

# **23rd International Multidisciplinary Scientific GeoConference (SGEM 2023)**

Science and Technologies in Geology,  
Exploration and Mining

SGEM International Multidisciplinary Scientific GeoConference  
Volume 23, Issue 1.1

Albena, Bulgaria  
3 - 9 July 2023

**Editors:**

**Oleksandr Trofymchuk  
Baiba Rivza**

ISBN: 978-1-7138-7477-5

**Printed from e-media with permission by:**

Curran Associates, Inc.  
57 Morehouse Lane  
Red Hook, NY 12571



**Some format issues inherent in the e-media version may also appear in this print version.**

Copyright© (2023) by SGEM WORLD SCIENCE (SWS) Scholarly Society  
All rights reserved.

Printed with permission by Curran Associates, Inc. (2023)

For permission requests, please contact SGEM WORLD SCIENCE (SWS) Scholarly Society  
at the address below.

SGEM WORLD SCIENCE (SWS) Scholarly Society  
10/11 Gerlgasse  
Vienna 1030, Austria

Phone: +359 2 405 18 41

Fax: +359 2 405 18 65

[sgem@sgem.org](mailto:sgem@sgem.org)

**Additional copies of this publication are available from:**

Curran Associates, Inc.  
57 Morehouse Lane  
Red Hook, NY 12571 USA  
Phone: 845-758-0400  
Fax: 845-758-2633  
Email: [curran@proceedings.com](mailto:curran@proceedings.com)  
Web: [www.proceedings.com](http://www.proceedings.com)

## CONFERENCE PROCEEDINGS CONTENTS

### GEOLOGY

---

1. **A NEW APPROACH TO THE FORECAST OF PORPHYRY COPPER DEPOSITS ON THE BURIED TERRITORIES OF KAZAKHSTAN**, Ress. Assist Daulet Muratkhanov, Assoc. Prof. Dr. Maxat Kembayev, Ress. Assist Rais Sayat .....3
2. **APOLLONIA PONTICA DURING THE AGES. FUTURE RESEARCH PERSPECTIVES**, Assoc. Prof. Dr. Preslav Peev, Dr. Bogdan Prodanov ..... 11
3. **DYNAMICS OF ORE-FORMING PROCESSES IN CASE OF KAZAKHSTAN’S GOLD ORE DEPOSITS**, Dr. Umarbekova Z.T., Dr. Antonenko A.A., Dr. Mashrapova M.A., Miniskul Sh.D., Shamsutdin D..... 19
4. **GEOCHEMICAL CHARACTERISTICS OF MANGANESE MINERALIZATION FROM THE POZHAREVO DEPOSIT, WESTERN SREDNOGORIE ZONE, BULGARIA**, Assoc. Prof. Dr. Atanas Hikov, Dr. Kalin Kouzmanov, Ress. Assist Silvia Chavdarova, Assis. Prof. Milen Stavrev .....25
5. **GEOCHEMISTRY OF ALKALINE SPRINGS AND ULTRAMAFIC TO MAFIC ROCKS IN BOTOLAN, ZAMBALES: SIGNIFICANCE TO CARBON SEQUESTRATION**, Marylie Teresita G. Vergara, Valkyrie Arcee M. Cabalo, Dr. Maria Carmencita B. Arpa.....33
6. **GEOLOGY AND PROSPECTS OF THE SHU-ILE BELT GRANITOIDS AS BUILDING MATERIALS (SOUTH KAZAKHSTAN)**, Ress. Assist Sayat Rais, Assoc. Prof. Dr. Maxat Kembayev, Ress. Assist Kanat Bulegenov .....43
7. **GEOLOGY OF PERMIAN GRANITES OF THE KARATAU-NARYN ZONE AND THEIR PROSPECTIVE FOR RARE METALS (SOUTH KAZAKHSTAN)**, Ress. Assist Kanat Bulegenov, Ress. Assist Sayat Rais, Ress. Assist Daulet Muratkhanov.....49
8. **LOCATION IMPROVEMENTS FOR THE TWIN CRUSTAL EARTHQUAKES RECORDED ON FEBRUARY 2023 IN GORJ COUNTY, ROMANIA**, Dr. Mircea Radulian, Dr. Mihaela Popa, Ress. Assist Raluca Dinescu, Dr. Andrei Bala.....57
9. **LONG-TERM DYNAMICS OF THE HARMANI-SOZOPOL BEACH-DUNE SYSTEM, BULGARIAN BLACK SEA COAST**, Dr. Bogdan Prodanov.....65

<b>10. MINERALOGY AND PROCESSING OF ACCUMULATED TAILINGS OF KAZAKHSTAN BENEFICIATION FACTORIES AS TECHNOGENIC ORES,</b> Prof. DSc Adilkhan Baibatsha, Assoc. Prof. Dr. Alma Bekbotayeva, Assoc. Prof. Dr. Maxat Kembayev, PhD Yerkhozha Mamanov, Mrs Zakira Baibatchayeva .....	77
<b>11. NEW DATA ON MINERALS WITH ECONOMIC POTENTIAL PRESENT IN LITHIUM PEGMATITES FROM CONȚU – NEGOVANU, CIBIN (CINDREL) MOUNTAINS, CENTRAL GROUP, SOUTHERN CARPATHIANS, ROMANIA,</b> Dr. Călin N., Dr. Constantina C., Perșă D. ....	85
<b>12. ON THE PLUME-TECTONIC NATURE OF THE GEOLOGICAL STRUCTURE OF THE SHU-ILE REGION OF KAZAKHSTAN,</b> Assoc. Prof. Dr. Maxat Kembayev, Ress. Assist Daulet Muratkhanov, Ress. Assist Sayat Rais.....	93
<b>13. PETROLOGY AND GEOCHEMISTRY OF THE FELSIC HYPABYSSAL MAGMATISM IN NORTHERN PORTUGAL (CENTRAL IBERIAN ZONE),</b> Ress. Assist António Oliveira, Assoc. Prof. Dr. Helena Martins, Assoc. Prof. Dr. Helena Sant’Ovaia .....	101
<b>14. PROSPECTS OF COMPUTER SIMULATION GEOLOGICAL STRUCTURES FOR FORECASTING MINERAL RESOURCES,</b> Dr. Yerkhozha Mamanov, Assoc. Prof. Dr. Maxat Kembayev, Dr. Saltanat Assubayeva .....	109
<b>15. PROSPECTS OF THE MEDVEDKO-AKHMETKINSKY ORE FIELD FOR RARE METAL LITHIUM MINERALIZATION (EAST KAZAKHSTAN),</b> PhD T. Oitseva, Assoc. Prof. M. Mizernaya, PhD O. Kuzmina .....	115
<b>16. PYROXENE MINERAL CHEMISTRY OF A MICROGABBRO DYKE FROM VILA NOVA DE FOZ CÔA (NORTHERN PORTUGAL),</b> Ress. Assist António Oliveira, Assoc. Prof. Dr. Helena Martins, Assoc. Prof. Dr. Helena Sant’Ovaia .....	123
<b>17. RARE-EARTH MINERALIZATION IN GRANITES OF THE NORTH-EAST OF THE VERKHOYANSK-KOLYMA OROGEN,</b> Dr. Vera Trunilina.....	133
<b>18. SEABED FORMS AND SUBSTRATE MAPPING OF THE NESSEBAR AND POMORIE BAYS. SOUTHERN BULGARIAN BLACK SEA SECTOR,</b> Ress. Assist Lyubomira Trendafilova, Ress. Assist Martin Ivanov, Plamen Mihovsky .....	147
<b>19. SEISMIC PROSPECTING FOR THE RECEPTION OF SOUND WAVES, THE GEOPHONE,</b> Prof. Dr. Mariana Jurian, Mr. Enis Muslim.....	159
<b>20. SPELEO-GEOMORPHOLOGICAL AND GEOPHYSICAL INVESTIGATIONS IN THE SOUTHERN PART OF THE ASKHI LIMESTONE MASSIF, GEORGIA, CAUCASUS,</b> Dr. Zaza Lezhava, Dr. Lasha Asanidze, Dr. Kukuri Tsikarishvili, Dr. Tamaz Karalashvili, Tamar Tolordava .....	165

**21. THE LIMESTONES FROM THE WALLS OF SEVERAL DOBROGEAN FORTRESSES AND THEIR POSSIBLE EXTRACTION AREA**, Res. Assist Livanov O., Dr. Banescu A., Simionov M., Pindic P., Dr. Tudor M. ....173

**22. THE POSSIBLE INFLUENCE OF THE DAM BREACH OF THE KAKHOVSKE RESERVOIR ON THE DEVELOPMENT OF THE SHORES OF THE DNIPROVSKO-BUZKY LIMAN**, Assoc. Prof. Dr. Oleksiy Davydov, Assoc. Prof. Dr. Alla Piatkova, Res. Assist Andrii Cherniavskiy .....181

## **HYDROGEOLOGY, ENGINEERING GEOLOGY AND GEOTECHNICS**

---

**23. ASSESSMENT OF THE NAKAMURA'S VULNERABILITY INDEX OF AN EARTHEN DAM, FROM AMBIENT NOISE RECORDINGS**, Assist. Prof. Emil Oynakov, PhD, Assoc. Prof. Radan Ivanov, PhD, Assoc. Prof. Irena Aleksandrova, PhD, Yordan Milkov – Specialist Data Processing, Assist. Prof. Maria Popova, PhD .....191

**24. BENDING OF AN ELASTIC ENDLESS PLATE CONSIDERING THE CONTACT WITH AN ELASTIC SUBGRADE**, Assoc. Prof. Katarina Tvrda .....199

**25. DISRUPTIVE TECHNOLOGY FACILITY OPTIONS IN A COMPLEX INFRASTRUCTURE ENVIRONMENT**, Assoc. Prof. PhD Kosta Prodanov .....207

**26. GEOTECHNICAL TECHNIQUES FOR MARITIME RESEARCH**, Prof. Dr. Mariana Jurian, Mr. Enis Muslim.....217

**27. INVESTIGATION OF GROUND VIBRATIONS INDUCED BY IMPACT PILES DRIVING**, Dr. Svetlana Polukoshko .....225

**28. SLOPES STABILITY STUDIES EXCAVATED IN A ROCK MASSES. CASE OF AHMED EL-HADJ QUARRY (LAFARGE)**, Prof. Dr. Mohamed Fredj, Prof. Dr. Riadh Boukarm, Prof. Dr. Abderrazak Saadoun, Dr. Radouane Nakache .....233

**29. STABILITY ANALYSIS OF HAZARDOUS WEDGES IN THE CROWN OF CIRCULAR TUNNEL**, Assist. Prof. Dr. George Xiroudakis, Dr. Ilias Lazos .....243

**30. STABILITY PROBLEMS WITH A WEAK GROUND BASE**, Assist. PhD. Rafail Rafailov .....251

**31. STEEL STRUCTURES IN URBAN INFRASTRUCTURE PREVENTION**, Assoc. Prof. PhD Kosta Prodanov .....259

**32. SYSTEM FOR RISK MANAGEMENT, PREVENTION AND PROTECTION ON ROAD INFRASTRUCTURE SLOPES**, Prof. Dr. Nikolay Zhetchev .....269

**33. THE HALF-TUNNEL - AN ALTERNATIVE FOR THE PREVENTION OF EXISTING FORTIFICATIONS**, Assist. PhD. Rafail Rafailov .....277

**34. THE LOCALIZED METHOD OF FUNDAMENTAL SOLUTIONS FOR PLANAR GROUNDWATER FLOW PROBLEMS**, Assoc. Prof. Dr. Juraj Muzik .....285

## **EXPLORATION AND MINING**

---

**35. 3D MODELING OF THE ROSIA POIENI ORE DEPOSIT USING THE LEAPFROG GEO PROGRAM**, Assist. Prof. Dr. Eng. Dorel Gusat, Prof. Dr. Eng. Ioan Bud, Eng. Mircea Goia, Eng. Roberto de la Rosa.....295

**36. A PRACTICAL STUDY ON THE AIR-SHOCK CONTROL IN URBAN MOTORWAY SLOPE EXCAVATIONS BY BLASTING**, Assoc. Prof. Dr. Ferdi Cihangir .....303

**37. ANALYSIS OF THE STABILITY OF THE CUIBARUL WASTE DUMP IN THE ROSIA POIENI MINING PERIMETER**, Assist. Prof. Dr. Dorel Gusat, Prof. Dr. Eng. Ioan Bud.....309

**38. EVALUATION OF THE SECURITY QUALITY OF SEMI-FINISHED PRODUCTS CONTAINING PYROTECHNIC ARTICLES DESTINED FOR THE AUTOMOTIVE SECTOR**, Dr. Dragos Gabriel Vasilescu, Dr. Daniela Rus, Eng. Narcis Popa, Dr. Gabriel Ioan Ilcea, Eng. Anton Darsy .....317

**39. EXPERIMENTAL RESEARCH ON ASSURANCE QUALITY BY SECURITY SPECIFIC TO PRODUCTS FROM THE INDUSTRY OF AUTOMOTIVE**, PhD. Eng. Cristian Rădeanu, PhD. Eng. Attila Kovacs, PhD. Eng. Dragoş Păsculescu, Res. Assist. Eng. Dan Pintilie, PhD. Eng. Ladislau Radermacher .....325

**40. EXPLOSION LIMITS EXPERIMENTAL DETERMINATION FOR GASOLINE, DIESEL FUEL AND ACETONE VAPORS**, Ph.D Chem. Maria Prodan, Ph.D Chem. Andrei Szolloşi-Moţa, Ph.D Chem. Eng. Irina Nalboc, Ph.D Phys. Sonia Suvar, Ph.D. Eng. Emilian Ghicloi .....333

**41. HIGH JEWELLERY PROCESSES TODAY: BETWEEN TRACEABILITY AND TECHNOLOGY**, PhD Francesca Antinarelli Freitas, Prof. Dr. Alba Cappellieri, PhD Beatrice Rossato, PhD Livia Tenuta, PhD Susanna Testa .....341

**42. IMPORTANCE OF STATIC TESTS FOR THE PREDICTION OF AMD POTENTIAL OF CEMENTED PASTE BACKFILL**, Assoc. Prof. Dr. Ferdi Cihangir, Res. Assist. Dr. Ercument Koc, Lecturer Mursel Orak, Res. Assist. Taha Yavuz Deveci, Prof. Dr. Bayram Ercikdi.....349

<b>43. IMPROVING EFFICIENCY OF DEVELOPMENT OF CARBONATE RESERVOIRS WITH THE COMBINED USE OF GEOCHEMICAL METHODS, RESERVOIR SIMULATION AND GEOMECHANICAL MODELING</b> , Maria Shipaeva, Vladislav Sudakov, Zulfiya Guskova, Artur Shakirov, Rizid Minebaev .....	357
<b>44. MODEL STRUCTURE AND PARAMETER IDENTIFICATION FOR CUTTING HORIZON PREDICTION OF SHEARER LOADERS</b> , Mirjam Holm, Prof. Dr. Christian Bohn.....	365
<b>45. NORTH EASTERN YAKUTIA GOLD MINERAL RAW MATERIAL BASE: ANALYSIS, EVALUATION AND PROSPECTS</b> , Batugina N. S., Khoiutanov E. A.....	373
<b>46. NUMERICAL MODELLING OF THE ACCUMULATION OF NITROGEN OXIDES IN DEAD-END AND MAIN WORKINGS</b> , PhD (Eng.) Pavel Amosov ..	383
<b>47. DETERMINATION OF THE PHYSICO-CHEMICAL PROPERTIES OF LYCOPODIUM AND STARCH COMBUSTIBLE POWDER</b> , Phd. chem. Andrei Szollosi-Moța, Phd. chem. Maria Prodan, Phd. eng. chem. Vasilica Irina Nălboc, Phd. phys. Niculina Sonia Șuvar, Tehn. Asimina Iuliana Toplician .....	391
<b>48. RESEARCH IN THE FIELD OF HYBRID DETECTION OF INDUSTRIAL EXPLOSIVES FOR THE SECURITY OF LOCATIONS</b> , Dr. Daniela Rus, Dr. Dragos Gabriel Vasilescu, Eng. Iuliana Claudia Miron, Eng. Ilie Ciprian Jitea, Eng. Nicolae Narcis Popa .....	399
<b>49. RESEARCH ON THE LOCAL EFFECTS OF THE DETONATION OF IMPROVISED EXPLOSIVE DEVICES ON THE STEEL BUILDING FRAMES</b> , Res. Assist. Ciprian Jitea, Phd. Attila Kovacs, Phd. Emilian Ghicioi, Phd. Edward Gheorghiosu, Prof. Florea Dinu .....	407
<b>50. ROMANIAN COAL AND THE ENERGY TRILEMA</b> , Dr. Cristian Tomescu, Dr. Doru Cioclea, Dr. Marius Morar, Assoc. Prof. Dr. Sorina Stanila, Res. Assist Alexandru Camarasescu .....	415
<b>51. STABILITY EVALUATION SYSTEM OF DISUSED MINE SHAFTS IN OSTRAVA BASIN</b> , Ing. Juraj Kotrbaneč.....	423
<b>52. STREAMLINING THE ACTUATION OF HEAVY AND HIGH-MAGNITUDE DYNAMIC LOAD HYDRAULIC CYLINDERS IN THE FIELD OF EXPLORATION AND MINING</b> , PhD. Eng. Teodor Costinel Popescu, PhD. Stud. Eng. Alexandru-Polifron Chiriță, Res. Assist. Ana-Maria Carla Popescu, Dipl. Eng. Alina Iolanda Popescu.....	431

- 53. STUDY THE INFLUENCE OF THE CHOICE OF BLASTING ZONES ON THE ROCK FRAGMENTATION QUALITY AND THE STABILITY OF BENCHES IN OPEN-PIT MINING BY NUMERICAL MODELING**, Prof. Dr. Abderrazak Saadoun, Prof. Dr. Riadh Boukarm, Prof. Dr. Mohamed Fredj, Assoc. Prof. Dr. Yilmaz Isik .....439
- 54. TECHNICAL AND SAFETY ASPECTS FOR SETTING UP MOBILE EXPLOSIVES WAREHOUSES**, Ress. Assist Robert Laszlo, PhD. Edward Gheorghiosu, Eng. Stefan Ilici, PhD. Aurelian Nicola, Col. Stefan Usurelu .....447
- 55. TECHNICAL AND SCIENTIFIC CONSIDERATIONS BASED ON THE SAMPLING SYSTEM OF BATCHES OF EXPLOSIVE SUBSTANCES**, Ph.D.Eng Attila Kovacs, Ph.D.Eng Cristian Radeanu, Eng. Daniela Furdui, Eng. Anton Darsy, Eng. Dan- Dumitru Pintilie.....457
- 56. TECHNICAL SOLUTIONS AND RESULTS OBTAINED IN THE DEMOLITION BY BLASTING WORKS OF TALL STRUCTURES LOCATED IN VERY CONGESTED AREAS**, Eng. Stefan Ilici, Ress. Assist Robert Laszlo, Eng. Claudia Miron, PhD. Aurelian Nicola, Eng. Miklos Levente .....463
- 57. THE DYNAMICS OF METHANE EVACUATION FROM CLOSED ENCLOSURES**, Dr. Doru Cioclea, Dr. Cristian Tomescu, Dr. Adrian Matei, Dr. Răzvan Drăgoescu, Dr. Alexandru Cămărășescu .....473
- 58. THE PERFORMANCE OF EXCAVATORS IN THE OVERBURDEN OF SOUTH-WEST SIBOVČ FIELD IN KOSOVO**, Ujmir Uka, Kemajl Zeqiri, Risto Dambov .....481
- 59. UPDATING THE LONEA MINE VENTILATION NETWORK USING THE VENTSIM VISUAL ADVANCED PROGRAM**, PhD. Eng. Corneliu Boantă, PhD. Eng. Ion Gherghe, PhD. Eng. Florin Rădoi, PhD. Eng. Nicolae Ianc, PhD. Eng. Alexandru Cămărășescu .....487
- 60. VENTILATION OF THE OSTRAVA-KARVINÁ COAL MINE IN ORDER TO ENSURE THE OPERATION AND EXTRACTION DURING MINING IN THE CZECH REPUBLIC**, Mgr. Bc. Petra Vrtalová, Ing. David Palička, Doc. Ing. Martin Hrinko, Ph. D., MBA, LL.M., Ing. Jan Bubník .....495
- 61. WHOLE BODY VIBRATION EXPOSURES BETWEEN DIFFERENT QUARRY SITE VEHICLES: A CASE STUDY**, Alfaro Degan, Guido; Antonucci, Andrea; Coltrinari, Gianluca; Lippiello, Dario .....503

## **MINERAL PROCESSING**

---

- 62. CHECKING THE STANDS OF THE CONTINUOUS CASTING MACHINE WITH A TOTAL STATION**, PhD. Oleksandr Adamenko, Oleksiy Martynov.....513



---

**APPLIED AND ENVIRONMENTAL GEOPHYSICS**


---

- 63. ASSESSMENT OF SEISMOACTIVE LAYERS IN ELBASANI GEOTHERMAL ZONE, ALBANIA**, Prof.Dr. Rrapo Ormeni, Dr. Ethem Bejko, Dr. Albana Hasimi, Dr. Klodjan Skrame, Msc. Dionald Mucaj.....525
- 64. AZOREAN LAVA TUBE SYSTEMS: A PROPOSAL FOR A NEW PLANETARY ANALOG SITE TOWARDS FUTURE LUNAR AND MARTIAN EXPLORATION RESEARCH**, Dr. Ana Cristina Pires, Assoc. Prof. Rui Moura, Assist. Prof. João Carlos Nunes, MSc Paulo Barcelos, M.D. Pedro Caetano, Assoc. Prof. Pedro Quinteiro, Dr. Aidyl S. Gonzalez-Serricchio, MPH Yvette Gonzalez, Dr. Slávka Andrejkovičová, MSc Paul Niel, Coord. Prof. Helder I. Chaminé .....533
- 65. CONSEQUENCES ON PEOPLE AND THE BUILDING STOCK OF A STRONG EARTHQUAKE FOR THE CITY OF VARNA**, Assoc. Prof. Dr. Dimitar Stefanov, Prof. DSc. Dimcho Solakov, Arch. Jordan Milkov.....541
- 66. DEPLOYMENT OF OBS IN THE ARCTIC SEAS: APPLYING FINDINGS TO THE STUDY OF MARINE GEOHAZARDS**, Dr. Artem A. Krylov, Dr. Konstantin A. Roginskiy .....549
- 67. DETERMINATION OF THE DYNAMIC AND FRACTAL CHARACTERISTICS OF TIME SERIES FROM A SEPARATE SEISMIC ENERGY SOURCE IN THE BALKAN PENINSULA**, Assist. Prof. Emil Oynakov, PhD, Assist. Prof. Maria Popova, PhD, Assoc. Prof. Dr. Irena Aleksandrova, Yordan Milkov – Specialist Data Processing.....557
- 68. GENERAL CHARACTERISTICS OF THE CAPELINHOS VOLCANO (AZORES ISLANDS, PORTUGAL) AS A NEW PLANETARY ANALOG SITE AIMED AT SPACE EXPLORATION RESEARCH**, Assoc. Prof. Rui Moura, Dr. Ana Cristina Pires, Dr. Marina Cabral Pinto, Assist. Prof. João Carlos Nunes .....565
- 69. MIFIRE- A PLANETARY GEOLOGY AND GEOPHYSICS RESEARCH PROJECT USING A SUBORBITAL MICROGRAVITY SPACEFLIGHT**, Assoc. Prof. Rui Moura, PhD Ana Cristina Pires, Vitor Martins, Maria Cristina Marques, Ana Caldeira, Ivan Sá, Diogo Machado.....573
- 70. NEAR-REAL TIME SOURCE PARAMETERS ESTIMATION OF THE INTENSE SEISMIC SEQUENCE RECORDED IN 2023 - TG. JIU AREA, ROMANIA**, Dr. Marius Craiu, Dr. Andreea Craiu, Dr. Marmureanu Alexandru, Dr. Diaconescu Mihail, Phd. Mihai Marius.....581
- 71. REGION-TIME-MAGNITUDE ANALYSES OF EARTHQUAKE ACTIVITY IN THE ELBASANI GEOTHERMAL ZONE, ALBANIA**, Prof. Dr. Rrapo Ormeni, Prof. Dr. Serkan Öztürk, Dr. Albana Hasimi, Dr. Erald Silo, Dr. Elvin Como .....589

**72. STRESS FIELD IN TARGU JIU SEISMOTECTONIC AREA (ROMANIA): INSIGHTS FROM THE INVERSION OF EARTHQUAKE FOCAL MECHANISMS**, Dr. Andreea Craiu, Dr. Mihail Diaconescu, Dr. Marius Craiu, Phd. Marius Mihai, Dr. Alexandru Marmureanu .....601

**73. THE GEOMAGNETIC STORM ON MARCH 13-14, 2022: SPECTRAL CHARACTERISTICS IN ULRA-LOW FREQUENCY RANGE**, Assist Prof. Dr. Maria Chamati .....609

## **OIL AND GAS EXPLORATION**

---

**74. A CASE STUDY OF A SYNTHESIS GAS SYSTEM (H2) FAILURE IN AN AMMONIA PRODUCTION FACILITY**, Laurentiu Munteanu, Gheorghe-Daniel Florea, Bogdan-Adrian Simon-Marinica, Ligia-Ioana Tuhut, PhD Marius-Simion Morar.....619

**75. A PARALLEL BETWEEN THE TYPES OF PROTECTION FLAMEPROOF ENCLOSURE “d” AND INCREASED SAFETY “e” IN THE CONTEXT OF HYDROGEN EXPLOSIVE ATMOSPHERES**, Sc. Res. I PhD Eng. Lucian Moldovan, Sc. Res. I PhD Eng. Mihai Magyari, Assoc. Prof. PhD. Chem. Clementina Moldovan, Eng. Sorin Zsido .....627

**76. AUTO-IGNITION BEHAVIOR OF JP-5 SURROGATES IN A RAPID COMPRESSION MACHINE**, Prof. Wei-Cheng Wang, Prof. Cho-Yu Lee, Prof. Jung-Hung Chen, Jhe-Kai Lin, Rusdan Aditya Aji Nugroho.....635

**77. BLACK SEA GAS HYDRATES: RESOURCE ESTIMATION UPDATE**, Dr. Atanas Vasilev, Assoc. Prof. Dr. Nikola Botusharov, Rositsa Pehlivanova, Petar Petsinski, Eva Marinovska .....645

**78. CORE-SCALE ROCK TYPING USING CONVOLUTIONAL NEURAL NETWORKS FOR RESERVOIR CHARACTERIZATION IN THE PETROLEUM INDUSTRY**, Muhammad Sarmad, Johan Phan, Dr. Leonardo Ruspini, Assoc. Prof. Dr. Gabriel Kiss, Prof. Dr. Frank Lindseth.....653

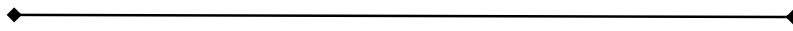
**79. EVALUATION OF THE EFFECT OF SURFACTANT ON SRB ACTIVITY DURING EOR**, Dr. Liliya Biktasheva, Alexander Gordeev, Ilsina Gilmutdinova, Prof. Dr. Svetlana Selivanovskaya, Prof. Dr. Polina Galitskaya.....665

**80. EVALUATION OF THE MEASUREMENT EFFECT IN THE PURGE TEST**, Ress. Assist Eng. Gabriela Pupăzan, PhD Eng. Tiberiu Csaszar, PhD Eng. Marius Darie, PhD Eng. Dănuț Grecea, Eng. Zoltan Vass.....673

- 81. FEATURES OF THE ARABIAN MONARCHIES OIL POLICY WITHIN OPEC+ IN THE CONTEXT OF SHIFTS IN THE WORLD OIL MARKET IN 2022-2023**, Leading scientific researcher, Assoc. Prof. Dr. Gurgen Gukasyan, Scientific researcher, Dr. Ali Nasser Khayder.....681
- 82. FLAMMABILITY AND COMPOSITION ANALYSIS FOR OIL PRODUCTS**, PhD. Phys. Niculina Sonia Şuvar, PhD. Chem. Maria Prodan, PhD. Chem. Eng. Irina Nălboc, PhD. Chem. Andrei Szolloszi-Mota, PhD. Eng. Daniel Florea.....689
- 83. HAZARD FROM ELECTRIFICATION OF MATERIALS, COMPONENTS AND TECHNICAL EQUIPMENT INTENDED FOR USE IN POTENTIALLY EXPLOSIVE ATMOSPHERES**, Sc. Res. PhD Eng. Catalin Mihai Popa, Sc. Res. I PhD Eng. Florin Adrian Păun, Sc. Res. III PhD Eng. Dan Sorin Gabor, Sc. Res. Ress. Assist Eng. Mirela Ancuța Radu, Anca Alexandra Tazlauan.....697
- 84. IMPROVING THE EFFICIENCY OF PDC BITS IN OIL AND GAS DRILLING**, Ress. Assist. A.R. Borash, Assoc. Prof. L.K. Nurshakhanova, Assoc. Prof. M.T. Arshidinova, Senior Lecturer ZH. M. Kenzhgaliyeva, A.A. Zhanggirkhanova.....705
- 85. INFLUENCE OF INDEPENDENT EVALUATION OF INTERVAL VELOCITY MODEL ON QUALITY OF SEISMIC PRES DM IMAGE. CASE STUDY FROM EASTERN PART OF POLISH CARPATHIAN**, Adam Cygal, Prof. Dr Michał Stefaniuk, Dr. Tomasz Maćkowski, Michał Martuś, Krzysztof Pieniądz.....711
- 86. PILOT FIELD TESTS OF SHOCK-WAVE TREATMENT OF WELLS AT THE FIELDS OF JSC "OZENMUNAIGAS"**, Assoc. prof. Dr. Togasheva A.R. , Assoc. prof. Dr. Bayamirova R.Y. , Assoc. prof. Dr. Zholbassarova A.T., Assoc. prof. Dr. Sarbopeeveva M.D., Assoc. Prof. M.T. Arshidinova .....719
- 87. PREPARATION OF CALCULATION PARAMETERS ACCORDING TO LOGGING DATA FOR 19-24 PRODUCTIVE HORIZONS OF THE UZEN FIELD**, PhD, Assoc. Prof. Gulzada Umirova, PhD, Prof. Kuanysh Togizov, Akerke Muzapparova, Shyryn Kisseveva .....729
- 88. SURFACTANT–POLYMER FLOODING: GEOCHEMICAL MONITORING OF THE PROPERTIES OF FORMATION FLUIDS AT THE IMPACT AREA**, Maria Shipaeva, Vladislav Sudakov, Danis Nurgaliev, Dinar Mingazov, Anastasia Startseva .....743
- 89. THE DESIGN AND USE OF EQUIPMENT WITH INTRINSIC SAFETY "i" TYPE OF PROTECTION FOR DEVELOPING INDUSTRIAL ROBOTS USED FOR INSPECTIONS IN POTENTIALLY EXPLOSIVE ATMOSPHERES**, PhD Eng. Cosmin Colda, Ress. Assist Eng. Gabriela Pupăzan, Eng. Alexandru Beldiman, Eng. Gheorghe Marc.....751

**90. THE IMPORTANCE OF USING APPROPRIATE ELECTRICAL EQUIPMENT IN POTENTIALLY EXPLOSIVE ATMOSPHERES GENERATED BY HYDROGEN**, PhD. Eng. Dragoş Fotău, PhD. Eng. Lucian Moldovan, PhD. Eng. Marcel Rad, Eng. Sorin Zsido .....759

**91. THE RISK OF INITIATING EXPLOSIVE ATMOSPHERES BY ELECTROSTATIC DISCHARGES FROM MATERIALS AND TECHNICAL EQUIPMENT USED IN INSTALLATIONS WHERE HYDROGEN IS PRESENT**, Sc. Res. I PhD Eng. Florin Adrian Păun, Sc. Res. I PhD Eng. Adrian Marius Jurca, Sc. Res. I PhD Eng. Mihaela Părăian, Sc. Res. I PhD Eng. Mihai Cătălin Popa, Anca Alexandra Tăzlăuanu .....767



**SECTION GEOLOGY**

