

3rd World Multidisciplinary Earth Sciences Symposium (WMESS 2017)

IOP Conference Series: Earth and Environmental Science
Volume 95

Prague, Czech Republic
11 – 15 September 2017

Part 1 of 2

ISBN: 978-1-5108-5488-8
ISSN: 1755-1307

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© (2017) by the Institute of Physics
All rights reserved. The material featured in this book is subject to
IOP copyright protection, unless otherwise indicated.

Printed by Curran Associates, Inc. (2018)

For permission requests, please contact the Institute of Physics
at the address below.

Institute of Physics
Dirac House, Temple Back
Bristol BS1 6BE UK

Phone: 44 1 17 929 7481
Fax: 44 1 17 920 0979

techtracking@iop.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
Web: www.proceedings.com

TABLE OF CONTENTS

PART 1

SESSION I: TECTONICS & STRUCTURAL GEOLOGY, ENGINEERING GEOLOGY, GEOTECHNICS, HYDRO & HYDROGEOLOGICAL SCIENCES

ASSESSMENT OF THE ALTERATION OF GRANITIC ROCKS AND ITS INFLUENCE ON ALKALIS RELEASE	1
<i>Ana Rita Ferraz, Isabel Fernandes, Dora Soares, António Santos Silva, Mário Quinta-Ferreira</i>	
LABORATORY INVESTIGATION OF BURIED PIPES USING GEOGRID AND EPS GEOFOAM BLOCK	9
<i>O. Khalaj, M. Azizian, S. N. Moghaddas Tafreshi, B. Mašek</i>	
HYBRID STOCHASTIC FORECASTING MODEL FOR MANAGEMENT OF LARGE OPEN WATER RESERVOIR WITH STORAGE FUNCTION	19
<i>Tomas Kozel, Milos Stary</i>	
ON-LINE DATA TRANSMISSION, AS PART OF THE SEISMIC EVALUATION PROCESS IN THE BUILDINGS FIELD	25
<i>Claudiu Sorin Dragomir, Daniela Dobre, Iolanda Craifaleanu, Emil-Sever Georgescu</i>	
ASBESTOS UTILIZATION COSTS ON THE EXAMPLE OF FUNCTIONING LANDFILL OF HAZARDOUS WASTE	31
<i>Daria Polek</i>	
APPLICATION OF NATURAL MINERAL ADDITIVES IN CONSTRUCTION	36
<i>Malgorzata Linek, Piotr Nita, Pawel Wolka, Wojciech Zebrowski</i>	
COST-ASSESSMENT ANALYSIS OF LOCAL VEHICLE SCRAPPING FACILITY	46
<i>Lukasz Grabowski, Maciej Gliniak, Daria Polek, Maria Gruca</i>	
MONITORING AND ASSESSMENT OF WATER RETENTION MEASURES IN AGRICULTURAL LAND	52
<i>Roman Vřleta, Michaela Danáčová, Andrej Škrinár, Róbert Fencík, Kamila Hlavcová</i>	
ANALYSIS OF CAUSES OF UPLIFT ANOMALIES IN THE CIERNY VÁH SUBSOIL	62
<i>Emília Bednářová, Danka Gramblichová, Juraj Škvarka, Vlastimil Majercák, Ivan Slávik</i>	
STOCHASTIC MODELLING OF THE HYDRAULIC ANISOTROPY OF ASH IMPOUNDMENT SEDIMENT	70
<i>Ivan Slávik</i>	
INFLUENCE OF SURROUNDING SOIL CONDITIONS AND JOINT SEALING ON SEEPAGE RESISTANCE OF A SHEET PILE WALL, THREE DIMENSIONAL NUMERICAL ANALYSES	78
<i>Eugeniusz Sawicki, Marek Wyjadłowski</i>	
INFLUENCE OF THE PALAEO-LANDSLIDES ON THE PROJECT OF REHABILITATION OF A NATIONAL ROAD IN THE SOUTHERN CARPATHIAN AREA	87
<i>Daniel Mihăilescu, Emilia Milutinovici</i>	
METHODS OF MEASURING AND MAPPING OF LANDSLIDE AREAS	94
<i>Izabela Skrzypczak, Wanda Kokoszka, Janusz Kogut, Grzegorz Oleniacz</i>	
IMPROVING A DSM OBTAINED BY UNMANNED AERIAL VEHICLES FOR FLOOD MODELLING	103
<i>Sandra Mourato, Paulo Fernandez, Luísa Pereira, Madalena Moreira</i>	
PARTICLE SIZE CHARACTERISTICS OF FLUVIAL SUSPENDED SEDIMENT IN PROGLACIAL STREAMS, KING GEORGE ISLAND, SOUTH SHETLAND ISLAND	112
<i>Ewa Szymczak</i>	
EVALUATION OF SURFACE RUNOFF GENERATION PROCESSES USING A RAINFALL SIMULATOR: A SMALL SCALE LABORATORY EXPERIMENT	120
<i>Michaela Danáčová, Peter Valent, Roman Vřleta</i>	
EXPERIENCE GAINED ON DIRECT USE OF LOW ENTHALPY ENERGY IN HOTEL DO PARQUE, S. PEDRO DO SUL, PORTUGAL	128
<i>L. M. Ferreira Gomes, A. P. Neves Trota, F. J. Reis Afonso De Albuquerque</i>	
RESERVOIR CONSIDERATIONS AND DIRECT USES OF SÃO PEDRO DO SUL HYDROMINERAL AND GEOTHERMAL FIELD, NORTHERN PORTUGAL	135
<i>L. M. Ferreira Gomes, A. P. Neves Trota, A. Sousa Oliveira, S. M. Soares Almeida</i>	

MODELLING AND ANALYSIS OF THE EXCAVATION PHASE BY THE THEORY OF BLOCKS METHOD OF TUNNEL 4 KHERRATA GORGE, ALGERIA	144
<i>Riadh Boukarm, Abdelkader Houam, Mohammed Fredj, Rima Boucif</i>	
IMPACT OF EXPOSURE TO PRESSURE OF 50 MPA ON THE SPECIFIC SURFACE AREA OF CLAY	155
<i>Ewa Koszela-Marek</i>	
DISPLACEMENT OF WATERSHED BETWEEN TWO KARSTIC RIVERS	159
<i>Hervé Chapuis, Joël Jolivet, Jordan Ré-Bahuaud, Frédéric Paran, Didier Graillet, Bernard Guy</i>	
SLOPE, SCARP AND SEA CLIFF INSTABILITY SUSCEPTIBILITY MAPPING FOR PLANNING REGULATIONS IN ALMADA COUNTY, PORTUGAL	169
<i>Fernando Marques, Sónia Queiroz, Luís Gouveia, Manuel Vasconcelos</i>	
LANDSLIDES MONITORING ON SALT DEPOSITS USING GEOPHYSICAL METHODS, CASE STUDY – SLANIC PRAHOVA, ROMANIA	179
<i>Avram Ovidiu, Emil Rusu, Raluca-Mihaela Maftעי, Antonio Ulmeanu, Ioan Scutelnicu, Constantina Filipciuc, Elena Tudor</i>	
3D-FEM ANALYSIS ON GEOGRID REINFORCED FLEXIBLE PAVEMENT ROADS	183
<i>Lidia Sarah Calvarano, Rocco Palamara, Giovanni Leonardi, Nicola Moraci</i>	
DETERMINATION OF THE CHARACTERISTIC VALUES AND VARIATION RATIO FOR SENSITIVE SOILS	193
<i>Emilia Milutinovici, Daniel Mihailescu</i>	
THE PREVENTION DISASTER PROGRAM OF FLOOD IN 2013 FOR THE 4TH GRADE STUDENTS OF KAWATANAKA PRIMARY SCHOOL, TOKUSHIMA PREFECTURE, JAPAN AND UNDERFLOW CHANNELS REVEALED IN 2016	200
<i>Sanae Kawamata, Mamoru Murata</i>	
EXAMPLE OF QANATS FOR THE SUSTAINABILITY OF GROUNDWATER USAGE, ANTALYA-TURKEY	205
<i>Ismail Ciftci, Yasemin Leventeli</i>	
PETROGRAPHIC COMPOSITION OF LIGNITE FROM THE LAKE SOMERVILLE SPILLWAY (EAST-CENTRAL TEXAS)	214
<i>Sandra Pawelec, Barbara Bielowicz</i>	
GEOTECHNICAL MONITORING OF THE AUTOMOBILE ROAD	226
<i>Vladimir Matsiy</i>	
PROTECTION OF BURIED PIPE UNDER REPEATED LOADING BY GEOCELL REINFORCEMENT	231
<i>Omid Khalaj, N. Joz Darabi, S. N. Moghaddas Tafreshi, Bohuslav Mašek</i>	
WATER AND SEDIMENT OUTPUT EVALUATION USING CELLULAR AUTOMATA ON ALPINE CATCHMENT: SOANA, ITALY - TEST CASE	241
<i>Antonio Pasculli, Chiara Audisio, Nicola Sciarra</i>	
QUALITY IMPROVEMENT OF GROUND WORKS PROCESS WITH THE USE OF CHOSEN LEAN MANAGEMENT TOOLS – CASE STUDY	250
<i>Piotr Nowotarski, Jerzy Paslawski, Bartosz Wysocki</i>	
IN-SITU STRESS FIELD OF FANZHUANG COABED METHANE BLOCK IN QINSHUI BASIN	260
<i>Jian Shen, Yepeng Li, Jinbo Zhang, Yanhui Yang, Geoff Wang</i>	
VOLCANIC AGGREGATES FROM AZORES AND MADEIRA ARCHIPELAGOS (PORTUGAL): AN OVERVIEW REGARDING THE ALKALI SILICA REACTIONS	266
<i>Sara Medeiros, Violeta Ramos, Isabel Fernandes, João Carlos Nunes, Benoit Fournier, António Santos Silva, Dora Soares</i>	
PALEOPROTEROZOIC ROCK METAMORPHISM OF THE NYARTIN COMPLEX, THE SUBPOLAR URALS	273
<i>Alexander Pystin, Yuliya Pystina</i>	
ORIGIN AND EVOLUTION OF THE SALINAS GRANDES AND SALINA DE AMBARGASTA, ARGENTINA	280
<i>Adolfo Antonio Gutiérrez, R. Mon, F. Sàbat, D. N. Iaffa</i>	
HYDROGEOLOGICAL MODELLING OF THE GEOTHERMAL WATERS OF ALASEHIR IN THE CONTINENTAL RIFT ZONE OF THE GEDIZ, WESTERN ANATOLIA, TURKEY	296
<i>Nevzat Özgür, Yesim Bostanci, Ezgi Anilir Yürük</i>	
HYDROGEOLOGICAL MODELLING OF SOME GEOTHERMAL WATERS OF IVRINDI, HAVRAN AND GÖNEN IN THE PROVINCE CAPITAL OF BALIKESIR, WESTERN ANATOLIA, TURKEY	306
<i>Nevzat Özgür, Zehra Ugurlu, Ümit Memis, Eda Aydemir</i>	

HYDROGEOLOGICAL, HYDROGEOCHEMICAL AND ISOTOPE GEOCHEMICAL FEATURES OF THE GEOTHERMAL WATERS IN SEFERIHISAR AND ENVIRONS, WESTERN ANATOLIA, TURKEY	317
<i>Nevzat Özgür, Ebru Aras Pala, Saliha Degirmenci</i>	
POTENTIALLY REACTIVE FORMS OF SILICA IN VOLCANIC ROCKS USING DIFFERENT ANALYTICAL APPROACHES	326
<i>Hugo Esteves, Isabel Fernandes, Ana Janeiro, António Santos Silva, Manuel Pereira, Sara Medeiros, João Carlos Nunes</i>	
STATE PATHS OF CLAY DOMINATED SOILS OF COASTAL MARSHLAND: SCALE EFFECT AND HYDRODYNAMIC BEHAVIOUR	335
<i>Raymond Tojo Radimy, Patrick Dudoignon</i>	
MECHANIZATION FOR OPTIMAL LANDSCAPE RECLAMATION	342
<i>Terezie Vondráčková, Vera Voštová, Michal Kraus</i>	
STABILITY ANALYSIS OF LANDSLIDE ON THE R1 EXPRESSWAY BY LIMIT EQUILIBRIUM AND FINITE ELEMENT METHODS	348
<i>Viktor Janták</i>	
FIELD TEST OF DRIVEN PILE GROUP UNDER LATERAL LOADING	358
<i>Karolina Gorska, Jaroslaw Rybak, Marek Wyjadłowski</i>	
INFLUENCE OF DILATION ON THE STRENGTH OF SAND – STEEL INTERFACES	368
<i>Katarzyna Dolzyk-Szypcio</i>	
STRESS-DILATANCY OF CAMBRIA SAND FOR TRIAXIAL TESTS AT HIGH PRESSURES	377
<i>Zenon Szypcio</i>	
BEHAVIOUR OF MASONRY WALLS UNDER HORIZONTAL SHEAR IN MINING AREAS	385
<i>Marta Kadela, Marek Bartoszek, Jan Fedorowicz</i>	
NUMERICAL MODELLING OF CONNECTIONS BETWEEN STONES IN FOUNDATIONS OF HISTORICAL BUILDINGS	396
<i>Jaroslaw Przewlocki, Monika Zielinska, Karol Grebowski</i>	
EXPERIMENTAL INVESTIGATION OF PROPERTIES OF FOAM CONCRETE FOR INDUSTRIAL FLOORS IN TESTING FIELD	404
<i>Jozef Vlcek, Marian Drusa, Walter Scherfel, Bronislav Sedlar</i>	
REVIEW OF CARBONATE BRECCIA GENETIC CLASSIFICATION IN WEST HILL, BEIJING	412
<i>Shuran Yang, Tomas Danek, Xianfeng Cheng, Qianrui Huang</i>	
SUSCEPTIBILITY EVALUATION OF DEBRIS FLOW BASED ON EXPERIENCE WEIGHT METHOD COMBINED WITH "3S" TECHNOLOGY: A CASE STUDY FROM DONGCHUAN IN YUNNAN PROVINCE, CHINA	422
<i>Jun Xu, Xianfeng Cheng, Qianrui Huang, Yu Chen, Wufu Qi, Jia Yuan, Jiaqing Yang</i>	
ANALYSIS ON HEAVY METAL DISTRIBUTION IN OVERLYING DEPOSIT AND POLLUTION CHARACTERISTICS IN DRAINAGE BASIN OF XIAOJIANG RIVER IN DONGCHUAN DISTRICT, CHINA	429
<i>Qianrui Huang, Xianfeng Cheng, Jun Xu, Wufu Qi, Shuran Yang, Tao Dong, Xiangqun Zhang</i>	
INDOOR RADON CONCENTRATION RELATED TO DIFFERENT RADON AREAS AND INDOOR RADON PREDICTION	439
<i>Ingrid Juhásová Šenitková, Jirí Šál</i>	
PALAEOZOIC MAGMATISM ASSOCIATED WITH GOLD-ANTIMONY-TIN-TUNGSTEN-LEAD-ZINC AND SILVER MINERALIZATION IN THE NEIGHBOURING OF PORTO, NORTHERN PORTUGAL	447
<i>Helena Couto, Guy Roger</i>	
THE LABORATORY STUDY OF SHEAR STRENGTH OF THE OVERCONSOLIDATED AND QUASI - OVERCONSOLIDATED FINE - GRAINED SOIL	457
<i>Joanna Strozyk</i>	
CLIMATIC CHARACTERISTICS OF SLOVAKIA IN THE YEARS 1971 TO 2011 FROM THE ASPECT OF PAVEMENT DESIGN	466
<i>Martin Decky, Eva Remisova, Lubomír Kovalčík, Jana Dibdiaková, Matej Hajek</i>	
APPLICATION OF CRUSHED CONCRETE IN GEOTECHNICAL ENGINEERING – SELECTED ISSUES	474
<i>Jacek Kawalec, Sławomir Kwiecien, Anton Pilipenko, Jaroslaw Rybak</i>	

**SESSION II: OIL, GAS & COAL, GEOMORPHOLOGY, GEOCHEMISTRY,
MINERALOGY, PETROLOGY & VOLCANOLOGY, STRATIGRAPHY,
SEDIMENTOLOGY & PALAEOLOGY, GEOPHYSICS & SEISMOLOGY**

POSSIBILITIES OF USE OF UAVS FOR TECHNICAL INSPECTION OF BUILDINGS AND CONSTRUCTIONS	484
<i>Anna Banaszek, Sebastian Banaszek, Anna Cellmer</i>	
TEACHING MAP CONCEPTS IN SOCIAL SCIENCE EDUCATION; AN EVALUATION WITH UNDERGRADUATE STUDENTS	490
<i>Ilkay Bugdayci, H. Zahit Selvi</i>	
VERTICAL DISPLACEMENTS ANALYSIS OF MEASUREMENTS ACHIEVED BY LASER STATION	497
<i>Jacek Sztubecki, Adam Bujarkiewicz, Maria Mrowczynska</i>	
CALIBRATION OF CRUSTAL HISTORICAL EARTHQUAKES FROM INTRA-CARPATHIAN REGION OF ROMANIA	504
<i>Eugen Oros, Mihaela Popa, Maria Rogozea</i>	
REPEATED EARTHQUAKES IN THE VRANCEA SUBCRUSTAL SOURCE AND SOURCE SCALING	513
<i>Emilia Popescu, Anica Otilia Placinta, Felix Borleasnu, Mircea Radulian</i>	
COMPARISON OF THE SOIL DYNAMIC AMPLIFICATION FACTOR AND SOIL AMPLIFICATION BY USING MICROTREMOR AND MASW METHODS RESPECTIVELY	522
<i>Aykut Tuncel, Özkan Cevdet Özdag, Eren Pamuk, Mustafa Akgiin</i>	
APPLICATION OF INTEGRATED PHOTOGRAMMETRIC AND TERRESTRIAL LASER SCANNING DATA TO CULTURAL HERITAGE SURVEYING	530
<i>Przemyslaw Klapa, Bartosz Mitka, Mariusz Zygmunt</i>	
STUDY INTO POINT CLOUD GEOMETRIC RIGIDITY AND ACCURACY OF TLS-BASED IDENTIFICATION OF GEOMETRIC BODIES	538
<i>Przemyslaw Klapa, Bartosz Mitka, Mariusz Zygmunt</i>	
EXTRACTION AND VALIDATION OF GEOMORPHOLOGICAL FEATURES FROM EU-DEM IN THE VICINITY OF THE MYGDONIA BASIN, NORTHERN GREECE	547
<i>Antonios Mouratidis, Georgia Karadimou, Dimitrios Ampatzidis</i>	
METHODOLOGY OF PRIORITIZATION OF LAND CONSOLIDATION AND LAND EXCHANGE INTERVENTIONS	556
<i>Przemyslaw Len</i>	
DETERMINATION OF THE TERRITORIAL SEA BASELINE – MEASUREMENT ASPECT	564
<i>Cezary Specht, Adam Weintrit, Mariusz Specht, Pawel Dabrowski</i>	
SPATIO-TEMPORAL VARIABILITY OF DISSOLVED METALS IN THE SURFACE WATERS OF AN AGROFORESTRY CATCHMENT WITH LOW LEVELS OF ANTHROPOGENIC ACTIVITY	574
<i>Fátima Soto-Varela, M. Luz Rodríguez-Blanco, M. Mercedes Taboada-Castro, M. Teresa Taboada-Castro</i>	
BRIEF OVERVIEW OF USING NONLINEAR SEISMOLOGY IN ANALYSIS OF THE SOIL DEPOSITS EFFECTS ON STRUCTURE LOCATION	580
<i>Stefan Florin Balan, Bogdan Felix Apostol, Constantin Ionescu</i>	
PRELIMINARY ESTIMATION OF KAPPA PARAMETER IN CROATIA	588
<i>Davor Stanko, Snježana Markušić, Ines Ivancic, Gazdek Mario, Zeynep Gülerce</i>	
FEATURES OF INNER STRUCTURE OF PLACER GOLD OF THE NORTH-EASTERN PART SIBERIAN PLATFORM	598
<i>Boris Gerasimov, Anatolii Zhuravlev, Alexey Ivanov</i>	
PROPOSAL FOR LAND CONSOLIDATION PROJECT SOLUTIONS FOR SELECTED PROBLEM AREAS	604
<i>Justyna Wojcik - Len, Zanna Streck</i>	
REALISTIC FEATURES IN ANALYSING THE EFFECT OF THE SEISMIC MOTION UPON LOCALIZED STRUCTURES CONSIDERING BASE ISOLATION INFLUENCE ON THEIR DYNAMIC BEHAVIOUR	614
<i>Bogdan Felix Apostol, Stefan Florin Balan, Constantin Ionescu</i>	
OSTRACODA ASSEMBLAGES AND PALAEOENVIRONMENTAL CHARACTERISTICS OF THE SOMA FORMATION (LATE MIOCENE-PLIOCENE), IVRINDI - NW BALIKESIR, TURKEY	623
<i>Güldemin Darbas, Huriye Demircan</i>	
CRUSTAL STRUCTURE IN THE WESTERN PART OF ROMANIA FROM LOCAL SEISMIC TOMOGRAPHY	633
<i>Bogdan Zaharia, Bogdan Grecu, Mihaela Popa, Eugen Oros, Mircea Radulian</i>	

METHODOLOGY FOR ASSESSING THE SIZE AND LIQUIDATION OF THE OUTER PATCHWORK OF LAND	643
<i>Przemyslaw Len, Grzegorz Oleniacz, Izabela Skrzypczak, Monika Mika</i>	
USING GROUND RADAR INTERFEROMETRY FOR PRECISE DETERMINING OF DEFORMATION AND VERTICAL DEFLECTION OF STRUCTURES	651
<i>Milan Talich</i>	
ESTABLISHING BASE ELEMENTS OF PERSPECTIVE IN ORDER TO RECONSTRUCT ARCHITECTURAL BUILDINGS FROM PHOTOGRAPHS	661
<i>Jolanta Dzwierzynska</i>	
PERFORMANCE EVALUATION OF REAL-TIME PRECISE POINT POSITIONING METHOD	668
<i>Salih Alcay, Muzeyyen Turgut</i>	
MODERN GEODYNAMICS OF SOUTH YENISEI RIDGE TO RESULT OF THE GPS/GLONASS OBSERVATIONS	673
<i>Viktor Tatarinov, Vladimir Kaftan, Tatiana Tatarinova, Alexander Manevich</i>	
GOLD IN ACCESSORY ZIRCON (THE KOZHIM MASSIF, SUBPOLAR URALS)	682
<i>Yuliya Denisova, Aleksandr Pystin</i>	
CRUSTAL MODELS ASSESSMENT IN WESTERN PART OF ROMANIA EMPLOYING ACTIVE SEISMIC AND SEISMOLOGIC METHODS	686
<i>Andrei Bala, Dragos Toma-Danila, Dragos Tataru, Bogdan Grecu</i>	
PROVENANCE AREA AND U-PB AGE OF DETRITAL ZIRCONS FROM THE UPPER PROTEROZOIC DEPOSITS OF THE POLAR URALS	696
<i>Natalia Ulyasheva, Oksana Grakova, Aleksandr Pystin, Yulia Pystina</i>	
IMPACT OF RESERVOIR FLUID SATURATION ON SEISMIC PARAMETERS: ENDROD GAS FIELD, HUNGARY	701
<i>Abdel Moktader A. El Sayed, Nahla A. El Sayed</i>	
APPLICATION OF CATHODOLUMINESCENCE TO THE STUDY OF FELDSPARS: IMAGING AND SPECTROMETRY	709
<i>Rute Fonseca, Helena Couto</i>	
LOCAL DEFORMATION PRECURSORS OF LARGE EARTHQUAKES DERIVED FROM GNSS OBSERVATION DATA	717
<i>Vladimir Kaftan, Andrey Melnikov</i>	
ISOTOPIC GEOCHEMISTRY APPLIED ON MORTARS OF THE KATHOLIKON OF THE MONASTERY OF TIMIOS PRODROMOS IN THE PREFECTURE OF SERRES, GREECE	730
<i>Elissavet Dotsika, Efsthios Iliadis, Daphne Kyropoulou, Petros Karalis</i>	
SPATIAL VARIATION OF SEISMIC B-VALUES OF THE EMPIRICAL LAW OF THE MAGNITUDE-FREQUENCY DISTRIBUTION FROM A BAYESIAN APPROACH BASED ON SPLINE (B-SPLINE) FUNCTION IN THE NORTH ANATOLIAN FAULT ZONE, NORTH OF TURKEY	739
<i>Tugba Türker, Yusuf Bayrak</i>	
DETERMINATION OF SHIFT/BIAS IN DIGITAL AERIAL TRIANGULATION OF UAV IMAGERY SEQUENCES	747
<i>Damian Wierzbicki</i>	
CORAL-ALGAL REEF COMPLEX OF VIGOLENO, PIACENZA, NORTHERN ITALY	756
<i>Antonio Russo, Andrea Artoni, Daniele Scarponi, Paolo Serventi</i>	
MASW SEISMIC METHOD IN BREBU LANDSLIDE AREA, ROMANIA	762
<i>Marinescu Mihai, Cristea Paul, Marunteanu Cristian, Mezincescu Matei</i>	
PETROPHYSICAL STUDY OF SZOLNOK FORMATION, ENDROD GAS FIELD, HUNGARY	773
<i>Abdel Moktader A. El Sayed, Nahla A. El Sayed</i>	
EVIDENCE OF MULTI-COMPONENT ION EXCHANGE IN DOLOMITE FORMATION DURING LOW SALINITY WATERFLOODING	783
<i>Falan Srisuriyachai, Suthida Meekangwal</i>	
ASSESSMENT OF EARTHQUAKE HAZARD PARAMETERS WITH BAYESIAN APPROACH METHOD AROUND KARLIOVA TRIPLE JUNCTION, EASTERN TURKEY	791
<i>Tugba Türker, Yusuf Bayrak</i>	
 <u>SESSION III: GEODESY, PHOTOGRAMMETRY & CARTOGRAPHY, GEOINFORMATICS, MINING ENGINEERING, MINERAL PROCESSING, BLASTING & NEW TECHNOLOGIES, NATURAL RESOURCES, ENERGY, RESOURCES & POLLUTION & THE ENVIRONMENT</u>	
CORE CUTTING TEST WITH VERTICAL ROCK CUTTING RIG (VRCR)	799
<i>Serdar Yasar, Ali Osman Yilmaz</i>	

NUCLEAR POWER AS A BASIS FOR FUTURE ELECTRICITY GENERATION	808
<i>Igor Pioro, Sergey Buruchenko</i>	
ANTHROPOGENIC POLLUTANTS IN EXTRACTS FROM MARITSA IZTOK DUMPS	824
<i>Maya Stefanova, Zlatka Milakovska, Stefan Marinov</i>	
TENSILE-CREEP TEST SPECIMEN PREPARATION PRACTICES OF SURFACE SUPPORT LINERS	830
<i>Dogukan Guner, Hasan Ozturk</i>	
PRODUCTION OF COPPER AS A COMPLEX MINING AND METALLURGICAL PROCESSING SYSTEM IN POLISH COPPER MINES OF THE LEGNICA-GLOGÓW COPPER BELT	838
<i>Jerzy Malewski</i>	

PART 2

3D VISUALIZATION OF URBAN AREA USING LIDAR TECHNOLOGY AND CITYGML	851
<i>Dragana Popovic, Miro Govedarica, Dusan Jovanovic, Aleksandra Radulovic, Vlado Simeunovic</i>	
GEO-INFORMATION TECHNOLOGY OF 8-LEVEL RESPONSIBILITY: CONCEPT AND STANDARD OF CONSTRUCTION MANAGEMENT FOR IMPLEMENTATION OF THE BIM-TECHNOLOGY IN RUSSIA	859
<i>Vladimir Komosko, Sergey Serebryakov, Vladimir Stokov</i>	
REVITALIZATION OF LIGHTWEIGHT CLADDING OF BUILDINGS AND ITS IMPACT ON ENVIRONMENT	867
<i>Pavel Liška, Barbora Necasová, Barbora Kovárová, Michal Novotný</i>	
APPLICATIONS OF GEOMATICS IN SURFACE MINING	877
<i>Jan Blachowski, Justyna Górniak-Zimroz, Wojciech Mileczarek, Katarzyna Pactwa</i>	
GEOSPATIAL WEB SERVICES IN REAL ESTATE INFORMATION SYSTEM	886
<i>Aleksandra Radulovic, Dubravka Sladic, Miro Govedarica, Dragana Popovic, Jovana Radovic</i>	
THE FRAMEWORK OF THE MAINTENANCE ECOSYSTEM SERVICES PROVIDED BY AGROECOSYSTEMS ON THE TERRITORY OF BULGARIA	894
<i>Anelia Kenarova, Rossen Tzonev, Silvena Boteva, Valentin Bogoev, Marian Nikolov, Kalina Pachedjieva, Ivan Traykov, Daniela Simeonovska-Nikolova, Krastio Dimitrov, Vladimir Stefanov, Hristina Bakardjieva, Tsveta Dimitrova, Georgi Nachev</i>	
UTILIZATION OF YATAGAN POWER PLANT FLY ASH IN PRODUCTION OF BUILDING BRICKS	905
<i>Öznur Önel, Mehmet Tanriverdi, Tayfun Cicek</i>	
FRAGMENT SIZE DISTRIBUTION OF BLASTED ROCK MASS	916
<i>Jasmin Jug, Stjepan Strelec, Mario Gazdek, Boris Kavur</i>	
IMPACT OF CAPITAL AND CURRENT COSTS CHANGES OF THE INCINERATION PROCESS OF THE MEDICAL WASTE ON SYSTEM MANAGEMENT COST	925
<i>Maria Jolanta Walery</i>	
ANALYSIS OF BENDING STRENGTH OF RESIN MORTARS THAT ARE AT RISK OF LONG-TERM EXPOSURE TO ENVIRONMENTAL CORROSIVES	930
<i>Bernardeta Debska, Lech Licholai</i>	
ENVIRONMENTAL FACTORS AFFECTING THE STRENGTH CHARACTERISTICS OF MODIFIED RESIN MORTARS	939
<i>Bernardeta Debska, Lech Licholai</i>	
PASSIVE RESIDENTIAL HOUSES WITH THE ACCUMULATION PROPERTIES OF GROUND AS A HEAT STORAGE MEDIUM	946
<i>Piotr Ochab, Wanda Kokoszka, Janusz Kogut, Izabela Skrzypczak, Jerzy Szyszka, Aleksander Starakiewicz</i>	
SELECTIVE INTERNAL HEAT DISTRIBUTION IN MODIFIED TROMBE WALL	956
<i>Jerzy Szyszka, Janusz Kogut, Izabela Skrzypczak, Wanda Kokoszka</i>	
APPLICATION OF ELEMENTS OF TPM STRATEGY FOR OPERATION ANALYSIS OF MINING MACHINE	965
<i>Jaroslav Brodny, Magdalena Tutak</i>	
ANALYSIS OF AVAILABILITY OF LONGWALL-SHEARER BASED ON ITS WORKING CYCLE	972
<i>Jaroslav Brodny, Magdalena Tutak</i>	
USING COPULAS IN THE ESTIMATION OF THE ECONOMIC PROJECT VALUE IN THE MINING INDUSTRY, INCLUDING GEOLOGICAL VARIABILITY	979
<i>Zbigniew Krysa, Katarzyna Pactwa, Justyna Wozniak, Michal Dudek</i>	

INFLUENCE OF THE ROOF MOVEMENT CONTROL METHOD ON THE STABILITY OF REMNANT	988
<i>Karolina Adach-Pawelus</i>	
ANALYSIS OF GEODYNAMICAL CONDITIONS OF REGION OF BURNING COAL DUMPS LOCATION	998
<i>Andrian Batugin, Valeria Musina, Irina Golovko</i>	
THE ROLE OF ANIONOGENIC ELEMENTS (AS, SB, MO, SE, S, P, N, CL, F, C) IN THE FORMATION OF TECHNOGENIC GEOCHEMICAL ANOMALIES	1005
<i>Natalya Abrosimova, Svetlana Bortnikova</i>	
ANALYSIS OF INFLUENCE OF GOAF SEALING FROM TAILGATE ON THE METHANE CONCENTRATION AT THE OUTLET FROM THE LONGWALL	1012
<i>Magdalena Tutak, Jaroslaw Brodny</i>	
DETERMINATION OF PARTICULAR ENDOGENOUS FIRES HAZARD ZONES IN GOAF WITH CAVING OF LONGWALL	1020
<i>Magdalena Tutak, Jaroslaw Brodny</i>	
PRELIMINARY RESEARCH ON POSSIBILITIES OF DRILLING PROCESS ROBOTIZATION	1030
<i>Stefaniak Pawel, Wodecki Jacek, Janusz Jakubiak, Radoslaw Zimroz</i>	
DEVELOPMENT OF TEST RIG FOR ROBOTIZATION OF MINING TECHNOLOGICAL PROCESSES – OVERSIZED ROCK BREAKING PROCESS CASE	1038
<i>Stefaniak Pawel, Wodecki Jacek, Janusz Jakubiak, Radoslaw Zimroz</i>	
METHANE EXPLOSION MITIGATION IN COAL MINES BY WATER MIST	1046
<i>Nikoloz Chikhradze, Edgar Mataradze, Mikheil Chikhradze, Ted Krauthammer, Zulkhair Mansurov, Erhan Alyiev</i>	
THE SYNTHESIS OF PHENYL ACETYLENE PHENOLS FOR DEVELOPMENT OF NEW EXPLOSIVES	1052
<i>Nikoloz Chikhradze, Merab Nadirashvili, Sergo Khomeriki, Iasha Varshanidze</i>	
EXPERIMENTAL STUDY OF THE EFFECT OF WATER MIST LOCATION ON BLAST OVERPRESSURE ATTENUATION IN A SHOCK TUBE	1057
<i>Edgar Mataradze, Nikoloz Chikhradze, Nika Bochorishvili, Irakli Akhvlediani, Dimitri Tatishvili</i>	
ELABORATION OF THE CHARGE CONSTRUCTIONS OF EXPLOSIVES FOR THE STRUCTURE OF FACING STONE	1063
<i>Sergo Khomeriki, Edgar Mataradze, Nikoloz Chikhradze, Marine Losaberidze, Davit Khomeriki, Grigol Shatberashvili</i>	
DETERMINATION OF SELENIUM AND NICKEL IN ASPHALTITE FROM MILLI (SIRNAK) DEPOSIT IN SE ANATOLIA OF TURKEY	1070
<i>Isil Aydin, Celal Fidan, Orhan Kavak, Figen Ere, Firat Aydin</i>	
SUSTAINABLE MINING LAND USE FOR LIGNITE BASED ENERGY PROJECTS	1075
<i>Michal Dudek, Zbigniew Krysa</i>	
ELECTRODEPOSITION AND CHARACTERIZATION OF MN-CU-ZN ALLOYS FOR CORROSION PROTECTION COATING	1083
<i>Gigla Tsurtsumia, David Gogoli, Nana Koiava, Izolda Kakhniashvili, Nunu Jokhadze, Tinatin Lezhava, Nikoloz Nioradze, Dimitri Tatishvili</i>	
SELECTION OF COMPOSITIONS IN TI-CR-C-STEEL, TI-B, TI-B-ME SYSTEMS AND ESTABLISHING SYNTHESIS PARAMETERS FOR OBTAINING PRODUCT BY "SHS-ELECTRICAL ROLLING"	1090
<i>Zurab Aslamazashvili, Giorgi Tavadze, Mikheil Chikhradze, Teimuraz Namicheishvili, Zaqaria Melashvili</i>	
APPROXIMATION OF PARTITION CURVES FOR ELECTROMAGNETIC MILL WITH INERTIAL CLASSIFIER – CASE STUDY	1098
<i>Marta Wolosiewicz-Glab, Paulina Pieta, Tomasz Niedoba, Dariusz Foszcz</i>	
BEHAVIOURAL RESISTANCE IN INSECTS: ITS POTENTIAL USE AS BIO INDICATOR OF ORGANIC AGRICULTURE	1106
<i>J. A. Gómez-Guzmán, F. J. García-Marín, M. Sáinz-Pérez, R. González-Ruiz</i>	
SECURE AND EFFICIENT TRANSMISSION OF HYPERSPECTRAL IMAGES FOR GEOSCIENCES APPLICATIONS	1116
<i>Bruno Carpentieri, Raffaele Pizzolante</i>	
MONITORING OF THE GREEN ROOFS INSTALLATION IN BRNO-CITY DISTRICT, CZECH REPUBLIC	1126
<i>Tatiana Rebrova, David Beckovsky, Petr Selnik</i>	
UNDERSTANDING OF THE GEOMORPHOLOGICAL ELEMENTS IN DISCRIMINATION OF TYPICAL MEDITERRANEAN LAND COVER TYPES	1133
<i>Mohamed Elhag, Silvena Boteva</i>	
ACCIDENTAL RISK ANALYSES OF THE ISTANBUL AND CANAKKALE STRAITS	1143
<i>Betül Essiz, Berat Dagkiran</i>	

ASSESSMENT OF RENEWABLE ENERGY SOURCES & MUNICIPAL SOLID WASTE FOR SUSTAINABLE POWER GENERATION IN NIGERIA	1151
<i>Olaide M. Aderoju, Guerner A. Dias, Zhou Echakraoui</i>	
ANAEROBIC DIGESTION PERFORMANCE IN THE ENERGY RECOVERY OF KIWI RESIDUES	1161
<i>Ramiro Martins, Rui Boaventura, Larissa Paulista</i>	
TREATMENT AND ENERGY VALORISATION OF AN AGRO-INDUSTRIAL EFFLUENT IN UPFLOW ANAEROBIC SLUDGE REACTOR (UASB)	1169
<i>Ramiro Martins, Rui Boaventura, Larissa Paulista</i>	
RANDOM DETERIORATION PROCESS OF CONVEYOR BELT EVALUATED BY STATISTICAL ANALYSIS OF CORE FAILURES DETECTED ALONG BELT AXIS AND ELAPSED TIME	1177
<i>Ryszard Blazej, Leszek Jurdziak, Agata Kirjanów, Tomasz Kozłowski</i>	
AN EFFECTIVE BELT CONVEYOR FOR UNDERGROUND ORE TRANSPORTATION SYSTEMS	1188
<i>Robert Król, Witold Kawalec, Lech Gladysiewicz</i>	
DESIGN AND IMPLEMENTATION WEBGIS FOR IMPROVING THE QUALITY OF EXPLORATION DECISIONS AT SIN-QUYEN COPPER MINE, NORTHERN VIETNAM	1197
<i>Xuan Quang Truong, Xuan Luan Truong, Tuan Anh Nguyen, Dinh Tuan Nguyen, Chi Cong Nguyen</i>	
HYDROGEN TRANSFER DURING LIQUEFACTION OF ELBISTAN LIGNITE TO BIOMASS; TOTAL REACTION TRANSFORMATION APPROACH	1207
<i>Cemil Koyunoglu, Hüseyin Karaca</i>	
USING OXYGEN AND CARBON ISOTOPIC SIGNATURES IN ORDER TO INFER CLIMATIC AND DIETARY INFORMATION IN ROMAN EDESSA, GREECE	1213
<i>Dimitra-Ermioni Michael, Elissavet Dotsika</i>	
CONDITION-BASED CONVEYOR BELT REPLACEMENT STRATEGY IN LIGNITE MINES WITH RANDOM BELT DETERIORATION	1219
<i>Ryszard Blazej, Leszek Jurdziak</i>	
COMPARISON OF HOUSING CONSTRUCTION DEVELOPMENT IN SELECTED REGIONS OF CENTRAL EUROPE	1230
<i>Ján Dvorský, Zora Petráková, Ján Hollý</i>	
ACCELERATED COMPARATIVE FATIGUE STRENGTH TESTING OF BELT ADHESIVE JOINTS	1239
<i>Mirosław Bajda, Ryszard Blazej, Leszek Jurdziak</i>	
STUDIES OF THE DURABILITY OF BELT CONVEYOR IDLERS WITH WORKING LOADS TAKEN INTO ACCOUNT	1248
<i>Robert Król</i>	
NEW QUALITY STANDARDS OF TESTING IDLERS FOR HIGHLY EFFECTIVE BELT CONVEYORS	1258
<i>Robert Król, Lech Gladysiewicz, Damian Kaszuba, Waldemar Kisielewski</i>	
USING OXYGEN ISOTOPIC VALUES IN ORDER TO INFER PALAEOCLIMATIC DIFFERENCES BETWEEN NORTHERN AND CENTRAL-SOUTHERN GREECE	1267
<i>Dimitra-Ermioni Michael, Elissavet Dotsika</i>	
EFFECT OF A DISPERSANT AGENT IN FINE COAL RECOVERY FROM WASHERY TAILINGS BY OIL AGGLOMERATION (PRELIMINARY STUDY)	1273
<i>Özüm Yasar, Tuncay Uslu</i>	
FORECASTING OF ENERGY EXPENDITURE OF INDUCED SEISMICITY WITH USE OF ARTIFICIAL NEURAL NETWORK	1278
<i>Tomasz Cichy, Piotr Banka</i>	
GIS-BASED SUITABILITY MODEL FOR ASSESSMENT OF FOREST BIOMASS ENERGY POTENTIAL IN A REGION OF PORTUGAL	1285
<i>Luis Quinta-Nova, Paulo Fernandez, Nuno Pedro</i>	
INFLUENCE OF ECO-FRIENDLY MINERAL ADDITIVES ON EARLY AGE COMPRESSIVE STRENGTH AND TEMPERATURE DEVELOPMENT OF HIGH-PERFORMANCE CONCRETE	1292
<i>Maria Kaszynska, Szymon Skibicki</i>	
SELECTED BLACK-COAL MINE WASTE DUMPS IN THE OSTRAVA-KARVINÁ REGION: AN ANALYSIS OF THEIR POTENTIAL USE	1302
<i>Dominiak Niemiec, Miloš Duraj, Xianfeng Cheng, Marian Marschalko, Jan Kubác</i>	
LOGISTIC PROBLEM CONNECTED WITH REMOVING ASBESTOS AS DANGEROUS WASTE FROM TERRAINS OF COUNTRY COMMUNES	1309
<i>Waldemar Parkitny, Weronika Wojcik, Agnieszka Generowicz</i>	

GREEN PORT / ECO PORT PROJECT - APPLICATIONS AND PROCEDURES IN TURKEY	1319
<i>Burak Akgul</i>	
ANALYSIS BY THE RESIDUAL METHOD FOR ESTIMATE MARKET VALUE OF LAND ON THE AREAS WITH MINING EXPLOITATION IN SUBSOIL UNDER FUTURE NEW BUILDING	1327
<i>Monika Gwozdz - Lason</i>	
PREPARATION OF MAGNETIC SORBENT WITH SURFACE MODIFIED BY C18FOR REMOVAL OF SELECTED ORGANIC POLLUTANTS FROM AQUEOUS SAMPLES	1336
<i>Pavel Kurán, Dominik Pilnaj, Lucie Ciencialová, Martin Pšenicka</i>	
STUDY OF USAGE AREAS OF CLAY SAMPLES OF ASPHALTITE QUARRIES IN SIRNAK, TURKEY	1341
<i>Oyku Bilgin</i>	
NATURAL ZEOLITE SAMPLE AND INVESTIGATION ITS USE IN OIL BLEACHING SECTOR	1350
<i>Oyku Bilgin</i>	
INDOOR AIR QUALITY AND THERMAL COMFORT IN SCHOOL BUILDINGS	1359
<i>Ingrid Juhásová Šenitková</i>	
APPLICATION OF TERRESTRIAL LASER SCANNING TO STUDY THE GEOMETRY OF SLENDER OBJECTS	1365
<i>Zbigniew Muszynski, Wojciech Milczarek</i>	
STUDY OF METAL-HUMIC CATALYSTS BEFORE AND AFTER THE GAS DESULPHURIZATION PROCESS USING THERMAL ANALYSIS	1372
<i>Danuta Szyszka, Jadwiga Wieckowska</i>	
STUDY OF SELECTED COMPOSITES COPPER CONCENTRATE-PLASTIC WASTE USING THERMAL ANALYSIS	1380
<i>Danuta Szyszka</i>	
CONTRAST CHARACTERISTICS OF THE MUSCOVITIC QUARTZITE FROM KARELIA, RUSSIA - DETERMINING THE POSSIBILITY OF INTENSIFICATION OF THE BENEFICIATION PROCESS	1389
<i>Tatyana Bubnova, Lubov Skamnitkaya, Elena Gorbunova, Alexandr Chertov</i>	
CO-LIQUEFACTION OF ELBISTAN LIGNITE WITH MANURE BIOMASS; PART 1. EFFECT OF CATALYST CONCENTRATION	1396
<i>Cemil Koyunoglu, Hüseyin Karaca</i>	
CO-LIQUEFACTION OF ELBISTAN LIGNITE WITH MANURE BIOMASS; PART 2 - EFFECT OF BIOMASS TYPE, WASTE TO LIGNITE RATIO AND SOLID TO LIQUID RATIO	1400
<i>Hüseyin Karaca, Cemil Koyunoglu</i>	
CO-LIQUEFACTION OF ELBISTAN LIGNITE WITH MANURE BIOMASS; PART 3 - EFFECT OF REACTION TIME AND TEMPERATURE	1409
<i>Cemil Koyunoglu, Hüseyin Karaca</i>	
RELATIONSHIP OF TECHNOLOGICAL PROPERTIES WITH DYNAMIC RECRYSTALLIZATION OF QUARTZ ON THE EXAMPLE OF OBJECTS OF THE KARELIAN-KOLA REGION	1414
<i>Lubov Skamnitkaya, Leonid Rakov, Tatyana Bubnova, Vladimir Shchiptsov</i>	
APPLICATION OF THREE EXISTING STOPE BOUNDARY OPTIMISATION METHODS IN AN OPERATING UNDERGROUND MINE	1422
<i>Gamze Erdogan, Mahmut Yavuz</i>	
RISK ASSESSMENT OF HEAVY METAL POLLUTION IN SOILS OF GEJIU TIN ORE AND OTHER METAL DEPOSITS OF YUNNAN PROVINCE	1432
<i>Shuran Yang, Tomas Danek, Xianfeng Cheng, Qianrui Huang</i>	
ANALYSIS ON HEAVY METAL DISTRIBUTION IN OVERLYING DEPOSIT AND POLLUTION CHARACTERISTICS IN RIVERS AROUND DAHONGSHAN FE&CU MINE IN YUNNAN PROVINCE, CHINA	1438
<i>Qianrui Huang, Xianfeng Cheng, Wufu Qi, Jun Xu, Shuran Yang</i>	
MODES AND EXPERIENCE OF GREEN MINE CONSTRUCTION IN YUNNAN, CHINA: CASE STUDIES	1446
<i>Xianfeng Cheng, Qianrui Huang, Shuran Yang, Jun Xu, Youcai Fan, Gang Xu, Jiaqing Yang, Jia Yuan, Wufu Qi</i>	

SESSION IV: ENVIRONMENTAL LEGISLATION, BIOGEOSCIENCES, GEOLOGICAL HERITAGE & GEOPARKS, GEOTOURISM, ECONOMY IN GEOLOGY, URBAN PLANNING

SPATIAL ANALYSIS OF URBAN MASTER PLANS OF TOWNS IN NORTH-EASTERN POLAND IN THE CONTEXT OF URBAN REVALORISATION	1453
<i>Marek Zagroba, Maciej Klopotoski</i>	

REVITALISATION AS A METHOD OF PLANNING SUSTAINABLE DEVELOPMENT OF OLD TOWN COMPLEXES IN HISTORIC TOWNS	1463
<i>Marek Zagroba, Dorota Gawryluk</i>	
TEMPERATURE AND RELATIVE HUMIDITY VERTICAL PROFILES WITHIN PLANETARY BOUNDARY LAYER IN WINTER URBAN AIRSHED	1473
<i>Jan Bendl, Jan Hovorka</i>	
URBAN SPACE AS THE COMMONS - NEW MODES FOR URBAN SPACE MANAGEMENT	1479
<i>Vladimír Ondrejčka, Maros Finka, Milan Husar, Lubomír Jamečný</i>	
ANALYSIS OF THE PLANNING EDUCATION IN THE LIGHT OF THE CONTEMPORARY TRENDS IN PLANNING	1485
<i>Milan Husar, Sila Ceren Varis, Vladimír Ondrejčka</i>	
HEAT RETREAT LOCATIONS IN CITIES – THE SURVEY-BASED LOCATION ANALYSIS OF HEAT RELIEF	1491
<i>Alice Neht, Claudia Maximini, Kathrin Prenger-Berninghoff</i>	
URBAN PLANNING BY LE CORBUSIER ACCORDING TO PRAXEOLOGICAL KNOWLEDGE	1499
<i>Jolanta Dzwierzynska, Aleksandra Prokopska</i>	
OPEN SPACE BETWEEN RESIDENTIAL BUILDINGS AS A FACTOR OF SUSTAINABLE DEVELOPMENT – CASE STUDIES IN BRNO (CZECH REPUBLIC) AND VIENNA (AUSTRIA)	1506
<i>Pavla Kılınarova, Maxmilian Wittmann</i>	
CULTURAL ECOSYSTEM SERVICES OF URBAN GREEN SPACES–SUPPLY AND DEMAND IN THE DENSELY BUILT-UP AREAS. POZNAN OLD TOWN CASE STUDY	1518
<i>Lidia Ponizy, Weronika Majchrzak, Iwona Zwierzchowska</i>	
ADDITIONAL EQUIPMENT FOR SOIL BIODEGRADATION	1528
<i>Terezie Vondráčková, Michal Kraus, Jiri Šál</i>	
ANALYSIS OF DEPENDENCES BETWEEN USING OF PARKING PLACES AND CHOSEN PARAMETERS OF WEATHER ON THE EXAMPLE OF UNDERGROUND PARKING IN CRACOW	1532
<i>Waldemar Parkitny</i>	
COMPETITIVENESS OF ROMANIAN REGIONS IN THE SPATIAL STRUCTURE OF THE EU	1542
<i>Ibolya Török</i>	
VESTIGES OF GLACIAL ACTION IN OSTRAVA: THEIR SIGNIFICANCE FOR AND APPLICATION IN GEOTOURISM	1549
<i>Miloš Duraj, Dominik Niemiec, Xianfeng Cheng, Petr Kolenák</i>	
STUDY ON STATUS, PROBLEMS AND COUNTERMEASURES OF DEVELOPING POPULAR SCIENCE TOURISM OF GEOPARKS IN YUNNAN, CHINA	1555
<i>Wufu Qi, Xianfeng Cheng, Qianrui Huang</i>	
TOWARDS RURAL LAND USE: CHALLENGES FOR OVERSIZING URBAN PERIMETERS IN SHRINKING TOWNS	1562
<i>João Sá, Ana Virtudes</i>	
DUALITY CENTRE - SUBURBS: ORIGINS BY THE RE-USE OF RELIGIOUS BUILDINGS	1571
<i>Ana Virtudes</i>	
LOCAL AND INDIGENOUS KNOWLEDGE REGARDING THE LAND USE AND USE OF OTHER NATURAL RESOURCES IN THE ASPIRING RIO COCO GEOPARK	1581
<i>Martina Pásková</i>	
POST-INDUSTRIAL OBJECTS AND BUILDINGS IN THE STRUCTURE OF THE CONTEMPORARY CITY	1591
<i>Maciej Kłopotowski, Marek Zagroba</i>	
PROTECTION OF LANDSCAPE VALUES OF HISTORICAL POST MILITARY OBJECTS - COMPLEXES IN SPATIAL, URBAN AND ARCHITECTURAL PLANNING OF POLISH CITIES	1601
<i>Dorota Gawryluk, Marek Zagroba</i>	

SESSION V: ATMOSPHERIC SCIENCES, CLIMATOLOGY, GLACIOLOGY, MODELLING AND SOFT COMPUTING IN EARTH SCIENCES, OCCUPATIONAL HEALTH AND SAFETY, SPECIFIC SESSIONS

POLLEN CHARACTERIZATION IN SIZE SEGREGATED ATMOSPHERIC AEROSOL	1610
<i>Anna Kolpakova, Jan Hovorka, Miroslav Klán</i>	
BIM-BASED TIMBER STRUCTURES REFURBISHMENT OF THE IMMOVABLE HERITAGE LISTED BUILDINGS	1616
<i>Vladan Henek, Václav Venkrbec</i>	

PROTECTION OF WORKERS AND THIRD PARTIES DURING THE CONSTRUCTION OF LINEAR STRUCTURES	1624
<i>Jitka Vlcková, Václav Venkrbec, Svatava Henková, Adam Chromý</i>	
FIRE RESISTANCE OF LARGE-SCALE CROSS-LAMINATED TIMBER PANELS.....	1632
<i>Vladan Henek, Václav Venkrbec, Miloslav Novotný</i>	
TREE-RING WIDTHS AND SNOW COVER DEPTH IN HIGH TAUERN	1639
<i>Malgorzata Falarz</i>	
TRACER TESTS HISTORY IN THE ALBURNI MASSIF (SOUTHERN ITALY).....	1646
<i>Mario Parise, Antonio Santo</i>	
GEO-MECHANICAL CHARACTERIZATION OF CARBONATE ROCK MASSES BY MEANS OF LASER SCANNER TECHNIQUE	1652
<i>Biagio Palma, Mario Parise, Anna Ruocco</i>	
MODELLING OF A DOUBLE-TRACK RAILWAY CONTACT SYSTEM ELECTRIC FIELD INTENSITY	1658
<i>Stanislav Belinsky, Olga Khanzhina, Alexander Sidorov</i>	
RESEARCH OF INFLUENCE OF NOISE POLLUTION ON THE VALUE OF THE THRESHOLD CURRENT TANGIBLE	1664
<i>Olga Khanzhina, Alexander Sidorov, Ekaterina Zykina</i>	
INTERPOLATION APPROACHES FOR CHARACTERIZING SPATIAL VARIABILITY OF SOIL PROPERTIES IN TUZ LAKE BASIN OF TURKEY	1670
<i>Taha Gorji, Elif Sertel, Aysegul Tanik</i>	
STUDY ON CONTROLLING FACTORS OF FORMATION AND EVOLUTION OF EARTH FOREST IN YUANMOU AREA, YUNNAN, CHINA	1678
<i>Penghui Luo, Shitao Zhang</i>	
EXTREME PRECIPITATION IN POLAND IN THE YEARS 1951-2010.....	1687
<i>Mirosława Malinowska</i>	
Author Index	