



China Geology

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Editorial

Preface to the special issue dedicated to the 37th International Geological Congress

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The 37th International Geological Congress, a premier forum held quadrennially and eagerly anticipated by geologists and geology enthusiasts worldwide, will take place from August 25 to 31, 2024 in Busan, Republic of Korea. To celebrate this grand event, *China Geology*, a multidisciplinary geosciences journal sponsored by China Geological Survey and Chinese Academy of Geological Sciences (where the Secretariat of the International Union of Geological Sciences is currently located), presents this special issue and extends our best wishes for the success of the conference!

China Geological Survey is the world's largest geological survey organization and the only institution currently conducting large-scale traditional geological surveys. In recent years, it has established 11 major projects and nearly 100 sub-projects, including: Basic geological surveys, energy resource geological surveys, metal and non-metal mineral geological surveys, geological hazard risk surveys and monitoring, hydrogeological and water resource surveys, comprehensive geological surveys of important economic zones and city clusters, land development and preservation geological surveys, ecosystem service capacity assessment, integrated natural resources surveys and monitoring, ecological preservation and restoration surveys, and geological data updating and application services. This special issue selects several representative contributions from these projects to share with geologists worldwide.

The highlights of this special issue include the contributions from geologists and geological technologies to the ongoing construction of the world-class modern city, Xiong'an New Area (Han B et al., 2024; Session T30); the hot dry rock power generation test in Qinghai, China (Zhang EY et al., 2024; Session T34); the resource evaluation of gas hydrates (flammable ice) in the South China Sea (Su PB et al.,

2024; Session T34); clean water sources and arsenic-fluoride containing groundwater surveys (Liu RP et al., 2024; Session T18); green agriculture and soil heavy metal and microplastic surveys (Yang JZ et al., 2024; Session T21); synergy of water, city, agriculture and ecology in land resource planning (Wang S et al., 2024; Session T21, Session T30); flood disaster risk surveys in densely populated coastal zones (Wang F et al., 2024; Session T16, Session T31); geophysical technology for detecting urban underground karsts to ensure urban safety (Liu BH et al., 2024; Session T30, Session T31); and geology and mineralization of the large alkalic-hosted gold deposit (>100 t) in Dongping (Zhen SM et al., 2024; Session T12). Additionally, this issue features progress of China's geologists in the studies of black shale and shale gas (Li SZ et al., 2024) and high-energy flow phenomena in Cretaceous sedimentary basins (Yan DZ et al., 2024; Session T1), as well as the accomplishments of Egyptian geologists in evaluating the health risks of polycyclic aromatic hydrocarbons in lake water (Osman HE et al., 2024; Session T21). Finally, it briefly introduces the achievements in the industrialization of photovoltaic power generation and ecological agriculture in desert areas of China (Session T32, Session T34).

The content aligns with the thematic areas of IGC 2024, and we hope that the papers in this special issue will illustrate the latest geological survey results to the researchers and practitioners participating in the conference, presenting geologists worldwide with new insights and ideas that stimulate future research in the field.

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