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Collana	Lecture Notes in Civil Engineering, , 2366-2565 ; ; 471
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Soggetti	Underground construction Geotechnical engineering Financial risk management Internet of things Underground Engineering and Tunnel Construction Geotechnical Engineering and Applied Earth Sciences Risk Management Internet of Things
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Nota di contenuto	Rethinking the Role of Underground Architecture in Contemporary Japan: Project Trends Observed in Shinkenchiku Magazine (2000–2020) -- The Role of Worker Satisfaction in the Underground Environment with Job Satisfaction and Turnover Intent -- Underground Space Use: Supporting Urban Ecosystem Services -- The Potential of Underground Spaces Around Metro Stations as a Form of Special Urban Forms -- Reservoirs of Heat: A Defining Characteristic of High Thermal Mass Earth-Sheltered Buildings -- The Metro Network as a Heritage System for Historic Urban Landscapes: A Critical Review from China to Spain -- Development of Cultural Landscape and Removal of Urban Visual Pollution Using Underground Architecture—Case Study: Tehran Laleh Park -- Characterization of Multiple Resource Endowment in Urban Underground: A Case Study of Danyang City -- Case Study of Rainwater Treatment System in a Large Urban Underground Space Complex

Project in Xi'an China -- Induced Seismicity Caused by Sudden Failure of Rock Joints with Different Undulation -- Spatial Distribution and Susceptibility Mapping of Urban Sinkholes in Shenzhen, China -- Efforts to Move Railway Tracks Underground in Japan -- Study on Coupling Effect of a Complex Deep Foundation Pit Group Excavation in a Soft Soil Area -- Win-Win Situation Between Urban Developments and Underground Spaces (The Case Study of Tokyo Midtown Hibiya) -- Study on Reasonable Reinforcement Range of Starting End of Overlapped Shield Tunnel in a Water-Rich Soft Stratum -- Dynamic Response for Deep Buried Water Diversion Tunnel Under the Action of Near-Field Disturbance -- Extending Regularity of Acid Fracturing in Deep Fractured-Vuggy Carbonate rocks—A Case Study of Qixia Formation in Western Sichuan -- DEM-Based Numerical Simulation of Rock Cutting Process Using Conical Pick Under Confining Stress Influence -- Effect of Irradiation Spacing on Fracturing of Hard Rocks Using an Open-Ended Microwave Antenna.

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#### Sommario/riassunto

This book presents peer-reviewed articles from the 18th Conference of the Associated Research Centers for the Urban Underground Space (ACUUS 2023) held in Singapore from November 1 to 4, 2023. It highlights new opportunities and challenges in underground space use amid a re-focus on exploring and developing the underground space as a strategic resource and part of sustainable development. The new frontier presents unprecedented opportunities for simultaneously improving urban infrastructure, urban livability, and resilience. At the same time, special challenges exist in developing underground space—both from a human design perspective and in terms of complexity, 3D planning, system integration, technical, and life cycle costs. Equally important is the need to move from the creation of underground space as a haphazard, last resort solution to a well-planned, and integrated use of underground space that can serve the needs of society for future generations as well as our own. As the world emerges from the COVID-19 pandemic and is faced with the many challenges in climate resilience, the works presented in this book provide a timely opportunity and an excellent forum for engaging discussions and exchanges among planners, designers, engineers, researchers, and policy makers.

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