



**Acta Technica Napocensis: Civil Engineering & Architecture
Vol. 53 (2010)**

Journal homepage: <http://constructii.utcluj.ro/ActaCivilEng>

ISSN 1221-5848



ISSN: 1221-5848

WWW: <http://constructii.utcluj.ro/ActaCivilEng>

Editor-In-Chief: Prof. Cosmin G. Chiorean

(Tech. Univ. of Cluj-Napoca, Romania)

Phone/Fax: 40-264-594967

E-mail: cosmin.chiorean@mecon.utcluj.ro

Affiliation to Organization:

Technical University of Cluj-Napoca, Faculty of Civil Engineering, Romania

Editorial Office Address:

Technical University of Cluj-Napoca
15 C Daicoviciu Str., 400020 Cluj-Napoca, Romania

Published by:

UTPRESS

34 Observatorului Str., 400775 Cluj-Napoca, Romania

Phone: 40-264-401999

E-mail: utpress@biblio.utcluj.ro

Fax: 40-264-430408

Abstracting and Indexing



Aims and Scope: *Acta Technica Napocensis: Civil Engineering & Architecture* provides a forum for scientific and technical papers to reflect the evolving needs of the civil and structural engineering communities. The scope of *Acta Technica Napocensis: Civil Engineering & Architecture* encompasses, but is not restricted to, the following areas: infrastructure engineering; earthquake engineering; structure-fluid-soil interaction; wind engineering; fire engineering; blast engineering; construction materials; structural mechanics; water resources; hydraulics and coastal engineering; structural reliability/stability; life assessment/integrity; structural health monitoring; multi-hazard engineering; structural dynamics; optimization; expert systems and neural networks; experimental modeling; performance-based design; engineering economics, constructional management; architecture; planning and built environment studies. *Acta Technica Napocensis: Civil Engineering & Architecture* also publishes review articles, short communications and discussions, book reviews, and a diary on national and international events related to any aspect of civil engineering and architecture. All articles will be indexed by the major indexing media, therefore providing maximum exposure to the published articles.

Editorial Board

Editor in chief: Prof.dr.ing. Cosmin G CHIOREAN

Vice editor in chief: Conf.dr.ing. Stefan GUTIU

Editorial board: Prof.dr.ing. Horia-Aurel ANDREICA
Prof.dr.ing. Pavel ALEXA
Prof.dr.ing. Cornel BIA
Prof.dr.ing. Gheorge BADEA
Prof.em.dr.ing Alexandru CATARIG
Sef. lucr.dr.ing. Vasile FARCAS
Prof.dr.ing. Mihai ILIESCU
Prof.dr.ing. Adrian IOANI
Prof.dr.ing. Zoltan KISS
Prof.dr.ing. Ludovic KOPENETZ
Prof.dr.mat. Nicolae LUNGU
Prof.dr.ing. Cornelia MAGUREANU
Prof.dr.ing. Petru MOGA
Prof.dr.arh. Adriana MATEI
Prof.dr.ing. Ioan MOGA
Prof.dr.ing. Traian ONET
(*Romanian Technical Science Academy*)
Prof.dr.ing. Vasile PACURAR
Prof.dr.ing. Tudor POPOVICI
Prof.dr.ing. Ioan Gh. POP
Prof.dr.ing. Augustin POPA

**Contents of
Acta Technica Napocensis: Civil Engineering & Architecture,
Vol. 53, 2010**

Traian ONET, <i>OMAGIU Profesorului Panaita MAZILU</i>	7
Traian ONET <i>LAUDATIO Profesorului consultant dr.ing. Victor Gioncu</i>	9
P. MOGA , ŞT. I. GUŢIU, O. ILEA, <i>Steel Box Members Subjected to Compression</i>	12
Cristina CAMPIAN, V. SAV, Alina H.KARP, <i>Studies on Composite Steel Concrete Columns</i>	24
I. SOSA, Cornelia MAGUREANU, <i>Shrinkage of Ultra-High Performance Concrete</i>	32
L.C. LETIA , <i>Experimental Study of the Cracking Behaviour at Bending of High Strength Concrete Beams</i>	38
L.C. LETIA , <i>Cracking Behavior at Bending of Singly Reinforced Concrete Beams</i>	45
R. OLAR, T. ONET, <i>The High Performance Concrete Elements Calculus Using Eurocode 2</i>	54
R. OLAR, T. ONET, <i>The Multistoried Structures Realised From High Performance Concrete</i>	58
Iulia C. MOLNAR, A. POPA, O.C.MURESAN, <i>Yielding Criteria Used in Geotechnical Engineering Problems</i>	62
T. A. HULPUS, A. POPA, <i>Finite Element Analyses of a Multi-Propped Diaphragm Wall</i>	72
A. CHIRA , <i>FEM Modeling and Analysis of Precast Large Panels Joints</i>	83
Hans Udo KRASSER, D.V. BOMPA. <i>Specific Behaviour of Lightweight Aggregate Concrete</i>	92
G. MUNTEAN, R. MUNTEAN , T. ONET, <i>Consolidating Brick Masonry Structural Walls Using Ferrocement Coating</i>	96
G. MUNTEAN, R. MUNTEAN , T. ONET, <i>Checking the Concordance between the Theoretical and the Experimental Model for Brick Masonry Walls Consolidated With Ferrocement Coating</i>	104
M. ILIESCU, Mariana POP, <i>Performance of Modified Asphalt Mixtures Obtained Using Plastomers Added In Station</i>	115
C. TOSA, <i>Estimation of Vehicle Road Emissions Factors Using Copert III Methodology</i>	124
M. ZSOMBOR , Mihaela COSTIN, <i>Thermo-Energy Analysis of a Building for Housing with Insulation Placed Onto the Interior Surface of the Cover</i>	131
M. COSTIN, M. ZSOMBOR, <i>Considerations on Building Degradation due to Excessive Humidity</i>	140
Ousseynou DIAO, I. MOGA, L. M. MOGA, <i>Numerical Solving of the Thermal Singularity of the Ground-Building Connection in Permanent Thermal Regime</i>	146

Ruxandra DARMON, <i>The Fire Spread Outside of a Building</i>	152
N. SOCACIU, B. PETRINA, AI. CATARIG, T.PETRINA, R. HULEA, R. ZOICAS, <i>Issues Regarding Stadiums Resistance Structures</i>	156
T. PETRINA , M. PETRINA, N. SOCACIU, Bianca PARV, Monica NICOREAC, <i>Precast Reinforced Concrete Elements of the Structure of the City Stadium of Cluj-Napoca</i>	169
M. PETRINA , N. SOCACIU, T. PETRINA, Monica NICOREAC, Bianca PARV, <i>The Steel Structure for the Roof of the City Stadium of Cluj-Napoca</i>	178
Monica P. NICOREAC, Bianca R. PARV, M. PETRINA, T. PETRINA, <i>Similitude Theory and Applications</i>	187
Bianca R. PARV, Monica P. NICOREAC, M. PETRINA, T. PETRINA, <i>Results of the Romanian Researchers from Cluj Napoca Concerning High-Rise Structures</i>	197
Voichița A. ROIB, <i>Using the Satellite Positioning System within the Public Transportation Management</i>	208
I. GIURCA, <i>The Choice of Boilers Using Global Evaluation Method of Performances</i>	214
L.D. Gilia, Zs. Nagy, V. Pacurar, <i>Structural Behavior of Corrugated Web Cold-formed Girders</i>	221
M. I RUS, <i>Research and It's Place in Economical Development</i>	232
M. I RUS, <i>Fields of Research Activity</i>	243