

Supplementary materials

Table S1. Search strategy used for retrieval of documents in Scopus database.

Search step	Query string	Document number
Initial	TITLE-ABS-KEY ((biocementation) OR (microbial AND induced AND carbonate AND precipitation) OR (enzyme AND induced AND carbonate AND precipitation) OR (MICP pathway) OR (EICP pathway) OR (biomineralization) OR (bio-cementation) OR (microbially AND enhanced AND calcite AND precipitation) OR (bacterially AND induced AND calcite AND precipitation) OR (bio-mediated AND calcification) OR (microbially induced calcite precipitation) OR (ureolysis) OR (biocalcification) OR (ureolytic bacteria) OR (plant urease) OR (microbial urease) AND (slope AND stabilization) OR (slope AND stabilisation) OR (slope AND soil AND treatment) OR (soil AND slope AND bioconsolidation) OR (landslide AND mitigation) OR (soil AND surface AND runoff AND prevention) OR (earth AND retention) OR (slope failure) OR (slope erosion) OR (hillside instability) OR (slope degradation) OR (mass wasting) OR (slope collapse) OR (rockslide) OR (earthslide) OR (slope movement) OR (terrain instability) OR (soil slippage) OR (debris flow) OR (earthflow) OR (slope stability))	167
Final	TITLE-ABS-KEY ((biocementation) OR (microbial AND induced AND carbonate AND precipitation) OR (enzyme AND induced AND carbonate AND precipitation) OR (MICP pathway) OR (EICP pathway) OR (biomineralization) OR (bio-cementation) OR (microbially AND enhanced AND calcite AND precipitation) OR (bacterially AND induced AND calcite AND precipitation) OR (bio-mediated AND calcification) OR (microbially induced calcite precipitation) OR (ureolysis) OR (biocalcification) OR (ureolytic bacteria) OR (plant urease) OR (microbial urease) AND (slope AND stabilization) OR (slope AND stabilisation) OR (slope AND soil AND treatment) OR (soil AND slope AND bioconsolidation) OR (landslide AND mitigation) OR (soil AND surface AND runoff AND prevention) OR (earth AND retention) OR (slope failure) OR (slope erosion) OR (hillside instability) OR (slope degradation) OR (mass wasting) OR (slope collapse) OR (rockslide) OR (earthslide) OR (slope movement) OR (terrain instability) OR (soil slippage) OR (debris flow) OR (earthflow) OR (slope stability)) AND (EXCLUDE (PUBYEAR,1997) OR EXCLUDE (PUBYEAR,2000) OR EXCLUDE (PUBYEAR,2001) OR EXCLUDE (PUBYEAR,2003) OR EXCLUDE (PUBYEAR,2008) OR EXCLUDE (PUBYEAR,2009) OR EXCLUDE (PUBYEAR,2010) OR EXCLUDE (PUBYEAR,2012) OR EXCLUDE (PUBYEAR,2024))	139

Table S2. Additional information in the Scopus database about the leading authors in the field.

Authors	Location	Scopus ID	ORCID
Gowthaman Sivakumar	Jaffna, Sri Lanka	57201480838	0000-0002-9880-7886
Kawasaki Satoru	Sapporo, Japan	54782723900	Nil
Nakashima Kazunori	Sapporo, Japan	7401504351	Nil
He Jia	Nanjing, China	55744172400	Nil
Miao Linchang	Nanjing, China	55577646500	Nil
Sun Xiaohao	Hong Kong, Hong Kong	57193512244	0000-0001-6234-3023
Wang Hengxing	Nanjing, China	57220118076	0000-0001-9852-6294
Hang Lei	Nanjing, China	57204480660	Nil
Wu Linyu	Nanjing, China	57205648706	Nil
Chu Jian	Singapore City, Singapore	25026007400	0000-0003-1404-1834

Table S3. Performance metrics of the leading publishing spots in the field.

Journal	Publisher	h-index	Quartile ranking
Geotechnical Special Publication	American Society of Civil Engineers (ASCE)	46	nil
Acta Geotechnica	Springer Nature	68	Q1
Applied Sciences (Switzerland)	Multidisciplinary Digital Publishing Institute (MDPI)	101	Q2
Science of the Total Environment	Elsevier	317	Q1
Advances in Civil Engineering	Hindawi	41	Q3
Bulletin of Engineering Geology and the Environment	American Society of Civil Engineers (ASCE)	77	Q1
Journal of Geotechnical and Geoenvironmental Engineering	American Society of Civil Engineers (ASCE)	177	Q1
Journal of Soils and Sediments	Springer Nature	87	Q1
Nongye Gongcheng Xuebao/Transactions of the Chinese Society of Agricultural Engineering	Chinese Society of Agricultural Engineering	60	Q2
Sustainability (Switzerland)	Multidisciplinary Digital Publishing Institute (MDPI)	136	Q1



Figure S1. An image showing riprap soil slope protection in Malaysia that disintegrated or failed.

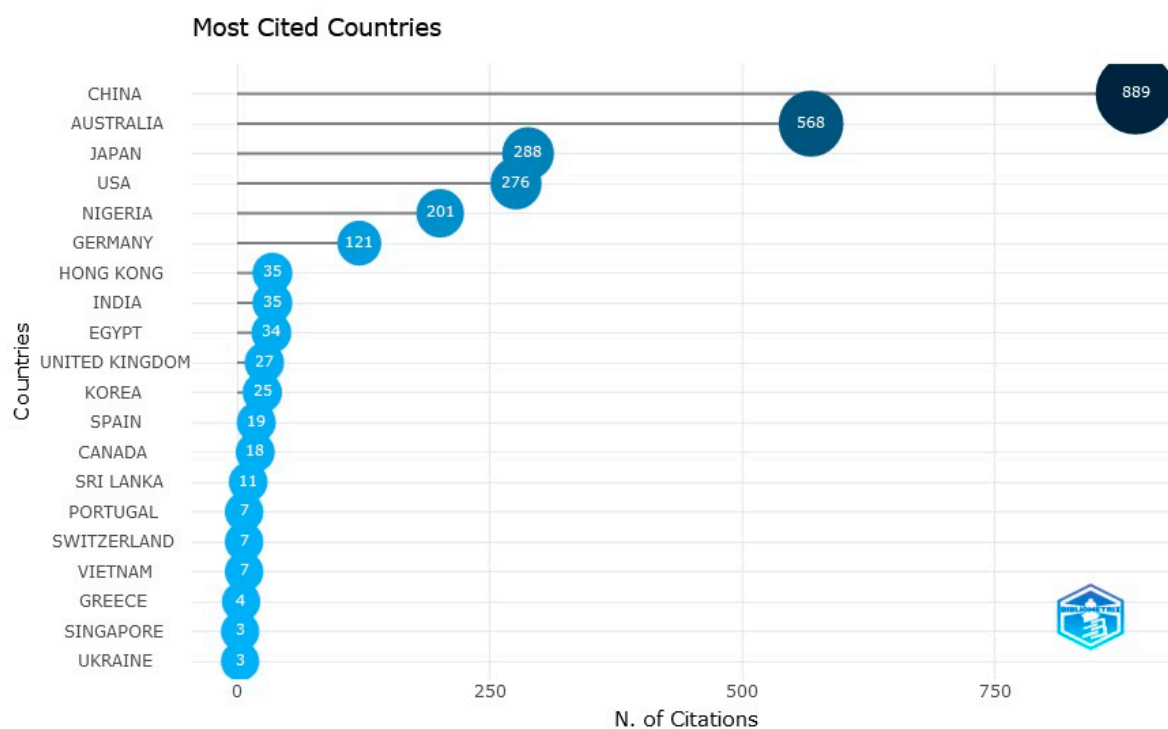


Figure S2. Top leading cited countries in the field from 2013 to 2023.