



UNIVERSITÀ
DEGLI STUDI
FIRENZE

Area Affari Generali e Legali
Centrale Acquisti

DECRETO DEL DIRIGENTE

Oggetto: G010_2024 GARA EUROPEA A PROCEDURA TELEMATICA APERTA EX ART. 71 D.LGS. 36/2023 PER L’AFFIDAMENTO TRAMITE ACCORDO QUADRO DELLA FORNITURA DI PRODOTTI E SERVIZI ADVANCED PS-INSAR TECNICHE AVANZATE (PERSISTENT SCATTERERS INTERFEROMETRIC SYNTHETIC APERTURE RADAR) PER LA MISURAZIONE AD ALTA PRECISIONE DELLE DEFORMAZIONI DEL TERRENO DA SATELLITE, AGGIUDICATO IN BASE AL CRITERIO DELL’OFFERTA ECONOMICAMENTE PIÙ VANTAGGIOSA, AI SENSI DELL’ART. 108 DEL D.LGS. 36/2023. CPV 71351910-5 - CIG B1888585C5 - CUI S01279680480202400027 IMPORTO A BASE DI GARA: € 1.000.000,00 OLTRE IVA DI LEGGE; ONERI PER LA SICUREZZA DA INTERFERENZE NON SOGGETTI A RIBASSO: € 0,00. Decreto di nomina Commissione Giudicatrice ex art. 93 D.lgs. 36/2023

Il Dirigente,

VISTO il d.lgs. Decreto legislativo 31 marzo 2023, n. 36 recante il Codice dei contratti pubblici;

VISTO lo Statuto dell’Università degli Studi di Firenze;

VISTO il Regolamento di Amministrazione, Finanza e Contabilità dell’Università degli Studi di Firenze;

VISTO il d.lgs. 165/2001 e ss.mm.ii.;

VISTA la normativa vigente in materia di anticorruzione e trasparenza, il Piano Triennale per la Prevenzione della Corruzione e della Trasparenza dell’Università degli Studi di Firenze e il Decreto rettorale del 8 febbraio 2016, n. 98 - Codice di comportamento dell’Università degli Studi di Firenze;

RICHIAMATI:

- la determina dirigenziale Rep. n. 772/2024 Prot. 102228 del 7/05/2024, pubblicata in Albo ufficiale di Ateneo Rep. 5822/2024 Prot. 102235 del 7/05/2024, di indizione della procedura aperta in oggetto mediante utilizzo della piattaforma elettronica START (n. 018465/2024), ai fini dell’affidamento in epigrafe, nonché pubblicata sul profilo della Stazione Appaltante www.unifi.it, sezione “Amministrazione Trasparente” – “Bandi di gara e contratti”;



- il decreto di rettifica gara e proroga della scadenza, Rep. n. 1015/2024 Prot. 132460 del 10/06/2024 che dispone la parziale rettifica della propria decisione di contrarre relativamente all'allegato denominato "Prodotti e servizi con elenco prezzi" e del Capitolato speciale d'appalto e la proroga di 20 giorni naturali e consecutivi per la presentazione delle offerte;

DATO ATTO che la procedura, pubblicata su START il 7/05/2024, ha avuto quale scadenza del termine di presentazione delle offerte la data del 3/07/2024 ore 10:00;

DATO ATTO che alla scadenza della procedura erano presenti a sistema n. 3 (tre) domanda di partecipazione, e segnatamente:

ID	Denominazione	Forma di partecipazione	Ragione sociale	Sede legale	PEC	Data sottomissione
1	DARES TECHNOLOGY S.L. - SINTEMA ENGINEERING SRL	RTI costituendo	DARES TECHNOLOGY S.L. SINTEMA ENGINEERING SRL	Nazione Provincia EE Città Castelldefels Indirizzo C/ Esteve Terradas 1 Dettaglio Mandanti	info@dares.tech	02/07/2024 10:55:35
2	TRE ALTAMIRA SRL	Impresa o Società	TRE ALTAMIRA SRL	Nazione Italia Provincia Milano Città Milano Indirizzo Ripa di Porta Ticinese 79	TREUROPA@POSTECERT.IT	02/07/2024 11:47:54
3	PLANETEK -GAP	RTI costituendo	PLANETEK ITALIA SRL	Nazione Italia Provincia BA	LEGALE@P.C.PLANETEK.IT	03/07/2024 08:18:49



I D	Denominazio ne	Forma di partecipaz ione	Ragione sociale	Sede legale	PEC	Data sottomissione
			GEOPHYS ICAL APPLICA TIONS PROCESS ING (GAP) SRL	Città Bari Indirizzo VIA MASSAUA 12 Dettaglio Mandanti		

VISTO il verbale ricognitivo delle operazioni di apertura e verifica della documentazione amministrativa prodotta dall'offerente, del 3/07/2024 (All. n. 1);

RITENUTO PERTANTO di dover procedere con l'ammissione alla successiva fase di gara di valutazione dell'offerta tecnica contenuta nella busta virtuale "Offerta tecnica" i tre operatori economici concorrenti;

DATO ATTO che ai sensi l'art. 93 del d.lgs. 36/2023 ai fini della selezione della migliore offerta nelle procedure di aggiudicazione di contratti di appalti con il criterio dell'offerta economicamente più vantaggiosa, dopo la scadenza del termine per la presentazione delle offerte, è nominata una commissione giudicatrice;

VALUTATA la qualificazione, anche mediante esame degli allegati *curricula* (All. n.2), dei seguenti soggetti interni ai fini della nomina a componente della Commissione Giudicatrice:

- 1) Prof. Sandro Moretti – Professore ordinario di Geografia fisica e geomorfologia del Dipartimento di Scienze della Terra;
- 2) Prof.ssa Silvia Bianchini – Professoressa associata di Geologia applicata del Dipartimento di Scienze della Terra;
- 3) Prof. Federico Raspini – Professore associato di Geografia fisica e geomorfologia del Dipartimento di Scienze della Terra;

RITENUTO OPPORTUNO nominare segretario verbalizzante la Dott.ssa Sara Del Santo - funzionario amministrativo, afferente alla Centrale Acquisti, Università di Firenze e segretario supplente la dott.ssa Donatella Alfieri - funzionario amministrativo afferente alla Centrale Acquisti;



RICEVUTA la disponibilità dei suddetti allo svolgimento dell'incarico;

ACQUISITE le dichiarazioni (conservate agli atti) dei nominandi commissari da cui risulta, con riferimento agli operatori economici che hanno rimesso offerta, che non sussistono cause di conflitto d'interesse e di incompatibilità ai sensi degli artt. 16 e 93 del D.lgs. 36/2023, dell'art. 51 del cod. proc. civ., dell'art. 35 bis del D.lgs. 165/01;

RITENUTO di dare attuazione alle disposizioni legislative di cui agli artt. 20 e 28 c. 2 del D. Lgs 36/2023, mediante pubblicazione del presente provvedimento e dei curricula allegati prodotti dai membri della commissione giudicatrice, sul profilo del committente Unifi, nella sezione Bandi di gara nonché sull'Albo on line della stazione appaltante;

DATO ATTO che tutti gli atti della presente procedura di gara, oltre che sul sistema telematico START e sul profilo committente, sono disponibili anche presso l'Ufficio Centrale Acquisti dell'Università degli Studi di Firenze, via Capponi n.7, primo piano;
ciò premesso,

DECRETA

- a) la nomina, ai fini della valutazione delle offerte presentate, relative all'affidamento del servizio in oggetto, della seguente Commissione Giudicatrice, ai sensi dell'art. 93 d.lgs. 36/2023:
- 1) Presidente Commissione di gara: Prof. Sandro Moretti – Professore ordinario di Geografia fisica e geomorfologia del Dipartimento di Scienze della Terra;
 - 2) Membro della Commissione: Prof.ssa Silvia Bianchini – Professoressa associata di Geologia applicata del Dipartimento di Scienze della Terra;
 - 3) Membro della Commissione: Prof. Federico Raspini – Professore associato di Geografia fisica e geomorfologia del Dipartimento di Scienze della Terra;
 - 4) Segretario verbalizzante: Dott.ssa Sara Del Santo - funzionario amministrativo, afferente alla Centrale Acquisti, Università di Firenze, e segretario supplente: dott.ssa Donatella Alfieri, funzionario amministrativo, afferente alla Centrale Acquisti, Università di Firenze.
- b) i componenti della Commissione non potranno svolgere alcun'altra funzione o incarico tecnico o amministrativo relativamente ai contratti di che trattasi;



- c) nessun compenso è riconosciuto per lo svolgimento dell'incarico.
- d) di procedere alla pubblicazione del presente provvedimento e relativi *curricula*:
- sul profilo del committente nella sezione bandi di gara;
 - sull'Albo on line della stazione appaltante, ai sensi e per gli effetti degli artt. 20 e 28 c. 2 D. Lgs 36/2023;
 - sulla PAD ex art. 19 ss. d.lgs. 36/2023 in applicazione del principio di digitalizzazione dell'intero ciclo di vita degli appalti.

IL DIRIGENTE

Dott. Massimo Benedetti

Allegati:

1. Verbale di gara n. 1
2. Curricula Commissari



VERBALE DI GARA N. 1

(Fase gara – Verifica documentazione amministrativa)

G010_2024 GARA EUROPEA A PROCEDURA TELEMATICA APERTA EX ART. 71 D.LGS. 36/2023 PER L’AFFIDAMENTO TRAMITE ACCORDO QUADRO DELLA FORNITURA DI PRODOTTI E SERVIZI ADVANCED PS-INSAR TECNICHE AVANZATE (PERSISTENT SCATTERERS INTERFEROMETRIC SYNTHETIC APERTURE RADAR) PER LA MISURAZIONE AD ALTA PRECISIONE DELLE DEFORMAZIONI DEL TERRENO DA SATELLITE, AGGIUDICATO IN BASE AL CRITERIO DELL’OFFERTA ECONOMICAMENTE PIÙ VANTAGGIOSA, AI SENSI DELL’ART. 108 DEL D.LGS. 36/2023. CPV 71351910-5 - CIG B1888585C5 - CUI S01279680480202400027 IMPORTO A BASE DI GARA: € 1.000.000,00 OLTRE IVA DI LEGGE; ONERI PER LA SICUREZZA DA INTERFERENZE NON SOGGETTI A RIBASSO: € 0,00

In esecuzione della Decisione di contrarre Rep. n. 772/2024 Prot. 102228 del 7/05/2024:

- in data 7/05/2024 è stata pubblicata sul sistema telematico START la procedura aperta ID n. 018465/2024 in oggetto, con scadenza per la presentazione delle offerte al 13/06/2024 ore 10:00;
- la procedura di gara è gestita mediante utilizzo della citata piattaforma telematica di negoziazione;
- con Decreto Dirigenziale Rep. n. 1015/2024 Prot. 132460 del 10/06/2024 è stata disposta la rettifica degli atti di gara: “Prodotti e servizi con elenco prezzi” e Capitolato speciale d’appalto, unitamente alla proroga dei termini di scadenza per la presentazione delle offerte al 3/07/2024 ore 10:00.

In data 3/07/2024 alle ore 11:13, il funzionario preposto dott.ssa Sara Del Santo, alla presenza del Responsabile dell’ufficio preposto UP Centrale Acquisti, Dott. Andrea Ciulli, procede all’apertura della documentazione amministrativa degli operatori economici partecipanti alla



gara, a mezzo la piattaforma telematica, a norma dell'art. 20 del Disciplinare di gara.

Risulta pervenuta entro la scadenza del termine un numero di candidature pari a 3 (tre), e precisamente:

ID	Denominazione	Forma di partecipazione	Ragione sociale	Sede legale	PEC	Data sottomissione
1	DARES TECHNOLOGY S.L. - SINTEMA ENGINEERING SRL	RTI costituendo	DARES TECHNOLOGY S.L. SINTEMA ENGINEERING SRL	Nazione Provincia E Città Castell defels Indirizzo C/ Esteve Terradas 1 Dettaglio Mandanti	info@dares.tech	02/07/2024 10:55:35
2	TRE ALTAMIRA SRL	Impresa o Società	TRE ALTAMIRA SRL	Nazione Italia Provincia Milano Città Milano Indirizzo Ripa di Porta Ticinese 79	TREUROPA@POSTECERT.IT	02/07/2024 11:47:54
3	PLANETE K-GAP	RTI costituendo	PLANETEK ITALIA SRL GEOPHYSICAL APPLICATIONS PROCESSING (GAP) SRL	Nazione Italia Provincia BA Città Bari Indirizzo VIA MASSAUA 12 Dettaglio Mandanti	LEGALE@PEC.PLANETEK.IT	03/07/2024 08:18:49

Si procede:



- a) a constatare la regolare consegna entro il termine di scadenza della documentazione telematica;
- b) controllare la completezza e la conformità della documentazione amministrativa presentata;
- c) verificare la conformità della documentazione amministrativa a quanto richiesto nel presente disciplinare;

Si prosegue quindi all'esame di dettaglio di tutte le dichiarazioni rese ai fini della qualificazione, rilevando che i concorrenti non incorrano in cause di esclusione, ovvero individuando eventuali motivi di regolarizzazione, con il seguente esito:

DARES TECHNOLOGY S.L. - SINTEMA ENGINEERING SRL (RTI costituendo):

- 1- Non si rileva alcuna omissione documentale.
- 2- Il D.G.U.E. è correttamente compilato e contiene le dichiarazioni sui requisiti di partecipazione richiesti;
- 3- la garanzia provvisoria è stata rilasciata nelle forme e nei modi previsti;
- 5- E' presente l'attestazione dell'avvenuto pagamento del contributo ANAC;
- 6- Il Patto d'integrità e la dichiarazione sul Protocollo di legalità sono stati firmati;
- 7- E' presente l'attestazione relativa all'imposta di bollo;
- 8- E' resa la necessaria documentazione in caso di soggetti associati.

TRE ALTAMIRA SRL:

- 1- Non si rileva alcuna omissione documentale.
- 2- Il D.G.U.E. è correttamente compilato e contiene le dichiarazioni sui requisiti di partecipazione richiesti;
- 3- la garanzia provvisoria è stata rilasciata nelle forme e nei modi previsti;



- 5- E' presente l'attestazione dell'avvenuto pagamento del contributo ANAC;
- 6- Il Patto d'integrità e la dichiarazione sul Protocollo di legalità sono stati firmati;
- 7- E' presente l'attestazione relativa all'imposta di bollo.

PLANETEK ITALIA SRL - GEOPHYSICAL APPLICATIONS PROCESSING (GAP) SRL
(RTI COSTITUENDO) :

- 1- Non si rileva alcuna omissione documentale.
- 2- Il D.G.U.E. è correttamente compilato e contiene le dichiarazioni sui requisiti di partecipazione richiesti;
- 3- la garanzia provvisoria è stata rilasciata nelle forme e nei modi previsti;
- 5- E' presente l'attestazione dell'avvenuto pagamento del contributo ANAC;
- 6- Il Patto d'integrità e la dichiarazione sul Protocollo di legalità sono stati firmati;
- 7- E' presente l'attestazione relativa all'imposta di bollo;
- 8- E' resa la necessaria documentazione in caso di soggetti associati.

L'esame della documentazione è concluso alle ore 14:00 del 3/07/2024.

Al termine dell'esame della documentazione amministrativa prodotta dagli operatori economici partecipanti, si trasmette il presente verbale al RUP e al Dirigente della Centrale Acquisti per le determinazioni conseguenti in nome e per conto della Stazione appaltante, a norma del Disciplinare di gara.

Tutta la documentazione relativa alla gara è conservata in forma elettronica, anche ai fini di eventuali accessi agli atti, sul sistema telematico START.

Il presente verbale, composto di n. 5 facciate su 3 pagine, è redatto in unico esemplare.

Letto, confermato e sottoscritto in Firenze li 3/07/2024.

Dott.ssa Sara Del Santo

Dott. Andrea Ciulli

**PERSONAL
INFORMATION**

Sandro Moretti



📍 Affiliation
(University of Florence)
Department of Earth Sciences
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✉ sandro.moretti@unifi.it

🔗 <https://www.unifi.it/p-doc2-2016-0-A-2b3138313a2c-1.html>

- ORCID: 0000-0002-1167-2721
- Google scholar profile:
<https://scholar.google.com/citations?user=ntrbwPYAAAAJ&hl=it>
- Scopus: 7103215933

male | *Date of birth* 12/05/1955 | *Nationality* Italian

Enterprise	University	EPR
<input type="checkbox"/> Management Level	<input checked="" type="checkbox"/> Full professor	<input type="checkbox"/> Research Director and 1st level Technologist / First Researcher and 2nd level Technologist / Principal Investigator
<input type="checkbox"/> Mid-Management Level	<input type="checkbox"/> Associate Professor	<input type="checkbox"/> Level III Researcher and Technologist
<input type="checkbox"/> Employee / worker level	<input type="checkbox"/> Researcher and Technologist of IV, V, VI and VII level / Technical collaborator	<input type="checkbox"/> Researcher and Technologist of IV, V, VI and VII level / Technical collaborator

Indicate SSD GEO/04

WORK EXPERIENCE

(from 2015) **Full Professor in Physical Geography and Geomorphology**
University of Florence
Earth Sciences Department
<https://www.unifi.it/p-doc2-2016-0-A-2b3138313a2c-1.html>

(from 2020) **PhD in Earth and Planetary Sciences Coordinator (XXXVII cycle)**
University of Florence, Pisa and Siena.
<https://www.dst.unifi.it/vp-211-contatti.html>

(from 2020) **Vice-Director of the Earth Sciences Department
University of Florence**
<https://www.dst.unifi.it/vp-63-direzione.html>

(from 2015 – to 2019) **Coordinator of the bachelor’s degree in Geological Sciences and in
the Master degree in Geological Sciences and Technologies courses.**

(from 1992 – to 2019) **Associated Professor in Physical Geography and Geomorphology
University of Florence
Earth Sciences Department**

(from 1983 – to 1992) **Researcher in Physical Geography and Geomorphology
University of Florence
Earth Sciences Department**

HONOURS

(from 2021) **Visiting Professor at UNESCO Chair on Geoenvironmental Disaster
Reduction Shimane University, Matsue, Japan.**

(from 2021) **Vice-president of the ICGdR International Consortium
on Geo-disaster Reduction**
<http://icgdr.com/Home/Menu/290>

(from 2018) **Board of Directors of the Joint International Centre on Natural
Hazards. Shimane University, Beijing University of Technology and
University of Florence (JIC-Nh)**

(from 1998 – to 2002) **Member of the Scientific Council of the IRPI (Institute for
Hydrogeological Research and Protection) of the CNR of Cosenza**

SPIN-OFF **Establishment of the academic spin-off “GEOAPP s.r.l.” Founding
partner. University of Florence.**

PNR **Consulting and coordination group, of the Department for Higher
Education and Research, for the new Plan National Research (PNR)
for proposals and strategies national and for horizon europe 2021-27.
Panel 14.**

EDUCATION AND TRAINING

- (1996) Course for CAD programs
Florence University
- (1990) EU course on "Natural Hazards and Engineering Geology -
Prevention and Control of Landslides and other Mass
Movements"
- (from 1985 – to 1986) Post graduate course in Soil Survey with Specialization in
"Watershed Management"
ITC (International Training Centre on Photogrammetry and
Aerial Photography) – Enschede, The Netherland
- (1983) FORTRAN 77" language programming course
Florence University
- (1983) Introduction to programming course
Florence University
- (1983) Data transmission course
Florence University
- (from 1976 – to 1981) Master Degree in Geological Sciences
University of Florence

WORK ACTIVITIES

Main projects

2022-2024 – PNRR – RETURN PE3.

2021-2023 - SED-RUNS H2020-MSCA-EU

Soil Erosion under extreme rainfall events: Detecting and modelling using a
Radar-Runoff-Nowcasting-System – **Project Coordinator**

2017-2019 - U-Geohaz ECHO-EU

Geohazard impact assessment for urban areas - **Unit coordinator**

2016-2021 - Maritime – Interreg EU Project. Unit Coordinator for UAV
data acquisition fluvial geomorphology and characterization.

2013-2016 - FLUMEN – FP7 - EU - Project Coordinator

Fluvial processes and sediment dynamics of slope channel systems:
Impacts of socio economic-and climate change on river system
characteristics and related services.

**2015-2016 - ECHO - EU - Civil Protection Monitoring System, Unit
coordinator.**

**2012-2015 - EU FP7 - LAndslide Modelling and tools for vulnerability
assessment Preparedness and REcovery management (LAMPRE), Unit
coordinator.**

2008 – 2011 - EU FP7 “DIGISOIL” project, Research Unit Coordinator.

**2008 – 2010 - Integrated Researc Project SKY-EYE, Project
Coordinator.** Regional (Tuscany) administration and EU founding.

2007- 2013 - AIRSAFE, EU-Regione Toscana. **Project coordinator**, managing and evaluating the natural risks.

2007 – 2009 - National research project (MIUR), Research **Unit coordinator**. Operative Unit Research responsible, data acquisition and analysis for developing a model to analyse the triggering processes and factors in volcanous slopes (Stromboli, Sciara del Fuoco).

2007 – 2008 - Research **Project Coordinator**. Data acquisition and analysis for the Gas and liquid production of Waste area of Case Passrini (Firenze) by using remote sensing techniques. Local Authority (Firenze Province)

2005 – 2007 - (PRIN) Research **Project coordinator**, Integrate use of monitoring systems (field and remote sensing) for slow moving landslides. MIUR.

2004 – 2006 - Research Project SLAM, **Project coordinator**. Coordinating field and remote sensing activities for GIS activities in “Service for Landslides Monitoring. ESA.

2001 – 2003 - Ministero dell’Istruzione, Università e Ricerca Scientifica. PRIN . Hydrogeological processes control in urban areas with cultural heritage relevance Coordination of activities. **Project Coordinator**.

1999 – 2001 - Structural complex geological unit characterization towards degradational slope processes. Ministero dell’Istruzione, Università e Ricerca Scientifica. PRIN. **Project Coordinator**.

1996 – 1998 - UE. SOCRATES-COMENIUS. Educational programme for Geoenvironmental risk assessment . **Unit Coordinator**

1993-1996 - Data Analysis for forecasting an prevention of landslide events. **Unit Coordinator**. CNR – GNDCI Unit 1.42

Editorial activity

Geoenvironmental Disasters, Associate editor in Chief.
<https://geoenvironmental-disasters.springeropen.com/about/editorial-board>.

Patents

Rossi G., Moretti S., Casagli N. (2014). An improved drone structure. **PCT/IB2014/064278**, Università degli Studi di Firenze (2014).

Battistini A., Casagli N., Moretti S. (2014). Method for the creation of database of events having a mediatic echo in the internet. **PCT/IB2014/001328**, Università degli Studi di Firenze (2014).

ADDITIONAL INFORMATION

Publications

Total number of publications in peer-review journals **116**
 Total number of citations **3224**
 H index (Scopus) **33**
 Total number of publications in journals belonging to the first Scopus quartile period 2016-2020, **72,4%**.

Insert **relevant** publications (12 publications)

1. **2024**, Pelacani, S., Maerker, M., Tommasini, S., Moretti, S., Combining biodiversity and geodiversity on landscape scale: A novel approach using rare earth elements and spatial distribution models in an agricultural Mediterranean landscape. *Ecological Indicators*, 158,111583.
2. **2023**, Vettori, S., Romoli, D., Salvatici, T., Rimondi, V., Pecchioni, E., Moretti, S., Benvenuti, M., Costagliola, P., Manganelli Del Fà, R., Coppola, M., Agostini, B., Di Benedetto, F., Non-Invasive SWIR Monitoring of White Marble Surface of the Cathedral of Santa Maria del Fiore (Florence, Italy). *Sustainability (Switzerland)*, vol 15(2), 1421.
3. **2021**, Lazzeri, G., Frodella, W., Rossi, G., Moretti, S. Multitemporal mapping of post-fire land cover using multiplatform prisma hyperspectral and sentinel-uav multispectral data: Insights from case studies in Portugal and Italy. *Sensors* 21(12),3982.
4. **2021**, Gracchi T., Rossi G., Tacconi Stefanelli C., Tanteri L., Pozzani R., Moretti S.. Tracking the evolution of riverbed morphology on the basis of uav photogrammetry. *REMOTE SENSING*, vol. 13(4), p. 1-16, ISSN: 2072-4292, doi: 10.3390/rs13040829
5. **2019**, Ciampalini A., Solari L., Giannecchini R., Galanti Y., Moretti S.. Evaluation of subsidence induced by long-lasting buildings load using InSAR technique and geotechnical data: The case study of a Freight Terminal (Tuscany, Italy). *INTERNATIONAL JOURNAL OF APPLIED EARTH OBSERVATION AND GEOINFORMATION*, vol. 82, p. 1-14, ISSN: 1872-826X, doi: 10.1016/j.jag.2019.101925
6. **2019**, Riquelme A., Del Soldato M., Tomas R., Cano M., Jorda Bordehore L., Moretti S.. Digital landform reconstruction using old and recent open access digital aerial photos. *GEOMORPHOLOGY*, vol. 329, p. 206-223, ISSN: 0169-555X, doi: 10.1016/j.geomorph.2019.01.003
7. **2018**, Del Soldato M., Riquelme A., Bianchini S., Tomàs R., Di Martire D., De Vita P., Moretti S., Calcaterra D.. Multisource data integration to investigate one century of evolution for the Agnone landslide (Molise, southern Italy). *LANDSLIDES*, vol. 15(11), p. 2113-2128, ISSN: 1612-510X, doi: 10.1007/s10346-018-1015-z
8. **2018**, Solari L., Del Soldato M., Bianchini S., Ciampalini A., Ezquerro P., MONTALTI, ROBERTO, Raspini F., Moretti S.. From ERS 1/2 to Sentinel-1: subsidence monitoring in Italy in the last two decades. *FRONTIERS IN EARTH SCIENCE*, vol. 6(149), p. 1-16, ISSN: 2296-6463, doi: 10.3389/feart.2018.00149
9. **2018**, Solari L., Barra A., Herrera G., Bianchini S., Monserrat O., Béjar-Pizarro M., Crosetto M., Sarro R., Moretti S.. Fast detection of ground motions on vulnerable elements using Sentinel-1 InSAR data. *GEOMATICS, NATURAL HAZARDS & RISK*, vol. 9(1), p. 152-174, ISSN: 1947-5705, doi: 10.1080/19475705.2017.1413013
10. **2017**, Barra A., Solari L., Béjar-pizarro M., Monserrat O., Bianchini S., Herrera G., Crosetto M., Sarro R., Gonzalez-alonso E., Mateos R. M., Liguerezana S., Lopez C., Moretti S.. A methodology to detect and update active deformation areas based on Sentinel-1 SAR images. *REMOTE SENSING*, vol. 9(10), p. 1-19, ISSN: 2072-4292, doi: 10.3390/rs9101002
11. **2017**, Solari L., Ciampalini A., Raspini F., Bianchini S., Zinno I., Bonano M., Manunta M., Moretti S., Casagli N.. Combined use of C-and X-Band SAR data for subsidence monitoring in an urban area. *GEOSCIENCES*, vol. 7(2), p. 1-17, ISSN: 2076-3263, doi: 10.3390/geosciences7020021
12. **2016**, Raspini F., Bianchini S., Moretti S., Loupasakis C, Rozos D., Duro J., Garcia M.. Advanced interpretation of interferometric SAR data to detect, monitor and model ground subsidence: outcomes from the ESA-GMES Terrafirma project. *NATURAL HAZARDS*, vol. 83, p. 155-181, ISSN: 0921-030X, doi: 10.1007/s11069-016-2341-x

PERSONAL INFORMATION

Silvia BIANCHINI



University of Florence (Italy),
Department of Earth Sciences
Via La Pira 4, 50121, Firenze (Italy)

<https://www.unifi.it/p-doc2-0-0-A-3f2b342e352a2c.html>

- ORCID: orcid.org/0000-0003-2724-5641
- Google scholar profile: <https://scholar.google.it/citations?user=SEdS YwIAAAAJ&hl=it>
- Scopus Author Identifier: 54930204200

Sex F | Date of birth 08/04/1983 | Nationality Italian

Enterprise	University	EPR
<input type="checkbox"/> Management Level	<input type="checkbox"/> Full professor	<input type="checkbox"/> Research Director and 1st level Technologist / First Researcher and 2nd level Technologist / Principal Investigator
<input type="checkbox"/> Mid-Management Level	<input checked="" type="checkbox"/> Associate Professor SSD GEO05	<input type="checkbox"/> Level III Researcher and Technologist
<input type="checkbox"/> Employee / worker level	<input type="checkbox"/> Researcher and Technologist of IV, V, VI and VII level / Technical collaborator	<input type="checkbox"/> Researcher and Technologist of IV, V, VI and VII level / Technical collaborator

WORK EXPERIENCE

CURRENT POSITION

- 01/02/2022 – ONGOING Associate Professor in Engineering Geology
Department of Earth Sciences - University of Florence (Italy), Via G. La Pira 4, 50121, Florence (Italy)
Civil Protection Centre of the University of Firenze, Largo Fermi 2, 50110, Florence (Italy)
 - Remote sensing, satellite SAR interferometry, geohazards, risk management, engineering geology
- 06/03/2024 – ONGOING Program Coordinator
UNESCO Chair on the Prevention and Sustainable Management of Geo-hydrological Hazards, University of Florence, Florence, Italy, <https://www.unesco-geohazards.unifi.it/>
 - Geo-hydrological hazards, UNESCO, cultural heritage, natural and built environment.

PAST POSITION

- 01/02/2019 – 31/01/2022 Researcher / Assistant professor
-Department of Earth Sciences - University of Florence (Italy), Via G. La Pira 4, 50121, Florence (Italy)
-Civil Protection Centre of the University of Firenze, Largo Fermi 2, 50110, Florence (Italy)
 - Remote sensing, satellite and ground-based SAR interferometry, natural hazards
- 01/11/2016 – 31/01/2019 Research Fellow
Department of Earth Sciences - University of Florence (Italy), Via G. La Pira 4, 50121, Florence (Italy)
 - Remote sensing, satellite and ground-based SAR interferometry, natural hazards
- 01/01/2014 – 31/10/2015 Post Doc researcher
Department of Earth Sciences - University of Florence (Italy), Via G. La Pira 4, 50121, Florence (Italy)
 - Remote sensing, satellite and ground-based SAR interferometry, natural hazards
- 28/09/2012 – 31/03/2013 Collaboration and abroad period during the PhD (Doctor Europeus)

Instituto Geológico y Minero de España (IGME - Spanish Geological service), Madrid, Spain

- Remote sensing, InSAR, mapping/monitoring landslides in Majorca island
- Research activities within the European Project "DORIS" financed by EC-GMES FP7

01/01/2010 – 20/06/2010

Scholarship after Master's degree

Department of Earth Sciences - University of Florence (Italy), Via G. La Pira 4, 50121, Florence (Italy)

- 6 months scholarship
- Remote sensing and satellite radar interferometry, Hydro-geological events mapping and landslide inventories updating by means of Persistent Scatterer Interferometry

HABILITATIONS

05/07/2011

Professional habilitation as Geologist

University of Florence (Italy) - Professional qualification Examination for the habilitation as Geologist

04/09/2018

Professional habilitation as Associate Professor

University of Florence (Italy) – 04/A3 (Geologia Applicata, Geografia Fisica e Geomorfologia)

04/09/2018

Professional habilitation as Full Professor

University of Florence (Italy) – 04/A3 (Geologia Applicata, Geografia Fisica e Geomorfologia)

EDUCATION AND SCHOOL

01/01/2011 – 31/12/2013

European PhD (Doctor Europaeus)

Department of Earth Sciences - University of Florence (Italy), Via G. La Pira 4, 50121, Florence (Italy)

- Topic: "Applications of advanced satellite interferometry with temporal high-resolution systems for hydro-geological events mapping and monitoring ("Applicazioni satellitari con sensori ad alta risoluzione temporale per la mappatura e il monitoraggio di fenomeni di dissesto idrogeologico").
- Thesis supervisor: prof. Sandro Moretti

13/02/2009

Master's Degree in Geology

Department of Earth Sciences - University of Florence, "Geo-resources and environment", Via G. La Pira 4, 50121, Florence (Italy)

- Thesis title: "Studio di rocce carbonatiche micronizzate per usi innovativi in calcestruzzo: esempi dall'Appennino Settentrionale" (Innovative uses of carbonate fillers derived from limestones in concrete industry: examples from Northern Appennine).
- Thesis supervisor: Prof. Massimo Coli and Geol. Marco Francini (Unical S.p.A., BUZZI UNICEM)
- Graduation mark: 110/110 cum laude

27/04/2006

Bachelor's Degree in Geology

Department of Earth Sciences - University of Florence, Via G. La Pira 4, 50121, Florence (Italy)

- Thesis title: "Siti estrattivi storici della Pietra Serena nella zona Carmignano-Tavarnuzze (FI)" (Pietraserena historical quarry sites in Carmignano-Tavarnuzze (FI) area).
- Thesis supervisor: Prof. Massimo Coli
- Graduation mark: 110/110 cum laude

1997-2002

Scientific High School Diploma

G. Castelnuovo Scientific High School, Florence (Italy) Via La Marmora 20, 5021, Florence (Italy)
 ▪ Graduation mark: 100/100

ATTENDANCE AT TRAINING AND STAGES

- 11-13 January 2012 **Training Course “Monitorare il territorio con sistemi radar satellitari”**
 T.R.E. (Tele-Rilevamento Europa), Milan, Italy
 ▪ SqueeSAR™ and PSInSAR™ technologies, Satellite Radar Systems and Interferometry: results, interpretation and application
- 27-30 March 2012 **Training Course “SAR interferometry - Principles, data processing and applications**
 GAMMA Remote Sensing AG, Gümüliĝen (Bern), Switzerland
 ▪ Principles of SAR and interferometric SAR processing, GAMMA software and application examples
- 05-10 September 2011 **International School and Workshop “LARAM School – Landslide Risk assessment and Mitigation”**
 Geotechnical Engineering Group (GEG), Università di Salerno, Salerno, Italy
 ▪ Lectures on assessing, forecasting and mitigating landslide risk
- 27-29 June 2011 **Short course in ENVI-IDL**
 ITT - Visual Information Solutions, Concorezzo, MB, Italy
 ▪ ENVI - remote-sensing software for hyperspectral image analysis, image enhancement and feature extraction. IDL - programming software
- 13 -16 May 2010 **Professional training course for Civil Protection logistic manager**
 C.E.S.P.R.O. (Centro Studio delle Condizioni di Rischio e Sicurezza e Sviluppo Attività di Protezione Civile) - *Corso per Operatore Logistico di Protezione Civile*
 ▪ Disaster management, sociology and psychology; design solutions; welfare and safety measures, Civil Protection strategies and planning, warning systems and communication
- 01/11/2006 – 31/01/2007 **Training stage**
 Province of Firenze, via Ginori 10, 50123, Firenze
 ▪ Environmental Planning, database of Florence province ground geological data, ArcGIS software
- 01/11/2006 – 31/01/2007 **Professional training “GEO.MAT”**
GEO.MAT - Modulo professionalizzante in Geomatica e Modellistica Geologica Ambientale
 Department of Earth Sciences - University of Firenze (Italy), Via G. La Pira 4, 50121, Florence (Italy)
 ▪ Environmental-geological uses of GIS (Geographical Information System: thematic cartography,
 ▪ Remote sensing and photointerpretation, multi-hazard management and Civil Protection strategies

LANGUAGES

Mother tongue(s) Italian

Other language(s)

UNDERSTANDING		SPEAKING		WRITING
Listening	Reading	Spoken interaction	Spoken production	

English	B1/2	B1/2	B1/2	B1/2	B1/2
CERTIFICATION: Trinity College of London, Graded Examinations in Spoken English (GESE), Grade 9.					
CERTIFICATION: Embassy CES "English as a Foreign Language" University College of London					
CERTIFICATION: "IST Languages, Work School" University College of London					
Spanish	B1/2	B1/2	B1/2	B1/2	B1/2
CERTIFICATION: Centro Linguistico di Ateneo (CLA) University of Firenze					
German	A1/2	A1/2	A1/2	A1/2	A1/2
CERTIFICATION: Centro Linguistico di Ateneo (CLA) University of Firenze					

Levels: A1/2: Basic user - B1/2: Independent user - C1/2 Proficient user
Common European Framework of Reference for Languages

- Computer skills** Operating systems: Windows
 Microsoft Office: Word, Excel, PowerPoint
 Image/photo editing and CAD: Autocad Adobe Photoshop
 Database management: Aleph
 GIS: ArcGis ESRI, ArcGIS PRO, QGIS
 Remote Sensing and photointerpretation: ENVI, InterIMAGE, TerrSET, GEP, Google Earth Engine
 Processing and analysing of remote sensing data: RISCAN PRO; NEXT-ESA SAR, SNAP, SARscape
 Slope stability and ground seepage: Dips RocSciences; Res2DINV, Rockyfor3d
- Technical skills** Rock and soil mechanics laboratory and field equipment
 GIS and thematic mapping laboratory
 Remote sensing and SAR interferometry laboratory
 Remote sensing and SAR interferometry software
 Long ranging 3D terrestrial laser scanner (TLS) TLS
 GPS and advanced survey instrumentation
 Robotic total stations (RTS) RTS
 Fieldspec spectroradiometer (VNIR SWIR)SWIR),
 Ground based radar interferometry (GB InSAR)InSAR),
 Infrared camera and thermal imaging (ITR)
- Driving licence** ▪ Car patent

EDITORIAL ACTIVITY

- Editorial Board** Member of the Editorial Board of the following Journals:
- *Geoenvironmental Disasters* di Springer – European Area (website: <https://geoenvironmental-disasters.springeropen.com/about/editorialboard>)
 - *Geomatics, Natural Hazards and Risk* di Taylor & Francis Group (website: <https://www.tandfonline.com/toc/tgnh20/current>)

Reviewer activity	Reviewers for the following Journals: <ul style="list-style-type: none">▪ Remote Sensing - MDPI▪ Sensors – MDPI▪ Geosciences – MDPI▪ Remote Sensing of Environment - Elsevier▪ International Journal of Disaster Risk Reduction - Elsevier▪ Hydrological Processes – Wiley▪ Geomatics, Natural hazards and Risk - Taylor & Francis▪ International Journal of Remote Sensing - - Taylor & Francis▪ Geoenvironmental Disasters - Springer▪ Environmental Earth Sciences – Springer▪ Landslides – Springer▪ Journal of Selected Topics in Applied Earth Observations and Remote Sensing - IEEE▪ Natural hazards – Springer▪ Applied Sciences- MDPI▪ Frontiers
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TEACHING ACTIVITY

INSTITUTIONAL TEACHING ACTIVITY

2017 – ongoing	Teacher of: course “Engineering Geology” (48 hours) Bachelor's degree course in Diagnostics and Materials for Conservation and Restoration of cultural heritage, University of Florence
2021 – ongoing	Teacher of: course “Geology and Geomorphology ” (24 hours) Bachelor's degree course in Diagnostics and Materials for Conservation and Restoration of cultural heritage, University of Florence University of Florence
2021 – ongoing	Teacher of: course “Geomateriali con Applicazioni” (24 hours) Master degree course in Science and Materials for Conservation and Restoration of cultural heritage, University of Florence

PHD COURSE

A.A. 2020 – 2024	Teacher of PhD course (16 hours) “ Detection and mapping techniques from satellite interferometric radar data applied to ground and manufact instability.” Course for PhD Students University of Firenze, Italy
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**OTHER INTEGRATIVE
ACTIVITY**

- 2015 – 2016 Seminary and on-site educational trails within courses of “Engineering Geology and Hydrogeology”, and “Environmental Geology”
Bachelor’s degree course in Geological Sciences, University of Firenze

- 2016-2017 Co-Teacher of: course “Engineering Geology” (48 hours)
Master degree course in Natural Sciences, University of Firenze

ABROAD TEACHING

- 2023 Online course (15 hours) “Landslide risk assessment, monitoring, and forecasting” for the UNESCO Regional Office for Southern Africa (ROSA) within landslide Disaster Risk Reduction (DRR) framework

SEMINARS AND WEBINAR	<ul style="list-style-type: none"> ▪ Earth Technology Expo “The use of satellite radar interferometry with high-resolution images for the protection and monitoring of the instability of the built cultural heritage” Florence,15 November 2023. ▪ Earth Technology Expo, “Monitoring and sustainable management of hydrogeological risk applied to cultural heritage”, Florence, 10 October 2022. ▪ Earth Technology Expo “Satellite monitoring of ground deformation at the regional scale”. Seminar “Satellite Interferometry and practical applications”. Florence,13 October 2021. ▪ Seminar: “ SATELLITE RADAR MONITORING OF GROUND DEFORMATION OF THE TUSCANY REGION ”. Cenacolo di Sant’Apollonia. Via XXVII Aprile 1, Florence, for Professional register of Geologists and Engineers of Tuscany Region, 15 April 2019. ▪ Seminar: “ SATELLITE RADAR MONITORING OF GROUND DEFORMATION OF THE TUSCANY REGION ” Sala Convegni Interporto Toscano A. Vespucci, Guasticce (Livorno) for Professional register of Geologists of Tuscany Region, 03 June 2019 ▪ Seminar: “ SATELLITE RADAR MONITORING OF GROUND DEFORMATION OF THE VENETO REGION ”, Professional register of Geologists of Veneto Region, . Online, 21 and 28 April 2021
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**OTHER EDUCATIONAL
ACTIVITY**

ACTIVITY AS THESIS SUPERVISOR

Supervisor and co-supervisor of thesis for Master's Degree and Bachelor's Degree at Department of Earth Sciences - University of Florence (Italy) and tutor of some PhD students:

TUTOR OF PHD STUDENTS:

- Tutor of PhD student: Camilla Medici. Thesis work: : "Use of interferometric satellite radar data for the improvement of space-time prediction models of landslides" PhD in Earth Sciences, 2022 – ongoing.
- Co-tutor with prof Veronica Tofani of the PhD student: Anna Palamidessi. Thesis work: "Protection and conservation of cultural heritage affected by geo-hydrological hazards" PhD in Earth Sciences, 2022 – ongoing.
- Co-tutor with prof Nicola Casagli of the PhD student: Monan Shan. Thesis work: "Permafrost Deformation Monitoring and Interpretation Using InSAR Technique in Northeastern China and Aosta Valley Region, Italy " PhD in Earth Sciences, 2021

SUPERVISOR:

- Thesis Bachelor's Degree of Stefano Belli " Assessment of the built-up areas stability in Tuscany via integrated analysis of interferometric data and geomorphological investigation techniques"; date: 22/02/2024
- Thesis Bachelor's Degree of Camilla Medici "Experimentation of methodologies for defining the risk from collapse in the Aosta Valley region"; date: 18/12/2020
- Thesis Bachelor's Degree of Chiara Fucini (a.a. 2017-2018) " Satellite radar monitoring of soil deformation and landslides in Tuscany, Italy"; date: 20/02/2018
- Thesis Master's Degree of Tommaso Pettinelli (aa. 2020-2021) " Study and monitoring of rock glaciers in the Aosta Valley using satellite radar interferometry". Date: 22/02/2024.

AFFILIATION TO NATIONAL AND INTERNATIONAL ASSOCIATIONS**Memberships to associations**

- Member IAEG - International Engineering Geology and the Environment (IAEG) National Group Italy Association (2018- ongoing)
- Member EGU (European Geosciences Union), N°: 177774 (2011-ongoing)
- Member AIGA (2024)
- Member IEEE member N°: 92321664 (2011-2014)

Other affiliations

(2016-2023) Chair Associate of the UNESCO CHAIR on prevention and sustainable management of geo-hydrological hazards" at Earth Sciences Department University of Firenze (Italy). website: <https://www.unesco-geohazards.unifi.it>

- (2020-ongoing) Member of the reference group for the Earth Sciences Department as member of COPERNICUS ACADEMY within the Copernicus EO programme
- Member of the Implementation group "Cultural Heritage" within the National User Forum Copernicus

DIRECTION AND COORDINATION OF RESEARCH PROJECTS

- | | |
|--|--|
| Coordinator of project | <ul style="list-style-type: none"> ▪ <u>Team coordinator of DST-UNIFI</u> within European project <i>EGMS RASTOOL: European ground motion risk assessment tool</i>, Call UCPM-2021-PP, Directorate-General for European Civil Protection and Humanitarian Aid Operations (ECHO), 2022-2024, Grant Agreement n° 101048474. ▪ <u>Reference person</u> for WP 1.3 of the Project (2019-2021) " <i>KNOWLEDGE DEVELOPMENT AND TECHNICAL AND SCIENTIFIC SUPPORT FOR THE ASSESSMENT OF HYDROGEOLOGICAL AND VOLCANIC HAZARD SCENARIOS</i>": Agreement between the Department of Civil Protection and the Center for Civil Protection at the University of Florence. ▪ <u>Project Leader</u> of the IPL Project "PS continuous streaming for landslide monitoring and mapping" (approved on 29/11/2017): within IPL International Programme on Landslides, between UNESCO, WMO, FAO, UNISDR, UNU, and ICSU e WFEO and ICL (International Consortium on Landslides). ▪ <u>Project manager</u> of the European project U-GEOHAZ (Geohazard impact assessment for urban areas) project (2018-2020) - European Commission (EC) for the call "Prevention and preparedness projects in Civil Protection and marine pollution", within Directorate-General for European Civil Protection and Humanitarian Aid Operations (ECHO), Grant Agreement n° 783169. ▪ <u>Project Co-Leader</u> of the project FRUMENTARIA: Progetto competitivo per RTD tra DST and DAGRI (Scienze e Tecnologie Agrarie, Alimentari, Ambientali e Forestali) (Leader: Dr. Roberto Ferrise SSD AGR/02) (2019-2020). Bando - D.R. 410 (prot. 57595) |
| Scientific Responsible of Scholarships | <ul style="list-style-type: none"> ▪ <u>Scientific Responsibility</u> of the annual research grant: "Applicazioni di telerilevamento multi-sensore per scopi di monitoraggio ambientale" - Dr. Pierluigi Confuorto. Started on 01/11/2019, innovation on 01/11/2020. ▪ <u>Scientific Responsibility</u> of the annual scholarship: "Sviluppo di modelli per la previsione delle condizioni di innesco di frane" - Dr. Camilla Medici. Started on 01/05/2021. |
| Other coordinations of research activities | <ul style="list-style-type: none"> ▪ <u>Direction of the research group</u> at the Earth Sciences Department of University of Firenze within the research project 2021 - Tecniche di telerilevamento radar satellitare per il supporto al monitoraggio e alla salvaguardia del patrimonio architettonico e culturale ▪ <u>Direction of the research group</u> at the Earth Sciences Department of University of Firenze within the research project 2020 - Uso di tecniche radar satellitari interferometriche multi-temporali per il monitoraggio e la salvaguardia del patrimonio architettonico e culturale |

RESEARCH ACTIVITY

Research activities and services within the University of Florence - Department of Earth Sciences, as Centre of Competence of the Department of National Civil Protection.
Some example activities:

- 2013-present - Department of Civil Protection - emergency damage assessment after hydro-geological disasters.
- 2010-present - Department of Civil Protection - SAR.net: Centre of Competence project for support to the National Warning System, landslide monitoring and early warning, rapid mapping and risk assessment.
- 2010-present - Department of Civil Protection - monitoring deformations of Stromboli volcano.
- 2015-2016 - Delegate Commissioner of the Government - monitoring of the Calatabiano landslide (Sicily).
- 2015-2015 - Department of Civil Protection - environmental impact assessment for relocation of Cavallerizzo di Cerzeto (Calabria).
- 2013-2014 - Delegate Commissioner of the Government - monitoring of the Tizzano landslide (Emilia-Romagna).
- 2012-2013 - Delegate Commissioner of the Government - deformation monitoring and early warning of the Costa Concordia shipwreck (Giglio island, Tuscany).
- 2011-2012 - Delegate Commissioner of the Government - monitoring of the Rotolon landslide (Veneto).

- 2010-2012 - Delegate Commissioner of the Government - monitoring and stabilization of the Montaguto landslide (Campania).
- 2010-2012 - Delegate Commissioner of the Government - monitoring of the San Fratello landslide (Sicily).

OTHER NATIONAL PROJECTS Research activities and services within University of Florence - Department of Earth Sciences (DST-UNIFI)

- 2010-2012 - Delegate Commissioner of the Government - residual risk assessment in the province of Messina (Sicily).
- 2017- 2020 - **MOSCAS** –MODelli e Strumenti per la CARatterizzazione delle cavità Sotterranee Research project funded by the Ministry of the Environment and Protection of Land and Sea, for research projects aimed at the prediction and prevention of geological hazards under Article 2 paragraph 2 of Law No. 4 of January 5, 2017
- 2017-present - **ARPAT Tuscany** – mapping and monitoring of the marble quarries in Carrara through remote sensing techniques.
- 2016-present - Tuscany Region - continuous satellite monitoring of ground deformation using Sentinel-1.
- 2017-present - Valle d'Aosta Region - continuous satellite monitoring of ground deformation using Sentinel-1.
- 2017-present - Veneto Region - continuous satellite monitoring of ground deformation using Sentinel-1.
- 2010-2011 - Tuscany Region - GAMMA: slope instability in abandoned mines.
- 2021- ongoing - **ENI S.p.A.** – DST-UNIFI Earth Science Department of the University of Firenze - Studio integrato dei dati di monitoraggio delle variazioni piano altimetriche. Grant agreement n° 2500014944 e il Dipartimento di Scienze della Terra, Università di Firenze.
- 2014-2015 - **ENI S.p.A.** – DST-UNIFI Earth Science Department of the University of Firenze - Studio Integrato dei dati di monitoraggio delle variazioni piano-altimetriche” about monitoring planimetric-altimetric variations of ground deformation by means of remote sensing SAR data. sviluppato all'interno del contratto aperto - Grant agreement n° 2500014944 tra ENI SpA e il Dipartimento di Scienze della Terra, Università di Firenze.
- 2014-2015 - **ENI S.p.A.** – DST-UNIFI Earth Science Department of the University of Firenze - Analisi "change detection" della concessione Val d'Agri per il periodo 2006- 2015 , sviluppato all'interno del contratto aperto - Grant agreement n° 2500014944 tra ENI SpA e il Dipartimento di Scienze della Terra, Università di Firenze.

OTHER RESEARCH PROJECTS Research activities within University of Florence - Department of Earth Sciences (DST-UNIFI)

- 2017 – 2018 - **Ente Cassa di Risparmio di Firenze** - Monitoring the city of Florence with state-of-the-art satellite techniques for the enhancement and preservation of its architectural and cultural heritage.
- 2019 – 2021 - **City of Lucca** - Technical and scientific support for the updating and integration of the Civil Protection Plan of the City of Lucca
- 2017 – 2019 - **ARPAT** - Development and testing of innovative remote sensing methods for the control of mining activity and modeling of erosive processes and transport of processing residues in the Apuan marble basin - Agreement between the Regional Agency for Environmental Protection of Tuscany (ARPAT) and DST-UNIFI pursuant to art. 15 of Law no. 241 of August 7, 1990, for the support the monitoring with innovative remote sensing techniques of the carrara marble basin and modeling of erosional processes and transport of mining residues.

INTERNATIONAL PROJECTS Research activities at the University of Florence - Department of Earth Sciences.

Customer: ESA (European Space Agency)

- **IRIDE SERVICES SEGMENT: LOT 2 GROUND MOTION** - Tender IRIDE Service Segment Design Implementation and Deployment Lot 2 (Ref: ESA AO/1-11570/22/I-EB), Coordinator e-GEOS S.p.A.
- **IRIDE SERVICES SEGMENT: LOT 4 EMERGENCY AND SECURITY** - Tender for “IRIDE Service Segment Design Implementation and Deployment” Lot 4 (Ref: ESA AO/1-11570/22/I-EB), Coordinator e-GEOS S.p.A.

- **SCUDA project** (Secondary Cities Urban Development in Armenia) project (2014), funded by the European Space Agency (ESA) and established in the framework of the collaboration between ESA (European Space Agency) and ADB (Asian Development Bank) to support secondary cities urban development in Armenia. The work was performed as a collaboration between Tele-Rilevamento Europa (TRE), a spin-off of the Polytechnic University of Milano and the Earth Science Department of the University of Firenze (DST-UNIFI).
- **TFX - Terrafirma Extension project** (GSE Geo Hazard Land Motion - Terrafirma Services Extension and Transfer 2009-2012) Contract N° 19366/05/I-EC/UNIFI supported by the Global Monitoring for Environment and Security (GMES) Service Element Program, promoted and financed by the European Space Agency (ESA) and Altamira Information.

Customer: ASI (Agenzia Spaziale Italiana)

- **IMAGES** –“Infrastructural & hazards MAnagement with GEO synchronous SAR”- Coordinator: Politecnico di Milano (Italy). Contract/Agreement n. 2023-32-HH.0.
- **Agnone: Project** “Ground deformation monitoring of slow-moving landslides in Agnone (Molise region, Italy) for building damage assessment”, 1 year ASI project, developed within the COSMOSkyMed Constellation - Open Call For Science - 2015 proposal: ID359. Partners: Earth Sciences and Resources Department Environment of the University of Naples Federico II (DiSTAR-UNINA), Earth Sciences Department of the University of Firenze (DST-UNIFI), Civil, Architectural and Environmental Engineering of University of Naples Federico II (DICEA-UNINA), Escuela Politécnica Superior de Alicante of the University of Alicante (EPSA-UA, Spain), Technical University of Catalonia (Spain).
- **COSMO-SkyMed/RADARSAT-2 SOAR project** (Science and Operational Applications Research and development program) “Subsidence evaluation along Tuscan coastal plains using X-Band and C-Band SAR data” (2014 - 2015) LOAN Agreement, Project n° 5235, between the Earth Science Department of the University of Firenze (DST-UNIFI) as Principal Investigator and the Institute for Electromagnetic Sensing of the Environment of the National Research Council (CNR-IREA).

Customer: European Commission

- **ECHO: RASTOOL project** (2022-2024) financed by the European Commission (EC) within Directorate-General for European Civil Protection and Humanitarian Aid Operations (ECHO), programme UCPM-2021-PP-CBR. Grant Agreement n° 101048474.
- **ECHO: U-GEOHAZ** (Geohazard impact assessment for urban areas) project (2018-2020), European Commission (EC) call “Prevention and preparedness projects in Civil Protection and marine pollution”, within Directorate-General for European Civil Protection and Humanitarian Aid Operations (ECHO) under Grant Agreement n° 783169. Project manager of the project
- **H2020: SARA** (Search And Rescue Aid and Surveillance using High EGNSS Accuracy’) action project (2018-2020) financed by the European Commission (EC) for the Call: H2020-GALILEO-GSA-2017 (Applications in Satellite Navigation – Galileo – 2017), within the HORIZON 2020 program, under Grant Agreement n° 776099.
- **ECHO: SAFETY** (Sentinel-1 for geohazard prevention and forecasting) project (2016-2018) financed by the European Commission (EC) for the call “Prevention and preparedness projects in Civil Protection and marine pollution”, within Directorate-General Humanitarian Aid and Civil Protection (ECHO) under Grant Agreement n° 718679. Project 24 months. Website: <http://safety.ctc.cat/>
- **FP7: LAMPRE** (LAndslide Modelling and tools for vulnerability assessment Preparedness and Recovery management) project (2013-2015) financed by European Commission within Seventh Framework Programme (FP7), under Grant Agreement n° 312384
- **FP7: DORIS** (Ground Deformation Risk Scenarios: and Advanced Assessment Service) project (2010-2013) financed by European Commission within Seventh Framework Programme (FP7/2007–2013) under Grant Agreement n° 242212.
- **FP7: SAFER** (Services and Applications For Emergency Response) project (2009-2011) under Grant Agreement n°218802, financed by European Commission within Seventh Framework Programme under the Global Monitoring for Environment and Security (EC GMES FP7), Work Package (WP) 30220 – Service Evolution – Geophysical Risks – Landslides.

CONFERENCES

CHAIRMAN:

- 2017 - Chairman al Fourth World Landslide Forum (WLF), Ljubljana (Slovenia), 29 May -02 June 2017, "SESSION 4.5 –

LANDSLIDES AND OTHER NATURAL HAZARDS: FLOODS, DROUGHTS, WILDFIRES, TSUNAMIS, VOLCANOES". https://www.wlf4.org/wp-content/uploads/2017/05/WLF4-programme_28_5_2017

- 2024 – Chairman al 8° congresso AIGAA 2024 (Associazione Italiana di Geologia Applicata e Ambientale), Napoli (Italy) 27-29 June 2024, Sessione Monitoraggio.

ORGANIZATION

- General Secretary member of 6th World Landslide Forum, Landslide Science For Sustainable Development, 14-17 November 2023 Florence, Italy

PARTICIPATION:

- 2024 – EGU (European Geosciences Union) Assembly. Camilla Medici, Alessandro Novellino, Claire Dashwood, Silvia Bianchini "Semi-automatic analysis of InSAR large datasets for landslide mapping and monitoring: the Great Britain case study" April 2022, Oral presentation
- 2024 – EGU (European Geosciences Union) Assembly. Francesco Barbadori, Francesco Becattini, Silvia Bianchini, Francesco Caleca, Pierluigi Confuorto, Matteo Del Soldato, Francesco Poggi "Mapping and monitoring ground deformations: Insights from a Sentinel-1 Persistent Scatterer Interferometry study in Northeastern Italy" April 2024, Oral presentation
- 2023 – EGU (European Geosciences Union) Assembly. Silvia Bianchini, Pierluigi Confuorto, Emanuele Intrieri, Paolo Sbarra, Diego Di Martire, Domenico Calcaterra, Riccardo Fanti "Sinkhole risk assessment by using machine learning model: the case study of Guidonia-Bagni di Tivoli plain (Rome), Italy" April 2022, Oral presentation
- 2022 - 3rd Edition of the International Conference Florence Heri-Tech, Bianchini S. & Festa D. "Satellite radar interferometry for monitoring historic urban fabric: Lucca and Florence test cities", 16-18 May 2022, Florence (Italy). Oral presentation
- 2021 - Earth Technology Expo (ETE). Seminario "Interferometria satellitare e applicazioni pratiche" organizzato da Regione Toscana, Direzione Difesa del Suolo e Protezione Civile. Intervento dal titolo: Bianchini S. "Monitoraggio satellitare delle deformazioni del suolo e dei dissesti idrogeologici". 13 October 2021, Florence (Italy). Oral presentation
- 2021 - RemTech Expo. Bianchini S. "Linee Guida SNPA per il monitoraggio delle frane Il Caso studio della frana di Bosmatto (AO) 202-4 September 2021. Online partecipazione
- 2019 - Workshop IAEG (International Association of Engineering Geology) "Lo studio e il monitoraggio dei fenomeni franosi: stato dell'arte e nuove prospettive". Intervento dal titolo: "L'impiego di dati SAR per la localizzazione di fenomeni franosi". 21 febbraio 2019, SALA MARIA IDA VIGLINO Piazza Deffeyes 1, Aosta (Italy).
- 2021 – EGU (European Geosciences Union) Assembly. D Festa, P Confuorto, M Del Soldato, S Bianchini, N Casagli "From Sentinel-1 data processing to field survey: an operating workflow for the continuous monitoring of the Earth surface deformations." April 2021 online
- 2021 – EGU (European Geosciences Union) Assembly. Solari, L., Montalti, R., Barra, A., Monserrat, O., Bianchini, S., & Crosetto, M. "Ground motion detection in a salt solution mining area, an application of Multi-Temporal Satellite Interferometry." April 2021. online
- 2020 - EGU (European Geosciences Union) Assembly. Del Soldato, M., Solari, L., Raspini, F., Bianchini, S., Ciampalini, A., Montalti, R., & Casagli, N. "How to manage a monitoring service based on satellite interferometry: a practical approach from the Tuscany region (central Italy)" May 2020.
- 2019 - EGU (European Geosciences Union) Assembly. Bianchini et al. "Combination of multiple remote sensing data for the study of the complex landslide of Agnone (southern Italy)". Vienna, 7-12 aprile 2019. Oral Presentation
- 2017 - Fourth World Landslide Forum (WLF), Ljubljana (Slovenia), 29 May -02 June 2017, Bianchini S., Cigna F., Casagli N. "Evaluation of building damages induced by landslides in Volterra area (Italy) through remote sensing techniques": Oral communication in session 5.1. Landslide interactions with built environment. Oral presentation
- 2017 - EGU (European Geosciences Union) General Assembly Conference, Vienna (Austria), 23-28 April 2017: Oriol Monserrat, Gerardo Herrera, Silvia Bianchini, Elena González-Alonso, Roberta Onori, Paola Reichenbach, Innocente P Carralero, Anna Barra, Rosa María Mateos, Lorenzo Solari, Sergio Ligüérezana, Paola Pagliara, Francesca Arduzone, Roberto Sarro, Michele Crosetto, Marta Béjar-Pizarro, Sandro Moretti, Carmen Lopez, María Á Benito-Saz "The Safety project: Sentinel-1 for Civil Protection geohazards management", Session: Application of remote sensing and Earth-observation data in natural hazard and risk studies. Oral presentation
- 2017 - EGU (European Geosciences Union) General Assembly Conference, Vienna (Austria), 23-28 April 2017: Matteo Del Soldato, Silvia Bianchini, Teresa Nolesini, William Frodella, Nicola Casagli "Analysis of potential urban unstable areas and landslide-induced damages on Volterra historical site through a remote sensing approach", poster presentation
- 2017 - EGU (European Geosciences Union) General Assembly Conference, Vienna (Austria), 23-28 April 2017: Anna Barra, Lorenzo Solari, Marta Béjar-Pizarro, Oriol Monserrat, Gerardo Herrera, Silvia Bianchini, Michele Crosetto, Rosa María Mateos, Roberto Sarro, Sandro Moretti "Sentinel-1 data exploitation for geohazard activity map generation", Oral presentation
- 2016 – ISL:12th International Symposium on Landslides, Napoli (Italy), 12-19 June 2016: Bianchini S., Pratesi F., Nolesini T., Del Soldato M., Casagli N. (2016) "A PSI-based analysis of landslides in the historic town of Volterra (Italy)" Oral communication in Young Session

- 2016 - EGU (European Geosciences Union) General Assembly Conference, Vienna (Austria), 17-22 April 2016: Rosa María Mateos, Silvia Bianchini, Gerardo Herrera, Inmaculada García-Moreno, Margarita Sanabria, "The Serra de Tramuntana World Heritage Site (Mallorca, Spain). Landslide activity valuation by means of Persistent Scatterers Interferometry", PICO presentation in pico spot 2.
- 2016 - AIGA (X Convegno dei Giovani Ricercatori di Geologia Applicata), Bologna (Italy): Bianchini S. & Moretti S. "Land subsidence investigated through Persistent Scatterer Interferometry technique: the case study of Sibari Plain (Italy)" Oral presentation
- 2015 - Third International Conference on Remote Sensing and Geoinformation of the Environment (RSCy 2015), Cipro (Greece) abstract
- 2014 – TLS 2014: Terrestrisches Laserscanning 2014, Fulda (Germany), 11-12 December 2014, Pratesi F., Nolesini T., Bianchini S., Leva D., Lombardi L., Fanti R., N. Casagli, "Integrated TLS and GBInSAR System for Monitoring Structural Instabilities over Urbanized Areas: the Case of Volterra (Tuscany, Italy)."
- 2013 – IAMG (International Association for Mathematical Geosciences), Madrid (Spain), 2-6 September 2013: Bianchini S., Tapete D., Ciampalini A., Di Traglia F., Del Ventisette C., Moretti S., Casagli N. "Multi-temporal evaluation of landslide-induced movements and damage assessment in San Fratello (Italy) by means of C- and X-band PSI data", Oral presentation in session 10: radar remote sensing for the detection, monitoring and modelling of ground instabilities.
- 2013 - VIII Simposio Nacional sobre Taludes y Laderas Inestables, Palma de Mallorca (Spain), June 2013: Bianchini S., Herrera G., Mateos R. M., García-moreno I., Mora O., Sanchez C., Sanabria M., López M., Merodo J. A., Hernández M., Mulas J. "Metodología para mejorar el análisis de datos satélite radar en el estudio de los movimientos de ladera: resultados del proyecto FP7 DORIS en la Serra de Tramuntana (Mallorca)". Oral presentation in spanish.
- 2012 - EGU (European Geosciences Union) Conference, Vienna (Austria), 7-12 April 2013: Bianchini Silvia, Mateos Rosa, Mora Oscar, García Inma, Sánchez Ciscu, Sanabria Margarita, López Maite, Mulas Joaquin, Hernández Mario, Herrera Gerardo: "Multi-band Persistent Scatterers Interferometry data integration for landslide analysis", Oral presentation in session NH3.5 Advanced methods in landslides research I: Characterizing and monitoring landslide processes using remote sensing and geophysics.
- 2012 - EGU (European Geosciences Union) General Assembly Conference, Vienna (Austria), 03-08 April 2012: S. Bianchini, F. Cigna, N. Casagli "Assessing the state of activity and intensity of slow moving landslides by means of RADARSAT Persistent Scatterer Interferometry: Northern Calabria(Italy) case study", poster converted in ORAL presentation in session NH3.4 Advanced methods in landslides research I: remote sensing and geophysics, Tuesday 05 April 2011 at 14:30–14:45 replacing the work EGU2011-6772.
- 2012 - EGU (European Geosciences Union) General Assembly Conference, Vienna (Austria), 22-27 April 2012: S. Bianchini, F. Cigna, C. Del Ventisette, S. Moretti, N. Casagli "Monitoring landslide-induced deformation with TerraSAR-X Persistent Scatterer Interferometry (PSI): Gimigliano case study in Calabria Region (Italy)". Poster session
- 2012 - European Space Agency. International Forum on Satellite Earth Observation for Geohazard Risk Management, Santorini (Greece) participation
- 2012 - IGARSS (IEEE International Geoscience and Remote Sensing Symposium) conference, Monaco (Germany), 22-27 July 2012: Bianchini S., Cigna F., Del Ventisette C., Moretti S., Casagli N. "Detecting and monitoring landslide phenomena with TerraSAR-X persistent scatterers data: the Gimigliano case study in Calabria region (Italy)". poster presentation
- 2012 – 7th EUREGEO (Congresso Europeo di Cartografia Geologica Regionale e Sistemi Informativi): participation
- 2011 - Giornata di Studi "Il Risorgimento e la Geologia Italiana" per i 150 anni dell'Unità d'Italia, Firenze (Italy) partecipazione
- 2011 – 34th International Geological Congress (IGC), 5-10 August, Brisbane (Australia): abstract
- 2011 - 2nd IWL (Italian Workshop on Landslides), Napoli (Italy) participation
- 2011 - Second World Landslide Forum (WLF), Rome (Italy), 03-09 October 2011, Bianchini S., Cigna F., Casagli N. "Improving landslide inventories with multi-temporal measures of ground displacements retrieved through Persistent Scatterer Interferometry": Oral communication in session L04. Landslide inventory and susceptibility and hazard zoning. 2010 - International Conference on Mountain Risks, Bringing Science to Society, Firenze (Italy) Oral presentation.
- 2010 - International Conference on Mountain Risks, Bringing Science to Society, Firenze (Italy), 24-26 November 2010: F. Cigna, S. Bianchini, G. Righini, C. Proietti & N. Casagli "Updating landslide inventory maps in mountain areas by means of Persistent Scatterer Interferometry (PSI) and photo-interpretation: Central Calabria (Italy) case study", oral presentation in Session CT01 - Part 01

PUBLICATIONS

Papers

- Palamidessi, A., **Bianchini, S.**, Centauro, I., Tofani, V., Tapete, D. and Virelli, M. (2024) Satellite radar interferometry for the analysis of potential instability in urban areas of high historical and cultural value. Italian journal of engineering geology and environment, pp.243-250.
- Zhao, F., Wenping G., **Bianchini S.**, and Zhongkang Y.. (2024) Linking Glacier Retreat with Climate Change on the Tibetan Plateau

through Satellite Remote Sensing." *EGUsphere* 2024: 1-26.

- Raspini, F., **Bianchini, S.**, Festa, D., Del Soldato, M., Confuorto, P., Ezquerro, P. and Casagli, N. (2023). The Potential of Satellite Interferometry for Geohazard Assessment in Cultural Heritage Sites. In *Springer Geology*.
- Raspini, F., Caleca, F., del Soldato, M., Festa, D., Confuorto, P. **Bianchini, S.**, 2022. Review of satellite radar interferometry for subsidence analysis. *EARTH-SCIENCE REVIEWS*, vol. 235, pp.1-39.
- Bianchini, S.**, Confuorto, P., Intrieri, E., Sbarra, P., Di Martire, D., Calcaterra, D. and Fanti, R., 2022. Machine learning for sinkhole risk mapping in Guidonia-Bagni di Tivoli plain (Rome), Italy. *Geocarto International*, 37(27), pp.16687-16715.
- Intrieri, E., Confuorto, P., **Bianchini, S.**, Rivolta, C., Leva, D., Gregolon, S., Buchignani, V. and Fanti, R., 2023. Sinkhole risk mapping and early warning: the case of Camaiole (Italy). *Frontiers in Earth Science*, 11, p.1172727.
- Marinelli, A., Medici, C., Rosi, A., Tofani, V., **Bianchini, S.**, Casagli, N. (2022). Shallow Landslides and Rockfalls Velocity Assessment at Regional Scale: A Methodology Based on a Morphometric Approach. *Geosciences*, 12(4), 177.
- Confuorto P., Medici C., **Bianchini S.**, Del Soldato M., Rosi A., Segoni S., Casagli N. (2022) Machine Learning for Defining the Probability of Sentinel-1 Based Deformation Trend Changes Occurrence. *Remote Sensing*, 14, 1748. <https://doi.org/10.3390/rs14071748>
- Bianchini S.**, Solari L., Bertolo D., Thuegaz P., Catani F., (2021) Integration of Satellite Interferometric Data in Civil Protection Strategies for Landslide Studies at a Regional Scale. *Remote Sensing*, 13(10), p.1881. doi: 10.3390/rs13101881.
- Confuorto P., Del Soldato M., Solari L., Festa D., **Bianchini S.**, Raspini F., Casagli N. (2021) Sentinel-1-based monitoring services at regional scale in Italy: State of the art and main findings. *International Journal of Applied Earth Observation and Geoinformation*, 102, 102448. doi: 10.1016/j.jag.2021.102448
- Del Soldato M., Confuorto P., **Bianchini S.**, Sbarra P., Casagli N. (2021) Review of Works Combining GNSS and InSAR in Europe. *Remote Sensing*, 13(9), p.1684. doi: 10.3390/rs13091684
- Solari L., Montalti R., Barra A., Monserrat O., **Bianchini S.**, Crosetto, M., (2020). Multi-Temporal Satellite Interferometry for Fast-Motion Detection: An Application to Salt Solution Mining. *Remote Sensing*, 12(23), p.3919. doi: 10.3390/rs12233919
- Meng, Q., Confuorto, P., Peng, Y., Raspini, F., **Bianchini S.**, Han, S., Liu, H. and Casagli, N., (2020). Regional Recognition and Classification of Active Loess Landslides Using Two-Dimensional Deformation Derived from Sentinel-1 Interferometric Radar Data. *Remote Sensing*, 12(10), p.1541. doi: 10.3390/rs12101541
- Solari, L., Del Soldato, M., Raspini, F., Barra, A., **Bianchini S.**, Confuorto, P., Casagli, N. and Crosetto, M., (2020). Review of satellite interferometry for landslide detection in Italy. *Remote Sensing*, 12(8), p.1351. doi: 10.3390/rs12081351
- Solari, L., **Bianchini S.**, Franceschini, R., Barra, A., Monserrat, O., Thuegaz, P., ... & Catani, F. (2020) Satellite interferometric data for landslide intensity evaluation in mountainous regions. *International Journal of Applied Earth Observation and Geoinformation*, 87, 102028. doi: 10.1016/j.jag.2019.102028
- Farolfi, G., **Bianchini S.**, Casagli, N. (2019) Integration of GNSS and Satellite InSAR Data: Derivation of Fine-Scale Vertical Surface Motion Maps of Po Plain, Northern Apennines, and Southern Alps, Italy. *IEEE Trans. Geosci. Remote. Sens.*, 57(1), 319-328. doi: 10.1109/TGRS.2018.2854371
- Del Soldato, M., Solari, L., Raspini, F., **Bianchini S.**, Ciampalini, A., Montalti, R., ... & Casagli, N. (2019) Monitoring ground instabilities using SAR satellite data: A practical approach. *ISPRS International Journal of Geo-Information*, 8(7), 307. doi: 10.3390/ijgi8070307
- Bianchini S.**, Solari, L., Del Soldato, M., Raspini, F., Montalti, R., Ciampalini, A. and Casagli, N. (2019) Ground subsidence susceptibility (GSS) mapping in grosseto plain (tuscany, italy) based on satellite insar data using frequency ratio and fuzzy logic. *Remote Sensing*, 11(17), p.2015. doi: 10.3390/rs11172015
- Morelli, S., Del Soldato, M., **Bianchini S.**, Pazzi, V., Krymbi, E., Shpori, E. and Casagli, N. (2019) Detection of Seasonal Inundations by Satellite Data at Shkoder Urban Area, North Albania for Sustainable Management. *Sustainability*, 11(16), p.4454. doi: 10.3390/su11164454
- Farolfi, G., Del Soldato M., **Bianchini S.**, Casagli N. (2019) A procedure to use GNSS data to calibrate satellite PSI data for the study of subsidence: an example from the north-western Adriatic coast (Italy)." *European Journal of Remote Sensing* 52, 4, 54-63. doi: 10.1080/22797254.2019.1663710
- Tomás, R., Pagán, J.I., Navarro, J.A., Cano, M., Pastor, J.L., Riquelme, A., Cuevas-González, M., Crosetto, M., Barra, A., Monserrat, O. and Lopez-Sanchez, J.M. Ramón A., Ivorra S., Del Soldato M., Solari L., **Bianchini S.**, Raspini F., Novali F., Ferretti A., Costantini M., Trillo F., Herrera G., Casagli N. (2019). Semi-automatic identification and pre-screening of geological–geotechnical deformational processes using persistent scatterer interferometry datasets. *Remote Sensing*, 11(14), 1675. doi: 10.3390/rs11141675
- Raspini, F., **Bianchini S.**, Ciampalini, A., Del Soldato, M., Montalti, R., Solari, L., Tofani, V. and Casagli, N. (2019) Persistent Scatterers continuous streaming for landslide monitoring and mapping: The case of the Tuscany region (Italy). *Landslides*, 16(10), 2033-2044. doi: 10.1007/s10346-019-01249-w

- Carlà, T., Tofani, V., Lombardi, L., Raspini, F., **Bianchini S.**, Bertolo, D., Thuegaz, P. and Casagli, N., (2019) Combination of GNSS, satellite InSAR, and GBInSAR remote sensing monitoring to improve the understanding of a large landslide in high alpine environment. *Geomorphology*, 335, 62-75. doi: 10.1016/j.geomorph.2019.03.014
- Del Soldato, M., Di Martire, D., **Bianchini S.**, Tomás, R., De Vita, P., Ramondini, M., Casagli, N. and Calcaterra, D., (2019) Assessment of landslide-induced damage to structures: the Agnone landslide case study (southern Italy). *Bulletin of Engineering Geology and the Environment*, 78(4), 2387-2408. doi: 10.1007/s10064-018-1303-9
- Solari, L., Del Soldato, M., Montalti, R., **Bianchini S.**, Raspini, F., Thuegaz, P., ... & Casagli, N. (2019) A Sentinel-1 based hot-spot analysis: landslide mapping in north-western Italy. *International Journal of Remote Sensing*, 40(20), 7898-7921. doi: 10.1080/01431161.2019.1607612.
- Montalti, R., Solari, L., **Bianchini S.**, Del Soldato, M., Raspini, F. and Casagli, N. (2019). A Sentinel-1-based clustering analysis for geo-hazards mitigation at regional scale: a case study in Central Italy. *Geomatics, Natural Hazards and Risk*, 10(1) 2257-2275. doi: 10.1080/19475705.2019.1690058
- Bianchini S.**, Raspini, F., Solari, L., Del Soldato, M., Ciampalini, A., Rosi, A. and Casagli, N. (2018) From picture to movie: twenty years of ground deformation recording over Tuscany region (Italy) with satellite InSAR. *Frontiers in Earth Science*, 6, p.177. doi: 10.3389/feart.2018.00177
- Solari, L., Barra, A., Herrera, G., **Bianchini S.**, Monserrat, O., Béjar-Pizarro, M., Crosetto, M., Sarro, R. and Moretti, S. (2018) Fast detection of ground motions on vulnerable elements using Sentinel-1 InSAR data. *Geomatics, Natural Hazards and Risk*, 9(1), pp.152-174. doi: 10.1080/19475705.2017.1413013
- Raspini, F., **Bianchini S.**, Ciampalini, A., Del Soldato, M., Solari, L., Novali, F., Del Conte, S., Rucci, A., Ferretti, A. and Casagli, N. (2018) Continuous, semi-automatic monitoring of ground deformation using Sentinel-1 satellites. *Scientific reports*, 8(1), 1-11. doi: 10.1038/s41598-018-25369-w.
- Solari L., Raspini F., Del Soldato M., **Bianchini S.**, Ciampalini A., Ferrigno F., Tucci S., Casagli N. (2018) Satellite radar data for back-analyzing a landslide event: the Ponzano (Central Italy) case study. *Landslides*. doi: 10.1007/s10346-018-0952-x
- Del Soldato, M., Riquelme, A., **Bianchini S.**, Tomás, R., Di Martire, D., De Vita, P., ... & Calcaterra, D. (2018). Multisource data integration to investigate one century of evolution for the Agnone landslide (Molise, southern Italy). *Landslides*, 15(11), 2113-2128. doi: 10.1007/s10346-018-1015-z
- Bianchini S.**, Solari L., Casagli N. (2017). A GIS-based procedure for landslide intensity evaluation and specific risk analysis supported by persistent scatterers interferometry (PSI). *Remote Sensing*, 9(11), p. 1-20. doi: 10.3390/rs9111093
- Bianchini S.**, Raspini F., Ciampalini A., Lagomarsino D., Bianchi M., Bellotti F., Casagli N. (2017). Mapping landslide phenomena in landlocked developing countries by means of satellite remote sensing data: the case of Dilijan (Armenia) area. *Geomatics, Natural Hazards and Risk*, 8, 225-241. doi: 10.1080/19475705.2016.1189459
- Solari, L., Del Soldato, M., **Bianchini S.**, Ciampalini, A., Ezquerro, P., Montalti, R., ... & Moretti, S. (2018). From ERS 1/2 to Sentinel-1: subsidence monitoring in Italy in the last two decades. *Frontiers in Earth Science*, 6, 149. doi: 10.3389/feart.2018.00149
- Raspini, F., Bardi, F., **Bianchini S.**, Ciampalini, A., Del Ventisette, C., Farina, P., Ferrigno, F., Solari, L., Casagli, N. (2017) The contribution of satellite SAR-derived displacement measurements in landslide risk management practices. *Natural hazards*, 86(1), pp.327-351. doi: 10.1007/s11069-016-2691-4
- Del Soldato M, **Bianchini S**, Calcaterra D, De Vita P, Martire DD, Tomás R, Casagli N. (2017) A new approach for landslide-induced damage assessment. *Geomatics, Natural Hazards and Risk*, 15, 8(2):1524-37. doi: 10.1080/19475705.2017.1347896
- Barra, A., Solari, L., Béjar-Pizarro, M., Monserrat, O., **Bianchini S.**, Herrera, G., Crosetto, M., Sarro, R., González-Alonso, E., Mateos, R.M. and Ligüerzana, S., (2017) A Methodology to Detect and Update Active Deformation Areas Based on Sentinel-1 SAR Images. *Remote Sensing*, 9(10),1002. doi:10.3390/rs9101002
- Solari, L., Ciampalini, A., Raspini, F., **Bianchini S.**, Zinno, I., Bonano, M., Manunta, M., Moretti, S., Casagli, N. (2017) Combined use of C- and X-Band SAR data for subsidence monitoring in an urban area. *Geosciences*, 7(2), 21. doi:10.3390/geosciences7020021
- Bianchini S.**, Del Soldato, M., Solari, L., Nolesini, T., Pratesi, F. and Moretti, S., (2016). Badland susceptibility assessment in Volterra municipality (Tuscany, Italy) by means of GIS and statistical analysis. *Environmental Earth Sciences*, 75(10), p.889. doi: 10.1007/s12665-016-5586-5
- Bianchini S.**, Solari L., Moretti S. (2016). Inventory and analysis of geological and topographic distribution of "Balze" crags in the Upper Valdarno basin (Tuscany region, Italy). *Zeitschrift Für Geomorphologie*, 60, 311-326. doi: 10.1127/zfg/2016/0400
- Bianchini S.** & Moretti S. (2016) Land subsidence investigated through Persistent Scatterer Interferometry technique: the case study of Sibari Plain (Italy). *Rendiconti Online Societa Geologica Italiana*, 41, doi: 10.3301/ROL.2016.133
- Raspini, F., Ciampalini, A., **Bianchini S.**, Bardi, F., Di Traglia, F., Basile, G. and Moretti, S. (2016) Updated landslide inventory of the area between the Furiano and Rosmarino creeks (Sicily, Italy). *Journal of Maps*, 12(5), 1010-1019. doi: 10.1080/17445647.2015.1114975

- Ciampalini A., Raspini F., **Bianchini S.**, Tarchi D., Vespe M., Moretti S., Casagli N. (2016) The Costa Concordia last cruise: The first application of high frequency monitoring based on COSMO-SkyMed constellation for wreck removal. *ISPRS Journal Of Photogrammetry And Remote Sensing*, 112, 37-49, doi: 10.1016/j.isprsjprs.2015.12.001
- Ciampalini A., Raspini F., Frodella W., Bardi F. **Bianchini S.**, S Moretti (2016) The effectiveness of high-resolution LiDAR data combined with PSInSAR data in landslide study. *Landslides* 13 (2), 399-410.doi: 10.1007/s10346-015-0663-5
- Casagli, N., Cigna, F., **Bianchini S.**, Hölbling, D., Füreder, P., Righini, G., Del Conte, S., Friedl, B., Schneiderbauer, S., lasio, C. and Vlcko, J., (2016) Landslide mapping and monitoring by using radar and optical remote sensing: examples from the EC-FP7 project SAFER. *Remote sensing applications: society and environment*, 4, 92-108. doi: 10.1016/j.rsase.2016.07.001
- Nolesini, T., Frodella, W., **Bianchini S.** and Casagli, N. (2016) Detecting slope and urban potential unstable areas by means of multi-platform remote sensing techniques: The Volterra (Italy) case study. *Remote Sensing*, 8(9), p.746. doi:10.3390/rs8090746
- Solari, L., Ciampalini, A., Raspini, F., **Bianchini S.** and Moretti, S. (2016) PSInSAR analysis in the Pisa Urban Area (Italy): A case study of subsidence related to stratigraphical factors and urbanization. *Remote Sensing*, 8(2), p.120. doi:10.3390/rs8020120
- Solari L, Ciampalini A, **Bianchini S**, Moretti S (2016) PSInSAR analysis in urban areas: A case study in the Arno coastal plain (Italy). *Rend. Online Soc. Geol. It.*, 41, 255-258 doi: 10.3301/ROL.2016.142
- Raspini, F., **Bianchini S.**, Moretti S., Loupasakis C., Rozos D., Duro J., Garcia M. (2016) Advanced interpretation of interferometric SAR data to detect, monitor and model ground subsidence: outcomes from the ESA-GMES Terrafirma project. *Natural Hazards*, 83, 1, 55-181. doi: 10.1007/s11069-016-2341-x
- Bianchini S.** & S. Moretti (2015) Analysis of recent ground subsidence in the Sibari plain (Italy) by means of satellite SAR interferometry-based methods, *International Journal of Remote Sensing* 36 (18), 4550–4569. doi:10.1080/01431161.2015.1084433
- Bianchini S.**, Pratesi F., Nolesini T., N. Casagli (2015) Building Deformation Assessment by Means of Persistent Scatterer Interferometry Analysis on a Landslide-Affected Area: The Volterra (Italy) Case Study, *Remote Sensing* 7 (4), 4678-4701. doi:10.3390/rs70404678
- Pratesi F., Nolesini T., **Bianchini S.**, Leva D., Lombardi L., Fanti R., N. Casagli (2015) Early Warning GBInSAR-Based Method for Monitoring Volterra (Tuscany, Italy) City Walls, *IEEE Journal of selected topics in applied earth observations and remote sensing*. doi: 10.1109/JSTARS.2015.2402290
- Bianchini S.**, Ciampalini A., Raspini F., Bardi F., Di Traglia F., Moretti S., Casagli N. (2015) Multi-Temporal Evaluation of Landslide Movements and Impacts on Buildings in San Fratello (Italy) By Means of C-Band and X-Band PSI Data. *Pure Appl. Geophys.*, 172 (11), 3043-3065. doi: 10.1007/s00024-014-0839-2
- Ciampalini A., Raspini F., **Bianchini S.**, Frodella W., Bardi F., Lagomarsino D., Di Traglia F., Moretti S., Proietti C., Pagliara P., Onori R., Corazza A., Duro A., Basile G., Casagli N. (2015) Remote sensing as tool for development of landslide databases: The case of the Messina Province (Italy) geodatabase, *Geomorphology*, 249, 103-118, doi:10.1016/j.geomorph.2015.01.029
- Ciampalini A., Raspini F., **Bianchini S.**, Frodella W., Bardi F., Lagomarsino D., Di Traglia F., Moretti S., Proietti C., Pagliara P., Onori R., Corazza A., Duro A., Basile G., Casagli N. (2015) The landslide geodatabase of the Messina Province: a tool in the civil protection emergency cycle. *Rend. Online Soc. Geol. It.*, Vol. 35 (2015), 70-73. doi: 10.3301/ROL.2015.66
- Bardi F., Frodella W., Ciampalini A., **Bianchini S.**, Del Ventisette C., Gigli G., Fanti R., Moretti S., Basile G., Casagli N. (2014) "Integration between ground based and satellite SAR data in landslide mapping: the case study of San Fratello (Sicily, Italy)", *Geomorphology*, 223, 45 -60. doi: 10.1016/j.geomorph.2014.06.025
- Ciampalini A., Bardi F., **Bianchini S.**, Frodella W., Del Ventisette C., Moretti S., Casagli N. (2014) "Analysis of building deformation in landslide area using multisensor PSInSARTM technique", *International Journal of Applied Earth Observation and Geoinformation*, 33, 166–180, doi: 10.1016/j.jag.2014.05.011
- Notti D., Herrera G., **Bianchini S.**, Meisina C., García-Davalillo J. C., Zucca F. (2014) "A methodology for improving landslide PSI data analysis", *International Journal of Remote Sensing*, 35 (6), 2186-2214. doi:10.1080/01431161.2014.889864
- Frangioni S., **Bianchini S.**, Moretti S. (2014) Landslide inventory updating by means of Persistent Scatterer Interferometry (PSI): the Setta basin (Italy) case study. *Geomatics, Natural Hazards and Risk*, Vol. 6 (5-7), 419-438. doi: 10.1080/19475705.2013.866985
- Bianchini S.**, Cigna F., Del Ventisette C., Moretti S., Casagli N. (2013) Monitoring landslide-induced displacements with TerraSAR-X Persistent Scatterer Interferometry (PSI): Gimigliano case study in Calabria Region (Italy). *International Journal of Geosciences*, 4 (10), 1467-1482. doi: 10.4236/ijg.2013.410144
- Bianchini S.**, Herrera G., Notti D., Garcia-Moreno I., Mora O., Moretti S. (2013) Landslide activity maps generation by means of Persistent Scatterer Interferometry". *Remote Sensing*, 5 (12), 6198-6222. doi:10.3390/rs5126198
- Cigna F., **Bianchini S.**, Casagli N. (2013) How to assess landslide activity and intensity with Persistent Scatterer Interferometry (PSI): the PSI-based matrix approach. *Landslides*, 10 (3), 267-283. doi: 10.1007/s10346-012-0335-7.
- Del Ventisette C., Ciampalini A., Manunta M., Calò F., Paglia L., Ardizzone F., Mondini A., Reichenbach P., Mateos R.M., **Bianchini S.**,

Garcia I., Füsü B., Villó Deák Z., Rádi K., Graniczny M., Kowalski Z., Piatkowska A., Przylucka M., Retzo H., Strozzi T., Colombo D., Mora O., Sánchez F., Herrera G., Moretti S., Casagli N., Guzzetti F. (2013) Exploitation of Large Archives of ERS and ENVISAT C-Band SAR Data to Characterize Ground Deformations. *Remote Sensing* 5, 3896-3917. doi:10.3390/rs5083896

•**Bianchini S.**, Cigna F., Righini G., Proietti C., Casagli N. (2012) Landslide HotSpot Mapping by means of Persistent Scatterer Interferometry. *Environmental Earth Sciences*, 67(4), 1155-1172. doi: 10.1007/s12665-012-1559-5

Proceedings

•**Bianchini, S.**, Solari, L., Barra, A., Monserrat, O., Crosetto, M. and Catani, F., 2020, November. Sentinel-1 PSI Data for the Evaluation of Landslide Geohazard and Impact. In *Workshop on World Landslide Forum*, pp. 447-455. Springer, Cham.

•Casagli N., Tofani V., Catani F., Moretti S., Fanti R., Gigli G., **Bianchini S**, Raspini F. (2020) Advanced Technologies for Landslides (WCoE 2017–2020) In *Workshop on World Landslide Forum*, pp 259-265. Springer, Cham.

•Morelli, S., Pazzi, V., Tofani, V., Raspini, F., **Bianchini, S** and Casagli, N., 2020, November. Reconstruction of the Slope Instability Conditions Before the 2016 Failure in an Urbanized District of Florence (Italy), a UNESCO World Heritage Site. In *Workshop on World Landslide Forum*, pp. 449-455. Springer, Cham.

•Solari, L., Festa, D., Confuorto, P., **Bianchini, S** and Casagli, N., 2020, November. From Satellite Images to Field Survey: A Complete Scheme of Landslide InSAR Monitoring. In *Workshop on World Landslide Forum*, pp. 411-418. Springer, Cham.

•**Bianchini, S.**, Nolesini T., Del Soldato M., Casagli N. (2017) "Evaluation of Building Damages Induced by Landslides in Volterra Area (Italy) Through Remote Sensing Techniques". In: *Workshop on World Landslide Forum*, pp. 111-120. Springer, Cham, 2017. Volume 5: Landslides in different environments. p. 111-120, Springer, Cham, ISBN: 978-3-319-53482-4, doi: 10.1007/978-3-319-53483-1_14

•Sarro R, Mateos RM, Herrera G, García-Moreno I, Reichenbach P, Carralero IP, Naranjo J, Bejar-Pizarro M, Monserrat O, Solari L, Onori R., Barra A., **Bianchini S.**, López C., Moretti S., González-Alonso E., Ligüérsana S., Ardizzone F., Crosetto M., Pagliara P. (2017) Methodology for assessing rockfall susceptibility within the ambit of civil protection: the Safety project. *Proceedings of the 6th Interdisciplinary Workshop on Rockfall Protection (RocExs 2017)*, 22-24 May 2017, Barcelona (Spain).

•**Bianchini S.** & Moretti S., (2016) Land subsidence investigated through Persistent Scatterer Interferometry technique: the case study of Sibari Plain (Italy) *Proceeding of the AIGA 2016 Congress - X Convegno dei Giovani Ricercatori di Geologia Applicata 2016*, Bologna (Italy) 16-18 February 2016.

•**Bianchini S.**, Pratesi F., Nolesini T., Del Soldato M., Casagli N. (2016). A PSI-based analysis of landslides in the historic town of Volterra (Italy). In: *Landslides and engineered slopes. Experience, theory and practice - Vol.2*. p. 411-417, Taylor and Francis Inc., ISBN: 978-1-138-02988-0, *Proceeding of the 12th ISL (International Symposium on Landslides)*, Naples, Italy, 12-19 June 2016

•Ciampalini A., Raspini F., **Bianchini S.**, Lagomarsino D., Moretti S. (2016). A landslide susceptibility map of the Messina province (Sicily, Italy). In: *Landslides and Engineered Slopes. Experience, Theory and Practice - Vol.2*. p. 657-661, Taylor and Francis Inc., ISBN: 978-1-138-02988-0, *Proceeding of the 12th ISL (International Symposium on Landslides)*, Naples (Italy), 12-19 June 2016

•Raspini F, **Bianchini S**, Del Ventisette C, Moretti S, Loupasakis C, Rozos D, Duro J, Garcia M (2015) Subsidence mapping, characterization, and modeling: the ESA-GMES Terrafirma services. *Proc. SPIE 9535 - Proceedings of the Third International Conference on Remote Sensing and Geoinformation of the Environment (RSCy2015)*, 953516, 19 June 2015. doi:10.1117/12.2192199

•Pratesi F., Nolesini T., **Bianchini S.**, Leva D., Lombardi L., Fanti R., N. Casagli (2015) "Integrated TLS and GBInSAR System for Monitoring Structural Instabilities over Urbanized Areas: the Case of Volterra (Tuscany, Italy)". In: *Terrestrisches Laserscanning 2014 (TLS 2014)* Bjorn Riedel and Wolfgang Niemeier (eds), *Proceedings of the Conference DVW-Seminar Terrestrisch Laserscanning 2014 (TLS 2014)*, 139-158, DVW, Fulda (Germany), 11-12 December 2014.

•**Bianchini S.**, Herrera G., Mateos R. M., García-moreno I., Mora O., Sanchez C., Sanabria M., López M., Merodo J. A., Hernández M., Mulas J. (2013) Metodología para mejorar el análisis de datos satélite radar en el estudio de los movimientos de ladera: resultados del proyecto FP7 DORIS en la Serra de Tramuntana (Mallorca). In: *VIII Simposio Nacional sobre Taludes y Laderas Inestables*, Palma de Mallorca, Junio 2013, E.Alonso, J. Corominas y M. Hürlimann (Eds.), CIMNE, Barcelona, 2013.

•Manunta m., Calo F., Ojha C., Ardizzone F., Guzzetti F., Mondini A., Reichenbach P., **Bianchini S.**, Casagli N., Ciampalini A., Del Ventisette C., Moretti S., Garcia I., Herrera G., Mateos R.M., Fusi B., Graniczny M., Kowalski Z., Piatkowska A., Surala M., Retzo H., Strozzi T., Colombo D., Mora O., Sanchez C. (2013) "The European DORIS downstream service as a multi-scale system for landslides and subsidence risk management". *IEEE International Geoscience and Remote Sensing Symposium. Remote Sensing for a Dynamic Earth – IGARSS 2012*, Melbourne, 21-26 July 2013, pp. 33-36. DOI: 10.1109/IGARSS.2013.6721085

•**Bianchini S.**, Cigna F., Del Ventisette C., Moretti S., Casagli N. (2012) Detecting and monitoring landslide phenomena with TerraSAR-X persistent scatterers data: the Gimigliano case study in Calabria region (Italy). *IEEE International Geoscience and Remote Sensing Symposium. Remote Sensing for a Dynamic Earth – IGARSS 2012*, Munich, Germany, 22-27 July 2012, pp. 982-985.

•Cigna F. **Bianchini S.**, Righini G., Proietti C., Casagli N. (2010) Updating landslide inventory maps in mountain areas by means of Persistent Scatterer Interferometry (PSI) and photo-interpretation: Central Calabria (Italy) case study. In: *Malet JP, Glade T, Casagli N*

(eds) Mountain Risks: Bringing Science to Society, Proceedings of the International Conference, CERG Editions, Florence, Italy, November 24-26, 2010, pp3-9.

Book chapters:

Casagli, N., Tofani, V., Moretti, S., Fantì, R., Gigli, G., **Bianchini, S.**, Segoni, S., Frodella, W. and Carla, T., 2023. Advanced Technologies for Landslides—ATLaS (WCoE 2020–2023). In Progress in Landslide Research and Technology, Volume 1 Issue 1, 2022. Progress in Landslide Research and Technology (pp. 267-275). Springer, Cham.

Raspini, F., **Bianchini, S.**, Festa, D., Del Soldato, M., Confuorto, P., Ezquerro Martín, P. and Casagli, N., 2023. The Potential of Satellite Interferometry for Geohazard Assessment in Cultural Heritage Sites. In: Sustainable Conservation of UNESCO and Other Heritage Sites Through Proactive Geosciences. Margottini C & Mohamed Gad eds., Springer

AAVV (2021) Linee Guida per il monitoraggio delle frane SNPA. Sistema Nazionale per la Protezione dell'Ambiente. Linee guida SNPA n. 32/2021 –Roma Luglio 2021, ISBN: 978-88-448-1071-9.

Casagli, N., **Bianchini, S.**, Ciampalini, A., Del Soldato, M., Ezquierro, P., Montalti, R., ... & Raspini, F. (2021) Sentinel-1 InSAR Data for the Continuous Monitoring of Ground Deformation and Infrastructures at Regional Scale. In: Advances in Remote Sensing for Infrastructure Monitoring, pp. 63-80. Springer, Cham.

Del Soldato M, Solari L, Festa D, Confuorto P, **Bianchini S**, Casagli N (2021) From Satellite Images to Field Survey: A Complete Scheme of Landslide InSAR Monitoring In: Advances in Remote Sensing for Infrastructure Monitoring (pp. 63-80). Springer, Cham. https://doi.org/10.1007/978-3-030-60227-7_47

Casagli, N., **Bianchini, S.**, Ciampalini, A., Del Soldato, M., Ezquierro, P., Montalti, R., Shan, M., Solari, L. and Raspini, F., (2021) Sentinel-1 InSAR Data for the Continuous Monitoring of Ground Deformation and Infrastructures at Regional Scale. In: Advances in Remote Sensing for Infrastructure Monitoring (pp. 63-80). Springer, Cham.

Del Soldato, M., **Bianchini, S.**, De Vita, P., Di Martire, D., Tomás, R., Calcaterra, D. and Casagli, N., (2020). Relation Between On-Field and InSAR Data on Landslide-Induced Damage. In: Applied Geology, pp. 107-129, Springer, Cham.

Bianchini, S., Pratesi, F., Nolesini, T., Del Soldato, M., & Casagli, N. (2018) A PSI-based analysis of landslides in the historic town of Volterra (Italy). In: Landslides and Engineered Slopes. Experience, Theory and Practice (pp. 411-417). CRC Press.

Cigna, F., **Bianchini, S.**, & Casagli, N. (2018) TXT-tool 4.039-3.2 How to Assess Landslide Activity and Intensity with Persistent Scatterer Interferometry (PSI): The PSI-Based Matrix Approach. In: Landslide Dynamics: ISDR-ICL Landslide Interactive Teaching Tools: Volume 2: Testing, Risk Management and Country Practices, 493. Doi: 10.1007/978-3-319-57777-7_29

Bianchini S. Tapete D., Ciampalini A., Di Traglia F., Del Ventisette C., Moretti S., Casagli N. (2014) Multi-temporal evaluation of landslide-induced movements and damage assessment in San Fratello (Italy) by means of C-and X- Band PSI data. In: Mathematics of Planet Earth, Lecture Notes in Earth System Sciences, Springer Berlin Heidelberg Ed., pp. 263-266. doi: 10.1007/978-3-642-32408-6_58

Bianchini S., Cigna F., Casagli N. (2013) Improving landslide inventories with multi-temporal measures of ground displacements retrieved through Persistent Scatterer Interferometry. In: Landslide Science and Practice, Springer Berlin Heidelberg eds, pp. 119-125. 2-s2.0-84898079564

AAVV (2012) Scientific and Technical Memorandum of the International Forum on Satellite EO and Geohazards Ph. Bally Ed., 21-23 May 2012, Santorini Greece. doi: 10.5270/esa-geo-hzrd-2012, 59-80.

Bianchini S. (2008) Levanto: utilizzo storico delle sue risorse lapidee, In: Restauro Archeologico, n. 3/2008, Bollettino del Gruppo di Ricerca sul Restauro Archeologico. Conservazione e Manutenzione di Edifici allo Stato di Rudere. A cura di Luigi Marino, Università degli Studi di Firenze. Alinea Editrice.

Bianchini S., Coli M., Tanini C., Pini G. (2007) Siti estrattivi storici della pietra serena a sud di Firenze, In: "Cave storiche e risorse lapidee: Documentazione e restauro", ed. 10/2007, pp.128, a cura di Luigi Marino. Alinea Editrice

ORCID:

orcid.org/0000-0003-2724-5641

ISI Web Of Science:

ResearcherID: A-9598-2016

FLORENCE, 08/07/2024

Firmato SILVIA BIANCHINI



PERSONAL INFORMATION



Federico Raspini

University of Florence (Italy),
 Department of Earth Sciences
 Via La Pira 4, 50121, Firenze (Italy)

<https://www.unifi.it/p-doc2-2016-0-A-2c303c323829-1.html>

Sex Male | Date of birth 12/06/1982 | Nationality Italian

Driving license B

National Academic Qualification as Full Professor obtained on 27 June 2024

CURRENT POSITION	
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From 01 February 2022

Associate Professor in Physical Geography and Geomorphology at the Earth Sciences Department of the University of Firenze

Research area and sector - National University Council (CUN):

Area:

04 - Earth Sciences

Academic recruitment field:

04/A3 - Applied Geology, Physical Geography and Geomorphology

04/GEOS-03 - Physical Geography, Geomorphology and Applied Geology

Academic discipline:

GEO-04 - Physical Geography and Geomorphology

GEOS-03/A - Physical Geography and Geomorphology

Research domains - European Research Council (ERC)

PE10 - Earth system science

PE10_13 Physical geography

PE10_14 Earth observations from space/remote sensing

WORK EXPERIENCE	
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From 01 February 2019
 To 31 January 2022

Researcher with tenure track in Physical Geography and Geomorphology at the Earth Sciences Department of the University of Firenze

From 1 November 2016
 to 31 January 2019

Researcher in Physical Geography and Geomorphology at the Earth Sciences Department of the University of Firenze.

From 01 January 2013
 to 31 October 2016

Post-doctoral researcher at the Earth Sciences Department of the University of Firenze. Topic of the research: detection, mapping, monitoring and modelling hydro-geological instability events using interferometric data and analysing displacement temporal series. Research title: "*Study of innovative systems for monitoring hydrogeological instability processes*".

From 1 April 2012
 to 31 August 2012

Visiting researcher at NTUA (National Technical University of Athens). Topic of the research: analysis of subsidence phenomena through satellite SAR interferometry. Finite element modelling of the ground subsidence phenomena related to aquifer system deformation, under the supervision of Prof. Constantinos Loupasakis and Prof. Dimitrios Rozos.

From November 2008
 to August 2010

Independent contractor at *Geomap s.r.l. - Società di Ingegneria*: participation at the MCGP (Multinational Geospatial Co-Production Program) project, aimed at producing and sharing High Resolution Vector Data (HRVD) with global coverage with 1:50K and 1:100K densities.

From August 2013
 to September 2013

Independent contractor at *Geomap s.r.l. - Società di Ingegneria*: participation at the Zarema project (Tigray Region, Ethiopia). Field investigation, geological survey, geomorphological analysis and geomechanical characterization of the Zarema dam site and its appurtenant structures.

EDUCATION AND TRAINING	
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- From 01 January 2010
to 31 December 2012
PhD in Earth Sciences with the label of "Doctor Europaeus" at the Department of Earth Sciences of the University of Firenze with a thesis on "Use of radar interferometric techniques for monitoring hydro-geological instability events". Tutor: Prof. Sandro Moretti.
- From September 2006
to November 2008
Master's degree in Earth Sciences. Graduation mark: 110 / 110 cum laude at the Department of Earth Sciences of the University of Firenze with a thesis on "Analysis and interpretation of surface deformation at Phlegrean Fields, Naples". Supervisor: Prof. Filippo Catani.
- From October 2001
to April 2006
Bachelor's Degree in Earth Sciences. Graduation mark: 107 / 110 at the Department of Earth Sciences of the University of Firenze with a thesis on "Geomorphological survey of area near Bibbiena, Arezzo". Supervisor: Prof. Leonardo Piccini.
- From September 1996
to June 2001
Scientific High School Diploma. Graduation mark: 97 / 100 at the "Ernesto Balducci" secondary school, Pontassieve (Firenze).

EDUCATION AND TRAINING (provided by other institutions)	
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- From 4 September 2011
to 10 September 2011
Participation at the LARAM School (International School on Landslide Risk Assessment and Mitigation) organized in Salerno (Italy) by Prof. Leonardo Cascini of the University of Salerno.
- From January
to May 2010
Internship at the Arno River Basin Authority. Topic of the research: rainfall data and Permanent Scatterers time series analysis devoted to pluviometric threshold estimation, under the supervision of Dott. Giovanni Montini.

PERSONAL SKILLS	
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Mother tongue **Italian**

Other language

UNDERSTANDING

SPEAKING

WRITING

Listening

Reading

Spoken interaction

Spoken production

English

C1

C1

C1

C1

C1

Communication skills

Communication skills acquired as a result of academic teaching, international scientific conferences, training courses, outreach initiatives.

Professional competences

Forecasting and prevention of geohazards, landslide hazard and risk assessment, geomorphological mapping, rock and soil characterization, stability analysis of natural and artificial slopes, remote sensing and rapid mapping., satellite interferometric monitoring of ground deformations, ground-based radar interferometry, laser scanning techniques for rapid rock mass characterization and stability analysis, safeguard of cultural heritage at risk.

Technical skills

Rock and soil mechanics laboratory and field equipment, GIS and thematic mapping laboratory, remote sensing and SAR interferometry laboratory, remote sensing and SAR interferometry software, long ranging 3D terrestrial laser scanner (TLS), GPS and advanced survey instrumentation, Robotic total stations (RTS), Fieldspec spectroradiometer (VNIR - SWIR), ground-based radar interferometry (GB-InSAR), Infrared camera and thermal imaging (ITR).

Digital Skills

Operative systems:

- MS Windows 98, XP, Vista, Windows 7, Windows 8, Windows 10.

Software:

- MS Office, OpenOffice, RES2DINV, Photoshop, autoCAD;
- Remote Sensing: ENVI (with SARscape modulus), NEST, SNAP;
- Geographic Information Systems (ArcGis 8.1, 8.3, 9.0, 9.2, 9.3, 10.x – ArcGIS Pro);
- Landslide modeling (SSAP, Slope Stability Analysis Program), FLAC, DAN-W/3D, SEEP/W-SLOPE/W, OG390 for windows;
- Subsidence modeling (PLAXIS);
- GPS (Leica SKI-Pro, Leica Geo Office, Italgo99/2005, Vertero).

TEACHING ACTIVITY (Holder of the following courses)	
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Academic year 2023-2024

- "*Physical Geography and Geomorphology*" in the Undergraduate Course of Geological Sciences (School of Mathematics, Physics and Natural Sciences) (6 CFU).
- "*GIS laboratory and thematic cartography*" in the Course of Geological Sciences and Technologies (School of Mathematics, Physics and Natural Sciences, University of Florence) (3 CFU).
- "*Applied Geomorphology*" in the Course of Geological Sciences and Technologies (School of Mathematics, Physics and Natural Sciences, University of Florence) (6 CFU).

Academic year 2022-2023

- "*Physical Geography and Geomorphology*" in the Undergraduate Course of Geological Sciences (School of Mathematics, Physics and Natural Sciences) (6 CFU).
- "*GIS laboratory and thematic cartography*" in the Course of Geological Sciences and Technologies (School of Mathematics, Physics and Natural Sciences, University of Florence) (1.5 CFU).
- "*Applied Geomorphology*" in the Course of Geological Sciences and Technologies (School of Mathematics, Physics and Natural Sciences, University of Florence) (6 CFU).

Academic year 2021-2022

- "*Physical Geography and Geomorphology*" in the Undergraduate Course of Geological Sciences (School of Mathematics, Physics and Natural Sciences) (3 CFU).
- "*Geological applications of monitoring techniques*" in the Course of Geological Sciences and Technologies (School of Mathematics, Physics and Natural Sciences, University of Florence) (6 CFU).
- "*Applied Geomorphology*" in the Course of Geological Sciences and Technologies (School of Mathematics, Physics and Natural Sciences, University of Florence) (1.5 CFU).

Academic year 2020-2021

- "*Physical Geography and Geomorphology*" in the Undergraduate Course of Geological Sciences (School of Mathematics, Physics and Natural Sciences) (3 CFU).
- "*Geological applications of monitoring techniques*" in the Course of Geological Sciences and Technologies (School of Mathematics, Physics and Natural Sciences, University of Florence) (6 CFU).
- "*Applied Geomorphology*" in the Course of Geological Sciences (School of Mathematics, Physics and Natural Sciences, University of Florence) (1.5 CFU).

Academic year 2019-2020

- "*Physical Geography and Geomorphology*" in the Undergraduate Course of Geological Sciences (School of Mathematics, Physics and Natural Sciences) (3 CFU).
- "*Geological applications of monitoring techniques*" in the Course of Geological Sciences and Technologies (School of Mathematics, Physics and Natural Sciences, University of Florence) (6 CFU).

Academic year 2018-2019

- "*Physical Geography and Geomorphology*" in the Undergraduate Course of Geological Sciences (School of Mathematics, Physics and Natural Sciences) (3 CFU).
- "*Laboratory of environmental analysis*" in the master's Degree of Anthropological and

Geographical Studies (School of Letters) (3 CFU).

- "*Climatology and Physical Geography*" in the Undergraduate Course of Natural Sciences (School of Mathematics, Physics and Natural Sciences) (3 CFU).

Academic year 2017-2018

- "*Laboratory of environmental analysis*" in the master's Degree of Anthropological and Geographical Studies (School of Letters) (3 CFU).

- "*Physical Geography of tropical environments*" within the Master in "Tropical Biodiversity and Ecosystems - TROPIMUNDO" coordinated by the Université Libre de Bruxelles (3 CFU).

Academic year 2016-2017

- "*Physical Geography of tropical environments*" within the Master in "Tropical Biodiversity and Ecosystems - TROPIMUNDO" coordinated by the Université Libre de Bruxelles (3 CFU).

<p style="text-align: center; margin: 0;">TEACHING ACTIVITY (Support activities and tutoring)</p>	
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Support to teaching activities within the course of "Geology I with laboratory" in the Course of Geological Sciences (School of Mathematics, Physics and Natural Sciences, University of Florence) for the Academic year 2020-2021.

Support and participation to the field activities of the Course of Geological Sciences and Technologies (School of Mathematics, Physics and Natural Sciences, University of Florence) in the Valle d'Aosta Region for the Academic year 2018-2019, 2020-2021, 2021-2022, 2022-2023, 2023-2024.

Supervisor for the following Bachelor thesis:

2023-2024 Michele Franceschetti: Monitoraggio ottico satellitare del Campo di Ghiaccio patagonico Sud. Thesis in progress.

2022-2023 Arianna Gigli: Genesi ed origine dei fiordi norvegesi – Thesis defense: 26 October 2023.

2019-2020 Ermini Andrea: Analisi interferometrica e stratigrafica del fenomeno di subsidenza in località Oste nel comune di Montemurlo (PO) – Thesis defense: 17 April 2020.

Supervisor for the following Master thesis:

2023-2024 Lorenzo Pollutri: Landslide hazard assessment and evaluation: a multi-scale approach in Georgia. Thesis in progress.

2023-2024 Eduardo di Stasio: Detection and monitoring of landslides related to the rainfall events of May 2023 in the Emilia-Romagna through HR optical images. Thesis in progress

2022-2023 Arianna Gigli: Genesi ed origine dei fiordi norvegesi – Thesis defense: 26 October 2023.

2020-2021 Rebecca Mani: Analisi dei dati di monitoraggio radar satellitare delle deformazioni del suolo nella Regione Veneto – Thesis defense: 3 June 2021.

2020-2021 Francesco Poggi: Definizione e validazione della vulnerabilità da frane a cinematica lenta in Italia – Thesis defense: 9 April 2021.

2020-2021 Lorenzo Bini: Caratterizzazione spaziale e temporale della subsidenza nel Comune di Montemurlo (PO) – Thesis defense: 9 aprile 2021.

2018-2019 Giacomo Minissale: Monitoraggio in continuo della subsidenza dell'area di Pistoia tramite dati radar satellitari – Thesis defense: 16 April 2019.

Tutor of the following PhD student:

39th PhD cycle Francesco Becattini: Development of innovative approaches for landslide risk assessment and management.

38th PhD cycle Francesco Poggi: Innovative methods for the spatial and temporal analysis of interferometric SAR data at large scale.

37th PhD cycle Francesco Barbadori: Development of innovative methodologies for soil conservation through the application of erosive hydrological models and remote sensing

techniques.

Cotutor of the following PhD student:

38th PhD cycle Istvan Szokolczai: New methods for integrating data from different landslide monitoring systems.

37th PhD cycle Francesco Caleca: Development of new methodologies for a multi-scale landslide quantitative assessment.

35th PhD Cycle Davide Festa: Spatial and temporal analysis of interferometric data for ground deformation detection from local to national scale.

EDITORIAL ACTIVITY	
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Member of the Editorial Board for the following international journals: *Remote Sensing* (IF=4.509) and *Frontiers in Earth Sciences* (IF=2.689).

Guest Editor for the following international journal: *Remote Sensing with Special Issues* titled: "Advancement of Remote Sensing in Landslide Monitoring and Early Warning" and "Earth Observation for Geohazards in the Era of Big Data and Cloud Computing".

Referee for the following international journals (alphabetical order): *Canadian Journal of Remote Sensing*, *Engineering Geology*, - *Environmental Earth Sciences*, *Frontiers in Earth Science*, *Geomatics*, *Natural Hazards and Risk*, *Geomorphology*, *International Journal of Remote Sensing and Remote Sensing Letters*, *Journal of Hydrology*, *Landslides*, *Natural Hazards*, *Natural Hazards and Earth System Sciences*, *Pure and Applied Geophysics*, *Remote Sensing*, *Remote Sensing of Environment*.

Support to the activity of the Editorial Board Members of *Landslides* (IF=3.811).

MEMBERSHIPS	
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Associate Researcher of the National Institute of Oceanography and Applied Geophysics (OGS), from 2022.

Member of the European Geosciences Union (EGU), from 2016.

Member of the Italian Association of Engineering and Environmental Geology (AIGA), from 2016.

Member of International Consortium of Landslides (ICL), from 2016.

Member of the Italian Association of Geomorphology and Physical Geography (AIGeo), from 2017.

Research Assistant of the UNESCO Chair on Prevention and Sustainable Mitigation of Geo-hydrological Hazards, from 2017.

TRANSFER OF KNOWLEDGE	
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Pre-incubation activity of the Geoapp spin-off company, from 2016.

PARTECIPATION TO CONFERENCE	
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International Conference Mountain Risks: Bringing Science to Society, Firenze, November 24-26, 2010. Oral presentation: "Terrain motion analyses using Persistent Scatterers Interferometry (PSI) in the Gioia Tauro area (South Italy)".

The TerraFirma Workshop, ESA ESRIN Roma (Italia), 1-2 December 2010. Oral presentation: "Results from PSInSAR analysis in the Gioia Tauro basin (Calabria Region)".

The Second Italian Workshop on Landslide, Napoli, 28-30 September 2011.

The Second World Landslide Forum "Putting science into practice", Roma (Italia), 3-9 October 2011. Oral presentation: "Landslide mapping using SqueeSAR data: Giampileri (Italy) case study".

The International Forum on Satellite EO and Geohazards, Santorini (Greece), 21-23 May 2012.

IX Assembly of Young Researchers in Applied Geology 2013, Napoli, 14-15 February 2013. Oral

presentation: "*Landslide mapping using SqueeSAR data: the Giampilieri (Italy) case study*".

X Assembly of Young Researchers in Applied Geology 2016, Bologna (Italia), 18-19 February 2016. Oral presentation: "*Back monitoring of the San Leo (northern Italy) rock cliff by means of Squeesar technique*".

European Geosciences Union General Assembly 2016, Wien (Austria), 17–22 April 2016. Oral presentation: "*Exploitation of amplitude and phase of satellite SAR images for landslide mapping: the case of Montescaglioso (South Italy)*".

VIII Assembly of the Italian Society of Remote Sensing, 22-24 June 2016, Palermo (Italia). Oral presentation: "*The Costa Concordia last cruise: The first application of high frequency monitoring based on COSMO-SkyMed constellation for wreck removal*".

The 4th World Landslide Forum "Landslide research and risk reduction for advancing culture of living with natural hazards", Ljubljana, Slovenia, 29 May - 2 June 2017. Oral presentation: "*Mapping rapid-moving landslide with satellite SAR images: the case of Montescaglioso (South Italy)*". Oral presentation: "*How to improve accuracy of landslide susceptibility maps using PSI data*".

European Geosciences Union General Assembly 2017, Wien (Austria), 23-28 April 2017. Oral presentation: "*The contribution of satellite SAR-derived displacement measurements in landslide risk management practices*".

European Geosciences Union General Assembly 2018, Wien (Austria), 9-14 April 2018. Oral presentation: "*Capturing pre-failure signs of the Maoxian landslide with Sentinel-1 satellites*".

Associazione Italia di Telerilevamento (AIT) 2018, Firenze (Italia), 4-6 July 2018. Oral presentation: "*The continuous monitoring of land surface deformation from space: an example from the Toscana Region*".

AIGA 2018 (Associazione Italiana di Geologia Applicata), Courmayeur (Italy) 27-29 June. Oral presentation: "*Satellite InSAR for landslide mapping and monitoring*".

GeoMEast 2018 International Congress and Exhibition, 24-28 November 2018, Cairo. Oral presentation: "*COSMO-SkyMed satellites for the analysis of geohazards-induced ground deformations*".

European Geosciences Union General Assembly 2019, Wien (Austria), 7-12 April 2019. Oral presentation: "*Prediction of slope failure at regional scale with Sentinel-1 satellites: possibilities and limitations*".

Sustainable conservation of UNESCO and other heritage sites through proactive geosciences, cruise on the Nile between Luxor and Assuan. Oral presentation: "*The potential of satellite interferometry for geohazard assessment in cultural heritage sites*".

European Geosciences Union General Assembly 2020, online, 4-8 May 2020. Oral presentation: "*Perspectives on the prediction of catastrophic slope failures from satellite InSAR*".

European Geosciences Union General Assembly 2020, online, 4-8 May 2020. Convener of the NH 3.9 Session: "*Landslide monitoring: recent technologies and new perspectives*".

European Ground Motion Service with Copernicus Workshop, online, 21-22 October 2020. Invited oral presentation: "*Operational regional GMSs towards the Italian coverage*".

European Geosciences Union General Assembly 2021, online, 19-30 April 2021. Convener of the NH 3.5 Session: "*Landslide monitoring: recent technologies and new perspectives*".

Workshop on "Slope monitoring", Firenze, 14-15 October 2021. Invited oral presentation: "*Monitoraggio mediante misure radar interferometriche da terra e da satellite*".

Workshop on "Il monitoraggio degli hazard geologici attraverso servizi operativi di ground motion basati su interferometria satellitare", online, 22 ottobre 2021. Invited oral presentation: "*Monitoraggio di frane a scala regionale con i satelliti Sentinel-1: possibilità e ricadute*".

European Geosciences Union General Assembly 2022, Wien, 23-27 May 2022. Convener of the NH 3.5 Session: "*Landslide monitoring: recent technologies and new perspectives*".

European Geosciences Union General Assembly 2023, Wien, 23-28 April 2023. Convener of the NH 3.5 Session: "*Landslide monitoring: recent technologies and new perspectives*".

European Geosciences Union General Assembly 2024, Wien, 14-19 April 2024. Convener of the NH

3.5 Session: *"Landslide monitoring: recent technologies and new perspectives"*.

Earth Technology Expo 2022 - Atelier ASI "Gestione del territorio", Firenze, 7 October 2022. Invited oral presentation: *"Prodotti satellitari per la gestione del rischio frane a scala di Municipalità"*.

Corso di alta formazione sul monitoraggio delle frane, online, 27 October 2022. Invited oral presentation: *"Il Monitoraggio mediante misure radar interferometriche da terra e da satellite. Il Monitoraggio mediante sistemi doppler. Caratteristiche tecniche, utilizzi costi di riferimento"*.

Corso di alta formazione sul monitoraggio delle frane, online, 6 October 2023. Invited oral presentation: *"Il Monitoraggio mediante misure radar interferometriche da terra e da satellite. Il Monitoraggio mediante sistemi doppler. Caratteristiche tecniche, utilizzi costi di riferimento"*.

HONOUR AND AWARDS	
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Best paper award 2019 of the Remote Sensing journal for the paper entitled *"Persistent Scatterer Interferometry (PSI) technique for landslide characterization and monitoring"*, authors Veronica Tofani, Federico Raspini, Filippo Catani e Nicola Casagli.

Best paper award 2017 of the Geoenvironmental Disasters journal for the paper entitled *"Spaceborne, UAV and ground-based remote sensing techniques for landslide mapping, monitoring and early warning"*, authors Nicola Casagli, William Frodella, Stefano Morelli, Veronica Tofani, Andrea Ciampalini, Emanuele Intrieri, Federico Raspini, Guglielmo Rossi, Luca Tanteri, Ping Lu.

RESEARCH & DEVELOPMENT PROJECTS	
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Project coordination

2023-present - Principal Investigator of the PRIN (*Progetti di Rilevante Interesse Nazionale*) project FORMATION "Full cOverAge, Multi-scAle and multi-sensor geomorphological map: a practical tool for Territorial planning.

2022-present - WP leader of the *WP 1.2 of Center of Competence* project for the mapping and monitoring geo-hydrogeological hazards at national level.

2024-present - Team Leader of the EUSATfinder project (European space, aerial and terrestrial assets supporting first responders' operations)

2021-present - Team leader of the *PATHFINDER* project - PNT as A Technology to support drones' BVLOS scenarios for preventive monitoring and First Responder missions.

2021-present - Team leader of the ASI - *DInSAR-3M* project - DInSAR Multi-frequenza/Multi-piattaforma per analisi Multi-scala dei movimenti del suolo.

2020-present - Team leader of the EU (European Union) H2020 project *PASSport* to engineer and qualify a solution extending situational awareness based on aerial fixed/ rotary wing and underwater drones to improve safety and security in port areas.

2017-present - Principal Investigator of the IPL (International Programme on landslide) project *PS continuous streaming for landslide monitoring and mapping*.

2017-present - Principal Investigator of the ESA GEP (European Space Agency Geohazards Exploitation Platform) platform project *Mapping ground deformation in the Tuscany Region*.

2019-2021 - WP leader of the *WP 1.4 of Center of Competence* project for the production of a landslide risk map at national level at the scale of 1 km².

2018-2021 - Principal Investigator of the University of Firenze project *SlideSense 2.0 – Integrated system for early warning system in landslide areas*.

2018-2020 - Team Leader of the EU (European Union) H2020 project *SARA* (Search and Rescue Aid and Surveillance using High EGNSS Accuracy) project.

Project participation

European organizations

2022-2024 - EC ECHO RASTOOL: European ground motion risk assessment tool

2019-present - European Environmental Agency EEA - European Ground Motion Service for

the creation of a ground deformation map at European level.

2018-2020 - EC ECHO U-GEOHAZ: Geohazard impact assessment for urban areas.

2016-2017 - EC ECHO SAFETY: Sentinel for geohazards regional monitoring and forecasting.

2015-2018 - EC H2020 RESOLUTE - Resilience management guidelines and operationalization applied to urban transport environment.

2012-2015 - ECFP7-SPACE LAMPRE: Landslide modelling and tools for vulnerability assessment preparedness and recovery management.

2009-2013 - ECFP7-SPACE – DORIS - Ground deformations risk scenarios: an advanced assessment service.

2008 -2010 - ECFP7-SPACE – SAFER - Emergency response core service

Ministry of University and Research (MUR)

2022-presente – RETURN: multi-Risk sciEnce for resilient commUnities undeR a changiNg climate

2022-present – GeoSciences IR: un’Infrastruttura di Ricerca per la Rete Italiana dei Servizi Geologici

2020-present - PRIN (*Progetti di Rilevante Interesse Nazionale*) URGENT - Urban Geology and Geohazards: Engineering geology for safer, resilieNt and smart ciTies

2013-2014 - National Operational Programme on Research and Competitiveness (PON) - *Monitoring and early warning along major transportation routes.*

Space Agencies

2019-2021 - European Space Agency ESA - *G-Class/Hydroterra* for the design of a geostationary C-band satellite for the monitoring of diurnal water cycle.

2018-2020 - ASI (Italian Space Agency) RISK MANAGEMENT & SECURITY - *High resolution Subsidence investigation in the urban area of Pistoia (Tuscany region, central Italy).*

2014-2015 - ASI (Italian Space Agency) COSMO-SKYMED/RADARSAT-2 INITIATIVE - *Subsidence evaluation along Tuscan coastal plains using X-Band and C-band SAR data.*

2014-2014 - European Space Agency ESA - *SCUDA* (Secondary Cities Urban Development in Armenia).

2005-2012 - European Space Agency ESA-ESRIN-GSE TERRAFIRMA - Pan-European ground motion information service.

TECHNOLOGY TRANSFER & CONSULTANCY PROJECTS	
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Project participation

Presidency of the Council of Ministers

2010-present - Department of Civil Protection - *SAR.net: Centre of Competence project for support to the National Warning System, landslide monitoring and early warning, rapid mapping and risk assessment.*

2010-present - Department of Civil Protection - *monitoring deformations of Stromboli volcano.*

2015-2016 - Delegate Commissioner of the Government - *monitoring of the Calatabiano landslide (Sicily).*

2015-2015 - Department of Civil Protection - *environmental impact assessment for the relocation of Cavallerizzo di Cerzeto (Calabria).*

2013-2014 - Delegate Commissioner of the Government - *monitoring of the Tizzano landslide (Emilia-Romagna).*

2012-2013 - Delegate Commissioner of the Government - *deformation monitoring and early warning of the Costa Concordia shipwreck (Giglio island, Tuscany).*

2011-2012 - Delegate Commissioner of the Government - *monitoring of the Rotolon landslide (Veneto).*

2010-2012 - Delegate Commissioner of the Government - *monitoring and stabilization of the Montaguto landslide (Campania).*

2010-2012 - Delegate Commissioner of the Government - *monitoring of the San Fratello landslide (Sicily).*

2010-2012 - Delegate Commissioner of the Government - *residual risk assessment in the province of Messina (Sicily).*

Regional administrations

2016-present - Tuscany Region - *continuous satellite monitoring of ground deformation using Sentinel-1.*

2017-present - Valle d'Aosta Region - *continuous satellite monitoring of ground deformation using Sentinel-1.*

2017-present - Veneto Region - *continuous satellite monitoring of ground deformation using Sentinel-1.*

2017-2019 - ARPAT Tuscany – *mapping and monitoring of the marble quarries in Carrara through remote sensing techniques.*

2010-2011 - Tuscany Region - *GAMMA: slope instability in abandoned mines.*

Local administrations

2010-present - Municipality of Montevarchi - *monitoring of the Ricasoli landslide.*

2015-2016 - Municipality of Rio Marina - *investigations for sinkhole hazard.*

2014-2015 - Province of Reggio Emilia - *monitoring of the Vetto landslide.*

2013-2013 - Municipality of Vaiano - *Stability analysis assessment using PS-InSAR data.*

Non-governmental organizations

2020-present – World Bank - *Strengthening Financial Resilience and Accelerating Risk Reduction in Central Asia (SFRARR).*

2017-2019 - Ente Cassa di Risparmio di Firenze - *monitoring of cultural heritage of the city of Firenze through innovative satellite radar sensors.*

Private sector

2021-present - ENI - *Integrated study of landslide risk at basin scale.*

2014-2017 - ENI - *Integrated study of monitoring data on ground deformations.*

PUBLICATIONS	
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ISI Web of Science

ID: H-5830-2016

Profile: shorturl.at/mCLW8

Number of documents: 75

Citations: 2.561

Hirsch Index: 31

Bibliometric Indexes from Scopus

ID: 54795664100

Number of documents: 77

Citations: 3.325

Hirsch Index: 35

Bibliometric Indexes from Scholar

Cited articles: 78

Citations: 4.173

Hirsch Index: 36

I10 Index: 56

Ardizzone F., Basile G., Cardinali M., Casagli N., Del Conte S., Del Ventisette C., ... **Raspini F.**, & Terranova O. (2012). *Landslide inventory map for the Briga and the Giampileri catchments, NE Sicily, Italy.* Journal of Maps, 8(2), 176-180.

Raspini F., Cigna F., & Moretti S. (2012). *Multi-temporal mapping of land subsidence at basin scale exploiting Persistent Scatterer Interferometry: case study of Gioia Tauro plain (Italy).* Journal of Maps, 8(4), 514-524.

Tofani V., **Raspini F.**, Catani F. & Casagli N. (2013). *Persistent Scatterer Interferometry (PSI) technique for landslide characterization and monitoring.* Remote Sensing, 5(3), 1045-1065.

Raspini F., Loupasakis C., Rozos D. & Moretti S. (2013). *Advanced interpretation of land subsidence by validating multi-interferometric SAR data: the case study of the Anthemountas basin (Northern Greece).* Natural Hazards and Earth System Sciences, 13(10), 2425-2440.

Raspini F., Loupasakis C., Rozos D. & Moretti M. (2013). *Basin and local scale detection of ground subsidence through Persistent Scatterer Interferometry: the Anthemountas basin (northern Greece) case study.* Bulletin of the Geological Society of Greece, 47.

Raspini F., Moretti S., Fumagalli A., Rucci A., Novali F., Ferretti A. ... & Casagli, N. (2014). *The COSMO-SkyMed Constellation Monitors the Costa Concordia Wreck.* Remote Sensing, 6(5), 3988-4002.

- Bianchini S., Ciampalini A., **Raspini F.**, Bardi F., Di Traglia F., Moretti S. & Casagli N. (2014). *Multi-temporal evaluation of landslide movements and impacts on buildings in San Fratello (Italy) by means of C-band and X-band PSI data*. Pure and Applied Geophysics, 172 (11), 3043-3065.
- Raspini F.**, Loupasakis C., Rozos D., Adam N. & Moretti S. (2014). *Ground subsidence phenomena in the Delta municipality region (Northern Greece): Geotechnical modeling and validation with Persistent Scatterer Interferometry*. International Journal of Applied Earth Observation and Geoinformation, 28, 78-89.
- Ciampalini A., **Raspini F.**, Frodella W., Bardi F., Bianchini S. & Moretti S. (2015). *The effectiveness of high-resolution LiDAR data combined with PSInSAR data in landslide study*. Landslides, 13(2), 339-410.
- Raspini F.**, Ciampalini A., Del Conte S., Lombardi L., Nocentini M., Gigli G., Ferretti A. & Casagli N. (2015). *Exploitation of amplitude and phase of satellite SAR images for landslide mapping: the case of Montescaglioso (South Italy)*. Remote Sensing, 7(11), 14576-14596.
- Ciampalini A., **Raspini F.**, Bianchini S., Frodella W., Bardi F., Lagomarsino D. ... & Casagli N. (2015). *Remote sensing as tool for development of landslide databases: The case of the Messina Province (Italy) geodatabase*. Geomorphology, 249, 103-118.
- Del Ventisette C., Solari L., **Raspini F.**, Ciampalini A., Di Traglia F., Moscatelli M., Pagliaroli A. & Moretti S. (2015). *Use of PSInSAR data to map highly compressible soil layers*. Geologica Acta, 13 (4), 309-323.
- Raspini F.**, Ciampalini A., Bianchini S., Bardi F., Di Traglia F., Basile G. & Moretti S. (2015). *Updated landslide inventory map of the area between the Furiano and Rosmarino creeks (Sicily, Italy)*. Journal of Maps, 12 (5), 1010-1019; DOI: 10.1080/17445647.2015.1114975
- Ciampalini A., **Raspini F.**, Bianchini S., Frodella W., Bardi F., Lagomarsino D. ... & Casagli N. (2015). *The landslide geodatabase of the Messina Province: a tool in the civil protection emergency cycle*. Rendiconti Online della Società Geologica Italiana, 35, 70-73.
- Ciampalini A., **Raspini F.**, Bianchini S., Tarchi D., Vespe M., Moretti S. & Casagli N. (2016). *The Costa Concordia Last Cruise: The First Application of High Frequency Monitoring Based on COSMO-SkyMed Constellation for Wreck Removal*. ISPRS Journal of Photogrammetry and Remote Sensing 112, 37-49.
- Raspini F.**, Bianchini S., Moretti S., Loupasakis C., Rozos D., Duro J. & Garcia, M. (2016). *Advanced interpretation of interferometric SAR data to detect, monitor and model ground subsidence: outcomes from the ESA-GMES Terrafirma project*. Natural Hazards, 83 (1), 155-181.
- Solari L., Ciampalini A., **Raspini F.**, Bianchini S. & Moretti S. (2016). *PSInSAR analysis in the Pisa Urban Area (Italy): a case study of subsidence related to stratigraphical factors and urbanization*. Remote Sensing, 8(2), 120.
- Frodella W., Ciampalini A., Gigli G., Lombardi L., **Raspini F.**, Nocentini M., Scardigli C. & Casagli N. (2016). *Synergic use of satellite and ground-based methods for the San Leo rock cliff monitoring*. Geomorphology 264, 80-94.
- Bardi F., **Raspini F.**, Ciampalini A., Kristensen L., Rouyet L., Lauknes T. R., Frauenfelder R. & Casagli N. (2016). *Space-Borne and Ground-Based InSAR Data Integration: The Åknes Test Site*. Remote Sensing, 8(3), 237.
- Bianchini S., **Raspini F.**, Ciampalini A., Lagomarsino D., Bianchi M., Bellotti F. & Casagli N. (2016). *Mapping landslide phenomena in landlocked developing countries by means of satellite remote sensing data: the case of Dilijan (Armenia) area*. Geomatics, Natural Hazards and Risk, 8 (2), 225-241.
- Ciampalini A., **Raspini F.** & Frodella W. (2016). *Back monitoring of the San Leo (Northern Italy) rock cliff by means of Squeesar technique*. Rendiconti Online della Società Geologica Italiana, 41, 227-230.
- Intrieri E., Gigli G., Lombardi L., Nocentini M., **Raspini F.**, Salvatici T., Bertoni G. & Casagli N. (2016). *Integration of ground-based interferometry and terrestrial laser scanning for rockslide and rockfall monitoring*. Rendiconti Online della Società Geologica Italiana, 41, 243-246.
- Ciampalini A., **Raspini F.**, Lagomarsino D., Catani F. & Casagli N. (2016). *Landslide susceptibility map refinement using PSInSAR data*. Remote Sensing of Environment 184, 302-315.
- Raspini F.**, Bardi F., Bianchini S., Ciampalini A., Del Ventisette C., Farina P., Ferrigno F., Solari L. & Casagli N. (2016). *The contribution of satellite SAR in the landslide risk management*. Natural Hazards, 86 (1), 327-351.

- Carlà T., **Raspini F.**, Intrieri E. & Casagli N. (2016). *A simple method to help determine landslide susceptibility from spaceborne InSAR data: the Montescaglioso case study*. Environmental Earth Sciences 75 (24), 1492.
- Bardi F., **Raspini F.**, Frodella W., Lombardi L., Nocentini M., Gigli G., Morelli S., Corsini A. & Casagli N. (2017). *Monitoring the Rapid-Moving Reactivation of Earth Flows by Means of GB-InSAR: The April 2013 Capriglio Landslide (Northern Apennines, Italy)*. Remote Sensing 9 (2), 165.
- Casagli N., Frodella W., Morelli S., Tofani V., Ciampalini A., Intrieri E., **Raspini F.**, Rossi G., Tanteri L., Lu P. (2017). *Spaceborne, UAV and ground-based remote sensing techniques for landslide mapping, monitoring and early warning*. Geoenvironmental Disasters, 4(1), 9; doi: 10.1186/s40677-017-0073-1.
- Solari L., Ciampalini A., **Raspini F.**, Bianchini S., Manunta M., Moretti S., Casagli N. (2017). *Combined use of new generation C- and X- band SAR data for subsidence monitoring in an urban area*. Geosciences, 7(2), 21; doi:10.3390/geosciences7020021.
- Intrieri E., **Raspini F.**, Fumagalli A., Lu P., Del Conte S., Farina P., Allievi J., Ferretti A., Casagli N. (2017). *The Maoxian landslide as seen from space: detecting precursors of failure with Sentinel-1 data*. Landslides, 15 (1), 123-133; <https://doi.org/10.1007/s10346-017-0915-7>.
- Solari L., **Raspini F.**, Del Soldato M., Bianchini S., Ciampalini A., Ferrigno F., Tucci S., Casagli N. (2017). *Satellite radar data for back-analyzing of a landslide event: the Ponzano (Central Italy) case study*. Landslides, 15(4), 773-782.
- Raspini, F.**, Bianchini S., Ciampalini A., Del Soldato M., Solari L., Novali F., Del Conte S., Rucci A., Ferretti A., Casagli N. (2018). *Continuous, semi-automatic monitoring of ground deformation using Sentinel-1 satellites*. Scientific Reports, 8; doi: 10.1038/s41598-018-25369-w.
- Del soldato, M., Del Ventisette, C., **Raspini, F.**, Righini, G., Pancioli, V., Moretti, S. (2018). *Ground deformation and associated hazard in NW Peloponnese (Greece)*. European Journal of Remote Sensing.
- Del Soldato, M., Farolfi, G., Rosi, A., **Raspini, F.**, & Casagli, N. (2018). *Subsidence Evolution of the Firenze–Prato–Pistoia Plain (Central Italy) Combining PSI and GNSS Data*. Remote Sensing, 10(7), 1146.
- Solari, L., Del Soldato, M., Bianchini, S., Ciampalini, A., Ezquerro, P., Montalti, R., **Raspini, F.** & Moretti, S. (2018). *From ERS 1/2 to Sentinel-1: subsidence monitoring in Italy in the last two decades*. Frontiers in Earth Science, 6, 149.
- Bianchini, S., **Raspini, F.**, Solari, L., Del Soldato, M., Ciampalini, A., Rosi, A., & Casagli, N. (2018). *From Picture to Movie: Twenty Years of Ground Deformation recording over Tuscany Region (Italy) with Satellite InSAR*. Frontiers in Earth Science, 6, 177.
- Tomás, R., Pagán, J. I., Navarro, J. A., Cano, M., Pastor, J. L., Riquelme, A., ... **Raspini, F.**, ...& Lopez-Sanchez, J. M. (2019). *Semi-automatic identification and pre-screening of geological–geotechnical deformational processes using persistent scatterer interferometry datasets*. Remote Sensing, 11(14), 1675.
- Bianchini, S., Solari, L., Del Soldato, M., **Raspini, F.**, Montalti, R., Ciampalini, A., & Casagli, N. (2019). *Ground Subsidence Susceptibility (GSS) Mapping in Grosseto Plain (Tuscany, Italy) Based on Satellite InSAR Data Using Frequency Ratio and Fuzzy Logic*. Remote Sensing, 11(17), 2015.
- Montalti, R., Solari, L., Bianchini, S., Del Soldato, M., **Raspini, F.**, & Casagli, N. (2019). *A Sentinel-1-based clustering analysis for geo-hazards mitigation at regional scale: a case study in Central Italy*. Geomatics, Natural Hazards and Risk, 10(1), 2257-2275.
- Del Soldato, M., Solari, L., Poggi, F., **Raspini, F.**, Tomás, R., Fanti, R., & Casagli, N. (2019). *Landslide-Induced Damage Probability Estimation Coupling InSAR and Field Survey Data by Fragility Curves*. Remote Sensing, 11(12), 1486.
- Carlà, T., Tofani, V., Lombardi, L., **Raspini, F.**, Bianchini, S., Bertolo, D., ... & Casagli, N. (2019). *Combination of GNSS, satellite InSAR, and GBInSAR remote sensing monitoring to improve the understanding of a large landslide in high alpine environment*. Geomorphology, Volume 335, pages 62-75.
- Del Soldato, M., Solari, L., **Raspini, F.**, Bianchini, S., Ciampalini, A., Montalti, R., ... & Casagli, N. (2019). *Monitoring Ground Instabilities Using SAR Satellite Data: A Practical Approach*. ISPRS International

Journal of Geo-Information, 8(7), 307.

Raspini, F., Bianchini, S., Ciampalini, A., Del Soldato, M., Montalti, R., Solari, L., ... & Casagli, N. (2019). Persistent Scatterers continuous streaming for landslide monitoring and mapping: the case of the Tuscany region (Italy). *Landslides*, 16(10), 2033-2044.

Solari, L., Del Soldato, M., Montalti, R., Bianchini, S., **Raspini, F.**, Thuegaz, P., ... & Casagli, N. (2019). A Sentinel-1 based hot-spot analysis: landslide mapping in north-western Italy. *International Journal of Remote Sensing*, 1-24.

Carlà, T., Intrieri, E., **Raspini, F.**, Bardi, F., Farina, P., Ferretti, A., ... & Casagli, N. (2019). Perspectives on the prediction of catastrophic slope failures from satellite InSAR. *Scientific reports*, 9(1), 1-9.

Ezquerro, P., Del Soldato, M., Solari, L., Tomás, R., **Raspini, F.**, Ceccatelli, M., ... & Herrera, G. (2020). Vulnerability Assessment of Buildings due to Land Subsidence Using InSAR Data in the Ancient Historical City of Pistoia (Italy). *Sensors*, 20(10), 2749.

Solari, L., Del Soldato, M., **Raspini, F.**, Barra, A., Bianchini, S., Confuorto, P., ... & Crosetto, M. (2020). Review of Satellite Interferometry for Landslide Detection in Italy. *Remote Sensing*, 12(8), 1351.

Intrieri, E., Frodella, W., **Raspini, F.**, Bardi, F., & Tofani, V. (2020). Using satellite interferometry to infer landslide sliding surface depth and geometry. *Remote Sensing*, 12(9), 1462.

Meng, Q., Confuorto, P., Peng, Y., **Raspini, F.**, Bianchini, S., Han, S., ... & Casagli, N. (2020). Regional Recognition and Classification of Active Loess Landslides Using Two-Dimensional Deformation Derived from Sentinel-1 Interferometric Radar Data. *Remote Sensing*, 12(10), 1541.

Liu, S., Segoni, S., **Raspini, F.**, Yin, K., Zhou, C., Zhang, Y., & Casagli, N. (2020). Satellite InSAR as a New Tool for the Verification of Landslide Engineering Remedial Works at the Regional Scale: A Case Study in the Three Gorges Reservoir Area, China. *Applied Sciences*, 10(18), 6435.

Meng, Q., Li, W., **Raspini, F.**, Xu, Q., Peng, Y., Ju, Y., ... & Casagli, N. (2021). Time-series analysis of the evolution of large-scale loess landslides using InSAR and UAV photogrammetry techniques: a case study in Hongheyan, Gansu Province, Northwest China. *Landslides*, 18(1), 251-265.

Del Soldato, M., Solari, L., Novellino, A., Monserrat, O., & **Raspini, F.** (2021). A New Set of Tools for the Generation of InSAR Visibility Maps over Wide Areas. *Geosciences*, 11(6), 229.

Confuorto, P., Del Soldato, M., Solari, L., Festa, D., Bianchini, S., **Raspini, F.**, & Casagli, N. (2021). Sentinel-1-based monitoring services at regional scale in Italy: State of the art and main findings. *International Journal of Applied Earth Observation and Geoinformation*, 102, 102448.

Meng, Q., Intrieri, E., **Raspini, F.**, Peng, Y., Liu, H., & Casagli, N. (2022). Satellite-based interferometric monitoring of deformation characteristics and their relationship with internal hydrothermal structures of an earthflow in Zhimei, Yushu, Qinghai-Tibet Plateau. *Remote Sensing of Environment*, 273, 112987.

Festa, D., Casagli, N., Casu, F., Confuorto, P., De Luca, C., Del Soldato, M., ... & **Raspini, F.** (2022). Automated classification of A-DInSAR-based ground deformation by using random forest. *GIScience & Remote Sensing*, 59(1), 1749-1766.

Caleca, F., Tofani, V., Segoni, S., **Raspini, F.**, Franceschini, R., & Rosi, A. (2022). How can landslide risk maps be validated? Potential solutions with open-source databases. *Frontiers in Earth Science*, 10, 998885.

Festa, D., Bonano, M., Casagli, N., Confuorto, P., De Luca, C., Del Soldato, M., ... **Raspini, F.**, ... & Casu, F. (2022). Nation-wide mapping and classification of ground deformation phenomena through the spatial clustering of P-SBAS InSAR measurements: Italy case study. *ISPRS Journal of Photogrammetry and Remote Sensing*, 189, 1-22.

Caleca, F., Tofani, V., Segoni, S., **Raspini, F.**, Rosi, A., Natali, M., ... & Casagli, N. (2022). A methodological approach of QRA for slow-moving landslides at a regional scale. *Landslides*, 19(7), 1539-1561.

Raspini, F., Caleca, F., Del Soldato, M., Festa, D., Confuorto, P., & Bianchini, S. (2022). Review of satellite radar interferometry for subsidence analysis. *Earth-Science Reviews*, 104239.

Confuorto, P., Casagli, N., Casu, F., De Luca, C., Del Soldato, M., Festa, D., ... & **Raspini, F.** (2023). Sentinel-1 P-SBAS data for the update of the state of activity of national landslide inventory maps.

Landslides, 1-15.

Casagli, N., Intrieri, E., Tofani, V., Gigli, G., & **Raspini, F.** (2023). Landslide detection, monitoring and prediction with remote-sensing techniques. *Nature Reviews Earth & Environment*, 4(1), 51-64.

Carlà, T., Gigli, G., Lombardi, L., Nocentini, M., Gracchi, T., Rossi, G., ... & Casagli, N. (2023). Mechanisms of Block Instability at the Toe of a Slowly Deforming Rock Slope. *Rock Mechanics and Rock Engineering*, 1-21.

Shan, M., **Raspini, F.**, Del Soldato, M., Cruz, A., & Casagli, N. (2023). Mapping and Pre-and Post-Failure Analyses of the April 2019 Kantutani Landslide in La Paz, Bolivia, Using Synthetic Aperture Radar Data. *Remote Sensing*, 15(22), 5311.

Festa, D., Novellino, A., Hussain, E., Bateson, L., Casagli, N., Confuorto, P., ... & **Raspini, F.** (2023). Unsupervised detection of InSAR time series patterns based on PCA and K-means clustering. *International Journal of Applied Earth Observation and Geoinformation*, 118, 103276.

Nardini, O., Confuorto, P., Intrieri, E., Montalti, R., Montanaro, T., Robles, J. G., ... & **Raspini, F.** (2024). Integration of satellite SAR and optical acquisitions for the characterization of the Lake Sarez landslides in Tajikistan. *Landslides*, 1-17.

Carlà, T., Gigli, G., Lombardi, L., Nocentini, M., Gracchi, T., Rossi, G., ... **Raspini, F.**, ... & Casagli, N. (2024). Mechanisms of Block Instability at the Toe of a Slowly Deforming Rock Slope. *Rock Mechanics and Rock Engineering*, 57(3), 1543-1563.

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