

**18th INTERNATIONAL MULTIDISCIPLINARY
SCIENTIFIC GEOCONFERENCE
SGEM 2018**

CONFERENCE PROCEEDINGS
VOLUME 18

Nano, Bio, Green and Space -
Technologies for a Sustainable Future

Issue: 6.4



MICRO & NANO TECHNOLOGIES,
ADVANCES IN BIOTECHNOLOGY,
GREEN BUILDINGS TECHNOLOGIES & MATERIALS
GREEN DESIGN & SUSTAINABLE ARCHITECTURE,
ANIMALS & SOCIETY

DISCLAIMER

This book contains abstracts and complete papers approved by the Conference Review Committee. Authors are responsible for the content and accuracy.

Opinions expressed may not necessarily reflect the position of the International Scientific Council of SGEM.

Information in the SGEM 2018 Conference Proceedings is subject to change without notice. No part of this book may be reproduced or transmitted in any form or by any means, electronic or mechanical, for any purpose, without the express written permission of the International Scientific Council of SGEM.

Copyright © SGEM2018

All Rights Reserved by the International Multidisciplinary Scientific GeoConferences SGEM
Published by STEF92 Technology Ltd., 51 "Alexander Malinov" Blvd., 1712 Sofia, Bulgaria
Total print: 5000

ISBN 978-619-7408-71-3

ISSN 1314-2704

DOI: 10.5593/sgem2018/6.4

INTERNATIONAL MULTIDISCIPLINARY SCIENTIFIC GEOCONFERENCE SGEM
Secretariat Bureau

E-mail: science@sgemviennagreen.org | URL: www.sgemviennagreen.org

ORGANIZERS AND SCIENTIFIC PARTNERS

- THE CZECH ACADEMY OF SCIENCES
- LATVIAN ACADEMY OF SCIENCES
- POLISH ACADEMY OF SCIENCES
- RUSSIAN ACADEMY OF SCIENCES
- SERBIAN ACADEMY OF SCIENCES AND ARTS
- SLOVAK ACADEMY OF SCIENCES
- NATIONAL ACADEMY OF SCIENCES OF UKRAINE
- INSTITUTE OF WATER PROBLEM AND HYDROPOWER OF NAS KR
- NATIONAL ACADEMY OF SCIENCES OF ARMENIA
- SCIENCE COUNCIL OF JAPAN
- EUROPEAN ACADEMY OF SCIENCES, ARTS AND LETTERS
- ACADEMY OF SCIENCES OF MOLDOVA
- MONTENEGRIN ACADEMY OF SCIENCES AND ARTS
- CROATIAN ACADEMY OF SCIENCES AND ARTS, CROATIA
- GEORGIAN NATIONAL ACADEMY OF SCIENCES
- ACADEMY OF FINE ARTS AND DESIGN IN BRATISLAVA
- TURKISH ACADEMY OF SCIENCES
- NIZHNY NOVGOROD STATE UNIVERSITY OF ARCHITECTURE AND CIVIL ENGINEERING, RUSSIAN FEDERATION
- BULGARIAN ACADEMY OF SCIENCES
- BULGARIAN INDUSTRIAL ASSOCIATION
- BULGARIAN MINISTRY OF ENVIRONMENT AND WATER

INTERNATIONAL SCIENTIFIC COMMITTEE

Nano, Bio, Green and Space - Technologies for a Sustainable Future

- PROF. STEFAN DIMOV, UK
- PROF. MARIAPIA VIOLA MAGNI, ITALY
- PROF. STEFFEN LEHMANN, AUSTRALIA
- PROF. RAJAT GUPTA, UK
- PROF. DI MAAS PETER DROEGE, LICHTENSTEIN
- PROF. NIKOLOZ CHIKHRADZE, GEORGIA
- PROF. JAN KAZMIERCZAK, POLAND

- PROF. VADIM ZHMUD, RUSSIA
- DR. FRANCIS BALESTRA, FRANCE
- DR. ANDROULA NASSIOPOULOU, GREECE
- ASSOC. PROF. KRYSZYNA JANUSZKIEWICZ, POLAND
- DR. EMILIO MIGUEL MITRE, SPAIN
- PHD. SINISA SRECEC, CROATIA

CONFERENCE PROCEEDINGS CONTENTS

MICRO AND NANO TECHNOLOGIES

1. **A SOFTWARE PIPELINE FOR AEROGELS MODELLING: STRUCTURES GENERATION, PROPERTIES PREDICTION, PROCESSES SIMULATION**, Dr. Andrey Kolnoochenko, Igor Mitrofanov, Dr. Evgeniy Lebedev, Prof. Dr. hab. Natalia Menshutina, D. Mendeleyev University of Chemical technology of Russia, Russia.....3
2. **ELECTRON SCANNING MICROSCOPY FOR STUDING MAGNETIC FRACTION OF LAKES SEDIMENTS (SOUTH URAL, RUSSIA)**, Assistant Lina Kosareva, Assistant Dilyara Kuzina, Student Anastasia Yusupova, Assistant Vyacheslav VorobeV, Kazan (Volga Region) Federal University, Russia9
3. **HIGH-THROUGHPUT SEQUENCING ANALYSIS OF MICROBIAL POPULATIONS IN ARCTIC ROCK SAMPLE**, Rama Shanker Verma, Piyush Kumar Gupta, Maria Frolova, Arkady Ayzenshtadt, Indian Institute of Technology Madras, India17
4. **SHUNGITE NANOPOWDER ADDITIVE INFLUENCE ON TENSILE STRENGTH OF ONE-PLY PARTICLE BOARDS**, Nikolay Panov, Aleksandr Pitukhin, Gennadiy Kolesnikov, Sergey Vasilyev, Veniymn Shilovsky, Petrozavodsk State University, Russia.....25
5. **TIO₂ ASSISTED PHOTOCATALYTIC DEGRADATION OF BISPHENOL IN AQUEOUS MEDIA, UNDER UV-VIS IRRADIATION**, Dr. Mirela Alina Constantin, Dr. Lucian-Alexandru Constantin, Dr. Ines Nitoi, Mr. Nicolae Ionut Cristea, National Research and Development Institute for Industrial Ecology - ECOIND, Romania.....31
6. **VALIDATION OF LOW-COST SENSOR MEASUREMENTS IN URBAN TERRITORY FOR AIR POLLUTION MONITORING. RIGA CITY EXAMPLE**, Assoc. Prof. Dr. Iveta Steinberga, MSc Janis Bikse Jr, MSc Janis Bikse, Dr. Janis Kleperis, University of Latvia, Latvia37

ADVANCES IN BIOTECHNOLOGY

7. **COLLOIDAL SILICA GRANULES OF CHICKEN MANURE BIOCHAR INCREASE PLANT BIOMASS AND MICROBIAL COUNT**, Polina Kuryntseva, PhD Maya Rudakova, Alexandr Gordeev, PhD Polina Galitskaya, Prof. Dr. Svetlana Selivanovskaya, Kazan (Volga Region) Federal University, Russia47

- 8. ANALYSIS OF THE GARLIC LANDRACES IN THE WEST OF ROMANIA USING THE FLOWCYTOMETRY METHOD**, Assist. Lecturer Dr. Petcov Andreea Adriana, Dr. Camen Dorin, Dr. Moatâr Mihaela, Dr. Petolescu Cerasela, Dr. Turc Alina, University of Agronomic Sciences and Veterinary Medicine Timisoara, Romania57
- 9. ANTIOXIDANT CAPACITY OF SOME MARINE GREEN MACROALGAE SPECIES FLUID EXTRACTS**, Assoc. prof. PhD. Negreanu-Pirjol Bogdan-Stefan, Prof. PhD. Negreanu-Pirjol Ticuta, Prof. PhD. Mirea Marioara, Assoc. prof. PhD. Vasile Monica, Assist. prof. PhD. Cadar Emin, Ovidius University of Constanta, Romania.....63
- 10. APPLICATION OF NEURAL NETWORK MODEL FOR PREDICTING THE ANTIBACTERIAL ACTIVITY OF ALGINATE-CHITOSAN SPONGES**, Assoc. Prof. Dr. Mariia Gordienko, Ph.D student Vera Palchikova, M.Sc student Asya Galusina, Assoc. Prof. Dr. Sergei Kalenov, Prof. Dr. Natalia Menshutina, D. Mendeleev University of Chemical technology of Russia, Russia71
- 11. BIOTECHNOLOGICAL APPLICATIONS OF SOIL MICROBIAL ACTIVITIES IN ECOLOGICAL AGRICULTURE**, Assoc. Prof. Dr Florin Aonofriesei, Ovidius University of Constanta, Romania79
- 12. CHEMICAL COMPOSITION AND ANTIOXIDANT PROPERTIES OF DILL ESSENTIAL OIL**, Călin Jianu, Corina Mișcă, Daniela Stoin, Gabriel Bujancă, Lukinich-Gruia Alexandra Teodora, Banat s University of Agricultural Sciences and Veterinary Medicine from Timisoara, Romania.....87
- 13. COMPARATIVE METHODS FOR SKIN AND HIDE WASTE CAPITALISATION**, Prof. Dr. Daniela Simina Stefan, Dr. Eng. Ana-Maria Manea-Saghin, Dr. Gabriel Zainescu, Prof. Emeritus Aurelia Meghea, Assoc. Prof. Dr. Mircea Stefan, POLITEHNICA University of Bucharest, Romania.....95
- 14. COMPARATIVE MORPHOLOGY, ANATOMY AND BIOCHEMISTRY IN PRUNUS SPINOSA L. FRUITS**, Dr. Irina Boz, Assoc. Prof. Dr. Naela Costica, Lect. Dr. Anisoara Stratu, Alexandru Ioan Cuza University, Romania103
- 15. COST, NUTRITIONAL AND ENERGY VALUE OPTIMIZED COARSE-GRAINED RESTRUCTURED FISH MINCE DEVELOPMENT**, Prof. Sandra Muizniec-Brasava, MRes. Olga Dmitrijeva, Prof. Irina Pilvere, MSc. Mihails Silovs, Dr. oec. Aleksejs Nipers, Latvia University of Life Science and Tehnologies, Latvia.....113
- 16. DIFFRACTOMETRIC METHOD FOR DETERMINING THE CRYSTALLINITY DEGREE OF CELLULOSE**, Assoc. Prof. Dr. Alexey Malkov, PhD student Irina Tyshkunova, PhD student Irina Vidrina, Prof. Dr. Evgenii Novozhilov, Northern Arctic Federal University, Russia119
- 17. EFFECT OF ALMOND FLOUR ON NUTRITIONAL, SENSORY AND BAKERY CHARACTERISTICS OF GLUTEN-FREE MUFFINS**, Assoc. Prof. Dr. Daniela Stoin, Prof. Dr. Călin Jianu, Assoc. Prof. Dr. Corina Mișcă, Lecturer Dr. Gabriel Bujancă, Assist. Prof. Dr. Laura Rădulescu, Banat s University of Agricultural Sciences and Veterinary Medicine from Timisoara, Romania..... 127
- 18. EFFECT OF SOME PROBIOTIC BACTERIA ON THE REDUCTION OF AFLATOXIN B1 PRODUCTION IN STORED ARABICA COFFEE BEANS**, Assoc. Prof. Radu Florina Dr. Popescu Sofia, Dr. Rotariu Lia, Dr. Cozma Antoanela, Prof. Monica Butnariu, Banat University of Agricultural Sciences and Veterinary Medicine King Michael I of Romania from Timisoara, Romania 135
- 19. EFFICACY OF BIOCHAR WITH IMMOBILIZED MICROBES FOR SOIL FERTILIZATION**, Prof. Dr. Svetlana Selivanovskaya, PhD Polina Galitskaya, Kamalya Karamova, PhD Kirill Kanunnikov, Kazan (Volga Region) Federal University, Russia..... 143
- 20. ESTIMATION OF EFFICIENCY OF USE OF VEGETABLE OILS FOR RECEPTION OF BIOFUEL BY A METHOD OF ENZYMATIC CATALYSIS**, St. Valery Shcherbakova, Prof. Dr. Alla Krasnoshtanova, Prof. Dr. Victor Panfilov, D. Mendeleev University of Chemical technology of Russia, Russia 151
- 21. EVALUATION OF WHEAT DOUGH FERMENTATION PROCESS USING A REACTOR AND MATHEMATICAL MODELLING**, PhD student Adriana Istudor, Prof.Dr.eng. Gheorghe Voicu, PhD Madalina Stefan, PhD Gabriel Constantin, PhD Gheorghe Muscalu, POLITEHNICA University of Bucharest, Romania 161
- 22. FUNCTIONAL-TECHNOLOGICAL PROPERTIES OF PROTEIN CONCENTRATES FROM WHITE AND BROWN RICE**, Prof. Dr. Valentina Kolpakova, Ph.D. Lyudmila Chumikina, Ph.D. student Irina Gaivoronskaya, Ph.D. Ruzalia Ulanova, Federal Research Center for Food Systems of Russian Academy of Sciences, Russia 171
- 23. HALOBACTERIUM SALINARUM VIRUSES AND OPTIMIZATION OF VIRAL INDUCTION**, Ivan A. Volokitin, Prof. Alexey A. Belov, Dr. Vladimir V. Sorokin, Prof. Dmitry A. Skladnev, Assoc. Prof. Sergei V. Kalenov, D. Mendeleev University of Chemical technology of Russia, Russia 179
- 24. INACTIVATION OF ST. AUREUS AND ESCHERICHIA COLI BY ESSENTIAL OIL FROM SAGE (SALVIA SPECIES) IN TELEMEA CHEESE**, Assoc. Prof. Radu Florina, Dr. Rotariu Lia, Prof. Butnariu Monica, Banat University of Agricultural Sciences and Veterinary Medicine King Michael I of Romania from Timisoara - Faculty of Agricultural Management, Romania 187
- 25. INCREASED LEVELS OF ANTIBIOTIC RESISTANCE IN BACTERIA FROM INDUSTRIAL WASTE DISPOSAL SITES**, Prof. Dr. Jana Sedláková-Kaduková, MSc. Ivana Timková, Dr. Lenka Maliničová, Dr. Simona Kvasnová, Assoc. Prof. Dr. Peter Pristaš, Pavol Jozef Safarik University in Kosice, Slovakia 195

- 26. LINEAR FUNCTIONAL DEPENDENCE OF THE BIOPHYSICAL CHARACTERISTICS FOR DIFFERENT TYPES OF SYRUP ASSORTMENTS**, Lecturer PhD Antoanela Cozma, Assoc. Prof. PhD. Ariana Velciov, Lecturer PhD Anca Dragunescu, Lecturer PhD Iuliana Cretescu, Assist. Prof. PhD Mihaela Petcu, Banat University of Agricultural Sciences and Veterinary Medicine King Michael I of Romania from Timisoara, Romania203
- 27. MICROBIOLOGICAL CHARACTERIZATION OF THE WASTE ALGAL BIOMASS ALONG ROMANIAN BLACK SEA COAST**, Assoc. prof. PhD. Negreanu-Pirjol Bogdan-Stefan, Prof. PhD. Negreanu-Pirjol Ticuta, PhD. Rosioru Daniela, Lecturer PhD. Chisoai Anca, Prof. PhD. Aschie Mariana, Ovidius University of Constanta, Romania.....211
- 28. MODIFICATION OF MORPHOGENETIC PATTERNS IN TISSUE CULTURES OF ARTEMISIA ALBA TURRA AS A KEY FOR SECONDARY METABOLITES TARGETING**, Dr. Kalina Danova, Dr. Petre I. Dobrev, Assoc. Prof. Dr. Antoaneta Trendafilova, Assoc. Prof. Dr. Milka Todorova, Dr. Vaclav Motyka, Institute of Experimental Botany Czech Academy of Sciences, Czech Republic.....219
- 29. NDVI VALUES IN DETERMINATION OF MEADOWS BIOMASS FOR QUANTITATIVE EVALUATION AND CARTOGRAPHY**, PhD Student Mihai Simon, Prof. PhD Cosmin-Alin Popescu, PhD Student Petru Rain, PhD Loredana Copăcean, Prof. PhD Luminița Cojocariu, Banat University of Agricultural Sciences and Veterinary Medicine King Michael I of Romania from Timisoara, Romania227
- 30. OPTIMIZATION OF β -1,4—GLUCOSIDASE AND ACID PHOSPHATASE ENZYME METHODS FOR AGRICULTURAL SOIL STUDIES**, Gulnaz Galieva, Prof. Dr.Svetlana Selivanovskaya, Ph.D. Polina Galitskaya, Kazan (Volga Region) Federal University, Russia.....235
- 31. POSSIBILITIES OF METAL RECOVERY FROM SEDIMENT FROM SLUDGE DISPOSAL SITE**, Dr. Iva Janakova, Mgr. Hana Kovarikova, Assoc. Prof. Dr. Vladimir Cablik, Ing. Sarah Janstova, VSB-Technical University of Ostrava, Czech Republic.....243
- 32. POTENTIAL APPLICATION OF BIODEGRADABLE POLYMER – POLY(3-HYDROXYBUTYRATE) – IN DESIGNING OF NEW GENERATION FORMULATIONS OF AGROCHEMICALS**, Prof. Svetlana Prudnikova, Prof. Natalia Zhila, Prof. Ekaterina Shishatskaya, Prof. Tatiana Volova, Siberian Federal University, Russia.....251
- 33. QUALITY EVALUATION OF VINEGAR OBTAINED FROM BANANA PEEL**, Assoc. Prof. Dr.Ancuta Elena Prisacaru, Prof. Dr.Mircea Adrian Oroian, Stefan cel Mare University of Suceava, Romania259
- 34. RESISTANCE AND VIRULENCE GENE PROFILES IN KLEBSIELLA PNEUMONIAE AND ACINETOBACTER BAUMANNII STRAINS ISOLATED FROM HOSPITALIZED PATIENTS**, PhD student Daniela-Cristina MIHAI (BĂȘA), Prof. Dr. Mariana Carmen CHIFIRIUC, Lecturer Dr. Irina GHEORGHE, Assoc. Prof. Dr. Lia-Mara DIȚU, Prof. Dr. Grigore MIHĂESCU, University of Bucharest, Romania.....265
- 35. THE APPLICATION OF PECTINASE IN THE LINGONBERRY-JUICE PRODUCTION: THE IMPACT ON THE YIELD AND COMPOSITION OF BIOLOGICAL VALUABLE COMPONENTS**, PhD student Natalia Kuzmina, Master grade student Aleksandra Krasilnikova, Assoc. Prof. PhD Konstantin Terentyev Prof. DSc. Evgenii Novozhilov, Northern Arctic Federal University, Russia275
- 36. THE CHARACTERIZATION OF THE MAIN MACROALGAE FROM ROMANIAN BLACK SEA COAST WITH POTENTIAL OF BIOTECHNOLOGICAL USE**, PhD Daniela Mariana Rosioru, PhD Andra Oros, PhD Valentina Coatu, PhD Elena Stoica, PhD student Oana Marin, N.I.M.R.D. Grigore Antipa, Romania.....283
- 37. THE INFLUENCE OF FUCOSE-CONTAINING COMPONENTS IN THE COMPOUND FEED ON THE FISH-BIOLOGICAL AND PHYSIOLOGICAL PARAMETERS OF STURGEON LARVAE**, Assoc. prof. E. Anokhina, Student M. Isuwa, Assoc. prof. S. Startseva, Prof. Dr. O. Komeeva, Voronezh State University of Engineering Technologies, Russia291
- 38. THE INFLUENCE OF LIPASE AND CARBOXYLESTERASE ENZYMES ON THE RHEOLOGICAL CHARACTERISTICS OF WHEAT FLOUR**, Assoc. Prof. Dr. Ioan David, Assoc. Prof. Dr. Ariana Velciov, Assoc. Prof. Dr. Mișcă Corina, Lect. Dr. Gabriel Bujancă, Banat University of Agricultural Sciences and Veterinary Medicine King Michael I of Romania from Timisoara, Romania299
- 39. THE STUDY OF THE INFLUENCE OF RIPENING CONDITIONS ON THE TENDERNESS AND FRESHNESS OF POULTRY MEAT**, Assoc. Prof. Dr. Iuliana Manea, B.Sc. Radu Iulian Preda, Valahia University of Targoviste, Romania.....307
- 40. USING OF OXIDATIVE STRESS FOR IMPROVEMENT OF LACTIC ACID BIOSYNTHESIS**, Derunets A.S., Mendeleev University of Chemical Technology of Russia, Russian Federation.....315
- 41. UTILIZATION OF CULTURE MEDIUM FILTRATE AFTER DEPROTEINIZED SUNFLOWER MEAL FERMENTATION**, Baurina A.V., Dr. Baurin D.V., Epishkina J.M., Assoc. Prof. Dr. Shakir I.V., Prof. Dr. Panfilov V.I., Mendeleev University of Chemical Technology of Russia, Russia323

GREEN BUILDINGS TECHNOLOGIES AND MATERIALS

- 42. ASSESSMENT OF WORK ACCIDENTS IN HIGHWAY, STREET AND BRIDGE CONSTRUCTION**, Lecturer Atiye Bilim, Prof. Dr. Osman Nuri Celik, Konya Technical University, Turkey333
- 43. CONTEMPORARY TIMBER BUILDINGS**, Eng. Arch. Janusz Barnaś, Ph.D., Cracow University of Technology, Poland341
- 44. COST MANAGEMENT OF SUSTAINABLE BUILDINGS THROUGH BIM TECHNOLOGY**, Assoc. Prof. Dr. Peter Mesároš, Eng. Jana Smetanková, Dr. Katarína Krajníková, Dr. Tomáš Mandičák, Technical University of Kosice - Faculty of Civil Engineering, Slovakia.....349
- 45. DECISION-MAKING DILEMMAS IN MINING ENTERPRISE AND ENVIRONMENTAL ISSUES, I. E. GREEN THINKING IN MINING**, MSc. Kinga Stecula, Silesian University of Technology, Poland357
- 46. DEFINING CRITERIA IN A DECISION-MAKING PROCESS**, Assoc. Prof. Dr. Elżbieta Szafrank, Faculty of Geodesy, Geospatial and Civil Engineering, University of Warmia and Mazury in Olsztyn, Poland365
- 47. DEVELOPMENT OF FIRE IN A CLT COMPARTMENT AND ITS IMPACT ON FIRE SAFETY OF CABLES**, Ing. Igor Wachter, PhD., Miss Teagan Macdonald, Miss Carmen Gorska Putynska, Dr Juan Hidalgo Medina, Doc. Ing. Jozef Martinka, PhD., Faculty of Material Science and Technology in Trnava STU in Bratislava, Slovakia371
- 48. ENVIRONMENTAL IMPACT ASSESSMENT OF RESIDENTIAL HOUSING ESTATES**, Assoc. Prof. Dr. Elżbieta Szafranko, University of Warmia and Mazury in Olsztyn, Poland379
- 49. EXPERIMENTAL AXIAL FAN WITH GEOPOLYMER BLADES**, Robin Hron, František Martaus, Martin Kadlec, Roman Růžek, Czech Aerospace Research Centre, Czech Republic385
- 50. FACILITY MANAGEMENT AS THE TOOL FOR OPTIMIZING OPERATING COSTS AND PROCESSES IN LITHUANIA AND IN CZECH REPUBLIC**, Veronika Roudná, M.Sc. et M.Sc., Zuzana Mrňová, M.Sc., Assoc. Prof. Dr. Natalija Lepkova, Assoc. Prof. Alena Tichá, M.Sc., Ph.D., Michal Prak, M.Sc., Brno University of Technology Faculty of Civil Engineering, Czech Republic.....393
- 51. HEAT LOSSES OF BUILDINGS. DESIGN AND REALITY?**, Ing. Josef Čech, Ph.D., Ing. Pavel Klika, Ph.D., Brno University of Technology, Czech Republic403

- 52. HYBRID JOINT TESTING PROGRAM. TESTING OF COMPONENT MATERIALS**, Prof. Dr. Cristina Campian, Dr. Maria Pop, Lect. Dr. Nicolae Chira, Prof. Dr. Kiss Zoltan, Technical University of Cluj-Napoca. Building Services Engineering Department, Romania411
- 53. IMPACT OF INITIATOR PLACEMENT ON IGNITION OF THE VERTICALLY POSITIONED ELECTRICAL CABLE**, Dr. Peter Rantuch, Dr. Tomáš Štefko, Assoc. Prof. Dr. Jozef Martinka, Dr. Igor Wachter, Dr. Hana Kobeticova, Slovak University of Technology Bratislava, Slovakia419
- 54. IMPACT OF ISOPERIBOL HEATING ON FIRE RESISTANCE OF ELECTRICAL CABLES USING SAFETY CALORIMETER SEDEX**, Dr. Hana Kobetičová, Dr. Tomáš Štefko, Dr. Igor Wachter, Assoc. Prof. Dr. Jozef Martinka, Dr. Peter Rantuch, Slovak University of Technology Bratislava, Slovakia427
- 55. INTEGRATED ROOFTOP GREENHOUSES AND GREEN SKYLINE CITIES**, Prof. Marius M. Balas, Assoc. Prof. Jelena Nicolic, Prof. Ramona Lile, Assist. Prof. Mihaela Popa, Assist. Prof. Roxana Beiu, University Aurel Vlaicu of Arad, Romania.....435
- 56. INTEGRATING PHASE CHANGE MATERIALS IN PASSIVE HOUSES**, Prof. Dr. Eng. Gheorghe Badea, PhD Student Eng. Alexandru-Mihai Gagea, PhD Student Eng. Veronica Gagea-Manițiu, PhD Student Eng. Alexandru Bădiță, PhD Student Eng. Marius Dumitrescu, Technical University of Cluj-Napoca, Romania.....445
- 57. INTERFEROMETRIC RADAR TECHNOLOGY IN CONSTRUCTION MONITORING**, Lecturer Dr. Tudorel Silviu Clinci, Associate Professor Dr. Aurel Sărăcin, Associate Professor Dr. Aurel Florentin Negrilă, Technical University of Civil Engineering of Bucharest, Romania453
- 58. LIGHTWEIGHTED PLASTERS USING PERLITE, LIME AND RECYCLED FINALLY GROUND BRICK POWDER**, Ing. Monika Čáchová, Ph.D., Ing. Dana Koňáková, doc. Ing. Eva Vejmelková, Ph.D., Mgr. Martin Vyšvařil, Ph.D., prof. RNDr. Pavla Rovnaníková, CSc., CTU in Prague-Faculty of Civil Engineering, Czech Republic.....461
- 59. MICROSTRUCTURE OF GYPSUM PASTE AT ELEVATED TEMPERATURES**, Jitka Krejsová, Magdalena Doleželová, Assoc. Prof. Dr. Alena Vimmrová, CTU in Prague-Faculty of Civil Engineering, Czech Republic471
- 60. NEW TRENDS IN FIRE TESTING OF ELECTRICAL CABLES**, Assoc. Prof. Jozef Martinka, PhD., Igor Wachter, PhD., Tomáš Štefko, PhD, Peter Rantuch, PhD., Hana Kobetičová, PhD., Faculty of Material Science and Technology in Trnava STU in Bratislava, Slovakia479

61. SOCIAL OWNED ENTERPRISES AS A TOOL IN GREEN ECONOMY CONTEXT , Msc. Rrezarta HAJDAJ, Prof. Ass. Dr. Ibrahim KRASNIQII - Corresponding Author, Prof. Ass. Dr. Bedri Statovci, Dr. Sc. Naim ISMAJLI, University Haxhi Zeka - Peja, Kosovo.....	487
62. STRATEGY OF THE HOUSE WITH SIDE WINDOWS AND ITS ROLE OF THERMAL REGULATOR IN A HOT-DRY CLIMATE A GHARDAIA , M. Hamdani, S.M.A. Bekkouche, T. Benouaz, M.K. Cherier, R. Belarbi, Unite de Recherche Appliquee en Energies Renouvelables URAER Centre de Developpement des Energies Renouvelables CDER 47133, Ghardaia Algeria, Algeria.....	495
63. STUDIES BASED ON CEMENT MORTAR COMPOSITES WITH BLAST FURNACE SLAG POWDER AND ULTRAFINE SILICA , PhD St. Liliana Maria Nicula, Senior Scientific Researcher. PhD. Eng. O. Corbu, Prof. PhD. Eng. M. Iliescu, Technical University of Cluj-Napoca, Romania.....	505
64. STUDY OF THE IMPACT OF GLAZING TYPE AND ITS LAYOUT ON THE INTERIOR ENVIRONMENT OF A HABITAT , M.K. Cherier, S.M.A. Bekkouche, T. Benouaz, M. Hamdani, R. Djeflal, Applied Research Unit on Renewable Energies, Algeria.....	515
65. SUSTAINABLE SELF-CONSOLIDATING CONCRETE MIXTURE DEVELOPMENT FOR USE IN PREFABRICATED CONCRETE NEW JERSEY BARRIERS , Sepehr Ghafari, Ofelia Corbu, Technical University of Cluj-Napoca, Romania.....	523
66. SUSTAINABILITY TROUGH BIM TECHNOLOGY IN CONSTRUCTION INDUSTRY , Assoc. Prof. Peter Mesároš, Assist. Prof. Tomáš Mandičák, Assist. Prof. Marcela Spišáková, Technical University of Kosice - Faculty of Civil Engineering, Slovakia.....	531
67. SUSTAINABLE DESIGN OF CONSTRUCTION THROUGH WASTE MANAGEMENT USING BUILDING INFORMATION MODELLING , Assoc. Prof. Ing. Peter Mesaros, PhD., Ing. Marcela Spisakova, PhD., Ing. Tomas Mandicak, PhD., Technical University of Kosice - Faculty of Civil Engineering, Slovakia.....	537
68. TECHNOLOGY OF MONITORING A WALL PREFABRICATED IN POLYTECH SYSTEM , Prof. dr hab. inż. Janusz Juraszek, mgr inż. arch. Hubert Walusiak, University of Bielsko-Biala, Poland.....	545
69. TECHNOLOGY OF MONITORING THE JOIST SLAB USED IN A BUILDING CONSTRUCTED IN THE POLYTECH SYSTEM , Prof. dr hab. inż. Janusz Juraszek, mgr inż. arch. Hubert Walusiak, University of Bielsko-Biala, Poland.....	555
70. THE CHANGES OF THE STRUCTURE OF THE PEOPLE STAYING AT ROOM IN THE CONSIDERATIONS OF THE HUMAN HEAT EMISSION AND THE GREEN BUILDINGS DESIGN , Assist. Prof. Ph.D. Eng. Paweł Albert Jelec, Cardinal Stefan Wyszyński University in Warsaw, Poland.....	563
71. THE COMFORT OF USE OF ROOMS IN AN OFFICE BUILDING IN A SELECTED TIME OF YEAR , Dr inż. Konrad Sikora, Prof. dr hab. inż. Janusz Juraszek, Prof. dr hab. inż. arch. Marcin Furtak, University of Bielsko-Biala, Poland.....	571
72. THERMAL ANALYSIS OF SOLAR CELL USING IN BIPV , Prof. Dr. Eng. Gheorghe Badea, PhD Student Eng. Veronica Gagea-Manițiu, PhD Student Eng. Alexandru-Mihai Gagea, PhD Student Eng. Alexandru Bădiță, PhD Student Eng. Marius Dumitrescu, Technical University of Cluj-Napoca, Romania.....	579
73. USING OF SUPPLEMENTARY MATERIAL IN CONCRETE PRODUCTION RESPECTING THE ENVIRONMENT PROTECTION TECHNOLOGIES , Assist. prof. Dr. Vlasta Ondrejka Harbulakova, Prof. Dr. Adriana Estokova, Eng. Michaela Smolakova, Dr. Alena Luptakova, Technical University of Kosice - Faculty of Civil Engineering, Slovakia.....	587
GREEN DESIGN AND SUSTAINABLE ARCHITECTURE	
74. ACTUAL CONDITION OF WOODY PLANTS AND DEVELOPMENT OF SUSTAINABLE ASSORTMENT FOR GREENING OF SAINT PETERSBURG (RUSSIA) IN CHANGING CLIMATE , Assoc. Prof. Dr. Alexander Egorov, Assoc. Prof. Dr. Elena Fatianova, Saint Petersburg State University - Institute of Earth Sciences, Russia.....	597
75. AIRTIGHTNESS OF ENERGY-EFFICIENT BUILDINGS IN THE UK , Dr. Michal Kraus, The Institute of Technology and Business in Ceske Budejovice, Czech Republic.....	605
76. ANALYSIS OF A TANK USED FOR THE PURPOSES OF ECOLOGICAL PURIFICATION OF WATER , Ing. Lenka Uhlířová, Prof. Norbert Jendželovský, PhD., Slovak University of Technology in Bratislava - Faculty of Civil Engineering, Slovakia.....	613
77. ANALYTIC STUDY OF THERMAL BRIDGES MET AT HIGH PERFORMANCE ENERGY EFFICIENT BUILDINGS , Assoc. Prof. Dr. Ligia Moga, Prof. Ioan Moga, Technical University of Cluj-Napoca, Romania.....	621
78. ARCHITECTURAL GERONTOLOGY AND PRINCIPLES OF EXPERT EVALUATION OF MASS SOCIAL HOUSING , Assoc. Prof. Dr. Boris Krundyshev Architect Ethan Haezrahi, Architect Konstantin Krundyshev, Central Research and Design Institute for Residential Construction, Russia.....	627

79. BIM AND MULTI-LEVEL COMPLEX CONSTRUCTION DATABASE FOR SUSTAINABLE DESIGN , PhD Susanna Fulop, Budapest University of Technology and Economics, Hungary.....	637
80. CALCULATIONS OF COST-OPTIMAL LEVELS OF ENERGY PERFORMANCE REQUIREMENTS FOR RENOVATED BUILDINGS AND BUILDING ELEMENTS: A LATVIAN CASE , Dr. phys. Staņislavs Gendelis, Mg.oec. Mikus Miķelsons, Assoc. Prof., Dr. phys. Andris Jakovičs, University of Latvia, Latvia.....	645
81. CREATIVE COMPETITIONS AS AN ELEMENT OF THE QUALITY MANAGEMENT SYSTEM FOR ARCHITECTS' TRAINING , Prof. Dr. Elena Mishchenko, Prof. Dr. Pavel Monastyrev, Associate Prof. Oleg V. Evdokimtsev, Associate Prof. Taisiya V. Starkova, Tambov state technical university-Technological institute, Russia.....	653
82. CUBAN ARCHITECTURE - CULTURAL CONTINUITY AND THE IDENTITY OF THE PLACE , Ewelina Galas MSc Eng. Arch., Eliza Owczarek MSc Eng. Arch., Cracow University of Technology, Poland.....	661
83. DEFENCE, ISOLATION, PROTECTION, CARE WALLS: A NEW PARADIGM , Lukas Patrick Olma, MSc arch, MA arch., Politechnika Krakowska Faculty of Architecture Institute of Architectural Design, Poland.....	669
84. DEVELOPMENT OF POROUS STRUCTURE OF CERAMIC-BASED GEOPOLYMERS , Assoc. Prof. Eva Vejmelková, M.Eng. Lenka Scheinherrová, M.Eng. Magdaléna Doleželová, Prof. Pavla Rovnaníková, Prof. Robert Černý, CTU in Prague-Faculty of Civil Engineering, Czech Republic	677
85. ECO-DEVELOPMENT OF REAL ESTATE AND PROSPECTS OF GREEN ECONOMY IN RUSSIA , Assoc. Prof. Dr. Vasily Nilipovskiy, State University of Land Use Planning, Russia.....	687
86. ENVIRONMENTAL PERSPECTIVE OF THERMAL INSULATION , Ing. Michal Kraus, Ph.D., Ing. et Ing. Petra Nováková, doc. Ing. Jaroslav Žák, CSc., The Institute of Technology and Business in Ceske Budejovice, Czech Republic	693
87. EXPLORING DETERMINING FACTORS OF INDOOR ENVIRONMENT QUALITY (IEQ) , Dr. Michal Kraus, The Institute of Technology and Business in Ceske Budejovice, Czech Republic.....	701
88. GREEN FAÇADES MADE OF PRECAST CONCRETE ELEMENTS. CASE STUDIES , Dr. Paweł Mika, Cracow University of Technology, Poland.....	707
89. GREEN LIBRARY MOVEMENT AS A DESIGN METHODOLOGY –CASE STUDY OF THE MUNICIPAL PUBLIC LIBRARY IN MIELEC , Msc Eng Arch. Marcin Gierbienis, Cracow University of Technology, Poland	715
90. IDENTIFICATION OF THE ENVIRONMENTAL CHARACTERISTICS OF URBAN AREAS AS A FACTOR OF FORMATION OF REAL ESTATE PRICES , M.Sc. Polina SilaevaM.Sc., Kamila Akhmedinova, Assoc. Prof. Dr. Margarita Redina, Prof. Dr. Aleksandr Khaustov, Peoples Friendship University of Russia - Ecological Faculty, Russia	727
91. PROSPECTS OF IMPLEMENTATION OF THE PRACTICE OF "GREEN OFFICE" OR "SUSTAINABLE OFFICE" IN RUSSIA. , Assoc. Prof. Tatiana Ledashcheva, Assoc. Prof. Vladimir Pinaev, Peoples Friendship University of Russia - Ecological Faculty, Russia	733
92. INDICATIONS OF MEGALITHIC CULTURE ON THE ISLAND OF BALI IN INDONESIA , Prof. Dr. Valdis Seglins, Dr. Agnese Kukela, M. sc. art. Baiba Lazdina, Agnese Kukela, Baiba Lazdina, University of Latvia, Latvia.....	743
93. INTERACTIVE VISUALIZATION TOOL – INVITO FOR SUSTAINABLE PLANNING , Ing. Martin Vojvodik, Assoc. Prof. Barbara Vojvodikova Ph.D., Mgr. Radim Fojtik, IURS - Institute for Sustainable Development of Settlements, Czech Republic.....	749
94. INTRODUCING SMART MOBILITY IN POLISH FUNCTIONAL URBAN AREAS WITH A USE OF INNOVATIVE INDIVIDUAL TRANSPORT SYSTEMS – SUPPLY AND DEMAND, DIVERSITY, SPATIAL DISTRIBUTION , Dr. Eng. Ada Wolny, University of Warmia and Mazury in Olsztyn, Poland.....	757
95. LEGACY OR FALLACY ENVIRONMENTAL IMPACT OF THE OLYMPIC GAMES , Dr. Bartosz Dendura, Politechnika Krakowska, Poland.....	765
96. MODELS OF PLANNING AND URBAN SPACE SHAPING ON THE EXAMPLE OF THE SCHARNHAUSER PARK ECODISTRICT, OSTFILDERN IN GERMANY , Assoc. Prof. Dr. hab. eng. arch. Rafał Blazy, Cracow University of Technology, Poland.....	777
97. PAPER. CRAFT AND INDUSTRY. SOCIAL SUSTAINABILITY AND CULTURAL HERITAGE , T. Assist. PhD Arch. Andreea Motu, Assoc. Prof. PhD Arch. Dorina Vlad, PhDs Arch. Fabian Luca, Technical University of Cluj-Napoca, Romania.....	785
98. ROLE OF CULTURAL BUILDINGS IN THE CITY , Eliza Owczarek Msc Eng. Arch., Cracow University of Technology, Poland	797
99. SIGNS ON MEGALITHS IN THE ENVIRONS OF ELVA AND EVORA IN PORTUGAL , Prof. Dr. Valdis Seglins, Dr. Agnese Kukela, M. sc. art. Baiba Lazdina, University of Latvia, Latvia.....	805

100. SPATIAL DEVELOPMENT CITY MODELS IN TRANSPORT SUSTAINABLE MOBILITY ISSUE, PhD Aleksandra Faron, Cracow University of Technology, Poland813

101. COMFORT AND COHESION IN OUTDOOR AND SEMI OUTDOOR SPACES IN SANLIURFA TRADITIONAL ARCHITECTURE, TURKEY, Assoc. Prof. Dr. Mücahit YILDIRIM, Dicle University, Turkey821

102. TENDENCIES IN THE SUSTAINABLE DESIGN OF THE ARCHITECTURE OF PUBLIC AND COMMERCIAL BUILDINGS IN GERMANY, Eng. Arch. Janusz Barnaś, Ph.D., Cracow University of Technology, Poland829

103. THE DEVELOPMENT OF ENVIRONMENTAL SAFETY LEGISLATION IN THE STATES - MEMBERS OF THE COMMONWEALTH OF INDEPENDENT STATES, Associate Professor, candidate of legal Sciences, Elena V. Vorontsova, Associate Professor, candidate of historical Sciences Andrey L. Vorontsov, Professor, doctor of legal Sciences, Tatyana N. Balashova, Southwest State University, Russia837

104. TRANSFORMATIONS OF URBAN SPACE IN THE VICINITY OF SELECTED MODERNISED RAILWAY STOPS IN KRAKOW, Dr inż. arch. Tomasz Bajwoluk, Cracow University of Technology, Poland845

105. URBAN GREEN AREAS IN THE CONTEXT OF THE MULTI-FAMILY HOUSING, MSc Eng. Arch – Rita Łabuz, Cracow University of Technology, Poland853

106. VERNACULAR UNDERGROUND HOMES AS SOURCE OF INSPIRATION FOR CONTEMPORARY RESIDENTIAL GREEN DESIGN, Assist. Prof. Dr. Arch. Ioana Mădălina Moldovan, Assist. Prof. Dr. Arch. Silivan Valentin Moldovan, Assoc. Prof. Dr. Eng. Nicoleta Maria Ilieş, Assist. Prof. Dr. Eng. Adrian Dan Berindean, Technical University of Cluj-Napoca, Romania861

ANIMALS AND SOCIETY

107. QUALTY ASSURENCE ISSUES OF FEED FLOURS PRODUCES BY SLAUGHTERHOUSE BY-PRODUCTS PROCESSING FODDER QUALITY AND SAFETY, Dr. Anita Csiba, Dr. Erzsebet Gyoker, Dr. Elemer Gergatz, University of Szeged Faculty of Agriculture, Hungary.....871

**A SOFTWARE-BASED
GENERATION FOR**

Dr. Andrey Kalin...

Igor Mitrofanov

Dr. Evgeniy L...

Prof. Dr. Ivan...

Mendeliev Univer...

ABSTRACTS

In this paper...

modeling of...

for energy...

chemistry...

completing...

allows to...

are present...

development...

will be...

process...

integrated...

which...

problem...

Keywords...

abstract...

DOI...

the...

it...

the...

SECTION

MICRO AND NANO TECHNOLOGIES