

16th International Scientific Conference: Civil Engineering and Building Services (CIBv 2021)

IOP Conference Series: Materials Science and Engineering
Volume 1242

Online
4 - 5 November 2021

Editors:

Ioan Tuns
Radu Muntean
Dorin Radu

Teofil-Florin Galatanu
Christiana Emilia Cazacu

ISBN: 978-1-7138-5441-8
ISSN: 1757-8981

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.

This work is licensed under a Creative Commons Attribution 3.0 International Licence.
Licence details: <http://creativecommons.org/licenses/by/3.0/>.

No changes have been made to the content of these proceedings. There may be changes to pagination and minor adjustments for aesthetics.

Printed with permission by Curran Associates, Inc. (2022)

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

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

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

techtracking@iop.org

Additional copies of this publication are available from:

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

TABLE OF CONTENTS

International Conference CIBv2021 Civil Engineering and Building Services

Peer Review Statement

Improving the mechanical and thermal properties of hemp concrete by treating the hemp hurds with sodium hydroxide solution	1
<i>L Adam, D N Isopescu, S G Maxineasa</i>	
Ventilated façade solutions.....	11
<i>I-R Baciu, D N Isopescu, M L Lupu, S G Maxineasa, L Pruna, S Dan</i>	
Study of the additives for polymeric materials by cheminformatics methods.....	20
<i>A Bărbulescu, L Barbes, C S Dumitriu</i>	
Monthly precipitation field generation at Sulina (Romania)	27
<i>A Bărbulescu</i>	
Structural design of the radar station of “Besna Kobila” Serbia.....	37
<i>M Besevic, M Vojnic Purcar, L Kozaric, S Bursac</i>	
Analysis of up-to-date methods of non-destructive testing of performance properties of reinforced concrete building structures.....	45
<i>V Bredikhin, K Los</i>	
How health influences the way we build.....	52
<i>Ch Cazacu</i>	
Soil stabilisation with hydraulic binders.....	61
<i>A G Chiorean, M D Vasile, A C Nagy, N M Hies</i>	
Concrete consoles impact to a masonry walls building with a large hall at the top story and a lightweight timber roof.....	69
<i>S Constantinescu</i>	
Plane shape impact to non-bearing masonry walls in a high rise reinforced concrete walls building	86
<i>S Constantinescu</i>	
Assessing the vulnerability of buildings to floods in the lower sector of Slănic River. Case Study of Cernătești village, Buzău County, Romania.....	99
<i>R Costache, C Popescu, A Barbulescu</i>	
Separating function of timber floor and wall assemblies.....	109
<i>R Dărmon</i>	
Using fibers in construction.....	115
<i>O Deaconu, GC Chițonu</i>	
Numerical model validation of non-composite slim floor beam subjected to fire.....	124
<i>D Duma, R Zaharia, D Pintea, I Both</i>	
The study on flexible manufacturing system in building decoration stone processing	132
<i>F Du, M Zhao, P Zhang</i>	

Tracking control a twin-rotor helicopter used for building measuring with PID-MPC controller	137
<i>F Guo</i>	
Study on flexural behavior of graphene oxide recycled concrete beams.....	157
<i>K Guo, Y Z Yang, J H Zhou, X Y Wu</i>	
Numerical case studies about two-dimensional SHS joints with symmetrical and asymmetrical top-connection	166
<i>P Heinemann, D N Isopescu, S G Maxineasa</i>	
The stone cantilevers rehabilitation of heritage buildings	177
<i>A V Lapuste, B Marton</i>	
Study on quality detection of stone surface.....	182
<i>W Liu, M Zhao, H Shang</i>	
Hempcrete - modern solutions for green buildings	190
<i>M L Lupu, D N Isopescu, I-R Baciu, S G Maxineasa, L Pruna, R Gheorghiu</i>	
The use of perlite in civil engineering applications.....	200
<i>S G Maxineasa, D N Isopescu, M L Lupu, I-R Baciu, L Pruna, C Somacescu</i>	
Studies on sliding stabilization solutions of a built site in a residential area.....	209
<i>M Măntulescu, I Tuns</i>	
Numerical studies regarding the behaviour a large span roof under seismic load when using anti-seismic devices	220
<i>C Mojolic</i>	
Validation of elastic wave arrival detection method based on use of sparse matrix computation.....	225
<i>K Nakamura, Y Kobayashi, K Oda, S Shigemura, K Ikebata</i>	
Flexible steel structures used for ski tunnels in Parang Mountains, Romania.....	234
<i>D Negrea, Ch Cazacu</i>	
Study on the corrosion and frost - thaw behavior of the concretes with polystyrene granules.....	247
<i>A Panțiru, C Cădere, L I Diaconu, M Bărbuță, M Rujanu, A C Diaconu</i>	
The impact of building occupant habits on heating energy consumption: a case study	254
<i>S G Petre, D N Isopescu, M Pruteanu</i>	
Research on design method of human resource system test case in construction enterprise	261
<i>Z Ping, W Yueyong, D Fangjing, G Xin</i>	
Calculation algorithm and method for optimizing electricity consumption for the railway traction system.....	267
<i>A F Popov, M Fratu</i>	
Optimal simulation and experimental research on the operation system of dumper of the stemming production line.....	274
<i>F L Qi, Y Q Zhao, G Y Zhang, J X Tian</i>	
Verification of elastic wave velocity tomography based on compressive sampling.....	284
<i>X Qiao, Y Kobayashi, K Oda, K Nakamura</i>	
Using natural stone for buildings - an analysis of educational programs in Romania.....	290
<i>D Rusu, R Muntean</i>	

Cement replacement by used paints in plasters mortars mixtures	298
<i>AC Siomin, ML Tintisan, A Zaharie, DL Manea</i>	
Structural analysis and optimal retrofitting solutions for historical monument with masonry walls.....	306
<i>I Sococol, P Mihai, T C Petrescu, D T Babor</i>	
Optimization method based on genetic algorithm for the mass compensation of the rotor on-line dynamic balance system	323
<i>Q L Song, Z Wang, L Liang</i>	
Improving the properties of mortars by using recycled paper ash flakes	330
<i>M L Tintisan, A C Siomin, A Zaharie, D L Manea</i>	
The analysis of TBM cutter stress under different construction environment.....	339
<i>Z N Wang, Q Y Wang, B B Hu, C Wei, Q N Wu</i>	
Stiffness analysis of rolling bearing for concrete mixer	343
<i>Z Wang, W Z He, S Q Niu</i>	
Research on basic principle and calibration experiment of fiber bragg grating sensor	351
<i>S Y Xing, Q Wang, A X Liu</i>	
Study on the temperature field of stone processed by diamond tools.....	355
<i>Z Yang, Z Q Qu, R B Mu, K Y Ji, M Zhao</i>	
Experimental research of main characteristics in a complex multi-layer plate heat exchanger.....	363
<i>V S Yezhov, N E Semicheva, A P Burtsev, A V Brezhnev, N S Perepelitsa</i>	
Cement materials obtained by partial replacement of cement powder with brick powder	370
<i>A Zaharie, M L Tintisan, A C Siomin, D L Manea, M L Pleșa</i>	
Analysis of the openings of aircraft composite laminated wing beam web under shear load	377
<i>X L Zhang, J C Wang, Q Xu, Y Y Wang, C Y Li</i>	

Author Index