

20th International Multidisciplinary Scientific GeoConference (SGEM 2020)

Nano, Bio and Green - Technologies for a
Sustainable Future

SGEM International Multidisciplinary Scientific GeoConference
Volume 20, Issue 6.1

Albena, Bulgaria
18 - 24 August 2020

ISBN: 978-1-7138-2218-9

Printed from e-media with permission by:

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



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

Copyright© (2020) by International Multidisciplinary Scientific GeoConferences (SGEM)
All rights reserved.

Printed with permission by Curran Associates, Inc. (2021)

For permission requests, please contact International Multidisciplinary Scientific GeoConferences (SGEM)
at the address below.

International Multidisciplinary Scientific GeoConferences (SGEM)
51 Alexander Malinov Blvd.
fl 4, Office B5 1712
Sofia, Bulgaria

Phone: +359 2 405 18 41
Fax: +359 2 405 18 65

sgem@sgem.org

Additional copies of this publication are available from:

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

CONFERENCE PROCEEDINGS CONTENTS

SECTION MICRO AND NANO TECHNOLOGIES

1. **A MINIATURE DIRECTIONAL COUPLER ON THREE STUBS IMPLEMENTED ON A FLEXIBLE MICROWAVE SUBSTRATE**, Denis Letavin.....3
2. **A MINIATURIZATION STUDY OF A 3 DB DIRECTIONAL COUPLER AT DIFFERENT OPERATING FREQUENCIES**, Denis Letavin.....9
3. **BASICS OF FREE BONDING OF LENSES IN OPTOMECHANICAL ASSEMBLIES**, Ing. Pavel Novak, Ing. Tomas Hapla, Doc. Dr. Ing. Ladislav Kovar17
4. **COMPUTER SIMULATION OF POROSITY REDUCTION OF A CERAMIC COMPOSITE BASED ON AN OXYGEN-FREE MATRIX OF SILICON CARBIDE MODIFIED WITH PARTIALLY STABILIZED ZIRCONIA**, Anna Shaneva, Svetlana Lyovina, Prof. Dr. Eleonora Koltsova, Nelly Popova25
5. **DETECTION OF TOXIC EFFECT OF NANOSIZED MAGNESIUM OXIDE ON BRAIN TISSUE IN AN EXPERIMENT USING MULTIFRACTAL HISTOLOGY PREPARATIONS' IMAGE ANALYSIS**, Prof. Dr. Nina V. Zaitseva, Dr. Marina A. Zemlianova, Dr. Anna Ignatova, M. Sc. Mark S. Stepankov33
6. **EFFECT OF VISCOELASTIC MATERIAL IN TURNING TOOL HOLDER**, Dr.h.c. Karol Vasilko, Dr.Sc., Assoc. Prof. MSc. Zuzana Murcinkova, PhD41
7. **EVALUATION OF ENERGY DENSITY OF POLYMINERAL SANDS OF VARIOUS DEPOSITS**, PhD Marina Morozova, Prof. DSc. Marina Akulova, Assoc. Prof. PhD Maria Frolova, Prof. DSc. Yuliya Schepochkina47
8. **EVALUATION OF PAVEMENT SURFACE TEXTURE USING A 3D SCANNING DEVICE WITH HIGH RESOLUTION**, Assoc. Prof. Ing. Matus Kovac, Ing. Matej Brna, Assoc. Prof. Ing. Eva Remisova, Prof. Ing. Jan Celko, Prof. Dr. Ing. Martin Decky53
9. **HYDROXY-m-PHENOXYCYCLOTRIPHOSPHAZENES OF REDUCED FUNCTIONALITY AND EPOXY OLIGOMERS BASED ON THEM**, Assoc. Prof. Yulia Bilichenko, Prof. Vyacheslav Kireev, Vladislav Kirillov, Alexander Kolenchenko61

10. INFLUENCE OF THE STRUCTURE SUCCESSION ON THE VOLUME FRACTION OF MARTENSITE AND FERRITE MICROHARDNESS IN A DUAL-PHASE STEEL WITH LOW MANGANESE CONTENT, Assoc. Prof. Dr. Constantin Dulucheanu, Assoc. Prof. Dr. Traian Lucian Severin, Assoc. Prof. Dr. Luminita Irimescu, Eng. Emanuel Berariu, Assoc. Prof. Dr. Delia Aurora Cerlica.....	69
11. MODIFIED CLINOPTILOLITE AS PRECURSOR FOR FORMATION OF SILVER NANOPARTICLES-ZEOLITE NANOCOMPOSITES, Prof. Dr. Marinela Panayotova, Assoc. Prof. Dr. Neli Mintcheva, Assistant Prof. Dr. Gospodinka Gicheva, Assistant Prof. Dr. L. Djerahov, Assoc. Prof. Dr. N. Mirdzveli.....	77
12. NUMERICAL ANALYSIS OF KEY FACTORS IN SILICON CARBIDE MANUFACTURING PROCESS, Assoc. Prof. Dr. Maria Vartanyan, Assoc. Prof. Dr. Mariya Gordienko, Prof. Dr. Nikolay Makarov.....	85
13. PLACER TAILINGS: “NEW” NANOGOLD AND TECHNOLOGIES OF DEVELOPMENT, Prof. Boris Osovetsky	93
14. POSSIBILITIES OF A NANOSYSTEM APPROACH TO THE MANAGEMENT OF STRUCTURE FORMATION PROCESSES IN CEMENT PRODUCTION, Prof. DSc. Ekaterina Potapova, Prof. DSc. Yuriy Krivoborpdov, Prof. DSc. Tamara Kouznetsova, Assoc. Prof. Dr. Ivan Burlov, Prof. DSc. Svetlava Samchenko	101
15. PRELIMINARY STUDY ON THE ADSORPTION OF PETROLEUM HYDROCARBONS USING NATURAL ZEOLITIC TUFF FROM ROMANIA, Dr. Hoaghia Alexandra, Drd. Eniko Kovacs, Dr. Cecilia Roman, Dr. Marin Senila, Dr. Ioan Aschilean	109
16. PROPERTIES OF CEMENTS WITH CARBON NANOFIBERS GROWN ON KAOLIN CLAY, Prof. DSc. Ekaterina Potapova, Prof. DSc. Yuriy Krivoborpdov, Assoc. Prof. DSc. Sergey Sivkov, Assoc. Prof. DSc. Lyudmila Sycheva, Assoc. Prof. DSc. Ivan Burlov	117
17. STUDY AND ASSESSMENT OF ACCUMULATION AND TOXICITY OF CALCIUM OXIDE NANOPARTICLES INGESTED BY ORAL ADMINISTRATION, Prof. DSc. Nina Zaytseva, Prof. DSc. Marina Zemlyanova, M. Sc. Mark Stepankov, PhD Anna Ignatova	125
18. SYNTHESIS OF CARBON NANOTUBES BY CHEMICAL VAPOR DEPOSITION OF CH₄/H₂ MIXTURES: EXPERIMENTAL STUDY AND COMPUTER MODELING, Evgeniya Skichko, Prof. Dr. Eleonora Koltsova, Anna Shaneva	133

19. SYNTHESIS OF PARTIALLY OXIDIZED GRAPHITE OXIDE BY OXIDATION OF NANOGRAPHITE, Assoc. Prof. Ing. Ondrej Jankovsky, Bc. Boris Lochman, Ing. Jan Luxa, Ing. Michal Lojka, Prof. Dr. Ing. Zbyšek Pavlík.....	141
--	-----

SECTION ADVANCES IN BIOTECHNOLOGY

20. A STUDY ON INDUSTRIAL STRAINS OF LACTIC ACID BACTERIA PRODUCING BACTERIOCINS, PhD Natalya Khromova, Prof. Dr. Victor Panfilov, Ekaterina Marinicheva, Julia Epishkina, Assoc. Prof. Dr. Irina Shakir	151
---	-----

21. A STUDY ON THE HONEY COMPOUNDS IN SYNBIOTIC COMPOSITION FOR MICROBIAL FOOD CONTAMINANTS GROWTH INHIBITION, Svetlana Evdokimova, Assist. Prof. Boris Karetkin, Anna Kazanbaeva, Vera Nokhaeva, Prof. Victor Panfilov.....	159
---	-----

22. ANTIPROLIFERATIVE EFFECT OF POLYVINYLPIRROLIDONE- IODINE COMPLEX ON RHABDOMYOSARCOMA CELLS BY INDUCING CELL CYCLE ARREST, Assima Abekova, Roza Kenzhebekova, Assoc. Prof. DSc. Rinat Islamov, Prof. DSc. Armen Nersesyan, Prof. DSc. Alexandr Ilin	165
---	-----

23. BIOTECHNOLOGICAL PROCESS FOR PRODUCING PROTEIN PRODUCTS FROM CHICKPEAS WITH A HIGH BIOLOGICAL VALUE, PhD Student Denis Kulikov, Prof. DSc. Valentina Kolpakova, Prof. DSc. Marina Slozhenkina, PhD Ruzaliya Ulanova, PhD Ludmila Chumikina	175
---	-----

24. BIOTRANSFORMATION OF SQUID WASTE PROCESSING OF BERRYTERTHIS MAGISTER BY ENZYME OF MICROBIOLOGICAL ORIGIN, PhD Tatiana Ignatova, Tatiana Rodina, PhD Natalia Strokova, PhD Irina Igonina	183
--	-----

25. CHANGE OF QUALITATIVE CHARACTERISTICS OF DEEP-CHILLED RAINBOW TROUT FILLET WITH A GIVEN AMOUNT OF ICE WATER (NO MORE THAN 40%) DURING ITS LONG-TERM STORAGE, Cand. Sc. (Tech) Leonid Arkhipov, Dr. Sc. (Tech) Elena Kharenko, Cand. Sc. (Tech) Natalia Yarichevskaya, Anna Semushkina, Eng. Anastasia Kupriy	191
---	-----

26. CHARACTERIZATION OF THE FTIR SPECTRA OF BIOCATALYSTS BASED ON IMMOBILIZED HORSERADISH ROOT PEROXIDASE, Dr. Olga Grebennikova, Aleksandrina Sulman, Prof. Valentina Matveeva, Dr. Natalia Lakina, Dr. Irina Shkileva.....	199
---	-----

27. COMPARATIVE GENOMICS OF THE SINORHIZOBIAL PHILM21-LIKE INTACT PROPHAGES ON COMPLETE CHROMOSOMES, Msc. Alexandra Kozlova, Researcher Victoria Muntyan, Researcher Maria Vladimirova, PhD Mikhail Grudinin, PhD Marina Roumiantseva	207
--	-----

28. CRISPR/CAS IN GENOMES OF SINORHIZOBIUM MELILOTI , Mariia Vladimirova, Viktoria Muntyan, Aleksandra Kozlova, PhD Mikhail Grudinin, PhD Marina Roumiantseva.....	215
29. CRYPTIC PLASMIDS ESSENTIAL FOR <i>SINORHIZOBIUM MELILOTI</i> FITNESS , Alla Saksaganskaia, Mariia Vladimirova, Alexey Afonin, Prof. Dr. Boris Simarov, PhD Marina Roumiantseva	223
30. DEVELOPMENT OF TECHNOLOGY FOR THE PROCESSING OF BEANS IN PROTEIN PRODUCTS AND BIOFUEL , Viktoria Silchenko, Dr. Ekaterina Prutenskaya, Prof. Esther Sulman, Dr. Antonina Stepacheva, Prof. Mikhail Sulman	231
31. DEVELOPMENT OF TECHNOLOGY FOR THE PROCESSING OF ORGANIC WASTE AND RENEWABLE PLANT MATERIALS WITH THE PRODUCTION OF BIOLOGICALLY ACTIVE SUBSTANCES FOR AGRICULTURAL PURPOSES , Assoc. Prof. DSc. Vladimir Molchanov, PhD Natalia Fomicheva, PhD Yulia Smirnova, Assoc. Prof. Dr. Alexander Sidorov, Prof. DSc. Valentina Matveeva.....	237
32. ENZYMATIC KINETICS OF THE OXIDATION OF 2,3,6-TRIMETHYLPHENOL IN THE PRESENCE OF IMMOBILIZED PEROXIDASE , Dr. Olga Grebennikova, Ms. Aleksandrina Sulman, Dr. Elena Shimanskaya, Prof. Esther Sulman, Dr. Valentin Doluda.....	245
33. IMPACT OF TEXTILE INDUSTRY WASTEWATER ON MICROORGANISMS OF ACTIVATED SLUDGE , Marie Pavlikova.....	253
34. METAL IONS BINDING TO AMYLOID-BETA AND NEUROPROTECTIVE NAP-LIKE PEPTIDES: MS, FT-IR AND AFM INVESTIGATIONS , PhD Laura Ion, PhD Student Monica Jureschi, Dr. Ancuta Veronica Lupaescu, PhD Brindusa Alina Petre, Prof. Dr. Gabi Drochioiu.....	259
35. MICROBIOLOGICAL ASPECTS OF ORGANIC FERTILIZERS PRODUCTION THROUGH FAST FERMENTATION OF ORGANIC FEEDSTOCK , PhD Natalia Fomicheva, Prof. Galina Rabinovich, Dr. Ekaterina Prutenskaya, Dr. Antonina Stepacheva, Ms. Natalia Shuvalova.....	267
36. OPTIMIZATION OF ENZYMATIC PROCESS OF SYNTHESIS OF PROTEIN COMPOSITIONS FROM PLANT BASED PROTEINS WITH THE USE OF TRANSGLUTAMINASE , PhD Student Irina Gaivoronskaya, Prof. DSc. Valentina Kolpakova, PhD Ludmila Chumikina.....	273
37. OPTIMIZATION OF EXTRACTION METHODS FOR EXTRACTING PECTIN FROM BEET PULP , Prof. DSc. Ashimkhan Kanayev, Prof. DSc. Kuat Baimyrzayev, Cand. Aizhan Akmullayeva, Ms. Kenzhegul Askarbekova, Ms. Gulnaz Talgarbayeva	281

- 38. PHYLOGENETIC ANALYSIS OF VERTICALLY AND HORIZONTALLY ACQUIRED GENES RESPONSIBLE FOR SALT TOLERANCE OF NITROGEN-FIXING α -PROTEOBACTERIA**, Victoria Muntyan, PhD Elena Antonova, Alexey Muntyan, Dr. Boris Simarov, PhD Marina Roumiantseva287
- 39. PROTEIN HYDROLYSATE AS A PRODUCT OF BIOTECHNOLOGICAL PROCESSING OF FISH FILLETING WASTE**, PhD Nikita Zarubin, PhD Natalia Strokova, Dr. Elena Kharenko, Dr. Olga Bredikhina.....295
- 40. SELECTION OF TYPE OF POLYSACCHARIDE CARRIER FOR ENCAPSULATION OF MEDICINES**, Dr. Alla Krasnoshtanova, Darya Kovaleva, Denis Prikhodko303
- 41. TESTING OF SOME MAIZE HYBRIDS FROM CROATIA IN THE AGROECOLOGICAL CONDITIONS OF KOSOVO**, Ass. Prof. Dr. Arsim Elshani, Ass. Prof. Dr. Nazmi Hasani311

SECTION GREEN BUILDINGS TECHNOLOGIES AND MATERIALS

- 42. A STUDY OF DEGRADATION RATE AND STRENGTH OF BIODEGRADABLE COMPOSITES**, Assist. Guzel Ilalova, Assoc. Prof. Nour Galyavetdinov, Prof. Ruslan Safin, Assoc. Prof. Shamil Mukhametzyanov, Assoc. Prof. Ruslan Khasanshin321
- 43. CHARACTERIZATION OF MAGNESIUM POTASSIUM PHOSPHATE CEMENT MORTAR MODIFIED WITH BIOMASS ASH ADMIXTURE**, PhD Ing. Martina Zaleska, Prof. Ing. PhD Milena Pavlikova, Ing. Adam Pivak, Prof. Ing. PhD Zbysek Pavlik329
- 44. COMPARISON OF VARIOUS MEASURES TO REDUCE THE TEMPERATURE IN THE ATTIC ROOM IN SUMMER**, Katerina Stejskalova, David Bujdos335
- 45. DEVELOPMENT OF ADVANCED THERMAL AND ACOUSTIC INSULATION MATERIALS BASED ON FOAM GLASS AGGREGATE**, Assoc. Prof. Ing. Jiri Zach, Ing. Jan Bubenik, Ing. Martin Sedlmajer, Ing. Petra Zachova343
- 46. DEVELOPMENT OF ADVANCED THERMAL AND ACOUSTIC INSULATION MATERIALS BASED ON RECYCLED PES FIBERS**, Ing. Petra Zachova, Assoc. Prof. Ing. Jiri Zach Zach, Ivana Toserova, Ing. Vitezslav Novak351
- 47. ELECTRICAL PROPERTIES AND SELF-HEATING ABILITY OF ALKALI-ACTIVATED SLAG WITH GRAPHITE POWDER**, Dr. Lukas Fiala, Michaela Petrikova, Prof. Dr. Robert Cerny359

48. EXPERIMENTAL MEASUREMENT OF THERMAL PROPERTIES OF THE PERIMETER WALL OF A HISTORIC BUILDING, Nikola Vavrinova, Katerina Stejskalova, Lenka Pentkova	367
49. LIFE CYCLE: COMPARATIVE APPROACH OF EUROPEAN COUNTRIES, Assoc. Prof. DSc. Maria Frolova, Assoc. Prof. DSc. Anna Shinkaruk, Assoc. Prof. DSc. Tatyana Makhova, Dr. Priyadharshini Perumal, Dr. Iveta Novakova.....	375
50. LIGHTWEIGHT PLASTERS FOR CONTROL OF INDOOR CLIMATE - COMPLEX ASSESSMENT OF FUNCTIONAL PARAMETERS, Prof. Ing. Zbysek Pavlik, Ing. Simon Marusiak, Ing. PhD Martina Zaleska, Ing. PhD Pavel Reiterman, Prof. Ing. PhD Milena Pavlikova	383
51. MAGNESIUM OXYCHLORIDE CEMENT-BASED COMPOSITES WITH FLY ASH ADMIXTURE, Prof. Ing. PhD Milena Pavlikova, Ing. Adam Pivak, Ing. PhD Martina Zaleska, Prof. Ing. PhD Zbysek Pavlik.....	389
52. NATURAL FIBER COMPOSITES AN ALTERNATIVE FOR STRUCTURAL STRENGTHENING, Assist. Prof. Dr. Ivelina Ivanova, Assoc. Prof. DSc. Jules Assih	395
53. OZONE PROCESSING AS A METHOD FOR INCREASING ADHESIONAL PROPERTIES OF WOOD, Assist. Prof. Albina Kh. Safiullina, Prof. Ruslan R. Safin, Assoc. Prof. Shamil R. Mukhametzyanov, Assistant Gulnaz A. Sabirova, Assoc. Prof. Aigul R. Shaikhutdinova	403
54. POTENTIAL FOR THE INCLUSION OF SUSTAINABILITY ASPECTS IN LIMIT STATES FOR CONCRETE, Dipl. Eng. Kristyna Hrabova, Dipl. Eng. PhD Dita Vorechovska, Prof. Dipl. Eng. CSc. Bretislav Tepy	411
55. POZZOLANIC ACTIVITY ASSESSMENT OF SOME MINERAL ADDITIVES USED IN ROLLER COMPACTED CONCRETE FOR DAM CONSTRUCTION, Yara Waheeb Youssef, PhD Oksana Larsen, Prof. DSc. Svetlana Samchenko, PhD Olga Aleksandrova, PhD Boris Bulgakov	419
56. PROPERTIES OF ALKALI-ACTIVATED COMPOSITE MATERIALS DERIVED FROM RED-CLAY CERAMICS, Prof. Ing. DSc. Robert Cerny, Ing. Vojtech Pommer, Doc. Ing. PhD Eva Vejmelkova, Doc. Ing. PhD Martin Keppert, Ing. PhD Lenka Scheinherrova	427
57. SIMULATION MODEL FOR DESIGNING A HYBRID ENERGY SYSTEM FOR RESIDENTIAL APPLICATION, PhD Raluca - Andreea Felseghi, Drd. Eng. Maria Simona Raboaca, Dr. Andrei Bolboaca	435
58. THE EFFECT OF COAL ADDITIVE TYPE ON PROPERTIES OF CEMENT PASTES, PhD Eng. Jaroslav Pokorny, MSc. PhD Radek Sevcik, Eng. Jiri Sal	443

59. THEORETICAL AND EXPERIMENTAL RESEARCHES REGARDING THE QUALITY OF CONCEALED WORKS BASED ON THE RISKS ANALYSIS GENERATED BY WELDED JOINTS, PhD.c. Eng. Pironea Bianca451

60. ULTRAVIOLET TREATMENT FOR IMPROVING WOOD FILLER PHYSICAL PROPERTIES IN COMPOSITE PRODUCTION, Assistant Guzel Ilalova, Prof. Ruslan Safin, Assoc. Prof. Shamil Mukhametzyanov, Assistant Raliya Khasanshina, Assoc. Prof. Natalia Kraysman459

SECTION GREEN DESIGN AND SUSTAINABLE ARCHITECTURE

61. A LANDSCAPE ECOLOGY INVESTIGATION: THE DEMAND FOR GREEN INFRASTRUCTURE IN THE DESIGN OF DISASTER-STRUCK AREAS, Prof. Dr. Naoko Fujita, Atom Edao469

62. ANALYSIS OF INTERSECTION WITH TRAFFIC LIGHTS AND TRAM TRAFFIC, Ing. David Macha, Assoc. Prof. Dr. Vladislav Krivda, Assoc. Prof. Dr. Jan Petru, Ing. Jakub Novak483

63. ANALYSIS OF PARKING ISSUES AND AUTOMATIC PARKING SYSTEMS IN THE CZECH REPUBLIC, Ing. Simona Miksikova, Ing. Irena Steinova, PhD Ing. Dagmar Kuta491

64. ANALYSIS OF PUBLIC SPACES INTENDED FOR CHILDREN IN THE MORAVIAN-SILESIA REGION OF THE CZECH REPUBLIC, Ing. Irena Steinova, Ing. Simona Miksikova, PhD Ing. Dagmar Kuta499

65. BUILDING IN GREENFIELD AS A MAIN NEGATIVE OF NEW CYCLE PATHS: QUALITATIVE CASE STUDY, Dr. Emil Drapela507

66. CONTEMPORARY RESIDENTIAL ARCHITECTURAL DESIGN IN TERMS OF INDOOR ENVIRONMENTAL QUALITY, Kristyna Schulzova, Assoc. Prof. Dr. Daniela Bosova.....515

67. CULTURAL HERITAGE OF SMALL SACRAL ARCHITECTURE IN SPIŠŤ REGION IN SLOVAKIA, PhD Denisa Halajova, Prof. Dr. Peter Halaj.....523

68. DESIGN TRAFFIC LIGHTS FOR ATYPICAL INTERSECTION, Ing. Kristyna Plocova, Ing. David Fibich531

69. ECOLOGICAL AND BIOLOGICAL CHARACTERISTICS OF SHRUBS IN THE URBAN ECOSYSTEMS OF KHERSON (UKRAINE), PhD Tetyana Boiko, PhD Ruslana Melnyk, Prof. Sergii Kovalevskiy, PhD Liubov Boiko, PhD Pavel Boiko539

70. ECOLOGICAL URBANISM - SOME FACTS AND ISSUES, Assistant Antonina Atanasova	549
71. ECONOMIC EVALUATION OF THE ENVIRONMENTAL IMPACTS OF CURRENT SYSTEMS FOR FLAT ROOFS, Ing. PhD Michal Kraus, Prof. Ing. CSc. Ingrid Juhasova Senitkova.....	555
72. EFFICIENCY OF GREEN ROOFS WITH DIFFERENT DEPTH AND WAYS TO REFLECT IT IN THE LEGISLATIVE REQUIREMENTS, PhD Mariam Bozhilova, Prof. Dr. Miglena Zhiyanski	561
73. INDOOR NO_x POLLUTION OF INDOOR WORKING ENVIRONMENT, Ing. PhD Michal Kraus, Prof. Ing. CSc. Ingrid Juhasova Senitkova	567
74. INFLUENCE OF DIMENSIONAL AND MATERIAL DEVICES OF CROSS-SECTION ON THE AXIAL AND FLEXURAL STRENGTH OF STEEL MEMBERS, prof. Ing. Pavol Juhás, DrSc., prof. Ing. Ingrid Juhásová Šenitková, CSc	573
75. MULTIMODAL NODES IN THE SYSTEM OF INTEGRATED PUBLIC TRANSPORT, PhD Gabriel Balint, Marek Branis, PhD Silvia Capayova, PhD Dominika Hodakova, PhD Andrea Zuzulova.....	579
76. OPPORTUNITIES FOR BUILDING ECOLOGICAL URBANISM THROUGH SOCIO-ECONOMIC COHESION, DEVELOPMENT OF MOBILITY AND IMPROVEMENT OF INFRASTRUCTURE IN THE BORDER MUNICIPALITIES BETWEEN THE REPUBLIC OF BULGARIA AND THE REPUBLIC OF SERBIA: CHIMERA OR REALITY, Chief. Assist. Prof. Dr. Metodi Ivanov	587
77 ORNAMENTAL WOODY PLANTS ASSORTMENT EXPANSION IN LANDSCAPING THE CITIES OF SOUTHERN UKRAINE, PhD Tetyana Boiko, PhD Olha Dementieva, Postgraduate Viktoria Omelianova, Postgraduate Lydmila Strelchuk.....	595
78. QUALITY OF GREEN SPACES IN THE CITY OF NITRA IN TERMS OF RECREATIONAL CULTURAL ECOSYSTEM SERVICE PROVISION, Prof. Dr. Zdenka Rózová, Dr. Martina Turanovičová, Dr. Attila Tóth.....	603
79. QUICK AND RELIABLE ONLINE TOOL FOR ASSESSING THERMAL BRIDGES, Assoc. Prof. Ligia Moga, Ioan Moga	611
80. REPAIR POSSIBILITIES FOR MELAMINE FACED CHIPBOARD, Lecturer Dr. Arh. Camil Octavian Milincu, Associate Professor PhD Arch. Arh. Andrei Racolta, Lecturer Dr. Arh. Otilia Alexandra Tudoran	617

81. RISK AND INTEGRATIVE APPROACH TO INDOOR ENVIRONMENT QUALITY IN BUILDINGS , Ing. Michal Kraus, Ph.D., prof. Ing. Ingrid Juhásová Šenitková, CSc.	625
82. SHARED ELECTRIC SCOOTERS LIKE A TOOL OF A MICRO-MOBILITY IN CITIES , Marek Branis, Jakub Takacs, Matej Sulik, Gabriel Balint, Andrii Galkin.....	631
83. SIMULATION OF HEAT TRANSFERS THROUGH INTER-FLAT CONSTRUCTIONS IN THE APARTMENT HOUSE , Assist. Prof. Martin Kovac, Assist. Prof. Katarina Kovacova.....	639
84. THE EXTERIOR GREEN WALLS AND THEIR PERSPECTIVE IN HIGH DENSITY PARTS OF URBAN AREA , Ing. Adéla Brázdová, Assoc. Prof. Ing. Jirí Kupka, Ph.D., Assoc. Prof. Ing. Barbara Vojvodíková, Ph.D.....	647
85. THE GREEN CITY: NEW OPPORTUNITY FOR PLANNING AND DEVELOPING CITES , Assistant Antonina Atanasova.....	655
86. THE IMPACT OF NIGHT VENTILATION/PRE-COOLING ON A COOLING DEMAND IN AN OFFICE BUILDING , Assist. Prof. Martin Kovac, Marek Hricisin.....	663
87. THE INTERDISCIPLINARY INTERPRETATION OF SPECIALIZED STUDIES IN THE RESTORATION OF THE URBAN HISTORICAL LANDSCAPE , PhD stud. Alexandru Ciobotă, Dr. Raluca- Ramona Rusu, Assist. Prof. Dr. Bogdan- Severus Demetrescu	671
SECTION SPACE TECHNOLOGIES AND PLANETARY SCIENCE	
<hr/>	
88. AGE FEATURES OF THE CARDIOVASCULAR SYSTEM RESPONSE TO THE GEOMAGNETIC ACTIVITY IN SUBAURORAL AREA , Dr. Sergey Samsonov	681
89. ALGORITHM FOR THE QUENCHING OF SEVERAL SPACECRAFT OSCILLATIONS OF THE SAME FREQUENCY , Prof. DSc. L. K. Babadzanjanj, Assoc. Prof. Dr. I. Yu. Pototskaya, Assoc. Prof. Dr. Yu. Yu. Pupysheva, M. Sc. I. M. Alesova.....	687
90. INTEGRATION OF UNMANNED AERIAL SYSTEMS IN MODERN CRISIS MANAGEMENT IN THE SLOVAK REPUBLIC , Marek Kosuda, Stanislav Szabo jr., Agnesa Horvath, Filip Balla, Martin Kelemen	695
91. PARAMETERS OF NUMERICAL AND ANALYTICAL EPHEMERIDES OF THE MOON USE COMPLEX SYSTEMS ANALYSIS METHODS , PhD Student Arthur Zagidullin, Sci. Assoc. PhD Vladimir Usanin, Assoc. Prof. PhD Natalia Petrova, Prof. Dr. Yury Nefedyev, PhD Student Alexey Andreev.....	703

92. POLAR GEOSMOPHYSICAL OBSERVATORY AND OPPORTUNITIES OF THE ROCKET POLYGON , Assoc. Prof. Dr. Vladislav Timofeev	711
93. SPECIFICITY OF THE INFLUENCE OF SPACE TOOLS ON THE EVOLUTION OF THE COMPLEX OF EARTH SCIENCES (HISTORICAL AND SCIENTIFIC ASPECTS) , Cand. Techn. Sc. Vassiliy Chesnov	717
94. STUDY ABOUT AUTO-REGRESSIVE INTEGRATED MOVING AVERAGE (ARIMA) MODEL USED FOR FORECAST OF STRONG GEOMAGNETIC DISTURBANCES , Dr. Laurentiu Asimopolos, Dr. Natalia-Silvia Asimopolos, Assist. Prof. Adrian-Aristide Asimopolos.....	723
95. STUDY OF NEAR EARTH OBJECTS , PhD Student Maria Sergienko, Assoc. Prof. PhD Marina Sokolova, PhD Student Alexey Andreev, Prof. Dr. Yury Nefedyev, Zoya Andreeva	731
96. THE DEVELOPMENT OF A SELENOCENTRIC SATELLITE SIMULATION NAVIGATION SYSTEM BY MEANS OF THE LUNAR SURFACE MODEL , Alexey Andreev, Natalya Demina, Rene Hudec, Leonid Nefediev, Yury Nefedyev.....	739
97. THE MONS RUMKER AS A CANDIDATE LANDING SITE OF THE CHANG'E-5 MISSION , Assoc. Prof. Dr. Vladislav Shevchenko, Dr. Ekaterina Feoktistova, Dr. Svetlana Pugacheva	745
98. THE RESPONSE OF THE VOLUNTEERS' CARDIOVASCULAR SYSTEM TO GEOMAGNETIC DISTURBANCES IN THE MINIMUM AND MAXIMUM OF THE 11-YEAR SOLAR ACTIVITY CYCLE , Dr. Sergey Samsonov	751
99. THE USE OF VECTOR INTERPRETATION OF PROJECTIVE GEOMETRY INVARIANTS FOR ANALYZING DYNAMIC SPATIAL IMAGES , Prof. Dr. Yury Nefedyev, PhD Student Alexey Andreev, Prof. Dr. Rene Hudec, Assoc. Prof. Viktor Borovskikh, Zoya Andreeva	759