13th International Multidisciplinary Scientific GeoConference of Modern Management of Mine Producing, Geology and Environmental Protection

(SGEM 2013)

Albena, Bulgaria
16-22 June 2013

Book 1, Volume 1

ISBN: 978-1-62993-275-0
ISSN: 1314-2704
Some format issues inherent in the e-media version may also appear in this print version.
SECTION GEOLOGY

1. ANALYSIS AND RESEARCH OF GEO-ECOLOGICAL AND GEOLOGIC CONDITIONS OF KARABASH ORE MINING AREA, Assist. Prof. Dmitriy Ulrich, Prof. Sergey Denisov, Southern Ural State University, Russia .......................... 1

2. BOUNDARY SEDIMENTS BETWEEN VISEAN AND SERPUKHOVIAN STAGES IN THE BIG KARATAU (SOUTHERN KAZAKHSTAN), Prof. Adilkhan Baybatsha, Dr. Valentina Zhaymina, Sezim Mustapayeva, Kazakh National Technical University Named After K. I. Satpayev, Kazakhstan ........................................................................................................ 9


4. COMPOSITION PECULIARITIES OF THE ALTERED ORE FROM GOLD-ARSENO-PYRITE DEPOSIT, Dr. Liudmila Pavlova, Dr. Aleksander Spiridonov, Institute of Geochemistry, Siberian Branch of the Russian Academy of Sciences, Russia................................................................................................................................. 25

5. DISTRIBUTION OF Cu IN THE OLD BOR FLOTATION TAILING DUMP AS A FUNCTION OF FUTURE RECLAMATION OF THE FIELD, PhD Mile Bugarin, PhD Zoran Stevanovic, Vladan Marinkovic, Miroslava Maksimovic, Ljubisa Obradovic, Mining and Metallurgy Institute Bor, Serbia ................................................. 33

6. EVALUATION OF STRUCTURAL CHANGES THAT OCCUR DURING THE COMBUSTION OF COAL OF OLTENIA BASIN AT TURCIENI POWER PLANT, Dr. Georgeta Predeanu, Chem. Alexandru Traian Abagiu, Prof. Dr. Luminita Geogeta Popescu, Prof. Dr. Mihai Cruceru, University Constantin Brancusi of Targu Jiu, Romania................................................................. 39

7. FINDING SPECIES OF IMPURITY IN THE MINERAL ON ITS PHYSICAL PROPERTIES, Dr. Victor Onufrienok, Prof. Anatoly Sazonov, Siberian Federal University, Russia ................................................................................................................................. 47

8. FIRST DISCOVERY OF UNICUE CALCITE-FLUORAPATITE PERMINERALISATION OF PETRIFIED TREE IN THE CZECH REPUBLIC, Dr. Michal Rehor, Ing. Pavel Schmidt, Dr. Petr Sasek, Brown Coal Research Institute j.s.c., Czech Republic........................................................................................................ 55

9. GEOCHEMICAL AND MINERALOGICAL ALTERATIONS ASSOCIATED WITH THE HOSTROCKS OF KANKOY VOLCANOGENIC MASSIVE SULFIDE (VMS) DEPOSIT (TRABZON, NE-TURKEY), Assist. Prof. Dr. Abdurrahman Lermi, Assoc. Prof. Dr. Emin Ciftci, Nigde University, Turkey ........ 63

10. GEOECOLOGY OF EXPLORATION OF MINERAL RESOURCES OF THE REPUBLIC OF TYVA, Prof. DrSc. Vladimir Ilich Lebedev, Scientific Researcher
Maria Fedorovna Lebedeva, Tuvinian Institute for Exploration of Natural Resources of Siberian Branch of RAS, Russia .................................................................71

11. GEOSTATISTICAL ANALYSIS OF THE DRENICA COAL BASIN – FIELD SKENDERAJ, KOSOVO, Prof. Asoc. Dr. Naser Peci, Eng. Sali Mulaj, Mr. Sc. Halime Hajra, Prof. Assoc. Dr. Blerim Baruti, University of Pristina - Faculty of Geoscience and Technology, Kosovo .................................................................75

12. GEOSTRUCTURE-MORPHOSTRUCTURE RELATIONS OF SLANIC PRAHOVA – ALUNIS REGION FROM ROMANIAN ORIENTAL CARPATHIANS, Dr. Geologist Roxana Magdalena Fechet, CEPROCIM S.A., Romania.................................................................83

13. GOLD MINERALIZATION IN THE SOUTH SIBERIA (RUSSIA): MAIN TYPES, METALLOGENIC ZONATION, EXPLORATION PROSPECTS, Dr. Alexandr I. Chernykh, Siberian Research Institute of Geology, Geophysics and Mineral Resources (FGUP «SNIIGGiMS»), Russia .................................................................91

14. INTEGRATED GEOLOGICAL EXPLORATION TO POWER GENERATION PLANT. CASE STUDY: KONGORA COAL DEPOSIT, TOMISLAVGRAD, BOSNIA AND HERZEGOVINA, Hamo Isakovic, Rejhana Dervisevic, Indira Sijercic, University of Tuzla, Faculty of Mining, Geology and Civil Engineering, Bosnia and Herzegovina .................................................................99

15. LOW TEMPERATURE MINERALIZATION OF CUBANITE ORE OF NORILSK TYPES, Dr. Anatoly Mashukov, Dr. Vladimir Mikheyev, Elena Zhuravleva, Dr. Alla Mashukova, Siberian Federal University, Russia .................107

16. MINERALOGICAL, GEOCHEMICAL AND GENETIC IMPLICATION OF SMECTITE AND SEPIOLITE IN THE Oligo/Miocene Lacustrine Clayey Sediments of the Kurtulmustepe Formation, Aktoprak Basin, Nigde, Central Anatolia, Turkey, Dr. Ali Gurel, Nigde University, Turkey ........................................................................113

17. MINERALOGICAL, GEOCHEMICAL CHARACTERISATION OF CAN VOLCANICS AND RELATED KAOLIN DEPOSITS, CANAKKALE, TURKEY, Hatice Unal Ercan, O. Isik Ece, Zekiye Karacik, Istanbul Technical University, Turkey ........................................................................121

18. Nb AND Ta MINERALS FOUND IN ORASTIE MOUNTAINS, ROMANIA, PhD. Nicolae Ludusan, PhD. Dimen Levente, University 1 Decembre, Romania ...........129

19. ORE-BEARING STRATA LITHOLOGY OF THE ZHEZKAZGAN COPPER SANDSTONES DEPOSIT, Prof. Adilkhan Baibatsha, Dr. Anarbek Bekbotayev, Alma Bekbotayeva, Kazakh National Technical University Named After K. I. Satpayev, Kazakhstan ........................................................................135
20. ORGANIC FACIES VARIATION FROM WELL DATA ON THE COALY MIOCENE UNITS, THE WESTERN PART OF TURKEY (SAHINALI-AYDIN), Prof. Orhan Ozselik, Ress.Assist. Neslihan Unal, Ress.Assist. Selin Hokerek, Prof. Mehmet Altunsoy , Akdeniz University, Turkey.........................................................141


22. ORIGIN AND DEVELOPMENT OF THE TUVINO-MONGOLIAN MASSIF, Prof. DrSc. V.I. Lebedev, Prof DrSc. I.N. Kozakov, RAS Member DrSc. V.V. Yarmolyuk, Prof. DrSc. A.A. Kovach, KandSc. Ch.K. Oidup, Kand Sc.A.M. Sugorakova, Tuvinian Institute for Exploration of Natural Resources of Siberian Branch of RAS, Russia.................................................................157

23. PEBBLE CLASTIC PARTICLE MORPHOLOGY AND SURFACE ROUNding EVALUATION STUDIES, PhD St. Liga Zarina, Prof. Valdis Seglins, University of Latvia, Latvia..................................................161

24. PERSPECTIVES OF GEOTHERMAL ENERGY IN VOJVODINA WITH THE DEVELOPMENT OF TOURISM, Sasa Rogan, Milka Vidovic, Vojin Gordanic, Ivana Trajkovic, Vladimir Petrovic, University of Belgrade - Institute of Chemistry Technology and Metallurgy - Department for Ecology and Technoeconomics, Serbia.................................................................173

25. STUDY OF DIFFERENT FORMS OF COAL SUBSTANCE IN CARBONIFEROUS SEDIMENTS AND CALCULATION OF ITS TOTAL CONTENT IN THE BOREHOLE, Milos Duraj, Silvie Heviankova, Miroslav Kyncl, Iva Bestova, Marian Marschalko, Isik Yilmaz, Tomas Penaz, Marian Drusa, Arencibia Montero Orlando, VSB-Technical University of Ostrava, Czech Republic.................................................................179

26. TECTONIC PHASES – DYNAMIC EFFECTS OF THE MOMENTS OF CHANGE OF MEANING OF THE RADIAL MOTIONS INVOLVING EARTH, Dr. Mircea Ticleanu, Geological Institute of Romania, Romania..................187

27. THE MAIN TYPES OF BANKS OF ANGARA WATER RESERVOIRS: OVERVIEW OF THE PROBLEM, Dr. Victoria A. Babicheva, Martyna A. Rzetala, University of Silesia - Faculty of Earth Sciences, Poland.................................195

28. THE ORDOVICIAN IN VALONGO ANTICLINE (NORTHERN PORTUGAL): STATE OF ART, Prof. Helena Couto, University of Porto-Faculty of Sciences, Portugal.................................................................203

29. THE RIETVELD STRUCTURE REFINEMENT OF THE EPIDOTE CRYSTALS FROM BUCEGI CONGLOMERATES (ROMANIA) USING X-RAY
POWDER DIFFRACTION DATA, Dr. Mihai Ciocirdel, Dr. Gheorghe Adrian Branoiu, Petroleum-Gas University of Ploiesti, Romania.................................................209

30. THE RIETVELD STRUCTURE REFINEMENT OF THE WOLLASTONITE-2M CRYSTALS FROM BAITA BIHOR DEPOSIT (ROMANIA) USING X-RAY POWDER DIFFRACTION DATA, Dr. Gheorghe Adrian Branoiu, Assoc. Prof. Dr. Tudora Cristescu, Petroleum-Gas University of Ploiesti, Romania...............................217

31. THE ROLE OF OVERBANK AND STREAM SEDIMENTS IN THE MAKING OF GEOCHEMICAL MAP OF ADDITIVE SCATTERING HALOS; Cu+Pb+Zn AND DEFINING THE ECOLOGICAL STATUS OF THE REGION OF EASTERN-CENTRAL-WESTERN AND PART OF SOUTHERN SERBIA, Gordanic Vojin, Milka Vidovic, Trajkovic Ivana, Vladimir Petrovic, Ana Seke, University of Belgrade-Institute of Chemistry Technology and Metallurgy, Serbia.........................................................................................................................225

SECTION EXPLORATION AND MINING


33. ANALYSIS OF WAYS TO IMPROVE THE LEGAL FRAMEWORK FOR MINERAL RESOURCES PROTECTION AND VALORISATION IN TERMS OF SUSTAINABLE DEVELOPMENT IMPERATIVES, Assoc.Prof. Gabriel Bujor Babut, Assoc.Prof. Roland Iosif Moraru, University of Petrosani, Romania........243

34. APPLICATION THE SOFTWARE WHITTLE FOR PLANNING THE MINING DYNAMICS AT THE OPEN PIT SOUTH MINING DISTRICT MAJDANPEK, SERBIA, MSci Daniel Krhanovic, Miomir Mikic, PhD Milenko Ljubojev, Mining and Metallurgy Institute Bor, Serbia..........................................................251

35. ASPECTS REGARDING THE ORGANIZATIONAL RESTRUCTURING OF THE COAL MINING INDUSTRY IN ROMANIA IN TERMS OF CONTINUING THE EXTRACTION ACTIVITY IN CONDITIONS OF VIABILITY, PhD. Diana Cornelia Csiminga, PhD. Sorin Iuliu Mangu, PhD. Mirela Iloiu, University of Petrosani, Romania..........................................................259

36. BRIDGE SOLIDS KINEMATICS IN LINEAR STRUCTURES LOCATED ON MINING AREAS, Dr Marek Salamak, Silesian University of Technology, Poland.......................................................................................................................265

37. CALORIMETRIC STUDY OF BASIC PARAMETERS AFFECTING OXIDATION OF BROWN COAL, Prof. Ing. Boleslav Taraba, Ing. Vlastimil Moni, Ing, Radovan Zuma, Brown Coal Research Institute j.s.c., Czech Republic.................................................................273

39. CHARACTERIZATION OF THE GAS EMISSION REGIME FROM PRAID SALT MINE, Dorel Tamas, Dr. Constantin Lupu, Dr. Emilian Ghicioi, Dr. Doru Cioclea, Emeric Chiuzan, National Institute for Research and Development in Mine Safety and Protection to Explosion - INSEMEX, Romania……………………………..289

40. CLIMATIC TESTING OF MONITORING EQUIPMENT FOR MEASURING MINE GASES, Dr. Vladislav Vancura, Assoc. Prof. Oldrich Kodym, Dr. Lukas Otte, Dr. Dagmar Letavkova, VSB-Technical University of Ostrava, Czech Republic………………………………………………………………………………………………………297


42. COMPARING MEASUREMENT OF TECHNICAL STATE OF ROTATING PARTS OF SELECTED BELT CONVEYOR NO. PDP 112, Ing. Vlastimil Moni, Ing. Frantisek Helebrant, Ing. Pavel Schmidt, Brown Coal Research Institute j.s.c., Czech Republic………………………………………………………………………………………………………..309


44. COMPARISON OF TESTING METHODS FOR ROCK ABRASIVENESS, Dr. Milan Labas, Dr. Lucia Ivancicova, Institute of Geotechnics, Slovak Academy of Sciences, Slovakia…………………………………………………………………………………………………………325

45. COMPLEX LONG TIME MEASUREMENTS CARRIED OUT ON LIGNITE HEAP IN 2012, Ing. Vlastimil Moni, Ing. Pavel Schmidt, Ing Radovan Zima, Brown Coal Research Institute j.s.c., Czech Republic…………………………………………………………………………………………………………333

46. COMPREHENSIVE CHECK MEASUREMENT OF KEY PARAMETERS ON MODEL BELT CONVEYOR, Ing. Vlastimil Moni, Ing. Petr Klouda, Ing. Vaclav Skraban, Brown Coal Research Institute j.s.c., Czech Republic………………………………………………………………………………………………………………341

47. COMPUTER MODELING OF TECHNOLOGICAL PROCESSES IN UNDERGROUND MINING OF MANGANESE ORE, Prof. Nikoloz Chikhradze, Nika Bochorishvili, Dr. Edgar Mataradze, Prof. Goderdzi Tabatadze, G. Tsulukidze Mining Institute, Georgia……………………………………………………………………………………………………………349
48. CONSIDERATIONS REGARDING THE RISK OF LAND DEGRADATION INDUCED BY MINING OPERATIONS IN COAL OPEN PITS, Assoc. Prof. Dr.Eng.Ec. Goldan Tudor, Dr.Eng. Nistor Marian Catalin, University of Petrosani, Romania ................................................................. 357


51. CRITERIA FOR SELECTING METHODS OF DEVELOPING HEAVY HYDROCARBONS, Prof. Aleksander Lipaev, Sergei Lipaev, Almetyevsk State Oil Institute, Russia ......................................................................................................... 377

52. Cu-Au VALORIZATION FROM POORLY MINERALIZED ORE BODIES IN THE BUCHIM COPPER MINE, EASTERN MACEDONIA, Prof. Dr. Todor Serafimovski, Vasilij Barutskij, Kiril Filev, Dr. Goran Tasev, University Goce Delcev, FYR of Macedonia ........................................................................................................ 381


54. DESCRIPTION AND COMPARISON OF DIFFERENT TYPES OF PRIMING SYSTEMS, Ing. Vojtech Kala; Ing. Pavla Foitova Dernerova; doc. Ing. Milan Mikolas, Ph.D.; Ing Pavel Paus, VSB-Technical University of Ostrava, Czech Republic ........................................................................................................ 397

55. DETERMINING THE OPTIMAL OPERATING PARAMETERS OF THE WHEEL BUCKET EXCAVATOR AT THE WORK IN OVERBURDEN, Prof. Dr. Zoran Panov, MSc. Radmila Karanakova Stefanovska, MSc. Risto Popovski, Dejan Boskovski, University Goce Delcev, FYR of Macedonia ........................................................................................................ 403

56. DILATANCY AND RHEOLOGY OF SEDIMENTARY ROCKS FROM JIU VALLEY AND THEIR IMPLICATIONS TO ENSURE THE MAIN HORIZONTAL MINE WORKINGS STABILITY, Assoc. Prof. Ph.D. Eng. Mihaela Toderas – University of Petrosani, University of Petrosani, Romania ........................................................................................................ 409

57. DIMENSIONING THE INTRINSIC SAFETY BARRIERS OF ELECTRICAL EQUIPMENT INTENDED TO BE USED IN POTENTIALLY EXPLOSIVE ATMOSPHERES USING THE SIMPOWERSYSTEMS SOFTWARE PACKAGE, PhD.Std. Eng. Vlad-Mihai Pasculescu, Prof.PhD.Eng Sorin Mihai Radu, Lecturer PhD.Eng Dragos Pasculescu, Assoc.Prof.PhD.Eng. Titu Niculescu, National
Institute for Research and Development in Mine Safety and Protection to Explosion - INSEMEX, Romania........................................417

58. EARTH SOURCES EXPLOITATION LABORATORY AS A CREATIVE TYPE INSTRUMENT OF SURFACE MINING VISUALIZATION AND MODELING, Assoc. prof. Radim Rybar, PhD., Jana Horodnikova, PhD., Technical University of Kosice, Slovakia........................................423

59. ECONOMIC ANALYSIS OF POLYMETALLIC NODULES IN DEEP SEA FLOOR, Prof. Ing. Michal Cehlar, Assoc.Prof. Ing. Lucia Domaracka, Assist. Prof. Mgr. Maria Muchova, Technical University of Kosice, Slovakia......................431

60. ECONOMIC EVALUATION OF USABILITY OF ABANDONED MINING WORKS, Assoc. Prof. Erik Weiss, MSc., PhD., Assoc. Prof. Ladislav Mixtaj, MSc., PhD., Roland Weiss, MSc., PhD., Prof. Gabriel Weiss, MSc., PhD., Technical University of Kosice, Slovakia........................................439

61. ENERGETIC EFFICIENCY GROWTH OF COMPRESSED AIR DISTRIBUTION NETWORKS USED IN UNDERGROUND COAL MINES, Prof. Sorin Mihai Radu, DSc Sorina Stanila, University of Petrosani, Romania...........447

62. ENVIRONMENTAL IMPACT OF MINE LIQUIDATION IN ZACLER (CZECH REPUBLIC) – CASE STUDY, Andrzej Harat Mgr, PhD., Arnost Grmela Assoc. Prof., University of Bielsko-Biala, Poland..............................455

63. EVALUATION OF INNOVATIVE ASPECTS IN MINING COMPANY, Doc. Ing. Lucia Domaracka, PhD., Mgr. Maria Muchova, PhD., Ing. Jaroslav Gonos, PhD., Technical University of Kosice, Slovakia.........................................463

64. FINANCIAL ANALYSIS AND EXECUTIVE DEVELOPMENT OF MINING COMPANY DURING THE CRISIS, Jozef Zuzik, MSc., PhD., Michal Baran, MSc., Technical University of Kosice, Slovakia........................................469

65. FINITE ELEMENT METHOD ANALYSIS OF THE CROWN PILLAR STABILITY IN THE CASE OF THE ROSIA POIENI COPPER DEPOSIT, Prof. Ilie Onica, Prof. Eugen Cozma, University of Petrosani, Romania...............477

66. FORMER DUMP SITES AND THE LANDFILL MINING PERSPECTIVES IN BALTIC COUNTRIES AND SWEDEN: THE STATUS, Juris Burlakovs, Mait Kriipsalu, Dace Arina, Fabio Kaczala, Sergey Shmarin, Prof. Gintaras Denafas, Prof. William Hogland, University of Latvia, Latvia........................................485

68. IMPACT OF ACQUISITION ON FINANCIAL INDICATORS OF MINING COMPANY, Roland Weiss, MSc., PhD., Assoc. prof. Ladislav Mixtaj, MSc., PhD., Assoc. prof. Erik Weiss, MSc., PhD., Pavel Kukucka, MSc., PhD., Technical University of Kosice, Slovakia..........................................................501

69. IMPACT OF UNDERGROUND COAL MINING ON QUATERNARY HYDROGEOLOGY IN THE CZECH PART OF THE UPPER SILESIAN COAL BASIN, Ing. Malucha Pavel, Assoc. Prof Rapantova Nada, PhD., Green Gas DPB a.s., Czech Republic.............................................................................507

70. IMPORTANCE OF GRAVITATIONAL TRANSPORT IN QUARRIES, Dr Samir Nuric, Dr Adila Nuric, Mr Zuhdija Keskovic, Dr Resad Husagic, University of Tuzla Faculty of Mining Geology and Civil Engineering, Bosnia and Herzegovina...515

71. INVESTIGATION OF SIGNIFICANT CUTTING PARAMETERS AFFECTING SURFACE ROUGHNESS OF THE ROCKS SAWN BY DISC CUTTERS, Dr. Gokhan Aydin, Dr. Izzet Karakurt, Dr. Kerim Aydiner, Karadeniz Technical University, Turkey..........................................................523

72. MATHEMATICAL MODELS OF THE VERTICAL SALT TRANSFER AT MINE DUMPS FOR SUBSTANTIATION OF THEIR RECLAMATION METHOD, Doc. of Geological Science, Prof. Galina Yevgrashkina, Alexandra Hejiy, Dnipropetrovsk National University, Ukraine...........................................................................531

73. MODELLING OF LEVEL OF UNDERGROUND WATER IN SURFACE MINING OF SANDS AND CLAYS, Prof. Dr. Zoran Panov, MSc. Risto Popovski, MSc. Radmila Karanakova Stefanovska, Dejan Boskovski, Prof. Dr. Dejan Mirakovski, MSc. Blagica Doneva, Prof. Dr. Todor Delipetrov, University Goce Delcev, FYR of Macedonia..........................................................539

74. NEW DEVICES USED IN DETERMINING AND ASSESSING MECHANICAL CHARACTERISTICS OF COAL, Dr hab. ing. Witold Bialy, prof. Pol. Sl, Silesian University of Technology, Poland...........................................................................547

75. NEW TRENDS OF AUTOMATION AND CONTROL OF OPENCAST MINING TECHNOLOGY, Assoc. Prof. Zdenek Neustupa, Dr. Filip Benes, Assoc. Prof Vladimir Kebo, Assoc. Prof. Oldrich Kodym, VSB-Technical University of Ostrava, Czech Republic..........................................................555

77. OPERATIONAL MEASUREMENT AT DIGGING WHEEL EXCAVATOR, Assoc. prof. Jiri Fries; assoc. prof. Frantisek Helebrant, VSB-Technical University of Ostrava, Czech Republic…………………………………………………………………………………………………571


79. POSSIBLE COMPLICATIONS AT TRANSPORT OF POLYMETALLIC NODULES FROM SEABED BY MEANS OF SELF-PROPELLED MINING MACHINE WITH FLEXIBLE RISER, Assoc. Prof. Ing. Dusan Kudelas, Assist.Prof. Ing. Jan Kosco, Assoc.Prof. Ing. Peter Taus, Technical University of Kosice, Slovakia…………………………………………………………………………………………………587


81. POTENTIAL MINING WASTE FROM AU-PORPHYRY DEPOSIT BIELY VRCH (SLOVAKIA), Dr. Peter Sottnik, Marian Petrak, Jana Michnova, Dr. Lubomir Jurkovic, Dr. Bronislava Volekova,, Comenius University Bratislava, Slovakia……603

82. PROGRESSIVE APPROACH TO EVALUATION OF MINERAL DEPOSITS, Dr. Daniela Hrheova, PhD., Prof. Ing. Michal Cehlar, PhD., Dr. Natalia Mitterpachova, Marek Mitterpak, Technical University of Kosice, Slovakia……..609


84. PROTECTION OF THE UNDERGROUND MINING STRUCTURES AGAINST THE ROCK BLASTING EFFECTS IN THE CASE OF ROSIA POIENI OPEN PIT, Eng. Dan Onet, Prof. Constatin Semen, Prof. Eugen Cozma, Prof. Ilie Onica, University of Petrosani, Romania………………………………………………………………………………………………………………………………………625


86. REGIONAL PROGNOSIS – ANALYTICAL ASSESSMENT OF PART OF ROCK MASS IN THE ASSESSMENT OF COAL AND GAS OUTBURST RISK IN MINES, Prof. Ing. Vlastimil Hudecek, CSc., Ing. Pavel Zapletal, Ph.D., Ing. Milan
87. REGRESSION FUNCTION APPLICATION FOR PREDICTING FUTURE EXTRACTION OF BRICK MAKING MINERALS, Ing. Lucie Kucerova, Ing. Jana Luksova, VSB-Technical University of Ostrava, Czech Republic

88. RELEVANT ASPECTS IN RISK ASSESSMENT FOR MINING INVESTMENT PROJECTS, Mirela Iloiu, Diana Cornelia Csiminga, Ph.D. Sorin Radu Iloiu, University of Petrosani, Romania

89. REMOVAL OF METALS FROM MINE WATER BY ASH FROM COMBUSTION OF BIOMASS OF PLANT ORIGIN, Ing. Lucie Kucerova, Ing. Silvie Heviankova, Ph.D., Ing. Iva Bestova, Ph.D., doc. Dr. Ing. Radmila Kucerova, VSB-Technical University of Ostrava, Czech Republic

90. REOPENING A COAL FACE FROM PETRILA MINING UNIT AFTER THE OCCURRENCE OF AN EXPLOSION, Dr. Ion Toth, Dr. Constantin Lupu, Dr. Emilian Ghicioi, Dr. Doru Ciocelea, National Institute for Research and Development in Mine Safety and Protection to Explosion - INSEMEX, Romania

91. RESEARCH IN CLOSING ACTIVITIES FOR SALT MINES DUE TO SUSTAINABILITY AT OCNA MURES SALT MINE, eng. Lasc Gheorghe Ph.D. Student, prof. Arad Victor Ph.D, University of Petrosani, Romania

92. RESEARCH ON THE IMPACT OF MINING ACTIVITIES ON ROAD STRUCTURES FROM GORJ COUNTY, PhD. Stud. NISTOR Daniel Cristian, Prof. Dr. Eng. Arad Victor, University of Petrosani, Romania


94. RFID TECHNOLOGY IN MINING INDUSTRY, Miroslav Stolba, Tomas Jurco, Vladimir Kebo, VSB-Technical University of Ostrava, Czech Republic

95. SEALING QUALITY INCREASING OF COAL SEAM GAS DRAINAGE WELLS BY BARRIER SCREENING METHOD, Tatiana Shilova, Andrey Patutin, Sergey Serdyukov, Institute of Mining, Russia

96. SMART CART FOR THE MINING MAINTENANCE SUPPORT, Tomas Jurco, Miroslav Stolba, Vladimir Kebo, VSB-Technical University of Ostrava, Czech Republic

97. STATE OF THE ART IN UNDERGROUND COAL MINING AUTOMATION AND INTRODUCTION OF A NEW SHIELD-DATA-BASED HORIZON CONTROL APPROACH, Stephan Beitler, Mirjam Holm, Thorsten
Arndt, Armin Mozar, Dr. Martin Junker, Prof. Dr. Christian Bohn, Clausthal University of Technology Institute of Electrical Information Technology, Germany…………..715

98. STUDY OF METHANE FLOW IN CAVED GOAFS ADJACENT TO LONGWALL FACES IN VALEA JIULUI COAL BASIN, Assoc. Prof. Roland Iosif Moraru, Assoc. Prof. Gabriel Bujor Babut, Prof. Lucian Ionel Cioca, University of Petrosani, Romania……………………………………………………………………………….731

99. STUDY ON NOISE POLLUTION IN CAREERS FROM MINING BASIN OF OLTENIA, Dr. Mihut Nicoleta , University Constantin Brancusi of Targu Jiu, Romania……………………………………………………………………………….739

100. SULFUR IN LIGNITES OF KOLUBARA COAL MINES (KCM) – ENVIRONMENTAL FRIENDLY?, Bogoljub Vuckovic, Dusko Nesic, Mining Basin Kolubara, Serbia……………………………………………………………………………….743

101. TECHNICAL AND ECONOMIC OPTIMIZATION OF THE PARAMETERS OF THE TOP COAL CAVING MINING METHOD IN THE JIU VALLEY BASIN, Prof. Ilie Onica, Prof. Eugen Cozma, Eng.Viorel Mihaiescu, University of Petrosani, Romania……………………………………………………………………………….749

102. TECHNICAL SOLUTIONS FOR REDUCING FRESH WATER INPUT WHEN EXTRACTING SALT FROM THE SLANIC SALT DEPOSIT PRAHOVA, eng. Lasc Gheorghe Ph.D. Std, Prof. Arad Victor Ph.D., Bariac Oana Ph.D. Std., University of Petrosani, Romania……………………………………………………………………………….757

103. THE APPLICATION OF MODELS IN THE REGENERATION OF LANDSCAPE AFFECTED BY COAL OPENCAST, Assoc. Prof. Dr. Ing. Zdenek Neustupa, Ing. Vladislav Vancura, Ph.D., Ing. Roman Danel, Ph.D., Ing. Lukas Otte, Ph.D., VSB-Technical University of Ostrava, Czech Republic……………………………………………………………………………….765

104. THE ECONOMIC IMPORTANCE OF TRACKING EXPENSES RELATED TO THE QUALITY OF THE PROCESS MANAGEMENT IN AN ENVIRONMENT OF MINING COMPANY, Assoc. prof. Ladislav Mixtaj, MSc., PhD., Assoc. prof. Erik Weiss, MSc., PhD., Roland Weiss, MSc., PhD., Slavomir Labant, MSc., PhD., Technical University of Kosice, Slovakia……………………………………………………………………………….773


107. THE MONITORING OF TEMPERATURE INSIDE OF COAL STOCKPILES AND OF CLIMATIC PARAMETERS IN ORDER TO PREVENT SELF-HEATING PHENOMENON OF COAL DURING STORAGE, Luminita Georgeta Popescu, Mihai Cruceru, Bogdan Diaconu, Grofu Florin, Cristinel Popescu, Constantin Brancusi University of Targu-Jiu, Romania…………………………795


110. TREATMENT OF ACID MINE DRAINAGE (AMD) FROM BROWN COAL MINE SOKOLOV (CZECH REPUBLIC), Dr. Tomas Klimko, Dr. Silvie Heviankova, Dr. Iva Bestova, Prof. Miroslav Kyncl, VSB-Technical University of Ostrava, Czech Republic…………………………………………………………817

111. VERIFICATION OF ACOUSTIC MODEL OF THE ROCK CUTTING PROCESS, Dr. Lucia Ivanicová, Dr. Milan Laba, Dr. Frantisek Krepelka, Vladena Baranova, Dr. Jozef Futy, Institute of Geotechnics, Slovak Academy of Sciences, Slovakia……………………………………………………………………823

112. WAYS TO IMPROVE COAL EXTRACTION OPERATIONS IN LIGNITE OPEN PITS WITHIN OLENIA BASIN, ROMANIA, Assoc. Prof. Dr. Eng. Ec. Goldan Tudor, Assoc. Prof. Dr. Eng. Moraru Roland, Dr. Eng. Nistor Marian Catalin, University of Petrosani, Romania………………………………………………831
13th International Multidisciplinary Scientific GeoConference of Modern Management of Mine Producing, Geology and Environmental Protection

(SGEM 2013)

Albena, Bulgaria
16-22 June 2013

Book 1, Volume 2

ISBN: 978-1-62993-275-0
ISSN: 1314-2704
SECTION HYDROGEOLOGY, ENGINEERING GEOLOGY AND GEOTECHNICS

1. 3D GEOLOGICAL MODEL OF BUCHAREST CITY QUATERNARY DEPOSITS, Irina Serpescu, Dr. Emil Radu, Dr. Constantin Radu Gogu, Dr. Mohamed Amine Boukhemacha, Dragos Gaitanaru, Prof. Ioan Bica, Technical University of Civil Engineering of Bucharest, Romania...............................................................1

2. ACTIVE ZONE IMPACT ON DEFORMATION STATE OF FLEXIBLE PAVEMENT, Assoc. Prof. Dr. Jan Mandula, Technical University of Kosice, Slovakia...........................................................................................................9

3. CALCULATION OF RESPONSE STOCHASTIC SPECTRUM IN DISPLACEMENT FOR PROTECTION HARBOR CONSTRUCTION TO SEISMIC APPLICATION, PhD, Eng. Stan Mari Isabella, Ovidius University of Constanta, Romania................................................................................................................17

4. CHANGES IN THE STRUCTURE OF WATER INFLOW INTO COAL MINES IN POLAND, Assoc. Prof. Przemyslaw Bukowski, Iwona Augustyniak, Central Mining Institute (GIG), Poland..................................................................................................................25

5. COMPARASSION CASE STUDY REGARDING THE BEHAVIOUR IN TIME OF A REINFORCED CONCRETE FOUNDATION MAT OF A HISTORICAL BUILDING, Ph.D. St Florin-Catalin Miron, Ph.D. Std Beniamin Songeorzan, Politehnica University of Timisoara, Romania.................................................................33

6. COMPARISON BETWEEN STOCHASTIC AND DETERMINISTIC APPROACHES IN SLOPE STABILITY ANALYSIS, eng. Adrian Priceputu, PhDC, eng. Adrian Liviu Bugea, PhDC, eng. Alexandra Anghel, PhDC, Assoc Prof eng. Manole Stelian Serbulea, PhD, Technical University of Civil Engineering of Bucharest, Romania........................................................................................................41

7. COMPARISON OF METHODS FOR THE DETERMINATION OF BUILDING STONE PORE SPACE PROPERTIES, MSc. Katerina Kovarova, Ph.D., CTU in Prague, Czech Republic.................................................................49

8. CONSTRUCTIVE SOLUTIONS REGARDING THE ASSEMBLY PLATFORMS AND ACCESS ROADS FOR THE TORTOMAN WIND TURBINES, Assist. Luiza ROMAN, Assist. Paul MARC, Assist. Octavian Roman, Politehnica University of Timisoara, Romania..................................................................................57

9. CURRENT TRENDS IN SPACE-BORNE MONITORING TECHNIQUES APPLIED FOR SOIL INSTABILITY DETECTION, Assoc Prof eng. Manole Stelian Serbulea, PhD., eng. Adrian Andronic, PhDC, Asst Prof. eng. Daniel Marcel Manoli, PhD, eng. Cosmin-Victor Rosu, PhDC, Technical University of Civil Engineering of Bucharest, Romania.................................................................65
<table>
<thead>
<tr>
<th>Chapter</th>
<th>Title</th>
<th>Authors</th>
<th>Pages</th>
</tr>
</thead>
<tbody>
<tr>
<td>10</td>
<td>DESIGN LIMITS OF REINFORCED SOIL STRUCTURES IN DIFFICULT GEOLOGICAL CONDITIONS</td>
<td>Marian Drusa, David Laminek, Jozef Vlcek, Silvia Heviankova, Miroslav Kyncl, Ladislav Kais, Marien Marschalko, Isik Yilmaz et al., VSB-Technical University of Ostrava, Czech Republic</td>
<td>71</td>
</tr>
<tr>
<td>11</td>
<td>DESIGNING SPREAD FOUNDATION WITH AN INCLINED ECCENTRIC LOAD BY VARIOUS STANDARDS</td>
<td>Assoc. Prof. Giang Nguyen, University of Zilina - Faculty of Civil Engineering - Department of Geotechnics, Slovakia</td>
<td>79</td>
</tr>
<tr>
<td>12</td>
<td>DETERMINATION OF AN UNCERTAINTY OF DIRECT SHEAR TEST RESULTS OF SOILS</td>
<td>Assoc. Prof. Giang Nguyen, University of Zilina - Faculty of Civil Engineering - Department of Geotechnics, Slovakia</td>
<td>87</td>
</tr>
<tr>
<td>13</td>
<td>DETERMINATION OF THE PHYSICAL AND MECHANICAL PROPERTIES OF TRAVERTINES IN ANTALYA PROVINCE</td>
<td>Arif Nihat AKCAL, Mustafa Hilmi ACAR, Akdeniz University, Turkey</td>
<td>95</td>
</tr>
<tr>
<td>14</td>
<td>DYNAMIC ANALYSIS OF A HIGH ROAD EMBANKMENTS CLOSE TO A BRIDGE</td>
<td>Dragos Vintila, Diana Doina Tenea, Ovidius University of Constanta, Romania</td>
<td>103</td>
</tr>
<tr>
<td>15</td>
<td>DYNAMICS OF POLLUTANTS TRANSPORTATION BY THE STREAM FLOW FROM TECHNOGENIC TERRITORIES</td>
<td>Assis. Prof. Dmitriy Ulrich, Prof. Sergey Denisov, Southern Ural State University, Russia</td>
<td>111</td>
</tr>
<tr>
<td>16</td>
<td>ESTABLISHMENT OF NATURAL STATE OF GROUNDWATER AFTER THE COMPLETION OF SALT MINE EXPLOITATION IN TUZLA</td>
<td>Prof. Nedjo Djuric, Technical Institute Bijeljina, Bosnia and Herzegovina</td>
<td>117</td>
</tr>
<tr>
<td>17</td>
<td>EXPERIMENTAL RESEARCH ON THE ASSESSMENT OF DYNAMIC PARAMETERS FOR DIFFERENT TYPES OF ROMANIAN LOESS, BASED ON STRENGTH AND DEFORMATION STATE</td>
<td>Dr. Eng. Cornelia-Florentina Dobrescu, Geol. Elena-Andreea Calarasu, INCD URBAN INCERC National Institute for Research and Development in Constructions Urbanism, Romania</td>
<td>125</td>
</tr>
<tr>
<td>18</td>
<td>FOLDING AND FAULTING OF THE LIMESTONE MASSIF TRIGGERED BY DEEP-SEATED CRUSTAL LINEAMENT (DUBOKI POTOK-BIJELA RIJEKA, BOSNIA AND HERZEGOVINA)</td>
<td>Rejhana Dervisevic, Indira Sijercic, Hamo Isakovic, University of Tuzla, Faculty of Mining, Geology and Civil Engineering, Bosnia and Herzegovina</td>
<td>133</td>
</tr>
<tr>
<td>19</td>
<td>FOUNDATION SOLUTION WITH HEMISPHERICAL FOOT ELEMENTS</td>
<td>Assoc. Prof. Dr. Eng. Monica Mirea, Politehnica University of Timisoara, Romania</td>
<td>141</td>
</tr>
<tr>
<td>20</td>
<td>FOUNDATION SOLUTIONS FOR BUILDINGS LOCATED IN SEISMIC ZONES, USING GEOSYNTHETIC REINFORCED GRANULAR MATERIALS</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

22. GEOTECHNICAL ACTIVITIES FOR REMEDIATION AND RECLAMATION THE FLOTATION DAM 1 AND FLOTATION DAM 2 VELIKI KRIVELJ (SERBIA), Sladjana Krstic, Ruzica Lekovski, Milenko Ljubojev, Vesna Ljubojev, Mining and Metallurgy Institute Bor, Serbia………………….165


24. HYDRAULIC CHARACTERIZING OF TUNNELS BARRIER’S EFFECT FOR GROUNDWATER FLOW MODELING- APPLICATION FOR BUCHAREST CITY, Dr. Mohamed Amine Boukhemacha, Dr. Constantin Radu Gogu, Irina Serpescu, Dragos Gaitanaru, Prof. Ioan BICA, Alin Diaconescu, Alexandru Brusten, Technical University of Civil Engineering of Bucharest, Romania…………………179


26. HYDROGEOCHEMICAL CHARACTERISTICS OF WATERS IN STAN TERG DEPOSIT, TREPZA, Festim Kutllovci, Sylejman Hyseni, Islam Fejza, Sabri Avdullahi, University of Prishtina, Kosovo………………………………………………195

27. HYDROGEOCHEMICAL CHARACTERISTICS OF UNDERGROUND AQUIFER LEVEL, LAKES AND SURFACE FLOWS OF THE AREA OF BELA CRKVA-ECOLOGICAL STATUS, Milka Vidovic, Vojin Gordanic, Vesna Spasic-Jokic, Sasa Rogan, Vladimir Petrovic, University of Belgrade -Institute of Chemistry Technology and Metallurgy, Serbia………………………………………………………203

28. HYDROGEOLOGICAL CHARACTERISATION OF THE GROUNDWATER BODIES FROM THE SOUTHERN PART OF ROMANIA, Dr. Rodica Macalet, Dr. Emil Radu, Eng. Catalina Radu, Dr. Ada Pandele, National Institute of Hydrology and Water Management, Romania……………………………………211

29. HYDROSTRATIGRAPHY OF PRE-QUATERNARY FORMATIONS SITUATED IN BOTTOM OF ROMANIAN DANUBE FLOODPLAIN (CALAFAT- TURNU MAGURELE SECTOR), Dr. Petru Enciu, Dr. Mihaela Sima, Dr. Cristina Dumitrica, Institute of Geography, Romania……………………………………219
30. INTERPRETATION GEOTECHNICAL INDICES OF SOIL FOUNDATION TO BUILD A FAMILY HOUSE, PETRESTI LOCALITY, ALBA COUNTY, eng. Balaneanu Ecaterina, Prof. Dr. Arad Victor, eng. Balaneanu Flavius, Eng. Caragea Viorel, University of Petrosani, Romania

31. LABORATORY STUDIES ON SAND WITH VARIOUS GEOSYNTHETIC REINFORCEMENT MATERIALS, Assist. Luiza Roman, Assist. Octavian Roman, Lecturer. Alexandra Ciopec, Politehnica University of Timisoara, Romania

32. MATHEMATICAL MODEL OF HYDROGEOLOGICAL CHANGES OF THE AREAS, ADJACENT TO PONDS-STORAGE OF WASTE MINE WATER, Doct. of Geological Science, Prof. Galina Yevgrashkina Post-graduate Std Anastasia Omelchuk, Dnipropetrovsk National University, Ukraine

33. MESHLESS SOLUTION OF THE SLOPE STABILITY, Ing. Juraj Muzik, PhD., Ing. Martin Pitonak, PhD., Ing. Andrej Villim, University of Zlina, Slovakia

34. MIGRATION OF VOC IN THE GROUNDWATER RESERVOIR MODELLED BY RBCA TIER 2 ANALYZER, Dr. Kristine Martens & Prof. Dr. Kristine Walraevens, Ghent University, Belgium

35. MODELING OF OPERATIONAL BEHAVIOUR OF A RAILWAY EMBANKMENT, Diana Tenea, Dragos Vintila, Ovidius University of Constanta, Romania

36. MORPHOMORPHOMETRIC STUDY OF DETRITUS AND SLOPE RUBBLE FRAGMENTS FROM THE IMPORTANT DETRITUS FIELDS OF THE TORRENT CARAREA MAGARILOR (JIU’S GATE), Assist. Dr.Eng. Postolache Mihaela, Dr.Eng. Nistor Marian Catalin, University of Petrosani, Romania

37. NONLINEAR ANALYSIS OF A HIGH ROAD EMBANKMENT, Dragos Vintila, Diana Doina Tenea, Ovidius University of Constanta, Romania

38. NUMERICAL PARAMETRICAL STUDY ON THE BARRIER EFFECT IN UNCONFINED AQUIFERS, Alexandru Brusten, Dr. Mohamed Amine Boukhemacha, Dr. Constantin Radu Gogu, Prof. Ioan Bica, Dragos Gaitanaru, Technical University of Civil Engineering of Bucharest, Romania


40. POSSIBLE DEFICIENCIES AT APPLICATION OF GEOSYNTHETIC MATERIALS IN SOME RETAINING WALLS, Assist. Luiza Roman, Alexandra Ciopec, Assist. Octavian Roman, Politehnica University of Timisoara, Romania
41. PROBABILISTIC ANALYSIS OF REINFORCED EARTH WALLS, Diana Tenea, Dragos Vintila, Ovidius University of Constanta, Romania.................................309

42. PROBABILISTIC BACK ANALYSIS AND THEIR RELIABILITY OF PLANE FAILURE: A CASE STUDY FROM TRABZON-GUMUSHANE HIGHWAY, NE TURKEY, Nurcihan Ceryan, Balikesir University, Turkey...........317

43. REPAIR OF THE ASHLAR MASONRY BATTLEMENTS OF KOST CASTLE WITHIN THE LAPIDARIUS PROJECT, Dr. Jiri Blaha, Dr. Svatoslav Chamra, Michal Panacek, Tomas Rafi, CTU in Prague, Czech Republic............325

44. RESEARCH CONCERNING THE MECHANICAL RESISTANCES OF SOILS STABILIZED WITH FLYING ASHES, Assoc. Prof. Dr. Eng. Monica Mirea, Assoc. Prof. Dr. Eng. Cristina Otilia Voicu, Politehnica University of Timisoara, Romania.................................................................333


46. SEEPAGE ANALYSIS FOR A SHOPPING CENTER BUILT NEAR A RIVER, PhD Std Raluca Ioana Chirica, eng. Catalin Veghiu, Technical University of Civil Engineering of Bucharest, Romania..............................................349

47. SOIL IMPROVEMENT USING THE ELECTRO-OSMOSIS, Assoc Prof eng. Manole Stelian Serbulea, PhD., eng. Cosmin-Victor Rosu, PhDC, Asst Prof. eng. Daniel Marcel Manoli, PhD,eng. Adrian Andronic, PhDC, Technical University of Civil Engineering Bucharest, Romania.................................................................357

48. SOIL STABILITY ANALYSIS OF A DEEP EXCAVATION PLACED IN HISTORICAL UNSTABILITY BLACK SEA COSTAL AREA, Dr. Eng. Silviu Ginju, Prof. Dr. Eng. Anton Chirica, SC STRUCON PROIECT SRL, Romania........365

49. STABILITY ANALYSIS OF THE LARGE SCALE DUMP IN THE CZECH REPUBLIC, Hynek Lahuta, Robert Korinek, Eva Hrubesova, Lukas Duris, VSB-Technical University of Ostrava, Czech Republic.........................................................371

50. STATUS AND PROBLEMS OF THE USE OF GROUNDWATER FOR DRINKING DANUBE LOWLANDS PURPOSES (THE EXAMPLE OF THE VIDIN LOWLAND), Prof. Aleksey Benederev, Assist. Prof. Miroslav Krastanov, Assoc. Prof. Nikolay Dobrev, Geological Institute at Bulgarian Academy of Sciences, Bulgaria.........................................................379

51. STOCHASTIC ANALYSIS OF SLOPE STABILITY FOR CONSTANTA HARBOUR NORTH BREAKWATER USING MONTE CARLO SIMULATION, Dragos Vintila, Diana Doina Tenea, Gabriela Badea, Ovidius University of Constanta, Romania.................................................................387
52. STUDIES CONCERNING THE INFLUENCE OF RELATIVE DENSITY AND MOISTURE CONTENT ON THE COLLAPSIBLE SOILS SHEAR RESISTANCE LOCATED IN THE CITY OF GALATI, Dr. geol. Elena-Andreea Calarasu, Dr. Eng. Cornelia-Florentina Dobrescu, INCD URBAN INCERC National Institute for Research and Development in Constructions Urbanism, Romania ……. 395

53. STUDIES ON THE STABILIZATION OF EXPANSIVE SOILS TREATED WITH GRANULAR MATERIALS, PhD Std Tatiana Ivasuc, Ernest Olinic, Prof. Sanda Manea, Barbara Soare, University of Agronomic Science and Veterinary Medicine - Bucharest, Romania .............................................................................. 403

54. STUDY OF A REINFORCED ROCKFILL DAM ON DEFORMABLE FOUNDATION USING PLAXIS, PhD Std Alexandru-Corneliu Stematiu, Technical University of Civil Engineering Bucharest, Romania .............................................................................. 411

55. STUDY OF SOME FOUNDATION SOLUTIONS FOR WIND TURBINES, Alexandra Ciopec, Assist. Luiza Roman Assist. Octavian Roman, Politehnica University of Timisoara, Romania .............................................................................. 419

56. STUDY OF THE CAUSES OF SOME SOIL SETTLINGS AND SIDE DISCHARGES ON TWO EMBANKMENTS ON DN57, Assoc. Prof. Dr. Eng. Monica Mirea, Assoc. Prof. Dr. Eng. Cristina Otilia Voicu, Politehnica University of Timisoara, Romania .............................................................................. 427

57. STUDY OF THE INFLUENCE OF SLAG AND ASH DEPOSIT FROM C.E.T TURCENI ON THE WATER INFILTRATION IN CLOSE AREAS, Dr. Mihut Nicoleta, University Constantin Brancusi of Targu Jiu, Romania .............................................................................. 435

58. STUDY ON APPLICATION OF MEMS SENSOR NETWORK TO MONITORING METHOD OF RETAINING WALL BEHAVIOR, Nao Minakata, Prof. Satoshi Nishiyama, Takao Yano, Hitoshi Tezuka, Kouichi Aoki, Kyoto University, Japan .............................................................................. 443

59. STUDYING THE BEHAVIOR OF UNDERGROUND CONSTRUCTIONS STEEL TIMBERING IN ORDER TO INCREASE THEIR PERFORMANCE, Assist. Dr. Eng. Dura Cristina, Assist. Dr. Eng. Danciu Ciprian, University of Petrosani, Romania .............................................................................. 451

60. TEMPORAL VARIABILITY OF THE GROUNDWATER RECHARGE: CASE STUDIES FROM BULGARIA, Dr. Tatiana Orehova, Geological Institute at Bulgarian Academy of Sciences, Bulgaria .............................................................................. 459

61. THE ANALYSIS OF SELECTED PROPERTIES OF SOLID ROCK MATERIALS DESIGNED FOR SHAFTS LIQUIDATION, Dr. Przemyslaw Bukowski, Katarzyna Niedbalska, Central Mining Institute (GIG), Poland .............................................................................. 467
62. THE APPLICATION OF NEW SLOPE SURVEY TECHNOLOGIES IN GEOTECHNICS, Vladimir Susic, Snezana Zecevic, Jelena Pandzic, Verica Erix, Uros Djuric, University of Belgrade Faculty of Mining and Geology, Serbia

63. THE APPLICATIONS OF EULER-LAGRANGE COUPLING IN GEOTECHNICAL ENGINEERING MODELLING, Assoc Prof eng. Manole Stelian Serbulea, PhD., eng. Adrian Andronic, PhDC, Asst Prof. eng. Daniel Marcel Manoli, PhD, eng. Adrian Priceputu, PhDC, Technical University of Civil Engineering of Bucharest, Romania


65. THE EFFECT OF DEVIATORIC DEFORMATION ON THE COMPRESSIONIBILITY OF COARSE-GRAINED SOIL, Postgraduate Std Victoriya Babenko; PhD.Victoriya Funikova; Prof. Dr. Eugene Voznesensky, Lomonosov Moscow State University, Russia

66. THE IMPACT OF BANAT EARTHQUAKES REGARDING CONSTRUCTIONS IN TIMISOARA, Assist. Octavian Roman, Assist. Luiza Roman, Alexandra Ciopec, Politehnica University of Timisoara, Romania

67. THE PRESENCE OF RARE CROMIPHEROUS MICA IN JIET GORGES (PARANG MOUNTAINS), Assist.Dr.Eng. Postolache Mihaela, Assist.Dr.Eng. Danciu Ciprian, University of Petrosani, Romania

68. THERMAL SPRINGS OF OVCAR BANJA SPA, Dipl. Ing Josip IIcek, Doc.Ing Vladimir Cablik, Ing. Lucie Cablikova, Ing. Miluse Hlavata Ph.D, Prof. Dr Dejan Milenic, Prof.Dr Rudolf Tomanec, VSB-Technical University of Ostrava, Czech Republic

69. PERFORMANCE OF GEOGRID REINFORCED FILL AT INNER LAYER OF THE RUBBLE-MOUND BREAKWATER, B. Teymur, V. Oztug, S. Cokgor, Istanbul Technical University, Turkey

70. VERIFICATION OF THE RESULTS OF THE GEOTECHNICAL MONITORING USING FINITE ELEMENT METHOD, Marian Drusa, David Lamich, Jozef Vlcek, Silvie Heviankova, Miroslav Kyncl, Marian Marschalko, Isik Yilmaz, Tomas Bouchal, Miroslava Bendova et al., VSB-Technical University of Ostrava, Czech Republic
SECTION MINERAL PROCESSING


72. BIO - FLOTATION, Ing. Jan Fryc, Ing. Eva Schmidtova, doc. Dr. Ing. Radmila Kucerova, VSB-Technical University of Ostrava, Czech Republic ......................... 547


74. CHEMICAL AND MINEROLOGICAL CHARACTERIZATIONS OF THE OLTU STONE (TURKISH BLACK AMBER), ERZURUM, TURKEY, Dr. Tugbanur Ozen, Dr. Oyku Bilgin, Dr. Meral Caglar, Ataturk University, Turkey ....... 559

75. COBALT MINERALIZATION OF TUVA, SE ALTAI AND NW MONGOLIA, Prof.DrSc. Vladimir Ilich Lebedev, Scientific Researcher Maria Fedorovna Lebedeva, Tuvinian Institute for Exploration of Natural Resources of Siberian Branch of RAS, Russia ........................................................................................................ 567


77. EVALUATION OF IRON ORE SINTER STRUCTURE USING A VARIOUS TYPES OF BIOMASS, Dr. Alica Maslejova, U. S. Steel Kosice, Slovakia .................. 581

78. INNOVATIVE RESEARCH IN THE FIELD OF REDUCTIVE PROCESSES, Ing. Simona Jursova, Ph.D., Prof. Ing. Jiri Bilik, CSc., VSB-Technical University of Ostrava, Czech Republic ........................................................................................................ 589

79. OPPORTUNITY OF RECOVERY AND CAPITALIZATION OF USEFUL MINERALS FROM WASTE DUMPS IN JIU’S VALLEY, Assist.prof.PhD. Florin Faur,Prof.PhD. Maria Lazar,Lect. PhD. Emilia Dunca,Lect PhD. Daniela Ionela Ciolea, University of Petrosani, Romania ........................................................................................................ 595

80. POSSIBILITIES OF IMPROVING COKE STRENGTH UNDER HOT CONDITIONS (CSR) AND COKE REACTIVITY (CRI) BY INCREASING CHARGE COALIFICATION, Prof. Ing. Maria Fruhlichova, PhD., Assoc. Prof. Ing. Jaroslav Legemza, PhD., Ing. Robert Findorak, PhD., Technical University of Kosice, Slovakia ........................................................................................................ 603
Contents


82. STABILITY OF PRECURSORS OF THE GEOPOLYMER BINDERS, Ing. Ladislav Frohlich, Ing. Jana Bujdova, Ing. Maria Frohlichova, Technical University of Kosice, Slovakia……………………………………………………………………..615

83. TECHNOLOGY DEVELOPMENT FOR THE RECOVERY OF PRECIOUS METALS FROM REFRACTORY ORES USING MINERAL ACIDS AND ORGANIC ADDITIVES, Larisa Osipovskaya, Aigul Koizhanova, Mariya Erdenova, Center of Earth Sciences, Metallurgy and Benefication, Kazakhstan…………………………….623

84. THE EFFECT OF CHARCOAL ADDITION ON IRON-ORE SINTERING EMISION, Dr. Robert Findorak, Dr. Maria Frohlichova, Dr. Jaroslav Legemza, Technical University of Kosice, Slovakia………………………………………629

85. THE EFFECT OF CHARCOAL ADDITION ON IRON-ORE SINTERING PERFORMANCE, Dr. Robert Findorak, Dr. Maria Frohlichova, Dr. Jaroslav Legemza, Technical University of Kosice, Slovakia…………………………………….637

86. THE INTERMETALLIC COMPOUNDS OF GOLD WITH LEAD, Dr. Kulyash Dyussembayeva, Dr. Aimkhan Kasenova, Master Gulimshat Shakirova, Kazakh National Technical University Named After K. I. Satpayev, Kazakhstan…..643

87. THERMODYNAMIC STUDY OF UTILIZATION OF CHARCOAL IN THE IRON-ORE SINTERING PROCESS, Dr. Jaroslav Legemza, Maria Frochlikova, Robert Findorak, Technical University of Kosice, Slovakia……………………………………649

88. THERMODYNAMIC STUDY OF UTILIZATION OF SAWDUST FROM PINE-WOOD IN THE IRON-ORE SINTERING PROCESS, Dr. Jaroslav Legemza, Maria Frochlikova, Robert Findorak, Technical University of Kosice, Slovakia……………………………………657


90. ZEOLITES IN MEDICINE AND TURKEY ZEOLITES, Assist. Prof. Dr. Oyku BILGIN, Sirnak University Faculty of Engineering Mining Engineering Department, Turkey……………………………………………………………673
SECTION APPLIED AND ENVIRONMENTAL GEOPHYSICS

91. A MODERN METHOD FOR ASSESSMENT OF RC STRUCTURE, Mariana Calin, Assoc.Prof. Raluca Manea, University of Agronomic Science and Veterinary Medicine - Bucharest, Romania……………………………………………………………683

92. AN ASSESSMENT OF DISPLACEMENT MODIFICATION FACTORS FOR ROMANIAN VRANCEA EARTHQUAKES, WITH APPLICATION TO SEISMIC CODE IMPROVEMENT, Assoc. Prof. Dr. Iolanda-Gabriela Craifaleanu, N.I.R.D. URBAN-INCERC, Romania…………………………………………………………691

93. APPLICATION OF ELER SOFTWARE TO ROMANIA’S SEISMIC HAZARD, Dr. Andreea Dutu, Dr. Can Zulfikar, Technical University of Civil Engineering of Bucharest, Romania…………………………………………………………699

94. APPLICATION OF MULTICHANNEL ANALYSIS OF SURFACE WAVES (MASW) FOR SEISMIC HAZARD ASSESSMENT: A CASE STUDY IN THE CHONG-ALAY DISTRICT, KYRGYZ REPUBLIC, Rui Moura, Ruslan Umaraliev, Fernando Almeida, Kanatbek Abdakhamatov, Abdurashit Nizamiev, University of Porto-Faculty of Sciences, Portugal…………………………………………………………707

95. ASSESSMENT OF BUILDINGS VULNERABILITY USING NON DESTRUCTIVE TESTING, Assist. Prof Claudiu Sorin Dragomir, Assoc. Prof. Ana Virsta, University of Agronomic Science and Veterinary Medicine - Bucharest, Romania…………………………………………………………719

96. CALCULUS OF THE STIFFENING BITUMINOUS LAYERS THICKNESS BY DEFLECTOMETRIC STATIC AND DYNAMIC MEASUREMENTS ON DIFFERENT NATIONAL ROADS SECTORS, Lecturer. Ciprian Costescu Prof. Florin Belc Phd. Std Alin Buzuriu, Politehnica University of Timisoara, Romania……727

97. CONTRIBUTION OF GPR AND MAGNETIC METHODS TO THE DEFINITION OF THE INTERNAL STRUCTURE OF A CLOGGED MINING DAM IN THE RIOTinto MINE, SOUTH WEST SPAIN, Prof. Jose Paulino Fernandez Alvarez, Jose Borrego Flores, Luis Vinuela Valcarce, Jose Antonio Grande, Maria Luisa de la Torre, Teresa Valente, M. Santisteban, University Of Huelva-Technical Top School-Department Of Mining Engineering, Spain………………735

98. DEPENDING ON THE ROUTE OF THE TRANSMISSION LINE OF THE GEOLOGICAL CONDITIONS AND THE NEED FOR CONNECTION OF ENERGY SYSTEMS, Mr. Leko Ristovski, Prof. Dr. Todor Delipetrov, Dr. Marjan Delipetrev, MSc. Blagica Doneva, University Goce Delcev, FYR of Macedonia……743

99. ELECTROMAGNETIC IMPACT OF TRANSMISSION LINES ON THE ENVIRONMENT, Mr. Leko Ristovski, Prof. Dr. Todor Delipetrov, MSc. Toni Serafimovski, Dr. Krsto Blazev, University Goce Delcev, FYR of Macedonia……749
100. GEOMAGNETIC FIELD AND SECULAR VARIATIONS OF THE ASTRONOMICAL PARAMETARS, Prof. Dr. Todor Delipetrov, Rada Avramovska, Krsto Blazev, Blagica Doneva Delipetrev, University Goce Delcev, FYR of Macedonia .............................................................. 757

101. GEOPHYSICAL PARAMETERS OF SKOPJE DEPRESSION, Sanja Postolova, Dr. Marjan Delipetrev, MSc. Blagica Doneva, Dr. Todor Delipetrov, University Goce Delcev, FYR of Macedonia .............................................................. 765

102. GPR IDENTIFICATION OF PRESTRESSING TENDONS IN AREAS WITH HIGH DENSITY OF ORDINARY REINFORCEMENT, M.Sc. Piotr Owerko, PhD Lukasz Ortyl, Silesian University of Technology, Poland .................................................. 771

103. HARMONIC ANALYSIS OF SECULAR CHANGES OF THE ORBITAL PARAMETERS AND GEOMAGNETIC FIELD, Mrs. Rada Avramovska, Prof. Dr. Todor Delipetrov, MSc. Blagica Doneva, Dr. Marjan Delipetrev, University Goce Delcev, FYR of Macedonia .............................................................. 779

104. INFLUENCE OF THE GROUND MOTION ON THE SEISMIC RESPONSE OF PLAN IRREGULAR STRUCTURES, Assoc. Prof. DSc. Dietlinde Kober, Technical University of Civil Engineering of Bucharest, Romania .................................................. 785

105. INFLUENCE OF THE SECOND ORDER EFFECTS ON LATERAL DRIFT DEMAND FOR STRUCTURES, Emil Albota, Fadei Elena Gabriela, Viorel Popa, Technical University of Civil Engineering of Bucharest, Romania .................................................. 793

106. LATERAL VARIATION IN GROUND CONDUCTIVITY IN A NATURE RESERVE, Dr. Kristine Martens, Prof. Dr. Kristine Walraevens, Ghent University, Belgium .............................................................. 801

107. LOCAL GEOMAGNETIC FIELD OF THE REPUBLIC OF MACEDONIA, Dr. Marjan Delipetrev, Prof. Dr. Todor Delipetrov, Dr. Krsto Blazev, MSc. Blagica Doneva, MSc. Gorgi Dimov, University Goce Delcev, FYR of Macedonia .................................................. 809

108. MICROGRAVITY ESTIMATION OF RAW MATERIALS DUMPS BULK DENSITY FOR EXAMPLE PHOSPHATE AND POTASSIUM SALT, PhD. Monika Loj, AGH University of Science and Technology, Poland .................................................. 815

109. MICROGRAVITY SURVEY IN THE AREA OF THE FORMER SHALLOW COAL MINING, Dr. Slawomir Porzucek, AGH University of Science and Technology, Poland .................................................. 823

110. MODELS OF GEO-ELECTRICAL SOUNDING CHARACTERISTIC FOR COAL MINES (R. MACEDONIA), Vladimir Manevski, Marjan Delipetrov, Blagica Doneva, Todor Delipetrov, University Goce Delcev, FYR of Macedonia .................................................. 831
111. MODERN METHODS FOR SEISMIC RETROFITTING OF EXISTING BUILDINGS SEISMICALLY VULNERABLE, Prof. Daniel Stoica, Tehnical University of Civil Engineering Bucharest-Faculty of Geodesy, Romania………………839

112. NUMERICAL SOLUTION OF THE DOUBLE-SQUARE-ROOT EIKONAL EQUATION IN Z-STRETCHED COORDINATES FOR REFLECTION TRAVELTIMES DATA ESTIMATION, Prof. Anton Duchkov, Alexandr Serdyukov, Novosibirsk State University, Russia…………………………………………………………847

113. PROTECTION OF BUILT ENVIRONMENT BY SEISMIC INSTRUMENTATION, Dr. Eng. Claudiu Sorin Dragomir, PhDC. Eng. Ionita Andrei, Dr. Eng. Tronac Augustina, Dr. Eng. Emil-Sever Georgescu, Dr. Eng. Fanel Iorga, University of Agronomic Science and Veterinary Medicine - Bucharest, Romania…………855

114. SEISMIC RETROFITTING OF A REINFORCED CONCRETE STRUCTURE USING MULTI-STAGE RUBBER BEARINGS, Vasile-Virgil Oprisoreanu, Viorel Popa, Emil Albota, Technical University of Civil Engineering of Bucharest, Romania…………………………………………………………863

115. SEISMIC VULNERABILITY ASSESSMENT OF A WIDESPREAD RC SHEAR WALL RESIDENTIAL BUILDING LOCATED IN BUCHAREST USING RESPONSE SURFACE METHODOLOGY, Ph.D. Florenta Nicoleta Tanase, N.I.R.D. URBAN-INCERC, Romania…………………………………………………………871

116. SEISMIC VULNERABILITY DEPENDING OF LOCAL GEOLOGICAL CONDITIONS FOR A GIVEN LEVEL OF SEISMIC HAZARD, Phd eng. Mirela Popa, Phd eng. Cosmin Filip, Ovidius University of Constanta, Romania…………….879

117. STRENGTH REDUCTION FACTORS FOR ROMANIAN VRANCEA EARTHQUAKES: GENERAL CHARACTERISTICS AND PECULIARITIES, Assoc. Prof. Dr. Iolanda-Gabriela Crafaeanu, N.I.R.D. URBAN-INCERC, Romania…………………………………………………………………………………..887


119. THE INFLUENCE OF NORTH ATLANTIC OSCILLATION ON LOCAL DROUGHT OCCURRENCES IN THE IBERIAN PENINSULA USING THE VEGETATION TEMPERATURE CONDITION INDEX, Stefan Muhlbaier, Ana Cristina Costa, Mario Caetano, ISEGI Universidade Nova de Lisboa, Portugal……903

120. THE POLARIZING CHARACTERISTICS OF ELECTROLOCATION SIGNALS AND THEIR ANALYSIS IN GEOMONITORING SYSTEM, Assoc. Prof. Ruslan Sharapov, Dr. Oleg Kuzichkin, Murom Institute of Vladimir State University, Russia………………………………………………………………………………………………………………….913

122. THE SP VRANCAE NT DATABASE. EXAMPLE OF USE FOR A COMPARATIVE ANALYSIS OF RECORDS OBTAINED IN RUSSE (BULGARIA) AND GIURGIU (ROMANIA), Dr. I.S. Borcia, Assoc. Prof. Dr. I.G. Craifaleanu, Dr. F.N. Tanase, Eng. I.C. Praun, Dr. C.S. Dragomir, Dr. D. Dobre, Dr. E.S. Georgescu, N.I.R.D. URBAN-INCERC, Romania………………………………………………………………..927

123. TIME VARIATION OF THE GEOMAGNETIC FIELD ON THE TERRITORY OF THE REPUBLIC OF MACEDONIA IN THE LAST 50 YEARS, Dr. Marjan Delipetrev, MSc. Blagica Doneva, Prof. Dr. Todor Delipetrov, Prof. Dr. Zoran Panov, MSc. Gorgi Dimov, University Goce Delcev, FYR of Macedonia………………………………………………………………………………935

SECTION OIL AND GAS EXPLORATION

124. DETERMINATION OF ROCK SAMPLES CHARACTERISTICS FROM THE EXPLORATION PERSPECTIVE OF THE NATURAL GAS FROM UNCONVENTIONAL TYPES OF DEPOSITS, Petr Bujok, Martin Klempa, Michal Porzer, Jan Pavlus, Petr Skupien, VSB-Technical University of Ostrava, Czech Republic………………………………………………………………………………………………….945

125. INVESTIGATION OF THE INFLUENCE OF MOLECULAR WEIGHT OF POLYMER ON THE RHEOLOGICAL BEHAVIOR OF CARBOXYMETHYLCELLULOSE SOLUTIONS, Dr. Khaled Benyounes, Boumerdes University, Algeria…………………………………………………………………951

126. LEAKAGE ANALYSIS OF GATHERING PIPELINES IN CROATIA, Katarina Simon, Karolina Novak, Matija Malnar, University of Zagreb, Faculty of Mining, Geology and Petroleum Engineering, Croatia…………………………………………………………………………………………..959

127. MULTI-FUNCTIONAL MODEL OF ROCK ENVIRONMENT FOR NEEDS OF MODELING OF FLOW USING CFD PACKAGE, Pavel Stasa, Vladimir Kebo, VSB-Technical University of Ostrava, Czech Republic…………………………………………………………………………………………..965

128. THE CORROSION BEHAVIOR OF NAVAL RECONDITIONED STEEL BY WELDING IN MARINE ENVIRONMENT, Prof. Potecasu Florentina, Prof. assoc. Potecasu Octavian, Prof. Bordei Marian, Lecturer Alexandru Petrica, Assist Mihaela Marin, Dunarea de Jos University of Galati, Romania……………………………………973

129. THE CORROSION BEHAVIOR OF STEEL FOR TRANSPORTATION OF PETROLEUM PRODUCTS IN MARINE ENVIRONMENT, Prof. assoc. Potecasu Octavian, Prof. Potecasu Florentina, Prof. Bordei Marian, Lecturer Alexandru Petrica, Assist. Marin Florin, Dunarea de Jos University of Galati, Romania……………………………………981
SECTION INFORMATICS

1. ANALYSIS OF MINING IMAGES USING ACTIVE CONTOURS AND SELF ORGANIZING MIGRATION ALGORITHM, Lachezar Lichev, Lenka Skanderova, Tomas Fabian, VSB-Technical University of Ostrava, Czech Republic.......................... 3

2. COMMUNICATION IN A MULTI-AGENT SYSTEM; QUESTIONS AND ANSWERS, Assoc prof. Marie Duzi, CSc, MSc. Martina Cihalova, Ph.D., MSc. Marek Mensik, Ph.D., VSB-Technical University of Ostrava, Czech Republic.................................................................11


4. COMPUTER SIMULATION OF CASTING PRODUCED BY INVESTMENT CASTING TECHNOLOGY, Ing. Peter Futas, Ing. Alena Pribulova, Technical University of Kosice, Slovakia.................................................................29

5. CONTROL ALGORITHMS FOR POSITIONING IN PLAN, Vilan Constantin Cristinel, Nebunu Daniela-Lavinia, Dinca Alina, Constantin Brancusi University of Targu-Jiu, Romania.................................................................37

6. CONTROL ARCHITECTURE FOR A BIOMIMETIC STRUCTURE STUDY, Ionescu Marian, Vilan Constantin Cristinel, Alina Dinca, Constantin Brancusi University of Targu-Jiu, Romania.................................................................45

7. CONTROLLING ROBOTS USING IMAGE PROCESSING FOR OBJECT LOCALIZATION, Ing. Zdenek Neustupa; Assoc. Prof. Dr. Ing. Zdenek Neustupa, VSB-Technical University of Ostrava, Czech Republic ........................................53

8. DATA ACQUISITION SYSTEM FOR ELECTRICAL ENERGY MONITORING ON MEDIUM VOLTAGE, Assoc. Prof. Dr. Eng. Florin Grofu, MSc. Eng. Ciutura Nicusor-Fanel, As.Eng. Cercel Constantin, Constantin Brancusi University of Targu-Jiu, Romania.................................................................61

9. DATA MINING ALGORITHM FOR ANALYZING SPATIAL TIME SERIES ON CROP PRODUCTION, Prof. Dr. Kolyo Onkov, Dr. Delyana Dimova, Agricultural University Department of Mathematics Informatics and Physics, Bulgaria.................................................................69

10. DATA-MINING AND THE QUALITY OF DISTANCE-EDUCATION IMPROVEMENT, MSc. Marek Mensik, Ph.D., Bc. Jakub Gerlich, VSB-Technical University of Ostrava, Czech Republic...............................................................77

11. DEMANDS FOR THE PLANNING, DEVELOPMENT AND IMPLEMENTATION OF THE INFORMATIONAL SYSTEM FOR
INTEGRATED MANAGEMENT, Prof. Ph.D Florian Buse, Lect. Ph.D Gheorghe Florin Buse, Ph.D Ioan Viorel Vasile, University of Petrosani, Romania..................85


14. EXPERIMENTS WITH CUSTOM MANUFACTURED RFID ANTENNA TAGS, Filip Beneš, Jiri Svub, Vladimir Kebo, Miroslav Stolba, VSB-Technical University of Ostrava, Czech Republic.................................................................109

15. FOTOMNG SYSTEM AND 2D ANIMATION OF MEASUREMENT PROCESS, Lachezar Lichev, Marek Babiuch, Jakub Hendrych and Lenka Skanderova, VSB-Technical University of Ostrava, Czech Republic.........................................................115

16. GALGORITHM DESIGN AND ITS REALISATION FOR EVALUATION OF INNER STRUCTURES CHANGES IN CT SCAN RECORDS, Lachezar Lichev, Adam Karczmarczyk, Lenka Skanderova, VSB-Technical University of Ostrava, Czech Republic..............................................................................................................123

17. HOW CONSTRAINED SPACE AFFECTS THE RESULTS IN THE PARTICLE SWARM OPTIMIZATION, Ing. Michala Nemeckova, Czech University of Life Sciences Prague, Czech Republic.........................................................131

18. IMPLEMENTATION OF VIRTUAL INSTRUMENTATION FOR MULTIPARAMETRIC TECHNICAL SYSTEM MONITORING, Zuzana Murcinkova, Tibor Krenicky, Technical University of Kosice, Slovakia..............139

19. IMPROVING THE CAPABILITY OF METALLURGICAL PROCESS BY HILBERT SPACE UTILIZATION, Igor Lesso, Patrik Flegner, Zuzana Sabova, Technical University of Kosice, Slovakia.................................................................145

20. INFORMATION SYSTEMS IN COAL PREPARATION PLANTS AND THE USE OF NEW TECHNOLOGIES, Dr. Roman Danel, Ing. Vladimir Kohut, Assoc. Prof. Oldrich Kodym, Dr. Michal Repka, Assoc. Prof. Vladimir Kebo, Ing. Martin Kijonka, VSB-Technical University of Ostrava, Czech Republic.................................151

21. MODELING OF FLOW USING CFD AND VIRTUAL REALITY, Ing. Vladimir Kohut, Dr. Pavel Stasa, Assoc. Prof. Oldrich Kodym, VSB-Technical University of Ostrava, Czech Republic.................................................................159
22. MULTIAGENT TRAFFIC MICROSIMULATION AS A TOOL FOR AN ARTIFICIAL TRAFFIC DATA GENERATING, Dipl. Eng. Michala Drozdova, VSB-Technical University of Ostrava, Czech Republic ...................................................... 167

23. NUMERICAL SYSTEM FOR SPEED MEASUREMENT, Dr. Constantin Cercel, PhD. Florin Grofu, Constantin Brancusi University of Targu-Jiu, Romania.... 175

24. OPERATION OF INTELLIGENT TRANSPORTATION SYSTEMS OF THE CITY OSTRAVA IN CZECH REPUBLIC, Assoc. Prof. Miloslav Rezac, CE, Ph.D. Denisa Cihlarova, CE, Ph.D, VSB-Technical University of Ostrava, Czech Republic.......................................................................................... 183

25. PRACTICAL USE OF DATA OBJECTS IN R PROJECT, Ing. Beata Stehlikova, PhD., Pavel Horovcak, Technical University of Kosice, Slovakia................................................................. 191

26. PRE-PROCESSING FOR OPTIMIZATION OF MODELED OUTPUTS, Dr. Pavel Stasa, Ing. Vladimir Kohut, Assoc. Prof. Oldrich Kodym, VSB-Technical University of Ostrava, Czech Republic.............................................................................. 199

27. PRODUCTION INFORMATION SYSTEMS BASED ON THE INTERNET OF THINGS, Ing. Tomas Martoch, Assoc. Prof. Oldrich Kodym, VSB-Technical University of Ostrava, Czech Republic............................................................. 207

28. REMARKS TO WEB APPLICATIONS SECURING, Assoc. Prof. Ing. Pavol Horovcak, Assist. Prof. Ing. Beata Stehlikova, Technical University of Kosice, Slovakia................................................................. 213

29. RFID TECHNOLOGY IN LOGISTICS PROCESSES, Vladimir Kebo, Pavel Stasa, Filip Benes, Jiri Svub, VSB-Technical University of Ostrava, Czech Republic.............................................................................. 219

30. SIMULATING THE FACIAL EXPRESSIONS OF A BIOMIMETIC STRUCTURES, Lecturer Marian Popescu, Lecturer Adrian Runceanu, Lecturer Ilie Borcosi, Constantin Brancusi University of Targu-Jiu, Romania.............................. 227

31. SMART SUITS FOR RESCUE UNITS, Jiri Svub, Filip Benes, Vladimir Kebo, Pavel Stasa, Tomas Jurco, VSB-Technical University of Ostrava, Czech Republic.............................................................................. 235

32. SYSTEM DYNAMICS SIMULATIONS FOR AIRPORT EFFICIENCY, Ing. Dagmar Letavkova, Ing. Simona Matuskova, Dr. Ing. Zdenek Neustupa, VSB-Technical University of Ostrava, Czech Republic................................................................. 241

33. THE POSITIONING OF A BALL ON PLATE, Lecturer Ilie Borcosi, Lecturer Marian Popescu, Lecturer Adrian Runceanu, Constantin Brancusi University of Targu-Jiu, Romania................................................................. 249
<table>
<thead>
<tr>
<th>Chapter</th>
<th>Title</th>
<th>Authors/Institutions</th>
</tr>
</thead>
<tbody>
<tr>
<td>34</td>
<td>THE POTENTIAL OF RFID AND AUGMENTED REALITY</td>
<td>Filip Beneš, Lukas Kubac, Vladimir Kebo, Oldrich Kodym, Pavel Stasa, VSB-Technical University of Ostrava, Czech Republic</td>
</tr>
<tr>
<td>35</td>
<td>THE USE OF SOA IN THE DEVELOPMENT OF COMPLEX WEB APPLICATIONS</td>
<td>Assoc. Prof. Pavel Horovcak, CSc., Ing. Beata Stehlikova, PhD., Technical University of Kosice, Slovakia</td>
</tr>
<tr>
<td>36</td>
<td>THREE-DIMENSIONAL MODELING OF THE TALUS BONE FROM MDCT IMAGE</td>
<td>Hatice Catal/ Assoc. Prof. Ozsen Corunluoglu/Assoc. Prof. Bulent Bayram, Yildiz Technical University, Turkey</td>
</tr>
<tr>
<td>37</td>
<td>TIPS FOR CREATING IOS MOBILE APPLICATIONS ON WINDOWS</td>
<td>Dalibor Serafimovski, Prof. Vlado Gicev, University Goce Delcev, FYR of Macedonia</td>
</tr>
<tr>
<td>38</td>
<td>USING OF INFORMATION AND COMMUNICATION TECHNOLOGIES IN SMES AT THE DEVELOPMENT OF SLOVAKIA REGION</td>
<td>Assist. Prof. Ing. Marcela Tausova, Assoc. Prof. Ing. Katarina Culkova, Prof. Ing. Adriana Csikosova, Technical University of Kosice, Slovakia</td>
</tr>
<tr>
<td></td>
<td>SECTION GEOINFORMATICS</td>
<td></td>
</tr>
<tr>
<td>39</td>
<td>A CASE STUDY ON BLENDING RAW ORES AT OPEN PIT STOCKYARD USING DECISION SUPPORT SYSTEM FOR DESIGNING EFFECTIVE TECHNOLOGICAL SCHEMES FOR OPEN PIT MINES</td>
<td>Dr. Larissa Statsenko, Dr. Noune Melkoumian, Rudny Industrial Institute, Kazakhstan</td>
</tr>
<tr>
<td>40</td>
<td>ANALYSIS OF CHANGES OF VERTICAL DEFORMATION IN THE OLD TOWN OF TUZLA</td>
<td>Nedreta Kikanovic, Elvir Ferhatbegovic, Mirela Ujljc, Lejla Salkic, Gauss d.o.o., Bosnia and Herzegovina</td>
</tr>
<tr>
<td>41</td>
<td>ANALYZING MAJOR CITIES OF EUROPEAN UNION MEMBER STATES USING SHAPE METRICS</td>
<td>MSc. Vit Paszto, MSc. Lukas Marek, Sylvie Hartmannova, Palacky University in Olomouc, Czech Republic</td>
</tr>
<tr>
<td>42</td>
<td>ARCHAEO-ASTRONOMICAL INVESTIGATION OF HISTORICAL OBJECTS IN PERU</td>
<td>Ing. Karolina Hanzalova/ Prof. Karel Pavelka, CTU in Prague, Czech Republic</td>
</tr>
<tr>
<td>43</td>
<td>BUILDING A SYSTEM FOR EXCHANGING ELECTRIC UTILITIES DATA</td>
<td>Joanna Kuczynska-Siehien, University of Warmia and Mazury in Olsztyn, Poland</td>
</tr>
<tr>
<td>44</td>
<td>CAN CONTIGUOUS CARTOGRAMS BE USED FOR CRIME MAPPING?</td>
<td>Andrea Podor, University of West Hungary, Hungary</td>
</tr>
<tr>
<td>No.</td>
<td>Title</td>
<td>Authors</td>
</tr>
<tr>
<td>-----</td>
<td>----------------------------------------------------------------------------------------------------------------------------------------</td>
<td>--------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>45.</td>
<td>COMPARISON OF REGRESSION MODELS WITH CONSTRAINTS IN GEODETICAL MEASUREMENT</td>
<td>dr. Pavel Tucek, MSc. Michaela Tuckova, MSc. Lukas Marek, MSc. Vit Paszto, Palacký University in Olomouc, Czech Republic</td>
</tr>
<tr>
<td>46.</td>
<td>COMPUTING AND VERIFYING THE LAND SURFACE WITHOUT VISIBILITY BY USING GPS AND CLASSIC PROCEDURES</td>
<td>Luminita Livia Barliba, Costel Barliba, Gabriel Eles, Lucian Dragomir, Banat University of Agronomical Sciences and Veterinary Medicine, Romania</td>
</tr>
<tr>
<td>47.</td>
<td>CONTRIBUTIONS TO THE CHARACTERIZATION OF THE INDOOR GPS PROPAGATION CHANNEL</td>
<td>Dr. Alexandru Rusu-Casandra, Adj. Prof. Elena-Simona Lohan, Foundation TTY-saatio, Finland</td>
</tr>
<tr>
<td>48.</td>
<td>CONTRIBUTIONS TO THE FILTERING OF NARROWBAND INTERFERENCES IN GNSS</td>
<td>Dr. Alexandru Rusu-Casandra, Adj. Prof. Elena-Simona Lohan, Prof. Gonzalo Seco-Granados, Foundation TTY-saatio, Finland</td>
</tr>
<tr>
<td>49.</td>
<td>CULTURAL HERITAGE INTEGRATION WITH THE USE OF STANDARDIZED MONUMENTS DESCRIPTION</td>
<td>Dr. Albina Moscicka, Institute of Geodesy and Cartography, Poland</td>
</tr>
<tr>
<td>50.</td>
<td>DEVELOPING AN INTEROPERABLE URBAN GEO-DATA MODEL: ARIBIS</td>
<td>Assoc. Prof. Arif Cagdas AYDINOGLU, Deniz SAGLAM, Kumsal OZTURK, Istanbul Technical University, Turkey</td>
</tr>
<tr>
<td>51.</td>
<td>DIGITAL TERRAIN MODEL AND LANDFORMS CLASSIFICATION</td>
<td>Dr. Katerina Ruzickova, Dr. Jan Ruzicka, Ing. Pavel Kukuliak, VSB-Technical University of Ostrava, Czech Republic</td>
</tr>
<tr>
<td>52.</td>
<td>DOWNSTREAM COPERNICUS SERVICE FOR EMERGENCY MANAGEMENT IN ROMANIA</td>
<td>Iulia Dana Negula, Vasile Cractunescu, Ana Virsta, Alexandru Badea, Cristian Moise, Raluca Manea, Mariana Calin, Anisoara Irimescu, University of Agronomic Science and Veterinary Medicine - Bucharest, Romania</td>
</tr>
<tr>
<td>53.</td>
<td>GEOID MODELLING FOR GIS APPLICATIONS</td>
<td>Lecturer Paul Dumitru, Lecturer Marin Plopeatu, Lecturer Andreea Jocea, Lecturer Alexandru Calin, Lecturer Octavian Badescu, Technical University of Civil Engineering Bucharest-Faculty of Geodesy, Romania</td>
</tr>
<tr>
<td>54.</td>
<td>GEOINFORMATICS IN SEARCH FOR LOST TOURISTS</td>
<td>Dr. Zsolt Magyari-Saska, Magyari Saska Zsolt P.F.A, Romania</td>
</tr>
<tr>
<td>55.</td>
<td>GRASSLAND MONITORING USING AUTONOMOUS FLYING SYSTEM AND SPATIAL ANALYSIS</td>
<td>Dr. Janka Rudowicz-Nawrocka, Dr. Krzysztof Koszela,</td>
</tr>
</tbody>
</table>
M. Sc. Jakub Otrzasek, Dr., Dr. Robert J. Tomczak, Prof. Dr. Wojciech Mueller, University of Life Sciences in Poznan, Poland......................................................427

56. IMPLEMENTING INSPIRE NETWORK SERVICES FOR THE ROMANIAN INSPIRE GEOPORTAL, Dr. Cristian Vasile, Dr. Lucian Zavate, Simona Staiculescu, Vlad Teodor, Esri Romania, Romania......................................................433

57. INTELLIGENT CONTROL OF TREATMENT TECHNOLOGICAL PROCESSES IN PREPARATION PLANTS USING NEURAL NETWORKS, Ing. Michal Repka, Ing. Roman Danel, Assoc. Prof. Dr. Ing. Zdenek Neustupa, VSB-Technical University of Ostrava, Czech Republic......................................................441

58. LANDSLIDES STUDY BY DIGITAL TERRAIN MODELS ANALYSES, Alexandru Calin, Lecturer Andreea Jocea, Lecturer Paul Dumitru, Lecturer Marin Plopeanu, Octavian Badescu, Tehnical University of Civil Engineering Bucharest-Faculty of Geodesy, Romania......................................................449

59. LTI CRITERIA DECISION SUPPORT FOR THE BEST ALLOCATION OF THE PRIMARY SCHOOL AREA, Burcu Ozdemir, Okan Tokyay, Istanbul Technical University, Turkey......................................................457

60. MULTIVARIATE ANALYSIS APPLIED TO THE HYDROCHEMICAL STUDY OF ACID MINE DRAINAGES AND SURROUNDINGS SUPERFICIAL WATERS (NORTH PORTUGAL), Prof. Paulo Favas, University Tras-Os-Montes E Alto Douro, Portugal......................................................465

61. NUMERICAL MODELLING OF THE DYNAMIC BEHAVIOUR OF SOILS REINFORCED WITH RIGID INCLUSIONS, Phd Iulia-Victoria Neagoe, Prof. Loretta Batali, Technical University of Civil Engineering of Bucharest, Romania......................................................473

62. OJNIWO – TOOL FOR INTEGRATION DIFFERENT SPATIAL DATA RESOURCES, Malgorzata Brzezinska-Klusek, Albina Moscicka, Anna Debowska, Institute of Geodesy and Cartography, Poland......................................................481

63. ONTOLOGY ON STATE ADMINISTRATION AND PUBLIC SERVICE DOMAIN, Otakar Cerba, Karel Jedlicka, University of West Bohemia, Czech Republic......................................................489

64. OPENWEBGLOBE - VIRTUAL GLOBE IN WEB BROWSER, Rostislav Netek, Benjamin Loesch, Martin Christen, Palacky University in Olomouc, Czech Republic......................................................497

65. PLANNING AND OPTIMIZING SOFTWARE FOR A LIMESTONE QUARRY, Assoc. Prof. Dr. Ing. Zdenek Neustupa, Ing. Zdenek Neustupa, Ing. Roman Donocik; Ing. Lukas Otte, VSB-Technical University of Ostrava, Czech Republic......................................................505
66. PORTABLE GEOTECHNICS – USING ANDROID SMARTPHONES AND TABLETS FOR GEOTECHNICAL FIELD INVESTIGATIONS, Uros Djuric/Milos Marjanovic/Assis. Prof. Dr. Biljana Abolmasov/ Dragana Petrovic/Petar Kuzmic, University of Belgrade Faculty of Mining and Geology, Serbia........................................................................................................513

67. PRESENTATION OF SPATIAL DATA IN ANALYTICAL APPLICATIONS WHICH USE THE SSAS PLATFORM, M. Sc. Jakub Otrzasek, Prof. Dr. Wojciech Mueller, Dr. Krzysztof Koszela, Prof. Dr. Jerzy Weres, Prof. Dr. Jacek Przybyl, University of live Sciences in Poznan, Poland.................................................................521

68. PUBLIC TRANSPORT ACCESSIBILITY AT MUNICIPALITY LEVEL IN THE CZECH REPUBLIC, Igor IVAN, Jiri HORAK, David FOJTIK, Tomas INSPEKTOR, VSB-Technical University of Ostrava, Czech Republic........................527

69. QUANTIFICATION OF THE THREAT OF THE TRANSPORT INFRASTRUCTURE BY SELECTED NATURAL HAZARDS: CASE STUDY IN ZLINSKY REGION, dr. Jaroslav Burian, MSc. Lukas Marek, MSc. Vit Paszto, MSc. Michaela Tucková, dr. Pavel Tucek, MSc. Lenka Zajickova, MSc. Jana Chrudimska, Palacky University in Olomouc, Czech Republic............................................................535

70. STATISTICAL PROCESSING OF LAMINAR WATER FLOW DATA - NONLINEAR REGRESSION BASED APPROACH, dr. Pavel Tucek, MSc. Michaela Tucková, MSc. Lukas Marek, dr. Jaroslav Burian, Palacky University in Olomouc, Czech Republic..........................................................543

71. THE ACCESS DATABASE ORGANIZATION FOR SOME MINERAL DEPOSITS IN THE REPUBLIC OF MACEDONIA, Dalibor Serafimovski, Dr.Goran Tasev, Prof. Todor Serafimovski, University Goce Delcev, FYR of Macedonia.....................................................................................................................551

72. THE APPLICATION OF MULTIMODAL NETWORK FOR THE MODELING OF MOVEMENT IN PUBLIC TRANSPORT, Dr. Ewa Debinska, Dr. Piotr Cichocinski, AGH University of Science and Technology, Poland........................................................................................................559

73. THE CONCEPT OF GEO-PORTAL FOR LAND CONSOLIDATION, PhD Izabela Basista, PhD Ewa Debinska, AGH University of Science and Technology, Poland........................................................................................................565

74. THE ROLE OF STANDARDS IN SPATIAL DATA QUALITY VISUALISATION, Jan Brus, Palacky University in Olomouc, Czech Republic........................................................................................................571

75. THE ROLE OF STRUCTURAL LINES EXTRACTION FROM HIGH-RESOLUTION DIGITAL TERRAIN MODELS IN THE PROCESS OF HEIGHT DATA REDUCTION, Krzysztof Bakula, Prof. Zdzislaw Kurczynski, Warsaw University of Technology, Poland........................................................................................................579
76. USING GEO-INFORMATION EFFECTIVELY IN LANDSLIDE MANAGEMENT ACTIVITIES IN TURKEY, Dr. Arif Cagdas Aydinoglu, Mehmet Selim Bilgin, Istanbul Technical University, Turkey…………………………………………………………587

77. USING THE “PHYSICS” OF NOTATION TO ANALYSE MODELBUILDERS DIAGRAMS, Dr. Zdena Dobesova, Palacky University in Olomouc, Czech Republic…………………………………………………………………………………………………………………………..595

78. VISUAL LANGUAGE FOR GEODATABASE DESIGN, Dr. Zdena Dobesova, Palacky University in Olomouc, Czech Republic………………………………………………………………………………………………………603

SECTION CARTOGRAPHY AND GIS

79. ACTUAL TRENDS REGARDING THE USAGE OF 3D CADASTRE FOR AN EFFICIENT ADMINISTRATION, Lecturer Prof. Dr. Cosmin Constantin Musat, Ph.D. Student Georgiana Rusu, Politehnica University of Timisoara, Romania…………………………………………………………………………………………………………………….613

80. ADVANCED OPTIONS FOR MAKING MAP COMPOSITIONS IN THE MAPSERVER, Mr. Ales Vavra, Dr. Vilem Pechanec, Mr. Dalibor Janak, Palacky University in Olomouc, Czech Republic…………………………………………………………………………………………………………………..621

81. AN EXPLORATORY ANALYSIS OF TOPOGRAPHIC AND ARCHEOLOGICAL DATA GATHERED DURING SYSTEMATIC RESEARCH, Lecturer PhD Tudor Borsan, Assoc.Prof. Ioan Iancu, Assoc.Prof. Levente Dimen, Lecturer PhD Luciana Oprea, Lecturer PhD George Emanuel Voicu, University 1 Decembre, Romania……………………………………………………………………………………………………..629

82. ANALYSING SPATIO-TEMPORAL EVOLUTION OF BUILT-UP AREA IN BISTRITA SUBCARPATHIAN VALLEY, ROMANIA USING GIS TECHNIQUES, PhD Dan-Adrian Chelaru, Dr. Adrian Ursu, Dr. Bogdan Rosca, PhD Florin-Constantin Mihai, Alexandru Ioan Cuza University, Romania…………………………………………………………………………………………………………………………………………………………637

83. ANALYSIS OF THE POLYLINE UNCERTAINTY IN GIS, PhD Student Daniela Iordan, Lecturer Daniela Cristiana Docan, University of Agronomic Science and Veterinary Medicine - Bucharest, Romania………………………………………………………………………………………………………………………………………………………………………………………………………………645

84. CARTOGRAPHIC ASPECTS OF CREATION OF PLANS FOR BOTANICAL GARDEN AND CONSERVATORIES, Dr. Zdena Dobesova, Ales Vavra, Rostislava Netek, Palacky University in Olomouc, Czech Republic……………………………………………………………………………………………………………………………………………………………………………………………………653

85. CHALLENGES OF AUTOMATED PROCESSES OF UPDATE OF REFERENCE SPATIAL DATA AT A SCALE OF 1:50 000 IN LITHUANIA, Lina Papsiene, Vilnius Gediminas Technical University, Lithuania……………………………………………………………………………………………………………………………………………………………………………………………………661
86. COMPARATIVE STUDY OF THE CADASTRAL SYSTEMS FROM FINLAND AND ROMANIA, Mihaela Cardei, Dan Padure, Technical University of Iasi, Romania.................................................................669

87. COMPARISON OF INTERPOLATION METHODS FOR ESTIMATING CLIMATOLOGICAL DATA, Assoc. Prof. Zofia Kuzevicova, MSc., PhD./Marcela Gergelova, MSc., PhD./Assoc. Prof. Stefan Kuzevic, MSc., PhD./Jana Palkova, MSc., Technical University of Kosice, Slovakia................................................677

88. CREATION OF INFORMATION-RICH 3D MODEL IN GEOGRAPHIC INFORMATION SYSTEM – CASE STUDY AT THE CASTLE KOZEL, Dr. Karel Jedlicka, Dr.Otakar Cerba, Ing Pavel Hajek, University of West Bohemia, Czech Republic........................................................................................................685

89. DETERMINATION OF SERVICE AREAS BASED ON VECTOR NETWORK MODEL ROADWAYS, Tomas Penaz, David Vojtek, Silvie Heviankova, Miroslav Kyncl, Milos Duraj, Isik Yilmaz, Marian Marschalko, Marian Drusa, Orlando Arencibia, Karel Kubecka, VSB-Technical University of Ostrava, Czech Republic........................................................................................................693

90. DIGITAL ATLASES - ESTABLISHING GECOMMUNITIES, Dr. Lucian Zavate, Andreea Anghel, Silvia Ustea, Vlad Teodir, Esri Romania, Romania............................................................................................................701

91. ECONOMIC DIMENSION OF SPATIAL DATA INFRASTRUCTURE - OVERVIEW OF ASSESSMENT APPROACHES AND METHODS, Dr. Agnieszka Zwirowicz-Rutkowska , University of Warmia and Mazury in Olsztyn , Poland..............................................................................................................709

92. EVALUATING SPATIAL INEQUALITY IN PRE-SCHOOLS IN GHENT, BELGIUM BY ACCESSIBILITY AND SERVICE AREA ANALYSIS WITH GIS, Prof. Dr.Greta Deruyter, Ing. Koos Fransen, Ing. Niels Verrecas, Prof. Dr. Philippe De Maeyer, University College Ghent, Belgium.........................................................717

93. GEOGRAPHIC INFORMATION SYSTEM FOR A MAJOR MINING AREA DUBNinaK - OPALMINES, Peter Blistan, Technical University of Kosice, Slovakia.......................................................................................................729

94. GEOGRAPHICAL DIMENSION OF LAND DEGRADATION AND QUANTITATIVE EVALUATION OF SURFACE EROSION, FOR THE TERRITORY OF TRAIAN VUIA MUNICIPALITY, USING GEOGRAPHIC INFORMATION SYSTEMS, Silvica Oncia, Loredana Copacean, Mihai Valentin Herbei, University of Agricultural Sciences and Veterinary Medicine of Banat Timisoara, Romania..........................................................................................737

95. HARMONISATION OF SPATIAL PLANNING DATA MODEL WITH INSPIRE IMPLEMENTING RULES IN POLAND, Dr. Joanna Jaroszewicz, Dr.
96. INTERCONNECTION OF RICH INTERNET APPLICATION AND CLOUD COMPUTING FOR WEB MAP SOLUTIONS, Rostislav Netek, Palacky University in Olomouc, Czech Republic……………………………………….745

97. LEGISLATIVE FRAMEWORK AND IMPLEMENTATION ISSUES FOR SDI DEVELOPMENT IN WESTERN BALKANS REGION, Prof. Zeljko Bacic; PhD. Vesna Posloncec-Petric, University of Zagreb, Faculty of Geodesy, Croatia……………………………………………………………761

98. MAP APPLICATION OF CZECH ORIENTEERING FEDERATION MAP ARCHIVE, Dr. Vilem Pechanec, Msc. Ondrej Vesely, Jan Langr, Palacky University in Olomouc, Czech Republic…………………………………………….767

99. MATHEMATICAL MODELS OF UNCERTAINTY FOR SURFACE ANALYSES AND DECISION MAKING, Jan Caha, Alena Vondrakova, Jiri Dvorsky, Palacky University in Olomouc, Czech Republic……………………………………………………773

100. MICROANALYSIS OF MIGRATION MOVEMENTS IN THE CITY – CASE STUDY OF JIHLAVA, Igor IVAN, Jaroslav Skrobak, Tomas INSPEKTOR, Pavel Svec, VSB-Technical University of Ostrava, Czech Republic………………..781

101. MONITORING THE MOVEMENT OF PEOPLE USING LOCATION-BASED MOBILE APPLICATION THE FOURSQURE, Petra Sadovska, David Jarcovjak, Palacky University in Olomouc, Czech Republic……………………………………789

102. NOISE MANAGEMENT AND NOISE MONITORING WITH GEOGRAPHICAL INFORMATION SYSTEMS, Assoc. Prof. PhD. Eng. Carmen GRECEA/ Lecturer PhD. Eng. Cosmin Constantin MUSAT/ PhD. St. Eng. Anca-Maria MOSCOVICI, Politehnica University of Timisoara, Romania……………………………………797

103. NON-CONTACT DIGITISATION AND VISUALISATION OF HISTORICAL GLOBES USING PHOTOGRAMMETRY, Ing. Zdenka Bila/ Ing. Jan Reznicek/Prof. Dr. Ing Karel Pavelka, CTU in Prague, Czech Republic………………………………………………………………………………………………………………805

104. NON-TECHNOLOGICAL ASPECTS OF MAP PRODUCTION, Dr. Alena Vondrakova, Palacky University in Olomouc, Czech Republic……………………………………813

105. ONCE UPON A PLACE: STORYTELLING IN GIS EDUCATION, Siddique Motala, Kevin Musungu, Cape Peninsula University of Technology - Faculty of Engineering - Department of Civil Engineering and Surveying, South Africa…………………………………………………………………………………………821
106. OPEN SOURCE, A STEP FOR RESEARCH, Associate Professor PhD. Eng. Eles Gabriel, Lecturer PhD. Eng. Popescu Daniela, Assistant Lecturer PhD. Eng. Pisleaga (Bakos) Mihaela, Politehnica University of Timisoara, Romania............................829

107. ORGANIZATION OF CADASTALL ACTIVITY IN ROMANIA, Assistant Eng. CLINCI TUDOREL SILVIU, Lecturer Eng. BADEA ANA-CORNELIA, PhD, Associate Professor Eng. BADEA GHEORGHE, PhD, Tehnical University of Civil Engineering Bucharest-Faculty of Geodesy, Romania..............................................837

108. PARTICIPATORY GIS FOR WATER PROVISION AND COMMUNITY PLANNING – CASE STUDY KOFFIEKRAAL, SOUTH AFRICA, Jiri Panek, Schalk Van Heerden, Palacky University in Olomouc, Czech Republic.........................845

109. PERFORMING THE COUNTRYWIDE MOSAICS BASED ON GEOSPATIAL DATA, Dr. Lyudmila Shagarova, Olga Skakova, Sultangazin Space Research Institute, Kazakhstan.................................................................853

110. POLYNOMIAL GEOREFERENCING METHOD FOR OLD MAP SERIES, Ing. Jiri Cajthaml, Ph.D., CTU in Prague, Czech Republic........................................859

111. PRODUCING SPATIAL ETL TOOL FOR TRANSFORMING BETWEEN GEO-DATABASE MODELS, I. Beril SANI, Assoc. Prof. Dr. A. Cagdas AYDINOGLU, Istanbul Technical University, Turkey.........................................................867

112. REMOTE SENSING AND GIS APPLICATIONS ON THE ROMANIAN COASTAL ZONE MANAGEMENT AND REHABILITATION WORKS, Rrzvan Mateescu, Alina Spinu, Ichinur Omer, N.I.M.R.D. Grigore Antipa, Romania............875

113. RESTRUCTURING THE POST-INDUSTRIAL LANDSCAPE OF BISTRITA SUBCARPATHIAN VALLEY, ROMANIA, PhD Dan-Adrian Chelaru, Prof. Dr. Liviu Apostol, PhD Florin-Constantin Mihai, Dr. Adrian Ursu, Alexandru Ioan Cuza University, Romania.................................................................881

114. SHARING TRANSPORTATION DATA SETS WITH OPEN WEB SERVICES, Sercan ERHAN, I. Beril SANI, Assoc. Prof. Dr. A. Cagdas AYDINOGLU, Istanbul Technical University, Turkey.........................................................889

115. SOIL EROSION MODEL SMODERP - 1D AND 2D MODELLING, Ing. Petr Kavka Ph.D., Bc. Jan Zajicek, CTU in Prague, Czech Republic..............................895

116. SOIL LOSS ESTIMATION USING GIS TECHNOLOGY, Levente Dimen, Tudor Borsan, Mihai Corches, Nicolae Ludusan, University 1 Decembre, Romania.................................................................903

117. SPACE-TIME EVALUATION OF HEALTH DATA: CASE OF OLOMOUC AREA, CZECH REPUBLIC, Lukas Marek, Vit Paszto, Pavel Tucek, Petra Sadovska, Palacky University in Olomouc, Czech Republic.........................................................911
118. SPATIAL ANALYSES - TOOL FOR DETERMINING THE RELATIONSHIP BETWEEN RECREATION AND CONSERVATION NATURE, Dr. Vilem Pechanec, Assoc. Prof. Ivo Machar, Dr. Helena Kilianova, Palacky University in Olomouc, Czech Republic.......................................................919

119. SPATIAL DATA INFRASTRUCTURE IN COMPLIANCE WITH INSPIRE DIRECTIVE AND INTERNATIONAL STANDARDS, Zoran Petrovic, Dr. Almir Karabegovic, Dr. Mirza Ponjavic, Gauss d.o.o., Bosnia and Herzegovina.................927

120. STUDY OF FLORA AND BIRDS HABITAT IN THE DANUBE DELTA: GIS APPROACH, Valeria Ciolac, Eleonora Nistor, Cosmin Popescu, Nicolae Babuca, Dirlea Auruta, Livia Barliba, Banat University of Agronomical Sciences and Veterinary Medicine, Romania..................................................................................................935

121. THE ADVANTAGES OF CREATING COMPOUND GIS FUNCTIONS FOR AUTOMATED WORKFLOW, Eng. Ana-Cornelia BADEA, Assoc. Prof. Eng. Gheorghe BADEA, Technical University of Civil Engineering of Bucharest, Romania................................................................................................................943

122. THE ANALYSIS OF LANDSCAPE MORPHOLOGY IN LOWER BISTRITA VALEY USING GRASS AND QUANTUM GIS, Dr. Bogdan Rosca, PhD Dan-Adrian Chelaru, Dr. Sergiu Plescan, Alexandru Ioan Cuza University, Romania................................................................................................................951

123. THE COMPARISON OF SPATIAL INTERPOLATION METHODS IN APPLICATION TO THE CONSTRUCTION OF DIGITAL TERRAIN MODELS, PhD Piotr Cichocinski, PhD Izabela Basista, AGH University of Science and Technology, Poland. ..................................................................................................................959

124. THE HISTORICAL-CARTOGRAPHIC RESEARCH ON BATTLEFIELDS OF THE THIRTY YEARS WAR: THE ENGRAVING OF THE SIEGE OF PILSEN IN 1618, Tomas Janata, Vaclav Matousek, Ph.D., Ruzena Zimova, Ph.D., CTU in Prague, Czech Republic..........................................................967

125. THE POSSIBILITIES OF MAP LAYOUTS CREATION IN ARCGIS, M.Sc. Sona Molcikova, M.Sc. Viera Hurcikova, Technical University of Kosice, Slovakia..................................................................................................................975

126. THE PROJECT "GEOBASE", Anna Kralova/Lubomir Kriz PhD., Vodni zdroje Chrudim, Czech Republic.................................................................981


128. THE UNITARY SYSTEM OF DIGITAL ARCHIVES AND LAND REGISTER IN ROMANIA – THE ELECTRONIC LAND REGISTER,
Contents

Prof. Valeria Ciolac, Ing. Dan Rosu, Livia Barliba, Cosmin Popescu, Nicolae Ion Babuca, Costel Barliba, Eleonora Nistor, Banat University of Agronomical Sciences and Veterinary Medicine, Romania.................................................................997

129. TOWARDS INTEROPERABILITY OF SPATIAL PLANNING DATA: 5-STEPS HARMONIZATION FRAMEWORK, Dr. Karel Janecka, Dr. Otakar Cerba, Dr. Karel Jedlicka, Dr. Jan Jezek, University of West Bohemia, Czech Republic..................................................................................................................1005

130. UNCERTAINTY VS. SPATIAL DATA QUALITY VISUALISATIONS: A CASE STUDY ON ECOTONES, Jan Brus, Vilem Pechanec, Helena Kilianova, Palacky University in Olomouc, Czech Republic.................................................................1017

131. USABILITY OF LPIS DATABASE FOR INTRODUCTION OF EXTRAURBAN GENERAL CADASTRE, Camelia Slave, Anca Rotman, Carmen Man, Claudiu Dima, University of Agronomic Science and Veterinary Medicine - Bucharest, Romania..............................................................................................1025

132. USE OF GIS IN SPATIAL EPIDEMIOLOGY - TICK BORNE-DISEASES AS A MODEL EXAMPLE, Dr. Pavel Svec, Mgr. Vaclav Honig, Dr. Daniela Szturcova, Dr. Igor Ivan, Dr. Petr Vahalík, Dr. Tomas Mrkvicka, Prof. Libor Grubhoffer, VSB-Technical University of Ostrava, Czech Republic.........................................................................................................................1033

133. USER TYPOLOGY BASED ON EYE-MOVEMENT PATHS, Stanislav Popelka, Jiri Dvorsky, Alzbeta Brychtova and Jan Hanzelka, Palacky University in Olomouc, Czech Republic.................................................................................................1041

134. USING GEOGRAPHIC INFORMATION SYSTEM ANALYSIS IN THE MANAGEMENT OF FLOOD RISK AREAS, Ph.D. Student Clara Beatrice Vilceanu, Assoc. Prof. Dr. Carmen Grecea, Politehnica University of Timisoara, Romania..........................................................................................................................1049


### SECTION GEODESY AND MINE SURVEYING

1. **A 3D REPRESENTATION OF MINING DEVELOPMENT IN ROMANIA**, Lecturer Phd.eng. Magdolna Eva KONCSAG, University 1 Decembre, Romania. 3

2. **A COMPARISON OF THE GROUND-BASED RADAR INTERFEROMETRY, SURVEYING METHODS AND ACCELEROMETERS ON THE EXAMPLE OF THE STEEL BRIDGE MEASUREMENT**, MSc Edyta Puniach, MSc Olga Sukta, PhD Przemyslaw Kuras, AGH University of Science and Technology, Poland. 9

3. **A PRELIMINARY ANALYSIS OF THE USE OF NON-INVASIVE MEASUREMENT METHODS IN THE STUDYING THE GEOMETRY OF RETAINING WALLS**, Olga Sukta, MSc, Przemyslaw Kuras, PhD, AGH University of Science and Technology, Poland. 17

4. **ADJUSTMENTS OF GNSS OBSERVATIONS IN NATIONAL REALIZATION UTCN 03 WITH GAUSS MARKOV MODEL WITH FULL RANK**, Pavel Kukucka, MSc, PhD., Prof. Gabriel Weiss, MSc., PhD., Slavomir Labant, MSc., PhD., Weiss Roland, MSc., PhD., Technical University of Kosice, Slovakia. 25

5. **AN OPTIMIZED CADASTRAL REGISTRATION SYSTEM FOR REAL ESTATE PROPERTY IN ROMANIA**, Lect. Dr. Luciana Oprea, Assoc. Prof. Dr. Ioan Ienciu, Assoc. Prof. Dr. Iosif Vorovencii, Assoc. Prof. Dr. Cosmin Popescu, Lect. Dr. George Voicu, 1 Decembrie 1918 University of Alba Iulia, Romania. 33

6. **ANALYSIS AND MEASUREMENT TECHNOLOGY OF TESTING DISPLACEMENTS AND VIBRATIONS OF THE ARCH BRIDGE**, Tomasz Owerko, PhD, AGH University of Science and Technology, Poland. 41

7. **APPLICATION OF LASER SCAN TECHNOLOGY TO LANDSLIDE MONITORING, VOLUMETRIC CALCULUS AND DEM**, Ioan Sorin Herban, Carmen Grecea, Alina Corina Bala, Nicolae Ion Babuca, Politehnica University of Timisoara, Romania. 49

8. **APPROACHES ON GEOID MODELLING**, Lecturer Paul Dumitru, Lecturer Marin Plopeanu, Lecturer Andreea Jocea, Lecturer Alexandru Calin, Lecturer Octavian Badescu, Tehnical University of Civil Engineering Bucharest-Faculty of Geodesy, Romania. 57

9. **ASPECTS REGARDING CADASTRE IN ROMANIA**, Camelia Slave, Anca Rotman, Carmen Man, University of Agronomic Science and Veterinary Medicine - Bucharest, Romania. 65

10. **ASSESSMENT OF PROCEDURES FOR DETERMINING PROPERTY BOUNDARIES IN THE CONTEXT OF CREATING CADASTRE IN POLAND**, PhD. Anita Kwartnik-Pruc, AGH University of Science and Technology, Polska. 71
11. CONFIDENCE ELLIPSOIDS IN DEFORMATION ANALYSIS, Prof. Dr. Janka Sabova, Ing. Jozef Saby, Technical University of Kosice, Slovakia..........................79

12. CONTRACTING - A COOPERATION MODEL AND SERVICE CONCEPT FOR IMPLEMENTATION OF ENVIRONMENTALLY COMPATIBLE AND RATIONAL ENERGY SAVING MEASURES AND TECHNOLOGY, Ing. Norbert Hartl, Bauconsulting und Wirtschaftsstraining, Austria..................................................87

13. CONTRIBUTIONS TO IMPLEMENTING A DATABASE OF THE INFORMATION SYSTEM OF THE LAND REGISTRY OFFICE IN IASI, Dr. Dragos-Constantin Nica, Alexandru Ioan Cuza University, Romania.................................95

14. CROATIAN HEIGHT TRANSFORMATION MODEL, Ivan Razumovic, Dr. Nevio Rozic, Mariana Tir, University of Zagreb, Faculty of Geodesy, Croatia.........103

15. DEFORMATION ANALYSIS OF THE CIERNY VAH UPPER WATER RESERVOIR, Slavomir Labant, MSc., PhD., Prof. Gabriel Weiss, MSc., PhD., Pavel Kukucka, MSc., PhD., Assoc. prof. Ladislav Mixtaj, MSc., PhD., Technical University of Kosice, Slovakia.................................................................111

16. DEFORMATION MONITORING STUDIES IN ERMENEK ARCH DAM, Res. Ass. Salih ALCAY, Ass. Prof. Dr. Cemal Ozer YIGIT, Assoc Prof. Dr. Ayhan CEYLAN, Selcuk University, Turkey.........................................................119

17. DETERMINING THE SUITABILITY OF MEMS INCLINATION SENSORS FOR MEASURING DEFORMATION IN MINING AREAS, PhD eng. Pawel Cwiakala, AGH University of Science and Technology, Poland..............................127

18. DETERMINING VOLUMES OF IRREGULAR PILES TO DETERMINE THEIR WEIGHT, Prof. Gabriel Weiss, MSc., PhD., Slavomir Labant, MSc., PhD., Pavel Kukucka, MSc., PhD., Assoc. prof. Weiss Erik, MSc., PhD., Technical University of Kosice, Slovakia.................................................................135

19. DEVELOPMENT OF SPATIAL POLITICS OF MONUMENTAL TOWNS BASED ON KRAKOW EXAMPLE, Dr. Agnieszka Bieda, Prof. Piotr Parzych, AGH University of Science and Technology, Poland.................................143

20. DOCUMENTATION OF DUMPS AND HEAPS BY USE OF UAV, Ing. Helena Strakova, Ing. Jan Reznicek, Czech University of Life Sciences Prague, Czech Republic.................................................................151

21. ESTABLISHING GEODETIC NETWORK FOR THE RESTORATION OF A HISTORIC BUILDING, Michal Baran, MSc., Jozef Zuzik, MSc., PhD., Technical University of Kosice, Slovakia.................................................................159

22. ESTIMATION LINEAR MODEL USING BLOCK GENERALIZED INVERSE OF A MATRIX, PhD Elzbieta Jasinska, Assoc. Prof. Edward Preweda, AGH University of Science and Technology, Poland.................................167
23. EVALUATION AND COMPARISION RECENT GLOBAL GEOPOTENTIAL MODEL IN SERBIA, Assoc. Prof. Dr. Oleg Odalovic, Sanja Grekulovic, Assist. Prof. Dr. Ivana Vasiljevic, Faculty of Civil Engineering University of Belgrade, Serbia.................................................................175

24. EVALUATION OF GEOMECHANICAL CONDITION OF EARTHS CRUST IN CRISIS AREAS, Kairanbayeva A., Bibossynov A., Kurmanov B., Ivanchukova A., Institute of Ionosphere, Kazakhstan...........................................183

25. EVOLUTION OF GEODESY AND CARTOGRAPHY IN ROMANIA, Assistant Eng. CLINCI TUDOREL SILVIU, Lecturer Eng. BADEA ANA-CORNELIA, PhD, Associate Professor Eng. BADEA GHEORGHE, PhD, Tehnical University of Civil Engineering Bucharest-Faculty of Geodesy, Romania.....................191


27. GEODESY CONTRIBUTION TO THE DANUBE WATER PROJECT, Lect.Dr.Eng Tiberiu Rus, Prof. Dr.Eng. Constantin Moldoveanu, Lect. Dr.Eng. Valentin Danciu, Dr.Eng. Ivan Kaltchev, Tehnical University of Civil Engineering Bucharest-Faculty of Geodesy, Romania.................................................................205

28. GEODETIC ENGINEERING - SUPPORT FOR MONITORYING SPECIAL CONSTRUCTIONS BEHAVIOUR, Assist.Dr. Maria – Roberta GRIDAN, Assoc. Prof. Dr. Carmen GRECEA, Politehnica University of Timisoara, Romania........213

29. GEODETIC MONITORING OF THE MINE ACTIVITIES IMPACT USING GNSS TECHNOLOGY AND ENSUING VISUALIZATION OF RESULTS IN GIS, Ing. Ludovit Kovanic, PhD., Technical University of Kosice, Slovakia.........221

30. GEODETIC SUPPORT OF MEASUREMENTS DISPLACEMENTS AND DEFORMATIONS ON THE EXAMPLE OF BENEDICTINE ABBEY IN JAROSLAW (POLAND), Dr Janusz Dabrowski, Dr Tomasz Lipecki, AGH University of Science and Technology, Poland .................................................................229


32. GEOMORPHOMETRIC MONITORING OF ACTIVE SLOPES AND THEIR IMPACT ON POST-GLACIER LAKE IN THE TATRA MOUNTAINS, Tomasz Owerko, PhD, Lukasz Ortyl, PhD, Rafal Kocierz, MSc, Przemyslaw Kuras, PhD, Anita Kwartnik, PhD, Michal Dlugosz, PhD, AGH University of Science and Technology, Poland.................................................................243
<table>
<thead>
<tr>
<th>Chapter</th>
<th>Title</th>
<th>Authors</th>
</tr>
</thead>
<tbody>
<tr>
<td>33.</td>
<td>GLOBAL NAVIGATION SATELLITE SYSTEMS CARRIED OUT IN OPEN-PIT</td>
<td>Dr. Sci. Tech. Gordeev V.A., Ass. Prof., Dr. Golubko B.P., Ass. Prof., Dr. Yakovlev V. N., A. Bannikov, Ural State Mining University, Russia</td>
</tr>
<tr>
<td>34.</td>
<td>HOMOGENIZATION OF STATE TRIGONOMETRIC NETWORKS ESTABLISHED IN DIFFERENT TIME PERIODS WITH A PROPOSAL FOR TRANSFORMATION APPLYING GRID CORRECTIONS</td>
<td>M.Sc. Aleksandar Postolovski, Bauconsulting und Wirtschaftstraining, Austria</td>
</tr>
<tr>
<td>35.</td>
<td>IMPROVEMENTS IN USING OF ELECTRONIC TOTAL STATIONS BY SOFTWARE PROGRAMMING</td>
<td>Lecturer Marin Plopeanu, Lecturer Paul Dumitru, Lecturer Alexandru Calin, Lecturer Andreea Jocea, Lecturer Octavian Badescu, Tehnical University of Civil Engineering Bucharest-Faculty of Geodesy, Romania</td>
</tr>
<tr>
<td>36.</td>
<td>INSTRUMENTAL SEISMIC MICROZONING OF THE TAILINGS DAM OF MINING AND PROCESSING PLANT &quot;ERDENET&quot; (MONGOLIA)</td>
<td>Dr. Sci. Tech. Senin L.N., Ing. Senina I.E., Dr. Sci. Tech. Gordeev V.A., Ass. Prof., Dr. Badulin A.P., Ass. Prof., Dr. Yakovlev V. N., Ural State Mining University, Russia</td>
</tr>
<tr>
<td>37.</td>
<td>INTERRELATIONSHIPS BETWEEN CONSTRUCTION COSTS, HOUSEHOLD INCOME, INTEREST RATES ON BORROWING AND CONSUMER PRICE INDEX FOR SINGLE FAMILY HOUSING IN AUS</td>
<td>Ing. Haas, Leutgeb, Dipl. Ing. Lischka, Bauconsulting und Wirtschaftstraining, Austria</td>
</tr>
<tr>
<td>38.</td>
<td>LABORATORY PROCEDURE FOR THE CALIBRATION OF LASER HANDHELD DISTANCE METER</td>
<td>Prof. DSc Djuro Barkovic, Assist. Prof. Mladen Zrinjski, Bozica Boric, University of Zagreb Faculty of Geodesy, Croatia</td>
</tr>
<tr>
<td>39.</td>
<td>LOCAL QUASIGEOID MODELLING IN IASI CITY AREA</td>
<td>Lecturer PhD. Eng. Constantin Chirila, Assistant PhD. student Eng. Valeria Ersilia Oniga, PhD. student Eng. Raluca Maria Mihalache, Gheorghe Asachi Technical University of Iasi, Romania</td>
</tr>
<tr>
<td>41.</td>
<td>MEASUREMENTS OF DEFORMATIONS OF INNER STRUCTURES OF MULTI-FLUE INDUSTRIAL CHIMNEYS</td>
<td>PhD Rajmund Oruba, MSc Edyta Puniach, AGH University of Science and Technology, Poland</td>
</tr>
<tr>
<td>42.</td>
<td>MONITORING DEPOSIT SLAG AND ASH UTVIN, ROMANIA, USING MODERN GEODETIC TECHNOLOGY</td>
<td>Lecturer PhD. Alina Corina BALA,</td>
</tr>
</tbody>
</table>

iv
Lecturer PhD. Floarea Maria BREBU, Politehnica University of Timisoara, Romania …………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………… …
53. STATIC TERRESTRIAL 3D LASER SCANNING APPLICATIONS IN CIVIL ENGINEERING PROJECTS, Lecturer Andreea Jocea, Lecturer Alexandru Calin, Lecturer Marin Plopeonu, Lecturer Paul Dumitru, Lecturer Octavian Badescu, Tehnical University of Civil Engineering Bucharest-Faculty of Geodesy, Romania………………………………………………………………………………………………………405


55. STUDY ON THE SURFACE INSTABILITY OF THE COAL EXPLOITATION AREA IN LIVEZENI, Assoc. Prof. Dr. Ioel VERES, Raluca FARCAS Ph. D Stud, Nelu STEFAN Ph. D Stud, University of Petrosani, Romania…………………………………………………………………………………………………….427


57. SURVEY MAPPING OF ROMANIAN FORESTLAND AND ITS UPDATE THROUGH LOW-COST APPLICATIONS, Assoc. Prof. Dr. Ioan Ienciu, Lect. Dr. Luciana Oprea, Assoc. Prof. Dr. Cosmin Popescu, Assoc. Prof. Dr. Iosif Vorovencii, Lect. Dr. George Voicu, 1 Decembrie 1918 University of Alba Iulia, Romania…………………………………………………………………………………………………….443

58. SURVEYING SERVICES IN THE PERFORMANCE OF THE GRAVIMETRIC STUDIES FOR THE CONSTRUCTION OF HIGHWAYS, Dr Tomasz Lipecki, Dr Janusz Dabrowski, AGH University of Science and Technology, Poland……………………………………………………………………………………………………451


60. THE EFFECTS OF SPATIAL PLANNING IN THE CONTEXT OF THE PRICES AND PROPERTY VALUE, PhD Justyna Jasiolek, AGH University of Science and Technology, Poland…………………………………………………………………………………………………….465

61. THE IMPLEMENTATION OF A SPATIAL GEODETIC NETWORK FOR THE PURPOSE OF INTRODUCING REAL ESTATE AND URBAN PLANNING WORKS IN THE MUNICIPALITY OF IASI, PhD Assistant Professor Eng. Dragos-Constantin Nica , Alexandru Ioan Cuza University, Romania……………………………….473
62. THE POSSIBILITY OF USING REMOTE SENSING TECHNIQUES IN GEOMETRIC SURVEYING OF CAVES, Anita Kwartnik, PhD, Przemyslaw Kuras, PhD, Rafał Kocierz, MSc, Łukasz Ortyl, PhD, Tomasz Owerko, PhD, AGH University of Science and Technology, Poland.................................................................479

63. THE QUALITY OF THE CROATIAN HEIGHT REFERENCE SYSTEM, Mariana Tir, Prof. Nevio Rozic, Ivan Razumovic, University of Zagreb, Faculty of Geodesy, Croatia.................................................................487

64. THE ROLE OF USING GIS FOR THE MANAGEMENT OF MINING ACTIVITIES, Lecturer Phd.eng. Magdolna Eva KONCSAG, University 1 Decembre, Romania......................................................................................495

65. THE USE OF REGRESSION TREES TO THE ANALYSIS OF REAL ESTATE MARKET OF HOUSING, PhD Elzbieta Jasinska, Assoc. Prof. Edward Preweda, AGH University of Science and Technology, Poland.................................................................503

66. TRANSFORMATION OF CLASSICAL GEODETIC CONTROL NETWORKS TO INTERNATIONAL TERRESTRIAL REFERENCE FRAME BY TRANSFORMATION GRIDS, Assoc. Prof. Dr. Oleg Odalovic, Sanja Grekulovic, Faculty of Civil Engineering University of Belgrade, Serbia.......................................................509

67. USING HISTORICAL MAPS IN RESEARCHES OVER CHANGEABILITY OF RIVER NETWORK, Dr. Agnieszka Bieda, AGH University of Science and Technology, Poland..................................................................................517

68. USING LASER SCANNING SYSTEMS IN SALT MINES PERIMETERS IN ORDER TO DETERMINE VERTICAL MOVEMENTS, Assoc. Prof. Dr. Ioel VERES, Raluca FARCAS Ph. D Stud, Nelu STEFAN Ph. D Stud, University of Petrosani, Romania............................................................................................525

69. USING OF SIMPLEX METHOD FOR THE PROCESSING OF THE RESULTS OF GEODETIC MEASUREMENTS, Assoc. Prof. Juraj Gasinec, MSc., PhD./Silvia Gasincova, MSc., PhD., Technical University of Kosice, Slovakia..............533

70. UTILISING GNSS AT MONITORING SURFACE MANIFESTATIONS AFTER CLOSING MINING OPERATIONS, Michal Baran, MSc., Jozef Zuzik, MSc., PhD., Technical University of Kosice, Slovakia..............................................541

SECTION PHOTOGRAMMETRY AND REMOTE SENSING

72. AIRBORNE IMAGING SPECTROSCOPY AT CZECHGLOBE – POTENTIAL, DATA PROCESSING AND QUALITY INDICATORS, Jan Hanus, Tomas Fabianek, Dr. Veroslav Kaplan, Frantisek Zemek, Centrum vyzkumu globalni zmeny AV CR, Czech Republic ..................................................557

73. ASSESSMENT OF ECONOMIC EFFICIENCY THROUGH THE PLANNING TO TARGET AREA CAPTURE UK-DMC2, Dr. Lyudmila Shagarova, Olga Skakova, Sultangazin Space Research Institute, Kazakhstan ..................565

74. ASSESSMENT OF LAND SURFACE TEMPERATURE FROM SATELLITE DATA FOR DIFFERENT LAND USE AND LAND COVER, Prof. Iosif Vorovencii/Lecturer Luciana Oprea/Prof. Ioan Ienciu/Prof. Cosmin Popescu, Transilvania University of Brasov, Romania .................................................571

75. BORE-SIGHTS AND LEVER-ARMS DETERMINATION OF SENSORS MOUNTED ON AUTONOMOUS MAPPING AIRSHIP, Ing. Bronislav Koska, CTU in Prague, Czech Republic .................................................................579

76. CHANGE DETECTION ON CULTURAL HERITAGE BY RADIOMETRIC COMPARISON OF TERRESTRIAL PHOTOS AND TERRESTRIAL LASER SCANNING, Cornelis Stal, Alain De Wulf, Greta Deruyter, Rudi Goossens, Marijn Hendrickx, Timothy Nuttens, Philippe De Maeyer, Ghent University, Belgium .......587

77. CONSTRUCTION MONITORING OF CIVIL STRUCTURES USING HIGH RESOLUTION REMOTE SENSING IMAGES, Assis. Prof. Dr. Dongyeob Han, Chonnam National University, Korea South .............................................595


79. IDENTIFICATION OF ILLEGAL LOGGINGS IN HARGHITA MOUNTAINS, ROMANIA, USING LANDSAT SATELLITE IMAGES, Prof. Iosif. Vorovencii/Prof. Ioan Ienciu/Lecturer Luciana Oprea/Prof. Cosmin Popescu, Transilvania University of Brasov, Romania ...........................609

80. LANDSAT SATELLITE IMAGES USED IN IDENTIFICATION OF LAND USE AND LAND COVER IN MOUNTAIN AREA, Prof. Iosif Vorovencii/Prof. Ioan Ienciu/Lecturer Luciana Oprea/Prof. Cosmin Popescu, Transilvania University of Brasov, Romania .................................617

81. LASER SCANNING MEASUREMENT IN THE COURSE OF FIRE TESTS IN VESELI NAD LUZNICI, Ing. Tomas Kremen, Ph.D., Ing. Vaclav Smitka, Ph.D., CTU in Prague, Czech Republic .................................................................625
82. MAPPING AND VISUALISATION OF A PART OF MEDIEVAL ROAD - VIA MAGNA, Ing. Martina Faltynova; Prof. Dr. Ing. Karel Pavelka; Mgr. Petr Novy, CTU in Prague, Czech Republic………………………………………633

83. MERGING MULTISPECTRAL AND PANCROMATIC BANDS OF LANDSAT USING COKRIGING, Diana Galindo Gonzalez, Ana Cristina Costa, ISEGI Universidade Nova de Lisboa, Portugal………………………………………639


85. OBJECT BASED DIGITAL NON-METRIC IMAGES ACCURACY, assistant Valeria Ersilia Oniga/lecturer Constantin Chirila, Gheorghe Asachi Technical University of Iasi, Romania……………………………………………..655

86. PHOTOGRAMMETRIC FLIGHT PREPARATION BY PREMARKING THE FIELD POINTS FOR INFORMATIONAL SYSTEM OF WATER MANAGEMENT, Barliba Luminita Livia, Costel Barliba, Gabriel Eles, Prof. Valeria Cioiloac, Banat University of Agronomical Sciences and Veterinary Medicine, Romania………………………………………………………………663

87. RECENT DROUGHTS AND THE IMPACT ON LAND USE AND LAND COVER IN THE IBERIAN PENINSULA: A SPATIOTEMPORAL ANALYSIS BASED ON THE VEGETATION TEMPERATURE CONDITION INDEX, Stefan Mьhlbauer, Mario Caetano, Ana Cristina Costa, ISEGI Universidade Nova de Lisboa, Portugal………………………………………………………………669

88. RIPARIAN LANDCOVER CLASSIFICATION USING HIGH RESOLUTION IMAGERY AND OOC TECHNIQUE, Ph.D Seunggyu Jeong, Ph.D. Chang-Wan Seo, Professor. Chong-Hwa Park, seoul national university, Korea South………………679

89. RISK ASSESSMENT: A COMPARISON BETWEEN THE USE OF LASER SCANNERS AND TOTAL STATIONS IN A SITUATION WHERE TIME IS THE CRITICAL FACTOR, Prof. dr.Greta Deruyter, ing. Anthony Van Quickelberghe, Timothy Nuttens, Cornelis Stal, Prof. dr. Alain De Wulf, University College Ghent, Belgium………………………………………………………………………687

90. THE SELECTION OF AERIAL LASER SCANNING PARAMETERS FOR COUNTRYWIDE DIGITAL ELEVATION MODEL CREATION, Prof. Zdzislaw Kurczynski, Krzysztof Bakula, Warsaw University of Technology, Poland…………695

91. THE COMBINATION OF NON - CONTACT SURVEYING TECHNOLOGIES FOR DOCUMENTATION OF CASTLE RUINS,, Ing. Katarina Pukanska, PhD., Ing. Karol Bartos, Technical University of Kosice, Slovakia………………………………………………………………………………703
92. UPDATING TOPOGRAPHIC MAPS AND ORTHOPHOTOPLANS BY DIGITAL PHOTOGRAMMETRY USING AERIAL AND SATELLITE IMAGERY, PhD Student Vanya Petrova, University of Architecture Civil Engineering and Geodesy, Bulgaria. ................................................................. 711

93. USE OF HISTORICAL IMAGES FOR OBJECT RECONSTRUCTION, Prof. Karel Pavelka, Ing. Zdenka Bila, CTU in Prague, Czech Republic. .............................. 719

94. USING OF SAR DATA AND PSINSAR TECHNIQUE FOR MONITORING OF GROUND DEFORMATION IN WESTERN KAZAKHSTAN, Prof. Zhumabek Zhantayev, PhD Alexandr Fremd, Alena Ivanchukova, Institute of Ionosphere, Kazakhstan........................................................................................................ 727

95. USING VNIR HYPERSPECTRAL SENSOR FOR 17TH CENTURY OIL PAINTING DOCUMENTATION, Ing. Eva Matouskova, Ing. Zdenek Svec, Prof. Dr. Ing. Karel Pavelka, CTU in Prague, Czech Republic.............................................. 733
SECTION HYDROLOGY AND WATER RESOURCES

1. ADVANCE HYDRAULIC MODELING OFF IRRIGATION CHANNEL CLOSURE, IN IRRIGATION SYSTEMS FANTANELE-SAG, ROMANIA, ARAD COUNTY, Lecturer.dr.ing. Robert Beilicci, Lecturer.dr.ing. Erika Beilicci, Politehnica University of Timisoara, Romania.................................................................3

2. AN ANALYSIS OF WATER DEMAND USED IN IRRIGATION USING CROPWAT 8.0 PROGRAM. CASE STUDY: PERIAM LOCALITY, TIMIS COUNTY, PhD student eng. Octavian Stana, Politehnica University of Timisoara, Romania.................................................................................................11

3. APPLICATION OF GIS AND MATHEMATICAL MODELS IN BASIN MANAGEMENT – A CASE STUDY IN THE UPPER MORAVA RIVER BASIN, Veronika Rihova MSc., Assoc. Prof. Dr. Jan Unucka, Michal Podhoranyi MSc., Dr. Marcela Gergelova, Faculty of Science University of Ostrava, Czech Republic........19

4. APPLYING OF CRISIS MANAGEMENT MEASURES TO HYDROLOGY IN ROMANIA, PhD. Daniel Mihut Codea, Politehnica University of Timisoara, Romania................................................................................................................31

5. ASSESSMENT OF IMPACTS ON WATER QUALITY CAUSED BY SHORT-TERM STORM DISCHARGES FROM URBANIZED CATCHMENT, Dr. Marek Sokac, Dr. Yvetta Veliskova, Dr. Vanda Dubova, Slovak University of Technology Bratislava, Slovakia...........................................................................................................39

6. CALIBRATION OF BIFIDOBACTERIAL INDICATORS FOR MICROBIAL WATER QUALITY MONITORING IN SOUTH AFRICA, Dr. Catherine Diane Luyt, Dr. Wilhelmine J. Muller, Dr. Roman Tandlich, Rhodes University, South Africa.................................................................................................................47

7. CLIMATE CHANGE AND ITS IMPACT ON QUALITY OF AQUATIC HABITAT, Zuzana Macurova, Jana Kralova, Peter Ivan, Viliam Macura, Slovak University of Technology Bratislava, Slovakia.................................................................55


10. CONCEPTS REGARDING INTEGRATED SUSTAINABLE WATER DEVELOPMENT MANAGEMENT FROM A TRANBOUNDARY RIVER BASIN, prof.Gheorghe Cretu , dr.Codruta Badaluta Minda , Politehnica University of Timisoara, Romania................................................................. 79

11. DETERMINATION OF GEOMORPHOMETRIC CHARACTERISTICS OF WATERSHEDS USING GEOINFORMATIC SYSTEMS, Ing. Stepan Vizina, Ing. Vaclav Hradilek, Ing. Petr Basta, Czech University of Life Sciences Prague, Czech Republic.................................................................85

12. DIAGNOSIS OF A PUMP OPERATION THROUGH MEASUREMENTS NOISE AND VIBRATION, Dr. eng. Dracea Dragos, University of Agronomic Science and Veterinary Medicine - Bucharest, Romania.................................93

13. DIFFERENT METHODS FOR FARMER’S IMPLICATION IN THE NITRATE MANAGEMENT AT RIVER BASIN SCALE, Dr. Maria Cristina Trifu, Bogdan Ion, Valeria Daradici, National Institute of Hydrology and Water Management, Romania.................................................................101

14. DISTRIBUTION OF REYNOLDS SHEAR STRESS IN STEADY AND UNSTEADY FLOWS, Research student Ishraq Alfadhli, Assoc. Prof. Shu-Qing Yang and Assoc. Prof. Muttucumaru Sivakumar 3, University of Wollongong UOW, Australia...............................109


16. EVALUATION OF HYDROLOGICAL SERIES IN LIBYA, assoc. prog. Martina Zelenakova, Eng. Ibrahim Gargar, Dr. Pavol Purcz, Technical University of Kosice, Slovakia.................................................................125

17. EVALUATION OF PHYSICO-CHEMICAL CHARACTERISTICS AND BACTERIAL PATHOGENS IN ISHM RIVER POURING INTO THE ADRIATIC SEA, ALBANIA, Prof. As. Klementina Puto, Figali Hila, Naxhije Hila, University of Tirana, Albania.................................................................133


<table>
<thead>
<tr>
<th>Number</th>
<th>Title</th>
<th>Authors</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>20</td>
<td><strong>FLASH FLOODS MITIGATION MEASURES FOR UNGAUGED BASINS</strong> (CASE STUDY POJORATA BASIN), Ph.D. student Veronica Ivanescu/ Dr. Patricia Mocanu, University of Agronomic Science and Veterinary Medicine - Bucharest, Romania</td>
<td>............................................................................................................................................</td>
<td>157</td>
</tr>
<tr>
<td>21</td>
<td><strong>GIS APPLICATION IN THE MANAGEMENT OF RESERVOIR LAKES. CASE STUDY: THE SERIES OF LAKES VALCELE, BUDEASA, BASCOV, ARGES RIVER</strong>, Dr. Daniel Constantin Diaconu, Dr. Adrian Tiscovschi, Drd. Emanuel Mailat, University of Bucharest, Romania</td>
<td>............................................................................................................................................</td>
<td>165</td>
</tr>
<tr>
<td>22</td>
<td><strong>HISTORY OF FLOODS ON THE TERRITORY OF SLOVAKIA</strong>, Pavla Pekarova, Jan Pekar, Peter Skoda, Pavol Miklanek, Comenius University Bratislava, Slovakia</td>
<td>............................................................................................................................................</td>
<td>173</td>
</tr>
<tr>
<td>23</td>
<td><strong>ICE PHENOMENA IN ANTHROPOGENIC WATER BODIES IN GLIWICE (SILESIAN UPLAND, SOUTHERN POLAND)</strong>, MSc Kamil Gyrski, Dr. Robert Machowski, Assoc. Prof. Dr. Mariusz Rzetala, University of Silesia - Faculty of Earth Sciences, Poland</td>
<td>............................................................................................................................................</td>
<td>181</td>
</tr>
<tr>
<td>24</td>
<td><strong>LAND USE RELATED PARAMETERS AS AN INPUT FOR THE ESTIMATION OF FLOOD CHARACTERISTICS IN SMALL CATCHMENTS</strong>, Ing. Vaclav David, Ph.D., Ing. Tereza Davidova, Ing. Ludek Strouhal, CTU in Prague, Czech Republic</td>
<td>............................................................................................................................................</td>
<td>189</td>
</tr>
<tr>
<td>25</td>
<td><strong>LONG-TERM PREDICTION OF THE NEVA RIVER MEAN ANNUAL DISCHARGE BY STOCHASTIC MODELS</strong>, Jan Pekar, Pavla Pekarova, Pavol Miklanek, Dana Halmova, Comenius University Bratislava, Slovakia</td>
<td>............................................................................................................................................</td>
<td>197</td>
</tr>
<tr>
<td>26</td>
<td><strong>LONGITUDINAL DISPERSION COEFFICIENT EVALUATION METHODOLOGY BASED ON RESULTS OF FIELD MEASUREMENTS</strong>, Dr. Yvetta VELISKOVA, Assoc. Prof. Marek SOKAC, Pavel BERTA, Dr.Marta KOCZKA BARA, Institute of Hydrology Slovak Academy of Sciences, Slovakia</td>
<td>............................................................................................................................................</td>
<td>205</td>
</tr>
<tr>
<td>29</td>
<td><strong>MONITORING OF WATER QUALITY IN THE WATER TREATMENT PLANT, MANAGED BY AQUABIS BISTRITA, ROMANIA</strong>, Ichinur Omer , Ioana Doina Pintea , Razvan Mateescu , N.I.M.R.D. Grigore Antipa, Romania</td>
<td>............................................................................................................................................</td>
<td>229</td>
</tr>
</tbody>
</table>
30. MORPHOGENESIS OF RESERVOIRS IN A MINING-SUBSIDENCE ZONE
(A CASE STUDY OF THE BOBREK RIVER BASIN, SOUTHERN POLAND),
Dr. Martyna A. Rzetala, University of Silesia - Faculty of Earth Sciences, Poland…237

31. MORPHOMETRIC PARAMETERS OF EXTINCT POND AREAS, Ing.
Vaclav David, Ph.D., Ing. Ludek Strouhal, Ing. Tereza Davidova, CTU in Prague,
Czech Republic…………………………………………………………245

32. OPERATION OF RESERVOIR WAPIENICA IN THE SILESIAN BESKID
MTS. (SOUTHERN POLAND), MSc Marta Miazga, University of Silesia - Faculty of
Earth Sciences, Poland…………………………………………………………253

33. ORGANOCHLORINE PESTICIDES AND METALS IN DANUBE WATER
ENVIRONMENT, CALAFAT-TURNU MAGURELE SECTOR, ROMANIA,
Miclean Mirela, Tanaselia Claudiu, Roman Marius, Cadar Oana, Roman Cecilia,
Research Institute for Analytical Instrumentation, Romania………………………………261

34. PROCESS OF FLOOD RISK ASSESSMENT, assoc. prof. Martina Zelenakova,
Technical University of Kosice, Slovakia…………………………………………………………269

35. REVISITING THE THORNTHWAITE’S METHOD – CASE STUDY BASED
ON DATA FROM THE VOINESTI EXPERIMENTAL HYDROLOGICAL
STATION (ROMANIA), Prof. Carmen Maftei, Phd Gabriel Minea, National Institute
of Hydrology and Water Management, Romania………………………………………………277

36. SEASONAL CHANGES OF THE SOIL TEMPERATURE IN DIFFERENT
DEPTHS, Dr. Pavol Miklanek, Dr. Pavla Pekarova, Maria Martinova, Dr. Ivan
Mezaris, Institute of Hydrology, Slovak Academy of Sciences, Slovakia……………285

37. SEISMIC ANALYSIS OF ELEVATED RESERVOIRS, Kamila Kotrasova, Eva
Kormanikova, Sorin Leoveanu, Technical University of Kosice, Slovakia………………293

38. STATISTICAL ANALYSES OF WATER LEVEL OF OHRID LAKE,
Prof. Stoe Smiljkov, Prof. Verica Bakeva, Prof. Mihailo Zikov, University of St. Cyril and
Methodius, FYR of Macedonia……………………………………………………………………301

39. STUDIES ON DRYNESS AND DROUGHT FOR TIMIS COUNTY USING
DRY PERIOD INDEX AND PINNA COMBINATIVE INDEX, Dr. Eng. Rares
Halbac-Cotoara-Zamfir, Politehnica University of Timisoara, Romania…………………309

40. STUDIES UPON THE GROUNDWATER QUALITY INDEX OF THE
AQUIFER FROM BARLAD MIDDLE BASIN, Associate Professor Dr. Iuliana
Gabriela Breaban, Student Madalina Paiu, Dr. Paula Cojocaru, Associate Professor Dr.
Igor Cretescu, Gheorghe Asachi Technical University of Iasi, Romania…………………317

41. STUDY AND FORECAST OF RESERVOIRS SILTING OF BARZAVA
RIVER WATERSHEDS, Lecturer.dr.ing. Erika Beilicci, Lecturer.dr.ing. Robert
Beilicci, Politehnica University of Timisoara, Romania……………………………………325
<table>
<thead>
<tr>
<th>No.</th>
<th>Title</th>
<th>Authors</th>
<th>Institution/Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>42</td>
<td>STUDY ON TRANSIENTS IN A WATER DISTRIBUTION LOOPED NETWORK</td>
<td>Anca Constantin, Alin Danisor, Madalina Stanescu, Claudiu Nitescu</td>
<td>Ovidius University of Constanta, Romania</td>
</tr>
<tr>
<td>43</td>
<td>SURFACE AND GROUND WATER POLLUTION BY NITRATES IN EASTERN SLOVAKIA</td>
<td>Dr. Pavla Pekerova, Dr. Pavol Miklanek</td>
<td>Institute of Hydrology, Slovak Academy of Sciences, Slovakia</td>
</tr>
<tr>
<td>44</td>
<td>TECHNOLOGICAL TESTS OF ANTIMONY REMOVAL FROM GROUNDWATER CONTAMINATED</td>
<td>Ing. Jôn Ilavská, PhD., Ing. Danka Barloková, PhD., Ing. Karol Munka, PhD.</td>
<td>Slovak University of Technology Bratislava, Slovakia</td>
</tr>
<tr>
<td>45</td>
<td>THE BISTRITA RIVER BASIN AND STREAM SYSTEMS</td>
<td>PhD Alexandru-Iulian Ciobanu, Alexandru Ioan Cuza University</td>
<td>Romania</td>
</tr>
<tr>
<td>46</td>
<td>THE COMPARISON OF THE INFLUENCE OF DIGITAL ELEVATION MODELS ON</td>
<td>Vaclav Hradilek, Stepan Vizina, Petr Basta</td>
<td>Czech University of Life Sciences Prague, Czech Republic</td>
</tr>
<tr>
<td>47</td>
<td>THE DEVELOPMENT OF APPLICATIONS FOR ASSESSMENT THE EFFECT OF LINEAR</td>
<td>Michal Podhoranyi, Tomas Kocyan, Ivan Mudron, Jan Unucka Ph.D., VSB-Technical University of</td>
<td>Czech Republic</td>
</tr>
<tr>
<td>48</td>
<td>THE EFFECTIVE APPLICATION OF GEOSPATIAL DATA IN FLOOD HAZARD AND</td>
<td>Krzysztof Bakula</td>
<td>Warsaw University of Technology, Poland</td>
</tr>
<tr>
<td>49</td>
<td>THE GENERALIZED STRUCTURE OF THE GROUNDWATER MONITORING SYSTEM</td>
<td>Assoc. Prof. Ruslan Sharapov, Murom Institute of Vladimir State University</td>
<td>Russia</td>
</tr>
<tr>
<td>50</td>
<td>THE IMPACT OF FLOW ON THE QUALITY OF AQUATIC HABITAT</td>
<td>Viliam Macura, Jana Kralova, Peter Ivan, Jana Vojtkova, Zuzana Macurova</td>
<td>Slovak University of Technology Bratislava, Slovakia</td>
</tr>
<tr>
<td>51</td>
<td>THE INFLUENCE OF INFILTRATION AND DRAINAGE RESISTENCE OF RIVER ON</td>
<td>Dr. Marta KOCZKA BARA, Dr. Yvetta VELISKOVA, Renata DULOVICOVA, Dr. Radoslav SCHUGERL</td>
<td>Institute of Hydrology Slovak Academy of Sciences, Slovakia</td>
</tr>
<tr>
<td>52</td>
<td>THE PROCESS OF SELF-PURIFICATION IN THE RIVERS</td>
<td>PhD Hanelore-Elena MUNTEAN, Politehnica University of Timisoara</td>
<td>Romania</td>
</tr>
</tbody>
</table>
53. USE OF THE ELECTROHYDRAULIC SERVOMECHANISMS WITH LASER POSITION FEEDBACK IN WATER RESOURCES MANAGEMENT, Dr. Teodor Costinel POPESCU, Prof. Nicolae VASILIU, Prof. Daniela VASILIU, Institut INOE 2000-IHP, Romania..........................417

54. VELOCITY DISTRIBUTIONS IN NON-UNIFORM/UNSTEADY OPEN CHANNEL FLOWS AND THE VALIDITY OF LOG LAW, research student Ishraq Alfadhli, Assoc. Prof. Shu-Qing Yang and Assoc. Prof. Muttucumaru Sivakumar, University of Wollongong UOW, Australia..........................425

55. VISUALIZATION OF RADON OCCURRENCE IN GROUNDWATER RELATED TO GEOLOGICAL BEDROCK OF THE CZECH REPUBLIC, J. Suchankova, M. Caslavsky, A. Kralova, L. Kriz, P. Danihelka, CESKA TECHNOLOGICKA PLATFORMA BEZPECNOSTI PRUMYSLU, Czech Republic..........................433

56. WATER QUALITY - MONITORING OF CORROSION LOSSES AND CORROSION RATE IN WATER PIPES, Dr. Vanda Dubova, Dr. Marek Sokac, Slovak University of Technology Bratislava, Slovakia..........................441

57. WATER QUALITY AND TROPHIC STATE OF ALBANIAN WETLANDS OF THE NORTHERN ADRIATIC COASTLINE DURING 2010-2011, Prof. As. Ariana Ylli Kraja, Prof. Dr. Fatbardha Babani, MSc. Anni Koci Kallfa, University of Tirana, Albania..........................449

58. WATER QUALITY IN THE RURAL COMMUNITIES OF THE ROMANIAN DANUBE FLOODPLAIN (CALAFAT- TURNU MAGURELE SECTOR), Dr. Mihaela Sima, Dr. Petru Enciu, Dr. Gheorghe Kucsicsa, Dr. Abraham Bela, Institute of Geography, Romania..........................455

59. WATER QUALITY IN WATER JET TECHNOLOGY, Assoc. Prof. Ing. Lydia Sobotova, PhD., Dr.h.c. Prof. Ing. Miroslav Badida, PhD., Ing. Karkova Monika, Technical University of Kosice, Slovakia..........................463

60. WEATHER FORECASTING AND ITS LEGAL FRAMEWORK FOR DISASTER MANAGEMENT IN SOUTH AFRICA, Dr. Roman Tandlich, Tatenda Grace Chirenda, Shafick Hoossein, Dr. Desmond Pyle, Rhodes University, South Africa..........................471

SECTION SOILS

61. ACCUMULATION OF MAJOR AND TRACE ELEMENTS IN RAISED BOG PEAT AND PEAT HUMIC ACIDS, PhD stud. Diana Dudare, Prof. Maris Klavins, Oskars Purmalis, Inese Silamikele, University of Latvia, Latvia..........................481
62. ACTINOBACTERIA - SOURCE OF INFORMATION ON SOIL QUALITY, Aurica Breica Borozan, Despina Maria Bordean, Oana Maria Boldura, Viorica Boaca, Lavinia Sasu, Luminita Cojocariu, Marinel Horablaga, Adrian Cojocariu, Banat University of Agronomical Sciences and Veterinary Medicine, Romania .......................... 489

63. ANALYSIS OF SOIL CONTAMINATION WITH HEAVY METALS IN SLOVAK REPUBLIC BY USING MULTIDIMENSIONAL STATISTICAL METHOD, Assoc.Prof. Ruzena Kralikova/prof. Miroslav Badida/Miriam Andrejiova, Technical University of Kosice, Slovakia ............................................. 497

64. ASPECTS REGARDING SOIL EROSION CONTROL BASED ON AGRI-ENVIRONMENTAL MEASURES IN THE HILLY AREAS OF ROMANIA, Assoc. Prof. Sevastel Mircea, Assoc. Prof. Nicolae Petrescu, University of Agronomic Science and Veterinary Medicine - Bucharest, Romania ........................................ 505

65. BIODIVERSITY OF VASCULAR PLANTS AND BIOLOGICAL ACTIVITY OF SELECTED PEAT-BOGS AND NEIGHBORING BIOTOPES IN SLOVAKIA, Dr. Danica Fazekasova, Zuzana Boguska, Dr. Lenka Bobulska, prof. Eva Michaeli, Dr. Gabriela Barancikova, University of Presov in Presov, Slovakia ............ 513

66. CHARACTERIZATION VINEYARD SOIL AGROCHEMICAL TARNAVE, Eng.Cristina Maria Tana, Eng.Maria Cosmina Marginean, Prof. Dr. Ovidiu Tita, University Lucian Blaga of Sibiu, Romania .................................. 521

67. CONCENTRATION AND DISTRIBUTION OF NISKEL, LEAD AND ZINC ON THE LANDS OF DRENAS-REPUBLIC OF KOSOVO, Shkelzim Ukaj, Fatbardh Sallaku, Fadil Hasani, Fadil Millaku, Elez Krasniqi, Albona Shala, University of Prishtina, Kosovo .............................................................. 527

68. EFFECT OF CONVENTIONAL TILLAGE AND REDUCED TILLAGE ON N2O EMISSION FROM A LOAMY SOIL UNDER SPRING BARLEY, Jan Horak, Dusan Igaz, Elena Kondrlova, Jan Cimo, Jozef Zembery, Eva Candrakova, Slovak Agriculture University in Nitra, Slovakia ........................................... 533

69. HUMAN HEALTH RISK OF CONTAMINATION BY POLYCHLORINATED BIPHENYLS IN THE AREA OF BUCHAREST CITY, PhD student Mirela-Alina Sandu/ Assoc. Prof. Dr. Ana Virsta/ Dr. Mihaela Preda, Assoc. Prof. Dr. Ioan Bica, University of Agronomic Science and Veterinary Medicine - Bucharest, Romania .................................................. 545

70. INFLUENCE OF SFAGNUM PEAT ON SOIL AGROCHEMICAL PROPERTIES AND MINERAL NUTRITION OF Highbush Blueberries, PhD. Student Mg. Jana Apjase, Prof. Dr. Aldis Karklins, Latvia University of Agriculture, Latvia ................................................................. 553

71. INFLUENCE OF SOIL PARTICLE SIZE ON COPPER AVAILABILITY IN VINEYARD SOILS, Dr Jordana Ninkov, Mr Stanko Milic, Prof. dr Petar Sekulic, Dr Jovica Vasin, Dr Tijana Zeremski, Institute of Field and Vegetable Crops, Serbia .... 563
72. INVESTIGATION OF SOIL PROPERTIES AND SPATIAL DISTRIBUTION IN RELATION WITH ARCHAEOLOGICAL SITES IN RUGINOASA-STRUNGA SADDLE, NE ROMANIA, Dr. Radu Pirnau, Dr. George Bodi, Dr. Bogdan Rosca, Dr. Cristian-Valeriu Patriche, PhD Daniel Carea, Alexandru Ioan Cuza University, Romania.................................................................569

73. MAGNETIC PROPERTIES OF SOILS - A BASIS FOR EROSION STUDY AT AGRICULTURAL LAND IN SOUTHERN MORAVIA, Dr. Ales Kapicka, Dr. Sarka Dlouha, Dr. Hana Grison, Dr. Ondrej Jaksik, Dr. Eduard Petrovsky, Prof. Radka Kodesova, Institute of Geophysics of the ASCR, Czech Republic...............................577

74. MODEL OF WINTER MIGRATION OF SOIL MOISTURE TOWARD THE FROST BOUNDARY, S.A. Lobanov, E.E. Kholoden, Far Eastern Federal University, Russia.................................................................585

75. ON-LINE SOIL COVER DIAGNOSTICS SYSTEM (OLSCD) AS A METHOD FOR ENVIRONMENTALLY SOUND MANAGEMENT OF WASTEWATER SLUDGE, Assoc. Prof. Dzhenis Y.A., Dr. Ermokhin Y.I., Southern Ural State University, Russia.................................................................589

76. ORGANIC RICH FRESHWATER SEDIMENTS (SAPROPEL) AS POTENTIAL SOIL AMENDMENT FOR RECULTIVATION OF AREAS CONTAMINATED WITH HEAVY METALS, Karina Stankevica, Juris Burlakovs, Prof. Maris Klavins, University of Latvia, Latvia.................................................................595

77. PALEOGEOLOGIC METHOD OF CALCULATION OF THE HEAT CONDUCTIVITY COEFFICIENT OF SOILS, S.A. Lobanov, E.E. Kholoden, Far Eastern Federal University, Russia.................................................................595

78. PHENOMENON OF POLYMODALITY OF THE RIVER RUNOFF DISTRIBUTION LAWS, S.A. Lobanov, Far Eastern Federal University, Russia.................................................................603

79. PHYTOTOXICITY OF CADMIUM AND ZINC ON BRASSICA NAPUS, SINAPSIS ALBA AND SPINACIA OLERACEA USING TWO SOIL TYPES, Dr. Eng. Paula Cojocaru, Gheorghe Asachi Technical University of Iasi, Romania.................................................................611

80. POSSIBILITIES OF HYDROLOGICAL RESTORATION OF LARGE NORTH BOHEMIAN OPEN PIT MINES – NEW RESULTS OF RESEARCH, Dr. Michal Rehor, Milan Frastia, ing. Renata Zarubova, Brown Coal Research Institute j.s.c., Czech Republic.................................................................627

81. PROPOSALS FOR IMPROVING THE ROMANIAN CALCULATION METHOD OF FLEXIBLE OR SEMI-RIGID ROAD PAVEMENTS, Prof. Florin BELC Assoc. Prof. Paul MARC PhD. Student. Alin BUZURIU, Politehnica University of Timisoara, Romania.................................................................635
82. RAIN FACTOR CALCULATION - COMPARISON OF DIFFERENT METHODOLOGIES WHICH CONSIDER DATA AVAILABILITY, Dr. Lucia Maderkova, Dr. Jan Cimo, Slovak Agriculture University in Nitra, Slovakia

83. RHIZODEPOSID A DISTURBING FACTOR OF SOIL MICROBIAL BALANCE, Marinel Pasca, Prof. Dr. Luminita Cojocariu, Assoc. Prof. Dr. Aurica Breica Borozan, Dr. Despina-Maria Bordean1, Lecturer Dr. Roxana Popescu, Lecturer Dr. Marioara Nicoleta Filimon, Dr. Vasile Gherman, Lecturer Dr. Nicolae Marinel Horablaga, Banat University of Agronomical Sciences and Veterinary Medicine, Romania

84. ROLE OF INDUSTRIAL TECHNOCENESIS IN SOIL DEGRADATION OF THE CHELYABINSK REGION, Assoc. Prof. Dzhenis Y.A., Dr. Denisov S.E., Southern Ural State University, Russia

85. SOIL CHARACTERISTICS FROM TÂRNAVE VINEYARD, MARIA COSMINA MARGINEAN, CRISTINA MARIA TANA, OVIDIU TITA, Lucian Blaga University of Sibiu, Romania

86. SOIL EROSION MODELING IN CZECH REPUBLIC - COMPUTER MODELS IN VARIOUS SCALES, Ing. Petr Kavka Ph.D., Ing. Miroslav Bauer, Doc. Ing. Dr. Tomas Dostal, Doc. Ing. Josef Krasa Ph.D., Ing. Jan Devaty, CTU in Prague, Czech Republic

87. SOIL TEXTURE ANALYSIS BY OPTICAL METHOD: LABORATORY EXPERIMENT ON SAMPLE PREPARATION PRIOR TO ANALYSIS, Elena Kondrolova, Dusan Igaz, Jan Horak, Klaudia Halaszova, Slovak Agriculture University in Nitra, Slovakia

88. SUSTAINABLE DEVELOPMENT OF AGRICULTURE AS MEANS OF SLOWING DOWN THE EXPLOITATION OF NONRENEWABLE NATURAL RESOURCES, Lector Iagaru Pompilica, Profesor Iagaru Romulus, Lucian Blaga University of Sibiu, Romania

89. THE BIOGEOCHEMISTRY OF COPPER IN THE SYSTEM SOIL - VINELEAVES – WINE FROM THE DISTRICT OF HUSI, ROMANIA, Dr. Ramona Huzum, Dr. Doina Smaranda Sirbu-Radasanu, Dr. Haino Uwe Kasper, Dr. Ovidiu Gabriel Iancu, Alexandru Ioan Cuza University, Romania

90. THE CONCEPT OF UPAS (UNITY OF PEDO-LANDSCAPE WITH SPECIFIC ATTRIBUTES) AND ITS DELIMITATION IN ROMANIA’S MOUNTAINOUS AREAS, Maria Gheorghe, Maria Tanase, National Institute of Economic Research - Costin Kiritescu, Romania

91. THE INFLUENCE OF ANTHROPOGENIC INPUT UPON SELECTED TRACE ELEMENTS DISTRIBUTION FROM SUBURBAN AREA OF THE CITY OF IASI (NE ROMANIA), Dr. Doina Smaranda Sirbu-Radasanu, Dr. Ramona Huzum, Dr. Nicolae Buzgar, Alexandru Ioan Cuza University, Romania
92. THE INFLUENCE OF THE GEOLOGICAL STRUCTURE ON THE GEOMORPHOMETRICAL CHARACTERISTICS AND SOIL EROSION IN THE WEST SIDE OF THE CENTRAL MOLDAVIAN PLATEAU, Dr. Vasile Budui, Stefan cel Mare University of Suceava, Romania

93. THE POSSIBLE WATER POLLUTION FROM AGRICULTURAL SOILS, Ing. Stanislav Torma, Dr. Gabriela Barancikova, Dr. Jarmila Makovnikova, Dr. Stefan Koco, Dr. Danica Fazekasova, University of Presov in Presov, Slovakia

94. THE PREHISTORIC HABITAT CONDITIONS AND SOIL EVOLUTION IN THE ADBNCATA ARCHAEOLOGICAL SITE (SUCEAVA COUNTY, ROMANIA), Dr. Vasile Budui, Dr. Bogdan-Petru Niculica, Dr. Catalina Rotaru-Buzdugan, Stefan cel Mare University of Suceava, Romania

95. THE STRUCTURE OF THE AGRICULTURAL ENTOMOLOGIC FAUNA IN CORN CULTURE OCNA SIBIU (SIBIU COUNTY), ROMANIA, Assistant Prof. Dr. Antonie Iuliana, Dr. Traian Manole, Lucian Blaga University of Sibiu, Romania

96. USING RUSLE AND GEOGRAPHICAL INFORMATION SYSTEMS TO ASSESS SOIL EROSION THROUGH TIME: A CASE STUDY FROM CENTRAL MEXICO, Ma. Lourdes González-Arqueros, Lorenzo Vázquez-Selem, Jorge E. Gama-Castro, Emily McClung de Tapia, National Autonomous University of Mexico - Geology Institute, Mexico

97. VARIATION OF THERMAL-PHYSICAL PROPERTIES OF BROWN MOUNTAIN FOREST SOILS IN PRIMORSKY REGION OF RUSSIA UNDER THE INFLUENCE OF FIRES, E.E. Kholoden, S.A. Lobanov, Far Eastern Federal University, Russia

SECTION FOREST ECOSYSTEMS

98. APPLYING OF CLASSIFICATION SYSTEMS OF FLOODPLAIN FOREST ECOSYSTEMS TO SUSTAINABLE FOREST MANAGEMENT STRATEGY IN THE CZECH REPUBLIC, Assoc. Prof. Dr. Ivo Machar, Palacky University in Olomouc, Czech Republic

99. COMPARATIVE ASSESSMENT OF THE CROWN STATUS OF FAGUS ORIENTALIS L. IN FOREST ECOSYSTEMS OF STRANDZHA MOUNTAIN, SOUTHEAST BULGARIA, Gergana Georgieva, Svetla Bratanova, prof. Nesho Chipev, Institute of Biodiversity and Ecosystem Research at the Bulgarian Academy of Sciences, Bulgaria

100. HEIGHT-DIAMETER CURVE ESTIMATION AND PREDICTION WITH VASICEK MODEL, Prof. Petras Rupsys, Aleksandro Stulginskio Universitetas, Lithuania
<table>
<thead>
<tr>
<th>#</th>
<th>Title</th>
<th>Authors</th>
<th>Location/Institution</th>
</tr>
</thead>
<tbody>
<tr>
<td>101</td>
<td>LATVIA EXPERIENCE: POTENTIAL FOR TREE NON-WOOD BIOMASS UTILIZATION</td>
<td>Prof. Maris Daugavietis, Latvian Academy of Science, Latvia</td>
<td></td>
</tr>
<tr>
<td>102</td>
<td>RESTORATION OF THE RIVER SYSTEM IN THE FLOODPLAIN FORESTS CASE STUDY FROM THE CZECH REPUBLIC</td>
<td>Assoc. Prof. Dr. Ivo Machar, Palacky University in Olomouc, Czech Republic</td>
<td></td>
</tr>
<tr>
<td>103</td>
<td>THE IMPACT OF TREE FOLIAGE UTILIZATION ON MINERAL SUBSTANCE TURNOVER IN FOREST ECOSYSTEMS</td>
<td>Dr. Mudrite Daugaviete, Ausma Korica, Latvian Academy of Science, Latvia</td>
<td></td>
</tr>
<tr>
<td>104</td>
<td>USING VALUE OF TREE FOLIAGE IN LATVIA</td>
<td>Ojars Polis, Kaspars Spalvis, Latvian Academy of Science, Latvia</td>
<td></td>
</tr>
</tbody>
</table>

SECTION MARINE AND OCEAN ECOSYSTEMS

| 105 | CLAY MINERAL DISTRIBUTION IN THE SOUTHWESTERN CHEJU ISLAND MUD | Prof. Hyen Goo Cho, Dr. Hi-II Yi, Yun Ji Lee, Prof. Dae Choul Kim, Gyeongsang National University-Department of Earth and Environmental Sciences, Korea South |                                                                                     |
| 106 | DANUBE RIVER INFLUENCE ON THE ROMANIAN BLACK SEA WATERS | PhD candidate Maria-Emanuela Mihailov, dr. Luminita Buga, dr. Luminita Lazar, PhD Viorel Malciu, prof.dr. Sabina Stefan, PhD. Lucian Dumitache, N.I.M.R.D. Grigore Antipa, Romania |                                                                                     |
| 107 | ON THE WAVE ENERGY POTENTIAL OF THE BULGARIAN BLACK SEA COAST | Vasko Galabov, National Institute of Meteorology and Hydrology-Bulgarian Academy of Sciences, Bulgaria |                                                                                     |
| 108 | PECULIARITIES OF FUEL OIL NATURAL TRANSFORMATION IN THE STRAIT OF KERCH POLLUTED IN NOVEMBER 2007 IN CONSEQUENCE OF TANKER ACCIDENT | Assoc.Prof. Andrey Kuznetsov, Prof. Yury Fedorov, Prof. Paul Fattal, Assist. Konstantin Zagranichny, Southern Federal University, Russia |                                                                                     |
| 110 | THE INFLUENCE OF THE METEOROLOGICAL FORCING DATA ON THE RECONSTRUCTIONS OF HISTORICAL STORMS IN THE BLACK SEA | Vasko Galabov, Anna Kortcheva, National Institute of Meteorology and Hydrology-Bulgarian Academy of Sciences, Bulgaria |                                                                                     |
111. THE USE OF JASON2 SATELLITE ALTIMETER DATA FOR VERIFICATION OF THE OPERATIONAL WAVE FORECASTING SYSTEM OF NIMH-BAS, Marieta Dimitrova, Anna Kortcheva, Vasko Galabov, National Institute of Meteorology and Hydrology- Bulgarian Academy of Sciences, Bulgaria. ........................................................................................................... 863

112. TRANSIENT HEAT TRANSFER IN SUBSEA HYPERBARIC ENVIRONMENT, Anca Constantin, Tamara Stanciu, Ovidius University of Constanta, Romania................................................................. 871

113. WAVE CHARACTERISTICS IN THE ROMANIAN NEARSHORE WATERS, PhD candidate Maria Emanuela Mihailov, Vasile Diaconu, Luminita Buga, Viorel Malciu, Sabina Stefan, Maria Ionela Tomescu-Chivu, Gabriel Ganea, Silviu Matei, N.I.M.R.D. Grigore Antipa, Romania......................................................... 879
## SECTION RENEWABLE ENERGY SOURCES AND CLEAN TECHNOLOGIES


3. **Analysis of Ground Heat Exchangers**, Assoc. Prof. Ing. Danica Kosicanova, PhD., Technical University of Kosice, Slovakia ................................................................. 19

4. **Analysis of Hot Water Temperature in Domestic Hot Water Distribution System in Term of Selected Parameters**, Assist. Prof. Katarina Knizova, Assist. Prof. Martin Kovac, Technical University of Kosice, Slovakia ................................................................. 27

5. **Analysis of Implementation Possibilities for Measures Concerning the Energy Performance Improvement for Social Dwellings**, Lecturer Dr. Arch. Cristian Ungureanu/Assist. Drd. Arch. Aurora Irina Dumitrescu/Lecturer Dr. Arch. Tudor Gradinaru, Gheorghe Asachi Technical University of Iasi, Romania ................................................................. 35

6. **Application of Multi-Criteria Analysis Methods of the Kosice Self-Governing Region for Production of Energy Plants**, Marcella Gergelova, MSc., PhD./Assoc. Prof. Zofia Kuzevicova, MSc., PhD./Assoc. Prof. Stefan Kuzevic, MSc., PhD., Technical University of Kosice, Slovakia ................................................................. 41

7. **Assessment of Factors Influencing Potassium Content in Reed Canary Grass / Poplar Pellets and Grass Plants**, mg.sc.env. Rasma Platace, Dr.agr., prof. Aleksandrs Adamovics, Dr.oec. Inguna Gulbe, Latvian Academy of Science, Latvia ................................................................. 49

8. **Biomass Yield and Agro-Climatic Analysis of Basket Willow (Salix Viminalis L.) Cultivated as an Energy Crop Over Two 4-Year Harvest Cycles in the Slovak Republic**, Dr. Jan Cino, Dr. Pavol Otepka, Dr. Lucia Maderkova, Dr. Dusan Igaz, Dr. Jan Horak, Dr. Miroslav Haban, Dr. Roberta Stepankova, Dr. Marcel Kliment, Slovak Agriculture University in Nitra, Slovakia ................................................................. 57

9. **Computational Flow Modeling of a Sulfide-Driven Fuel Cell: The Cathode Cell with Ejector Mixer**, Prof. Serafim Vlaev, Dr. Dobrin Georgiev, Prof. Venko Beschkov, Bulgarian Academy of Sciences Institute of Chemical Engineering, Bulgaria ................................................................. 69

11. DEVELOPMENT OF METHODS FOR EXTRACTION OF OIL IN CLEANING OIL WASTE USING DEVICES EQUIPPED WITH SOLAR CONCENTRATING ELEMENTS, Abdibattayeva M., Beketova A., Rysmagambetova A., Satayeva A., Saduov K., al-Faraby Kazakh National University, Kazakhstan.................................................................85

12. EFFECT OF ORIENTATION OF BUILDINGS WITH DIFFERENT MATERIALS IN DISTRIBUTION OF TEMPERATURES IN WALLS THICKNESS, PhD. M. Hamdani /Dr. S.M.A. Bekkouche / Prof.T. Benouaz / PhD .M.K. Cherier / PhD.N.Benamrane / PhD . O.Halloufi ., Applied Research Unit on Renewable Energies, Algeria.........................................................91

13. ENERGY MANAGEMENT IN HISTORIC BUILDINGS, Ing. Miroslav Kosican, Prof. Ing. Ivan Hyben, Assoc. Prof. Danica Kosicanova, Technical University of Kosice, Slovakia.................................................................99

14. ENERGY PRODUCED FROM RENEWABLE SOURCES - OPTIMISATION OF OLD SMALL HYDRAULIC POWER STATION, Assistant Lecturer PhD. Eng. Girbaciu Cristian Adrian/ Lecturer PhD. Eng. Girbaciu Irina Alina , Politehnica University of Timisoara, Romania.................................................................103

15. EXPERIMENTAL STUDIES OF COMBINED TECHNIQUES FOR DECREASING THE EMISSION OF SULFUR AND NITRGEN OXIDES FOLLOWING COAL COMBUSTION, Lecturer PhD Eng Daniela Ciolea/ Lecturer PhD Eng Emilia Dunca / Prof. PhD Eng. Maria Lazar/ Assist.Prof. Florin Faur, University of Petrosani, Romania.........................................................111


18. FLAMMABILITY PROPERTIES OF DRY SEWAGE SLUDGES, Nieves Fernandez Anez, Lucia Montenegro Mateos, Prof. Ljiljana Medic Pejic, Prof. Javier Garcia Torrent, Technical University of Madrid - UPM, Spain.................................135

19. HYDRAULIC SOLUTION FOR REDUCING THE OVERLOADING OF SEWAGE TREATMENT PLANTS USING SEDIMENTATION TANKS COUPLED WITH INFILTRATING BASINS, Lecturer Camelia Stefanescu, Prof. Ioan David, Politehnica University of Timisoara, Romania.................................143

20. IMPROVING THE ENERGETIC EFFICIENCY AT ELECTRIC DRIVES COMPRESSORS OF E.M LONEA, Assoc. Prof. Susana Arad, Leon Pana PhD, Assist. Prof. Florin Popescu, University of Petrosani, Romania.................................153

21. INNOVATIVE SOLUTIONS FOR RENEWABLE ENERGY CONVERTOR-GENERATOR, ECO-EFFICIENT, ENERGETICALLY AUTONOMOUS BUILDINGS, Constantin Miron, Livia Miron, , N.I.R.D. URBAN-INCERC, Romania.................................................................161

22. PHYSICAL CHARACTERISTICS OF BIOMASS AND ITS INFLUENCE IN SELF-COMBUSTION, L. Montenegro Mateos; J. Garcia Torrent; J. Castilla Gymez; N. Fernandez Acez; L. Medic Pejic, Technical University of Madrid - UPM, Spain.................................................................169

23. PROSPECTS OF USAGE OF BIOENERGETICS AT RURAL ECONOMY OF BULGARIA, Dr. Tatiana Fuzella, PhD Evgeny Timoshok, Institute of Monitoring of Climatic and Ecological Systems SB RAS, Russia.................................177

24. REDUCING ENERGY CONSUMPTION BY MODERNIZING DRIVES OF HIGH CAPACITY EQUIPMENT USED TO EXTRACT LIGNITE, Assist. Prof. Florin Popescu, Assoc. Prof. Susana Arad, Assoc. Prof. Marius Marcu, Leon Pana, University of Petrosani, Romania.................................183

25. REDUCING ENERGY NEEDS OF THE ADMINISTRATIVE BUILDING USING PHOTOVOLTAIC SYSTEM, Ing. Marek Kusnir, PhD., Ing. Frantisek Vranay, Ing. Peter Kapalo, Technical University of Kosice, Slovakia.................................191

26. RESEARCH OF MINIMUM VENTILATION INTENSITY, Ing. Richard Nagy, PhD., Doc. Ing. Danica Kosicanova, PhD., Technical University of Kosice, Slovakia.................................................................199

27. REVERSIBLE HYDROGEN ELECTRODE APPLICATION AS INDICATOR ELECTRODE FOR REAL TIME KINETIC STUDY OF MICROBIAL H2 PRODUCTION, Prof. Roumen Zlatev, Prof. Margarita Stoytcheva, Prof. Benjamin Valdez, Prof. Gisela Montero, UNIVERSIDAD AUTONOMA DEL ESTADO DE BAJA CALIFORNIA, Mexico.................................................................211

28. ROLE OF METAL FOAM IN SOLAR HEAT TECHNOLOGY, Radim Rybar, Martin Beer, Technical University of Kosice, Slovakia.................................219
29. SMART GRIDS AND SMART MEASURING SYSTEMS IN THE ENERGETICS, Jozef Zuzik, MSc., PhD., Michal Baran, MSc., Technical University of Kosice, Slovakia ................................................................. 227


31. STUDY OF SHADING EFFECTS IN HELIOSTATS – TOWER SYSTEM USING A SIMULINK MODEL, A. Belaid, B. Bezza, T. Arrif, A. Gama, R. Khelifi, Applied Research Unit on Renewable Energies, Algeria ................................................................. 243


34. THE POSSIBILITY TO OPTIMIZE THE RESOURCES USE IN THE AGRICULTURAL AREAS OF THE TOMSK REGION, Dr. Tatiana Fuzella, Institute of Monitoring of Climatic and Ecological Systems SB RAS, Russia ................................................................. 267

35. THEORY OF SONICS: EVOLUTION OF AN IDEA, Popescu George Aurel, University Constantin Brancusi of Targu Jiu, Romania ................................................................. 273

36. THERMAL DISINFECTION AND ENERGY CONSUMPTION OF CENTRALIZED HOT WATER, Assoc. Prof. Ing. Danica Kosicanova, PhD., Technical University of Kosice, Slovakia ................................................................. 277


SECTION RECYCLING

38. A THEORETICAL AND EXPERIMENTAL STUDY REGARDING SOME MECHANICAL PROPERTIES OF A MELAMINO-FORMALDEHYDE BASED BIOCOMPOSITE REINFORCED WITH HEMP SHIVES., PhD Student Maria
<table>
<thead>
<tr>
<th>Title</th>
<th>Authors</th>
<th>Pages</th>
</tr>
</thead>
<tbody>
<tr>
<td>39. BEHAVIOR OF MORTARS HYDRAULIC AND ORGANIC MATRIX IN AGGRESSIVE ENVIRONMENTS</td>
<td>Dr. Mohammed Saidi, Dr. Brahim Safi, Dr. Majid Samar, Pr. Abdelbaki Benmounah, Pr. Messaoud Hamiane, Boumerdes University, Algeria</td>
<td>301</td>
</tr>
<tr>
<td>40. COAL ASH CHARACTERISTICS TO ASSESS ITS POSSIBLE USES</td>
<td>Dr. Georgeta Predeanu, Dr. Eniko Volceanov, Alexandru Traian Abagiu, Prof. Dr. Mihai Cruceru, Eng. Valerica Slavescu, Prof. Dr. Cristinel Racoceanu, University Constantin Brancusi of Targu Jiu, Romania</td>
<td>309</td>
</tr>
<tr>
<td>41. COMPARATIVE STUDY OF PROPERTIES OF LIGHTWEIGHT COMPOSITES BASED ON UNTREATED AND CHEMICAL TREATED OF HEMP HURDS</td>
<td>Dr. Julia Cigasova, Prof. Dr. Nadezda Stevulova, Asist. Prof. Jozef Junak, Assoc. Prof. Alena Sicakova, Technical University of Kosice, Slovakia</td>
<td>317</td>
</tr>
<tr>
<td>43. DECONSTRUCTION OF BUILDINGS – SUSTAINABLE WAYS OF CONSTRUCTION</td>
<td>Ing. Marcela Spisakova, PhD., prof. Ing. Maria Kozlovska, PhD., Technical University of Kosice, Slovakia</td>
<td>333</td>
</tr>
<tr>
<td>44. ECOLOGICAL ASPECTS OF USING INDUSTRIAL EXPLOSIVES MADE ON THE BASIS OF UTILIZED AMMUNITION</td>
<td>Prof. Nikoloz Chikhradze, Prof. S. Khomeriki, Prof. R. Mikhailson, Dr. A. Khvadagiani, Dr. D. Supatashvili, G. Tsulukidze Mining Institute, Georgia</td>
<td>341</td>
</tr>
<tr>
<td>45. ELIMINATION OF ZINC, COPPER AND LEAD IONS FROM AQUEOUS SOLUTIONS USING ASH ORIGINATING FROM PLANT BIOMASS COMBUSTION</td>
<td>Ing. Silvie Heviankova, Ph.D., Ing. Iva Bestova, Ph.D., Ing. Lucie Kucerova, doc. Dr. Ing. Radmila Kucerova, VSB-Technical University of Ostrava, Czech Republic</td>
<td>349</td>
</tr>
<tr>
<td>46. ENSURING ENVIRONMENTAL SAFETY AT THE MUNICIPAL SOLID WASTE</td>
<td>Aibar Baibatchayev, Dr. Prof. Samat Nurkeev Kazakh National Technical University Named After K. I. Satpayev, Kazakhstan</td>
<td>359</td>
</tr>
<tr>
<td>47. EXPERIMENTAL VERIFICATION OF VERMICOMPOSTING EFFICIENCY</td>
<td>Ing. Alena Sklenickova, Ing. Barbora Lyckova, Ph.D., VSB-Technical University of Ostrava, Czech Republic</td>
<td>365</td>
</tr>
</tbody>
</table>
48. IMPROVING THE SIZING EFFICIENCY BY USING HYDROCYCLONES WITH ADDITIONAL WATER CURRENT, Candidate for PhD.ec. Vranceanu Catalin/PhD. eng. ecol. Diana Marchis/ Prof. PhD. eng. Romulus Sarbu, University of Petrosani, Romania

49. INFLUENCE OF ADDITION OF SAND DUNES IN THE FORMULATION OF SELF COMPACTING CONCRETE (SCC), Dr. Mohammed Saidi, Dr. Brahim Safi, Dr. Madjid Samar, Pr. Abdelbaki Benmounah, Boumerdes University, Algeria

50. MODIFIED HEMP HURDS AS A FILLER IN COMPOSITES, Dr. Julia Cigasova, Prof. Dr. Nadezda Stevulova, Asist. Prof. Eva Terpakova, Assoc. Prof. Alena Sicakova, Asist. Prof. Jozef Junak, Technical University of Kosice, Slovakia

51. NEW APPROACH TO NATURAL AGGREGATE REPLACEMENT BY INDUSTRIAL WASTES IN CIVIL ENGINEERING INDUSTRY, Asist.Prof. Jozef Junak, Prof. Dr. Nadezda Stevulova, Asist. Prof. Marcela Ondova, Technical University of Kosice, Slovakia

52. NEW MEDIUM HEAVY-BASED SORBENT POROSORB BASED INDUSTRIAL WASTE, Silarova, P., Pertile, E., Surovka, D., VSB-Technical University of Ostrava, Czech Republic

53. PHYSICAL-CHEMICAL CHARACTERISTICS OF SOME INDUSTRIAL WASTES ARGUMENTS FOR THEIR USE IN THE FIELD OF BUILDING MATERIALS MANUFACTURING, Alexandru Traian Abagiu, PhD Eniko Volceanov, PhD Georgeta Predeanu, Eng. Florian Zaman, Prof. Luminita Georgeta Popescu, Eng. Valerica Slavescu, Constantin Brancusi University of Targu-Jiu, Romania

54. POSSIBILITIES OF UTILIZATION OF USED SAND MIXTURES (FROM FOUNDRY INDUSTRY), Ing. Alena Pribulova, Ing. Peter Futas, Technical University of Kosice, Slovakia

55. POSSIBILITY OF USING PYROLYSIS AND PLASMA DURING DISPOSAL OF PLASTIC PARTS OF ELECTRIC WASTE, Ing. Ph.D. SILVIE BROHova., VSB-Technical University of Ostrava, Czech Republic

56. PYRITE ASHES - RAW MATERIAL IN IRON METALLURGY, Assoc. Prof. Cristea Nicolae, Assoc. Prof. Badulescu Camelia, Assist. Cristea Georgeta, University of Petrosani, Romania

57. STEELMAKING SLAG – WASTE OR VALUABLE SECONDARY RAW MATERIAL, Ing. Dana Baricova, Ing. Alena Pribulova, Ing. Andrea Rosova, Technical University of Kosice, Slovakia
58. SUSTAINABLE SELF COMPACTED CONCRETE REALIZED WITH INDUSTRIAL WASTES, Assistant Prof. PhD. Eng. Liana Iures, Lecturer PhD. Eng. Catalin Badea, Politehnica University of Timisoara, Romania.................................443

59. TECHNICAL ANTICRACKING SOLUTIONS APPLIED ON ROMANIAN PUBLIC ROADS, Prof. Florin BELC Prof. Gheorghe LUCACI Lecturer. Ciprian COSTESCU, Politehnica University of Timisoara, Romania.................................449

60. TECHNOLOGICAL CONDITIONS FOR THE USE OF WATER OBTAINED BY RECYCLING LEFTOVERS OF FRESH CONCRETE, prof. Ing. Ivan Hyben, PhD., Technical University of Kosice, Slovakia.........................................................457

61. THE DEFORMATION CHARACTERISTICS OF RECYCLED MIXTURES, Ing. Eva Panulinova, Ing. Slavka Harabinova, Technical University of Kosice, Slovakia.............................................................465

62. THE RECYCLING OF FLY ASH TO OBTAIN BUILDING MATERIALS, Lecturer PhD. Eng. Catalin Badea, Assistant Prof. PhD. Eng. Liana Iures, Lecturer PhD. Eng. Sorin Dan, Politehnica University of Timisoara, Romania...............................473

63. THE REQUIREMENTS OF ABRASIVES AND THEIR POSSIBILITIES IN RECYCLING IN AWJ TECHNOLOGIES, Dr.h.c. Prof. Ing. Miroslav Badida, PhD., Assoc. Prof. Ing. Lydia Sobotova, PhD., Technical University of Kosice, Slovakia.................................................................479

64. THE THERMAL ANALYSIS OF A P.E.T. BOTTLE BUILDING ENVELOPE MODEL, Miodrag Popov, Marius Adam, Luminita Feke-Nagy, Prof. Daniel Grecea, Politehnica University of Timisoara, Romania..............................................................487

65. THE USE OF DENSE SLURRY FLY ASH TO OBTAIN BUILDING MATERIALS WITH LOW DENSITY, Lecturer PhD. Eng. Catalin Badea, Assistant Prof. Phd. Eng. Liana Iures, PhD. Eng. Ionel Balcu, Politehnica University of Timisoara, Romania..........................................................495

66. USING THE GROUND BRIK WASTE AND THE SILT OF DAMS IN SELF-COMPACTING CONCRETE: EFFECT ON THE PHYSICAL AND MECHANICAL PROPERTIES, Safi B., Ghernouti Y., Rabehi B and Aboutaleb D., Boumerdes University, Algeria...........................................................501

SECTION AIR POLLUTION AND CLIMATE CHANGE

67. A CONTINUOUS-TIME DYNAMIC MOBILE SOURCE AIR POLLUTION MODEL AND ITS MAINAINABILITY PROPERTY, DSc Ventsi Rumchev, Dr Krassi Rumchev, Dr Yoichi Higashiyama, Curtin University, Australia 511

68. AIR QUALITY IN RURAL AREAS OF E. SLOVAKIA, Jana Jablonska, PhD, G.M. Timcak, PhD, Viliam Carach PhD, Technical University of Kosice, Slovakia.................................................................519

70. AIR QUALITY MONITORING USING BIOINDICATORS IN JIU VALLEY, student PhD chim. OLENCIUC Olga, Prof.PhD.Eng. Romulus SIRBU, Lecturer Ph.D.Eng. Emilia DUNCA, University of Petrosani, Romania.........................535

71. BLIZZARD CONSEQUENCES IN THE EASTERN PARTS OF BULGARIA AND ROMANIA IN JANUARY 2010. A COMPARATIVE STUDY, Brindusa Cristina Chiochoroiu, Veneta Ivanova Todorova, Adina Eliza Croitoru, Constanta Maritime University, Romania........................................543

72. CHANGES IN SEASONAL AND ANNUAL PRECIPITATION ON THE WESTERN COAST OF THE BLACK SEA, PhD. Lecturer Adina Eliza Croitoru, PhD. Associate Professor Brindusa Cristina Chiochoroiu, PhD. student Veneta Ivanova Todorova, PhD. Vasile Torica, Babes-Bolyai University, Romania.................................551

73. CHEMICAL COMPOSITION OF WET, BULK, AND DRY DEPOSITION IN KIRKLARELI, TURKEY, Ilker Oruc, Bulent O. Akkoyunlu, Ilhan Erdogan, Kirklareli University Vocational College of Technical Sciences, Turkey..........................559

74. CLASSIFICATION OF MEASUREMENT STATIONS BASED ON CLOSENESS OF AIR TEMPERATURE IN REPUBLIC OF MACEDONIA, Prof. Mihailo Zikov, Prof. Verica Bakeva, University of St. Cyril and Methodius, FYR of Macedonia........................................565

75. CLIMATE CHANGE IMPACTS ON CROP PRODUCTION IN THE OLTENIA PLAIN (ROMANIA), Bianca MITRICA, Elena MATEESCU, Carmen-Sofia DRAGOTA, Aristita BUSUIOC, Ines GRIGORESCU, Elena-Ana POPOVICI, Institute of Geography - Romanian Academy, Romania..........................573

76. CLIMATIC SUITABILITY FOR TOURISM ACTIVITIES IN CONSTANTA COUNTY (ROMANIA), Dr. Lungu Marius, Dr. Panaitescu Liliana, Lungu Dumitrela, Ovidius University of Constanta, Romania........................................585

77. COMPARISON AND SEASONAL EVALUATION OF THE RURAL AND URBAN AMBIENT PM2.5 AND PM10 MASS CONCENTRATIONS BASED ON METEOROLOGICAL PARAMETERS, Dr. Lokman Hakan Tecer, Namik Kemal University, Turkey........................................593

78. COMPARISON OF SELECTED COMPONENTS OF ATMOSPHERIC DEPOSITION IN THE AREAS KOSICE AND KROMPACHY (SLOVAKIA), Dr. Jozef Hanculak, Tomas Kurbel, Dr. Lenka Findorakova, Dr. Tomislav Spaldon, Dr. Olga Sestinova, Institute of Geotechnics Slovak Academy of Sciences, Slovakia.........................................................601
79. DIOXINS AND FURANS EMISSIONS IN THE PRIMARY STEEL SECTOR, Dr. Tamara Radu, Dr. Anisoara Ciocan, Dr. Simion Balint, Dr. Lucica Balint, Dunarea de Jos University of Galati, Romania


81. ENVIRONMENTAL IMPACT OF AGGREGATE QUARRIES IN THE CEBECI DISTRICT ON THE AIR QUALITY OF THE REGION, Ertugrul Kaya, Edip Avsar, Ilker Akmirza, Banu Ozlem, Ezgi Erdogan, Kadir Alp, Ismail Toroz, ERTUGRUL KAYA, Turkey

82. EVALUATION OF THERMO-HUMIDITY AIR CONDITIONS IN INDUSTRIAL ENVIRONMENT, doc. Ing. Ruzena KRALIKOVA,PhD./ prof. Ing. Miroslav BADIDA, PhD./ Ing. Hana SOKOLOVA, Technical University of Kosice, Slovakia

83. GEOCHEMICAL INDICATORS OF CLIMATE CHANGE IN THE ANNUAL LAYERS OF BOTTOM SEDIMENT LAKE SHIRA (SOUTH SIBERIA), A. Darin, I. Kalugin, N. Maksimova, T. Markovich, D. Rogozin, Y. Rakshun, I. Zizak, F. Darin, D. Sorokoletov, Institute of Geology and Mineralogy of SB RAS, Russia

84. GEOCHEMICAL SIGNALS OF PALEOCLIMATE IN THE VARVED CLASTIC AND CARBONATE LAKE SEDIMENTS, Dr. Ivan Kalugin, Dr. Andrey Darin, Dr. Gennady Tretyakov, Liudmila Kholodova, Dr. Natalia Maksimova, Dr. Denis Rogozin, Institute of Geology and Mineralogy of SB RAS, Russia

85. IMPACT OF AIR POLLUTION ON THE ENVIRONMENT IN THE KROMPACHY TOWN (SLOVAKIA), Dr. Juliana Krokusova, Dr. Vladimir Cech, Dr. Lucia Kunakova, Dr. Milos Blahut, University of Presov in Presov, Slovakia

86. IMPACT OF CLIMATIC CHARACTERISTICS ON DIMENSIONING OF ROAD CONSTRUCTION IN TUNNELS IN SLOVAKIA, Ing. Eva Remisova, Prof. Martin Decky, Ing. Michal Juhas, University of Zlina, Slovakia

87. INDOOR TVOC AND ODOR POLLUTION – CHEMICAL AND SENSOR ASSESSMENT, prof. Ingrid Senitková, prof. Miroslav Badída, Technical University of Kosice, Slovakia

88. INORGANIC COMPONENTS IN THE DIATOM ALGAE VALVES OF HOVSGOL AND BAIKAL LAKES AS INDICATORS OF CLIMATE CHANGE, Dr. Liudmila Pavlova, Liliya Tkachenko, Institute of Geochemistry, Siberian Branch of the Russian Academy of Sciences, Russia
89. INVESTIGATION OF WET, BULK, AND DRY DEPOSITION CONCENTRATIONS IN KIRKLARELI, TURKEY, Ilker Oruc, Bulent O. Akkoyunlu, Ilhan Erdogan, Kirkclareli University Vocational College of Technical Sciences, Turkey..........................................................683

90. JOINT ASSESSMENT OF CLIMATE HAZARDS IN THE DANUBE FLOODPLAIN: THE CALAFAT-VIDIN - TURNU MAGURELE-NIKOPOLE SECTOR. A PRELIMINARY APPROACH, Ph.D. Ines Grigorescu, Ph.D. Carmen Dragota, Ph.D. Gheorghe Kucsicsa, Ph.D. Mariyana Nikolova, Institute of Geography - Romanian Academy, Romania..........................................................689

91. VITAL CAPACITY OF THE LUNGS OF STUDENTS GROUP-AGES 14-15 YEARS, IN HANI ELEZIT, PALDENICA AND GORANC, MSc. Fahri Osmani, Assoc.Prof.Kemajl Bislimi, MSc.Avni Behluli, MSc.Illir Mazreku, MSc.Jeton Halili, Prof.Dr.Shukri Fethahug, Agricultural University of Tirana, Albania..........................697

92. LUNGS VITAL CAPACITY OF THE STUDENT'S GROUP-AGE 14-15 YEARS, IN FERIZAJ AND SURROUNDING REGION, Assoc. Prof. Kemajl Bislimi, MSc. Avni Behluli, MSc. Fahri Osmani, MSc. Ilir Mazreku, MSc. Jeton Halili, Prof. Dr. Shukri Fetahau and Assoc.Prof.Sali Aliu, Agricultural University of Tirana, Albania..........................697

93. MODELING ROAD PAVEMENTS TAKING INTO CONSIDERATION THE THERMO-PHYSICAL CHARACTERISTICS OF THE LAYERS, Assoc. Prof. Paul MARC Prof. Florin BELC Prof. Gheorghe LUCACI, Politehnica University of Timisoara, Romania.............................................................703

94. OVERCOMING A METROLOGICAL NEED IN CLIMATE CHANGE MONITORING, Dr. Alessia Demichelis, Prof. Guido Sassi, Dr. Maria Paola Sassi, Istituto Nazionale di Ricerca Metrologica INRIM, Italy..........................717

95. PARTICULATE MATTER IN THE STREET CANYON – CONTRIBUTION OF THE ROAD TRANSPORT TO CREATION OF PARTICULATE MATTER, Ing. Dusan Jandacka, PhD., Doc. Ing. Daniela Dureanska, CSc., University of Zlina, Slovakia..........................................................725

96. PERCEIVED INDOOR AIR QUALITY RELATED TO VENTILATION RATES AND SCHOOL PERFORMANCE, prof. Ingrid Senitkova, prof. Miroslav Badida, Technical University of Kosice, Slovakia..........................................................733

97. PLATINUM GROUP METALS IN AIRBORNE PARTICULATE MATTER OF OSTRAVA CITY, CZECH REPUBLIC, Dr. Lucie Sikorova, Dr. Marcela Sucmanova, Dr. Pavel Mikuska, Dr. Helmar Wiltsche, Dr. Jan Stepnicka, VSB-Technical University of Ostrava, Czech Republic..................................................741

98. RECOVERY OF PRECIOUS AND SPECIAL METALS FROM CELL PHONE WASTE BY PYROMETALLURGICAL PROCESSING OF PRINTED
CIRCUIT BOARDS, Dr. Anisoara Ciocan, Dr. Tamara Radu, Dr. Lucica Balint, Dr. Simion Ioan Balint, Dunarea de Jos University of Galati, Romania

REDUCING EMISSIONS FROM KYOTO AND DOHA - REALITY OR IMAGINATION EXERCISE, Anca Rotman, Camelia Slave, Carmen Man, University of Agronomic Science and Veterinary Medicine - Bucharest, Romania

SIMULATING AND FORECASTING THE ARIDITY INDEX – CASE STUDY CENTRAL AND SOUTH DOBRUJA REGION (ROMANIA), Dr. Lungu Marius, Dr. Panaitescu Liliana, Dr. Ilie Constantin, Dr. Ilie Margareta, Lungu Dumitrela, Ovidius University of Constanta, Romania

SOME ASPECTS ON RAINFALL MAXIMUM INTENSITY IN NORTHWESTERN ROMANIA, Forecast meteorologist PhD. Candidate Traian Tudose, PhD. Assoc. Prof. Adina Eliza Croitoru, PhD. Professor Ionel Haidu, Babes-Bolyai University, Romania

THE EVALUATION OF AIR POLLUTION AND METEOROLOGICAL PARAMETERS IN ERGENE BASIN CONSIST OF THREE CITIES IN TURKEY, Dr. Lokman Hakan Tecer, Merve Ficici, Tugsem Uskuloglu, Selin Oz, Namik Kemal University, Turkey


THE SEARCH FOR PERIODICITY IN HIGH-RESOLUTION PALEOClimatic reconstructions last millennia ALTAI region, A. Darin, I. Kalugin, M. Maksimov, A. Mordvinov, D. Ovchinnikov, Ya. Rakshun, F. Darin, D. Sorokoletov, Institute of Geology and Mineralogy of SB RAS, Russia
SECTION ECOLOGY AND ENVIRONMENTAL PROTECTION

1. INVASIVE SPECIES – THEIR IMPACT ON THE ECOSYSTEMS. CASE STUDY: TARGOVISTE PLAIN, Dr. Mihaela Sencovici, Valahia University of Targoviste, Romania.................................................................3

2. ADAPTATION MEASURES FOR THE CENTRAL EUROPEAN FLOODPLAINS LANDSCAPE IN THE CONTEXT OF GLOBAL CHANGES CASE STUDY FROM THE CZECH REPUBLIC, Assoc. Prof. Dr. Ivo Machar, Dr. Vilem Pechanec, Dr. Helena Kilianova, Dr. Zdenek Oprsal, Palacky University in Olomouc, Czech Republic.................................................................11

3. ANALYSIS AND COMPARISON OF ELECTROMAGNETIC FIELDS RADIATED BY THE SELECTED EQUIPMENT, Ing. Marek Moravec, PhD., Dr.h.c. prof. Ing. Miroslav Badida, PhD., Ing. Pavol Liptai, PhD., Technical University of Kosice, Slovakia.................................................................17

4. ANALYSIS OF COMMERCIAL SUBURBANISATION DEVELOPMENTS IN THE VICINITY OF MOTORWAYS IN THE SOUTH MORAVIAN REGION (CZECH REPUBLIC), Dipl. Ing. Zdenek Keken, Dipl. Ing. Petr Smid, Dipl. Ing. Marika Sebkova, Assist.Prof. Katerina Berchova, Dr., Czech University of Life Sciences Prague, Czech Republic.................................................................21

5. ANALYSIS OF HEAVY METAL CONTENT TO EVALUATE LEACHING CHARACTERISTICS OF COAL ASH WASTES, Prof. Luminita Georgeta Popescu, PhD Georgeta Predeanu, PhD Eniko Volceanov, A. T. Abagi, PhD M. Balancescu, PhD Roxana G. Popa, PhD C.E. Schiopu, Constantin Brancusi University of Targu-Jiu, Romania.................................................................33

6. ANALYSIS OF HISTORICAL RETENTION AREAS IN THE EMERGENCY ZONE NUCLEAR POWER PLANT, Justova, H., Tesarova, B., Pecharova, E., Kasparova, I., Semeradova, S., Czech University of Life Sciences Prague, Czech Republic ........................................................................41


8. ANALYSIS OF NOISE REDUCTION OF GEAR TRANSMISSIONS, Ind. Silvia Medvecka, PhD., prof. Ing. Peter Bigos, Technical University of Kosice, Slovakia....57

9. ANALYSIS OF THE POTENTIAL CAUSES AND PREVENTION OF CONFLICTS OF MOTOR VEHICLES WITH THE GAME IN THE DISTRICT OF PRAGUE-EAST, Dipl. Ing. Petr Smid, Assist.Prof. Emilie Pecharova, Dr., Czech University of Life Sciences Prague, Czech Republic.................................................................63
10. ANALYSIS, OCCURRENCE AND REMOVAL OF NINE PHARMACEUTICALS IN WASTEWATERS FROM A MUNICIPAL WASTEWATER TREATMENT PLANT, Dr. J. Petre, V. Iancu, Dr. G. G. Vasile, F. Albu, M. Niculescu, A. C. Niculae, L. Cruceri, Dr. M. Nicolau, National Reserach and Development Institute for Industrial Ecology - ECOIND, Romania ..........................71

11. APPLICABLE RECYCLING TECHNOLOGIES FOR THE REDEVELOPMENT OF DECANTING PLANTS ORIGINATING FROM COMBUSTION PROCESSES, Martin Bosak, Milan Majernik, Pavol Andrejovsky, Ondrej Hronec, Emilia Huttmanova, University of Economics in Bratislava (Kosice), Slovakia ..........................................................................................79

12. APPLICATION OF THE METHOD OF DECISION ANALYSIS AT MULTI-CRITERION ASSESSMENT OF THE SELECTED BRUSH SCRUB CUTTERS, Beata Hricova, Miriam Andrejiova, Miroslav Badida, Zuzana Kimakova, Technical University of Kosice, Slovakia ..............................................................................87

13. ARCTIC CLIMATE AS A FACTOR OF ECOLOGICAL RISK, Dmitriev V.G., Fedorova I.V., Arctic and Antarctic Research Institute, Russia ....................... 95


15. ASPECTS REGARDING ENSURING OF FISH MIGRATION ON THE IAD RIVER. CASE STUDY - BULZ DAM, Dr. Ecaterina Luca, Dr. Eng. Razvan Voicu, National Institute of Hydrology and Water Management, Romania .................. 107

16. ASSESSING INVASIVE TERRESTRIAL PLAN SPECIES AMORPHA FRUTICOSA IN THREE WETLAND AREAS IN ROMANIA: DANUBE DELTA BIOSPHERE RESERVE, COMANA NATURAL PARK AND MURES FLOODPLAIN NATURAL PARK, Ph.D.Monica Dumitrascu, Ph.D.Ines Grigorescu, Ph.D.Mihai Doroftei, Ph.D.Gheorghe Kucsicsa, PhDMarian Mierla, Ph.D. Carmen Dragota, Ph.D.Mihaela Nastase, Romanian Academy Institute of Geography, Romania ..................................................................................................................113

17. ASSESSMENT OF ENVIRONMENTAL CONDITIONS IN THE KOTYCHI LAGOON, WESTERN PELOPONNESSOS, GREECE, Dr. Georgios Chr. Lykokanellos, Assos. Prof. Ioannis K. Kalavrouziotis, Georgia Karaberaou, Prof. Soterios P. Varnavas, University of Patras, Greece ...................................................... 125

18. ASSESSMENT OF THE CURRENT STATE OF ENVIRONMENT IN THE SLOVAK REPUBLIC WITH THE USE OF GREEN GROWTH INDICATORS, Ing. Emilia Huttmanova, PhD. - doc. Ing, Peter Adamisin, PhD. - Ing. Jana Chovancova, PhD., University of Presov in Presov, Slovakia ..................................................................................................................133
19. BIOCHEMICAL IDENTIFICATION OF BACTERIA PSEUDOMONAS FROM ANTHROPOGENIC SEDIMENTS OF ZEMIANSKE KOSTOLANY, SLOVAKIA, PhD Hana Vojtkova, Katarina Petkova, RNDr. Lubomir Jurkovic, Comenius University Bratislava, Slovakia………………………………………………. 141

20. BIOSORPTION OF Cr(III) IONS FROM AQUEOUS SOLUTIONS AT PLANT-ACTIVATED BIOSORBENTS, Ing. Mariana Herkova, Assoc. Prof. Vladimir Cablik, Mgr. Iva Melcakova, Ph.D., Ing. Lucie Cablikova , VSB-Technical University of Ostrava, Czech Republic………………………………………147

21. BROWNFIELDS IN THE AREA OF SMALL MUNICIPALITIES, Dr. Barbara Vojvodikova, Ing. Daniela Vojkovska, Ing. Barbora Maceckova, VSB-Technical University of Ostrava, Czech Republic………………………………………………. 155

22. CHANGE OF SELECTED MECHANICAL PROPERTIES OF RECYCLED PET ON THE TEMPERATURE CONDITIONS, Dr.h.c. prof. Ing. Miroslav Badida, PhD., Ing. Zdenka Dzoganova, Ing. Ludmila Dulebova, PhD., Ing. Lenka Selecka, Technical University of Kosice, Slovakia………………………………………………161

23. CHANGES IN ORGANIZATION POLICY ACCORDING TO ENVIRONMENTAL VALUES AND HOW ENVIRONMENTAL VALUES AFFECT CORPORATE PERCEPTION IN THE HEALTHCARE SECTOR IN TURKEY, Aral Noyan, Yasin Bostanci, Yeni Yuzyil University, Turkey……………….169

24. CHANGING AND DEVELOPING LEVEL OF ENVIRONMENTAL AWARENESS IN TURKEY, Ayse Busra Subasi, Perihan Eren Bana, Tugba Ozturk Yildirim, Yasin Bostanci, Yeni Yuzyil University, Turkey…………………………177

25. CHARACTERISTICS OF ENVIRONMENTAL RELAXATION IN MOUNTAIN LANDSCAPES FOLLOWING NATURAL DISTURBANCES, THE TATRA MOUNTAINS, POLAND, Dr. Pawel Kroh, Jagiellonian University-Institute of Geography and Spatial Management, Poland………………………………………………185

26. CHARACTERIZATION OF SEDIMENT QUALITY DEPENDING ON THE DEPTH OF SAMPLING FROM WATER RESERVOIR RUZIN (SLOVAKIA), Eng. Aneta Petrilakova, Dr. Eva Singovszka, Dr. Magdalena Balintova, Dr. Natalia Junakova, Technical University of Kosice, Slovakia……………………………………193

27. COMMUNICATION AND CONTROL SYSTEMS FOR MONITORING ENVIRONMENTAL PARAMETERS, Lecturer Alexandru Dumitrascu, Politehnica University of Bucharest, Romania………………………………………………199

28. COMPARATIVE CRITERIA FOR ENVIRONMENTAL RISK ASSESSMENT IN MINING OPERATIONS: A DYNAMIC APPROACH, MSc. Jorge Castilla Gomez, PhD. Juan Herrera Herbert, Technical University of Madrid, Spain……………………………………………………………………………….205
29. CONCEPT PROPOSAL OF PILOT REMEDIATION TREATMENT OF MINE WATERS ON ABANDONED SB DEPOSIT PROPC, Dr. Lubomir Jurkovic, Dr. Peter Sottnek, Dr. Jaroslav Vozar, Dr. Bronislava Volekova, Marian Petrak, Comenius University Bratislava, Slovakia .......................................................... 213

30. CONSIDERATIONS REGARDING TO THE ECOHYDROLOGICAL FORECAST, dr. Codruta Badaluta Minda, prof. Gheorghe Cretu, Politehnica University of Timisoara, Romania .......................................................... 219

31. CONTEMPORARY TOURISM FROM THE PERSPECTIVE OF SUSTAINABLE DEVELOPMENT AND ENVIRONMENTAL PROTECTION. CASE STUDY - BISTRITA VALLEY, PhD Alexandru-Iulian Ciobanu, Alexandru Ioan Cuza University, Romania .......................................................... 227

32. CUSCUTA SPECIES (CONVOLVULACEAE) IN SOUTH-EAST TRANSYLVANIA, ROMANIA, Maria Tanase, Maria Gheorghe, Ramona Todericiu, Mirela Stanciu, Lucian Blaga University of Sibiu, Romania .......................................................... 235

33. DAILY AND SEASONAL DEPENDENCE OF “INDOOR” RADON IN TBILISI, Dr. Nodar Kekelidze, Dr. Teimuraz Jakhutashvili, Dr. Eremia Tulashvili, Dr. Zaaur Berishvili, Manana Chkheidze, Lela Mtsariaishvili, Prof. Gia Kajaia, Ivane Javakhishvili Tbilisi State University, Georgia .......................................................... 243

34. DECREASING THE ENVIRONMENTAL IMPACT USING CONTAINERIZED WASTE WATER TREATMENT PLANT FOR CONTAMINATED WATER WITH OIL, PhD. Eng. Girbaciu Irina Alina, PhD. Eng. Girbaciu Cristian Adrian, Politehnica University of Timisoara, Romania .......................................................... 251

35. DESCRIPTION OF THE POTENTIAL SLIDING CONDITIONS IN THE AREA OF ROMANIAN SUB CARPATHIANS OF CURVATURE, Assoc.Prof. Elena Constantin, Prof. Florin Maracineanu, Eng. Serban Rosulescu, University of Agronomic Science and Veterinary Medicine - Bucharest, Romania .......................................................... 259

36. DETERIORATION OF CONCRETE COMPOSITES PLACED IN SEWER PIPELINES EVALUATED BY CALCIUM AND SILICON IONS CHANGES, Assis. Prof. Vlasta Ondrejka Harbulakova, Assoc. Prof. Adriana Estokova, Prof. Nadezda Stevulova, Ing. Katarina Foraiová, Dr. Eva Terpakova, Technical University of Kosice, Slovakia .......................................................... 267

37. DETERMINING RURAL AREAS VULNERABLE TO ILLEGAL DUMPING USING GIS TECHNIQUES. CASE STUDY: NEAMT COUNTY, ROMANIA, PhD Florin-Constantin Mihai, Dr. Adrian Ursu, PhD Pavel Ichim, PhD Dan-Adrian Chelaru, Alexandru Ioan Cuza University, Romania .......................................................... 275

39. DRYNESS AND DROUGHT PHENOMENA IN THE DANUBE FLOODPLAIN: THE CALAFAT-VIDIN - TURNU MAGURELE-NIKOPOLE SECTOR. A LOCAL COMMUNITY-BASED PARTICIPATORY APPROACH,
Prof.Dan Balteanu, Ph.D.Diana Dogaru, Ph.D.Carmen Dragota, Ph.D.Ines Grigorescu, Ph.D.Monica Dumitrascu, Alina Corbu, Ph.D.Mihaela Sima, Danut Calin, Gheorghe Kucsicsa, Romanian Academy Institute of Geography, Romania..........................291

40. ECOLOGICAL ASSESSMENT OF MOBILE CADMIUM IN SEDIMENTS FROM CERTEJ MINING SITE, HUNEDOARA COUNTY, ROMANIA, Dr Gabrilea Vasile, Dr. Lidia Kim, Stefania Gheorghe, Bogdan Stanescu, National Reserach and Development Institute for Industrial Ecology - ECOIND, Romania….299

41. ECOLOGICAL POTENTIAL AND ENVIRONMENTAL PROTECTION IN THE PRUT BASIN, PhD Florin Vartolomei, PhD Madalina-Teodora Andrei, PhD Monica Dumitrascu, PhD Costin Dumitrascu, Spiru Haret University - Faculty of Geography, Romania.................................................................307

42. ECOLOGICAL PROBLEMS ENCOUNTERED IN THE RECYCLING OF A COAL MINING SITE, Gabriela Pascu, Politehnica University of Timisoara, Romania.................................................................315

43. ECOLOGICAL SOLUTION TO REMEDIATE THE ENVIRONMENTAL FACTORS FOR A COMPATIBLE EXPLOITATION OF AN OIL EXTRACTION PERIMETER, Assist. prof. Phd. eng. I. A.Costescu, Prof. Phd. eng. M. Orlescu, Politehnica University of Timisoara, Romania.................................................................323

44. ECOLOGICAL STABILITY EVALUATION OF THE LANDSCAPE WITH AGRICULTURAL USE, Dr. Monika Ivanova, Dr. Vladimir Cech, Prof. Eva Michaeli, University of Presov in Presov, Slovakia.................................................................331

45. EFFECT OF NITROGEN FERTILIZER RATES ON INDUSTRIAL HEMP (CANNABIS SATIVA L.) BIOMASS PRODUCTION, PhD student, Mg.agr. Rudite Sauserde, Professor, Dr.agr. Aleksandrs Adamovics, Latvia University of Agriculture, Latvia ............................................................................................................................................339

46. EFFECTS OF ADDING SILICA FUME ON THE PROPERTIES OF HIGH PERFORMANCE CONCRETES SUBJECTED TO HIGH TEMPERATURES, Dr. Bachir Chemani, Boumerdes University, Algeria.................................................................347

47. ELABORATION OF NEW ENVIRONMENTALLY FRIENDLY PLANT PROTECTION PRODUCT FROM CONIFEROUS TREES BIOMASS AGAINST PLANT DISEASES, Dr. Liga Jankevica,Dr. Ineta Samsone, Sandra Minova, Rita Seskena, Julija Halimona, Zane Metla,Valda Laugale, Regina Rancane, Maris Daugavietsis, Ivars Zarins, Institute of Biology University of Latvia, Latvia .................................................................353

48. ENRICHMENT OF SOILS: PLAQUE OR AID?, Despina-Maria Bordean, Aurica Breica Borozan, Luminita Pirvulescu, Tiberiu Iancu, Roxana Popescu, Nicoleta
Marioara Filimon, Diana Moigradean, Iosif Gergen, Banat University of Agronomical Sciences and Veterinary Medicine, Romania…………………………………………361

49. ENSURING OF FISH MIGRATION UPSTREAM THE ISALNITA DAM, Dr. Eng. Razvan Voicu, Dr. Ecaterina Luca, National Institute of Hydrology and Water Management, Romania…………………………………………………………..369

50. ENVIRONMENT PROTECTION ASSURANCE USING EFFICIENT PLANTS AND PROCEDURES FOR SEWAGE TREATMENT, Prof. Ioan Sarbu, Assoc. Prof. Olga Bancea, Politehnica University of Timisoara, Romania…………… 377

51. ENVIRONMENTAL CONSEQUENCES OF THE CONSTRUCTION OF THE BOGUCHANY DAM – PRESENT CHANGE AND PROJECTIONS, Dr. Andrzej Jagus, Dr. Martyna A. Rzetala, University of Silesia - Faculty of Earth Sciences, Poland ………………………………………………………………………385

52. ENVIRONMENTAL IMPACT OF A LARGE-SCALE MANGANESE MINING ACTIVITY IN DRAMA DISTRICT, MACEDONIA, NORTHERN GREECE, M. Sc. E. Sofianska, Professor Dr. K. Michailidis, Aristotle University of Thessaloniki, Greece ………………………………………………………………………393

53. ENVIRONMENTAL IMPACT REDUCING THROUGH LESS POLLUTION FROM CONSTRUCTION EQUIPMENTS, Ing. Zuzana Strukova, PhD., prof. Ing. Maria Kozlovska, PhD., Technical University of Kosice, Slovakia…………………401

54. ENVIRONMENTAL PROTECTION INCREASING ACCORDING TO THE INTERNATIONAL STANDARDS APPLIED TO FOOD FACTORIES, Dr. Savescu Petre, Dr. Vladu Marius, Prof. Codresi Teclu, Univ.of Craiova - A.E.R. Foundation- ICAES, Romania ………………………………………………………………………..409

55. ENVIRONMENTAL RISK ASSOCIATED WITH HEAVY METAL POLLUTION IN SOILS BASED ON GEOCHEMICAL FRACTIONATION, Prof. Paulo Favas, University Tras-Os-Montes E Alto Douro, Portugal………………417

56. EU ACQUIS COMPLIANCE ON URBAN WASTE MANAGEMENT. CASE STUDY: PIATRA NEAMT , ROMANIA, PhD Florin-Constantin Mihai,Prof. Dr. Liviu Apostol, PhD Dan-Adrian Chelaru, Dr. Adrian Ursu, Alexandru Ioan Cuza University, Romania …………………………………………………………………………423

57. EVALUATION OF ECOLOGICAL RISK OF THE NATURAL ENVIRONMENT, Prof. Davit Kereselidze, Assoc.Prof. Kakhaber Bilashvili, Assoc.Prof. Vazha Trapaidze, Assist.Prof. Giorgi Bregvadze, Ivane Javakhishvili Tbilisi State University, Georgia…………………………………………………………………………………………431

prof. Ing. Karel Obroucka, CSc., VSB-Technical University of Ostrava, Czech Republic.................................................................................................................................437

59. EVALUATION OF SURFACE WATER POLLUTION IN THE SMOLNIK CREEK, Dr. Eva Singovszka, Dr. Magdalena Balintova, Dr. Natalia Junakova, Technical University of Kosice, Slovakia.................................................................445


61. EVALUATION STUDIES ON THE AGRICULTURAL POTENTIAL FOR SUSTAINABLE DEVELOPMENT IN BIHOR COUNTY, Ass.prof.Elena Constantin, Prof.Flорin Maracineanu, Eng.Neculai Dogaru, University of Agronomic Science and Veterinary Medicine - Bucharest, Romania............................459

62. EVALUATION OF WILD-GROWING ORCHIDS DACTYLORHIZA BALTICA KLINGC. AND PLANTANTHERA CHLORANTHA L. IN LATVIA ZEMGALE REGION, Aija Dizgalve, Rudite Sausserde, Latvia University of Agriculture, Latvia.................................................................465

63. EVALUATING OF NIZKY JESENIK MTS. AGRARIAN RELIEF, Ing. Hana Svehlakova, Ing. Jiri Kupka, PhD., Bc. Jan Durdak, VSB-Technical University of Ostrava, Czech Republic.................................................................473

64. FLOODPLAIN MAPS PREPARATION WITH AUTOCAD CIVIL 3D AND OPEN SOURCE SOFTWARE, Dr. Eng. Severin Cazanescu, Dr. Eng. Adriana Pienaru, IPCT INSTALATII SRL, Romania.................................................................481

65. FOOD SAFETY ISSUES OF THE MINING IMPACT TERRITORIES, Dr. Lilit Sahakyan, Mss. Olga Belyaeva, Dr. Armen Saghatelyan, Center for Ecological-Noosphere Studies NAS RA, Armenia.................................................................489

66. GAUSS DISPERSION MODEL APPLIED TO MULTIPLE PUNCTUAL SOURCES FROM AN INDUSTRIAL PLATFORM, Dr. Irina Meghea, Prof. Dr. Mihaela Mihai, Ing. Tibor Demeter, Politehnica University of Bucharest, Romania.................................................................497

67. GEOCHEMICAL CHARACTERIZATION AND EVALUATION OF A NEUTRAL, LOW-SULFIDE / HIGH-CARBONATE TAILINGS IMPOUNDMENT, MARKUSOVCE (SLOVAKIA), Marian Petrak, Dr. Edgar Hiller, Dr. Peter Sottnik, Dr. Lubomir Jurkovic, Dr. Bronislava Volekova, Roman Toth, Dr. Jaroslav Vozar, Comenius University Bratislava, Slovakia.................................................................505

68. GEOECOLOGICAL RESEARCH METHODOLOGY IN THE ENVIRONMENTALLY DEGRADED LANDSCAPE OF THE CADASTRAL
69. HAZARDOUS BIOCLIMATIC CONDITIONS IN THE DANUBE RIVER ADJACENT REGIONS DURING THE WARM PART OF THE YEAR (CALAFAT-VIDIN – TURNU MAGURELE-NIKOPOL SECTOR), Prof. Dr. Zoya Mateeva, Dr. Carmen-Sofia Dragota, Dr. Ines Grigorescu, Institute of Geography - Romanian Academy, Romania.................................................................523

70. TRANSLOCATION OF SOME HEAVY METALS FROM SOIL IN FRUIT WINES OF THE GRAPE VINE VINEYARDS OF RAHOVEC, MSc. Jeton Halili, MSc. Ilir Mazreku, Asoc.Prof.Kemajl Bislimi, MSc. Fahri Osmani, MSc. Avni Behluli and Prof.Dr. Fetah Halili, Agricultural University of Tirana, Albania..................531


72. HYDROCHEMICAL DIVERSITY OF ANTROPOGENIC WETLANDS DEVELOPED IN DISUSED SANDPITS, Dr. Tadeusz Molenda, Dr. Agnieszka Blonska, Dr. Damian Chmura, University of Silesia, Poland.............................547

73. HYDROGRAPHIC PROPERTIES AND VEGETATION DIFFERENTIATION IN SELECTED ANTROPOGENIC WETLANDS, Dr. Damian Chmura, Dr. Agnieszka Blonska, Dr. Tadeusz Molenda, University of Bielsko-Biala, Poland.................................................................555

74. HYDROLOGICAL RECLAMATION OF OPENCAST MINE PIT – INFLUENCE ON MICROCLIMATE, AIR QUALITY, WATER AND SOIL SYSTEM, Ing. Milena Vagnerova, Ing. Petr Svoboda, Ing. Jan Brejcha, Brown Coal Research Institute j.s.c., Czech Republic ................................................563

75. IMPORTANCE OF ANCIENT TREES FOR LANDSCAPE, Dipl. Ing. Martin Vykov; doc. RNDr. Emilie Pecharova, CSc., Czech University of Life Sciences Prague, Czech Republic .................................................................571

76. INDUSTRIAL POLLUTION IN RESITA TOWN, Assist. prof. dr. eng. Adia Grozav, Politehnica University of Timisoara, Romania.................................577

77. INFLUENCE OF HEATING SYSTEMS ON INDOOR ENVIRONMENT IN BUILDINGS, Prof. Ioan Sarbu, Politehnica University of Timisoara, Romania........583

78. THE IMPACT OF OZONATION ON NITRIFICATION PROCESSES, Martina Drozdova, Radim Jablonka, Radmila Kucerova, VSB-Technical University of Ostrava, Czech Republic.........................................................591
79. INTEGRATED ECOLOGICAL ENGINEERING SOLUTIONS FOR SOME WETLANDS RESTORATION IN THE LOWER PRUT RIVER, Assoc. Prof. Sevastel Mircea, Assoc. Prof. Nicolae Petrescu, University of Agronomic Science and Veterinary Medicine - Bucharest, Romania .......................................................... 599

80. INTRODUCTION TO SELECTION OF SUITABLE AREAS AND INDICATORS OF LIFE CYCLE ASSESSMENT OF FLY ASH CONCRETE IN ORDER TO OBJECTIVE ASSESSMENT OF FLY ASH IN CONCRETE, Assist Prof. Dr. Marcela Ondova, Prof. Dr. Nadezda Stevulova, Assist. Prof. Dr. Jozef Junak, Technical University of Kosice, Slovakia ................................................................. 605

81. INVENTORY OF MINING AND QUANTIFICATION OF AFFECTED AREAS IN THE IBERIAN PYRITE BELT (SW SPAIN). A METHODOLOGICAL CONTRIBUTION TO ENVIRONMENTAL MANAGEMENT, E. Perez-Ostale, J.A. Grande, M.L. de la Torre, T. Valente, J.C. Ceron, M. Santisteban, University Of Huelva- Technical Top School-Department Of Mining Engineering, Spain ................................................................. 613

82. OPTIMIZING OPERATION OF DRINKING WATER DISTRIBUTION NETWORKS IN THE URBAN COMMUNITIES, PhD. Eng. Girbaciu Irina Alina, Prof. PhD. Eng. Mirel Ion, PhD. Eng. Carabet Adrian, PhD. Eng. Girbaciu Cristian Adrian, University “Politehnica” of Timisoara – Romania, Civil Engineering Faculty, Hydrotechnical Department ................................................................. 621

83. KINETICS AND BIOSORPTION EFFICIENCY Cr(VI) BY USING PEACH STONES (PRUNUS PERSICA), Ing. Marketa Bouchalova, Mgr. Eva Pertile, Ph.D., Ing. Dalibor Surovka, doc. Dr. Ing. Radmila Kucerova, VSB-Technical University of Ostrava, Czech Republic ................................................................. 629

84. LAND DEGRADATION THROUGH EROSION IN ROMANIA IN THE ECO-ECONOMIC DEVELOPMENT CONTEXT, Dr. Marioara Costea, Lucian Blaga University of Sibiu, Romania ................................................................. 635

85. LEVEL OF SOIL CONTAMINATION AND FLORA COMPOSITION IN EMISSION FIELD OF SEWAGE SLUDGE BED SLOVINKY, Lenka Angelovicova, Dr. Danica Fazekasova, Zuzana Boguska, University of Presov in Presov, Slovakia ................................................................. 643

86. MANAGING ENVIRONMENTAL RISKS IN PRODUCTION COMPANIES, Dr. Martin Rovnak, Dr. Jana Chovancova, Dr. Lucia Bednarova, Dr. Peter Adamisin, Dr. Emilia Huttmanova, University of Presov in Presov, Slovakia ................................................................. 651

87. MATHEMATICAL MODELLING OF NITROGEN MONOXIDE DISTRIBUTION IN THE ATMOSPHERIC BOUNDARY LAYER BY MEANS OF CFD ANALYSIS AND AERIAL MEASUREMENTS, Ing. Pavel Platos, Ph.D., Dr. Ing. Stanislav Bartusek, Prof. Ing. Milada Kozubkova, CSc., VSB-Technical University of Ostrava, Czech Republic ................................................................. 659
88. MEDICINAL PLANT INTRODUCTION INTO POTATO CULTURE FOR PESTS CONTROL, Prof. Camelia Sava Sand, Mihaela Maria Antofie, Prof. Constantin-Horia Barbu, Mihai Radu Pop, University Lucian Blaga of Sibiu, Romania……………………………………………………………………………….671

89. METAL SPECIATION IN SEDIMENTS FROM ROSIA MONTANA MINING AREA, ROMANIA, Dr. Gabriela Geanina Vasile, Dr. Jana Petre, Dr. Margareta Nicolau, National Research and Development Institute for Industrial Ecology - ECOIND, Romania………………………………………………………………….677

90. METHODOLOGY OF CALCULATING THE ECOLOGICAL STABILITY, Peter Ivan, Tamara Rehackova, Jana Vojtkova, Viliam Macura, Slovak University of Technology Bratislava, Slovakia……………………………………………………….685

91. MICROBIOLOGICAL QUALITY OF SOME COMMERCIAL SORTS OF CALENDULAE FLOS AND THE INFLUENCE ON CHEMICAL COMPOSITION, Dr. Cornelia Mircea, Dr. Oana Cioanca, Dr. Cistina Tuchilus, Prof. Dr. Monica Hancianu, Dr. Gabriela Tataranga, University of Medicine and Pharmacy Gr. T. Popa Iasi- Faculty of Pharmacy- Department of Pharmacognosy, Romania…..693

92. MODEL OF DRYING OF A WET POROUS SAMPLE, Dr. Martin Rovnak, Dr. Miron Pavlus, Dr. Jana Chovancova, University of Presov in Presov, Slovakia………701

93. MODELLING THE RATE OF DEVELOPMENT FOR SCIODREPOIDES WATSONI LARVAE, Ing. Pavel Jakube , Czech University of Life Sciences Prague, Czech Republic………………………………………………………………709

94. MONITORING OF GASES IMMISSION AND PARTICLES IN SUSPENSION IN THE ROVINARI AREA, Assist. Prof. Dr. Emil Catalin Schiopu, Dr. Roxana Gabriela Popa, Dr. Ramona Violeta Mitran, Prof. Dr. Gamaneci Gheorghe, Constantin Brancusi University of Targu-Jiu, Romania…………………………………….715

95. MONITORING OF OIL POLLUTION OF RIVER SEDIMENTS AND SOILS IN THE COASTAL MARINE AREA OF SEMBA PENINSULA, PhD Elena Demenchuk, PhD Olga Ryabkova, Immanuel Kant Baltic Federal University Geography and Geocology Faculty, Russia…………………………………………………………………………………………………721

96. IRON REMOVAL FROM UNDERGROUND WATER USING A LABORATORY INSTALATION, PhD. Eng. Girbaciu Irina Alina, PhD. Eng. Girbaciu Cristian Adrian, PhD. Eng. Belicci Erika, PhD. Eng. Bakos Mihaela, University “Politehnica” of Timisoara – Romania, Civil Engineering Faculty, Hydrotechnical Department…………………………………………………………………727

97. POLLUTION EFFECTS ON FOREST VEGETATION AND ECOLOGICAL RECONSTRUCTION IN COPSA MICA, ROMANIA, Associate Prof. Dr. Blaj Robert, Assistant Prof. Dr. Stanciu Mirela, Prof. Dr. Sand Camelia, Prof. Dr. Barbu Horia, Prof. Dr. Ciortea Gligor, Lucian Blaga University of Sibiu, Romania………735
<table>
<thead>
<tr>
<th>Page</th>
<th>Title</th>
<th>Authors</th>
</tr>
</thead>
<tbody>
<tr>
<td>98.</td>
<td>POSSIBILITIES FOR ENERGY SAVINGS BY OPTIMIZING VENTILATION HEAT LOSS IN THE KINDERGARTEN CLASSROOMS IN NIS-SERBIA</td>
<td>Assis.Prof. Milan Tanic, Assis.Prof. Danica Stankovic, Vojislav Nikolic, Assis.Slavisa Kondic, Faculty of Civil Engineering and Architecture University of Nis, Serbia</td>
</tr>
<tr>
<td>99.</td>
<td>POSSIBILITIES OF LAND PROTECTION AGAINST INCORRECT LAND USE</td>
<td>Dr. Barbara Vojvodikova, Ing. Zuzana Ladzianska, Ing.Jana Peterova, VSB-Technical University of Ostrava, Czech Republic</td>
</tr>
<tr>
<td>100.</td>
<td>POTENTIAL OF ASPERGILLUS NIGER IN BIOREMEDIATION OF CONTAMINATED SOILS</td>
<td>Katarina Petkova, RNDr. Lubomir Jurkovic, Dr. Alexandra Simonovicova, PhD Slavomir Cemansky, Comenius University Bratislava, Slovakia</td>
</tr>
<tr>
<td>101.</td>
<td>POTENTIAL ANTIMICROBIAL AGENTS BASED ON CHLORHEXIDINE COMPLEXES WITH ZINC AND COPPER(II)</td>
<td>Ticuta Negreanu-Porjol, PhD. Bogdan-Stefan Negreanu-Porjol, Gabriela Stanciu, PhD. Student Manuela Rossemary Apetroaei, Rodica Sorbu, Ovidius University of Constanta, Romania</td>
</tr>
<tr>
<td>102.</td>
<td>PROBLEMS POSED BY COMBINING THERMOPLASTIC MATERIALS. CASE STUDY WELDING WITH EXTRUDED FILLER MATERIAL</td>
<td>Prof. assoc. dr. eng. Mihaela Popescu, Dr. eng. Radu Alexandru Rosu, Dr. Loredana Ciurdariu, Dr. Marcela Sava, Politehnica University of Timisoara, Romania</td>
</tr>
<tr>
<td>103.</td>
<td>QUANTITATIVE ASSESSMENT OF HOUSEHOLD WASTE DISPOSED IN FLOODPLAINS OF RIVERS FROM EXTRA-CARPATHIAN REGION OF NEAM? COUNTY, ROMANIA.</td>
<td>PhD Florin-Constantin Mihai, Alexandru Ioan Cuza University, Romania</td>
</tr>
<tr>
<td>104.</td>
<td>QUANTITATIVE ASSESSMENT OF THE HUMAN VULNERABILITY TO ENVIRONMENTAL CHANGE AND EXTREME EVENTS IN THE PETROSA DEPRESSION (ROMANIA)</td>
<td>Dr. Andra Costache, Valahia University of Targoviste, Romania</td>
</tr>
<tr>
<td>105.</td>
<td>R - MATERIAL AS A LAYER OF RAILWAY TRACKBED</td>
<td>Ing. Peter Orolin, doc. Ing. Jan Mandula, PhD., Technical University of Kosice, Slovakia</td>
</tr>
<tr>
<td>106.</td>
<td>RELAXATION PHASES FOLLOWING THE MOUNTAIN LANDSCAPE DISTURBANCE, THE TATRA MTS, POLAND,</td>
<td>Dr. Pawel Kroh, Jagiellonian University-Institute of Geography and Spatial Management, Poland</td>
</tr>
<tr>
<td>107.</td>
<td>REMOVAL OF COOPER IONS FROM AQUEOUS SOLUTIONS BY REYNOUTRIA JAPONICA BIOMASS</td>
<td>Ing.Katerina Spakovska, Mgr.Iva Melcakova,Ph.D., RNDr.Jana Novakova,Ph.D., Ing.Hedvika Horvathova, VSB-Technical University of Ostrava, Czech Republic</td>
</tr>
</tbody>
</table>
108. REMOVAL OF INORGANIC POLLUTANTS FROM ACID SOLUTION, Eng. Marian Holub, Eng. Petra Pavlikova, Dr. Magdalena Balintova, Dr. Natalia Junakova, Technical University of Kosice, Slovakia……………………………………..825

109. REPRESENTATION OF BIODEGRADABLE WASTE IN MUNICIPAL SOLID WASTE IN RURAL LANDSCAPE, Ing. Anna Barekova, PhD. - Ing. Denisa Halajova, PhD. - Assoc. Prof. Viliam Barek - Assoc. Prof. Peter Halaj, Slovak Agriculture University in Nitra, Slovakia…………………………………………833

110. RESEARCH ON REDUCING BY ASH AND NOX CAUSED BURNING LIGNITE IN ENERGY UNITS OF 330 MW POWER PLANT TURCENI, Dr. Racoceanu Cristinel, Dr. Popescu Luminita Georgeta, Dr. Popescu Cristinel, Dr. Cruceru Mihai, Constantin Brancusi University of Targu-Jiu, Romania…………………..839


112. RESEARCH STUDIES ON MINING ACTIVITY IMPACT ON THE AREA FOCSANEI SCURTESTI, CASE STUDY VADU PASII, BUZAU COUNTY, Mihaela Stoica Ph.D. student, prof. dr. Cimpeanu Sorin Ph.D., student George Mihail Petre., University of Agronomic Science and Veterinary Medicine - Bucharest, Romania………………………………………………………………………………………………..853

113. SCANDIUM, ELEMENT OF SURPRISES, Despina-Maria Bordean, Adrian Cojocariu, Marinel Horablaga, Luminita Cojocariu, Simion Alda, Dragos Nica, Liana Alda, Aurica Breica Borozan, Banat University of Agronomical Sciences and Veterinary Medicine, Romania…………………………………………………………865

114. SOILS NITRATE POLLUTION IN TIMIS COUNTY, ROMANIA, Iacob Nemes, Assist.prof. Laura Constantinescu, Politehnica University of Timisoara, Romania…………………………………………………………………………………………………………873

115. SOLID AEROSOLS IN PRODUCTION SITE OF CONCRETE BLOCKS FOR WASCHING MACHINES, Ing. Katarina Lukacova, PhD, Dr.h.c. prof. Ing. Miroslav Badida, Phd., Ing. Marek Moravec, PhD., Technical University of Kosice, Slovakia ………………………………………………………………………………………………………881

116. SOLID SPECIATION OF URANIUM IN THE ECOSYSTEM OF THE SHU RIVER VALLEY (KAZAKHSTAN), Sholpan Nazarkulova, Bagdat Satybaldiev, Bolat Uralbekov, Prof. Dr. Mukhambetkali Burkitbayev, al-Faraby Kazakh National University, Kazakhstan…………………………………………………………………………………………………..885

117. SOME BIOCHEMICAL PARAMETERS AND LEVEL OF CONCENTRATION OF LEAD IN BLOOD OF BATTERY FACTORY WORKERS IN MITROVICA, MSc. Avni Behluli, Asoc. Prof.Kemajl Bislimi,
118. STUDY OF DIFFERENT LIQUID MEDIA INFLUENCE TO THE SELECTED DANGEROUS METALS RELEASING FROM THE CONCRETE MATERIALS, assoc. prof. Dr. Estokova Adriana, Ing. Kovalcikova Martina, Ing. Lenka Palascakova, assoc. prof. Alena Sicakova, Technical University of Kosice, Slovakia.................................................................891

119. STUDY ON ENVIRONMENTAL IMPACT ASSESSMENT PRODUCED BY MINING WORKINGS ON THE ENVIRONMENTAL FACTORS, Dr. Roxana Gabriela Popa, Assist. Prof. Dr. eng. Emil Catalin Schiopu, Prof. Dr. Gamaneci Gheorghe, Dr. eng. Ramona Violeta Mitran, Constantin Brancusi University of Targu-Jiu, Romania ..........................................................905

120. TECHNOLOGY OF WARM MIX ASPHALT BASED ON FOAMING PROCESSES, Ing. Marian Dubravsky, doc. Ing. Jan Mandula PhD., Technical University of Kosice, Slovakia.................................................................913

121. THE ANALYSIS OF BARIC FORMATIONS DYNAMICS ABOVE SIBERIA, Dr. Nataltiya Podnebesnykh, Prof. Ippolitov I.I., Institute of Monitoring of Climatic and Ecological Systems SB RAS, Russia.................................921

122. THE ANALYSIS OF CHANGES ECOLOGICAL STABILITY OF LANDSCAPE IN THE CONTRASTING REGION OF THE MOUNTAIN RANGE AND A LOWLAND, Dr. Monika Ivanova, Dr. Eva Michaeli, Dr. Martin Boltizar, Dr. Danica Fazekasova, University of Presov in Presov, Slovakia.............925


124. THE ECOLOGICAL CONDITIONS OF THE OCCURRENCE OF DROSERA ROTUNDIFOLIA IN MAN-MADE HABITATS, Agnieszka Blonska, Damian Chmura, Tadeusz Molenda, University of Silesia, Poland.........................947

125. THE EFFECTS OF POLLUTION ON PUBLIC HEALTH IN MINING AREAS CASE STUDY: ZLATNA, ROMANIA, PhD. Nicolae Ludusan, PhD. Levente Dimen, PhD Angela Bara, University 1 Decembre, Romania.........................955

126. THE EFFECTS OF TRITICUM AESTIVUM SPECIES FOR THE PHYTOREMEDIATION OF PETROLEUM-CONTAMINATED SOIL, Smaranda Masu, Luminita Cojocariu, N.M. Horablaga, Despina-Maria Bordean, Aurica Breica Borozan, A. Cojocariu, Georgeta Pop, I.C. Sandoiu, Banat University of Agronomical Sciences and Veterinary Medicine, Romania.................................................963
127. THE EVOLUTION OF THE ECOLOGICAL AREA IN ROMANIA, Laura M. Gorun, Paun Ion Otiman, Miruna M. Dornea, Nicoleta Mateoc-Sirb Miroslav Raicov, Banat University of Agronomical Sciences and Veterinary Medicine, Romania………971

128. THE IMPACT OF AGRICULTURAL ACTIVITIES ON RURAL AREAS. CASE STUDY: Cotmeana Piedmont, PhD Candidate Alina Bejinariu, Prof. PhD Cristian Talanga, PhD Candidate RamonaSuciu, University of Bucharest, Romania………………………………………………………………………………………………………979

129. THE IMPACT OF ANTHROPOGENIC ACTIVITIES ON THE WATER QUALITY IN THE DANUBE RIVER BASIN, PhD Lecturer Professor Carmen Gasparotti, PhD Professor Eugen Rusu, PhD Professor Stefan Dragomir, Dunarea de Jos University of Galati, Romania……………………………………………………………………………………………………987

130. THE IMPACT OF EXPLOITATION ON EDIBLE LAND SNAIL Helix Pomatia in Central Romania, Dr. Voichita Gheoca, Lucian Blaga University of Sibiu, Romania ………………………………………………………………………………………………………995

131. THE IMPACT OF HYDROAMELIORATIVE WORKS FROM BANAT ON THE ENVIRONMENT, Lecturer Iacob Nemes, Assist.prof. Laura Constantinescu, Politehnica University of Timisoara, Romania……………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………xiv
137. THE NEED FOR RECALCULATION OF THE IRRIGATION REGIME ELEMENTS ON AGRICULTURAL CROPS IN TECUCIULUI PLAIN, IN THE CONTEXT OF CLIMATE CHANGE SCENARIOS, Dr. eng. Alina Nitu; Dr. eng. Daniel S. Nitu; PhDc. Eng. Andrei A. Ionita, University of Agronomic Science and Veterinary Medicine - Bucharest, Romania.................................................................1053


139. THE PREPARATION OF ACTIVATED CARBONS FROM OLIVE MILL WASTE WATER BY CHEMICAL AND PHYSICAL ACTIVATION, Dr. Bachir Chemani, Khaled Benrachedi, Boumerdes University, Algeria.........................1065

140. THE STRUCTURE OF ENVIRONMENTAL RISKS IN GREAT ALTAI, Dr. Sofya Platonova, Institute for Water and environmental Problems Siberian Branch of the RAS, Russia..........................................................1073


142. THE “UPPER VISTULA VALLEY” NATURA 2000 AREA – A KEY ELEMENT OF THE MOST IMPORTANT ECOLOGICAL CORRIDOR IN CENTRAL EUROPE, Dr. Jacek Betleja, Dr. Jan Maciej Waga, Dr. hab. Zbigniew Wilczek, Dr. Maria Fajer, Dr Mariusz Rzetala, University of Silesia - Faculty of Earth Sciences, Poland.................................................................1085

143. THERMAL ANALYSIS AND MINERALOGICAL CHARACTERISATION OF CONTAMINATED SEDIMENT IN PARTICLE-SIZE FRACTIONS FROM SLUDGE BED SLOVINKY, EASTERN SLOVAKIA, Dr. Lenka Findorakova, Dr. Olga Sestinova, Dr. Jozef Hanculak, Dr. Tomislav Spaldon, Institute of Geotechnics Slovak Academy of Sciences, Slovakia.................................................................1093

144. THERMAL POLLUTION OF „MURES” RIVER BY DISCHARGE OF THE COOLING WATERS FROM MINTIA POWER PLANT, PhD Student Eng. Gheorghe Laurentiu Dobrei; Eng. Daniel Costel Andronache, Eng. Costel Alic; PhD. Eng. Traian Vasiu; PhD. Student Oana Baraiac, University of Petrosani, Romania.................................................................1099

145. TOXIC EFFECTS OF PESTICIDES TO HUMANS AND ENVIRONMENT, Dr. Suheyla Yazicioglu, Gunseli Bankao glu, Oguzhan Aydemir, Yeni Yuzyil University, Turkey.................................................................1107
146. UPDATING IMPLEMENTATION OF EUROPEAN STRATEGY IN ROMANIA REGARDING PERSISTENT ORGANIC POLLUTANTS, Dr. Irina Meghea, Dr. Alin Gabriel Bors, Ing. Gabriel-Virgil Munteanu, Carmen Munteanu, Dr. Ing. Adriana Bors, Politehnica University of Bucharest, Romania..........................1113

147. USE OF RADIOACTIVE SUBSTANCES AT HOSPITALS AND THE ENVIRONMENTAL EFFECTS THEREOF, Dr.Oguz Ozyaral, Gulhan Kalmuk, Ertugrul Kaya, Yeni Yuzyl University, Turkey.................................1121

148. USING CROP GENETIC DIVERSITY THROUGH CULTIVAR MIXTURES FOR THE WINTER WHEAT DISEASE MANAGEMENT, Dr. Darina Muchova, Dr. Danica Fazekasova , University of Presov in Presov, Slovakia.................................................................1131

149. VALEA LUI BOGDAN BASIN (BAIULUI MOUNTAINS) – ASPECTS REGARDING MITIGATION MEASURES FOR LAND DEGRADATION, PhD student Horia-Catalin Constantinescu, Assoc. Prof. Dsc Constantin-Razvan Oprea, University of Bucharest, Romania.....................................................1139

150. VERIFICATION OF PREDICTION MODEL USED FOR DETERMINING THE BOTTOM SEDIMENT QUALITY IN RESERVOIRS, Dr. Natalia Junakova, Assoc. prof. Dr. Magdalena Balintova, Assoc. prof. Ing. Roman Vodicka, Technical University of Kosice, Slovakia.................................................................1147

151. VERIFICATION OF PROPOSED CONCRETE ALTERNATIVES FOR XA2 SPECIFICATION – ACID EXPOSURE, Assoc. Prof. Alena Sicakova, Asist. Prof. Eva Terpakova, Asist. Prof. Jozef Junak, Technical University of Kosice, Slovakia.................................................................1155

152. VULNERABILITY ASSESSMENT OF RURAL COMMUNITIES TO FLOODS IN THE WESTERN PART OF ROMANIA (BANAT PLAIN), Elena-Ana Popovici, Andra Costache, Dan Balteanu, Diana Dogaru, Mihaela Sima, Institute of Geography - Romanian Academy, Romania.........................................................1161

153. VULNERABILITY STUDIES IN THE NATURA 2000 - KARSTIC AREA OF BIHOR COUNTY, Levente Dimen, Nicolae Ludusan, University 1 Decembre, Romania.................................................................1169

154. WASTE DEGAZATION GAS AND ENVIRONMENTAL APPLICATIONS IN METALLURGY, Ing. Pustejovska Pavlína, Ph.D. Ing. Jursova Simona, Ph.D., VSB-Technical University of Ostrava, Czech Republic.........................................................1177

155. WASTE DUMPS CONTRIBUTION TO THE EPICEIC MACROFAUNA FUNCTIONAL DIVERSITY ACROSS FARMLAND, Beata Baranova, Dr. Danica Fazekasova, Dr. Peter Manko, University of Presov in Presov, Slovakia................1183

156. WASTE MANAGEMENT AND OCCUPATIONAL HEALTH IN THE CONTEXT OF IMPLEMENTATION OF CURRENT LEGISLATION, Prof.
Contents

assoc. dr. eng. Mihaela Popescu, Dr. eng. Radu Alexandru Rosu, Politehnica
University of Timisoara, Romania…………………………………………………………1191

157. WASTE MANAGEMENT IN SERBIA – STRATEGIES, LEGISLATIVE
FRAMEWORK AND PRACTICE, M.Arch.Jelena Djuric, Full Prof. Dr. Petar
Mitkovic, Faculty of Civil Engineering and Architecture University of Nis, Serbia………………………………………………………………………………1195

158. WASTE TIRE RUBBER PROCESSING IN VIEW OF ADVANCED
RECYCLING ASPHALT RUBBER TECHNOLOGIES, Ing. Mariya Holubka, doc.
Ing. Brigita Salaiova, doc. RNDr. Maria Kovalakova, PhD., Technical University of
Kosice, Slovakia……………………………………………………………………………………………………1203

159. WATER MONITORING AROUND THE BUCHIM COPPER MINE
DRAINAGE SYSTEM, Prof. Dr. Todor Serafimovski, Nikolajco Nikolov, Gerasim
Konzulov, Dr. Goran Tasev, Sare Sarafiloski, University Goce Delcev, FYR of
Macedonia……………………………………………………………………..1211

160. WEAK VIBRATIONS ANALYSIS OF THE COLOSSEUM MONUMENT
DUE TO THE TRAINS TRAFFIC OF UNDERGROUND METRO LINES,
Prof. Gino D'Ovidio, Prof. Gianfranco Valente, University of LAquila, Italy………………1219

161. WETLAND VEGETATION OF COAL MINING AREAS WITHIN
SOKOLOV AND KARVINA REGION, Pecharova Emilie, Stalmachova Barbara,
Krasa Petr, Frankova Hana, Czech University of Life Sciences Prague, Czech
Republic…………………………………………………………………………………1227

162. “INDOOR” RADON AND FEATURES OF ITS DISTRIBUTION IN
TBILISI - THE MAIN CITY OF GEORGIA, Lela Mtsariaashvili, Dr. Nodar
Kekelidze, Dr. Teimuraz Jakhutashvili, Dr. Eremia Tulashvili, Dr. Zaur Berishvili,
Manana Chkheidze, Mariam Elijbarashvili, Ivane Javakhishvili Tbilisi State University,
Georgia………………………………………………………………………………………………………1235
13th International Multidisciplinary Scientific GeoConference of Modern Management of Mine Producing, Geology and Environmental Protection (SGEM 2013)

Albena, Bulgaria
16-22 June 2013

Book 5, Volume 2

ISBN: 978-1-62993-275-0
ISSN: 1314-2704
## SECTION ENVIRONMENTAL ECONOMICS

1. A REGRESSION ANALYSIS OF THE EFFECT OF IMPORTANT DETERMINANTS ON WINE PRODUCTION, PhD Student Olga Olaru; PhD Student Corina Marinescu (Pirlogea), The Bucharest University of Economic Studies, Romania .............................................................. 3

2. ACHIEVEMENT ECONOMIC AND ENVIRONMENTAL EFFICIENCY OF CONSTRUCTION USING THE PARALLEL CALCULATING COSTS., Ing. Alena Tazikova, PhD., prof. Ing. Maria Kozlovska, PhD., Technical University of Kosice, Slovakia................................................................. 11

3. ADVANTAGES AND DISADVANTAGES OF ENVIRONMENTAL MANAGEMENT SYSTEM AND EMAS FOR MINING CORPORATIONS, Assoc. Prof. Ing. Katarina Teplicka, Assoc. Prof. Ing. Katarina Culkova, Assoc. Prof. PhDr. Maria Antosova, Technical University of Kosice, Slovakia............................ 19

4. AIR POLLUTION AS CRITERION IN MULTI-CRITERIA ANALYSIS PERFORMED IN HDM-4, Prof. Dr. Ing. Martin Decky, PhD., Prof. Ing. Jan Mikolaj, CSc, Ing. Lubomir Pepucha, PhD., Ing. Lubos Remek, PhD., University of Zlina, Slovakia................................................................. 27

5. AN ANALYTICAL APPROACH TO OPTIMIZATION OF THE COSTS FOR CONSTRUCTION FORMWORK, doc. Ing. Renata Baskova, PhD.; Ing. Marek Krajnak, Technical University of Kosice, Slovakia................................................................. 35

6. ANALYSIS OF ADDITIONAL ECONOMIC PARAMETERS NECESSARY TO GRANT A LOAN TO LOCAL GOVERNMENT UNITS BASED ON REAL ESTATE MARKET ANALYSIS, Janusz Dabrowski, Piotr Parzych, Jaroslav Bydlosz, AGH University of Science and Technology, Poland................................. 41

7. BIO-ECONOMY AND A SUSTAINABLE MARKET FOR BIOFUELS, PhD Arnis Lenerts, Prof. Voldemars Strikis, Latvia University of Agriculture, Latvia........ 49

8. CONSIDERATIONS REGARDING THE USE OF MONEY FLOWS IN ASSESSMENT OF PROJECTS IN THE MINING ENTERPRISES IN ROMANIA, PhD. Mangu Sorin Iuliu, University of Petrosani, Romania............. 57


10. ECO – MARKETING, ECONOMIC INSTRUMENT FOR SUSTAINABLE ECOLOGICAL POLICY, Assist.Prof. Dr. Hristina Mihaileva, University Assen Zlatarov Burgas, Bulgaria................................................................. 73
11. ECONOLOGY PERSPECTIVES IN NAVAL INDUSTRY, Assoc.Prof. Dr.Eng. Nicolae Florin, Ph.D. Popa Catalin, Prof. Dr. Eng. Beizadea Haralambie, Mircea cel Batran Naval Academy, Romania .................................................................81

12. ECONOMIC, TOURISTIC AND THERAPEUTIC POTENTIAL OF NATURAL WATER SPRINGS IN SLOVAKIA, Assist. Prof. Dr. Peter Cuka, PhD., Dr. Tomasz Rachwal, PhD., Pedagogical University of Cracow, Poland ...............89

13. ECONOMICAL IMPORTANCE OF EYE-BAR IN THE REHABILITATION OF CANTILEVER STEEL BRIDGE TRAIAN, PhD student Feier Anamaria, Assoc Prof. Petzek Edward, Assist. Prof. Hernea Silvia, Prof. Dr. Ing. Bancila Radu, Politehnica University of Timisoara, Romania.........................................................97

14. ENERGY EFFICIENCY AND ECONOMIC SUPPORT OF REGIONAL ENERGY POLICIES, Pavol Adrejovsky –Jozef Gajdos- Marek Andrejkovic –Zuzana Hajduova, University of Economics in Bratislava (Kosice), Slovakia .........................103

15. ENTROPIC DEGRADATION – A CONSEQUENCE OF ECONOMIC GROWTH, PhD. Student Simona Mascu, PhD. Student Cristina Steliana Ciote, PhD. Student Daniel Lipara, Dr. Gabriela-Mihaela Paraschiv, Academy of Economic Studies, Romania .................................................................111

16. ENVIRONMENTAL PROTECTION BY ACCOUNTING SYSTEMS - GENERAL CONSIDERATIONS, PhD Beata Dratwinska-Kania, University of Economics in Katowice, Poland .................................................................119

17. ENVIRONMENTAL FISCAL POLICY OF CENTRAL AND EASTERN EUROPEAN COUNTRIES IN THE BIOECONOMY ERA, PhD. Student Simona Mascu, PhD. Student Cristina Steliana Ciote, PhD. Student Daniel Lipara, Dr. Gabriela-Mihaela Paraschiv, Academy of Economic Studies, Romania .........................127

18. ENVIRONMENTAL INFORMATION AS A KEY TO SOLVE A PROBLEM WITH POLLUTED TERRITORIES, doc.Ing Lucia Bednarova, PhD., Dr. Ing. Andrzej Pacana, Ing. Jana Chovancova, PhD., University of Presov in Presov, Slovakia .................................................................135

19. ENVIRONMENTAL BENCHMARKING IN SMALL AND MEDIUM SIZED ENTERPRISES AND THERE IMPACT ON ENVIRONMENT, doc.Ing. Lucia Bednarova, PhD, prof. Ing. Igor Liberko, PhD., Ing. Martin Rovnak, PhD., University of Presov in Presov, Slovakia .................................................................141

20. EVALUATION OF MUNICIPAL WASTE MANAGEMENT IN CITIES AND TOWNS IN SLOVAKIA, Stricik, M. – Hajduova, Z. – Andrejkovic, M., University of Economics in Bratislava (Kosice), Slovakia .................................................................147

21. EXTERNALITIES ROLE IN COMPILING COST-BENEFIT ANALYSIS OF PROJECTS FINANCED FROM STRUCTURAL FUNDS, PhD Student Gabriel
<table>
<thead>
<tr>
<th>Chapter</th>
<th>Title</th>
<th>Authors</th>
<th>Pages</th>
</tr>
</thead>
<tbody>
<tr>
<td>22</td>
<td>FINANCING OPTIONS FOR REVITALIZING OF BROWNFIELDS IN SLOVAKIA</td>
<td>Prof. Ing. Michal Cehlar, Assoc. Prof. PhDr. Maria Antosova, Assist. Prof. Ing. Andrea Senova, Technical University of Kosice, Slovakia</td>
<td>155</td>
</tr>
<tr>
<td>23</td>
<td>IDENTIFICATION AND COST VALUATION OF BIODIVERSITY ECONOMIC FUNCTIONS</td>
<td>Dr. Elena Shirkova, Dr. Eduard Shirkov, Kamchatka Branch of Pacific Geographical Institute, Russia</td>
<td>161</td>
</tr>
<tr>
<td>24</td>
<td>IMPORTANCE OF ENVIRONMENTAL MANAGEMENT SYSTEM FOR SMALL AND MEDIUM ROMANIAN ENTERPRISES</td>
<td>Ph. D. Borcosi Corina Ana, University Constantin Brancusi of Targu Jiu, Romania</td>
<td>169</td>
</tr>
<tr>
<td>25</td>
<td>IS THERE A SPACE FOR ENVIRONMENT IN FINANCIAL REPORTING?</td>
<td>dr Ewa W. Maruszewska, Silesian University of Technology, Poland</td>
<td>179</td>
</tr>
<tr>
<td>26</td>
<td>MARINE PROTECTED AREAS – AN ENVIRONMENTAL AND ECONOMIC TOOL FOR SUSTAINABLE DEVELOPMENT IN COASTAL AREAS</td>
<td>Prof. Amalia Venera Todorut, Prof. Vassilis Tselentis, University of Piraeus-Department of Maritime Studies, Greece</td>
<td>187</td>
</tr>
<tr>
<td>27</td>
<td>MULTI-CRITERIA ANALYSIS METHOD FOR ENVIRONMENTAL DECISION-MAKING IN PORT ACTIVITIES</td>
<td>Assoc.Prof.Dr.Eng. Nicolae Florin, Ph.D. Popa Catalin, Prof.Dr. Eng. Beizadea Haralambie, Msc Eng. Popescu Mihaela, Mircea cel Batran Naval Academy, Romania</td>
<td>193</td>
</tr>
<tr>
<td>28</td>
<td>MULTI-CRITERIA DECISION-MAKING ANALYSIS OF ENERGY MIX IN THE CZECH REPUBLIC</td>
<td>Ing. Igor Cerny, Ph.D., Ing. Jana Magnuskova, Ph.D., Ing. Lucie Krcmarska, Ph.D., Ing. Katerina Spakovska, VSB-Technical University of Ostrava, Czech Republic</td>
<td>201</td>
</tr>
<tr>
<td>29</td>
<td>NEW DESTINATIONS FOR OLD STEEL BRIDGES IN WEST ROMANIA IN ORDER TO PRESERVE THEIR HISTORICAL VALUE</td>
<td>PhD Student Mihaela Malita, Prof. Radu Bancila, Politehnica University of Timisoara, Romania</td>
<td>209</td>
</tr>
<tr>
<td>30</td>
<td>PERCEIVED AIR QUALITY A DETERMINING FACTOR OF WORKING PRODUCTIVITY</td>
<td>prof. Ingrid Senitkova, prof. Miroslav Badida, Ing. Lenka Selecka, Technical University of Kosice, Slovakia</td>
<td>217</td>
</tr>
<tr>
<td>31</td>
<td>PERCEPTION OF LOCAL COMMUNITIES UPON THE CONSERVATION OF BUCOVINA’S ARCHITECTURAL TRADITIONS</td>
<td>Iuliana Vijulie, Elena Matei, Laura Tirla, Gabriela Manea, Octavian Cocos, Roxana Cuculici, Adrian Tiscovschi, University of Bucharest, Romania</td>
<td>223</td>
</tr>
</tbody>
</table>
32. PERFORMANCE MEASUREMENT AND MANAGEMENT OF PUBLIC-PRIVATE PARTNERSHIP PROJECTS, Assoc.Prof. Ing. Edita Augustinova, CSc., Ing. Michal Daubner, Technical University of Kosice, Slovakia.........................239

33. RECENT ENVIRONMENTAL TRENDS AND INNOVATIONS IN THE SLOVAK SMALL AND MIDDLE ENTERPRISES, Martin Bosak – Cecilia Olexova, University of Economics in Bratislava (Kosice), Slovakia.........................247

34. RISK MANAGEMENT IN OPERATING ACTIVITIES OF INDUSTRIAL RAILWAYS, Diana Tenea, Dragos Vintila, Ovidius University of Constanta, Romania..........................................................255

35. ROBUSTNESS OF STRUCTURES - A NEW APPROACH OF VULNERABILITY AND STRUCTURAL RELIABILITY, Phd. Hernea Silvia, Phd.student Feier Anamaria, Politehnica University of Timisoara, Romania..........................................................263

36. ROLE OF THE STATE ENTERPRISE IN PROVIDING THE SUSTAINABLE DEVELOPMENT OF THE FOREST INDUSTRY, Dr. A.Vilcina, Dr. A.Zvirbule-Berzina, D.Smīte, Latvia University of Agriculture, Latvia..........271

37. ROMANIA - BETWEEN THE CAR REGISTRATION TAX AND THE ENVIRONMENT TAX, PhD Cristian Clipa, PhD Eugenia Grecu, Politehnica University of Timisoara, Romania..........................................................279

38. STUDY REGARDING THE SHEEP BREEDING IN ROMANIA, ACCORDING TO THE BIOECONOMIC AND ECOECONOMIC PRINCIPLES, Dr. Stanciu Mirela, Dr. Raducuta Ion, Dr. Vlad Iulian, Dr.Vidu Livia, Dr.Tanase Maria, Dr. Blaj Robert, , Lucian Blaga University of Sibiu, Romania.................................................285

39. THE ASSESSMENT OF REAL ESTATE MARKET AS AN ECONOMIC TOOL AFFECTING THE PROTECTION OF ENVIRONMENT, Dr Janusz Dabrowski, Dr Karol Firek, AGH University of Science and Technology, Poland..........................................................293

40. THE HUMAN SETTLEMENTS IN THE SUB-CARPATHIAN AREA OF THE Cricovul Sarat WATERSHED (CURVATURE SUB-CARPATHIANS, ROMANIA). SOME ASPECTS REGARDING THE DISTRIBUTION OF AGRICULTURAL LANDS AND THE EVOLUTION OF THEIR UTILIZATION AFTER 1990, Assoc. Prof. DSc Constantin-Razvan Oprea, PhD student Monica-Adriana Oprea, University of Bucharest, Romania.........................................................301

41. THE IMPACT OF NATURAL RESOURCES ON THE DEVELOPMENT OF THE SPA INDUSTRY IN KRYNICA-ZDROJ, PhD Slawomir Dorocki, Pawel Brzegowy, Pedagogical University of Cracow, Poland.........................................................309
42. THE ROLE OF BIODIVERSITY’S CONSERVATION WITHIN THE 4 FACTOR THEORY, Mioara Borza, Alexandru Ioan Cuza University, Romania…………………………………………………………………………………317

43. THE ROLE OF ENVIRONMENTAL MANAGER IN SMALL AND MEDIUM ENTERPRISES, Ph. D. Borcosi Corina Ana, University Constantin Brancusi of Targu Jiu, Romania…………………………………………………………………………………325

44. TOURISM IN THE AGE OF GREEN ECONOMY, Prof. Dr. Mirela Mazilu, University Of Craiova, Romania……………………………………………………………………………………………………………………………………………331

45. TOURISTIC RISK PHENOMENA AND PROCESSES, Prof. Felicia Stanciociu, Prof. Mirela Mazilu, University Of Craiova, Romania……………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………
53. DESIGNING A RESEARCHER, D. Rakic, R. Sisic, J. Br. Papic, Z. Zafirovski, University of Belgrade Faculty of Mining and Geology, Serbia.........................399

54. EDUCATION NORMS AND VALUES NOWADAYS, Prof. Adrian Gorun, Assoc. Prof. Horatiu Tiberiu Gorun, Constantin Brancusi University of Targu-Jiu, Romania........................................................................407


56. EXPERIMENTAL TEACHING METHODS IN HIGHER EDUCATION – PRACTICAL APPLICATION, dr. Patrycja Pudlo, doc. Ing. Beata Gavurova, PhD., University of Economics in Bratislava (Kosice), Slovakia.................................423

57. HIGHER HYDROGRAPHY EDUCATION IN BELGIUM, Prof. Alain De Wulf, Prof. Philippe De Maeyer, Marijke De Ryck, Timothy Nuttens, Cornelis Stal, Micha Libert, Prof. Axel Annaert, Ghent University, Belgium.................................429

58. IMPORTANCE OF LEGAL KNOWLEDGE AND PROFESSIONAL ETHICS IN GEODETIC EDUCATION, Assoc. Prof. Eng. Gheorghe Badea, Eng. Ana-Cornelia Badea, Assist.Eng. Tudorel Silviu Clinci, Technical University of Civil Engineering Bucharest-Faculty of Geodesy, Romania..................................................437

59. INTERACTION IN GEOSCIENCES EDUCATION AND SPATIAL DATA INFRASTRUCTURE DEVELOPMENT – EXAMPLE WESTERN BALKANS, PhD. Vesna Posloncec-Petric; Prof. Zeljko Bacic, University of Zagreb, Faculty of Geodesy, Croatia .................................................................445

60. M-LEARNING AS A NEXT LEVEL OF E-LEARNING, Ing. Lukas Kubac, Dr. Pavel Stasa, Assoc. Prof. Oldrich Kodym, VSB-Technical University of Ostrava, Czech Republic..................................................................................453

61. NATURE OF SCIENCE, MODELS AND EARTH STRUCTURE MODELS: PORTUGUESE PROSPECTIVE SCIENCE TEACHERS’ VIEWS, Dr. Torres, Prof. Rui Moura, Prof. Clara Vasconcelos, Prof. Amador, University of Porto - Faculty of Sciences, Portugal..................................................451

62. ON THE ISSUE OF BLENDED LEARNING IN FOREIGN LANGUAGE TEACHING, Rimma Bielousova, MA, PhD, Technical University of Kosice, Slovakia..................................................................................469

63. OPTIMIZATION OF COMMUNICATION MIX AT THE FACULTY OF MINING AND GEOLOGY, TECHNICAL UNIVERSITY OF OSTRAVA,
<table>
<thead>
<tr>
<th>#</th>
<th>Title</th>
<th>Authors/Institutions</th>
</tr>
</thead>
<tbody>
<tr>
<td>64</td>
<td>PREPARATORY CLASS-A NEW CHALLENGE IN ENVIRONMENTAL EDUCATION FOR CHILDREN</td>
<td>Dr. Eng. Rares Halbac-Cotoara-Zamfir, Prof. Cristina Halbac-Cotoara-Zamfir, Politehnica University of Timisoara, Romania</td>
</tr>
<tr>
<td>66</td>
<td>RENEWED (2013) GEOMATICS BACHELOR, MASTER AND PH.D. PROGRAMS AT BELGIAN ACADEMIC UNIVERSITIES</td>
<td>Alain De Wulf, Timothy Nuttens, Cornelis Stal, Greta Deruyter, Ghent University, Belgium</td>
</tr>
<tr>
<td>67</td>
<td>ROLE OF EDUCATION IN INCREASING EMPLOYMENT IN LATVIA</td>
<td>Dr. Aina Dobele, Dr. Andra Zvirbule-Berzina, Dr. Dace Viksne, Madara Dobele, Latvia University of Agriculture, Latvia</td>
</tr>
<tr>
<td>68</td>
<td>ROMANIAN EDUCATIONAL SEISMIC NETWORK: EDUCATIONAL TOOL FOR INCREASING AWARENESS OF SEISMIC RISK</td>
<td>Zaharia Bogdan, Tataru Dragos, Grecu Bogdan, Ionescu Constantin, Speranta Tibu, Nicoleta Brisan, Emil-Sever Georgescu, National Institute for Earth Physics, Romania</td>
</tr>
<tr>
<td>69</td>
<td>“SIMULATED ENTERPRISES” – A TEACHING METHOD FOR SUSTAINABLE EDUCATION</td>
<td>Assoc. Prof. Amalia Venera Todorut, Assist. Prof. Camelia Dicu, University of Piraeus-Department of Maritime Studies, Greece</td>
</tr>
<tr>
<td>71</td>
<td>TEACHING ETHICS TO UNDERGRADUATE ENGINEERING STUDENTS USING CASE STUDIES. A ROMANIAN PERSPECTIVE</td>
<td>Marcela Farcași, Politehnica University of Timisoara, Romania</td>
</tr>
<tr>
<td>72</td>
<td>TEACHING MECHANICS TO STUDENTS IN COMPUTER SCIENCE AND AUTOMATION</td>
<td>Assoc. Prof. Dr. Andrei Craifaleanu, Assoc. Prof. Dr. Cristian Dragomirescu, Assoc. Prof. Dr. Iolanda-Gabriela Craifaleanu, N.I.R.D. URBAN-INCERC, Romania</td>
</tr>
</tbody>
</table>
73. THE EFFECTS OF THE FINANCIAL CRISIS ON THE ELABORATION OF THE ACADEMIC CODE FOR PRE-UNIVERSITY STUDIES, PhD student Ioana Calinescu, Academy of Economic Studies, Romania.................................551

74. THE EVOLUTION OF EDUCATION IN LAND SURVEYING IN FLANDERS, BELGIUM: A WORK IN PROGRESS, Prof. dr. Greta Deruyter, Prof. ir. Frank Vandendriessche, Timothy Nuttens, Cornelis Stal, Prof. dr. Alain De Wulf, University College Ghent, Belgium........................................557

75. THE IMPACT OF GLOBALIZATION ON HIGHER EDUCATION, PhD Eugenia Grecu, Politehnica University of Timisoara, Romania..........................565

76. THE PROPORTION OF LOAN TRANSLATION, LOAN AND TRANSLATION IN FORMING THE ROMANIAN IT / COMPUTERS VOCABULARY VS. THE GEOGRAPHICAL VOCABULARY, PhD Dana Camelia Diaconu, Valahia University of Targoviste, Romania..................573

77. “THE QUALITY ENVIRONMENTAL MANAGEMENT” CURRICULA USED FOR A BETTER HIGHER ENVIRONMENTAL EDUCATION, Prof. Lidia Cristea, Enona Cristea, Romanian University of Science And Arts, Romania........581

78. THE ROLE AND STATUS OF UNIVERSITIES IN SLOVAKIA, PhDr. Daniela Palascakova, PhD., doc. RNDr. Viera Vlckova, CSc., Technical University of Kosice, Slovakia.................................................................587

79. THE ROLE OF MUNICIPALITIES AS A TOOL IN TEACHING FOR URBAN PLANNING EDUCATION, Assist. Prof. Dr. Seda H. Bostanci, Okan University, Turkey.................................................................595


81. USING INFORMATION AND COMMUNICATION TECHNOLOGIES IN LANGUAGE TEACHING, Dr. Marta Gluchmanova, Technical University of Kosice, Slovakia.................................................................611

82. VOCATIONAL EDUCATION AND TRAINING IN THE BLACK SEA COUNTRIES, PhD Elena Madalina Dedu, Academy of Economic Studies, Romania.................................617

83. VOCATIONAL EDUCATION AND TRAINING OF STUDENTS FOR MECHANICAL ENGINEERING, Dr. Catalina Ianasi, Assoc. Prof. Minodora Pasare, Constantin Brancusi University of Targu-Jiu, Romania.................................625
SECTION ENVIRONMENTAL LEGISLATION, MULTILATERAL RELATIONS AND FUNDING OPPORTUNITIES

84. ADMINISTRATIVE CONTRAVENTION RESPONSIBILITY IN ENVIRONMENTAL LAW, Ph. D. Cilibiu Octavia Maria, University Constantin Brancusi of Targu Jiu, Romania ................................................................. 631

85. APPLICATION OF THE PROVISIONS OF THE SOP ENVIRONMENT IN MANAGING WATER RESOURCES IN THE MUNICIPALITY OF ROMAN, Research Assistant Nadia-Elena Vacaru, Alexandru Ioan Cuza University, Romania ................................................................. 639

86. CASE STUDY OF APPLYING INTELLECTUAL CAPITAL THEORY FOR ACCELERATING INNOVATIONS IN KAZAKH MINING COMPANY, Statsenko L., Ireland V., Tsekhovoy A., Rudny Industrial Institute, Kazakhstan ................................................................. 647

87. CORPORATE SOCIAL RESPONSIBILITY IN POLAND AND ABROAD – A COMPARATIVE ANALYSIS, PhD Beata Dratwinska-Kania, PhD Piotr Kania, University of Economics in Katowice, Poland ................................................................. 655

88. CRIMINAL LIABILITY FOR DAMAGE TO THE ENVIRONMENT, Elena Giorgiana Simionescu, University Constantin Brancusi of Targu Jiu, Romania ................................................................. 663

89. DBFO-MODELS IN THE MUNICIPAL SEWAGE DISPOSAL, Assoc. Prof. Ing. Edita Augustinova, CSc., Technical University of Kosice, Slovakia ................................................................. 671

90. ENVIRONMENTAL SECURITY OF THE EUROPEAN UNION, Ina Raluca Tomescu, Constantin Brancusi University of Targu-Jiu, Romania ................................................................. 679

91. INTEGRATED MANAGEMENT SYSTEM DOCUMENTATION ELABORATION FOR ITS CERTIFICATION IN ORDER TO IMPROVE MANAGERIAL PERFORMANCE AT COMPANANY, Prof. Ph.D Florian Buse, Ph.D Ioan Viorel Vasile, Elena Izabela Popa, Lect. Ph.D Gheorghe Florin Buse, University of Petrosani, Romania ................................................................. 685


93. INTEGRATION OF ENVIRONMENTAL CONSIDERATION IN INDUSTRIAL LOCATION STRATEGY, Research Assistant Nadia-Elena Vacaru, Alexandru Ioan Cuza University, Romania ................................................................. 701
<table>
<thead>
<tr>
<th>Number</th>
<th>Title</th>
<th>Authors/Institutions</th>
</tr>
</thead>
<tbody>
<tr>
<td>94</td>
<td>RESEARCHES CONCERNING IMPACT OF IV AXIS “LEADER” IMPLEMENTATION IN ROMANIA</td>
<td>Dr. Marius Vladu, Dr. Petre Savescu, University Of Craiova, Romania</td>
</tr>
<tr>
<td>95</td>
<td>ROLE OF AGRI ENVIRONMENT SUPPORT PAYMENTS IN DEVELOPING THE RURAL ECONOMY IN LATVIA</td>
<td>Prof. Dr. Irina Pilvere, Latvia University of Agriculture, Latvia</td>
</tr>
<tr>
<td>96</td>
<td>ROMANIAN NATIONAL STRATEGY FOR THE CONSERVATION OF BIODIVERSITY 2013 – 2020 - INTEGRATION OF EUROPEAN ENVIRONMENTAL POLICIES</td>
<td>Alina Lavinia Caluseru, Luminita Cojocariu, Nicolae Marinel Horablaga, Despina-Maria Bordean, Adina Horablaga, Adrian Cojocariu, Aurica Breica Borozan, Banat University of Agronomical Sciences and Veterinary Medicine, Romania</td>
</tr>
<tr>
<td>97</td>
<td>SELECTED LEGAL ASPECTS OF RELATIONSHIPS BETWEEN PUBLIC AND PRIVATE PARTNERS DURING THE EXECUTION OF PPP PROJECTS IN SLOVAK REPUBLIC</td>
<td>Assoc.Prof. Ing. Edita Augustinova, CSc., Mgr. Pavol Daubner, Technical University of Kosice, Slovakia</td>
</tr>
<tr>
<td>98</td>
<td>STATE POLICY AND LEGAL FRAMEWORK AS PROMOTING AND LIMITING FACTORS OF MINING WASTE MANAGEMENT IN POLAND</td>
<td>Izabela Kotarska, Foundation for Lower Silesian Mineral Cluster, Poland</td>
</tr>
<tr>
<td>99</td>
<td>SUSTAINABLE TOURIST TRAFFIC AT UNESCO BIOSPHERE RESERVES IN THE CZECH REPUBLIC</td>
<td>Dipl. Ing. Milan Marsalek, Assoc. Prof. Emilie Pecharova, Dr. Karel Houdek, Ivana Kasparova, Ph.D, Dipl. Ing. Martin Vykouk, Czech University of Life Sciences Prague, Czech Republic</td>
</tr>
<tr>
<td>100</td>
<td>THE IMPACT OF THE ACTIVITIES DEVELOPED IN THE INTERNATIONAL ZONE OF SUBMARINE TERRITORIES UPON THE MARINE ENVIRONMENT AND MEASURES UNDERTAKEN FOR PROT</td>
<td>PhD. Laura Magdalena Trocan, Constantin Brancusi University of Targu-Jiu, Romania</td>
</tr>
<tr>
<td>101</td>
<td>THE IMPLEMENTATION OF THE NON-AGRICULTURAL ACTIVITIES IN THE RURAL COMMUNITIES FROM ALMAJULUI VALLEY, CARAS - SEVERIN COUNTY</td>
<td>Phd. Student Caius Ioan Gosa , Prof. Dr. Nicoleta Mateoc-Sirb, Acad. Prof. Dr. Paun Ion Otiman, Banat University of Agronomical Sciences and Veterinary Medicine, Romania</td>
</tr>
<tr>
<td>102</td>
<td>THE IMPLICATIONS OF THE DUE DILIGENCE SYSTEM IN THE ROMANIAN WOOD MARKET</td>
<td>PhD Eugenia Grecu, PhD. Cristian Clipa, Politehnica University of Timisoara, Romania</td>
</tr>
<tr>
<td>103</td>
<td>THE MANAGEMENT OF PROTECTED NATURAL AREAS IN ROMANIA</td>
<td>Adrian Cojocariu, Lavinia Alina Caluseru, Banat University of Agronomical Sciences and Veterinary Medicine, Romania</td>
</tr>
</tbody>
</table>
13th International Multidisciplinary Scientific GeoConference of Modern Management of Mine Producing, Geology and Environmental Protection

(SGEM 2013)

Albena, Bulgaria
16-22 June 2013

Book 6
## SECTION MICRO AND NANO TECHNOLOGIES

### 1. A FUZZY LOGIC CONTROL STRUCTURE OF A MEMS ACCELEROMETER, Grigorie Teodor Lucian, Negrea Petre, Corcau Jenica Ileana, Liviu Dinca, Grigorie Otilia, University Of Craiova, Romania

### 2. ANALYSIS OF MICROMECHANICAL PROPERTIES OF REACTIVE EXTRUSION COMPOSITES BY NANOINDENTATION, Dr. Margarita Natova, Dr. Maria Datcheva, Dr. Roumen Ianov, Dr. Vassil Georgiev, Institute of Mechanics of Bulgarian Academy of Sciences, Bulgaria

### 3. ANOTHER METHOD FOR DETERMINING THE SURFACE MICROHARDNESS OF COMPOSITE COATINGS, Assoc. Prof. Dr. Pasare Minodora, Dr. Ianasi Catalina, Constantin Brancusi University of Targu-Jiu, Romania

### 4. APPLICATIONS UTILIZING THE DAMPING OF COMPOSITE MICROSTRUCTURES FOR MECHANISMS OF PRODUCTION MACHINES AND MANIPULATOR DEVICES, Zuzana Murcinkova, Tibor Krenicky, Technical University of Kosice, Slovakia

### 5. ASPECTS CONCERNING WELDING OF THE BIOCOMPOSITE MATERIAL MADE OF POLYPROPYLENE REINFORCED WITH HEMP FIBER, Assistant Professor Ciurdariu Loredana, Associate Professor Popescu Mihaela, PhD. Student Pernevan Silvia Maria, Politehnica University of Timisoara, Romania

### 6. HYGROTHERMAL ANALYSIS OF COMPOSITE LAMINATE, Eva Kormanikova, Kamila Kotrasova, Technical University of Kosice, Slovakia

### 7. NANOTECHNOLOGY APPLICATIONS OF ANTIMICROBIALS, Assoc. Prof. Dr. Emir Tan, Assoc. Prof. Dr. Oguz Ozyaral, Prof. Dr.Gul Baktir, Yeni Yuzyil University, Turkey

### 8. NANOTECHNOLOGY IN MICROBIOLOGY, Assoc. Prof. Dr.Emir Tan, Assoc. Prof. Dr. Oguz Ozyaral, Prof. Dr.Gul Baktir, Yeni Yuzyil University, Turkey

### 9. PEAT HUMIC SUBSTANCES AS SORBENT FOR NANOMATERIALS, PhD stud. Diana Dudare, Prof. Maris Klavins, University of Latvia, Latvia

## SECTION ADVANCES IN BIOTECHNOLOGY

### 10. A STUDY CONCERNING SOME CHANGES THAT OCCUR DURING THE MEAT FERMENTATION PROCESS USING THE STATISTICAL MODELS
AND THERMAL ANALYSIS, D.Sc. eng. Olga Draghici and Associate Professor D.Sc. eng. Anca Sipos, University Lucian Blaga of Sibiu, Romania………………..77

11. ADAPTATION OF PSEUDOMONAS STRAIN IN THE PRESENCE OF ZINC IN CONTAMINATED SOILS, Mgr. Hana Vojtkova, Ph.D., VSB-Technical University of Ostrava, Czech Republic…………………………………………………………………………………………………………………………..85

12. ADVANCED BIOSOLID BASED ON SEWAGE SLUDGE USED AS ECOLOGICAL PRODUCT IN AGRICULTURE, Bogdan-Stefan Negreanu-Porjol, Ticuta Negreanu-Porjol1, Dr. Aurelia Meghea, Gabriela Stanciu, Manuela Rossemary Apetroaei, Dr. Rodica Sorbu, Ovidius University of Constanta, Romania………………..93

13. ANTIOXIDANT PROPERTIES AND OTHER PHYSICOCHEMICAL CHARACTERISTICS OF SOME HONEY VARIETIES FROM WEST ROMANIAN AREA, Delia-Gabriela Dumbrava, Despina Bordean, Diana-Nicoleta Raba, Marioara Druga, Camelia Moldovan, Mirela - Viorica Popa, Banat University of Agronomical Sciences and Veterinary Medicine, Romania…………………………………….101

14. ASSESSMENT OF HEAVY METAL CONTAMINATION IN MILK COMING FROM FAGARAS AREA, Ph.D. Eng. Alexandra Majdik, University Lucian Blaga of Sibiu, Romania………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………
20. EXPERIMENTAL STUDIES ON QUALITY OF RAW MILK FROM SUCEAVA COUNTY, Prof. Adriana Dabija, PhD Iuliana Sion, Prof. Gabriela Constantinescu, Prof. Mihaela-Adriana Tita, Stefan cel Mare University of Suceava, Romania.................................................................147

21. GAS-CHROMATOGRAPHY STUDY REGARDING THE ACCUMULATION OF VOLATILE COMPOUNDS RESPONSIBLE FOR SEMI-FLAVOURED WINES FRAGANCES, PhD. Diana Stegarus, PhD. Raluca Popescu, PhD. Violeta Niculescu, Prof. Ioan Stefanescu, PhD. Ecaterina Lengyel, Dr. Mihaela Tita, Dr. Ramona Iancu, PhD. Dan Mutu, National Institute for Research and Development for Cryogenics and Isotopic Technologies, Romania................155

22. IMPROVEMENT OF METHODS OF BOVINE ANAPLASMOSIS DIAGNOSTICS, Candidate of veterinary science Kanatzhan Beisembayev, Kokshetau State University named after Sh.Ualikhanov, Kazakhstan.................................163

23. INTERMOLECULAR INTERACTIONS IN BIOPOLYMER COMPOSITES STUDIED BY IR SPECTROSCOPY, Christina Voycheva, Dr. Milen Dimitrov, Valentina Petkova, Dr. Vassil Georgiev, Dr. Margarita Natova, D.Sc. Vladimir Baranovsky, Institute of Mechanics of Bulgarian Academy of Sciences, Bulgaria..............................................................169

24. INTRASPECIFIC VARIABILITY OF ORIGANUM CROP VARIETIES DEPENDING ON GROWING CONDITIONS: SECONDARY METABOLITES ACCUMULATION, Dr. Oana Cioanca, Cornelia Mircea, PhD Cristina Iancu, Dr. Elvira Gille, Prof. Dr. Monica Hancianu, University of Medicine and Pharmacy Gr. T. Popa Iasi- Faculty of Pharmacy - Department of Pharmacognosy, Romania.................................................................177

25. MICROBIOLOGICAL MODIFICATIONS OCCURRING DURING GOUDA CHEESE WITH SPICES MATURATION, Ph.D. Eng. Alexandra Majdik, University Lucian Blaga of Sibiu, Romania.................................................................185

26. MODELING AND OPTIMIZATION OF PRODUCTION OBTAINED FOR Lolium Multiflorum AFTER APPLYING ORGANIC FERTILIZERS, Luminita Cojocariu, Marinel Horablaga, Banat University of Agronomical Sciences and Veterinary Medicine, Romania.................................................................189

27. NANOSTUCTURED QCM SENSOR FOR TRYPsin ACTIVITY DETERMINATION, Prof. Roumen Zlatev, Prof. Margarita Stoytcheva, Prof. Gisela Montero, Prof. Benjamin Valdez, Universidad Autonoma Del Estado De Baja California, Mexico.................................................................197

28. OBTAINING OF A POLYSACCHARIDIC BIOFILM FROM HALOFERAX MEDITERRANEI AND ITS ADHESION ON BIOLOGICAL SURFACES, PhD Daniela Gabor, Dr. Ing. Monica Mironescu, Prof. Dr. Ing. Ovidiu Tita, University Lucian Blaga of Sibiu, Romania.................................................................205

30. PRODUCTION OF POLISACCHARIDES BY BACTERIAL STRAINS FROM BULGARIAN GEOTHERMAL SPRINGS: ENGINEERING PARAMETERS AT ELEVATED SCALE, Prof. Serafim Vlaev, Dr. Martin Martinov, Nadia Radchenkova, Dr. Margarita Kambourova, Bulgarian Academy of Sciences Institute of Chemical Engineering, Bulgaria.................................219

31. RESEARCH ON OBTAINING A MIXTURE FROM FLOUR FOR MANUFACTURE BAKERY PRODUCTS WITH HIGH NUTRITIONAL VALUE, eng. Monica Dinu, associate prof. Gabriela Constantinescu, lecturer Mircea Oroian, Breadmaking Company Baneasa SA Bucharest, Romania......................227

32. ROMANIAN LINGONBERRY FRUITS; ANTIOXIDANT CAPACITY AND VITAMIN C CONTENT, Diana Nicoleta Raba, Mirela Viorica Popa, Camelia Moldovan, Delia Gabriela Dumbrava, Tiberiu Iancu, Despina-Maria Bordean, Banat University of Agronomical Sciences and Veterinary Medicine, Romania.....................235

33. STATISTICAL PROCESSING AND SENSORY ANALYSIS USED IN ORDER TO OBTAIN THE ACID DAIRY PRODUCTS WITH SUPERIOR QUALITY, Ph.D. student Ioan-Nicolaie Ranga and Assoc. Prof. D. Sc.eng. Anca Siposn, Lucian Blaga University of Sibiu, Romania.................................241

34. STUDIES ON THE USE OF MACERATION ENZYMES IN TECHNOLOGY FOR OBTAINING AROMATIC MUSCAT OTTONEL WINES FROM RECAS WINEYARD, Dr. Ecaterina Lengyel, Prof. Letitia Oprean, Dr. Ramona Iancu, Dr. Otto Ketney, Dr. Mariana Pacala, PhD Diana Stegarus, PhD Raluca Popescu, Lucian Blaga University of Sibiu, Romania.........................................................249

35. STUDIES REGARDING ANALYSIS OF VOLATILE COMPOUNDS AND AROMA OF GOUDA CHEESE WITH SPICES, Ph.D. Eng. Alexandra Majdik, University Lucian Blaga of Sibiu, Romania.........................................................257

36. STUDIES REGARDING THE IMPORTANCE OF MILK BACTOFUGATION IN OBTAINING GOUDA CHEESE WITH SPICES, Ph.D. Eng. Alexandra Majdik, University Lucian Blaga of Sibiu, Romania.................................261

38. THE FERMENTATIVE CAPACITY UNDER THE ASPECT OF THE SULPHITORESISTANCE OF THE WINE YEASTS ISOLATED FROM THE WELL KNOWN WINE MAKING AREAS, PhD. Eniko Gaspar, PhD. Ciprian Tusa, Lucian Blaga University of Sibiu, Romania..........................................................271


40. THE IMPORTANCE OF ORGANIC FARMING, Dr. Zorka Jugovic, Danjela Pecarski, Aleksandar Stefanovic, Milos Tucovic, Medical School of Professional Studies Belgrade, Serbia..............................................................287

41. THE ANTIBACTERIAL ACTIVITY OF FLAVONOIDS EXTRACTED FROM CRATAEGUS OXYACANTHA (L.) FLOWERS OF BOUMERDES (ALGERIA), Dr.Nassima Behidj-Benyounes, Thoraya Dahmane, Kahina Hassak, Fatima Slimani, Boumerdes University, Algeria.................................................................295

42. THE ANTIBACTERIAL ACTIVITY OF FLAVONOIDS EXTRACTED FROM CRATAEGUS OXYACANTHA (L.) LEAVES OF BAINEM (ALGERIA), Dr.Nassima Behidj-Benyounes, Thoraya Dahmane, Kahina Hassak, Fatima Slimani, Boumerdes University, Algeria.................................................................303

43. THE DETERMINATION OF THE CHROMATIC INTENSITY OF CABERNET SAUVIGNON, MERLOT AND PINOT NOIR RED WINES, THROUGH RAPID METHODS, Dr. Ovidiu Tita, PhD. Ecaterina Lengyel, Dr. Ramona Iancu, Dr. Mariana Pacala, Dr. Cecilia Georgescu, PhD. Dan Mutu, Cristina Batusaru, Dr. Mihaela Tita, Lucian Blaga University of Sibiu, Romania.........................311

44. THE EXTRACTION AND POTENTIATING OF THE AROMA COMPOUND IN RED GRAPES USING COMMERCIAL ENZYMATIC MIXTURES, Dr. Ecaterina Lengyel, Prof.Ovidiu Tita, Prof. Letitia Oprean, PhD Ramona Iancu, Dr. Otto Ketney, PhD Diana Stegarus, PhD Raluca Popescu, Lucian Blaga University of Sibiu, Romania.............................317

45. THE USE OF PETRIFILMS IN GOUDA CHEESE FACTORY, Ph.D. Eng. Alexandra Majdik, University Lucian Blaga of Sibiu, Romania..................325

46. USE OF NEW FEED INGREDIENTS ON THE BASIS OF TREE FOLIAGE EXTRACTIVES, O. Polis, A. Korica, I. Vitina, V. Krastina, S. Cerina, I. Jansons, A. Jemeljanovs, R. Anenkova, B. Lujane, Latvian Academy of Science, Latvia........331

47. THE INFLUENCE OF THE QUALITY CHARACTERISTICS OF THE GROWING ENVIRONMENT OVER THE FERMENTATION PROCESS OF THE ISOLATED YEAST STRAINS OF SACCHAROMYCES BAYANUS,

SECTION GREEN BUILDINGS TECHNOLOGIES AND MATERIALS

49. A BIOMIMETIC APPROACH TO THE USE AND GENERATION OF BUILDING MATERIALS IN ARCHITECTURE, PhD Diana Giurea, Prof. Cristian Dumitrescu, Politehnica University of Timisoara, Romania

50. ASSESSMENT OF CRACKING INDEX AND CHARACTERISTIC CONTRACTION DUE TO CONCRETE SHRINKAGE, Assistant Prof. PhD. Eng. Liana Iures, Lecturer PhD. Eng. Catalin Badea, Lecturer PhD. Sorin Dan, Prof. PhD. Corneliu Bob, Politehnica University of Timisoara, Romania

51. AUTOMATION POSSIBILITIES OF THIN SHEETS WELDING OF GREENHOUSES, LININGS TANKS AND WASTE DELINEATION COMPONENTS, Prof. assoc. dr. eng. Mihaela Popescu, Dr. eng. Radu Alexandru Rosu, Dr. Lavinia Madalina Micu, Dr. Loredana Ciurdariu, Politehnica University of Timisoara, Romania

52. BRICKS RECYCLED AGGREGATES FOR STRUCTURAL GREEN LIGHTWEIGHT CONCRETE, PhD Henriette Szilagyi, PhD Liana TeRec, N.I.R.D. URBAN-INCERC, Romania

53. COMPOSITION FOR SURFACE TREATMENT OF GLASS FIBERS FOR MANUFACTURE OF POLYPROPYLENE MATRIX COMPOSITES, Lecturer PhD. Eng. Florin Ciofu, Constantin Brancusi University of Targu-Jiu, Romania

54. CRITERIA AND APPLICATION METHODS FOR TECHNOLOGIES BASED ON RENEWABLE SOURCES FOR SUSTAINABLE BUILDING IN TRADITIONAL AND NEWLY CONSTRUCTION SYSTEMS, Phd. Dr. Valentina Lolli, University of LAquila, Italy

55. DEFINING A METHODOLOGY TO INTEGRATE ENERGY SAVINGS AND RENEWAL PROCESSES IN THE URBAN PLANNING: A CASE STUDY IN THE ITALIAN CONTEXT, eng. PhD Stefano Pili, University of Cagliari, Italy

56. DYNAMIC THERMAL PERFORMANCE OF BUILDING STRUCTURES IN EXPERIMENTAL LIGHTWEIGHT TIMBER-FRAME PASSIVE HOUSE, PhD
Hynek Lahuta, Eng. Iveta Skotnicova, VSB-Technical University of Ostrava, Czech Republic

57. ECOLOGICAL CONCRETE BY USE OF WASTE GLASS, PhD. Ofelia Corbu, PhD.Nicolae Chira, PhD. Henriette Szilagyi, Dr. Horia Constantinescu, Technical University of Cluj-Napoca, Romania


59. EXPERIMENTAL APPROACH REGARDING HYDRO INSULATION PROPERTIES OF PLASTERS BASED ON ORGANIC BINDERS, Cornelia Baer, Prof. Calin Mircea, Carmen Dico, N.I.R.D. URBAN-INCERC, Romania

60. EXPERIMENTAL STUDY AND MODELING OF FIBER-REINFORCED POLYMER JAKTED CONCRETE COLUMNS UNDER COMpressive LOADING, Youcef Ghernouti, Bahia Rabehi, Boumerdes University, Algeria

61. HOW TO CHOOSE AN OPTIMAL THERMAL INSULATION THICNESS FOR THE BUILDING ENVELOPE, PhD. Radu - Aurel Pescaru, PhD. Dan Stefanescu, Gheorghe Asachi Technical University of Iasi, Romania

62. IMPACT OF STRUCTURAL REHABILITATION OF EXISTING BUILDINGS ON ENERGY SAVING IN CONSTRUCTIONS, Lecturer PhD. Eng. Sorin Dan, Assistant Prof. PhD. Eng. Liana Iures, Lecturer PhD. Eng. Catalin Badea, Politehnica University of Timisoara, Romania

63. SUSTAINABILITY INDICATORS FOR EDUCATION BUILDINGS CASE STUDY, PhD. Laura Dumitrescu, PhD. Marinela Barbuta,PhD. Radu - Aurel Pescaru, Gheorghe Asachi Technical University of Iasi, Romania

64. SUSTAINABLE STRUCTURES. SEISMIC TYPE LOADING BEHAVIOR OF REPAIRED REINFORCED CONCRETE HYBRID JOINT, Dr. Mircea Pastrav, INCD URBAN INCERC National Institute for Research and Development in Constructions Urbanism, Romania


66. THE ACCURACY OF THE ENERGY AUDIT FOR THE EXISTENT BUILDINGS INCREASED BY INFRARED THERMOGRAPHY MEASUREMENTS, Assist. Prof. Dr. Radu Pescaru, Assist. Prof. Dr. Irina Baran, Assist. Prof. Dr. Laura Dumitrescu , Gheorghe Asachi Technical University of Iasi, Romania
<table>
<thead>
<tr>
<th>Chapter</th>
<th>Title</th>
<th>Authors</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>67.</td>
<td>THE CREATIVE PROJECTS FOR NUCLEI SPREAD: THE CASE OF THE SORRENTINE PENINSULA</td>
<td>Fabio Converti, Second University of Naples, Italy</td>
<td>489</td>
</tr>
<tr>
<td>68.</td>
<td>THE URBAN VOIDS AS A CRITICAL RESOURCE: THE CASE OF POMPEI</td>
<td>Fabio Converti, Second University of Naples, Italy</td>
<td>495</td>
</tr>
<tr>
<td>69.</td>
<td>TRACEABILITY IN WOOD PRODUCTION</td>
<td>Abdellatif Zerizer, Hassen Nacereddine, Hamid Aknouche, Boumerdes University, Algeria</td>
<td>501</td>
</tr>
<tr>
<td>70.</td>
<td>VERIFICATION OF ANTIMICROBIAL PROPERTIES OF PROSPECTIVE INSULATION MATERIALS</td>
<td>Ing. Marek Hodina; Mgr. Hana Vojtková, Ph.D., Heat energy s.r.o., Czech Republic</td>
<td>509</td>
</tr>
<tr>
<td>71.</td>
<td>WOOD PRODUCTS IMPROVE THE QUALITY OF LIFE OF ELDERLY PEOPLE IN ASSISTED LIVING</td>
<td>Prof. Tokie Anme, Dr. Emiko Tanaka, Dr. Taeko Watanabe, Mr. Kentaro Tokutake, Ms. Yukiko Mochizuki, Ms. Etsuko Tomisaki, Mr. Bailiang Wu, Dr. Ryoji Shinohara, Dr. Yuka Sugisawa, Mr. Chihiro Tada, Prof. Tokinao Matsui, Prof. Sigeru Asada, University of Tsukuba, Japan</td>
<td>515</td>
</tr>
<tr>
<td>72.</td>
<td>SECTION GREEN DESIGN AND SUSTAINABLE ARCHITECTURE</td>
<td></td>
<td></td>
</tr>
<tr>
<td>73.</td>
<td>ORDOS 100 – THE IMPLEMENTATION OF GREEN DESIGN AND SUSTAINABLE PRICIPLES</td>
<td>prof. assistant Claudiu Alexandru Toma, Politehnica University of Timisoara, Romania</td>
<td>525</td>
</tr>
<tr>
<td>74.</td>
<td>A NEW GENERATION OF THE BASIC STRUCTURE FOR ENERGY EFFICIENT BUILDINGS</td>
<td>Assoc. prof. Anna Sedlakova, PhD., Eng. Pavol Majdlen, Ladislav Tahký, Technical University of Kosice, Slovakia</td>
<td>533</td>
</tr>
<tr>
<td>76.</td>
<td>AESTHETIC PREMISES OF GREEN DESIGN: ETHICS AND SUSTAINABLE ARCHITECTURE</td>
<td>Dr. Vladimir Mako, University of Belgrade Faculty of Architecture, Serbia</td>
<td>547</td>
</tr>
<tr>
<td>77.</td>
<td>ANALYSIS OF ENVIRONMENTAL AND SOCIAL ASPECTS IN LOW ENERGY HOUSE – CASE STUDY</td>
<td>Dr. Silvia Vilceková, Dr. Anna Sedlakova, Dr. Peter Kapalo, Eng. Monika Cukalova, Dr. Eva Kridlova Burdova, Eng. Vladimir Geletka, Technical University of Kosice, Slovakia</td>
<td>555</td>
</tr>
<tr>
<td>78.</td>
<td>ANALYSIS OF GREENERY IN TERRITORIES OF NITRA TOWN</td>
<td>Ing. Denisa Halajova, Assoc. Prof. Peter Halaj, Prof. Lubica Feriancová, Prof. Jan Supuka, Slovak Agriculture University in Nitra, Slovakia</td>
<td>563</td>
</tr>
</tbody>
</table>
78. ANIMAL STRUCTURES AS SOURCE INSPIRATION IN SUSTAINABLE DESIGN, PhD Diana Giurea, Politehnica University of Timisoara, Romania

79. ASPECTS OF CONTEMPORARY URBAN AND LANDSCAPE REDEVELOPMENT APPLYING SUSTAINABLE BUILDING METHODS AND PRINCIPLES, PhD De Colli Simona, University of L'Aquila, Italy

80. AUTOMATIC CONTROL OF A DC TO DC BOOST CONVERTER, Corcau Jenica Ileana, Liviu Dinca, Grigorie Teodor Lucian, University Of Craiova, Romania

81. BODY HEAT GENERATED INTERACTIVE SURFACES, Foteini Fotopoulou, Ioannis Liofagos, Eleni Roupa, Angeliki Terezaki, Technical University of Crete, Greece

82. COST REDUCTION FOR SYMMETRIC STRUCTURES COMPARED TO IRREGULAR ONES, Assoc. Prof. DSc. Dietlinde Küber, Technical University of Civil Engineering of Bucharest, Romania

83. DAYLIGHT LUMINAIRE BUILDINGS: ENERGY-EFFICIENT DAYLIGHTING STRATEGIES, PhD. student Alexandra Maier, PhD. student Ovidiu Micsa, Prof. Dr. arh. Cristian Dumitrescu, Politehnica University of Timisoara, Romania

84. EARTHQUAKE ARCHITECTURE - TRANSDISCIPLINARY BRANCH THAT GENERATES LOCAL IDENTITY, As. Drd. Arh. Razvan Oprita, Prof. Dr. Ing. Victor Gioncu, Politehnica University of Timisoara, Romania

85. ENERGY EFFICIENCY OF GREENHOUSE SPACES RESULTED BY GLAZING LOGGIAS AND BALCONIES AT APARTMENT BUILDINGS, Prof. Dr.Ing. Irina Bluic, Assoc. Prof. Dr. Ing.Mihaela Stela Georgescu, Assoc. Prof. Dr. Ing. Tania Hapurne, Assist. Prof. Dr. Ing. Irina Baran, Gheorghe Asachi Technical University of Iasi, Romania

86. ENVIRONMENTAL ASSESSMENT OF SELECTED BUILDING – CASE STUDY, Dr. Silvia Vilcekova, Dr. Eva Kridlova Burdova, Miroslava Snopkova, Technical University of Kosice, Slovakia

87. EVALUATION OF FUNCTIONALITY OF A LOW-ENERGY HOUSE, CASE STUDY: LOW-ENERGY HOUSE OF THE CENTRE OF ECOLOGICAL ACTIVITIES SLUNAKOV (CZECH REPUBLIC), Assoc. Prof. Dr. Ivo Machar, Palacky University in Olomouc, Czech Republic

88. EVALUATION OF SUSTAINABILITY CONCEPT IN LAND USE PLANNING THROUGH GREEN SPACE DECISIONS, Assist. Prof. Dr. Seda H. Bostanci, Burcu Ozdemir, Okan University, Turkey
89. GREEN BUILDING DESIGNS FOR PRODUCTION SPACES - ENERGY COGENERATION, Mircea Paul Samanta, Prof. Mihai Jadaneant, Marius Adam, Politehnica University of Timisoara, Romania…………………………………….. 655

90. GREEN PRINCIPLES OF COMPOSITION IN THE DESIGN AND PRODUCTION OF QUALITATIVE HIGH-DENSITY RESIDENTIAL ENVIRONMENTS, PhD. student Maja Baldea, PhD. student Ileana Codruta Negrulescu, Prof. Dr. arch. Cristian Dumitrescu, Politehnica University of Timisoara, Romania……………………………………………. 661

91. HOLISTIC MOBILITY STRATEGY FOR SUSTAINABLE CITIES – CASE STUDY TIMISOARA, ROMANIA, Arch. Gaman Marius Stelian, PhD student, Prof. Dr. Arch. Bica Smaranda, Arch. Branea Ana-Maria, PhD student, Politehnica University of Timisoara, Romania……………………………………………… 669

92. MODERN METHODS OF CONSTRUCTION AS A CHALLENGE FOR ENERGY EFFICIENCY BUILDINGS, Ing.Lenka Zupova, prof.Ing.Maria Kozlov ska, PhD., Technical University of Kosice, Slovakia…………………………… 677

93. PRINCIPLES FOR A SUSTAINABLE AND ENERGY EFFICIENT URBAN DESIGN IN L’AQUILA, Ph.D. Giovanni Luigi La Rocca, University of L’Aquila, Italy ………………………………………………………………… 685

94. REBUILDING AFTER FLOODINGS IN THE BANAT AREA.CASE STUDIES, Otilia Tudoran, Politehnica University of Timisoara, Romania……………………………………………………………… 697

95. ROADWAYS IN PUBLIC TRANSPORT STOPS, THEIR FAILURES AND RECONSTRUCTION OPTIONS FOR THE OPERATION OF MODERN HIGH-CAPACITY VEHICLES, Karel Zeman, CE. Jan Kramny, CE. Jan Petru, CE., VSB-Technical University of Ostrava, Czech Republic …………………………….. 705


97. SEMI-COLLECTIVE HOUSING, OPTIMAL DEVELOPMENT FORMS OF AN ECOLOGICAL URBAN HABITAT, Lecturer Dr. Arch. Tudor Gradinaru, Assist. Arch. Mihai Codreanu, Assist. Arch. Lucian Cozma, Gheorghe Asachi Technical University of Iasi, Romania ………………………………………………… 721

98. SOCIAL COHESION, LIMITED RESOURCES AND PROFESSIONAL INVOLVEMENT – INCENTIVES OF SUSTAINABLE ARCHITECTURE, PhD. student Ileana Codruta Negrulescu, PhD. student Maja Baldea, Prof. Dr. arh. Cristian Dumitrescu, Politehnica University of Timisoara, Romania…………………………… 729
99. SUSTAINABLE PLANNING STRATEGIES IN THE PATTERN OF RECOVERY, RESTORATION, AND NEW CONSTRUCTION WORKS IN HISTORICALLY AND ENVIRONMENTALLY IMPORTANT CONTEXTS BY THE INTEGRATION OF TRADITIONAL AND MODERN TECHNOLOGIES, ING. Laura Palumbo, University of L'Aquila, Italy ........................................... 737

100. THE AIRPOTTION PROJECT, Marilena Dimopoulou, Angelos Klothakis, Iasonas Paterakis, Alma Tralo, Dimitris Vidalis, Georgia Voradaki, Konstantinos-Alketas Ougrinis, Technical University of Crete, Greece........................................... 745

101. THE IMPORTANCE OF GREEN ARCHITECTURAL DESIGN IN CHILDREN'S EDUCATION, PhD. Cristina Maria Povian, Politehnica University of Timisoara, Romania................................................................. 751

102. THE INFLUENCE OF CLIMATE FACTORS ON THE DIFFERENT GEOMETRIC FORMS OF URBAN STRUCTURES, Ass. Ivana Bajsanski, Prof. Vesna Stojakovic, Prof. Predrag Sidjanin, University of Novi Sad, Serbia................................................................. 759

103. THE ROLE OF THE PRIVATE SECTOR IN SUSTAINABILITY THROUGH PARTNERSHIP-BASED CITY MANAGEMENT, Dr. Eng. Rares Halbac-Cotoarea-Zamfir, Dr. J. Andres Coca-Stefaniak, Politehnica University of Timisoara, Romania................................................................. 771

104. THE SOCIO-CULTURAL FUNCTION OF ARCHITECTURE – EDUCATION THROUGH SPACE AND THE SPACE OF EDUCATION – THE SCHOOLS FOR TOMORROW - CASE-STUDY ANALYSIS, PhD. student Brindusa Havasi, PhD. student Daniela Negrisanu, Politehnica University of Timisoara, Romania ................................................................. 777

105. THERMAL BEHAVIOR OF LOW ENERGY HOUSE USING UNCERTAINTY ANALYSIS, Ing. Vladimir Geletka, doc. Ing. Anna Sedlakova, PhD., Technical University of Kosice, Slovakia................................................................. 785

106. VERIFICATION OF A CFD MODEL FOR AN UNDERFLOOR AIR CAVITY USING LABORATORY EXPERIMENT, Ing. Tomas Rencko, doc. Ing. Anna Sedlakova, PhD., Technical University of Kosice, Slovakia ................................................................. 793