

Journal of Environmental Accounting and Management

Editors

António Mendes Lopes

Department of Mechanical Engineering
University of Porto
Rua Dr. Roberto Frias, 4200-465 Porto, Portugal
Email: aml@fe.up.pt

Jiazhong Zhang

School of Energy and Power Engineering
Xi'an Jiaotong University
Xi'an, Shaanxi Province 710049, China
Fax: +86 29 82668723
Email: jzzhang@mail.xjtu.edu.cn

Associate Editors

Martin Agelin-Chaab

Automotive, Mechanical and Manufacturing Engineering
University of Ontario Institute of Technology,
Oshawa, Ontario, Canada
Email: martin.agelin-chaab@uoit.ca

Dumitru Baleanu

Department of Mathematics
Cankaya University
Ankara, 06790, Turkey
Email: dumitru.baleanu@gmail.com

Yoshihiro Deguchi

College of Engineering
University of Tokushima
Tokushima 770-8501, Japan
E-mail: ydeguchi@tokushima-u.ac.jp

Raffaele Giordano

Water Research Institute - National Research Council (IRSA-CNR)
Viale Francesco de Blasio 5
70132 Bari, Puglia, Italy
Email: raffaele.giordano@cnr.it

Zhihui Li

National Laboratory for Computational Fluid Dynamics
No.37, Xueyuan Road, Haidian District
Beijing 100191, P.R. China
Email: zhli0097@x263.net

Lennart Marien

Climate Service Center Germany (GERICS)
Helmholtz-Zentrum Geesthacht
Fischertwiete 1
D-20095 Hamburg, Germany
Email: lennart.marien@hzg.de

Carla M.A. Pinto

School of Engineering, Polytechnic of Porto
Rua António Bernardino de Almeida, 431
4249-015 Porto, Portugal
Email: cap@isep.ipp.pt

Dimitri Volchenkov

Mathematics & Statistics
Texas Tech University
1108 Memorial Circle, Lubbock, TX 79409, USA
Email: dr.volchenkov@gmail.com

Ping Wang

College of Civil Engineering and Mechanics
Lanzhou University
Gansu Province 730000, China
E-mail: wping@lzu.edu.cn

Siyuan Xing

Department of Mechanical Engineering
California Polytechnic State University San Luis, Obispo, CA, 93401, USA
Email: siyuanxing9132@gmail.com

Yuhong Zeng

School of Water Resources and Hydropower Engineering
Wuhan University
Wuhan, Hubei 430072, China
Email: yhzeng@whu.edu.cn

Chuan Zhang

School of Economics and Management
Shanghai University of Electric Power
1851 Huchenghuan Road
Shanghai, 201306, China
Email: zhangchuan2020@126.com

Editorial Board

Feni Agostinho

Paulista University
Laboratório de Produção e Meio Ambiente (LaProMA)
Rua Dr. Bacelar, 1212, CEP 04026-002, São Paulo, Brasil
Email: feniagostinho@gmail.com

Shengli Cao

School of Energy and Power Engineering
Xi'an Jiaotong University
Shaanxi Province 710049, China
Email: cs11993@stu.xjtu.edu.cn

Catia Cialani

School of Technology and Business Studies, Economics Unit,
Dalarna University
791 88 Falun, Sweden
Email: cci@du.se

Chido Hermes Chihobo

Combustion Research Laboratory
Department of Fuels and Energy
Chinhoyi University of Science and Technology
P Bag 7724, Zimbabwe
Email: chihobo@gmail.com

Luca Coscieme

Research Program Manager
Hot or Cool Institute
Berlin, Germany
Email: lucaa@gmail.com

Pier Paolo Franzese

Department of Science and Technology
Parthenope University of Naples
Via F. Petrarca n. 80, (80123) Naples, Italy
Email: pierpaolo.franzese@uniparthenope.it

Christine Fürst

Institute for Geosciences and Geography
Dept. Sustainable Landscape Development
Martin Luther University Halle-Wittenberg
Von-Seckendorff-Platz 4
06120 Halle, Germany
E-mail: christine.fuerst@geo.uni-halle.de

Francesco Gonella

Department of Molecular Sciences and Nanosystems
Università Ca' Foscari Venezia
Email: gonella@unive.it

Gordon Huang

Dept. of Environmental Systems Eng.
University of Regina
Regina, Saskatchewan, S4S 0A2
Canada
Email: gordon.huang@uregina.ca

Journal of Environmental Accounting and Management

Volume 12, Issue 4, December 2024

Editors

Antonio M. Lopes

Jiazhong Zhang



L&H Scientific Publishing, LLC, USA

Publication Information

Journal of Environmental Accounting and Management (ISSN 2325-6192 (print), eISSN 2325-6206 (online)) is published quarterly (March, June, September, and December) by L & H Scientific Publishing, LLC, PO Box 219, Glen Carbon, IL62034, USA. Subscription prices are available upon request from the publisher or from this journal website. Subscriptions are accepted on a prepaid basis only and entered on a calendar year basis. Issues are sent by standard mail (Surface in North America, air delivery outside North America). Priority rates are available upon request. Claims for missing issues should be made within six months of the date of dispatch.

Changes of Address

Send address changes to L&H Scientific Publishing, LLC, PO Box 219, Glen Carbon, IL62034, USA. Changes of address must be received at L&H Scientific Publishing eight weeks before they are effective.

Authors Inquiries

For inquiries relative to the submission including electronic submission where available, please visit journal website or contact journal Editors-in-Chief.

Advertising Information

If you are interested in advertising or other commercial opportunities, please email via lhscientificpublishing@gmail.com and your enquiry will be handled as soon as possible.

© 2024 L&H Scientific Publishing, LLC. All rights reserved

L&H Scientific Publishing, LLC requires the authors to sign a Journal Copyright Transfer Agreement for all articles published in L&H Scientific. The Copyright Transfer Agreement is an agreement under which the author retains copyright in the work but grants L & H Scientific Publishing LLC the sole and exclusive right and license to publish the full legal term of copyright.

Authors are responsible for obtaining permission from copyright holders for reproducing any illustrations, tables, figures or lengthy quotations published somewhere previously.

For authorization to photocopy materials for internal or personal use under those circumstances not falling within the fair use provisions of Copyright Act, requests for reprints and translations should be addressed to the permission office of L&H Scientific publishing, LLC via lhscientificpublishing@gmail.com or call: +1-618-402-2267. Permission of the Publisher and payment of a fee are required for all other photocopying, including multiple or systematic copying, copying for advertising or promotional purposes, resale, and forms of document delivery. Special rates are available for educational institutions to make photocopies for non-profit educational classroom use.

Subscribers may reproduce tables of contents or prepare lists of articles including abstracts for internal circulation within their institutions. Permission of the publisher is required for resale or distribution outside the institution.

Permission of the Publisher is required to store or use electronically any materials contained in this journal, including any entire or partial article, please contact the publisher for advice. Otherwise, no part of this publication can be reproduced, stored in retrieval systems or transmitted in any form or by means, electronic, mechanical, photocopying, recording or without prior written permission of the Publisher.

Disclaimer

The authors, editors and publisher will not accept any legal responsibility for any errors or omissions that may be made in this publication. The publisher makes no warranty, express or implied, with respect to the material contained herein.

Printed in USA on acid-free paper.

Aims and Scope

This peer-reviewed Journal publishes original research results in the field of environmental, ecological and climate science, with focus on sustainable management of natural, human-dominated, and man-made ecosystems through appropriate resource use, quality assessment and recovery, as well as on climate change impact assessment, adaptation and mitigation. The aim of the Journal is to provide a place for a deep exchange of new ideas and concepts in the fields of climate and environmental accounting, management and policy making, as well as human and systems ecology and nonlinear dynamics of complex socio-natural systems. Manuscripts on climate and environmental accounting and managements are solicited, including: mathematical modeling and quantitative methods; computational and management techniques in climate, environmental, ecological, energy and information science; environmental technology and engineering; human managed ecosystems such as agricultural, urban, coastal, riparian, and wetland ecosystems. Topics of interest include, but are not limited to:

- Climate, environmental, ecological and resource economics, environmental accounting (life cycle assessment, energy, footprints, etc), emissions inventory, environmental impact assessment, ecosystem services and natural capital assessment, energy and resource use, social factors and impacts, circular economy.
- Modeling in environmental conservation and restoration, eco-hydrology and water resources management, ecological processes and patterns, climate change effects, environmental engineering and technology. Integrated assessment modelling. Land use modelling with climate and environmental applications. Earth system modelling.
- Modelling nonlinear dynamics of complex socio-natural systems. Inter-and transdisciplinary modelling methods and tools.
- Co-production of models with stakeholders. Participatory modelling.
- Quantitative methods and data analysis to inform decision-making on climate and environmental problems. Big data, artificial intelligence, machine learning. Applications of geoinformation systems. Decision-support systems and tools.
- Planning and management in human dimension-institutions and patterns for socio-economic systems, industrial ecology, ecological informatics, landscape design, and urban metabolism and planning.
- Green engineering, green design, green manufacturing, green materials, experimental sustainability.
- Climate and environmental policy, legislation, and innovations with environmental and strategic impact assessment, project appraisal and auditing, and environmental protection.
- Impact assessment of climate change, climate adaptation and mitigation, climate services.

No length limitations for contributions are set, but only concisely written manuscripts are considered for publication. Brief papers can be published on the basis of Technical Notes. Discussions of previous published papers are welcome.

Peer Review

Journal of Environmental Accounting and Management adopts the traditional blind-review policy in which the reviewers' names are concealed for submission author(s). Each submitted manuscript is reviewed by at least two expert referees in the related research field.

Manuscript Submission Guidelines

Author(s) should submit manuscript(s) via the website: <https://www.editorialmanager.com/JEAM/Default.aspx>. For any questions, author(s) can directly contact one of Editors. Manuscript preparation should follow the sample papers and journal manuscript templates (word file or Latex files), which can be downloaded from the website:

<https://lhscientificpublishing.com/Journals/JEAM-Default.aspx>

Proofs and Electronic Offprints

Authors will receive a PDF proof of their articles and, on publication, electronic offprints of the article.

Open Access Options

After manuscripts were accepted, author(s) have a right to request the accepted manuscripts published by L&H Scientific publishing with open access, and the author(s) have a responsibility to paying the open access publication fee. The copyright is still held by the Publisher, but the open access permission is given to the author(s) as follows. Without any request of the open access publication, the accepted manuscripts are assumed to be published traditionally. This journal offers authors two choices to publish their research.

- *Open access:* Articles are freely available to both subscribers and the wider public with permitted reuse. An open access publication fee is payable by authors or their research funder.
- *Subscription:* Articles are made available to subscribers through our access programs. No open access publication fee.

L&H scientific does offer alternative open access publishing options in accordance with funding body requirements. Your publication choice will have no effect on the peer review process or acceptance of your submission.

Open Access Articles

- User rights

All articles published gold open access will be immediately and permanently free for everyone to read and download. We offer authors a choice of user licenses, which define the permitted reuse of articles. We are continuously working with our author communities to select the best choice of license options, currently being defined for this journal as follows:

Creative Commons Attribution (CC BY): lets others distribute and copy the article, to create extracts, abstracts, and other revised versions, adaptations or derivative works of or from an article (such as a translation), to include in a collective work (such as an anthology), to text or data mine the article, even for commercial purposes, as long as they credit the author(s), do not represent the author as endorsing their adaptation of the article, and do not modify the article in such a way as to damage the author's honor or reputation.

Creative Commons Attribution-NonCommercial-NoDerivs (CC BY-NC-ND): for non-commercial purposes, lets others distribute and copy the article, and to include in a collective work (such as an anthology), as long as they credit the author(s) and provided they do not alter or modify the article.

- Open access publication fee

To provide open access, this journal has a publication fee which needs to be met by the authors or their research funders for each article published open access. The open access publication fee for this journal is USD 100 per page, excluding taxes.

Self-archiving Policy

Authors can share their research in a variety of different ways. The author(s) can also self-archive their author manuscript immediately and enable public access from their institution's repository after an embargo period. This is the version that has been accepted for publication and which typically includes author-incorporated changes suggested during submission, peer review and in editor-author communications.

An author is entitled to post the accepted manuscript in their institution's repository and make this public after an embargo period (known as self-archiving). The embargo period for this journal can be found below.

Without the L&H permission, the published journal article cannot be shared publicly, such as, on ResearchGate or Academia.edu, to ensure the sustainability of peer-reviewed research in journal publications.

Embargo period: For subscription articles, an appropriate amount of time is needed for journals to deliver value to subscribing customers before a manuscript becomes available for free to the public. This is called an embargo period and it begins from the date the article is formally published online in its final and fully citable form.

This journal has an embargo period of 24 months and the embargo period for the USA is 12 months.

Continued from inside front cover

Jianping Jing

School of Mechanical Engineering
Shanghai Jiaotong University
Shanghai 200240, China
Email: jianpj@sjtu.edu.cn

Marco Rauei

Faculty of Technology, Design and
Environment
Oxford Brookes University
Wheatley Campus
Wheatley, Oxford UK, OX33 1HX
Email: marco.rauei@brookes.ac.uk

Alicia Valero

Department of Mechanical Engineering
University of Zaragoza
Zaragoza, SPAIN
Email: aliciavd@unizar.es

Chunxiao Xu

School of Aerospace Engineering
Tsinghua University
Beijing 100084, China
Email: xucx@tsinghua.edu.cn

Amalia Zucaro

Department for Sustainability
Division Resource Efficiency
Laboratory Technologies for the Reuse,
Recycling, Recovery and Valorisation of Waste
and Materials
Email: amalia.zucaro@enea.it

Renato Passaro

University of Naples Parthenope
Department of Engineering
Centro Direzionale di Napoli, Isola C4,
Office 506 South 80143 Naples (ITALY)
Email: renato.passaro@uniparthenope.it

Jian Sun

School of Energy and Power Engineering
Xi'an Jiaotong University
Shaanxi Province 710049, China
Email: sunjian0306@mail.xjtu.edu.cn

Wei Wang

School of Energy and Electrical Engineering
Chang'an University
Weiyang District, Xi'an
Shaanxi Province, 710018, China
Email: weiiwwang@chd.edu.cn

Maciej Zalewski

European Regional Centre for Ecohydrology
Polish Academy of Sciences
UNESCO Chair on Ecohydrology and of
Applied Ecology
University of Lodz, Poland
Email: m.zalewski@erce.unesco.lodz.pl

Sergey Prants

Pacific Oceanological Institute of the
Russian Academy of Sciences
43 Baltiiskaya St.
690041 Vladivostok, Russia
Email: prants@poi.dvo.ru

Hansong Tang

Department of Civil Engineering
The City College of New York
160 Convent Avenue
New York, NY 10031
Email: htang@ccny.cuny.edu

Zhuopu Wang

School of Astronautics
Northwestern Polytechnical University
Shaanxi Province 710072, China
Email: zpwang@nwpu.edu.cn

Xiaojing Zheng

School of Mechatronics Engineering
Xidian University
Shaanxi Province 710071 China
Email: xjzheng@lzu.edu.cn