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A Message from the President

Dear members of the EUSFLAT Society,

It is hard to accept that time passes so quickly and that another year is almost over. Looking back on the year 2008, I have to say proudly that this has been a very successful year for the European Society for Fuzzy Logic and Technology. Let me shortly mention the following points (some of which will be discussed in more detail in this newsletter):

- Although the renewal procedure started quite late, we had the **largest number of members in even years ever**.
- Our official journal, **Mathware & Soft Computing**, was submitted for possible inclusion in the **ISI Web of Science**.
- A **new Web page of Mathware & Soft Computing** was launched that allows for easy online access of full-text papers and even includes an electronic reviewing system.
- The **financial situation** of EUSFLAT could be **optimized** in order to maintain all benefits for our members.
- The **proceedings of all previous EUSFLAT conferences** from 1999 to 2007 were made **available electronically** as full-text PDF files.
- A **new, more convenient online join/renew procedure** could be established that replaces the previous tedious paper/fax procedure.

I want express my gratitude to all colleagues who contributed to these great achievements!

The next year will also be an active one. In July, we will again celebrate our **EUSFLAT conference**, this time jointly with the **International Fuzzy Systems Association (IFSA)**. I expect it to be the largest event EUSFLAT has ever been involved in. This gives us the opportunity to demonstrate the strength of European fuzzy logic/fuzzy sets/fuzzy systems research to the whole world. I want to encourage everybody of you to **submit papers** and to **participate** to make this conference as successful and delightful as its predecessors.

No matter how successful and active our society may be, I have to address again (I have done so several times already) that our research topic is definitely past its peak. In 2001, everybody still applauded to the "*The Future is FUZZY*" label on NAFIPS's promotional t-shirt. In 2008, probably nobody would seriously put such a sentence on a t-shirt anymore. There is nothing we can do against the fact that the hype is over (fashion comes and goes), but we have to do our best to **promote our subject** in order to avoid that useful concepts and results get lost in the future — and I am deeply convinced that our community is really rich of concepts and results that are worth to be preserved for the future. An important issue in my opinion is that we have to "sell" our research to everybody, not only inside our own community (in which everybody is convinced already anyway). Applied works, for instance, should not only be published and promoted inside the fuzzy community, but in the application domains where they belong — even if there are still resistances against fuzzy concepts. Recently, I have seen that there is an increasing tendency in this direction, which I appreciate very much. I want to encourage everybody, and EUSFLAT's working groups in particular, to continue in this way — hoping that we can look into a bright and "fuzzy future"!

I want to wish you and your beloved ones Merry Christmas and a Happy New Year 2009!

Warm regards,
Ulrich Bodenhofer
EUSFLAT President

Society Briefs

Mathware & Soft Computing: New Homepage

In October 2008, our official journal, Mathware & Soft Computing, launched its new homepage:

<http://ic.ugr.es/Mathware/>

This exciting new portal features free access to tables of contents and abstracts of all past issues of the journal. Subscribers — including all active EUSFLAT members — are granted free access to full-text PDFs of all articles published in this journal so far.

Moreover, also submissions and the whole reviewing procedure can be administered through this portal.



EUSFLAT Proceedings 1999–2007 Available Online

In September of this year, we started the project to make all proceedings of previous EUSFLAT conference available online. Now, after not even three months, the endeavor is completed and we can announce proudly that all papers ever published at a EUSFLAT conference are now available online and for free on the EUSFLAT homepage:

<http://www.eusflat.org/publications/proceedings.htm>

Note that all these five proceedings have been indexed in the [DBLP Computer Science Bibliography](#).



EUSFLAT Renewal for 2009

We can announce gladly that the journal subscription rates for 2009 are available already and, therefore, the **renewal procedure could be started in time this year**. The renewal form can be found under the following URL:

<http://www.eusflat.org/members/renew2009.htm>

Note that the renewal form is, for the first time, **Web-based**. **Credit card payments** are also done **securely via the Web** this time using [PayPal](#), a well-known and serious Internet payment service which is actually subsidy of [ebay](#). This allows members to renew in a **quicker and more convenient way** than in previous years.

Further notes:

1. You can renew without filling out any form by **simply transferring the membership dues for 2009 by regular bank transfer**. This is subject to the following conditions:
 - a. You do not subscribe to any journals via your EUSFLAT membership (otherwise use the renewal form to make your order)
 - b. Your contact data have not changed since last year (otherwise use the renewal form to update your contact data)
2. Active members with a valid e-mail address are being sent a **registration code** by e-mail in the week December 15–20, 2008. With such a registration code, a member can view the **renewal form pre-filled with his/her current contact data**.

EUSFLAT Group at LinkedIn

Since several members of EUSFLAT are registered with the social/business network [LinkedIn](#), a EUSFLAT group has been created inside this network:

<http://www.linkedin.com/groups?gid=148845>

Presently the group has around 35 members. If you are also registered at LinkedIn, we would be glad if we could welcome you in this group. The purpose of the group is, on the one hand, to increase visibility of our society. On the other hand, the group can also be used for forum-like discussions and for posting news.

Disclaimer: EUSFLAT is not affiliated to LinkedIn in any way. Members are free to choose whether they want to register with LinkedIn or not.



Second Edition of Cajastur International Prize for Soft Computing Awarded to Piero Bonissone

The Jury of the Cajastur International Prize for Soft Computing, congregated to evaluate the different candidatures presented to the Second Edition of the Prize, and after analyzing all the proposals and accompanying documentation, decided:

"To distinguish Dr. Piero Bonissone as the winner of the Second Edition of the Cajastur International Prize for Soft Computing, in consideration of his outstanding contributions to the advancement of Soft Computing, by developing Hybrid Soft Computing Systems."

On November 27, the Second Edition of the Cajastur International Prize for Soft Computing Award Ceremony took place in the Hotel NH Ferrera Palace, in Avilés (Spain), in the presence of Lotfi Zadeh (Chairman of the Jury), the Director General of Cajastur, the President of the Trust of the Foundation, and the Major of Avilés, all of whom are displayed in the picture together with Dr. Bonissone.

The Prize has been created by CajAstur (Asturias savings bank) and the European Centre for Soft Computing (a research centre supported by the Foundation for the Advancement of Soft Computing), and its Jury is the Scientific Committee of the Foundation.



Dr. Piero Bonissone is Chief Scientist of General Electric Global Research. He has been a pioneer in the field of fuzzy logic and approximate reasoning systems applications. Dr. Bonissone has carried out research and projects in Artificial Intelligence, expert systems, fuzzy logic, control, and soft computing.

In 1979, after obtaining his Ph.D. from the EECS department at UC Berkeley, Dr. Bonissone became a computer scientist at the General Electric Global Research centre (GE-GR). Since then he has carried out research and projects in Artificial Intelligence, expert systems, simulation, fuzzy sets, and Soft Computing. Dr. Bonissone has led many projects in Fuzzy Logic Control and Soft Computing, ranging from the control of turbo-shaft engines to the use of Fuzzy Logic in dishwashers, locomotives, and power supplies. He has also developed case-based and fuzzy-neural systems to accurately estimate the value of single-family residential properties when used as mortgage collaterals. He has extensive experience in data mining and analysis, which he used to develop a profitability model to identify preferred customers for GE Financial Assurance - Long Term Care. Recently he has led a Soft Computing (SC) group in the development of SC application to diagnostics and prognostics of processes and products.

Dr. Bonissone is an Adjunct Professor in the DSES and ECSE Departments. at the Rensselaer Polytechnic Institute, Troy, NY. Since 1993 he has been the Editor-in-Chief of the International Journal of Approximate Reasoning.

Dr. Bonissone has co-edited four books and published over 150 articles in the areas of expert systems, approximate reasoning, fuzzy sets, pattern recognition, decision analysis, evolutionary algorithms, and soft computing. He received 50 patents (and 25+ pending) from the U.S. Patent Office for his work on reasoning with uncertainty and fuzzy control, automated decision making with soft constraints, etc.

PhD Dissertations

Miguel Pagola

Representation of uncertainty by Interval valued Fuzzy sets. Application to image thresholding

Summary: In this dissertation we study image thresholding by means of fuzzy techniques. The more important advantage of a fuzzy methodology lies in that the fuzzy membership function provides a natural means to model the uncertainty in an image. A key problem during the design of fuzzy systems is the election of the membership functions that are going to represent the variables of the system. The main objective of the dissertation is the following:

To incorporate within the thresholding algorithm the uncertainty (hesitation) that the expert has in the election of the best membership function, in order to obtain better thresholds.

In chapter 1 we present a brief introduction about thresholding algorithms, devoting special interest to classical early thresholding algorithms and first fuzzy algorithms. We explain their foundations and the problems arising. Furthermore, we do an introduction of the basic concepts of the Interval valued fuzzy sets theory that we will use throughout the dissertation.

In chapter 2 we go deeply in the classical fuzzy thresholding algorithm, particularly in its drawbacks. We propose a generalization of the IVFS algorithm proposed by Tizhoosh and we prove that we must always consider the minimum entropy. In chapter 3 we develop a new algorithm. To do so, we enforce that the expert select several membership functions. From these membership functions, we show an IVFSs construction

method in such a way that the lengths of the membership intervals represent the uncertainty of the expert when assigning to each pixel a specific membership value.

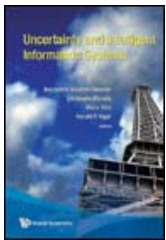
In chapter 4 we study a modification of the classical fuzzy algorithm. We force the user to choose a membership function to represent the background and another to represent the object. From these functions we define the unknowledge functions, which allow us to estimate the uncertainty the expert has had in the election of such functions. In chapter 5 we study the way to recover the fuzzy algorithm from any of the IVFS algorithm presented in chapters 2, 3 and 4, using operator Krho. We study the necessary conditions that should be demanded to the fuzzy measures devoted to image comparison. We prove that the measure most used to compare images is a particular case of the measures that we propose.

Advisor: Dr. Humberto Bustince. Universidad Pública de Navarra.

Reviewers: Simon Coupland, DeMonfort University; Pedro Melo-Pinto, Universidade Tras-os-Montes e Alto Douro; Robert I. John, DeMonfort University; Javier Montero, Universidad Complutense, Francisco Herrera, Universidad de Granada; Witold Pedrycz, University of Alberta; Edurne Barrenechea, Universidad Pública de Navarra.

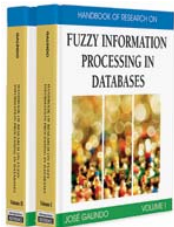
Book announcements and reviews

Book descriptions



B. Bouchon-Meunier, C. Marsala, M. Rifqi, R. R. Yager (Eds.)
Uncertainty and Intelligent Information Systems
World Scientific, 2008. 536 pages. ISBN 978-981-279-234-1.
Link: <http://www.worldscibooks.com/compsci/6747.html>

Description: Intelligent systems are necessary to handle modern computer-based technologies managing information and knowledge. This book discusses the theories required to help provide solutions to difficult problems in the construction of intelligent systems. Particular attention is paid to situations in which the available information and data may be imprecise, uncertain, incomplete or of a linguistic nature. The main aspects of clustering, classification, summarization, decision making and systems modeling are also addressed. Topics covered in the book include fundamental issues in uncertainty, the rapidly emerging discipline of information aggregation, neural networks, Bayesian networks and other network methods, as well as logic-based systems.



J. Galindo, (Ed.)
Handbook of Research on Fuzzy Information Processing in Databases (2 Volumes)
Information Science Reference, 2008. 926 pages. ISBN-978-1-59904-853-6.
Link: <http://www.iqi-pub.com/reference/details.asp?id=7568>

Description: The 2 volumes of this Handbook provide comprehensive coverage and definitions of the most important issues, concepts, trends, and technologies in fuzzy topics applied to databases, discussing current investigation into uncertainty and imprecision management by means of fuzzy sets and fuzzy logic in the field of databases and data mining. Through 34 authoritative contributions by over 75 of the world's leading experts, the Handbook of Research on Fuzzy Information Processing in Databases offers researchers, students, and organizations a complete, practical, guide to fuzzy information processing in databases.



B. Liu
Theory and Practice of Uncertain Programming
Springer, 2009. 205 pages. ISBN-978-3-540-89483-4.
Link: <http://www.springer.com/engineering/book/978-3-540-89483-4>

Description: Real-life decisions are usually made in the state of uncertainty such as randomness and fuzziness. How do we model optimization problems in uncertain environments? How do we solve these models? In order to answer these questions, this book provides a self-contained, comprehensive and up-to-date presentation of uncertain programming theory, including numerous modeling ideas, hybrid intelligent algorithms, and applications in system reliability design, project scheduling problem, vehicle routing problem, facility location problem, and machine scheduling problem. Researchers, practitioners and students in operations research, management science, information science, system science, and engineering will find this work a stimulating and useful reference.

Brief announcements

- S. Miyamoto, H. Ichihashi, K. Honda, *Methods in c-Means Clustering with Applications*, Springer, 2008. 248 pages. ISBN-978-3-540-78736-5. <http://www.springer.com/engineering/book/978-3-540-78736-5>
- M. Nikravesh, J. Kacprzyk, L.A. Zadeh, (Eds.), *Forging New Frontiers: Fuzzy Pioneers I*, Springer, 2007. 460 pages. ISBN-978-3-540-73181-8. <http://www.springer.com/engineering/book/978-3-540-73181-8>
- B. Apolloni, W. Pedrycz, S. Bassis, D. Malchiodi, *The Puzzle of Granular Computing*, Springer, 2008. 460 pages. ISBN-978-3-540-79863-7. <http://www.springer.com/engineering/book/978-3-540-79863-7>
- D. Ruan, F. Hardeman, K. van der Meer, (Eds.), *Intelligent Decision and Policy Making Support Systems*, Springer, 2008. 318 pages. ISBN-978-3-540-78306-0. <http://www.springer.com/978-3-540-78306-0>
- J. Galindo, (Ed.), *Handbook of Research on Fuzzy Information Processing in Databases* (2 Volumes), Information Science Reference, 2008. 926 pages. ISBN-978-1-59904-853-6. <http://www.igi-pub.com/reference/details.asp?id=7568>
- W. Pedrycz, A. Skowron, V. Kreinovich, (Eds.), *Handbook of Granular Computing*, Wiley, 2008, 1148 pages, ISBN-978-0-470-03554-2. <http://www.wiley.com/WileyCDA/WileyTitle/productCd-0470035544.html>
- B. Liu, *Theory and Practice of Uncertain Programming*, Springer, 2009. 205 pages. ISBN-978-3-540-89483-4. <http://www.springer.com/engineering/book/978-3-540-89483-4>
- S. Das, A. Abraham, A. Konar, *Metaheuristic Clustering*, Springer, 2009. 300 pages. ISBN-978-3-540-92172-1. <http://www.springer.com/engineering/book/978-3-540-92172-1>
- T. Munakata, *Fundamentals of the New Artificial Intelligence*, Springer, 2nd edition, 2008. ISBN-978-1-84628-838-8. <http://www.springer.com/computer/artificial/book/978-1-84628-838-8>
- B. Bouchon-Meunier, C. Marsala, M. Rifqi, R. R. Yager (Eds.), *Uncertainty and Intelligent Information Systems*, World Scientific, 2008. 536 pages. ISBN 978-981-279-234-1. <http://www.worldscibooks.com/compsci/6747.html>

Conferences and Call for Papers

Conference reports

Logic, Algebra and Truth Degrees: First Conference of the Working Group on Mathematical Fuzzy Logic (<http://www.mat.unisi.it/~latd2008/paq-index>)

Logic, Algebra and Truth Degrees was held September 8–11, 2008, at the University of Siena, Italy. It was the first official meeting of the EUSFLAT working group on Mathematical Fuzzy Logic (MathFuzzLog). The venue was College Santa Chiara and it was dedicated to Franco Montagna in the occasion of his 60th birthday. There were 65 participants. Eight invited (Stefano Aguzzoli, Matthias Baaz, Xavier Caicedo Ferrer, Christian Fermüller, Lluís Godo, Petr Hájek, Kazushige Terui, and Constantine Tsinakis) and 29 contributed talks were presented. For more information see the Web page of the conference (<http://www.mat.unisi.it/~latd2008/>) and the Web page of MathFuzzLog (<http://www.cs.cas.cz/mathfuzzlog>).

Petr Cintula and Carles Noguera, coordinators of MathFuzzLog.

4th International Conference on Soft Methods in Probability and Statistics (<http://www.irit.fr/smeps08/>)

On September 8–10, 2008, the IRIT Laboratory in Toulouse hosted the 4th International Conference on Soft Methods in Probability and Statistics, a EUSFLAT-related event. Previous editions took place in Warsaw, Oviedo and Bristol. The scientific program was headed by Didier Dubois, and the local organization by Didier Dubois and Henri Prade. Help was gratefully received from the University of Oviedo for putting the proceedings together. The conference also received financial support from Caja Astur, IRSN Cadarache, Toulouse Municipality, Midi-Pyrénées region and Paul Sabatier University.

This meeting brought together 60 scientists from fuzzy mathematical analysis, fuzzy statistics, fuzzy random variables, as well as scientists from imprecise probabilities. It was the opportunity of fruitful exchanges on these two approaches. They have a common ground as departing from the usual Bayesian probability paradigm. Some application papers were also given in risk analysis, mechanical engineering especially.

Three invited speakers gave key-note talks:

- Jean-Marc Bernard, CNRS & Université Paris 5, presented the imprecise Dirichlet model
- Reinhard Viertl, Technical University of Vienna, Austria, gave an overview of his works on Fuzzy Bayesian statistics
- Dominique Guyonnet, BRGM, Orléans, showed applications of hybrid probabilistic-possibilistic uncertainty propagation methods to underground pollution assessment problems and CO2 underground storage risk analysis.

The meeting was also the opportunity for a tribute paid to Robert Féron, the French inventor of fuzzy random sets in the mid Seventies.

The banquet was held in a beautiful Renaissance mansion in Toulouse center, Hotel d'Assezat, also a painting museum.

The proceedings of the conference are available as

Didier Dubois, Asuncion Lubiano, Henri Prade, Maria Angeles Gil, Przemyslaw Grzegorzewski, Olgierd Hryniewicz (eds): *Soft Methods for Handling Variability and Imprecision*, Vol. 48 of *Advances in Soft Computing*, Springer, Berlin, 2008. ISBN 978-3-540-85026-7.

Invited lectures can still be seen on the conference website <http://www.irit.fr/smeps08/videos>.

Didier Dubois, SMPS 2008 Co-chair

First Summer School on Copulas ([http://www.flll.jku.at/mediawiki/index.php/First Summer School on Copulas](http://www.flll.jku.at/mediawiki/index.php/First_Summer_School_on_Copulas))

The First Summer School on Copulas was held at the Johannes Kepler Universität Linz (Austria) in the period September 19–21, 2008. The school was organized by the Department of Knowledge-Based Mathematical Systems, and it was supported by the Johann Radon Institute for Computational and Applied Mathematics of the Austrian Academy of Sciences, the Land Oberösterreich and the Linzer Hochschulfonds. More than 60 researchers coming from several countries in the world (among them Australia, Japan, and the Philippines) participated in this event that became a meeting point for many researchers interested in new developments of the theory and applications of copulas.

The school offered two tutorials given by Carlo Sempi (Università del Salento, Italy) and Ivan Kojadinovic (University of Auckland, New Zealand). The two keynote communications were given by Claudia Klüppelberg (Technische Universität München, Germany) and by Lüdger Rüschendorf (Albert Ludwigs Universität Freiburg, Germany). We particularly appreciated the active participation of many PhD students and young Post-Docs who stimulated the discussions by presenting new points of view to the subject and posing interesting questions.

More information about the summer school, including a complete program, can be found at <http://www.flll.jku.at/ssc>. For those who are interested in new events related to copulas, we suggest to visit the Copula Wiki website (<http://www.flll.jku.at/mediawiki>) which is always kept up-to-date.

Fabrizio Durante – co-chair SSC08

International Meeting on Mathematical Fuzzy Logic and Soft Computing (<http://www2.iiia.csic.es/~fbou/MFL-SC/MFL-SC.html>)

Faculty of Mathematics of the University of Barcelona, Barcelona, Spain, November 7th and 8th, 2008

On the occasion of the 65th anniversary of Prof. Francesc Esteva, a workshop on Mathematical Fuzzy Logic and Soft Computing was jointly organised by a group of researchers from the Department of Probability, Logic and Statistics of the University of Barcelona and from the Artificial Intelligence Research Institute of the Spanish CSIC.

The aim of this event was to gather international and recognized experts in the fields of mathematical fuzzy logic and soft computing, fields where Prof. Esteva has made relevant contributions, for reporting recent advances as well as to provide a forum for exchanges of experiences between theoretical and more applied researchers. The scientific program included fifteen invited scientific lectures by well-known scholars plus a round table on technology transfer issues. The meeting, with about more than 40 attendees, was very successful and a small publication with the slides of the lectures will soon appear and will be made available at the above workshop web page.

Félix Bou and Lluís Godo, members of the organizing committee.

Calls for Papers

Upcoming EUSFLAT-Endorsed Events

- 30th Linz Seminar on Fuzzy Set Theory (LINZ2009), Linz, Austria, February 3-7, 2009.
<http://www.flll.jku.at/research/linz2009/>
- 10th International Student Conference on Applied Mathematics and Informatics (ISCAMI 2009), Malenovice, Czech Republic, May 13-15, 2009.
<http://irafrm.osu.cz/ISCAMI/Text/home-page37ce.html>
- International Conference on Modeling Decisions for Artificial Intelligence (MDAI 2009), Awaji Island, Japan, November 30 - December 2, 2009.
<http://www.mdai.cat/mdai2009/>

Other Events

- 28th International Conference of the North American Fuzzy Information Processing Society (NAFIPS 2009), Cincinnati, OH, USA, June 14-17, 2009.
<http://nafips2009.ewu.edu/>
- International Work-Conference on the Interplay between Natural and Artificial Computation (IWINAC 2009), Santiago de Compostela, Spain, June 22-26, 2009.
<http://www.iwinac.uned.es/iwinac2009/>
- 17th Annual International Conference on Intelligent Systems in Molecular Biology & 8th European Conference in Computational Biology (ISMB/ECCB 2009), Stockholm, Sweden, June 27 - July 2, 2009.
<http://www.iscb.org/ismbecb2009/index.php>
- 10th European Conference on Symbolic and Quantitative Approaches to Reasoning with Uncertainty, Verona, Italy, July 1-3, 2009.
<http://www.isib.cnr.it/ecsqraru2009/>
- 18th IEEE International Conference on Fuzzy Systems (FUZZ-IEEE 2009), ICC Jeju, Jeju Island, Korea, August 20-24, 2009.
<http://www.fuzz-ieee2009.org/>

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