

# International Journal of Natural Computing Research

October-December 2014, Vol. 4, No. 4

## Table of Contents

### SPECIAL ISSUE FROM THE 4<sup>TH</sup> PORTUGUESE-BRAZILIAN SUMMER SCHOOL ON EVOLUTIONARY COMPUTATION

#### GUEST EDITORIAL PREFACE

- iv *Francisco Baptista Pereira, Polytechnic Institute of Coimbra, Coimbra, Portugal & CISUC, Centre for Informatics and Systems of the University of Coimbra, Coimbra, Portugal*  
*António Gaspar-Cunha, IPC/13N – Institute for Polymers and Composites, University of Minho, Campus de Azurém, Guimarães, Portugal*

#### RESEARCH ARTICLES

- 1 **Optimization of a Three Degrees of Freedom DELTA Manipulator for Well-Conditioned Workspace with a Floating Point Genetic Algorithm**  
*Vitor Gaspar Silva, Department of Electrical and Computer Engineering, University of Coimbra, Coimbra, Portugal*  
*Mahmoud Tavakoli, Department of Electrical and Computer Engineering, University of Coimbra, Coimbra, Portugal*  
*Lino Marques, Department of Electrical and Computer Engineering, University of Coimbra, Coimbra, Portugal*
- 15 **Object-Oriented Evolutionary Testing: A Review of Evolutionary Approaches to the Generation of Test Data for Object-Oriented Software**  
*Ana Filipa Nogueira, University of Coimbra, Coimbra, Portugal*  
*José Carlos Bregieiro Ribeiro, Polytechnic Institute of Leiria, Leiria, Portugal*  
*Francisco Fernández de Vega, University of Extremadura, Mérida, Spain*  
*Mário Alberto Zenha-Rela, University of Coimbra, Coimbra, Portugal*
- 36 **A Genetic Algorithms Approach for Inverse Shortest Path Length Problems**  
*António Leitão, CISUC, Department of Informatics Engineering, University of Coimbra, Coimbra, Portugal*  
*Adriano Vinhas, CISUC, Department of Informatics Engineering, University of Coimbra, Coimbra, Portugal*  
*Penousal Machado, CISUC, Department of Informatics Engineering, University of Coimbra, Coimbra, Portugal*  
*Francisco Câmara Pereira, Department of Informatics Engineering, University of Coimbra & Singapore-MIT Alliance for Research and Technology, Singapore, Singapore*
- 55 **Developments on the Regulatory Network Computational Device**  
*Rui Lopes, CISUC, Department of Informatics Engineering, University of Coimbra, Coimbra, Portugal*  
*Ernesto Costa, CISUC, Department of Informatics Engineering, University of Coimbra, Coimbra, Portugal*

#### Copyright

The **International Journal of Natural Computing Research (IJNCR)** (ISSN 1947-928X; eISSN 1947-9298), Copyright © 2014 IGI Global. All rights, including translation into other languages reserved by the publisher. No part of this journal may be reproduced or used in any form or by any means without written permission from the publisher, except for noncommercial, educational use including classroom teaching purposes. Product or company names used in this journal are for identification purposes only. Inclusion of the names of the products or companies does not indicate a claim of ownership by IGI Global of the trademark or registered trademark. The views expressed in this journal are those of the authors but not necessarily of IGI Global.

The *International Journal of Natural Computing Research* is indexed or listed in the following: Bacon's Media Directory; Cabell's Directories; DBLP; Google Scholar; INSPEC; JournalTOCs; MediaFinder; The Standard Periodical Directory; Ulrich's Periodicals Directory