



# Green and Sustainable Chemistry





#### **Journal Editorial Board**

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

#### Editor-in-Chief

Prof. Nour-Eddine Es-Safi Mohammed V University in Rabat, Morocco

#### **Editorial Board**

Prof. Abbas AfkhamiBu-Ali Sina University, IranProf. Salah AkkalUniversity of Constantine, AlgeriaProf. Nelson BelzileLaurentian University, Canada

Prof. Asim Bhaumik Indian Association for the Cultivation of Science, India

Prof. Pradip K. BhowmikUniversity of Nevada, USAProf. George BratulescuUniversity of Craiova, Romania

Prof. Chieh-Ming James ChangNational Chung Hsing University, Chinese TaipeiProf. Jo-Shu ChangNational Cheng Kung University, Chinese Taipei

**Prof. Xiu-Yun Chuan** Peking University, China

Prof. T. C. ChungThe Pennsylvania State University, USAProf. Mircea DarabantuUniversity Babes-Bolyai, RomaniaProf. Zhen FangChinese 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 KulshreshthaAtomic Energy Education Society, IndiaProf. Yoon-Sik LeeSeoul National University, South KoreaProf. Silvia LicocciaUniversity of Rome Tor Vergata, Italy

Prof. Yangsheng Liu Peking University, China

**Dr. Ying-Ling Liu** National Tsing Hua Univesity, Chinese Taipei

Prof. Averous LucUniversity of Strasbourg, FranceProf. Ram S. MohanIllinois Wesleyan University, USAProf. S. V. Ranga NayakuluGuru Nanak Engg College, IndiaProf. Nagatoshi NishiwakiKochi University of Technology, JapanProf. Kotohiro NomuraTokyo Metropolitan University, Japan

Prof. Batchu Venkateswara Rao Indian Institute of Chemical Technology, India

**Prof. Ismael Saadoune** Faculty of Science and Technologies Marrakesh, Morocco

Prof. Mohammed Abd El-Dayem SallamAlexandria University, EgyptProf. Zhihui ShaoYunnan University, China

Prof. Yongsoon Shin Pacific Northwest National Laboratory, USA

Prof. Artur Manuel Soares Silva Universidade de Aveiro, Portugal

Prof. Gurdip SinghDeen Dayal Upadhyay Gorakhpur University, IndiaDr. Prakash R. SomaniApplied Science Innovations Pvt. Ltd., India

Prof. Gonghua Song East China University of Science and Technology, China

Prof. Piotr Stepnowski University of Gdańsk, Poland

Dr. Chuan Wang Department of Chemistry University of Chicago, China

Prof. Hongjie ZhangChinese Academy of Sciences, ChinaDr. Xiaowei ZhouNorthwestern University, USAProf. Jin ZhuNanjing University, China



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

### **Table of Contents**

Volume 7	Number 4	November 2017
Study on Deac Used in Biodie	tivation and Regeneration of Modified Red Mud Catalyst sel Production	
A. Wahyudi, V	V. Kurniawan, H. Hinode	247
	eparation of NaOH-Activated Carbon from Sugar Cane Bagasse ive Plasma Heating	
K. Konno, Y. C	Dike, Y. Ohba, O. Sasaki, Y. Takiguchi, K. Onoe, T. Yamaguchi	259
Solvent- and C	atalyst-Free Microwave-Assisted Decarboxylation of Malonic Ac	id Derivatives
F A Cabrera-	Rivera I. G. Hernández-Vázguez P. Flores-Sánchez M. Durán-Galván I.	Fscalante 270

## Green and Sustainable Chemistry (GSC) Journal Information

#### SUBSCRIPTIONS

The *Green and Sustainable Chemistry* (Online at Scientific Research Publishing, <a href="www.SciRP.org">www.SciRP.org</a>) is published quarterly by Scientific Research Publishing, Inc., USA.

#### Subscription rates:

Print: \$79 per issue.

To subscribe, please contact Journals Subscriptions Department, E-mail: <a href="mailto:sub@scirp.org">sub@scirp.org</a>

#### **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 © 2017 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 © 2017 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

http://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

http://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





Website: http://www.scirp.org Subscription: sub@scirp.org Advertisement: service@scirp.org