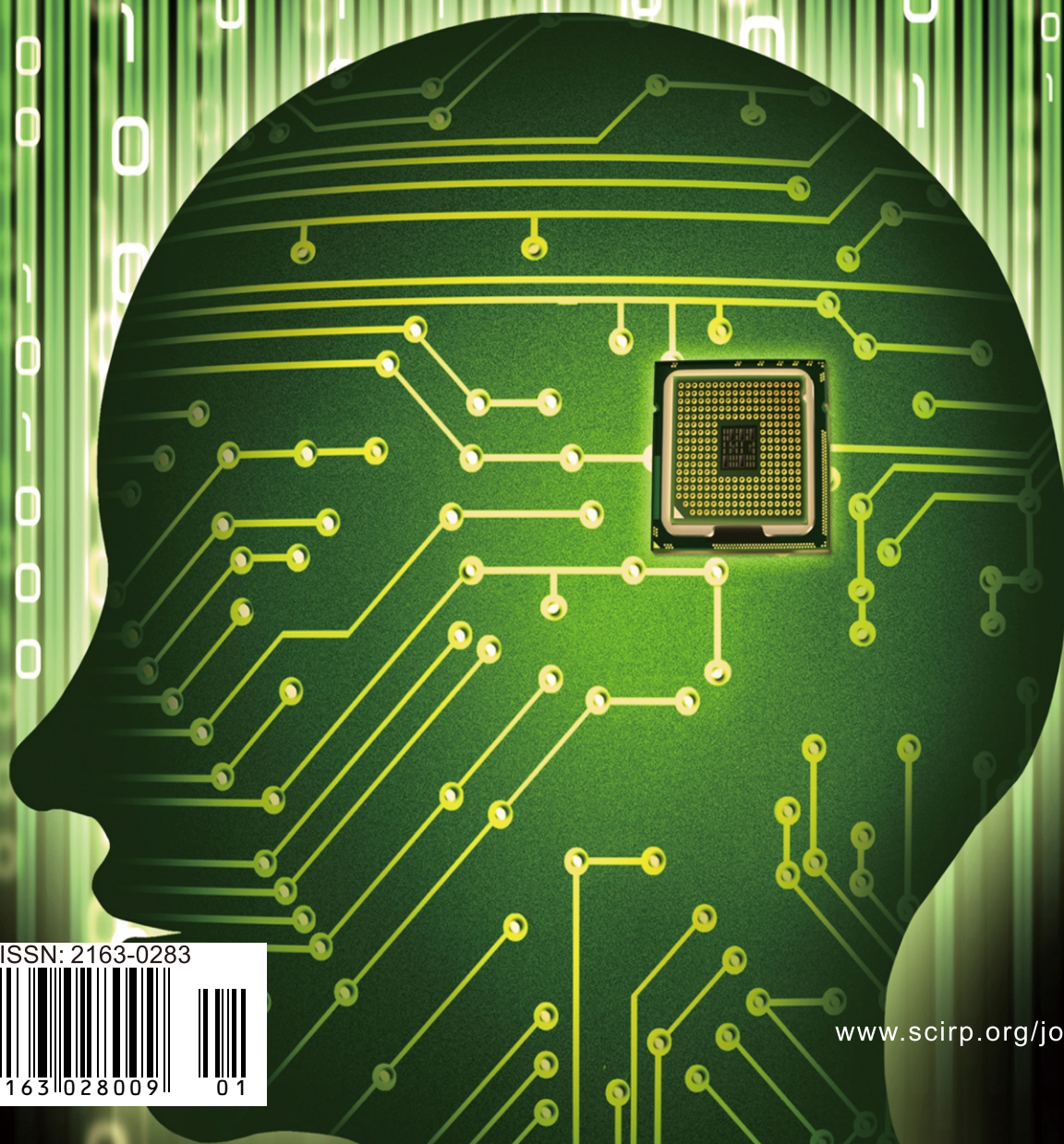


ISSN: 2163-0283 Volume 8, Number 1, January 2018



# International Journal of Intelligence Science



ISSN: 2163-0283



[www.scirp.org/journal/ijis](http://www.scirp.org/journal/ijis)

# Journal Editorial Board

ISSN: 2163-0283 (Print) ISSN: 2163-0356 (Online)

<http://www.scirp.org/journal/ijis/>

---

## Editor-in-Chief

**Prof. Zhongzhi Shi** Chinese Academy of Sciences, China

## Editorial Board

**Prof. Agnar Aamodt** Norwegian University of Science and Technology, Norway

**Dr. Benny Cheung** The Hong Kong Polytechnic University, China

**Prof. Ruan Da** Belgian Nuclear Research Centre, Belgium

**Prof. Hugo de Garis** Xiamen University, China

**Prof. Ben Goertzel** Novamente LLC, Rockville, MD, USA

**Dr. Hafiz M. R. Khan** Florida International University, USA

**Prof. David B. Leake** Indiana University, USA

**Prof. Jiye Liang** Shanxi University, China

**Prof. Yuejia Luo** Shenzhen University, China

**Prof. Filippo Neri** University of Naples "Federico II", Italy

**Prof. Paul S. Rosenbloom** University of Southern California, USA

**Prof. Sukumar Senthilkumar** Vellore Institute of Technology-University, India

**Prof. Maolin Tang** Queensland University of Technology, Australia

**Prof. Sunil Vadera** University of Salford, UK

**Prof. Guoyin Wang** Chongqing Institute of Green and Intelligent Technology, CAS, China

**Prof. Philip S. Yu** University of Illinois, USA

**Prof. Jean-Daniel Zucker** University Paris 6 and IRD, France

# Table of Contents

**Volume 8    Number 1**

**January 2018**

**An Analysis of Foraging and Echolocation Behavior of Swarm Intelligence Algorithms in  
Optimization: ACO, BCO and BA**

T. Islam, M. E. Islam, M. R. Ruhin.....1

# International Journal of Intelligence Science (IJIS)

## Journal Information

### SUBSCRIPTIONS

The *International Journal of Intelligence Science* (Online at Scientific Research Publishing, [www.SciRP.org](http://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](mailto:sub@scirp.org)

### SERVICES

#### Advertisements

Advertisement Sales Department, E-mail: [service@scirp.org](mailto:service@scirp.org)

#### Reprints (minimum quantity 100 copies)

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

E-mail: [sub@scirp.org](mailto:sub@scirp.org)

### COPYRIGHT

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

Copyright © 2018 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 © 2018 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.

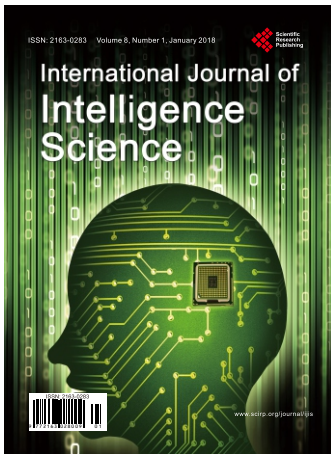
#### Disclaimer of liability

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: [ijis@scirp.org](mailto:ijis@scirp.org)



# International Journal of Intelligence Science

ISSN: 2163-0283 (Print) ISSN: 2163-0356 (Online)  
<http://www.scirp.org/journal/ijis>

Intelligent science is an interdisciplinary subject which dedicates to joint research on basic theory and technology of intelligence by brain science, cognitive science, artificial intelligence and others. The journal will provide an international forum for researchers, scholars, and engineers in above area to publish high quality and refereed papers, disseminate latest theoretical results as well as their applications in this field all over the world.

## Editor-in-Chief

**Prof. Zhongzhi Shi**

Chinese Academy of Sciences, China

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:

- © Artificial Brain
- © Artificial Intelligence
- © Brain Science
- © Brain-Like Computers
- © Cognitive Neuroscience
- © Cognitive Science
- © Emotion
- © Intelligent Computers
- © Intelligent Robots
- © Intelligent Systems
- © Learning
- © Linguistic Cognition
- © Memory
- © Mind Modelling
- © Multi-Agent Systems
- © Nature of Consciousness
- © Perception
- © Thought
- © Web Intelligence

We are also interested in: 1) Review articles on special topics of general interest; 2) Notes and communications; 3) Perspective survey; 4) Book reviews.

## Website and E-Mail

<http://www.scirp.org/journal/ijis>

E-mail: [ijis@scirp.org](mailto:ijis@scirp.org)