ANNEX · SCIENTIFIC PUBLICATIONS

# Geoscience for World Heritage: UNESCO case studies

Engineering geology, rock mechanics and geohazard research applied to World Heritage properties and Tentative List sites — from Bamiyan and Petra to Machu Picchu, Rapa Nui and Civita di Bagnoregio.

**162** publications on UNESCO case studies

**17** World Heritage properties

**3** sites on the UNESCO Tentative List

**15** countries on four continents

**94** available online, 28 in open access

## ABOUT THIS ANNEX

This annex brings together the scientific publications produced by Prof. Claudio Margottini and the PANGEA team on UNESCO case studies: 162 papers, book chapters and edited volumes on World Heritage properties, sites on the UNESCO Tentative List and broader World Heritage themes.

They document four decades of field investigation, monitoring and mitigation design on rock-cut monuments, archaeological sites and historic towns threatened by landslides, rockfall, erosion, water infiltration and earthquakes.

## HOW TO READ IT

**Grouped by case study**
World Heritage properties (A), Tentative List sites (B), multiple sites and themes (C).

**Reverse chronological order**
Each publication keeps its original number (N°) in the full list.

**Online links**
“Download” opens the full text, often in open access; “Publisher page” links to the article, where it can be downloaded or purchased.

## CASE STUDIES AT A GLANCE

### A · World Heritage properties

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| Villa Romana del Casale · Italy | 1 |
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| Hatra · Iraq | 1 |

### B · Tentative List

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### C · Multiple sites & themes

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# A. UNESCO World Heritage properties

Properties inscribed on the UNESCO World Heritage List where PANGEA's team has carried out investigation, monitoring or mitigation design and produced scientific articles.

17 case studies · 88 publications

AFGHANISTAN · UNESCO WORLD HERITAGE PROPERTY

## Bamiyan Valley — Cultural Landscape and Archaeological Remains

**34** publications

*Shahr-e-Zohak is one of its components*

| N° | Year | Author(s) / Title / Reference |
|---|---|---|
| 46 | 2020 | Margottini C., Bruno A., Casagli N., Massari G., Ruther H., Tincolini F., Tofani V. (2020) The Renaissance of Bamiyan (Afghanistan) and Some Proposals for the Revitalisation of the Bamiyan Valley. In M. Nagaoka (ed.) The Future of the Bamiyan Buddha Statues. Heritage Reconstruction in Theory and Practice. Springer Verlag, ISBN: 978-3-030-51315-3 **Download** link.springer.com/content/pdf/10.1007/978-3-030-51316-0_17.pdf OPEN ACCESS |
| 54 | 2018 | Margottini C. (2018) Preserving the past: Recovering the Destroyed Buddha Statues and Niches in Bamiyan, Afghanistan. GEOSTRATA November/December 2018 **Publisher page** doi.org/10.1061/geosek.0000237 |
| 75 | 2015 | Margottini C., Fidolini F., Iadanza C., Trigila A., Ubelman Y. (2015). The conservation of Shari-e-Zohak archaeological site (Central Afghanistan): geomorphological processes and ecosystem-based mitigation strategy. Geomorphology 239 (2015) 73–90. **Publisher page** doi.org/10.1016/j.geomorph.2014.12.047 |
| 77 | 2015 | Margottini C. (2015). The Consolidation and Stabilization of the Buddha niches and the cliff in Bamiyan (2003/04; 2006). Monuments and Sites 19, 175-196 **Download** doi.org/10.11588/monstites.2009.0.22975 OPEN ACCESS |
| 89 | 2014 | Margottini C (2014). Conclusions. In: (a cura di): Margottini C, After the destruction of Giant Buddha Statues in Bamiyan (Afghanistan) in 2001. A UNESCO's emergency activity for Recovering and Rehabilitation of Cliff and Niches. BERLIN HEIDELBERG:Springer-Verlag, ISBN: 978-3-642-30050-9 **Publisher page** doi.org/10.1007/978-3-642-30051-6 |
| 90 | 2014 | Colombini V, Crippa C, Margottini C (2014). Emergency intervention. In: (a cura di): Margottini C, After the destruction of Giant Buddha Statues in Bamiyan (Afghanistan) in 2001. A UNESCO's emergency activity for Recovering and Rehabilitation of Cliff and Niches. BERLIN HEIDELBERG:Springer-Verlag, ISBN: 978-3-642-30050-9 **Publisher page** doi.org/10.1007/978-3-642-30051-6_11 |
| 91 | 2014 | Delmonaco G, Margottini C (2014). General environmental conditions of the Bamiyan Valley. In: (a cura di): Margottini C, After the destruction of Giant Buddha Statues in Bamiyan (Afghanistan) in 2001. A UNESCO's emergency activity for Recovering and Rehabilitation of Cliff and Niches. BERLIN HEIDELBERG:Springer-Verlag, ISBN: 978-3-642-30050-9 **Publisher page** doi.org/10.1007/978-3-642-30051-6_5 |
| 92 | 2014 | Margottini C (2014). Long-term conservation strategy for repair, enhancement, research, and risk preparedness for the preservation of the site. In: (a cura di): Margottini C, After the destruction of Giant Buddha Statues in Bamiyan (Afghanistan) in 2001. A UNESCO's emergency activity for Recovering and Rehabilitation of Cliff and Niches. BERLIN HEIDELBERG:Springer-Verlag, ISBN: 978-3-642-30050-9 **Publisher page** doi.org/10.1007/978-3-642-30051-6_10 |
| 93 | 2014 | Bruno A, Margottini C (2014). Past experience in conservation and exploitation. In: (a cura di): Margottini C, After the destruction of Giant Buddha Statues in Bamiyan (Afghanistan) in 2001. A UNESCO's emergency activity for Recovering and Rehabilitation of Cliff and Niches. BERLIN HEIDELBERG:Springer-Verlag, ISBN: 978-3-642-30050-9 **Publisher page** doi.org/10.1007/978-3-642-30051-6_9 |

| N° | Year | Author(s) / Title / Reference |
|---|---|---|
| 94 | 2014 | Margottini C (2014). Possible evolution of Niches and Trends. In: (a cura di): Margottini C, After the destruction of Giant Buddha Statues in Bamiyan (Afghanistan) in 2001. A UNESCO's emergency activity for Recovering and Rehabilitation of Cliff and Niches. BERLIN HEIDELBERG:Springer-Verlag, ISBN: 978-3-642-30050-9 **Publisher page** doi.org/10.1007/978-3-642-30051-6_8 |
| 95 | 2014 | Margottini C (2014). Properties of local materials. In: (a cura di): Margottini C, After the destruction of Giant Buddha Statues in Bamiyan (Afghanistan) in 2001. A UNESCO's emergency activity for Recovering and Rehabilitation of Cliff and Niches. BERLIN HEIDELBERG:Springer-Verlag, ISBN: 978-3-642-30050-9 **Publisher page** doi.org/10.1007/978-3-642-30051-6_7 |
| 96 | 2014 | Margottini C (2014). The back wall of the Niches: preliminary considerations. In: (a cura di): Margottini C, After the destruction of Giant Buddha Statues in Bamiyan (Afghanistan) in 2001. A UNESCO's emergency activity for Recovering and Rehabilitation of Cliff and Niches. BERLIN HEIDELBERG:Springer-Verlag, ISBN: 978-3-642-30050-9 **Publisher page** doi.org/10.1007/978-3-642-30051-6_12 |
| 97 | 2014 | Margottini C (editor) (2014). After the destruction of Giant Buddha Statues in Bamiyan (AFghanistan) in 2001. A UNESCO's emergency activity for the recovering and rehabilitation of cliff and niches. BERLIN HEIDELBERG:Springer-Verlag, ISBN: 978-3-642-30050-9, doi: 10.1007/978-3-642-30051-6 **Publisher page** doi.org/10.1007/978-3-642-30051-6 |
| 113 | 2013 | Crippa C, Granata R, Margottini C (2013). Afghanistan, Buddhas of Bamiyan: emergency consolidation of the cliff and niches. In: (a cura di): Bilotta E, Flora A, Lirer S, Viggiani C,, Geothecnical Engineering for the Presenrvation of Monuments and Historic Sites. London: Taylor & Francis Group, ISBN: 978-1-138-00055-1, Naples, 30-31 May 2013 **Publisher page** doi.org/10.1201/b14895-33 |
| 150 | 2009 | Colombini V, Crippa C, Margottini C, Tonoli G (2009). Emergency intervention in Bamiyan site. In: (a cura di): Margottini C, The desctruction of Giant Buddha Statues in Bamiyan (Central AFghanistan): UNESCO's emergency activities for the recovering and rehabilitation of cliff and niches. ISBN: 978-88-448-0375-9 *No online version found* |
| 152 | 2009 | Delmonaco G, Margottini C (2009). General environmental condition of the Bamyian valley. In: (a cura di): Margottini C, The destruction of Giant Buddha Statues in Bamiyan (Central Afghanistan). Unesco’s emergency intervention for the recovering and rehabilitation of cliff and niches. ISBN: 978-88-448-0375-9 *No online version found* |
| 156 | 2009 | Margottini C, Bruno A (2009). Past experience in restoration and exploitation of Bamiyan niches. In: Margottini C. The destruction of Giant Buddha Statues in Bamiyan (Central Afghanistan). Unesco’s emergency intervention for the recovering and rehabilitation of cliff and niches. ISBN: 978-88-448-0375-9 *No online version found* |
| 157 | 2009 | Margottini C (2009). Possible evolution and trends in Bamiyan cliff and niches. In: (a cura di): Margottini C, The destruction of Giant Buddha Statues in Bamiyan (Central Afghanistan). Unesco’s emergency intervention for the recovering and rehabilitation of cliff and niches. ISBN: 978-88-448-0375-9 *No online version found* |
| 158 | 2009 | Margottini C (2009). Properties of Bamiyan local materials. In: (a cura di): Margottini C, The destruction of Giant Buddha Statues in Bamiyan (Central Afghanistan). Unesco’s emergency intervention for the recovering and rehabilitation of cliff and niches. ISBN: 978-88-448-0375-9 *No online version found* |
| 159 | 2009 | Margottini C (2009). Recovery of the Buddha's niches and cliff in Bamiyan (Central Afghanistan) after the Taliban destruction of 2001. Key note lecture. In: (a cura di): Sassa K, Canuti P, Landslides: disaster risk assessment. BERLIN HEIDELBERG:Springer-Verlag, ISBN: 978-3-540-69966-8 **Publisher page** doi.org/10.1007/978-3-540-69970-5_10 |

| N° | Year | Author(s) / Title / Reference |
|---|---|---|
| 160 | 2009 | Margottini C (2009). The back side of the Bamiyan niches: preliminary considerations. In: (a cura di): Margottini C, The destruction of Giant Buddha Statues in Bamiyan (Central Afghanistan). Unesco's emergency intervention for the recovering and rehabilitation of cliff and niches. ISBN: 978-88-448-0375-9<br>*No online version found* |
| 161 | 2009 | Margottini C (2009). The consolidation and stabilisation of the Buddha niches and the cliff in Bamiyan /2003/04; 2006). In: (a cura di): Petzet M, The giant Buddha of Bamiyan - Safeguarding the remains. vol. Monuments and Sites XIX, ISBN: 978-3-930388-55-4<br>**Download** openarchive.icomos.org/2933 OPEN ACCESS |
| 166 | 2009 | Delmonaco G, Margottini C, Spizzichino D (2009). Geomorphological and geotechnical analysis as primary measures for the conservation of Buddha niches and cliff in Bamiyan (central Afghanistan). In: (a cura di): Federico M. Mazzolani, Protection of Historical Buildings, 2-Volume Set: Prohitech 09. ISBN: 9780415558037, Rome, 21-24 June 2009<br>*No online version found* |
| 169 | 2009 | Margottini C (a cura di) (2009). The destruction of Giant Buddha Statues in Bamiyan (Central Afghanistan). Unesco's emergency intervention for the recovering and rehabilitation of cliff and niches. ISBN: 978-88-448-0375-9<br>*No online version found* |
| 172 | 2008 | Delmonaco G, Margottini C (2008). Geomorphology and landslide potential of the Bamiyan Valley (Afghanistan). In: (a cura di): Sassa K, Proceedings of the First World Landslide Forum. TOKYO:International Consortium on Landslides, Tokyo, 18-21 Novembre 2008<br>*No online version found* |
| 177 | 2007 | Margottini C (2007). Engineering geology and cultural heritages: the conservation of remaining Bamiyan Buddhas (Central Afghanistan). In: (a cura di): Sassa K, Fukuoka H. Wang F. and Wang G., Progress in Landslide Science. BERLIN HEIDELBERG:Springer-Verlag, ISBN: 978-3-540-70964-0<br>**Publisher page** doi.org/10.1007/978-3-540-70965-7_25 |
| 188 | 2005 | Margottini C, Colombini V, Crippa C, Tonoli G (a cura di) (2005). Emergency intervention for the geo-mechanical conservation of the niches of Bamiyan Buddhas (Northern Afghanistan). In: (a cura di): Sassa K, Fukuka H, Wang F, Wang G, Landslides: risk analysis and sustainable disaster management. HEIDELBERG-BERLIN-NEW YORK:Springer Verlag Inc., ISBN: 978-3-540-28664-6<br>**Publisher page** doi.org/10.1007/3-540-28680-2_8 |
| 193 | 2005 | Margottini C (2005). Conserving the World Heritage Site of Bamiyan (Afghanistan). Conservation Technical Issues: examination of the current conservation status of the physical elements and recommendations for the establishment of conservation strategies and monitoring systems. In: Proceedings of the International Symposium on Bamiyan in Tokyo, December 2004. Tokyo 2005.. Tokio, dicembre 2004<br>*No online version found* |
| 200 | 2004 | Margottini C (2004). Instability and geotechnical problems of the Buddha niches and surrounding cliff in Bamiyan valley, Central Afghanistan. LANDSLIDES, vol. 1, ISSN: 1612-510X<br>**Publisher page** doi.org/10.1007/s10346-003-0010-0 |
| 208 | 2004 | Margottini C (2004). The Cliff and Caves: Current Conservation Status and Recommendations.. In: (a cura di): Japan Centre for International Cooperation in Conservation. National Research Institute for Cultural Properties. Tokyo, Protecting the world heritage site of Bamiyan. Key issues for establishing a comprehensive management plan 2004. TOKYO:japan centre for international cooperation in conservation<br>*No online version found* |
| 212 | 2003 | Margottini C (2003). The Buddha niches in the Bamiyan valley (Central Afghanistan): instability problems and restoration plans in the UNESCO intervention.. NIHON JISUBERI GAKKAISHI, vol. 450, p. 246-249, ISSN: 1348-3986<br>**Download** www.jstage.jst.go.jp/article/jls2003/40/3/40_3_246/_pdf OPEN ACCESS |

| N° | Year | Author(s) / Title / Reference |
|---|---|---|
| 214 | 2003 | Colombini V, Margottini C (2003). Buddhas niches in Bamiyan valley: Emergency measures in autumn 2003, to permit future consolidation.<br>*No online version found* |
| 216 | 2003 | Colombini V, Margottini C (2003). Reducing the most critical rock fall-prone areas in the Buddhas niches in Bamiyan (Central Afghanistan).<br>*No online version found* |
| 217 | 2003 | Margottini C (2003). The geomorphological instability of the Buddha niches and surrounding cliff in Bamiyan valley (Central Afghanistan).<br>*No online version found* |

AFGHANISTAN · UNESCO WORLD HERITAGE PROPERTY

## Minaret and Archaeological Remains of Jam

4 publications

| N° | Year | Author(s) / Title / Reference |
|---|---|---|
| 61 | 2017 | Bruno A., Margottini C., Orlando D., Spizzichino D. Safeguarding the leaning minaret of Jam (Afghanistan) in a conflict scenario: state of art and further needs. In Viggiani C., Flora A., Lancellotta R. Geotechnical problems in historical towers. Taylor & Francis, 2017<br>*No online version found* |
| 139 | 2011 | Bruno A, Margottini C (2011). The Jam minareth in Afghanistan: emergency works and long term stabilisation. In: (a cura di): Iwasaki Y, Proceedings of the special session on Geo-Engineering for Conservation of Cultural Heritage and Historical Sites. 14th Asian Regional Conference, ISSMGE May 26, 2011, Hong Kong, China. Hong Kong, 26 May, 2011<br>*No online version found* |
| 196 | 2005 | Margottini C (2005). Engineering Geology aspects related to the consolidation of the JAM MINARETH, CENTRAL AFGHANISTAN. Report on the UNESCO mission to Jam, Central Afghanistan (24th May– 8th June 2005).<br>*No online version found* |
| 209 | 2004 | Margottini C (2004). Engineering Geology aspects related to the Bedan Valley – Jam Valley proposed road. Report on the UNESCO/UNOPS/Afghan Government mission to Jam, Afghanistan (21 February – 3 March 2004).<br>*No online version found* |

PERU · UNESCO WORLD HERITAGE PROPERTY

## Historic Sanctuary of Machu Picchu

11 publications

| N° | Year | Author(s) / Title / Reference |
|---|---|---|
| 7 | 2023 | Masini, N., Romano, G., Sieczkowska, D., Margottini, C., Lasaponara, R. Non invasive subsurface imaging to investigate the site evolution of Machu Picchu. Scientific Reports, 2023, 13(1), 16035<br>**Download** www.nature.com/articles/s41598-023-43361-x.pdf OPEN ACCESS |
| 8 | 2023 | Masini, N., Romano, G., Sieczkowska, D., Margottini, C., Lasaponara, R. Author Correction: Non invasive subsurface imaging to investigate the site evolution of Machu Picchu (Scientific Reports, (2023), 13, 1, (16035), 10.1038/s41598-023-43361-x. Scientific ReportsThis link is disabled., 2023, 13(1), 19335<br>**Download** www.nature.com/articles/s41598-023-46706-8.pdf OPEN ACCESS |
| 26 | 2022 | Spizzichino, D., Masini, N., Lasaponara, R., Margottini, C. Machu Picchu Physiographic and Environmental Settings. In: Ziółkowski, M., Masini, N., Bastante, J.M. (eds) Machu Picchu in Context. Springer, Cham. https://doi.org/10.1007/978-3-030-92766-0_1<br>**Publisher page** doi.org/10.1007/978-3-030-92766-0_1 |

| N° | Year | Author(s) / Title / Reference |
|---|---|---|
| 27 | 2022 | Margottini, C., Spizzichino, D. Geological Setting and Geomorphological Hazards in Machu Picchu Area. In: Ziółkowski, M., Masini, N., Bastante, J.M. (eds) Machu Picchu in Context. Springer, Cham. https://doi.org/10.1007/978-3-030-92766-0_2 **Publisher page** doi.org/10.1007/978-3-030-92766-0_2 |
| 116 | 2013 | Spizzichino D, Margottini C, Puzzilli L (2013). Landslide risk assessment and management in the archaeological site of Machu Picchu (Peru). In: (a cura di): Bilotta E, Flora A, Lirer S, Viggiani C, Geotechnical Engineering for the Preservation of Monuments and Historic Sites. London:Taylor & Francis Group, ISBN: 978-1-138-00055-1, Napoli, 30-31 may 2013 **Publisher page** doi.org/10.1201/b14895-81 |
| 147 | 2009 | Mazzoli S, Vitale S, Delmonaco G, Guerriero V, Margottini C, Spizzichino D (2009). 'Diffuse faulting' in the Machu Picchu granitoid pluton, Eastern Cordillera, Peru. JOURNAL OF STRUCTURAL GEOLOGY, p. 1-14, ISSN: 0191-8141 **Publisher page** doi.org/10.1016/j.jsg.2009.08.010 |
| 155 | 2009 | Canuti P, Margottini C, Casagli N, Delmonaco G, Falconi L, Fanti R, Ferretti A, Lollino G, Puglisi C, Spizzichino D, Tarchi D (2009). Monitoring, geomorphological evolution and slope stability of Inca citadel of Machu Picchu: results from Italian INTERFRASI project. In: (a cura di): Sassa K, Canuti P, Landslides: disaster risk reduction. BERLIN HEIDELBERG:Springer-Verlag, ISBN: 978-3-540-69966-8 **Publisher page** doi.org/10.1007/978-3-540-69970-5_14 |
| 165 | 2009 | Delmonaco G, Margottini C, Spizzichino D, Falconi L (2009). Exposure and vulnerability of cultural heritage affected by Geomorphological Hazard: the Machu Picchu case study.. In: (a cura di): Federico M. Mazzolani, Protection of Historical Buildings, 2-Volume Set: Prohitech 09. ISBN: 9780415558037, Rome, 21-24 June 2009 *No online version found* |
| 182 | 2006 | Mazzoli S, Delmonaco G, Margottini C, Vitale S (2006). Low-temperature, fluid-assisted joint reactivation and 'diffuse faulting' in the Machu Picchu granitoid pluton, Eastern Cordillera, Peru. GEOPHYSICAL RESEARCH ABSTRACTS, vol. 8, ISSN: 1029-7006 *No online version found* |
| 187 | 2005 | Mazzoli S, Delmonaco G, Margottini C (2005). Role of precursor joints in the contractional deformation of a granite pluton, Machu Picchu batholith, Eastern Cordillera, Peru. RENDICONTI DELLA SOCIETÀ GEOLOGICA ITALIANA, vol. 1, p. 120-122, ISSN: 0392-3037 *No online version found* |
| 190 | 2005 | Canuti P, Margottini C, Mucho R, Casagli N, Delmonaco G, Ferretti A, Lollino G, Puglisi C, Tarchi D (a cura di) (2005). Preliminary remarks on monitoring, geomorphological evolution and slope stability of Inca citadel of Machu Picchu. In: (a cura di): Sassa K, Fukoka H, Wang F, Wang G, Landslides: risk analysis and sustainable risk mitigation. HEIDELBERG-BERLIN-NEW YORK:Springer Verlag Inc., ISBN: 978-3-540-28664-6 **Publisher page** doi.org/10.1007/3-540-28680-2_3 |

JORDAN · UNESCO WORLD HERITAGE PROPERTY

## Petra

8 publications

| N° | Year | Author(s) / Title / Reference |
|---|---|---|
| 60 | 2017 | Margottini C., Spizzichino D., (2017) Historical "infrastructures" to access cultural heritages: engineering geology for the sustainable conservation of Petra Siq. INNOVATIVE INFRASTRUCTURE SOLUTIONS Volume: 2 Issue: 1. Springer Verlag **Publisher page** doi.org/10.1007/s41062-017-0074-7 |
| 63 | 2017 | Margottini C., Gigli G., Ruther H., Spizzichino D., Casagli N., True 3D kinematic analysis for slope instability assessment in the Siq of Petra (Jordan), from high resolution TLS. In Proceedings of the 4th World Landslide Forum, Ljubliana 2017, Springer Verlag. **Download** hdl.handle.net/2158/1061588 OPEN ACCESS |

| N° | Year | Author(s) / Title / Reference |
|---|---|---|
| 67 | 2017 | Alberti, S., Ferretti, A., Leoni, G., Margottini, C., Spizzichino, D. (2017) Surface deformation data in the archaeological site of Petra from medium-resolution satellite radar images and SqueeSAR™ algorithm. Journal of Cultural Heritage, 25, pp. 10-20 **Publisher page** doi.org/10.1016/j.culher.2017.01.005 |
| 71 | 2016 | Spizzichino D., Margottini C., Chiessi V., Boldini D. (2016) Assessment of the stability conditions of a large-volume sandstone block in the northern sector of the Siq of Petra. Landslides and Engineered Slopes. Experience, Theory and Practice – Aversa et al. (Eds) © 2016 Associazione Geotecnica Italiana, Rome, Italy, ISBN 978-1-138-02988-0 **Publisher page** doi.org/10.1201/b21520-231 |
| 82 | 2015 | Delmonaco G., Leoni G., Margottini C., Spizzichino D. (2014) Implementation of advanced monitoring System Network in the Siq of Petra (Jordan). In Lollino et al. (eds) Engineering Geology for Society and Territory – Vol. 8 – Preservation of Cultural Heritage. Proceeding of IAEG XII CONGRESS, Torino September 2014. Springer Verlag. **Publisher page** doi.org/10.1007/978-3-319-09408-3_52 |
| 86 | 2014 | Delmonaco G., Margottini C., Spizzichino D., Khrisat B. (2014). Rock Slope Potential Failures in the Siq of Petra (Jordan). In Sassa K., Canuti P., Yin Y. (eds) Landslide science for a safer geoenvironment. Targeted Landslides. BERLIN HEIDELBERG:Springer-Verlag, ISBN: 978-3-319-04995-3 **Publisher page** doi.org/10.1007/978-3-319-04996-0_52 |
| 109 | 2013 | Delmonaco G, Margottini C, Spizzichino D (2013). Rock-fall hazard assessment in the Siq of Petra, Jordan. In: (a cura di): Margottini C, Canuti P, Sassa K,, Landslide Scinece and Practice, Risk Assessment and Mitigation. p. 441-450, BERLIN HEIDELBERG:Springer-Verlag, ISBN: 978-3-642-31318-9, doi: 10.1007/978-3-642-31319-6 **Publisher page** doi.org/10.1007/978-3-642-31319-6_59 |
| 118 | 2013 | Delmonaco G, Margottini C, Spizzichino D (2013). Slope dynamics, monitoring and geological conservation ofthe SIQ of Petra (Jordan). In: (a cura di): Bilotta E, Flora A, Lirer S, Viggiani C,, Geotechnical Engineering for the Presenrvation of Monuments an Historic Sites. London:Taylor & Francis Group, ISBN: 978-1-138-00055-1, Napoli, 30-31 may 2013 **Publisher page** doi.org/10.1201/b14895-38 |

SAUDI ARABIA · UNESCO WORLD HERITAGE PROPERTY

## Hegra (Al-Hijr Archaeological Site) and the AlUla region

4 publications

*Dadan lies in the AlUla region, outside the inscribed property*

| N° | Year | Author(s) / Title / Reference |
|---|---|---|
| 9 | 2023 | Tommaso Beni, Lorenzo Nava, Giovanni Gigli, William Frodella, Filippo Catani, Nicola Casagli, Jos´e Ignacio Gallego, Claudio Margottini, Daniele Spizzichino. Classification of rock slope cavernous weathering on UAV photogrammetric point clouds: The example of Hegra (UNESCO World Heritage Site, Kingdom of Saudi Arabia). Engineering Geology 325 (2023) 107286 **Download** doi.org/10.1016/j.enggeo.2023.107286 OPEN ACCESS |
| 10 | 2023 | Tommaso Beni. Daniela Boldini. Giovanni Battista Crosta. William Frodella. Jos. Ignacio Gallego. Edoardo Lusini. Claudio Margottini. Daniele Spizzichino. Rock instabilities at the archaeological site of Dadan (Kingdom of Saudi Arabia). Landslides DOI 10.1007/s10346-023-02122-7 **Publisher page** doi.org/10.1007/s10346-023-02122-7 |
| 14 | 2023 | José Ignacio Gallego, Claudio Margottini, Ingrid Perissé, Daniele Spizzichino, Tommaso Beni, Daniela Boldini, Francesca Bonometti, Nicola Casagli, Riccardo Castellanza, Giovanni Battista Crosta, Paolo Frattini, William Frodella, Giovanni Gigli, Edoardo Lusini, Serena Rigamonti, Giulia Rusconi, Lorenzo Vitrano Rock Slope Instabilities Affecting the AlUla Archaeological Sites (KSA). I. Alcántara-Ayala et al. (eds.), Progress in Landslide Research and Technology, Volume 2 Issue 2, 2023, Progress in Landslide Research and Technology, https://doi.org/10.1007/978-3-031-44296-4_24 **Download** link.springer.com/content/pdf/10.1007/978-3-031-44296-4_24.pdf OPEN ACCESS |

| N° | Year | Author(s) / Title / Reference |
|---|---|---|
| 32 | 2022 | J.I. Gallego, C. Margottini, D. Spizzichino, D. Boldini & J.K. Abul: Geomorphological processes and rock slope instabilities affecting the AlUla archaeological region. In Lancellotta R., Viggiani C., Flora A., de SilvaF., Mele L. (eds.) Geotechnical engineering for the preservation of monuments and historic sites III. Proceedings of the third international ISSMGE TC301 symposium, Napoli, Italy, 22–24 June 2022<br>**Download** doi.org/10.1201/9781003308867-31 OPEN ACCESS |

ETHIOPIA · UNESCO WORLD HERITAGE PROPERTY

## Rock-Hewn Churches, Lalibela

5 publications

| N° | Year | Author(s) / Title / Reference |
|---|---|---|
| 134 | 2011 | Renzulli A, Antonelli F, Margottini C, Santi P, Fratini F (2011). What kind of volcanite the rock-hewn churches of the Lalibela UNESCO's world heritage site are made of?. JOURNAL OF CULTURAL HERITAGE, ISSN: 1296-2074, doi: 10.1016/j.culher.2010.11.003<br>**Publisher page** doi.org/10.1016/j.culher.2010.11.003 |
| 144 | 2010 | Delmonaco G, Margottini C, Spizzichino D (2010). Weathering processes, structural degradation and slope-structure stability of the rock-hewn churches of Lalibela (Ethiopia). In: (a cura di): Calcaterra D, Parise M,, Weathering as a predisposing factors to slope movements. vol. 23, LONDON:Geological Society, London, Special Publications, ISBN: 978-1-86239-297-7<br>**Publisher page** doi.org/10.1144/egsp23.8 |
| 162 | 2009 | Delmonaco G, Margottini C, Spizzichino D (2009). Analysis of rock weathering and conservation strategies for rock-hewn churches of Lalibela (Ethiopia). In: (a cura di): Federico M. Mazzolani, Protection of Historical Buildings, 2-Volume Set: Prohitech 09. ISBN: 9780415558037, Rome, 21-24 June 2009<br>*No online version found* |
| 192 | 2005 | Delmonaco G, Margottini C, Spizzichino D (2005). Slope-structure stability modeling for the rock hewn church of Bet Aba Libanos in Lalibela (Ethiopia): preliminary results. In: (a cura di): Sassa K, Fukuka H, Wang F, Wang G, Landslides: risk analysis and sustainable disaster management. HEIDELBERG-BERLIN-NEW YORK:Springer Verlag Inc., ISBN: 978-3-540-28664-6<br>**Publisher page** doi.org/10.1007/3-540-28680-2_26 |
| 198 | 2005 | Margottini C (2005). Engineering geology aspects rehabilitation of rock hewn churches of Lalibela (Northern Ethiopia) and first emergency intervention. Report on the UNESCO mission to Lalibela, Ethiopia (12 – 20 March 2005).<br>*No online version found* |

ETHIOPIA · UNESCO WORLD HERITAGE PROPERTY

## Aksum

2 publications

| N° | Year | Author(s) / Title / Reference |
|---|---|---|
| 164 | 2009 | Delmonaco G, Margottini C, Orlando L, Spizzichino D (2009). Environmental impact assessment for the re-erection of the Roma Stela in the North Stelae Park of Aksum (Ethiopia). In: (a cura di): Federico M. Mazzolani, Protection of Historical Buildings, 2-Volume Set: Prohitech 09. ISBN: 9780415558037, Rome, 21-24 June 2009<br>*No online version found* |
| 197 | 2005 | Margottini C (2005). Engineering Geology aspects related to the re-erection of stela 2 in aksum (Northern Ethiopia), after the return from Rome Report on the UNESCO mission to Aksum, Ethiopia (9th – 19th April 2005).<br>*No online version found* |

CHILE · UNESCO WORLD HERITAGE PROPERTY

## Rapa Nui National Park (Easter Island)

5 publications

| N° | Year | Author(s) / Title / Reference |
|---|---|---|
| 21 | 2023 | Margottini, C., Spizzichino, D., Pandolfi, O. Landslide Mitigation Measures for the Conservation of the Archaeological Site of Mata Ngarau, Orongo Village (Easter Island-Chile) (2023) Springer Geology, pp. 3-22. **Publisher page** doi.org/10.1007/978-3-031-13810-2_1 |
| 99 | 2013 | Margottini C, Spizzichino D, Orlando L, Marsella M, Renzi B, Sonnessa A, Pandolfi O, Soddu P (2013). The rock mechanical and geophysical characterization of Moai statues – Rapa Nui Easter Island (Chile). In Iwasachi Y. (ed.) Geo-Engineering for Conservation of Cultural Heritage. Proceegings of the ATC 19 Workshop on Geo Engineering for Conservation of Cultural Heritage, 18th ICSMGE,Paris, Role of Geo Engineering for Conservation of Cultural Heritage, September 2013. *No online version found* |
| 114 | 2013 | Margottini C., Spizzichino D, Orlando L, Marsella M., Renzi B., Sonnessa A., Pandolfi O., Soddu P. (2013). Geotechnical and geophysical characterization of Moai statues - Rapa Nui Easter Island (Chile). In: Geotechnical Engineering for the Preservation of Monuments and Historic Sites - Proc. of the 2nd Int. Symp. on Geotechnical Engineering for the Preservation of Monuments and Historic Sites. p. 539-547, ISBN: 9781138000551, Napoli; Italy, 30 - 31 Maggio 2013 **Publisher page** doi.org/10.1201/b14895-62 |
| 146 | 2009 | Marsella M, Sonnessa A, Orlando L, Soddu P, Margottini C, Spizzichino D (2009). Ricostruzione 3D e caratterizzazione dei materiali delle statue Moai dell'Isola di Pasqua. GEOMEDIA, vol. 6, ISSN: 1128-8132 **Download** doaj.org/article/2f443800a22b48d8a1599bc3770f4494 OPEN ACCESS |
| 153 | 2009 | Margottini C, Pandolfi O (2009). L'Isola di Pasqua, sospesa tra scienza e leggenda. In: Ideambiente. vol. Giugno-Luglio 2009 *No online version found* |

BOLIVIA · UNESCO WORLD HERITAGE PROPERTY

## Tiwanaku: Spiritual and Political Centre of the Tiwanaku Culture

2 publications

| N° | Year | Author(s) / Title / Reference |
|---|---|---|
| 20 | 2023 | Spizzichino, D., Amaru, J.C., Lombardi, L., Revilla, J.I.G., Merodo, J.A.F., Vizzini, G., Margottini, C. Geotechnical Design and Mitigation Measures for the Conservation of Akapana Pyramid in the Tiwanaku Archaeological Site (Bolivia) (2023) Springer Geology, pp. 23-46. **Publisher page** doi.org/10.1007/978-3-031-13810-2_2 |
| 110 | 2013 | Margottini C (2013). Surface erosion and mass movement constrains in the conservation of Akapana pyramid mound (Tiwanaku, Bolivia). In: (a cura di): Margottini C, Canuti P, Sassa K, Landslide science in practice: risk assessment and mitigation. BERLIN, HEILDELBERG, NEW YORK:Springer Verlag, ISBN: 978-3-642-31318-9 **Publisher page** doi.org/10.1007/978-3-642-31319-6_68 |

NEPAL · UNESCO WORLD HERITAGE PROPERTY

## Lumbini, the Birthplace of the Lord Buddha

2 publications

| N° | Year | Author(s) / Title / Reference |
|---|---|---|
| 23 | 2023 | Margottini, C., Spizzichino, D., Pagnin, P., Puzzilli, L.M. Strengthening the Conservation and Management of Lumbini, the Birthplace of Lord Buddha, World Heritage Property (Lumbini, Nepal) (2023) Springer Geology, pp. 313-332. **Publisher page** doi.org/10.1007/978-3-031-13810-2_17 |

| N° | Year | Author(s) / Title / Reference |
|---|---|---|
| 51 | 2019 | Margottini C., Spizzichino D., Puzzilli L.M., Pagnin P., Fiorin A. (2019) Water table fluctuaction and impact on the remains of Maya Devi Temple, the Birthplace of the Lord Buddha, UNESCO World Heritage Site (Lumbini, Nepal), Proceedings of the XVII ECSMGE-2019, Geotechnical Engineering foundation of the future, ISBN 978-9935-9436-1-3<br>**Download** www.issmge.org/uploads/publications/51/75/0303-ecsmge-2019_Spizzichino.pdf OPEN ACCESS |

DPR KOREA · UNESCO WORLD HERITAGE PROPERTY

## Complex of Koguryo Tombs

2 publications

*Susan-ri tomb*

| N° | Year | Author(s) / Title / Reference |
|---|---|---|
| 24 | 2023 | Margottini, C., Castellotti, U., Ghoshal, D., Lujan, R. Water Infiltration and Waterproofing of Susan-Ri Tomb (North Korea) (2023) Springer Geology, pp. 333-356.<br>**Publisher page** doi.org/10.1007/978-3-031-13810-2_18 |
| 195 | 2005 | Margottini C (2005). Engineering Geology aspects related to the conservation of the Koguryo tombs, NORTH Korea. Report on the UNESCO mission to Pyong Yang, North Korea (28th April– 14th May 2005).<br>*No online version found* |

SPAIN · UNESCO WORLD HERITAGE PROPERTY

## Alhambra, Generalife and Albayzín, Granada

2 publications

| N° | Year | Author(s) / Title / Reference |
|---|---|---|
| 16 | 2023 | Fernandez-Merodo, J.A., Mateos, R.M., Azañon, J.M., Ezquerro, P., García-Davalillo, J.C., Bejar, M., Herrera, G., Novo, C., Bee, E., Themistocleous, K., Crosta, G., Frattini, P., Castellanza, R., Leoni, G., Spizzichino, D., Margottini, C. Multiscale Analysis of Geo-Hazards Affecting the Alhambra Cultural Heritage (2023) Springer Geology, pp. 47-61.<br>**Publisher page** doi.org/10.1007/978-3-031-13810-2_3 |
| 30 | 2023 | Fernández-Merodo J.A., Mateos R.M., García-Davalillo J.C Azañón J.M. Novo C. Castellanza R. Spizzichino D., Margottini C. Multi-scale stability analysis at San Pedro Cliff in the Alhambra Cultural Heritage. In Lancellotta R., Viggiani C., Flora A., de SilvaF., Mele L. (eds.) Geotechnical engineering for the preservation of monuments and historic sites III. Proceedings of the third international ISSMGE TC301 symposium, Napoli, Italy, 22–24 June 2022<br>**Download** doi.org/10.1201/9781003308867-96 OPEN ACCESS |

ITALY · UNESCO WORLD HERITAGE PROPERTY

## Archaeological Areas of Pompei, Herculaneum and Torre Annunziata

1 publication

| N° | Year | Author(s) / Title / Reference |
|---|---|---|
| 22 | 2023 | Iadanza, C., Leoni, G., Spizzichino, D., Trigila, A., Margottini, C., Osanna, M., de Nigris, B., Martellone, A., Costantini, M., Francioni, E., Trillo, F., Minati, F. Instability Processes and SAR Data Analysis in the Pompeii Archeological Park (2023) Springer Geology, pp. 597-613.<br>**Publisher page** doi.org/10.1007/978-3-031-13810-2_31 |

ITALY · UNESCO WORLD HERITAGE PROPERTY

## Historic Centre of Florence

3 publications

*San Miniato / Monte alle Croci hill*

| N° | Year | Author(s) / Title / Reference |
|---|---|---|
| 186 | 2005 | Canuti P, Casagli N, Fanti R, Agostini G, Margottini C (2005). Natural hazards and cultural heritage in Florence: the slope instability story of Monte alle Croci. GIORNALE DI GEOLOGIA APPLICATA, ISSN: 1826-1256, doi: 10.1474/GGA.2005-01.0-12.0012 **Publisher page** doi.org/10.1474/GGA.2005-01.0-12.0012 |
| 220 | 2002 | Agostini G, Fanti R, Focardi P, Margottini C (2002). I dissesti dell'area di Monte alle Croci nel contesto urbano della città di Firenze. In: Atti Convegno AGI, l'Aquila, Settembre 2002. L'Aquila, settembre 2002 *No online version found* |
| 221 | 2002 | Agostini G, Casagli N, Delmonaco G, Fanti R, Focardi P, Margottini C (2002). Landslide evolution and cultural heritage at risk: the case of San Miniato hill in Florence. In: In Sassa K. (editor), proceeding of UNESCO/Disaster prevention Institute of Kyoto University symposium on cultural heritage at risk, Kyoto, 21-25 January 2002. Kyoto 2002. Kyoto, 21-25 january 2002 *No online version found* |

ITALY · UNESCO WORLD HERITAGE PROPERTY

## Villa Romana del Casale

1 publication

| N° | Year | Author(s) / Title / Reference |
|---|---|---|
| 207 | 2004 | Delmonaco G, Falconi L, Margottini C, Martini G, Paolini S, Puglisi C, Spizzichino D (2004). Slope dynamics acting on Villa del Casale (Piazza Armerina, Sicily). In: (a cura di): Lacerda, Ehrlich, Fontoura, Sayao, Landslides: evaluation and stabilisation. LONDON: Balkema, Taylor & Francis Group, London, ISBN: 9780415356657 *No online version found* |

CYPRUS · UNESCO WORLD HERITAGE PROPERTY

## Choirokoitia

1 publication

| N° | Year | Author(s) / Title / Reference |
|---|---|---|
| 65 | 2017 | Themistocleous K. Agapiou A., Cuca B., Danezis C., Cigna F., Margottini C., Spizzichino D., Methodology For Locale-Scale Monitoring for the PROTHEGO project: the Choirokoitia case study, Proceedings SPIE 2016 conference. **Publisher page** doi.org/10.1117/12.2242047 |

IRAQ · UNESCO WORLD HERITAGE PROPERTY

## Hatra

1 publication

| N° | Year | Author(s) / Title / Reference |
|---|---|---|
| 294 | 1992 | Gurpinar A, Margottini C (1992). Possible evidences of past seismic ground motion(s) in the historical town of Hatra (central Mesopotamia). In: Proceedings of IAEA/SAAEC meeting of Damascus of 1992. Damasco, 1992 *No online version found* |

# B. Sites on the UNESCO Tentative List

Sites included in a State Party's Tentative List, the inventory of properties it intends to nominate for inscription.

3 case studies · 55 publications

ITALY · UNESCO TENTATIVE LIST

## The Cultural Landscape of Civita di Bagnoregio

40 publications

*Submitted 2017*

| N° | Year | Author(s) / Title / Reference |
|---|---|---|
| 1 | 2026 | Yang W., Margottini C., Spizzichino D., Tommasi P., Boldini D. (2026) A high-resolution 3D FEM geotechnical model of Civita 1 di Bagnoregio for assessing stability conditions. Submitted to Engineering Geology<br>**Download** doi.org/10.2139/ssrn.6682588 OPEN ACCESS |
| 2 | 2025 | Boldini, D., Margottini, C., Spizzichino, D., Tommasi, P. Geotechnical characteristics of the pyroclastic mesa and of the clayey slope of Civita di Bagnoregio Caratteristiche geotecniche della mesa piroclastica e del versante argilloso di Civita di Bagnoregio. (2025) Rivista Italiana di Geotecnica, 59 (2-3), pp. 27 - 39<br>**Publisher page** doi.org/10.19199/0557-1405.rig.25.005 |
| 3 | 2025 | Costantini, L., Margottini, C. The geology and geomorphology of Civita di Bagnoregio La geologia e geomorfologia di Civita di Bagnoregio.(2025) Rivista Italiana di Geotecnica, 59 (2-3), pp. 6 - 26<br>**Publisher page** doi.org/10.19199/0557-1405.rig.25.004 |
| 4 | 2025 | Margottini, C., Spizzichino, D., Licata, V., Leoni, G. The history of Civita di Bagnoregio (Central Italy) through its interventions realized to mitigate hydrogeological risk La storia di Civita di Bagnoregio (Italia centrale) attraverso gli interventi realizzati per la mitigazione del rischio idrogeologico. (2025) Rivista Italiana di Geotecnica, 59 (2-3), pp. 79 - 93<br>**Publisher page** doi.org/10.19199/0557-1405.rig.25.010 |
| 5 | 2025 | Lemaire, E., Hamdi, P., Francioni, M., Donati, D., Borgatti, L., Stead, D., Margottini, C. Evaluation of the Civita di Bagnoregio Plateau evolution through multi-temporal remote sensing methods Analisi della evoluzione della rupe di Civita di Bagnoregio attraverso metodi di Telerilevamento Multi-Temporale.(2025) Rivista Italiana di Geotecnica, 59 (2-3), pp. 40 - 51<br>**Publisher page** doi.org/10.19199/0557-1405.rig.25.006 |
| 6 | 2025 | Margottini, C., Boldini, D., Lancellotta, R., Spizzichino, D. Civita di Bagnoregio: Fragile Ground, Enduring Spirit – Balancing geotechnical vulnerability with cultural resilience. (2025) Rivista Italiana di Geotecnica, 59 (2-3), pp. 3 - 5<br>**Publisher page** www.torrossa.com/de/resources/an/6101586 |
| 33 | 2022 | Donati D., Borgatti L., Stead D., Francioni M., Ghirotti M., Margottini C. The characterization of slope damage at the Civita di Bagnoregio plateau using a remote sensing approach. In Lancellotta R., Viggiani C., Flora A., de Silva F., Mele L. (eds.) Geotechnical engineering for the preservation of monuments and historic sites III. Proceedings of the third international ISSMGE TC301 symposium, Napoli, Italy, 22–24 June 2022.<br>**Download** doi.org/10.1201/9781003308867-35 OPEN ACCESS |
| 53 | 2018 | Di Veroli V., Di Buduo G.M., Margottini C., Bigiotti F., Pojana G. (2018) Il turismo come strumento per la salvaguardia e lo sviluppo del territorio: il caso di Civita di Bagnoregio (Viterbo, Italia). In Gómez-Ullate M., Ochoa Siguencia L., Álvarez-García J., de la Cruz del Río-Rama M., Ochoa-Daderska R. (eds.), Cultural Management and Governance for European Pilgrimage Routes, Religious Tourism and Thermal Tourism, Book of Actas Cori, Italy, 3-4 and 6 November 2017. Research and Innovation in Education Institute [INBIE] Czecha 13 lok.14. 42-244 Czestochowa – Poland<br>*No online version found* |
| 59 | 2017 | Margottini C., Trent'anni di studi geologici, geomorfologici ed applicativi a Civita di Bagnoregio. Geologia dell'Ambiente, Supplemento al n. 1/2017 Anno XXV - gennaio-marzo 2017<br>*No online version found* |

| N° | Year | Author(s) / Title / Reference |
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| 64 | 2017 | Margottini C., Di Buduo G., The Geological and Landslides Museum of Civita di Bagnoregio (Central Italy), Landslides (2017) 14:435–445<br>**Publisher page** doi.org/10.1007/s10346-016-0778-3 |
| 66 | 2017 | Margottini C., Melelli L., Spizzichino D. (2017). A living landscape at the border of Volcano: Mesa and Butte landforms in Lazio, Umbria and Tuscany. In Soldati M. e Marchetti M. (eds), Geological Landscapes of Italy. Springer ISBN 978-3-319-26192-8.<br>**Publisher page** doi.org/10.1007/978-3-319-26194-2_25 |
| 106 | 2013 | Margottini C (2013). Low environmental impact consolidation works in the rock cliff of Civita di Bagnoregio (Central Italy). In: (a cura di): Margottini C, Canuti P, Sassa K, Landslide science in practice: risk assessment and mitigation. HEIDELBERG-BERLIN-NEW YORK:Springer Verlag Inc., ISBN: 978-3-642-31318-9<br>**Publisher page** doi.org/10.1007/978-3-642-31319-6_82 |
| 119 | 2013 | Garbin F, Margottini C, Brancaleoni R, Sonnessa A (2013). Softening and swelling mechanism affecting the south slope of Civita di Bagnoregio (Italy). In: (a cura di): Bilotta E, Flora A, Lirer S, Viggiani C, Geotechnical Engineering for the Preservation of Monuments and Historic Sites. London:Taylor & Francis Group, ISBN: 978-1-138-00055-1, Napoli, 30-31 may 2013<br>**Publisher page** doi.org/10.1201/b14895-46 |
| 145 | 2010 | Margottini C (2010). Civita di Bagnoregio ed il paesaggio vivente della valle dei calanchi. In: (a cura di): Pacioni M, Biodiversità della valle dei calanchi. ISBN: 978-88-95066-15-8, Lubriano (Vt), 29 ottobre 2010<br>*No online version found* |
| 167 | 2009 | Delmonaco G, Margottini C, Spizzichino D (2009). Low-impact interventions for the preservation of cultural heritage: the dying town of Civita di Bagnoregio (Central Italy) and the killer landslide. In: (a cura di): Federico M.Mazzolani, Protection of Historical Buildings, 2-Volume Set: Prohitech 09. ISBN: 9780415558037, Rome, 21-24 June 2009<br>*No online version found* |
| 171 | 2008 | Delmonaco G, Margottini C, Spizzichino D (2008). Geomorphologic Evolution of Civita di Bagnoregio in the Last Thousand Years. In: (a cura di): WMF, proceedings of International Symposium on Conservation and Sustainable Development of the Tuff Towns - An exploration of Pitigliano, Civita di Bagnoregio and Orvieto. BOSTON:ROWMAN & LITTLEFIELD, Pitigliano- Orvieto- Civita di Bagnoregio, 14–17 MAGGIO/MAY<br>*No online version found* |
| 174 | 2008 | Delmonaco G, Margottini C, Spizzichino D (2008). New Low Environmental Impact Consolidation Techniques in Civita di Bagnoregio. In: (a cura di): WMF, proceedings of International Symposium on Conservation and Sustainable Development of the Tuff Towns - An exploration of Pitigliano, Civita di Bagnoregio and Orvieto. WMF, Pitigliano- Orvieto- Civita di Bagnoregio, 14–17 MAGGIO/MAY<br>*No online version found* |
| 183 | 2006 | Margottini C, Tamantini S (2006). Civita di Bagnoregio: le risorse geologiche di interesse naturalistico e paesaggistico nel quadro dell'evoluzione storica ed ambientale dell'area. In: (a cura di): Rossi F, Musei per giocare. ISBN: 978-88-95066-09-7<br>*No online version found* |
| 204 | 2004 | Delmonaco G, Margottini C, Puglisi C, Falconi L, Spizzichino D (2004). Mitigation strategies of Cavon Grande landslide in Civita di Bagnoregio (Italy). In: (a cura di): Lacerda, Ehrlich, Fontoura, Sayao, Landslides: evaluation and stabilisation. LONDON: Balkema, Taylor & Francis Group, London, ISBN: 9780415356657<br>*No online version found* |
| 230 | 2000 | Casagli N, Delmonaco G, Focardi P, Margottini C, Serafini S (2000). Analisi dei fenomeni di dissesto a Civita di Bagnoregio e misure di stabilizzazione. In Lollino G. (ed.) Condizionamenti Geologici e Geotecnici nella Conservazione del Patrimonio Storico Culturale. Geoben 2000. Torino, 2000<br>*No online version found* |
| 244 | 1999 | Sbarra L, Margottini C (a cura di) (1999). Civita di Bagnoregio. Di Sbarra L, Margottini C.<br>*No online version found* |

| N° | Year | Author(s) / Title / Reference |
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| 253 | 1997 | Sciotti M, Focardi P, Margottini C, Ogliotti C, Serafini S (1997). Civita di Bagnoregio: a town in decline. Geothecnical engineering for the preservation of monuments and historic sites. In: (a cura di): Viggiani C, Geotechnical Engineering for the Preservation of Monuments and Historic sites. London:Taylor & Francis Group, ISBN: 9789054108719<br>*No online version found* |
| 254 | 1997 | Casagli N, Delmonaco G, Focardi P, Margottini C, Serafini S (1997). I recenti fenomeni di dissesto a Civita di Bagnoregio. Geoitalia 1997. In: 1° forum Italiano di Scienze della Terra. Rimini 1997. Bellaria (Rimini), 5 Ottobre 1997<br>*No online version found* |
| 271 | 1994 | Margottini C, Serafini S (1994). A proposito di Civita. VERDE AMBIENTE, vol. X, ISSN: 1122-6102<br>*No online version found* |
| 281 | 1993 | Focardi P, Margottini C, Ogliotti C, Sciotti M, Serafini S (1993). Civita di Bagnoregio: la città che muore. In: (a cura di): Margottini C, Polci S, Studio Monitoraggio e bonifica dei centri abitati instabili. ROMA:ENEA<br>*No online version found* |
| 282 | 1993 | Margottini C, Savarese N (1993). I calanchi di Civita: alcune ipotesi per la creazione di un parco geomorfologico. In: (a cura di): Margottini C, Polci S, Studio Monitoraggio e bonifica dei centri abitati instabili. ROMA:ENEA<br>*No online version found* |
| 291 | 1992 | Margottini C (1992). Aspetti geologici dell'area di Civita di Bagnoregio. In: Zapparoli M, Olmi M,. (a cura di): Zapparoli M, Olmi M,, L'ambiente nella Tuscia laziale.<br>*No online version found* |
| 292 | 1992 | Focardi P, Frassoni A, Margottini C, Serafini S (1992). Civita di Bagnoregio: the dying town. In: Cnvegno di Firenze sul dissesto idrogeologico. Firenze, 1992<br>*No online version found* |
| 300 | 1991 | Margottini C (1991). L'impegno dell'ENEA in Progetto Civita. NOTIZIARIO DELL'ENEA. RISPARMIO ENERGETICO, vol. 8-9, ISSN: 0394-2538<br>*No online version found* |
| 304 | 1991 | Margottini C, Serafini S (1991). L'impegno dell'ENEA nel progetto di Risanamento della rupe di Civita di Bagnoregio. In: ENEA per l'ambiente. ROMA:ENEA<br>*No online version found* |
| 310 | 1990 | Margottini C (1990). Evoluzione morfologica dell'area di Civita di Bagnoregio in tempi storici. In: (a cura di): Margottini C, Serafini S, Civita di Bagnoregio: osservazioni geologiche e monitoraggio storico dell'ambiente. ROMA:ENEA<br>*No online version found* |
| 311 | 1990 | Margottini C, Quattrocchi F, Serafini S (1990). Inquadramento geologico e geomorfologico dell'area di Civita di Bagnoregio. In: (a cura di): Margottini C, Serafini S, Civita di Bagnoregio - osservazioni geologiche e monitoraggio storico dell'ambiente. ROMA:ENEA<br>*No online version found* |
| 312 | 1990 | Margottini C, Serafini S (1990). Integrazioni multitemporali tra immagini da satellite e foto aeree nel controllo dell'evoluzione dell'attività erosiva nell'area di Civita di Bagnoregio.. In: (a cura di): Margottini C, Serafini S, Civita di Bagnoregio: osservazioni geolgogiche e monitoraggio storico dell'ambiente. enea<br>*No online version found* |
| 313 | 1990 | Margottini C, Molin D (1990). La sismicità storica dell'area di Bagnoregio e Civita. In: (a cura di): Margottini C, Serafini S, Civita di Bagnoregio - osservazioni geologiche e monitoraggio storico dell'ambiente. ROMA:ENEA<br>*No online version found* |
| 320 | 1990 | Margottini C, Serafini S (a cura di) (1990). Civita di Bagnoregio: Osservazioni Geologiche e monitoraggio storico dell'ambiente.<br>*No online version found* |

| N° | Year | Author(s) / Title / Reference |
|---|---|---|
| 333 | 1988 | Margottini C (1988). Evoluzione morfologica del colle di Civita di Bagnoregio in tempi storici. In: Lattanzi F, Polci S,. L'Ambiente la Memoria il Progetto, Testimonianze su Civita di Bagnoregio.<br>*No online version found* |
| 335 | 1988 | Margottini C (1988). La ricerca storica quale mezzo di indagine per lo studio e la comprensione dei fenomeni naturali: il caso di Civita di Bagnoregio in tempi storici. In: Atti del Convegno annuale A.I.N. su Impatto ambientale e pianificazione naturalistica nella realtà Appenninica. Bagnoregio 1988. Bagnoregio, 1988<br>*No online version found* |
| 337 | 1988 | Margottini C (1988). Evoluzione geomorfologica dell'abitato di Civita di Bagnoregio in tempi storici. ROMA:ENEA<br>*No online version found* |
| 338 | 1988 | Molin D, Margottini C (1988). Nota breve sulla sismicità storica di Civita di Bagnoregio. ROMA:ENEA<br>*No online version found* |
| 358 | 1985 | Molin D, Margottini C (1985). The Bagnoregio earthquake of june 11, 1695. In: Postpischl D,. (a cura di): Postpischl D,, Atlas of isoseismal maps of italian earthquakes. vol. 2A<br>*No online version found* |

GEORGIA · VARDZIA–KHERTVISI AND DAVID GAREJA ARE ON THE UNESCO TENTATIVE LIST

## Rock-cut heritage of Georgia (Vardzia, David Gareja, Katskhi and others)

10 publications

| N° | Year | Author(s) / Title / Reference |
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MADAGASCAR · UNESCO TENTATIVE LIST

## High City of Antananarivo

5 publications

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# C. Multiple sites and World Heritage themes

Publications covering several World Heritage properties or UNESCO programmes, including methodological and policy contributions.

19 publications

SEVERAL PROPERTIES · UNESCO PROGRAMMES

## Multiple UNESCO sites and World Heritage themes

**19** publications

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