

ISSN: 2160-6951 Volume 11, Number 2, May 2021



Green and Sustainable Chemistry



ISSN: 2160-6951



<https://www.scirp.org/journal/gsc>

Journal Editorial Board

ISSN Print: 2160-6951 ISSN Online: 2160-696X

<https://www.scirp.org/journal/gsc>

Editor-in-Chief

Prof. Nour-Eddine Es-Safi

Mohammed V University in Rabat, Morocco

Editorial Board

Prof. Abbas Afkhami

Bu-Ali Sina University, Iran

Prof. Salah Akkal

University of Constantine, Algeria

Prof. Alaa A. A. Aljabali

Yarmouk University, Jordan

Prof. Nelson Belzile

Laurentian University, Canada

Prof. Asim Bhaumik

Indian Association for the Cultivation of Science, India

Prof. Pradip K. Bhowmik

University of Nevada, USA

Prof. Chieh-Ming James Chang

National Chung Hsing University, Chinese Taipei

Prof. Jo-Shu Chang

National Cheng Kung University, Chinese Taipei

Prof. Biswajit Chowdhury

IIT(ISM) Dhanbad, India

Prof. Xiu-Yun Chuan

Peking University, China

Prof. T. C. Chung

The Pennsylvania State University, USA

Prof. Mircea Darabantu

University Babes-Bolyai, Romania

Prof. Zhen Fang

Chinese Academy of Sciences, China

Dr. Majid Ghashang

Islamic Azad University, Iran

Dr. Qilin Huang

Huazhong Agriculture University, China

Prof. Mo Hunsen

Kenyon College, USA

Prof. William E. Acree Jr.

The University of North Texas, USA

Prof. György Keglevich

Budapest University of Technology and Economics, Hungary

Prof. Shailendra Kumar Kulshreshtha

Atomic Energy Education Society, India

Prof. Yoon-Sik Lee

Seoul National University, South Korea

Prof. Silvia Licoccia

University of Rome Tor Vergata, Italy

Prof. Yangsheng Liu

Peking University, China

Dr. Ying-Ling Liu

National Tsing Hua University, Chinese Taipei

Prof. Averous Luc

University of Strasbourg, France

Prof. Ram S. Mohan

Illinois Wesleyan University, USA

Prof. S. V. Ranga Nayakulu

Guru Nanak Engg College, India

Prof. Nagatoshi Nishiwaki

Kochi University of Technology, Japan

Prof. Kotohiro Nomura

Tokyo Metropolitan University, Japan

Prof. Kaushik Pal Federal

University of Rio de Janeiro, Brazil

Prof. Batchu Venkateswara Rao

Indian Institute of Chemical Technology, India

Prof. Ismael Saadoun

Faculty of Science and Technologies Marrakesh, Morocco

Prof. Mohammed Abd El-Dayem Sallam

Alexandria University, Egypt

Prof. Zhihui Shao

Yunnan University, China

Prof. Yongsoon Shin

Pacific Northwest National Laboratory, USA

Prof. Artur Manuel Soares Silva

Universidade de Aveiro, Portugal

Prof. Gurdip Singh

Deen Dayal Upadhyay Gorakhpur University, India

Dr. Prakash R. Somani

Applied Science Innovations Pvt. Ltd., India

Prof. Gonghua Song

East China University of Science and Technology, China

Prof. Piotr Stepnowski

University of Gdańsk, Poland

Prof. S. Vasudevan

Principal Scientist & Professor (AcSIR), India

Dr. Chuan Wang

Department of Chemistry University of Chicago, China

Prof. Hongjie Zhang

Chinese Academy of Sciences, China

Dr. Xiaowei Zhou

Northwestern University, USA

Table of Contents

Volume 11 Number 2

May 2021

Use of *Cucurbita pepo* Oil to Fight against the UV Action on the Skin

A. H. W. Nakavoua, G. C. Enoua, S. Manhan-Iniangas, P. Chalard, G. Figuéredo.....49

Evaluation of Plantain Biomass (*Musa paradisiaca* L.), as Feedstock for Bio-Ethanol Production

H. O. Ogunsuyi, C. A. Olawale.....59

Green and Sustainable Chemistry (GSC)

Journal Information

SUBSCRIPTIONS

The *Green and Sustainable Chemistry* (Online at Scientific Research Publishing, <https://www.scirp.org/>) is published quarterly by Scientific Research Publishing, Inc., USA.

Subscription rates:

Print: \$79 per issue.

To subscribe, please contact Journals Subscriptions Department, E-mail: sub@scirp.org

SERVICES

Advertisements

Advertisement Sales Department, E-mail: service@scirp.org

Reprints (minimum quantity 100 copies)

Reprints Co-ordinator, Scientific Research Publishing, Inc., USA.

E-mail: sub@scirp.org

COPYRIGHT

Copyright and reuse rights for the front matter of the journal:

Copyright © 2021 by Scientific Research Publishing Inc.

This work is licensed under the Creative Commons Attribution International License (CC BY).

<http://creativecommons.org/licenses/by/4.0/>

Copyright for individual papers of the journal:

Copyright © 2021 by author(s) and Scientific Research Publishing Inc.

Reuse rights for individual papers:

Note: At SCIRP authors can choose between CC BY and CC BY-NC. Please consult each paper for its reuse rights.

Disclaimer of liability

Statements and opinions expressed in the articles and communications are those of the individual contributors and not the statements and opinion of Scientific Research Publishing, Inc. We assume no responsibility or liability for any damage or injury to persons or property arising out of the use of any materials, instructions, methods or ideas contained herein. We expressly disclaim any implied warranties of merchantability or fitness for a particular purpose. If expert assistance is required, the services of a competent professional person should be sought.

PRODUCTION INFORMATION

For manuscripts that have been accepted for publication, please contact:

E-mail: gsc@scirp.org



Green and Sustainable Chemistry (GSC)

ISSN Print: 2160-6951 ISSN Online: 2160-696X
<https://www.scirp.org/journal/gsc>

Green and Sustainable Chemistry (GSC) covers subjects relating to reducing the environmental impact of chemicals and fuels by developing alternative and sustainable technologies that are non-toxic to living things and the environment. The goal of this journal is to provide a platform for scientists and academicians all over the world to promote, share, and discuss various new issues and developments in different areas of Green and Sustainable Chemistry.

Subject Coverage

This journal invites original research and review papers that address the following issues. Topics of interest include, but are not limited to:

- Atom-Economic Reaction
- Biodegradable Plastics
- Biotechnology Alternatives
- Biotransformation
- Chemical Aspects of Renewable Energy
- Design of New, Greener and Safer Chemicals and Materials
- Energy-Saving
- Environmentally Improved Routes and Methods
- Flow Chemistry and Continuous Processing
- Greenhouse Effect
- Improved Process Engineering
- Improved Production Methods, Formulation and Delivery Systems
- Methodologies and Tools for Measuring Environmental Impact
- Natural Sources
- Sustainable Resources
- The Use of Biotechnology Alternatives to Chemistry-Based Solutions
- Waste Control, Treatment and Disposal
- White Pollution
- Zero Emission

We are also interested in short papers (letters) that clearly address a specific problem, and short survey or position papers that sketch the results or problems on a specific topic. Authors of selected short papers would be invited to write a regular paper on the same topic for future issues of the GSC.

Notes for Intending Authors

Submitted papers should not have been previously published nor be currently under consideration for publication elsewhere. Paper submission will be handled electronically through the website. All papers are refereed through a peer review process. For more details about the submissions, please access the website.

Website and E-Mail

<https://www.scirp.org/journal/gsc> E-mail: gsc@scirp.org

What is SCIRP?

Scientific Research Publishing (SCIRP) is one of the largest Open Access journal publishers. It is currently publishing more than 200 open access, online, peer-reviewed journals covering a wide range of academic disciplines. SCIRP serves the worldwide academic communities and contributes to the progress and application of science with its publication.

What is Open Access?

All original research papers published by SCIRP are made freely and permanently accessible online immediately upon publication. To be able to provide open access journals, SCIRP defrays operation costs from authors and subscription charges only for its printed version. Open access publishing allows an immediate, worldwide, barrier-free, open access to the full text of research papers, which is in the best interests of the scientific community.

- High visibility for maximum global exposure with open access publishing model
- Rigorous peer review of research papers
- Prompt faster publication with less cost
- Guaranteed targeted, multidisciplinary audience



**Scientific
Research
Publishing**

**Website: <https://www.scirp.org>
Subscription: sub@scirp.org
Advertisement: service@scirp.org**