Curriculum Vitae
Europass

PERSONAL INFORMATION

Surname/Name **Antonielli Benedetta**

WORK EXPERIENCE

Dates (from - until) 01/04/2020 - today

Type of work **Research fellow;** Category A, type II (pursuant to Article 22, Law 240/2010). Scientific disciplinary sector GEO / 05.

Name and address of employer La Sapienza University of Rome, Department of Earth Sciences, Piazzale Aldo Moro 5, 00185 Rome.

Main task and activities - Main research projects I'm involved in:

- Multi-hazard analysis in urban areas (Rome city, Italy): integrated study through the use of satellite SAR data. National project: PRIN 2017.
- Analysis of landslide activity after a low-magnitude earthquake as inferred from DInSAR interferometry.
- Tracking deformation processes at the Legnica Glogow Copper District (Poland) by satellite InSAR—I: Room and Pillar Mine District; —II: Zelazny Most Tailings Dam.
- Engineering-Geological analysis supporting a seismic-driven multi-hazard scenario in the Lake Campotosto Area (L'Aquila, Italy).
- Multi-hazard analysis on large dams and related reservoirs: integrated study through the use of satellite SAR data.
- European project Horizon 2020 - MSCA-RISE-2018, title: STABLE (STructural stABiLity risk assEssment). Project duration: 2018 - 2023.

Dates (from - until) 01/03/2018 - 29/02/2020

Type of work **Research fellow;** Category A, type II (pursuant to Article 22, Law 240/2010). Scientific disciplinary sector GEO / 05.

Name and address of employer La Sapienza University of Rome, Department of Earth Sciences, Piazzale Aldo Moro 5, 00185 Rome.

Main task and activities - Main research projects I'm involved in:

- Investigating earthquake induced landslides and ground deformation related to the 2016 Central Italy Seismic sequence by satellite InSAR.
- Advanced satellite SAR interferometry analysis on 26 landslides in the Lombardy Region and statistical analysis aimed at evaluating the effectiveness and limits of the technique in mountainous areas.
- European project Horizon 2020 - MSCA-RISE-2018, title: "STABLE (STructural stABiLity risk assEssment). Project duration: 2018 - 2023.

Dates (from - until) 02/02/2017 – 31/12/2017

Type of work **Geologist** in research and development division**.**

Name and address of employer NHAZCA S.r.l., (Natural HAZards Control and Assessment), Spin-off of the La Sapienza University of Rome - Via Vittorio Bachelet 12, 00185, Rome (www.nhazca.it).

Main task and activities	- Research activity on the H2020 (RIA) ENOS (ENabling Onshore CO2 Storage in Europe", ref. Code 653718) project on onshore CO2 storage, and the geological-environmental risks that this practice entails. - Organization of 2 international events: IV and V International Course on Geotechnical and Structural Monitoring (www.geotechnicalmonitoring.eu). - Participation in AEG Annual Meeting 2017, Colorado Springs, Colorado, USA (Association of Environmental & Engineering Geologists). - Research projects on the interpretation of data acquired with satellite remote sensing techniques for geological-engineering applications.
Dates (from - until)	01/03/2011-29/02/2012
Type of work	**Research fellow** (Art.51, comma 6, legge 27/12/1997, N.449).
Name and address of employer	University of Florence, Department of Earth Sciences, Via G. La Pira n.4, 50121, Florence (Italy).
Main task and activities	- Landslides monitoring for civil protection activities, through observation and interpretation of radar data. - Use of remote sensing techniques (optical, InSAR and GBIn-SAR) for landslides mapping and production of landslide inventory maps. - Multispectral satellite HR and VHR images processing for the identification of mineral resources and for geological mapping in arid regions (Eritrea and Western Sahara).
EDUCATION AND TRAINING	
Dates (from - until)	1/11/2012 - 24/03/2016
Course and main subjects	**Earth Sciences Ph.D.**, title: "Tectonics and mud volcanism in the Northern Apennines foothills (Italy) and in the Greater Caucasus (Azerbaijan): a satellite interferometry (InSAR) analysis". Ph.D. final exam on the 24 March 2016. Certificate N. 20152968535.
Name of education providing organization	Earth Science Ph.D. Program of Tuscany Region (Borse di studio Pegaso, Dottorati Internazionali), University of Pisa, Via S. Maria 53, Pisa.
Principal subjects	Ongoing tectonics along fold-and-thrust belt margins; Mud volcano activity; Remote sensing: satellite interferometry (DInSAR and PSI).
Dates	June 2012
Qualification	**Licensed Professional Geologist**
Name of education providing organization	Ordine dei Geologi della Toscana; University of Florence, Department of Earth Sciences, Via G. La Pira 4, Florence.
Dates (from-until)	19/09/2007- 21/12/2010
Qualification	**Master's degree in Earth Sciences**, vote: 110 cum laude. Numero Registro CE20101054006000001.
Principal subjects	Structural Geology, Geology of the Apennines, Analogue Modelling, Inversion Tectonics.
Name of education providing organization	University of Florence, Department of Earth Sciences, Via G. La Pira 4, Florence (Italy).
AWARDS	

Dates (from - until)	7 November 2017
Award	2017 PhD THESIS AWARD, for the Class of Mathematical and Natural Physical Sciences, issued by the President of the Tuscan Academy of Sciences and Letters "La Colombaria", Sandro Rogari.
Award provider	Accademia Toscana di Scienze e Lettere “La Colombaria”. Via S. Egidio 23, 50122 Firenze. Sito internet: http://www.colombaria.it.

WORKSHOPS and TRAINING COURSES

Dates (from - until)	6 - 10 October 2021
Course and main subjects	**3rd European Regional Conference of IAEG, Athens (Greece).**
Name of organization providing training	IAEG - International Association of Engineering Geology and the Environment.
Dates (from - until)	13 - 16 October 2021
Course and main subjects	**Earth Technologies Expo, Florence (Italy).**
Name of organization providing training	Italian Civil Protection Departments, Presidency of the Italian Council of Ministers
Dates (from - until)	23 - 24 September 2021
Course and main subjects	**VII national congress of the ITALIAN ASSOCIATION OF APPLIED AND ENVIRONMENTAL GEOLOGY (AIGAA), Lecco (Italy).**
Name of organization providing training	AIGAA - Italian Association of Applied and Environmental Geology.
Dates (from - until)	1 - 3 September 2021
Course and main subjects	**Tailings 2021. 7th International Conference in Tailings Management, Online conference.**
Name of organization providing training	Advanced Mining Technology Center - Gecamin.
Dates (from - until)	12 - 16 September 2017
Course and main subjects	**AEG Annual Meeting 2017, Colorado Springs, Colorado, USA.**
Name of organization providing training	AEG - Association of Environmental & Engineering Geologists.
Dates (from - until)	13 - 15 June 2017
Course and main subjects	**IV International Course on Geotechnical and Structural Monitoring, Rome, Italy.**
Name of organization providing training	NHAZCA S.r.l., (Natural HAZards Control and Assessment), Spin-off of the La Sapienza University of Rome - Via Vittorio Bachelet 12, 00185, Rome (www.nhazca.it).
Dates (from - until)	27 - 30 March 2015
Course and main subjects	**Fringe 2015**, **Workshop Advances in the Science and Applications of SAR Interferometry and Sentinel 1**. Certificate of attendance issued by Dr. Marcus Engdahl (Workshop organizer). Presentation of a poster.

Name of organization providing training	ESA-ESRIN, Frascati.
Dates (from - until)	26 April - 2 May 2014
Course and main subjects	**EGU General Assembly 2014,** Wien**.** Presentation of a poster.
Name of organization providing training	European Geosciences Union.
Dates (from - until)	02 - 06 September 2013
Course and main subjects	**Conference on Synthetic Aperture Radar: A global solution to geological hazards.** Interferometric data interpretation and processing. Certificate of attendance issued by Fernando Quevedo (Director ICTP).
Name of organization providing training	International Centre of Theoretical Physics (Trieste).
Dates (from - until)	01 - 03 July 2013
Course and main subjects	**Ground Based SAR for deformation monitoring: Data analysis.** Certificate of attendance issued by Dr. Michele Crosetto (Head of Unit) and Dr. Ismael Colomina (Director).
Name of organization providing training	Institut de Geomàtica, Castelldefels (Spain).

PUBLICATIONS

Articles:

1. Martino, S., Fiorucci, M., Marmoni, G. M., Casaburi, L., Antonielli, B., Mazzanti, P., 2022. Increase of landslide activity after a low magnitude earthquake inferred by DInSAR interferometry. *Scientific Reports*, doi:10.1038/s41598-022-06508-w. *Impact Factor 2021*: 4.379.

2. Antonielli, B.; Sciortino, A.; Scancella, S.; Bozzano, F.; Mazzanti, P., 2021. Tracking Deformation Processes at the Legnica Glogow Copper District (Poland) by Satellite InSAR—I: Room and Pillar Mine District. *Land*, 10, 653. https://doi.org/10.3390/ land10060653. *Impact Factor 2020*: 3.395.

3. Mazzanti, P.; Antonielli, B.; Sciortino, A.; Scancella, S.; Bozzano, F., 2021. Tracking Deformation Processes at the Legnica Glogow Copper District (Poland) by Satellite InSAR—II: Zelazny Most Tailings Dam. *Land*, 10, 654. https://doi.org/ 10.3390/land10060654. *Impact Factor 2020*: 3.395.

4. Antonielli, B.; Bozzano, F.; Fiorucci, M.; Hailemikael, S.; Iannucci, R.; Martino, S.; Rivellino, S.; Scarascia Mugnozza, G., 2021. Engineering-Geological Features Supporting a Seismic-Driven Multi-Hazard Scenario in the Lake Campotosto Area (L'Aquila, Italy). *Geosciences*, 11, 107. https:// doi.org/10.3390/geosciences11030107.

5. Antonielli B., Della Seta M., Esposito C., Scarascia Mugnozza G., Schilirò L., Spadi M., Tallini M., 2020. Quaternary rock avalanches in the Apennines: New data and interpretation of the huge clastic deposit of the L'Aquila Basin (central Italy). *Geomorphology*, 361, 107194. https://doi.org/10.1016/j.geomorph.2020.107194. *Impact Factor* 3.819.

6. Martino S., Antonielli B., Bozzano F., Caprari P., Discenza M. E., Esposito C., Fiorucci M., Iannucci R., Marmoni G.M., Schilirò L., 2020. Landslides triggered after the 16 August 2018 Mw 5.1 Molise earthquake (Italy) by a combination of intense rainfalls and seismic shaking. *Landslides*, doi: 10.1007/s10346-020-01359-w.

7. Antonielli, B., Mazzanti P., Rocca, A., Bozzano F., Dei Cas L., 2019. A-DInSAR Performance for Updating Landslide Inventory in Mountain Areas: An Example from Lombardy Region (Italy). *Geosciences*, 9(9), 364; doi: 10.3390/geosciences9090364.

8. Mazzanti P., Schilirò L., Martino S., Antonielli B., Brizi E., Brunetti A., Margottini C., Scarascia Mugnozza G., 2018. The Contribution of Terrestrial Laser Scanning to the Analysis of Cliff Slope Stability in Sugano (Central Italy). *Remote Sensing*, 10, 1475; doi:10.3390/rs10091475. *Impact Factor* 3.406.

9. Antonielli B., Caporossi P., Mazzanti P., Moretto S., Rocca A., 2018. InSAR & Photomonitoring™ for Dams and Reservoir Slopes Health & Safety Monitoring. *Commission Internationale des Grands Barrages, Twenty-Sixth Congress on Large Dams, 4th - 6th July 2018, Vienna, Austria*. DOI 10.3217/978-3-85125-620-8-227.

10. Antonielli, B., Monserrat, O., Bonini, M., Cenni, N., Devanthéry, N., Righini, G., Sani, F., 2016. Persistent Scatterer Interferometry analysis of ground deformation in the Po Plain (Piacenza-Reggio Emilia sector, Northern Italy): seismo-tectonic implications. *Geophys. J. Int.,* 206, 1440–1455, doi: 10.1093/gji/ggw227. *Impact Factor 2.484.*

11. Antonielli, B., Monserrat, O., Bonini, M., Righini, G., Sani, F., Luzi, G., 2015. DInSAR analysis reveals bulging of Azerbaijan mud volcano edifices before an eruption. *Proc. Fringe 2015 Workshop,* ESA Special Publication, Vol. 731, id.70, pp. 8. ISBN 978-92-9092-295-7; ISSN 1609-042X.

12. Antonielli, B., Monserrat, O., Bonini, M., Righini, G., Sani, F., Luzi, G., Feyzullayev, A.A., Aliyev, C.S., 2014. Pre-eruptive ground deformation of Azerbaijan mud volcanoes detected through satellite radar interferometry (DInSAR). *Tectonophysics*, 637, 163-177, doi: 10.1016/j.tecto.2014.10.00. *Impact Factor 2.650.*

13. Ciampalini, A., Garfagnoli, F., Antonielli, B., Moretti, S., Righini, G., 2013. Remote sensing techniques using Landsat ETM+ applied to the detection of iron ore in Western Africa. *Arabian Journal of Geosciences,* doi: 10.1007/s12517-012-0725-0. *Impact Factor 1.224.*

14. Ciampalini, A., Garfagnoli, F., Antonielli, B., Del Ventisette, C., Moretti, S., 2012. Photo-lithological map of the southern flank of the Tindouf Basin (Western Sahara). *Journal of Maps,* 1-12, doi: 10.1080/17445647.2012.74694. *Impact Factor 1.435.*

15. Bonini, M., Sani, F., Antonielli, B., 2012. Basin inversion and contractional reactivation of inherited normal faults: A review based on previous analogue models and new experiments. *Tectonophysics,* 522-523, 55-88, doi:10.1016/j.tecto.2011.11.014. *Impact Factor 2.650.*

16. Antonielli, B., Righini, G., Fidolini, F., 2009. Landsat TM and Quickbird Images for Geological Mapping in the syn-rift Lower Dogali Formation (Red Sea coast, NE Eritrea). *Photo-Interprétation,* N° 3, 107, Éditions ESKA.

Conference Papers and Abstracts

1. Saroglou C., Bozzano F., Martino S., Mouzakiotis, Karastathis V., Tsirogianni A., Antonielli B., Ciampi P., Fiorucci M., Iannucci R., Inciocchi D., Maniatakis C., Rivellino S., Antoniou A., Papadimitriou, A., 2021. Profiling of the recent deposits of Nafplio coastal plain (Greece) from engineering geological modelling and geophysical surveys. 3rd European Regional Conferenceof IAEG, 6-10 October 2021, Athens, Greece.

2. Antonielli B., Ciampi, P., Marchetti D., Martino S., Esposito C., Scarascia Mugnozza G., Bozzano F., 2020. Multi-source engineering-geological 3D model of the subsoil in Rieti city center. VII Congresso Nazionale AIGA 2021, 22-24 September 2021, Lecco, Italy.

3. Sciortino A., Antonielli B., Scancella S., Bozzano F., Mazzanti P., Moretto S., 2021. Satellite InSAR for assessing deformation processes at the Żelazny Most tailings dam (Poland). Proc. Tailings 2021 7th International Conference in Tailings Management, 1-3 September 2021, Online conference.

4. Serpetti M., Carlucci R., Di Iorio A., Bozzano F., Antonielli B., Martino S., Charalampopoulou B., Kontopoulos C., Fokaides P., Christou P., Papadopoulos N., Saroglou H., De Angeli S., 2020. Stable: structural stability risk assessment. *Proc. SPIE 11524, Eighth International Conference on Remote Sensing and Geoinformation of the Environment (RSCy2020),* 115240D (26 August 2020); doi: 10.1117/12.2571956.

5. Antonielli, B., Caporossi P., Mazzanti, P., Moretto, S., Rocca A., 2018. InSAR & Photomonitoring[tm] for dams and reservoir slopes health & safety monitoring. *Vingt-Sixième Congrès des Grands Barrages, Commission Internationale des Grands Barrages, Austria, July 2018*. DOI 10.3217/978-3-85125-620-8-227.

6. Mazzanti, P., Perissin, D., Rocca, A., Brunetti, A., Antonielli, B., 2017. Monitoring of dams by SAR Interferometry: the potential of satellite and terrestrial techniques. *85th Annual Meeting of International Commission on Large Dams*, 3-7July 2017, Prague, Czech Republic.

7. Antonielli, B., Bozzano, F., Caporossi, P., Mazzanti, P., Moretto, S., Robiati, C., 2017. Earthquake-induced Landslides Mapping by combined analyses of satellite DInSAR and Optical Data: the 24th August 2016 Amatrice Earthquake (Italy). *Fringe 2017 Workshop*, ESA.

8. Antonielli, B., Monserrat, O., Bonini, M., Sani, F., Righini, G., 2015. Ground deformation of the Po-Plain detected through satellite radar interferometry (PSInSAR). *Rend. Online Soc. Geol. It., Congresso SIMP-SGI-So.Ge.I-AIV 2015*, Suppl. n. 2 al Vol. 35.

9. Antonielli, B., Monserrat, O., Bonini, M., Righini, G., Sani, F., Luzi, G., Feyzullayev, A.A., Aliyev, C.S., 2014. Pre- and syn-eruptive surface movements of Azerbaijan mud volcanoes detected through InSAR analysis: preliminary results. *EGU General Assembly Conference Abstracts*, Vol. 16, 443.

10. Antonielli, B., Monserrat, O., Bonini, M., Righini, G., Sani, F., Luzi, G., 2013. Analisi DInSAR e rilevamento geologico-strutturale per lo studio della deformazione e dell'attività dei vulcani di fango in Azerbaijan: risultati preliminari. *Rend. Online Soc. Geol. It*., GIGS 2013, Milan, October 28 – 29, Vol. 29, 214.

11. Del Ventisette, C., Garfagnoli, F., Ciampalini, A., Antonielli, B., Moretti, S., 2012. Remote sensing techniques to map geologic unit in arid environment: the example of southern flank of the Tindouf Basin (Western Sahara). *4thEARSeL Workshop on Remote Sensing and Geology*, Mykonos, Greece, 24th– 25th May, 2012.

Theses

1. Antonielli, B., 2016. Tectonics and mud volcanism in the Northern Apennines foothills (Italy) and in the Greater Caucasus (Azerbaijan): a satellite interferometry (InSAR) analysis. *Ph.D. thesis*, University of Pisa (Italy), Etd-03042016-121425, pp. 145.

2. Antonielli, B., 2010. Inversione positiva in Appennino Centro-Settentrionale: modellizzazione analogica sperimentale e confronto con esempi di campagna. *Master's degree thesis*, University of Florence (Italy), pp. 129.

3. Antonielli, B., 2007. La successione sedimentaria oligo-miocenica di Dogali (Dancalia eritrea): interpretazione geologico strutturale mediante immagini da satellite. *Bachelor's degree thesis*, University of Florence (Italy), pp. 90.

PERSONAL SKILLS AND COMPETENCES

Mother tongue **Italian**

Other Languages **English**; **Spanish** (Diploma de Español como Lengua Extranjera B2, DELE, Instituto Cervantes, achieved in November 2014); **German** (Goethe-Zertifikats B1: Zertifikat Deutsch - Goethe-Institut, achieved in 2001).

Self-assessment: European level (*)

	listening	**reading**	**speaking**	**writing**
English	B2	C1	B2	C1
Spanish	B2	B2	B2	B2
German	A1	A1	A1	A1

(*) Common European Framework of Languages Reference

IT Skills Using Software: QGIS; ArcGIS; ENVI; Adobe Illustrator, MS Office, most common internet browsers.

Social Skills Effective and straightforward communication, empathy and respect with colleagues and customers, critical thinking and creativity, adaptability, and teamwork.

Other Experiences

- 9-months during the Ph.D. (in 2014) at the Centre Tecnològic de Telecomunicacions de Catalunya (CTTC), Av. Carl Friedrich Gauss, 7, Castelldefels, Spain.
- Field geological surveys in Gobustan and Absheron Peninsula (Azerbaijan) in June 2013, and in Western Sahara in April 2011.

Hobbies

- Graphics, photography, painting, organization of large events such as social events, meetings, and conferences.

ADDITIONAL INFORMATION

I declare under my own responsibility that the information of the professional curriculum and the information on scientific production are true.

I authorize the use of personal information contained in my curriculum vitae, according to D. Decree 196/2003 and subsequent amendments and additions.

Date: 10/03/2022

Dr. Benedetta Antonielli