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Nota di contenuto	Landslide mitigation measures for the conservation of the archaeological site of Orongo (Easter Island-Chile) -- Conservation polices and mitigation measures for the Akapana Pyramid in the Tiwanaku archaeological site (Bolivia) -- Multiscale analysis of geohazards affecting the Alhambra (Spain) Cultural Heritage -- Rock mechanic characterization and 3D Kinematic analysis of Katsky pillar (Georgia) -- Petrological study on the Roman mortars from Kom El-Dikka Archaeological Site (Alexandria, Egypt) -- Electrochemical desalination of salt infected brick masonry applying a double electrode system -- Keynote: Investigation and preservation of historic foundations -- Keynote: Preventive Conservation of the Central Tower of Bayon Temple under Global Warming: Case Study in Soil Filled Foundation and Character Defining Elements of Authenticity of Foundation in Angkor, Cambodia -- Slope instability induced by climate changes on the UNESCO Etruscan necropolis (Tarquinia, Central Italy) -- Keynote: NRIAG effort to mitigate natural and geotechnical risk in cultural heritage site -- The Potential and Limitations of Electrical Resistivity and Magnetic Methods for Characterizing Highly Terrainous Archaeological Site: A Case Study At Tell Dibgou, Egypt -- The implementation of shallow geophysical survey for detection of some

buried archaeological structures in Aswan city, Egypt -- The use of InfraRed Thermography (IRT) for the protection and conservation of rupestrian CH sites affected by slope instabilities -- Ground Penetrating Radar for investigating painted walls and floors of ancient buildings -- Frozen mounds of Altay mounting geophysical studies -- Keynote: Developments in the digital documentation of tangible Cultural heritage. Advances in data acquisition, processing methods and curating -- Usage of laser scanning system to document the historical heritage of Beet Al Qadi, Cairo -- An HBIM Holistic Approach for Rehabilitation of Heritage Buildings -- Keynote: Geophysics' role in investigating and mitigating groundwater hazards on archaeological sites: Case studies from "Sphinx -Giza, Kom Ombo Temple-Aswan and Hawara Pyramid-Fayoum -- Hydrogelogical hazard assessment and monitoring of Maya Devi Temple World Heritage sites in Lumbini (Nepal): the Birthplace of the Lord Buddha -- Water Infiltration and Waterproofing of Susan-ri Tomb (North Korea) -- Monitoring cultural heritage sites affected by geohazards -- Innovative structural monitoring as tool of preservation and valorisation of monumental architectures: the case of Neptune Temple in Paestum IT -- Structure Stability Analyses of Chapels Dedicated to Wives of Amun Using Non-Contact Techniques, Madinet Habu temple – Luxor – Egypt -- Integrated characterization of Apulian hypogean cultural heritage (Italy) -- Geological control on the evolution of stability of Theban tombs at Sheikh ‘Abd el-Qurna, Luxor, Egypt -- Keynote: Archeoseismology and the Impact of Large Earthquakes on Cultural Heritage -- Integrated Geoscience Investigations in Hittite Imperial Sites Affected by Earthquakes -- Multi-Scenario Physics-Based Seismic Hazard Assessment of Cultural Heritage Sites -- State of buildings and related damage after the earthquake of 1856 in Jijel (Algeria). Considerations for seismic hazard assessment in Jijel and Skikda (Algeria) -- Seismic hazard assessment of a cultural heritage minaret in Cairo -- Keynote: Analysis, integration and interpretation of Big Earth data in the Copernicus Era for the documentation, monitoring and preservation of natural and cultural heritage -- The potential of satellite interferometry for geohazard assessment in cultural heritage sites -- Instability processes and SAR data analysis in the Pompeii archeological park -- Remote Sensing applications for Cultural Heritage Sites Sustainability: case studies form Egypt -- Rome walls satellite monitoring and protection by prothego methodology -- The project of Parco Archeologico del Colosseo and the Italian network of archaeological parks: from satellite monitoring to conservation and preventive maintenance policies -- Adaptation, traditions and conservation: The Case of the Asante Traditional Buildings World Heritage Site in Ghana -- Management of Cultural Assets in Sudan from the Perspective of Sustainable Development Goals -- Improvement the State of Conservation of the Georgian Rock-cut Heritage through the Multidisciplinary Approach -- The Aswan declaration.

Sommario/riassunto

This book presents up-to-date geoscience technologies for heritage investigations and conservation, covering various sub-disciplines of geophysics, geodesy, 3D laser scanning technology, hydrogeology, and rock mechanics applied to the exploration of new heritage sites, mapping and visualization, as well as hazard mitigation. The current shift toward interdisciplinary ways of thinking highlights the added value of merging arts with sciences and other disciplines for better management and preservation of cultural heritage. Featuring advanced scientific investigations in 40 case studies around the globe, the book demonstrates how a better understanding of natural processes coupled with conservation approaches, mainly based on sustainable practices

such as the use of traditional knowledge in recovery techniques and building local capacities, can ensure effective conservation.