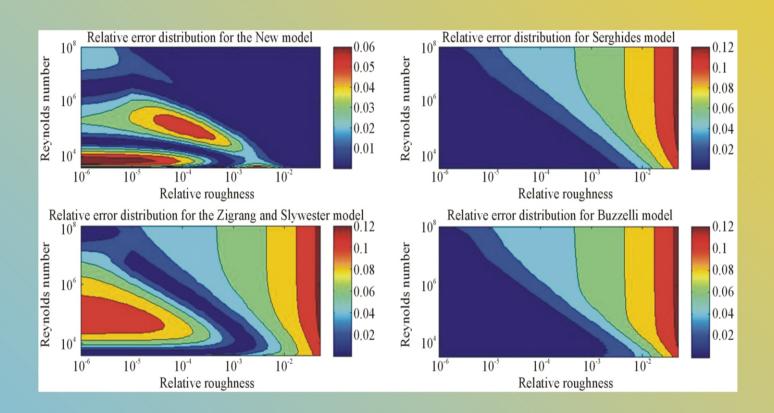




# Advances in Chemical Engineering and Science





## **Journal Editorial Board**

ISSN 2160-0392 (Print) ISSN 2160-0406 (Online)

http://www.scirp.org/journal/aces

### Editor-in-Chief

Prof. SungCheal Moon Korea Institute of Materials Science (KIMS), South Korea

### **Editorial Board**

Prof. Azzedine Abbaci Université Badji Mokhtar, Algeria

Prof. Jose-Maria Bastidas Spanish Council for Scientific Research (CSIC), Spain

**Dr. Sampa Chakrabarti**University of Calcutta, India

Prof. Changle Chen University of Science and Technology of China, China

Prof. Juan A. Conesa University of Alicante, Spain

Prof. Zhen Fang
Chinese Academy of Sciences, China
Prof. Mervin Floyd Fingas
National Academy of Sciences, USA

Dr. Mazeyar Parvinzadeh Gashti Université Laval, Canada
Dr. A. Nirmala Grace VIT University, India

**Prof. Chang-Sik Ha**Pusan National University, South Korea

**Dr. Christopher J. Koroneos** National Technical University of Athens, Greece

Prof. Roberto Fernández Lafuente Consejo Superior de Investigaciones Científicas, Spain

Prof. Lubomir LapcikTomas Bata University, Czech RepublicProf. Fengshan LiuNational Research Council, Canada

**Dr. Muhammad Mansha**University of Engineering and Technology, Pakistan

**Dr. Miguel Miranda** National Laboratory of Engineering and Geology, I.P., Portugal

Prof. Hasan Abdellatif Mousa Jordan University of Science and Technology, Jordan

Prof. Hamdaoui Oualid University of Annaba, Algeria

Dr. Graziano PinnaUniversity of Illinois at Chicago, USAProf. Hristo SapoundjievNatural Resources Canada, Canada

Prof. Chi-Min Shu National Yunlin University of Science and Technology, Chinese Taipei

Prof. Georgiy B. Shul'pin Russian Academy of Sciences, Russia

**Dr. Ajaya Kumar Singh** Government VYT Post Graduate Autonomous College, India

Prof. Neven Ukrainczyk University of Zagreb, Croatia

**Dr. Shuangzhen Wang**National Insistute of Standards and Technology, USA

**Dr. Chunliang Wu**Louisiana State University, USA

**Dr. Hongwei Wu**University of the West of Scotland, UK

Prof. Gennady Efremovich Zaikov Moscow State Academy of Fine Chemical Technology, Russia



# **Table of Contents**

| Volume 6 Number 3  | July 2016 |
|--|-----------|
| An Accurate and Computationally Efficient Explicit Friction Factor Model   |           |
| U. H. Offor, S. B. Alabi   | 237       |
| A Comparative Assessment of Hydrogen Embrittlement: Palladium and Palladium-Silver (25 Weight% Silver) Subjected to Hydrogen Absorption/Desorption Cycling   |           |
| G. Jimenez, E. Dillon, J. Dahlmeyer, T. Garrison, T. Garrison, S. Darkey, K. Wald, J. Kubik, D. Paciul M. Talukder, J. Nott, M. Ferrer, J. Prinke, P. Villaneuva, F. Massicotte, K. Rebeiz, S. Nesbit, A. Craf | •         |
| Study of the Incorporation Behavior of L-Leu and D-Leu in L-Val Crystallization  |           |
| J. Sen, N. Kokubun, T. Kamei, K. Ohmori, M. Kishino, T. Kashiwagi, M. Yokota, N. Doki  | 262       |
| Experimental Study of Flow around a Circular Cylinder inside a Bubble Plume  |           |
| T. Uchiyama, Y. Ishiguro   | 269       |
| Bioenergy Production from Anaerobic Co-Digestion of Sewage Sludge and Abattoir Wast  | tes       |
| D. Aberra, F. Fufa   | 281       |
| Bio-Diesel Based Additive for Enhancing Flow of Emulsion in Pipeline   |           |
| F. Adesina, A. Paul, O. David, A. Gbadegesin   | 288       |

### **Advances in Chemical Engineering and Science (ACES)**

### **Journal Information**

### SUBSCRIPTIONS

The Advances in Chemical Engineering and Science (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 © 2016 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  $\ensuremath{\mathbb{O}}$  2016 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: aces@scirp.org

# Call for Papers



# Advances in Chemical Engineering and Science

ISSN: 2160-0392 (Print), 2160-0406 (Online) www.scirp.org/journal/aces

Advances in Chemical Engineering and Science is an open access, peer-reviewed and fully refereed journal focusing on theories, methods and applications in chemical engineering and science. 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 Advances in Chemical Engineering and Science.

### Editor-in-Chief

Prof. SungCheal Moon

Korea Institute of Materials Science (KIMS), South Korea

### Subject Coverage

All manuscripts must be prepared in English, and are subject to a rigorous and fair peer-review process. Accepted papers will immediately appear online followed by printed hard copy. The journal publishes original papers including but not limited to the following fields:

- Biochemical Engineering
- Bio-Engineering Materials
- Chemical Engineering Biotechnology
- Chemical Reaction
- Chemical Reaction Related Unit Operations
- Chemicals
- Composite Materials
- Electrochemistry of Nanomaterials and Applications
- Energy Engineering
- Environmental Engineering
- Fluid Mechanics
- Green Chemistry

- Molecular Assembly
- Nanomaterials
- Nano-Scale Phenomena
- Nanostructured Materials
- Nanotechnology
- Natural Products
- Optimization of Chemical Engineering Systems
- Organic Chemistry
- Petrochemical
- Pharmaceuticals Polymers
- Specialty Chemicals
- Transport Phenomena

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 **ACES**.

### Notes for Intending Authors

Submitted papers should not be previously published nor be currently under consideration for publication elsewhere. Paper submission will be handled electronically through the website. All papers will be peer reviewed. For more derails about the submission, please access the website.

### Website and E-Mail

www.scirp.org/journal/aces

E-mail: aces@scirp.org