

---

## Editorial

---

### George A. Tshrintzis

Department of Informatics,  
University of Piraeus,  
Piraeus 185 34, Greece  
Fax: +30-210-4142264  
E-mail: geoatsi@unipi.gr

**Biographical notes:** George A. Tshrintzis received his Diploma of Electrical Engineer from the National Technical University of Athens, Greece (with honours) and his MSc and PhD in Electrical Engineering from Northeastern University, Boston, Massachusetts, USA. He is currently Professor in the Department of Informatics, The University of Piraeus, Greece and Director of the graduate programme of study in 'advanced computing and informatics systems' of the department. His current research interests include pattern recognition, decision theory, and statistical signal processing and their applications in multimedia interactive services, user modelling, intelligent software systems, human-computer interaction and information retrieval. He has authored or co-authored over 250 research publications in these areas, which have appeared in international journals, book chapters, and conference proceedings, and has served as the principal investigator or co-investigator in several R&D projects. He has supervised eight doctoral students who have received their doctoral degrees and is currently supervising an additional six students.

---

Dear readers,

A few months ago, Prof.-Dr. Lakhmi C. Jain, Honorary Editor of the *IJCISudies*, invited me as Editor-in-Chief. I had already known Lakhmi for a number of years. We both pursue research and education in various areas of computational intelligence. Lakhmi and I have already completed quite a few joint academic projects, including joint authorship of research monographs, joint editorship of collections of research papers, and joint organisation of international conferences. Thus, I accepted his invitation with great enthusiasm and excitement.

We agreed that the *IJCISudies* needs to continue as an international forum for announcing novel research, exchanging ideas, and disseminating current advances in the scientific field of computational intelligence. Computational intelligence has been an active field of research for several decades and, today, constitutes one of the most significant scientific disciplines. Despite the fact that researchers worldwide have been working in the field of computational intelligence for quite some time, new research problems are constantly appearing that require further research efforts. Reports are constantly appearing on new theoretical developments, new experimental testimonies and new application areas for computational intelligence.

It is the main purpose of the *IJCISudies* to become a point of reference for researches in the entire spectrum of topics and approaches of computational intelligence. Our

ambition is to appeal to academic researchers, educators, practitioners, graduate students, professionals, and anyone else interested in aspects of computational intelligence.

A few months after Lakhmi's invitation, I am happy to welcome you to issue four of volume one of the *IJCISudies*. This is the first issue published under my editorship! In this issue, we publish papers from the general pool of submissions. With this issue, we are completing volume one of the *IJCISudies*. Issue one of volume two will follow soon as a special issue on 'Advances in affective computing'. Other regular and special issues are in the queue.

The papers accepted for publication were carefully screened by at least three reviewers. When positive reviews were returned on a submission, the comments of the reviewers were incorporated by the authors in their revision in an effort to improve the quality of the papers. In case of negative reviews, the authors were notified in an effort to help them in their future researches and in hopes of their submitting works of theirs again for possible publication in the *IJCISudies*.

In the issue at hand, we feature five articles on various aspects of computational intelligence. Specifically, the first paper, authored by Rodrigo Rabello Golfeto, Antônio Carlos Moretti and Luiz Leduino de Salles Neto and titled 'INTELCSP: computational intelligence applied to cutting stock problems', is on an intelligent decision-making system for industrial processes in which the cutting stock problem is a component relevant to production planning. In order to establish a cutting process assisted by an intelligent system, with memory and learning capabilities, the authors utilised a symbiotic genetic algorithm (Symbio) that they developed for cutting stock problems with multiple objectives, setup costs and waste. Case-based reasoning (CBR) was used as a learning strategy. The results obtained show that this is a promising approach.

The second paper, authored by Priya P. Panigrahi and Tiratha Raj Singh and titled 'Computational analysis for functional and evolutionary aspects of BACE-1 and associated Alzheimer's related proteins', presents a study of protein-protein interactions of  $\beta$ -secretase-1. This study will help in elucidating the regulation mechanism of proteins found from interaction studies and will help in the design of inhibitors for their activity leads to Alzheimer's disease directly or indirectly. Design of such inhibitors will be a promising approach for the prevention and cure of Alzheimer's disease.

The third paper, authored by R. Madhusudhan and R.C. Mittal and titled 'An enhanced biometrics-based remote user authentication scheme using mobile devices', demonstrates that a recently proposed fingerprint authentication scheme is vulnerable to attacks. To solve these problems, the authors propose a fingerprint-based remote user authentication scheme using mobile devices.

The fourth paper, authored by Mamta Khosla, Rakesh Kumar Sarin and Moin Uddin and titled 'A simplified architecture for triangular quasi type-2 fuzzy logic systems', presents a simplified architecture for implementing a triangular quasi T2 FLS. Their approach uses three embedded type-1 FLSs, tunes the footprint of uncertainty with an objective to optimise the performances of interval T2 and QT2 FLSs and compares the performances of T1, IT2 and triangular QT2 FLSs.

Finally, the fifth paper, authored by Archana Patil and Vahida Attar and titled 'Framework for stream learning algorithms', provides a framework by enhancing the existing software used for stream data analysis with a user friendly interface. Their interface incorporates the facility of selecting multiple classifiers for performance

comparison, saving the environment for future use and plotting the performance graph of classifiers, so that one can select the best classifier suitable for the required task.

I would like to thank Prof. Lakhmi C. Jain for inviting me as Editor-in-Chief of the *IJCISudies* and look forward to working with him on making this a top-notch journal.

I hope that you enjoy reading this issue of the *IJCISudies* and find the papers in it helpful in your endeavours with computational intelligence. Please do come back as readers of the upcoming special issue on 'Advances in affective computing' and consider publishing your own research in the *IJCISudies*.