



UNIVERSITY OF
MINING AND GEOLOGY
"ST. IVAN RILSKI"

68th International Scientific Conference

CONFERENCE ORGANISING COMMITTEE

CHAIRMAN:

Prof. Dr. Eng. Ivaylo Koprev

Rector of the University of Mining and Geology "St. Ivan Rilski"

Vice-Chairpersons:

Prof. D.Sc. Eng. Irena Grigorova

Vice-Rector for Science and Research,

University of Mining and Geology "St. Ivan Rilski"

Prof. Dr. Svetlana Bratkova

Vice-Rector for Education and Student Affairs,

University of Mining and Geology "St. Ivan Rilski"

Organising Committee Members:

Prof. D.Sc. Eng. Valery Mitkov

Dean of Faculty of Mining Technology,

University of Mining and Geology "St. Ivan Rilski"

Assoc. Prof. Dr. Boris Valchev

Dean of Faculty of Geology and Exploration,

University of Mining and Geology "St. Ivan Rilski"

Assoc. Prof. Dr. Eng. Kiril Dzhustrov

Dean of Faculty of Mining Electromechanics,

University of Mining and Geology "St. Ivan Rilski"

Secretary: Eng. Kostadinka Konakchiyska

HONORARY NATIONAL ORGANISING COMMITTEE

Chairman:

Prof. Dr. Eng. Ilia Garkov – Executive Vice President and Chief Operating Officer, Dundee Precious Metals, Vice-Chairman of the Board of the Bulgarian Chamber of Mining and Geology

Vice-Chairman:

PhD Eng. Ivan Vutov – Vice President of Geotechmin OOD, Chairman of the Board of Directors of Geotrading AD, Deputy Chairman of the Managing Board of the Confederation of Employers and Industrialists in Bulgaria (KRIB), a member of the Management Board of the Scientific and Technical Union of Mining, Geology and Metallurgy

Members:

Prof. D.Sc. Eng. Tzolo Voutov – President of Geotechmin OOD, Chairman of the Supervisory Board of Ellatzite-Med AD, Honorary Chairman of the Scientific and Technical Union of Mining, Geology, and Metallurgy

Prof. D.Sc. Eng. Nikolay Valkanov – Chairman of the Board of Trustees, Chairman of the Board of Directors of Minstroy Holding JSC, Honorary Chairman of the Managing Board of the Bulgarian Chamber of Mining and Geology, and Chairman of the Bulgarian Mine Surveying Union

Prof. Dr. Eng. Stoyan Bratoev – Executive Director of Metropolitan plc

PhD Eng. Vladimir Vutov – Vice President of Geotechmin OOD, Chairman of the Board of Directors of Geostroy AD, Deputy Chairman of the Managing Board of the Scientific and Technical Union of Mining, Geology and Metallurgy, Deputy Chairman of the Managing Board of the Bulgarian Construction Chamber

Eng. Dragomir Draganov – Executive Director of Ellatzite-Med AD, Chairman of the Management Board of Bulgarian Chamber of Mining and Geology

Eng. Rumen Tsonev – CEO and Chair of the Board of Directors of HOLDING KCM 2000

Eng. Nikolay Peltekov – Executive Director of Asarel-Medet JSC

Dimitar Tsotsorkov – Chairman of the Supervisory Board of Asarel-Medet JSC and Executive Director of Asarel Investment JSC, Chairman of the UN Global Contract Network Bulgaria

Dominic Hamers – Executive Director of Geotechmin OOD

Dimitar Angelov – Executive Director of Kaolin JSC

INTERNATIONAL SCIENTIFIC COMMITTEE

Chairperson:

Prof. D.Sc. Irena Grigorova

Vice-Rector for Science and Research,

University of Mining and Geology "St. Ivan Rilski", Bulgaria

Editor-in-Chief of the *Annual of University of Mining and Geology "St. Ivan Rilski"*

Assoc. Prof. Dr. Mariana Trifonova

University of Mining and Geology "St. Ivan Rilski", Bulgaria

Editor-in-Chief of the *Sustainable Extraction and Processing of Raw Materials*
Journal

Prof. Dr. Marinela Panayotova

University of Mining and Geology "St. Ivan Rilski", Bulgaria

Editor-in-Chief of the *Proceedings in the Humanities and Social Sciences*.

Chief Assist. Prof. Milena Purvanova

University of Mining and Geology "St. Ivan Rilski", Bulgaria

Members:

Prof. Dr. Wilfried Eichlseder - Montanuniversitat Leoben, Austria

Prof. Dr. Marinela Panayotova - University of Mining and Geology "St. Ivan Rilski",
Bulgaria

Prof. Dr. Georg Unland - TU Bergakademie Freiberg, Germany

Prof. Dr. Hao Chen - China University of Mining and Technology, China

Prof. Dr. Ognyan Petrov - Institute of Mineralogy and Crystallography, BAS, Bulgaria

Assoc. Prof. Dr. Kazem Reza Kashyzadeh - RUDN University, Moscow, Russia

Prof. Dr. Radoslav Nakov - Geological Institute, BAS, Bulgaria

Prof. Dr. Holger Lieberwirth - TU Bergakademie Freiberg, Germany

Prof. Dr. Yordan Kortenski - University of Mining and Geology "St. Ivan Rilski",
Bulgaria

Prof. Dr. Dragan Antić - University of Niš, Serbia

Prof. Dr. Nikolay Stoyanov - University of Mining and Geology "St. Ivan Rilski",
Bulgaria

Assoc. Prof. Dr. Gabrijela Popović - Megatrend University, Serbia

Prof. Dr. Nartsislav Petrov - Institute of Organic Chemistry, BAS, Bulgaria

Assoc. Prof. Dr. Yassen Gorbounov - University of Mining and Geology "St. Ivan
Rilski", Bulgaria

Prof. Dr. Susana Arad - University of Petroșani, Romania

Prof. D.Sc. Yuli Radev - University of Mining and Geology "St. Ivan Rilski", Bulgaria

Prof. D.Sc. Viola Vambol - BSP University, Berdiansk, Ukraine

Prof. Dr. Guelhan Özbayoğlu - Middle East Technical University, Ankara, Turkey