



Petru Maior

UNIVERSITY

of

TÎRGU - MUREȘ

SCIENTIFIC
BULLETIN OF THE
“PETRU MAIOR”
UNIVERSITY OF
TÎRGU-MUREȘ

2014

Volume 11 (XXVIII) – New Series
Number 2

Published by
“Petru Maior” University Press

ISSN-L 1841-9267 (Print)

ISSN 2285-438X (Online)

ISSN 2286-3184 (CD-ROM)

**SCIENTIFIC BULLETIN
OF THE
„PETRU MAIOR” UNIVERSITY OF TÎRGU MUREŞ**

EDITOR IN CHIEF

Liviu MOLDOVAN

„Petru Maior” University of Tîrgu Mureş, Romania

SCIENTIFIC COMMITTEE

Ioan ABRUDAN

Osei ADJEI

Ketil ARNESEN

Hussein Salem BIN SALEM

Csaba BLAGA

Krzysztof DRACHAL

Ejub DŽAFEROVIĆ

Maurice GRECH

Csaba GYENGE

Khalifa Abdalla M. HAMMUDA

Hanbey HAZAR

Khalil KHALILI

László KOVÁCS

Péter KÖRTESE

Liviu MASALAR

Abd Hamid Muftah SHADI

Radu MUNTEANU

Abdelazim NEGM

Nuri ORHAN

Elena PÉREZ-BERNABEU

Horia F. POP

Costache RUSU

S. SATHISH

Cenk SAYIN

Samuel SÁNCHEZ CABALLERO

Miguel Angel SELLES CANTÓ

Ahmet SASMAZ

John B. STAV

Hasham A.E. MAGD

Technical University of Cluj Napoca - Romania

University of Bedfordshire - United Kingdom

Sør-Trøndelag University College - Norway

Lyban Academy – Lyban

University of Miskolc – Hungary

Warsaw University of Technology – Poland

University of Sarajevo – Bosnia and Herzegovina

Malta College of Arts, Science and Technology - Malta

Technical University of Cluj Napoca - Romania

Lyban Academy – Lyban

Firat University – Turkey

University of Birjand – Iran

University of Miskolc – Hungary

University of Miskolc – Hungary

University of Liege – Belgium

Lyban Academy – Lyban

Technical University of Cluj Napoca – Romania

Egypt-Japan University of Science and Technology, E-JUST - Egypt

Firat University – Turkey

Politechnical University of València – Spain

Babeş Bolyai University of Cluj Napoca – Romania

Gh. Asachi Technical University of Iaşi – Romania

Aaltm Muhamed Salegh College of Engineering – India

Marmara University – Turkey

Politechnic University of València – Spain

Politechnic University of València – Spain

Firat University – Turkey

Sør-Trøndelag University College – Norway

University of Buraimi - Sultanate of Oman

Editorial Board

Călin ENĂCHESCU

Nicolae CHIRILĂ

Dorin BICĂ

Mircea DULĂU

Vasile BOLOŞ

Bela FINTA

Alexandru MORAR

Teodor SOCACIU

Adrian GLIGOR

Gabriela STRNAD

Stelian OLTEAN

Adrian DUKA

Executive Editor

Dumitru BUDA

Desktop publishing:

Daniela MARCU

Adriana SIMON

ISSN-L 1841-9267 (Print), ISSN 2285-438X (Online), ISSN 2286-3184 (CD-ROM)

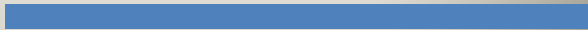
„Petru Maior” University Press

e-mail: liviu.moldovan@ing.upm.ro, dimitrubuda@gmail.com

Str. Nicolae Iorga, nr. 1,

540088, Tîrgu Mureş, Romania

Tel/fax 0265-211838



“Petru Maior” University Press



ISSN-L 1841-9267 (Print)
ISSN 2285-438X (Online)
ISSN 2286-3184 (CD-ROM)