

PROCEEDINGS OF THE ROMANIAN ACADEMY

SERIES B: CHEMISTRY, LIFE SCIENCES AND GEOSCIENCES

VOLUME 22



ISSUE 3
SEPTEMBER–DECEMBER 2020



Proc. Rom. Acad. Series B



EDITURA ACADEMIEI ROMÂNE
PUBLISHING HOUSE OF THE ROMANIAN ACADEMY

ISSN 1454-8267

PROCEEDINGS OF THE ROMANIAN ACADEMY – SERIES B 3 / 2020



EDITORIAL BOARD

Editor-in-Chief:

CONSTANTIN IONESCU-TÎRGOVIȘTE

Deputy Editors-in-Chief:

RADU DIMITRESCU

VICTOR GIURGIU

DOINA POPOV

Editorial and Advisory Board:

DAN BĂLTEANU – Romania
ANDREEA BEALLE – USA
COSTIN CERNESCU – Romania
ALEXANDRU VLAD CIUREA – Romania
LEON DĂNĂILĂ – Romania
FLORIN DESPA – USA
NORINA CONSUELA FORNA – Romania
MARTIN H. GERZABEK – Austria
NICOLAE GHILEZAN – Romania
CRISTIAN GUJA – Romania
CRISTIAN HERA – Romania
ALBERTO DE LEIVA – Spain
NICOLAE M. MANOLESCU – Romania
DAN MUNTEANU – Romania

GELU ONOSE – Romania
PAUN ION OTIMAN – Romania
DORU PAMFIL – Romania
PAOLO POZZILLI – Italy
DAN RIGA – Romania
SORIN RIGA – Romania
MIRCEA SÂNDULESCU – Romania
BOGDAN SIMIONESCU – Romania
EUGEN SEGAL[†] – Romania
IOAN A. SILBERG – Romania
ALEXANDRU UNGUREANU – Romania
VICTOR VOICU – Romania
DOREL ZUGRĂVESCU – Romania

Scientific Secretary:

PAUL GAGNIUC
SIMONA CARNICIU

Computer Editing:

LUIZA STAN

Deputy Scientific Secretary:

DANIELA LIXANDRU

Cover by:

MARIANA MOCANU

Technical Editors:

DOINA ARGEȘANU
MONICA STANCIU

The journal is published three times a year.

The journal can be found at the web addresses: www.academiaromana.ro and www.ear.ro

All orders should be sent to:

EDITURA ACADEMIEI ROMÂNE, Calea 13 Septembrie nr. 13, sector 5, Bucharest, Romania, 050711; Phone/Fax 4021-318 2444, Phone 4021-318 8146; 4021-318 2445; E-mail: edacad@ear.ro.

ORION PRESS IMPEX 2000, P.O. Box 77–19, sector 3, București, România; tel. 4021 210 6787, 4021 610 6765; e-mail: office@orionpress.ro

S.C. MANPRES DISTRIBUTION S.R.L., Piața Presei Libere, nr. 1, Corp B, Etaj 3, Cam. 301–302, sector 1, București,

DEREX COM S.R.L., E-mail: derec_com@yahoo.com

SORIRORI SOLUTIONS, Tel.: 004 0765 262 077, 004 0765 166 433; Internet: <http://www.sorirori.ro>; E-mail: sorin.costreie@sorirori.ro, rosana.guta@sorirori.ro

CRIS MEDIA PRESS IMPEX S.R.L., P.O. Box 41–71, sector 1, București, România; Tel./Fax: 004 0722 333 405, 004 0744 325 043; E-mail: office.crismedia@gmail.com

Manuscripts, correspondence as well as journals in exchange should be sent to:

Dr. Simona Carniciu

E-mail: simona.carniciu@acad.ro

Work published with financial support from Recurring Donor Fund of the Romanian



© 2021, EDITURA ACADEMIEI ROMÂNE
www.ear.ro

Proceedings of the Romanian Academy Series B/Chemistry Life Sciences and Geosciences has been selected for coverage in Thomson Scientific products and services. Information on the contents of this publication will be indexed in:

• Biological Abstracts

• BIOSIS Preview

This coverage is in addition to existing inclusion in:

• Zoological Record.

Journal recognized by the Romanian Academy (2016), *A category* indexed.