



**25th INTERNATIONAL MULTIDISCIPLINARY
SCIENTIFIC GEOCONFERENCE - SGEM 2025**
29 June – 06 July 2025 - Albena, Bulgaria

**CONFERENCE PROCEEDINGS OF SELECTED PAPERS in
SCIENCE AND TECHNOLOGIES IN GEOLOGY, EXPLORATION,
AND SUSTAINABLE MINING
ISSUE 1.1 / VOL 25**

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Haidingergasse 1, C / 1113, Vienna 1030, Austria
Published by STEF92 Technology
Total print: 5000

E-mail: sgem@sgem.org | URL: www.sgem.org

ISBN 978-619-7603-79-8 (hard copy)

ISBN 978-619-7603-80-4 (DVD)

ISSN 1314-2704

DOI: 10.5593/sgem2025/1.1

FOREWORD

It is our honor to present the **25th edition the *SGEM GeoConference Proceedings 2025***. These peer-reviewed proceedings reflect the scientific work presented at the SGEM GeoConference - an international platform where **Geosciences and STEM** unite to create knowledge that supports a more sustainable and responsible future. SGEM stands on a foundational belief: science is valuable not because it is new, but because it is **true, useful, and serving society**.

This volume 25 / issue 1.1: *Science and Technologies in Geology, Exploration, and Sustainable Mining* - gathers research studies on geological processes, subsurface mapping, responsible resource exploration, and innovative mining technologies. The contributions directly support the United Nations Sustainable Development Goals, including SDG 7 (Affordable and Clean Energy), SDG 8 (Decent Work and Economic Growth), SDG 9 (Industry, Innovation, and Infrastructure), SDG 12 (Responsible Consumption and Production), and SDG 13 (Climate Action).

In today's interconnected world, Geosciences and STEM are not separate domains - they are the **engine of progress**. From understanding the structure of the Earth to enabling clean energy, digital modeling, circular resource management, and climate resilience, these fields provide the data and tools needed to make informed decisions and shape a sustainable future. **Where STEM offers innovation, Geosciences give it meaning - grounding progress in responsibility, knowledge, and respect for Earth.**

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On behalf of the Editorial Board and the SGEM Scientific Committee, we express our sincere gratitude to all authors for their trust, to the reviewers for safeguarding scientific quality, and to all institutions supporting this global scientific initiative. Together, we transform knowledge into impact and ideas into progress.

We wish you inspiring reading and meaningful scientific achievements.

Sincerely yours,

Prof. Dr. hab. oec. Baiba Rivza

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