
Editorial

Mario Köppen* and Masato Tsuru

Kyushu Institute of Technology,
680-4 Kawazu, Iizuka, Fukuoka 820-8502, Japan

Email: mkoepfen.kyutech@gmail.com

Email: tsuru@cse.kyutech.ac.jp

*Corresponding author

Biographical notes: Mario Köppen received his Master in Solid State Physics from the Humboldt-University of Berlin in 1991. From 1992 to 2006, he was with the Fraunhofer Institute for Production Systems and Design Technology. He received his doctoral degree at the Technical University Berlin with honours in 2005. He has published around 150 peer-reviewed papers in conference proceedings, journals and books. He is founding member of the World Federation of Soft Computing, and Associate Editor of the *Applied Soft Computing Journal*. In 2006, he became JSPS Fellow, and in 2013 a Professor at the Graduate School of Creative Informatics of the Kyushu Institute of Technology, where he is now conducting research in the fields of soft computing, multi-objective optimisation and human-centered computing.

Masato Tsuru received his BE and ME degrees from Kyoto University, Japan in 1983 and 1985, respectively, and then received his DE degree from Kyushu Institute of Technology, Japan in 2002. He worked at Oki Electric Industry Co., Ltd., Nagasaki University, and Japan Telecom Information Service Co., Ltd. In 2003, he moved to the Department of Computer Science and Electronics, Kyushu Institute of Technology as an Associate Professor, and then has been a Professor in the same department since 2006. His research interests include performance measurement, modelling, and management of computer communication networks. He is a member of the ACM, IEEE, IEICE, IPSJ, and JSSST.

Welcome to the first issue of the *Inderscience International Journal of Soft Computing and Networking (IJSCN)*. Some of you reading these lines might immediately wonder: why starting yet another journal in these impact factors and indexing obedient times? As an answer, please let us explain our policy a bit: we nevertheless found that a journal devoted to the unique combination of two major computing paradigms these days is missing, and among the members of the designated editorial board there was a prompt and strong agreement for initiating a journal on it. But we all know, it will be a hard beginning, somehow entangled in a quality-survival trade-off but notwithstanding with the hope that issue by issue the journal will receive more and more attention and attraction.

The objective of *IJSCN* is to link the rich methodological repertoire of soft computing (SC) with the challenging demands and design opportunities of present day communication networks. The widespread use of the internet has given further opportunities for providing new services and web-based applications as well as the appearance of networking paradigms in new fields of computing. Related applications are often characterised by high complexity while the number of standards for applications is

rapidly increasing especially in the upcoming era of internet of things (IoT) and 5G (5th generation wireless networks). Representing such problems as classical optimisation problems may not guarantee exact analytical solutions anymore, and the need for advanced solution techniques has become prevalent. SC techniques and their underlying effort-precision trade-off provide a wealth of methods to handle tasks in complex application domains. Such techniques include evolutionary computing techniques, tabu search, simulated annealing, hybrid methods, ensemble methods, swarm intelligence, fuzzy reasoning and fuzzy information and processing, neural network-based computation, evolving intelligent system, among many others. Thus, main topics are, but not limited to:

- SC for network architecture, design and management
- SC and quality-of-services, scalability solutions
- fairness, optimality, efficiency of network resource sharing and distribution
- SC and network deployment, management and operation
- SC for network security (monitoring, VPN, certification, etc.)
- SC for network applications (WWW, e-mail, etc.) and their operation
- heuristic and meta-heuristic approaches for networking technologies
- combinatorial optimisation and combinatorial designs for networking problems
- network metrics, network growth and percolation models
- fuzzy information processing for modelling of users and network-based services
- validation, evaluation and simulation approaches
- nature-inspired networking paradigms
- soft networking, network virtualisation, cloud and networking services.

For the first issue, we are proud to present a number of selected contributions. In ‘A nearest neighbour classifier based on probabilistically/possibilistically intervals’ number for spam filtering’ by Yazdan Jamshidi studies the extension of nearest neighbour classifiers by an interval number technique to improve correct classification of spam e-mail. The paper entitled ‘Design an anomaly-based intrusion detection system using soft computing for mobile ad hoc networks’ by Alka Chaudhary, V.N. Tiwari, and Anil Kumar demonstrates the application of a neuro-fuzzy classifier to intrusion detection in MANETs. The invited contribution ‘Direction and trend of networking technology in Japan to save finite natural resources – after undergoing the East Japan megaquake’ by Akira Arutaki gives an impressive account for the technology problems, challenges and lessons learned from one of the biggest human disasters in the recent past. Then, the paper ‘Interpretability and accuracy issues in evolutionary multi-objective fuzzy classifiers’ by Praveen Kumar Shukla and Surya Prakash Tripathi demonstrates the venture of using interval type-2 fuzzy sets in the development of fuzzy classifier, with a stronger focus on the SC technology, while ‘Software-defined network flow table overflow attacks and countermeasures’ by Wanqing You, Kai Qian and Ying Qian focuses on the protection of SDN architecture from a network technology point of view.

Finally, ‘Search in a hybrid P2P system using a node map formed by a self-organising map’ of Kei Ohnishi and Hiroshi Yamamoto describes a direct link between P2P network architectures and neural networks to improve retrieval with an underlying model of KANSEI information processing.

We hope this selection of papers on the combination of networking and SC makes an interesting and inspiring reading, and to motivate the one or other reader for a future contribution to this journal.