



第九届能源、资源、环境与可持续发展国际会议

The 9th International Conference on Energy, Resources, Environment and Sustainable Development

CONFERENCE PROGRAM

Energy, Resources, Environment and Sustainable Development
in the Context of Carbon Peaking and Carbon Neutrality

May 26-27, 2022 Xuzhou, China



Agenda of the 9th International Conference on Energy, Resources, Environment and Sustainable Development

Time (GMT+8)	Agenda	
Opening Ceremony (May 26, Thursday)		
Venue: CUMT Main Library		Live Available: http://eresd.cn/live.html
8:30-9:00	Moderator: Prof. Zhengfu BIAN <i>Chair of ERES D 2022 Organizing Committee, Vice President of China University of Mining and Technology</i>	
Plenary Session (May 26, Thursday)		
Venue: CUMT Main Library		Live Available: http://eresd.cn/live.html
Moderator: Prof. Yong XUE <i>Academician of the International Eurasian Academy of Sciences, Professor of China University of Mining and Technology</i>		
9:00-9:10	Assessment of the Role of the State in the Management of Mineral Resources Prof. Vladimir Litvinenko (Russia) <i>Full Member of the International Academy of Sciences of Higher Education, Academician of the Russian Academy of Natural Sciences, Chairman of the Governing Board of International Competence Center for Mining-Engineering Education under the Auspices of UNESCO, Rector and Professor of Saint Petersburg Mining University</i>	
9:10-9:40	Green and Low Carbon Building Materials Prof. Changwen MIAO (China) <i>Academician of the Chinese Academy of Engineering, Chairman of the International Green Building Alliance, Professor of Southeast University</i>	
9:40-10:10	Initiatives of AGH UST in the Field of Resources, Energy and Climate Policy of Poland and the EU Prof. Jerzy Lis (Poland) <i>Member of the Polish Academy of Sciences, Rector of AGH University of Science and Technology</i>	
Break		
10:30-11:00	Underground Space Use for Sustainable Urban Development - the Singapore Experience Prof. Yingxin ZHOU (Singapore) <i>Fellow of the Academy of Engineering Singapore and Fellow of the International Society for Rock Mechanics and Engineering (ISRM)</i>	
11:00-11:20	Lunar Mining Ideas Can Transform Earth Mines Prof. Jan Cilliers (UK) <i>Fellow of the UK Royal Academy of Engineering, Professor of Imperial College London</i>	
11:20-12:00	Driving the Electric Revolution--A Pathway to Net Zero Prof. Xibo YUAN (China) <i>Professor of China University of Mining and Technology</i>	
Technical Sessions (May 26, Thursday)		Technical Sessions (May 27, Friday)
14:00-18:00	<ol style="list-style-type: none"> 1. Resource Development and Utilization 2. Environmental Science and Engineering 3. Energy and Sustainable Green Development 4. Energy Science and Technology 5. Intelligent Equipment and Technology 6. Occupational Safety and Health 7. Mineral Materials and Advanced Energy Materials 8. Public Security and Emergency Management 9. Clean Processing and Conversion of Energy Resources 10. Resource Development and Utilization of Underground Space 11. Green and Low-carbon Technology for Urban and Rural Construction <p style="color: #A52A2A; font-style: italic;">See Session Program</p>	<ol style="list-style-type: none"> 1. Resource Development and Utilization 2. Environmental Science and Engineering 3. Energy and Sustainable Green Development 4. Energy Science and Technology 5. Intelligent Equipment and Technology 6. Occupational Safety and Health 7. Mineral Materials and Advanced Energy Materials 8. Public Security and Emergency Management 9. Clean Processing and Conversion of Energy Resources 10. Resource Development and Utilization of Underground Space 11. Green and Low-carbon Technology for Urban and Rural Construction <p style="color: #A52A2A; font-style: italic;">See Session Program</p>
Closing Ceremony (May 27, Friday)		
Venue: CUMT Main Library		Live Available: http://eresd.cn/live.html
17:00-18:00	Closing Ceremony	

第九届能源、资源、环境与可持续发展国际会议日程安排

时间	日程安排	
开幕式（5月26日，星期四）		
地点：中国矿业大学南湖校区图书馆报告厅		官网直播： http://eresd.cn/live.html
8:30-9:00	主持人：卞正富教授 大会组委会主席、中国矿业大学副校长	
全体会议（5月26日，星期四）		
地点：中国矿业大学南湖校区图书馆报告厅		官网直播： http://eresd.cn/live.html
主持人：薛勇教授 国际欧亚科学院院士、中国矿业大学教授		
9:00-9:10	评估矿产资源管理中国的作用 <i>Vladimir Litvinenko</i> 教授（俄罗斯） 国际高等教育科学院院士、俄罗斯自然科学院院士、联合国教科文组织国际矿业工程教育能力中心监事会主席、俄罗斯圣彼得堡矿业大学校长	
9:10-9:40	绿色低碳建筑材料 缪昌文教授（中国） 中国工程院院士、国际绿色建筑联盟主席、东南大学教授	
9:40-10:10	AGH 科技大学在波兰和欧盟资源、能源和气候政策领域的倡议 <i>Jerzy Lis</i> 教授（波兰） 波兰科学院院士、AGH 科技大学校长	
休息		
10:30-11:00	地下空间利用对城市可持续发展的作用——新加坡的经验 周迎新教授（新加坡） 新加坡工程院院士、国际岩石力学与工程学会（ISRM）会士	
11:00-11:20	月球采矿理念将改变地球的采矿业 <i>Jan Cilliers</i> 教授（英国） 英国皇家工程院院士、伦敦帝国理工学院教授	
11:20-12:00	电气化革命——实现碳中和的途径 原熙博教授（中国） 中国矿业大学电气工程学院教授	
分会场会议（5月26日，星期四）		分会场会议（5月27日，星期五）
14:00-18:00 详见官网分会日程	<ol style="list-style-type: none"> 资源开发与利用 环境科学与工程 能源与可持续绿色发展 能源科学与技术 智能化装备与技术 职业安全与健康 矿物与先进能源材料 公共安全与应急管理 能源资源清洁加工与转化 地下空间资源开发与利用 城乡建设绿色低碳技术 	<ol style="list-style-type: none"> 资源开发与利用 环境科学与工程 能源与可持续绿色发展 能源科学与技术 智能化装备与技术 职业安全与健康 矿物与先进能源材料 公共安全与应急管理 能源资源清洁加工与转化 地下空间资源开发与利用 城乡建设绿色低碳技术
闭幕式（5月27日，星期五）		
地点：中国矿业大学南湖校区图书馆报告厅		官网直播： http://eresd.cn/live.html
17:00-18:00	闭幕式	



Session Topics 10: Resource Development and Utilization of Underground Space

时间: 5月26日下午 14:10-18:25

5月27日上午 08:30-12:20

5月27日下午 14:00-16:30

地点: 深部岩石力学与地下工程国家重点实验室 303 会议室、305 会议室

官网: www.eresd.cn

➤ Time (GMT+8): May 26, Thursday

Time	Title
Moderator: Shengqi YANG	
14:10-14:25	Opening Ceremony for 10th Parallel Session (Ranjith PG, Yingxin ZHOU, Zhanguo MA)
Moderator: Ranjith PG	
14:25-14:55	Towards Sustainability and Low Carbon: Singapore Prospective CF Leung, National University of Singapore
14:55-15:25	Reservoir-Condition Pore-Scale Imaging of Multiphase Flow in Porous Rocks Guanglei ZHANG, Imperial College London
15:25-15:55	The Field Enriched Finite Element Method for Crack Propagation and Coalescence Xiaoping ZHOU, Wuhan University
Moderator: Shengqi YANG	
15:55-16:25	Induced Seismicity in Deep Rock Excavation: Implications and Challenges Wei WU, Nanyang Technological University
16:25-16:45	Underground Workings Wet Floor Heave Modelling – the New Method Piotr Malkowski, AGH University of Science and Technology
16:45-17:05	A Real-Time Arrivals Picker for Microseismic Waveforms Based on Deep Learning Bingrui CHEN, Institute of Rock and Soil Mechanics, Chinese Academy of Sciences
17:05-17:25	Modern Tendencies in Developing the Theory of Endurance of Geomaterials and Reverse Problems of Nonlinear Geomechanics Chanyshv Anvar Ismagilovich, Federal State Budgetary Institution of Science Institute of Mining named after N. A. Chinakal, Siberian Branch of the Russian Academy of Sciences Novosibirsk, Russian Federation
Moderator: Wei WU	
17:25-17:40	Concept of an Integrated Registration Approach for Underground Cavities Malte Jan Michael Gurgel, RWTH Aachen University



17:40-17:55	Cooperative Project (CUMT, RWTH) on an Underground Pumped Storage Power Plant (UPSP) Maike Kroll , RWTH Aachen University
17:55-18:10	Determination of Dynamic Biot's Coefficient for a Sandstone from Kielce, Świętokrzyskie, Poland Mohammad Zamani Ahmad Mahmoudi , AGH University of Science and Technology
18:10-18:25	Transformation into Museums as the Chance of Second Life for Former Coal Mines in Poland: Social Aspects of Projects Lucja Kapralska , AGH University of Science and Technology

➤ **Time (GMT+8): May 27, Friday**

Time	Title
Moderator: Hanpeng WANG	
08:30-08:50	Research on Four-Dimensional Efficient Construction and Reuse of Underground Space in Deep Coal Mines Zhanguo MA , China University of Mining and Technology
08:50-09:10	Uncertainty Analysis for the Heat Production from a Heterogeneous Artificial Geothermal Reservoir Jianguo WANG , China University of Mining and Technology
09:10-09:30	Deformation and Failure Behavior of Transversely Isotropic Composite Rock under Different Confining Pressures Shengqi YANG , China University of Mining and Technology
09:30-09:50	Correlation between Fluid Injection and Induced Seismicity in Faulted Geothermal Reservoirs: Insights from Data-Driven Analyses and Numerical Modelling Wu CAI , China University of Mining and Technology
Moderator: Zhanguo MA	
09:50-10:05	Experimental Investigation into the Mechanical Behaviour of Jointed Rock Using Sand Powder 3D Printing Lishuai JIANG , Shandong University of Science and Technology
10:05-10:20	Temporal and Spatial Distribution Characteristics of Hydraulic Crack Propagation under True Triaxial Loading Using the Direct Current Method Nan LI , China University of Mining and Technology
10:20-10:35	Strong Sliding Floor Heave Mechanism and Active Anti-Sliding Controlling Technology of Concrete Filled Steel Tube Pile in Deep Roadway Lihui SUN , Hebei University of Engineering
10:35-10:50	Evaluation of Carbon Dioxide Geological Sequestration Potential in Coal Mining Area Shiqi LIU , China University of Mining and Technology
Moderator: Wu CAI	
10:50-11:05	Mechanical Behavior of Sandstone Specimens Saturated in Brine: Experimental Study and Particle Mechanics Approach Yanhua HUANG , China University of Mining and Technology
11:05-11:20	Mechanical Behavior of Thermal Treated Granite under Cyclic Loading-Unloading Compression Investigated by GBM2D Wenling TIAN , China University of Mining and Technology



11:20-11:30	The Thermo-Hydro-Mechanical (T-H-M) Coupled Effect on the Macro Mechanical Response of the Granite and its Meso-Mechanism Mengyi LI , Wuhan University
11:30-11:40	Effect of Permeable and Anisotropic Coal Reservoirs on CO₂-ECBM Ziliang WANG , China University of Mining and Technology
Moderator: Shiqi LIU	
11:40-11:50	Comparison of Various Rock-Physical Elastic Parameters in Surrounding Rock Classification Haicheng XU , China University of Mining and Technology
11:50-12:00	Experimental Study on Rock Breaking with Conical Pick and Abrasive Water Jet Gridding Pre-Cutting Combined Method Xin ZHOU , China University of Mining and Technology
12:00-12:10	Experimental Study of Acoustic Emission Multi-Parameter Information Characterizing Rock Crack Development Jing YANG , China University of Mining and Technology
12:10-12:20	Study on Mechanical Properties and Deformation of Coal under Different Confining Pressure and Strain Rate Ye LI , China University of Mining and Technology

➤ **Time (GMT+8): May 27, Friday**

Time	Title
Moderator: Xiaowei FENG	
14:00-14:20	Key Technology of Rock Mechanics Experiment with Multi Strain Rate Dynamic and Static Load Superposition Hanpeng WANG , Shandong University
14:20-14:40	Pendulum Type Waves and Present Problems of Mechanico-Mathematical Modelling Aleksandrova N.I. , Federal State Budgetary Institution of Science Institute of Mining named after N. A. Chinakal, Siberian Branch of the Russian Academy of Sciences Novosibirsk, Russian Federation
14:40-14:55	Analysis of Stability Tunnel Based on Rock Mass Classification in Kalilingseng Kulon Progo Singgih Saptano , Universitas Pembangunan Nasional Veteran Yogyakarta
14:55-15:05	Acoustic Emission (AE) Characteristics of Rock under the Disturbance Stress Paths Donghao LAN , China University of Mining and Technology
15:05-15:15	Study on the Characteristics of the Anchorage Body under Combined Deformation Fengyu ZHOU , China University of Mining and Technology
Moderator: Jianguo WANG	
15:15-15:30	The Influence of Bond Properties on Rock Bolt Pull-Out Test Xiaowei FENG , China University of Mining and Technology
15:30-15:40	Seismic-Derived Discrete Fracture Networks Method to Understand the Correlation between Fluid Injection and Induced Seismicity in Faulted Geothermal Reservoirs Min Zhou , China University of Mining and Technology
15:40-15:50	Research on Support Design of Jointed Rock Roadway Based on



	Bonded Block Model and Hybrid Bolt Components in 3DEC Ruijie WANG , China University of Mining and Technology
15:50-16:00	Experimental Study on Pavement Base Performance of Cement and Fly Ash Stabilized Slag-Coal Gangue Pengfei YAN , China University of Mining and Technology
16:00-16:20	Tectonic Classification and Deep Structure of Consolidated Basement and Platform Cover of North Eurasia Alexandr S. Egorov , St. Petersburg Mining University
16:20-16:30	Analysis of Wear Mechanism and Prediction of Wear Quantity of Disc Hob of Shield Machine Penghui ZHANG , Qingdao University of Technology