

PUBLISHER
“NICOLAE BĂLCESCU”
LAND FORCES ACADEMY

Address: 3-5 Revoluției Street, Sibiu
Tel.: 0269/432990, Fax: 0269/215554
E-mail: office@armyacademy.ro
E-mail: editura@armyacademy.ro
Web: www.armyacademy.ro/editura

EDITORIAL BOARD

Editor-in-chief:

COL Prof.Eng. **Dorel BADEA**, PhD
“Nicolae Bălcescu” Land Forces Academy, Sibiu

Editorial assistant:

Maria-Cristina **ȚUNDRECI**
“Nicolae Bălcescu” Land Forces Academy, Sibiu

Technical editor:

Decebal-Nicolaie **TODĂRIȚĂ**
“Nicolae Bălcescu” Land Forces Academy, Sibiu

SCIENTIFIC REVIEWERS:

Adi ADUMITROAIE, Institute of Fundamental Technological Research Polish Academy of Sciences, Warsaw, Poland;
Constantin ANDREI, “Nicolae Bălcescu” Land Forces Academy, Sibiu, Romania;
Tiberiu Alexandru ANTAL, Technical University of Cluj-Napoca, Romania
Kadir AZTEKIN, Turkish Military Academy, National Defence University, Ankara, Turkey;
Alexandru BABOȘ, “Nicolae Bălcescu” Land Forces Academy, Sibiu, Romania;
Alina BABOȘ, “Nicolae Bălcescu” Land Forces Academy, Sibiu, Romania;
Thomasz BAK, University of Law and Administration, Rzeszow, Poland;
Cristina-Maria BĂTUȘARU, “Nicolae Bălcescu” Land Forces Academy, Sibiu, Romania;
Ghiță BĂRSAN, “Nicolae Bălcescu” Land Forces Academy, Sibiu, Romania;
Lavinia BOJOR, “Nicolae Bălcescu” Land Forces Academy, Sibiu, Romania;
Ioan BONDREA, “Lucian Blaga” University, Sibiu, Romania;
Ștefania BUMBUC, “Nicolae Bălcescu” Land Forces Academy, Sibiu, Romania;
George BUCĂȚĂ, “Nicolae Bălcescu” Land Forces Academy, Sibiu, Romania;
Vasile CĂRUȚAȘU, “Nicolae Bălcescu” Land Forces Academy, Sibiu, Romania;
Lucian-Ionel CIOCA, “Lucian Blaga” University, Sibiu, Romania;
Marius CIOCA, “Lucian Blaga” University, Sibiu, Romania;
Alina CIUHUREANU, “Nicolae Bălcescu” Land Forces Academy, Sibiu, Romania;
Ella Magdalena CIUPERCĂ, National Institute for Research and Development in Informatics, Bucharest, Romania;
George CHILADZE, The University of Georgia, Tbilisi, Georgia;
Ionuț Alin CÎRDEI, “Nicolae Bălcescu” Land Forces Academy, Sibiu, Romania;
Mădălina COCOȘATU, National University of Political Studies and Public Administration, Faculty of Public Administration, Bucharest, Romania;
Carmen COMĂNICIU, “Lucian Blaga” University, Sibiu, Romania;
Anca DINICU, “Nicolae Bălcescu” Land Forces Academy, Sibiu, Romania;
Isabela-Anda DRĂGOMIR, “Nicolae Bălcescu” Land Forces Academy, Sibiu, Romania;
Teodora DRĂGHICI, “Nicolae Bălcescu” Land Forces Academy, Sibiu, Romania;
Virgil ENE-VOICULESCU, “Mirocea cel Bătrân” Naval Academy, Constanța, Romania;
Cătălin FETECĂU, “Dunărea de Jos” University, Galați, Romania;
Elena FLORIȘTEANU, “Nicolae Bălcescu” Land Forces Academy, Sibiu, Romania;
Hortensia GORSKI, “Nicolae Bălcescu” Land Forces Academy, Sibiu, Romania;
Constantin GRIGORAȘ, “Nicolae Bălcescu” Land Forces Academy, Sibiu, Romania;
Laurențiu GRIGORE, “Nicolae Bălcescu” Land Forces Academy, Sibiu, Romania;
Sabin GUȚAN, “Nicolae Bălcescu” Land Forces Academy, Sibiu, Romania;
Marcel HAKAKAL, Armed Forces Academy of “General Milan Rastislav Štefánik”, Liptovský Mikuláš, Slovak Republic;
Sarka HOŠKOVA-MAYEROVA, University of Defence, Brno, Czech Republic;
Dumitru IANCU, “Nicolae Bălcescu” Land Forces Academy, Sibiu, Romania;
Daniela ILIE, “Lucian Blaga” University, Sibiu, Romania;
Florin ILIE, “Nicolae Bălcescu” Land Forces Academy, Sibiu, Romania;
Irina IOANA, “Mihai Viteazul” National Intelligence Academy, Bucharest, Romania;
Lucian ISPAS, “Nicolae Bălcescu” Land Forces Academy, Sibiu, Romania;
Adrian Liviu IVAN, “Mihai Viteazul” National Intelligence Academy, Bucharest, Romania;
Tomasz JALOWIEC, War Studies University, Warsaw, Poland;
Jugoslav JOZIĆ, Croatian Defence Academy “Dr. Franjo Tuđman”, Zagreb, Republic of Croatia;
Martin MACKO, University of Defence, Brno, Czech Republic;
Crenguța Mihaela MACOVEI, “Nicolae Bălcescu” Land Forces Academy, Sibiu, Romania;

Fabiana MARTINESCU-BADĂLAN, “Nicolae Bălcescu” Land Forces Academy, Sibiu, Romania;
Gabriel MĂNESCU, “Nicolae Bălcescu” Land Forces Academy, Sibiu, Romania;
Simona MICLĂUȘ, “Nicolae Bălcescu” Land Forces Academy, Sibiu, Romania;
Liviu-Nicolae MIHĂEȘCU, “Lucian Blaga” University, Sibiu, Romania;
Gabriela MIHĂILĂ LICĂ, “Nicolae Bălcescu” Land Forces Academy, Sibiu, Romania;
Gheorghe MINCULETE, “Nicolae Bălcescu” Land Forces Academy, Sibiu, Romania;
Nicolae MORO, “Nicolae Bălcescu” Land Forces Academy, Sibiu, Romania;
Dănuț MOȘTEANU, “Nicolae Bălcescu” Land Forces Academy, Sibiu, Romania;
Silviu NATE, “Lucian Blaga” University, Sibiu, Romania;
Mihai Marcel NEAG, “Nicolae Bălcescu” Land Forces Academy, Sibiu, Romania;
Pavel NECAS, University of Matej Bel, Banská Bystrica, Slovak Republic;
Brândușa-Oana NICULESCU, “Nicolae Bălcescu” Land Forces Academy, Sibiu, Romania;
Romana OANCEA, “Nicolae Bălcescu” Land Forces Academy, Sibiu, Romania;
Laurean-Georgel OPREAN, “Nicolae Bălcescu” Land Forces Academy, Sibiu, Romania;
Alena OULEHLOVÁ, University of Defence, Brno, Czech Republic;
Pavel OTRISAL, Palacký University, Olomouc, Czech Republic;
Tudorică PETRACHE, “Nicolae Bălcescu” Land Forces Academy, Sibiu, Romania;
Silviu-Mihai PETRIȘOR, “Nicolae Bălcescu” Land Forces Academy, Sibiu, Romania;
Elitsa PETROVA, “Vasil Levski” National Military University, Veliko Tarnovo, Bulgaria;
Sorin PÎNZARIU, “Nicolae Bălcescu” Land Forces Academy, Sibiu, Romania;
Doina Liana PÎSLĂ, Technical University of Cluj-Napoca, Romania
Adrian PÎSLĂ, Technical University of Cluj-Napoca, Romania
Toma PLEȘANU, “Nicolae Bălcescu” Land Forces Academy, Sibiu, Romania;
Árpád POHL, Faculty of Military Sciences and Officer Training, Budapest, Hungary;
Ioan-Gabriel POPA, “Nicolae Bălcescu” Land Forces Academy, Sibiu, Romania;
Florin POPESCU, “Carol I” National Defence University, Bucharest, Romania;
Stelian POPESCU, “Nicolae Bălcescu” Land Forces Academy, Sibiu, Romania;
Karl PRONHAGL, Theresian Military Academy, Wiener Neustadt, Austria;
Diana Elena RANF, “Nicolae Bălcescu” Land Forces Academy, Sibiu, Romania;
Aurelian RAȚIU, “Nicolae Bălcescu” Land Forces Academy, Sibiu, Romania;
Ion ROCEANU, “Carol I” National Defence University, Bucharest, Romania;
Cristina Teodora ROMAN, “Alexandru Ioan Cuza” University, Iasi, Romania;
Raluca RUSU, “Nicolae Bălcescu” Land Forces Academy, Sibiu, Romania;
Annamaria SÂRBU, “Nicolae Bălcescu” Land Forces Academy, Sibiu, Romania;
Dariusz SKORUPKA, The General Tadeusz Kosciuszko Military Academy of Land Forces, Wrocław, Poland;
Rasa SMALIUKIENE, General Jonas Žemaitis Military Academy of Lithuania, Vilnius, Lithuania;
Miroslaw SMOLAREK, The General Tadeusz Kosciuszko Military Academy of Land Forces, Wrocław, Poland;
Sebastian-Emanuel STAN, “Nicolae Bălcescu” Land Forces Academy, Sibiu, Romania;
Leontin STANCIU, “Nicolae Bălcescu” Land Forces Academy, Sibiu, Romania;
Robert STĂNCULESCU, “Nicolae Bălcescu” Land Forces Academy, Sibiu, Romania;
Alexandru STOIAN, “Nicolae Bălcescu” Land Forces Academy, Sibiu, Romania;
Robert SZABOLCSI, Obuda University, Budapest, Hungary;
Lucian-Ioan TARNU, “Lucian Blaga” University, Sibiu, Romania;
Venelin TERZIEV, “Vasil Levski” National Military University, Veliko Tarnovo, Bulgaria;
Paul TUDORACHE, “Nicolae Bălcescu” Land Forces Academy, Sibiu, Romania;
Ioan VIRCA, “Nicolae Bălcescu” Land Forces Academy, Sibiu, Romania.

ISSN 3100-5098
ISSN-L 3100-508X

Scientific Bulletin is indexed
in several International Databases.
For further information please visit
<https://www.armyacademy.ro/engleza/buletin.php>

COPYRIGHT © 2025

First issued in 1996

All rights reserved. No part of this publication
may be reproduced without the prior permission of
“Nicolae Bălcescu” Land Forces Academy Publishing House.

*The authors take full responsibility
of the scientific content of their articles.*