	Univ. Basilicata – Matera
4	2002-03	<i>Architectural Restoration</i>	Building Engineering	Univ. Basilicata – Potenza
5	2003-04	<i>Restoration</i>	Building Engineering (triennial degree)	Univ. Basilicata – Matera
6	2003-04	<i>Restoration of Architecture</i>	Building Engineering	Univ. Basilicata – Potenza
7	2003-04	<i>Architectural Restoration</i>	Building Engineering and Architecture	Univ. Basilicata – Potenza
8	2004-05	<i>Restoration of Architecture</i>	Building Engineering	Univ. Basilicata – Potenza
9	2004-05	<i>Architectural Restoration</i>	Building Engineering and Architecture	Univ. Basilicata – Potenza

10	2004-05	<i>Laboratory of Architectural Restoration</i>	Building Engineering and Architecture	Univ. Basilicata – Potenza
11	2005-06	<i>Architectural Restoration</i>	Building Engineering and Architecture	Univ. Basilicata – Potenza
12	2005-06	<i>Laboratory of Architectural Restoration</i>	Building Engineering and Architecture	Univ. Basilicata – Potenza
13	2006-07	<i>Architectural Restoration</i>	Building Engineering and Architecture	Univ. Basilicata – Potenza
14	2006-07	<i>Laboratory of Architectural Restoration</i>	Building Engineering and Architecture	Univ. Basilicata – Potenza
15	2007-08	<i>Architectural Restoration</i>	Building Engineering and Architecture	Univ. Basilicata – Potenza
16	2007-08	<i>Laboratory of Architectural Restoration</i>	Building Engineering and Architecture	Univ. Basilicata – Potenza
17	2008-09	<i>Architectural Restoration</i>	Building Engineering and Architecture	Univ. Basilicata – Potenza
18	2008-09	<i>Laboratory of Architectural Restoration</i>	Building Engineering and Architecture	Univ. Basilicata – Potenza
19	2009-10	<i>Architectural Restoration</i>	Building Engineering and Architecture	Univ. Basilicata – Potenza
20	2009-10	<i>Laboratory of Architectural Restoration</i>	Building Engineering and Architecture	Univ. Basilicata – Potenza
21	2010-11	<i>Architectural Restoration</i>	Building Engineering and Architecture	Univ. Basilicata – Potenza
22	2011-12	<i>Science for Conservation and restoration of Architectural Heritage</i>	Civil Engineering	Univ. Basilicata – Potenza
23	2011-11	<i>Laboratory of Architectural Restoration</i>	Architecture	Univ. Basilicata – Matera
24	2012-13	<i>Science for Conservation and restoration of Architectural Heritage</i>	Civil Engineering	Univ. Basilicata – Potenza
25	2012-13	<i>Architectural Restoration</i>	Architecture	Univ. Basilicata – Matera
26	2013-14	<i>Architectural Restoration</i>	Architecture	Univ. Basilicata – Matera
27	2013-14	<i>Science for Conservation and restoration of Architectural Heritage</i>	Civil Engineering	Univ. Basilicata – Potenza
28	2015-16	<i>Fundamentals of Architectural Restoration</i>	Architecture	Univ. Basilicata – Matera
29	2016-17	<i>Fundamentals of Architectural Restoration</i>	Architecture	Univ. Basilicata – Matera
30	2017-18	<i>Fundamentals of Architectural Restoration</i>	Architecture	Univ. Basilicata – Matera
31	2018-19	<i>Fundamentals of Architectural Restoration</i>	Architecture	Univ. Basilicata – Matera
32	2018-19	<i>Restoration</i>	Conservation and Restoration of Cultural heritage	University of Calabria
31	2019-20	<i>Fundamentals of Architectural Restoration</i>	Architecture	Univ. Basilicata – Matera

G.4 SCIENTIFIC RESPONSIBLE OF INTERNATIONAL SCHOOLS AND COURSES

2013

Matera, 3-5 June 2013. Co-Chair with R. Lasaponara and F. Sarti of ESA Course on *Remote Sensing Applications for the Study and Observation of Archaeological sites*, in the framework of the 4th EARSeL Workshop on Cultural and Natural Heritage, Matera 3-5 June 2013.

2016

Pompeii, 9-13 May 2016. Co-chair with R. Persico e F. Soldovieri of the I International School on *GRSA 2016 - Geophysics and Remote Sensing for Archaeology*"

G.5 MASTER POST-DEGREE

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"

G.6 HIGH TRAINING COURSES

2011

- Matera, 23-28.03 2011 e 30.06.2011. 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.16 ore su "Indagini diagnostiche basate sull'infrarosso sul Patrimonio Culturale" e di n.6 ore su "Project work: sviluppo delle idee progettuali, redazione delle tesi di accompagnamento al progetto"
- Potenza, 13 giugno 2011. Corso di alta Formazione in "Organizzazione e Management della Produzione e Distribuzione Cinematografica" (PO FSE Basilicata 2007/13) organizzato dalla Noeltan Film. Docenza di n.6 ore in qualità di testimonial dell'esperienza scientifica in Peru.
- Lecce, 13 luglio- 15 ottobre 2011. Corso di alta Formazione annesso a Progetto Strategico "Protezione, consolidamento e pulitura di materiali lapidei caratteristici della Regione Puglia: sperimentazione di prodotti a basso impatto ambientale e monitoraggio di trattamenti", finalizzato alla formazione di giovani laureati e tecnici specializzati in "Tecniche di protezione e conservazione dei beni Culturali" organizzato dal Dipartimento di Ingegneria dell'Innovazione dell'Università del Salento. Docenza di n.15 ore su "*Lineamenti di storia del restauro e fondamenti di teoria del restauro*" e "*L'azione dell'umidità: umidità di risalita per capillarità, di condensa e di infiltrazione*".
- Potenza, settembre-dicembre 2011. **Docenza** di n. 10 ore nell'ambito del Corso di formazione del progetto "*Esperto in virtualizzazione e valorizzazione del patrimonio*"

culturale” (PO Basilicata FSE 2007/13), ente di formazione Risorse srl

- Potenza, marzo-giugno 2011. **Docenza** di n. 18 ore dei moduli :”il modello del distretto culturale”, “l’impresa culturale e case studies di gestione”, “project work” nell’ambito del Corso di alta Formazione del Progetto “Esperto nelle nuove modalità di messa in valore, fruizione e gestione del patrimonio culturale”. Società di formazione: Forcopim, Potenza

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2012

- Poznan (Polonia), 30/07/2012 – 3/08/2012. **Teaching** at the **Summer School** on “Potential of satellite images and hyper/multispectral recording in archaeology, in the framework of The EU Project ArchaeoLandscapes Europe, organized by University of Poznan and co-organized by IBAM-CNR (responsibile Nicola Masini) and IMAA-CNR
- Potenza, 8/10/2012 – 30/10/2012. Teaching of n. 18 hours entitled "" Remote sensing for archaeological research and the management of cultural heritage "as part of the Advanced Training Course" Identification of good ICT practices and skills applied to the management and enhancement of the archaeological and cultural heritage "which is part of the Project" Culture in Formation £ co-financed by the ESF within the scope of the FESE Basilicata Operational Program ". Organized by the company EvolutionCISF srl and Co-organized by IBAM-CNR (scientific responsible Nicola Masini)

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2013

- Matera, 24-25.10.2013; 31.10.2013. Advanced training course “New digital technologies applied to Cultural. Archaeological and Monumental Heritage”, organized by Pragma srl. Teaching of 18 hours for didactic unit “*Archaeological applications of earth observation by means of remote sensing*”
- Matera, 3-5 June. 2nd ESA Course on Remote Sensing Applications for the Study and Observation of Archaeological sites. Matera. Teaching on Satellite remote sensing for Archaeology Cultural Heritage.

2015

- 3rd ESA-EARSEL Course on Remote Sensing for Archaeology, 9-11 November 2015. Frascati, seat of ESA. Teaching on Low-cost remote sensing applications for Archaeology Cultural Heritage.

2016

- Pompeii, 9-13 May 2016. I International School onGRSA 2016 - Geophysics and Remote Sensing for Archaeology". Lecture on "***Remote sensing and geophysics for archaeology and cultural heritage: the interpretation issue***"
- "
- **G.7 SUPERVISOR OF GRANT MARIE SKŁODOWSKA-CURIE**
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- 2017-19 Supervisor of Tuna Kalayci (Project GeoMOP "*Modern Geospatial Practices for Ancient Movement Praxis*" [**H2020-MSCA-IF-2016**]
-
- **E.8 SUPERVISOR OF PhD THESIS**
-
- **2017** - Supervisor of PhD Thesis of Chris Stewart entitled“Archaeological Prospection using Spaceborne Synthetic Aperture Radar” – Università degli Studi di Roma ‘Tor Vergata’.

H) OTHER: EXHIBITIONS

H.1 EXHIBITIONS

2013, 3-6 June, Matera, Scientific responsible (with R. Lasaponara, G. Milillo and C. Serio) of the Exhibition "Archaeo-Sat: from space a window on the past"

2013, 26 August - 2 September, Roma, Scientific responsible (with R. Lasaponara, G. Milillo and C. Serio) of the Exhibition "Sensing the Past: COSMO SkyMed and radar technologies for archaeology", in the framework of European Space Expo

2015, 15 October-15 November. Lima, Museo Nacional de Arqueología, Antropología e Historia del Perú. Scientific responsible (with Alvaro Higuera and Rosa Lasaponara) of the Exhibition "Miradas de los Dioses. Observacion espacial del patrimonio Andino"

2016. Traveling exhibition "Miradas de los Dioses. Observacion espacial del patrimonio Andino" (Scientific responsible with Alvaro Higuera and Rosa Lasaponara). 27 September - 25 October: Museo de Arqueología, Antropología e Historia de la Universidad Nacional de Trujillo; 29 September - 25 October: Museo Arqueológico Nacional Hans H. Bruining de Lambayeque

12.01.2020

Nicola Masini