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EDITED BY: Shun-Feng Su

In this issue of IFSA newsletter, the new IFSA officers are announced. Also some messages from IFSA institutional members are provided. Finally, there is a special issue call for papers from IEEE Transaction on Cybernetics. Hopefully, those messages are informative to you.

I.   Message from Newsletter Editor

Dear IFSA Members:

It has been two years when I was elected as the IFSA vice president for publicity in 2011. My major responsibility was to edit the IFSA newsletters and maintain the IFSA website. Well, I am sorry to say that I did not have this job well done. As promised, I will also help in editing this issue. Thus, I have totally edited 8 issues of newsletters, which are still available on the IFSA website. Now, it is time to move on to the next step. The new newsletter editor is the current VP for publicity, Prof. Marek Reformat. Thank you again for your support in these two years. I hope all of you can continuously support the new editor in the future.

Sincerely yours,

Shun-Feng Su, FIEEE, FCACS
Chair Professor, EE, NTUST,
IFSA President-elect

II. IFSA New Officers

President: Christer Carlsson

President-elect: Shun-Feng Su

Secretary: Takeshi Furuhashi

Treasurer: Hisao Ishibuchi

Vice-President: Dexue Zhang (For conference)

Isao Hayashi (For membership)

Marek Reformat (For publicity)

Valentina Balas (For award)

Shun-Feng Su received the B.S. degree in electrical engineering, in 1983, from National Taiwan University, Taiwan, R.O.C., and the M.S. and Ph.D. degrees in electrical engineering, in 1989 and 1991, respectively, from Purdue University, West Lafayette, IN. He is now a Chair Professor of the Department of Electrical Engineering, also the head of Graduate Institute of Automation and control, National Taiwan University of Science and Technology, Taiwan, R.O.C. He is an IEEE Fellow and CACS fellow. He has published more than 160 refereed journal and conference papers in the areas of robotics, intelligent control, fuzzy systems, neural networks, and non-derivative optimization. His current research interests include computational intelligence, machine learning, virtual reality simulation, intelligent transportation systems, smart home, robotics, and intelligent control. Dr. Su is very active in various international/domestic professional societies. He is now the president of the Taiwan Fuzzy Systems Association and the Taiwan Association of System Science and Engineering. He also is in the Boards of Governors of the Chinese Automatic Control Society, and the Taiwan Society of Robotics. Dr. Su also acted as Program Chair, Program Co-Chair, or PC members for various international and domestic conferences. Dr. Su currently serves as Associate editors of *IEEE Transactions on Cybernetics, IEEE Transactions on Fuzzy Systems,* and *International Journal of Fuzzy Systems*.

Marek Reformat received his M.Sc. degree (with honors) from Technical University of Poznan, Poland, and his Ph.D. from University of Manitoba, Canada. Presently, he is a professor with the Department of Electrical and Computer Engineering, University of Alberta.

The goal of his research activities is to develop methods and techniques for intelligent data modeling and analysis leading to translation of data into knowledge, as well as to design systems that possess abilities to imitate different aspects of human behavior. In this context, he recognizes the concepts of Computational Intelligence – with fuzzy computing and possibility theory in particular – are key elements necessary for

capturing relationships between pieces of data and knowledge, and for mimicking human ways of reasoning about opinions and facts. Dr. Reformat also works on Computational Intelligence based approaches for dealing with information stored on the web. He applies elements of fuzzy sets to social networks, Linked Open Data, and Semantic Web in order to handle inherently imprecise information, and provide users with unique facts retrieved from the data.All his activities focus on introduction of human aspects to web and software systems what will lead to more human-aware and human-like systems.

Dr. Reformat is a past president of the North American Fuzzy Information Processing Society, and a vice president of the International Fuzzy Systems Association. He has published over 90 peer-reviewed papers.He has been a member of program committees of almost 60 international conferences related to Computational Intelligence and Software Engineering.

III. Messages from Institutional Members

Iranian coalition on soft computing

The Iranian coalition on soft computing was created in 2010 to foster better cooperation among the two Iranian societies on fuzzy systems (ISFS) and intelligent systems (ISSSI). As part of this continuing collaboration, the two societies have already held three joint congresses as well as a number of workshops on soft computing and soft data-mining. With over 852 and 260 members, for ISFS and ISSSI respectively, the two societies are growing strong and enjoy a considerable support among the Iranian academics.

The Iranian Journal on Fuzzy Systems is the flagship journal among the Iranian fuzzy community, but there are also multiple other journals that focus on soft computing here. The ISSSI is preparing to launch its own journal on various aspects of soft computing and intelligent systems as well. In addition, the two societies have book and newsletter publications in Persian.

Our two societies sincerely invite our good colleagues outside of Iran to join us in our flagship conferences such as the Iranian Conference on Fuzzy Systems and the Iranian Conference on Intelligent Systems. Our upcoming conference is the ICIS that will be held this coming February in the historic city of Bam, Iran (http://icis2014.bam.ac.ir/info/website/english/site/). Bam history goes back to over 2000 years ago, the age of Parthian empire (248 BC-224 AD). The Arge-Bam Citadel is the most significant site due its age and mud-brick construction, being the world's largest adobe structure of its time prior to the 2003 earthquake that shook it. We hope to see you all there in

this historic city.

 Mohammad-R. Akbarzadeh-T. (Senior Member, IEEE) received his PhD on *Evolutionary Optimization and Fuzzy Control of Complex Systems* from the department of electrical and computer engineering at the University of New Mexico in 1998.

He currently holds dual appointment as professor in the departments of electrical engineering and computer engineering at Ferdowsi University of Mashhad. He is also director of Center of Excellence on Soft Computing and Intelligent Information Processing. In 2006-2007, he completed a one year visiting scholar position at Berkeley Initiative on Soft Computing (BISC), UC Berkeley. From 1996-2002, he was affiliated with the NASA Center for Autonomous Control Engineering at University of New Mexico (UNM).

Prof. Akbarzadeh is the founding president of the Intelligent Systems Scientific Society of Iran and the founding councilor representing the Iranian Coalition on Soft Computing in IFSA. He is also a life member of Eta Kappa Nu (The Electrical Engineering Honor Society), Kappa Mu Epsilon (The Mathematics Honor Society), and the Golden Key National Honor Society. He has received several awards including: the IDB Excellent Leadership Award in 2010, The IDB Excellent Performance Award in 2009, the Outstanding Faculty Award in 2008 and 2002, the IDB Merit Scholarship for High Technology in 2006, the Outstanding Faculty Award in Support of Student Scientific Activities in 2004, Outstanding Graduate Student Award in 1998, and Service Award from the Mathematics Honor Society in 1989. His research interests are in the areas of evolutionary algorithms, fuzzy logic and control, soft computing, multi-agent systems, complex systems, robotics, and biomedical engineering systems. He has published over 300 peer-reviewed articles in these and related research fields.

North American Fuzzy Information Processing Society

I.B. Türksen received the B.S. and M.S. degrees in Industrial Engineering and the Ph.D. degree in Systems Management and Operations Research all from the University of Pittsburgh, PA. He joined the Faculty of Applied Science and Engineering at the University of Toronto and became Full Professor in 1983. In 1984-1985 academic year, he was a Visiting Professor at the Middle East Technical University and Osaka Prefecture University. Since 1987, he has been Director of the Knowledge / Intelligence Systems Laboratory. During the 1991-1992 academic year, he was a Visiting Research Professor at LIFE Laboratory for International Fuzzy Engineering, and the Chair of Fuzzy Theory at Tokyo Institute of Technology. During 1996 academic year, he was Visiting Research Professor at the University of South Florida and Bilkent University. He is a member of the Editorial Boards of the following publications: Fuzzy Sets and Systems, Approximate Reasoning, Decision Support Systems Information Sciences, Fuzzy Economic Review, Expert Systems and its Applications, Journal of Advanced Computational Intelligence, Information Technology Management, Transactions on Operational Research, Fuzzy Logic Reports and Letters, Encyclopedia of Computer Science and Technology, Failures and Lessons Learned in Information Technology. He is the co-editor of NATO-ASI Proceedings on Soft Computing and Computational Intelligence, and Editor of NATO-ASI Proceedings on Computer Integrated Manufacturing. He is a Fellow of IFSA and IEEE, and a member of IIE, CSIE, CORS, IFSA, NAFIPS, APEO, APET, TORS, ACM, etc. He is the founding President of CSIE. He was Vice-President of IIE, General Conference Chairman for IIE International Conference, and for NAFIPS in 1990. He served as Co-Chairman of IFES'91 and Regional Chairman of World Congress on Expert Systems, WCES'91, WCES'94, WCES'96 and WCES'98, Director of NATO-ASI'87 on Computer Integrated Manufacturing and Co-Director of NATO-ASI'96 on Soft Computing and Computational Intelligence. He was General Conference Chairman for Intelligent Manufacturing Systems, IMS '98, IMS '01. He was the President during 1997- 2001 and Past President of IFSA, International Fuzzy Systems Association during 2001-2003. Currently, he is the President, CEO and CSO, of IIC, Information Intelligence Corporation. He received the outstanding paper award from NAFIPS in 1986, "L.A. Zadeh Best Paper Award" from Fuzzy Theory and Technology in 1995, "Science Award from Middle East Technical University, and an "Honorary Doctorate" from Sakarya University. He is a His current research interests centre on the foundations of fuzzy sets and logics, measurement of membership functions with experts, extraction of membership functions with fuzzy clustering and fuzzy system modeling. His contributions include, in particular, Type 2 fuzzy knowledge representation and reasoning, fuzzy truth tables, fuzzy normal forms, T-formalism which is a modified and restricted Dempster's

multi-valued mapping, and system modeling applications for intelligent manufacturing and processes, as well as for management decision support and intelligent control.

Brazilian Society of Automatics (SBA)

The Brazilian Society of Automatics (SBA) was established in 1975 and has become the main reference point for several scientists and specialists operating in the areas of Robust Control, Process Control, Robotics, Industrial Informatics, Electric Power Systems, Power Electronics, Signal Processing, Biomedical Engineering, *Computational Intelligence*, Industrial Automation and Education in Control. It is a non-profit organisation formed by Brazilian researchers, specialists and students and is constituted as follows: a President, a Vice-President, a Secretary and a Treasurer, who are elected every two years. It has a six-member Council, also elected every two years by all SBA members.

SBA, in a partnership with Springer, publishes the Journal of Control, Automation and Electrical Systems (http://www.springer.com/engineering/electronics/journal/40313).

The society is directly responsible for the Brazilian Congress on Automation – CBA (since 1976) and the Brazilian Symposium on Intelligent Automation – SBAI (since 1993), which occur in alternate years. Sessions on *fuzzy control, neural and neuro-fuzzy systems, genetic algorithms* and other computational intelligence techniques are relevant parts of these events. SBA also sponsors several events, including the *Brazilian Congress on Fuzzy Systems*. This meeting occurs every two years and has been endorsed by IFSA since its first edition in 2010. SBA became a member of IFSA in 1997 and its activities concerning IFSA are closely related to SBA's *Intelligent Systems Committee*. There are around 100 Brazilian researchers and professionals active in the field of *fuzzy systems*, many of them members of SBA. The main activities of SBA members, regarding *fuzzy systems* specifically, are described below:

- Organization of technical sessions in the Brazilian Symposium on Intelligent Automation and in the Brazilian Congress on Automation.

- Participation in program committees of various Brazilian and international events.

- Reviewing of papers submitted to the events above and to IFSA and FUZZ-IEEE meetings, among others, as well as to several journals.

- Presentation and publication of papers in national and international meetings and journals.

- Supervision of students and participation in thesis committees (M.Sc. and Ph.D.).

IV.   Call for papers

1. Special Issue of the IEEE Transaction on Cybernetics

IEEE TRANSACTIONS ON
CYBERNETICS
A PUBLICATION OF THE IEEE SYSTEMS. MAN. AND CYBERNETICS SOCIETY
Indexed in PubMed® and MEDLINE®, products of the United States National Library of Medicine
PubMed   MEDLINE
U.S. National Library of Medicine

Call for Papers

Special Issue on **Granular/Symbolic Data Processing**

IEEE Transactions on Cybernetics

Granular/Symbolic data processing is an emerging conceptual and computing paradigm of information processing. In the era of *big* data, the emergence of Granular/Symbolic processing has been motivated by the urgent need for intelligent processing of empirical data that are now commonly available in vast quantities, into a human-manageable knowledge. In such an aggregation process, we hope to preserve as much information as possible. Those aggregated entities are often referred to as symbolic or granular data. There are research areas known as Symbolic Data Analysis in Statistics and Multivariate Data Analysis which address some of the fundamental or applied facets of Granular Computing. The theoretical foundations of granular/symbolic data processing are well-established. They involve set theory (interval mathematics), fuzzy sets, rough sets, and random sets linked together in a highly comprehensive treatment of this emerging paradigm. In addition to interval-based formalism of information granules, we also encounter histograms, distributions, lists of values, etc. Hence, granular/symbolic data processing hinges on a general computation theory that effectively uses granules such as classes, clusters, subsets, groups and intervals to build an efficient computational model for complex applications realized in the presence of huge amounts of data, information and knowledge. This research arises as a substantial shift from the current machine-centric to human-centric approach to information and knowledge.

Recently, various techniques of Computational Intelligence have been developed to deliver robust and powerful tools and possible learning mechanisms for data processing. For example in system modeling, including fuzzy modeling, in spite of the visible progress reported in the area, we are still facing numerous ongoing challenges associated with coping with nonlinear, time varying systems, building models in presence of both numeric and non-numeric (granular, perceptual, symbolic) evidence, and reconciliation of locally available

models (sources of knowledge). These challenges give rise to the design of granular/symbolic models by building upon essential abstraction capabilities.

The aim of this special issue is to bring forward recent advances and present state-of-the-art developments in the theoretical and practical aspects of granular/symbolic data processing. We specifically target contributions focused on novel learning mechanisms, learning stability analysis, and their applications. Regular papers and short communication contributions to this special issue will include, but are not be limited to the following areas:

- Validation and analysis of information granulation and data representation
- Theory developments in granular/symbolic data processing
- Methodological developments in symbolic data analysis and Granular Computing
- Applications to specific domains such as bioinformatics, social networks, data streams, image analysis, official statistics, business, marketing, finance, information retrieval, atmospheric science, etc.

Key dates (tentative):

Paper submission deadline: Dec. 20th, 2013.

The first review notification: March 1st , 2014.

Deadline for submission of revised manuscripts: April 15th, 2014.

The final review notification: July 15th, 2013.

Planned publication date: 2015

Guest Editors:

Dr. Shun-Feng Su, National Taiwan University of Science and Technology, Taiwan,

Dr. Witold Pedrycz, University of Alberta, Edmonton, Canada

Dr. Tzung-Pei Hong, National University of Kaohsiung, Kaohsiung, Taiwan

Dr. Francisco de A. T. de Carvalho, Universidade Federal de Pernambuco, Brazil

Electronic Submission: http://mc.manuscriptcentral.com/cyb-ieee

Note that authors should indicate that their manuscripts are being submitted for the Special Issue on Granular/Symbolic Data Processing.

Contributions for the Next Issue

If you are interested in contributing information or articles for the next issue of the IFSA newsletter, please send a word file to new newsletter editor: Marek Reformat (reformat@ualberta.ca).