

**TECHNICAL UNIVERSITY OF CLUJ-NAPOCA  
FACULTY OF ELECTRONICS, TELECOMMUNICATIONS AND INFORMATION  
TECHNOLOGY**

***ACTA TECHNICA NAPOCENSIS – Electronica - telecomunicatii  
(Electronics and Telecommunications) ISSN 1221 – 6542***

**Local editorial committee**

**Radu ARSINTE**, Editor in Chief, Technical University of Cluj Napoca, Romania  
**Nicolae CRISAN**, Executive Editor, Technical University of Cluj Napoca, Romania  
**Cristian FARCAS**, Associate Editor, Technical University of Cluj Napoca, Romania  
**Alin GRAMA**, Associate Editor, Technical University of Cluj Napoca, Romania  
**Doris LUPEA CSIPKES**, Associate Editor, Technical University of Cluj Napoca, Romania  
**Costin MIRON**, Honorary Editor, Technical University of Cluj Napoca, Romania

**Editorial Board**

<b>Aurel Vlaicu</b> – Technical University of Cluj Napoca, Romania	<b>Corneliu Rusu</b> – Technical University of Cluj Napoca, Romania
<b>Marina Topa</b> - Technical University of Cluj Napoca, Romania	<b>Alkis Hatzopoulos</b> - University of Thessaloniki, Greece
<b>Gilbert De Mey</b> - University of Gent, Belgium	<b>Corneliu Burileanu</b> – Politehnica University of Bucharest, Romania
<b>Virgil Dobrota</b> - Technical University of Cluj Napoca, Romania	<b>Mihai Romanca</b> – Transilvania University of Brasov, Romania
<b>Dan Pitica</b> - Technical University of Cluj Napoca, Romania	<b>Radu Vasii</b> – Politehnica University of Timisoara, Romania
<b>José Ramón Beltrán Blázquez</b> - University of Zaragoza, Spain	<b>Eugenio Garcia Moreno</b> - University of Palma de Mallorca, Spain
<b>Jan Turan</b> – Technical University of Kosice, Slovakia	<b>Ioan Nafornita</b> - Politehnica University of Timisoara, Romania
<b>Liviu Goras</b> – Technical University Gh. Asachi Iasi, Romania	<b>Attila Ferencz</b> – Dayhoun Broadcast Research Company, Seoul, Korea
<b>Valeriu Munteanu</b> - Technical University Gh. Asachi Iasi, Romania	<b>Tony Ward</b> - University of York, UK
<b>Michel Riveill</b> – University of Nice, France	<b>Cristina Morel</b> – Ecole Supérieure d'Electronique de l'Ouest, France
<b>Lelia Festila</b> - Technical University of Cluj Napoca, Romania	<b>Eugen Lupu</b> - Technical University of Cluj Napoca, Romania
<b>Marcian Cirstea</b> – Anglia Ruskin University, Cambridge, UK	<b>Dan Lascu</b> - Politehnica University of Timisoara, Romania
<b>Dorin Petreus</b> - Technical University of Cluj Napoca, Romania	

**Scientific Board (\*)**

Radu ARSINTE	Eugen LUPU
Florian BOIAN	Ioan NAFORNITĂ
Virgil DOBROTĂ	Ovidiu POP
Alin GRAMA	Romulus TEREBEȘ
Lăcrimioara GRAMA	Mircea VAIDA

(\*) Note – Only members active as reviewers for the current number are listed. For full list of reviewers see the Journal website: <http://users.utcluj.ro/~atn>

**Publisher:** Technical University of Cluj-Napoca – Romania,  
Str. Baritiu 26-28, 400027 Cluj-Napoca, Romania

© Technical University of Cluj-Napoca. Romania All rights reserved. Published with technical support of Mediamira Science Publishers.

No part of this publication may be reproduced, stored in a retrieval system, or transmitted in any form or by any means, without the prior written permission of the copyright owner. Open access content may be employed for personal use only indicating clearly the source.

No responsibility is assumed by the publisher or by the copyright owner for any injury and/or damage to persons and property as a matter of any use or operation of any methods, products, instructions or ideas contained herein.