

In this Issue:

- Editorial
- Society briefs
 - New EUSFLAT Board
 - New EUSFLAT Working Groups
 - 1st Int. Prize for Soft Computing
- PhD Dissertations
- Book Announcements
- Conference Reports
- Calls for Papers
 - Upcoming events



Editorial

Dear members of the EUSFLAT Society,

A demanding, yet interesting and successful, year is almost over. The year 2007 was of central importance for our society.

Most importantly, we have celebrated a highly successful *EUSFLAT Conference* in Ostrava, Czech Republic, which has set an example of the activeness and significance of our society. Once again, I want to thank all the helpful hands around Vilém Novák and Martin Štěpnička for their great effort to make EUSFLAT 2007 possible. This event has also brought EUSFLAT a significant number of new members — whom I want to welcome cordially on this occasion. I hope that you will find our society useful.

After extensive and sometimes difficult negotiations, we reached an agreement with IFSA and the organizers of the 2009 IFSA World Congress to organize our *2009 EUSFLAT Conference jointly with the IFSA World Congress*. We are convinced that this will be a big step for our society to increase our visibility also outside Europe and our cooperation with other societies inside IFSA (and beyond).

Another big step seems to be shortly in front of us — the inclusion of our official journal *Mathware & Soft Computing* in the *ISI Web of Science*. With the help of a task force consisting mainly of EUSFLAT board members, working group coordinators, EUSFLAT 2007 special session organizers, and supported by numerous reviewers, the editors in chief of the journal, Juan Luis Castro and Joan Jacas, managed to complete the 2007 issues in time and to build up a convenient pillow of accepted papers to be published in 2008. Although this topic has been around for the whole history of EUSFLAT, we are in now in the position to have a good chance that our journal will make it into the ISI Web of Science. So let us keep our fingers crossed! If we will be successful, this will be a great achievement for the society and its members. Until then, I want to thank all authors, reviewers, the editors and task force members, for their tireless effort to come that far. Finally, let me also note that every member is also invited to support this endeavor by filling out an online recommendation form in favor of our journal (<http://scientific.thomson.com/forms/isi/journalrec/>).

I want to wish you and your beloved ones Merry Christmas and a Happy New Year 2008, may all your wishes become reality!

Warm regards,
Ulrich Bodenhofer
EUSFLAT President

Society Briefs

New EUSFLAT Board

On the occasion of this year's EUSFLAT General Assembly on Thursday, September 13, 2007, in Ostrava, Czech Republic a new EUSFLAT Board was elected. There was one candidature that mainly consisted of board members from the previous period (with the only exception that Jorge Casillas has taken the treasurer's position and that Thomas Vetterlein has been introduced as new board members for members management duties). The candidature was accepted by unanimous vote. Here is an up-to-date list of members:

Board of directors:

President:

Ulrich Bodenhofer, Johannes Kepler University, Linz, Austria

Vice-President:

Lluís Godo, Institut d'Investigació en Intel·ligència Artificial, Bellaterra, Spain

Secretary:

Irina Perfilieva, University of Ostrava, Ostrava, Czech Republic

Treasurer:

Jorge Casillas, University of Granada, Granada, Spain

Special Responsibilities:

Web:

Ulrich Bodenhofer, Johannes Kepler University, Linz, Austria

Members Management:

Thomas Vetterlein, Medical University Vienna, Austria (<<— **NEW AFFILIATION!**)

Mathware & Soft Computing:

Juan Luis Castro, University of Granada, Granada, Spain

Newsletter:

Vicenç Torra, Institut d'Investigació en Intel·ligència Artificial, Bellaterra, Spain

Grants:

Bernard De Baets, Ghent University, Gent, Belgium

Working groups:

Eyke Hüllermeier, Philipps-Universität, Marburg, Germany

New EUSFLAT Working Groups

Four new EUSFLAT Working Groups were established in September 2007:

1. **Working Group on Genetic Fuzzy Systems**
Co-ordinators: *Brian Carse* (University of the West of England, Bristol, UK) and *Jorge Casillas* (University of Granada, Spain)
<http://www.eusflat.org/research/gfs.htm>
2. **Working Group on Mathematical Fuzzy Logic**
Co-ordinators: *Petr Cintula* (Academy of Sciences of the Czech Republic, Praha, Czech Republic) and *Carles Noguera i Clofent* (University of Siena, Italy)
<http://www.cs.cas.cz/mathfuzzlog>
3. **Working Group on Philosophical Foundations**
Co-ordinators: *Rudolf Seising* (Medical University of Vienna, Austria) and *Enric Trillas* (European Centre for Soft Computing, Mieres, Spain)
<http://www.eusflat.org/research/phil.htm>
4. **Working Group on Soft Computing in Database Management and Information Retrieval**
Co-ordinators: *Guy De Tré* (Ghent University, Gent, Belgium), *Gabriella Pasi* (University of Milano, Italy), and *Sławomir Zadrozny* (Polish Academy of Sciences, Warszawa, Poland)
<http://www.eusflat.org/research/scdbmir.htm>

All EUSFLAT members who are interested in one or more of these topics are cordially invited to join the respective group(s) and to take part in the activities!

Marco Dorigo was awarded the First Cajastur International Prize for Soft Computing

Marco Dorigo was awarded the First Cajastur International Prize for Soft Computing during a public ceremony that was held last November 27th, 2007, in Gijón, Asturias, Spain. Prof. Lotfi A. Zadeh, the President of the jury, was in charge of the Laudatio of the awarded, and was accompanied by the Mayoress of Gijón, the Director General of Cajastur (Asturias savings Bank), and by the President of the Foundation for the Advancement of Soft Computing, the two entities supporting the Prize. The international jury who selected Prof. Dorigo was also represented in the event by Profs. Kacprzyk, Prade, Kruse, Trillas, Carlsson and Gil. Dr. Dorigo offered the talk "Swarm Intelligence" and the event ended with a reception where the attendants enjoyed some Asturias' typical meals.

The Cajastur International Prize for Soft Computing is organized on a yearly basis and meant to distinguish a person or group of persons for the realization of a relevant scientific or industrial application, meaning an original contribution in the area of Soft Computing. The Prize consists of € 20,000.00, and the Jury of the prize is the Scientific Committee of the European Centre for Soft Computing.

Candidatures for the Second edition of the International Prize will open next February.



Marco Dorigo was awarded the First Cajastur International Prize for Soft Computing (public ceremony).

PhD Dissertations

José María Alonso Moral

Interpretable fuzzy systems modeling with cooperation between expert and induced knowledge

Abstract: This thesis describes a new methodology for making easier the design process of interpretable knowledge bases. It considers both expert knowledge and knowledge extracted from data. The combination of both kinds of knowledge is likely to yield robust compact systems with a good trade-off between accuracy and interpretability. Fuzzy logic offers an integration framework where both types of knowledge are represented using the same formalism. However, as two knowledge bases may convey contradictions and/or redundancies, the integration process must be made carefully. Results obtained, in several well-known benchmark classification problems, show that our methodology leads to highly interpretable knowledge bases with a good accuracy, comparable to that achieved by other methods. Moreover, the new methodology proposed was applied to some real-world applications.

All results presented in this PhD were reached using a free software tool (distributed under the terms of the GPL license) for generating and refining fuzzy knowledge bases. It was designed and developed as an important part of the thesis. It has been used as a test bed in order to check all theoretical aspects of the thesis. It is available through Internet: <http://www.mat.upm.es/projects/advocate/en/index.html>

Advisors: Luís Magdalena Layos, European Center for Soft Computing.

About the author: Jose Maria Alonso was awarded his PhD degree in October 2007. He is now with the European Center for Soft Computing. E-Mail: jose.alonso@softcomputing.es.

Bibliographic Information: The thesis is available at: <http://oa.upm.es/588/> (UPM Digital Archive).

Book announcements and reviews

Brief announcements

- G. Beliakov, A. Pradera, T. Calvo, *Aggregation Functions: A Guide for Practitioners*, Springer, 2007. 360 pages, ISBN 978-3-540-73720-9. <http://www.springer.com/978-3-540-73720-9>
- H. B. Mitchell, *Multi-Sensor Data Fusion. An Introduction*, Springer, 2007. 282 pages, ISBN 978-3-540-71463-7. <http://www.springer.com/west/home/generic/search/results?SGWID=4-40109-22-173737011-0>
- J. Lu, G. Zhang, D. Ruan, F. Wu, *Multi-Objective Group Decision Making: Methods, Software and Applications with Fuzzy Set Techniques*, World Scientific Press, 2007. 408 pages, ISBN-13 978-1-86094-793-3, ISBN-10 1-86094-793-X. <http://www.worldscibooks.com/business/p505.html>
- H. Bustince, F. Herrera, J. Montero, *Fuzzy Sets and Their Extensions: Representation, Aggregation and Models*, Springer, 2007. 680 pages, ISBN-978-3-540-73722-3. <http://www.springer.com/west/home/generic/search/results?SGWID=4-40109-22-173750209-0>
- N. T. Nguyen, *Advanced Methods for Inconsistent Knowledge Management*, Springer, 2008. 356 pages. ISBN-978-1-84628-888-3. <http://www.springer.com/west/home/computer/artificial?SGWID=4-147-22-173734631-0>

Book descriptions



N. T. Nguyen

Advanced Methods for Inconsistent Knowledge Management.

Springer, 2008. 356 pages. ISBN-978-1-84628-888-3.

Link: <http://www.springer.com/west/home/computer/artificial?SGWID=4-147-22-173734631-0>

Description: Inconsistent knowledge management is a common sub-field of knowledge management and conflict resolution. It deals with methods for reconciling inconsistent contents of knowledge originating from different sources. This book presents a unified and systematic description of a wide class of miscellaneous problems of inconsistent knowledge management, analyzed by traditional mathematical methods using relational and logical representations. With special emphasis on the distribution aspect of knowledge inconsistency, Professor Nguyen provides a unique approach to formal models of inconsistency and algorithms for its resolution.



V. Torra, Y. Narukawa

Modeling Decisions: Information Fusion and Aggregation Operators.

Springer, 2007. 240 pages. ISBN-3-540-68789-0.

Link: <http://www.springer.com/3-540-68789-0>, <http://www.mdai.cat/ifao/>

Description: This book covers the underlying science and application issues related to aggregation operators, focusing on tools used in practical applications that involve numerical information. It will thus be required reading for engineers, statisticians and computer scientists of all kinds. Starting with detailed introductions to information fusion and integration, measurement and probability theory, fuzzy sets, and functional equations, the authors then cover numerous topics in detail, including the synthesis of judgements, fuzzy measures, weighted means and fuzzy integrals. This book is written for: Researchers, Engineers, Lecturers, Postgraduate students.

Table of contents: Introduction. - Basic Notions (Measurement Theory, Probability and Statistics, Robust Statistics, Fuzzy Sets). - Functional Equations. - Synthesis of Judgements (Quasi-Arithmetic Means, Weighted Means). - Fuzzy Measures. - From the Weighted Mean to Fuzzy Integrals (OWA, WOWA, Choquet Integral, Sugeno Integral, Fuzzy t-Conorm Integral, Twofold Integral, Hierarchical Models for Aggregation). - Indices and Evaluation Methods (Shapley Value, Banzhaf Value, Interaction, Dispersion, Orness). - Selection of the Model (Analytic Hierarchy Process, OWA Weights from Orness, Extracting Parameters from Examples).

Proceedings series announcement

World Scientific Proceedings Series on Computer Engineering and Information Science contains proceedings from major, peer reviewed computer science, engineering, information technology and social science conferences with up-to-date coverage of new developments, methodologies and applications of new computer-information-processing methods such as artificial intelligence, soft computing, computational intelligence, as complementary to traditional mathematical and statistical methods in Computer Engineering and Information Science. Various topics ranging from control to decision included (but not limited) informatics, knowledge engineering, intelligent systems from computerized support systems in Computer Engineering and Information Science. World Scientific especially welcomes any conference proceedings proposals that are in line with information security, system analysis, decision science, smart control, web intelligence, e-science and technology, data mining, etc by integrating the new computer-information-processing methods and existing traditional methods.

Contact.

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Conference Reports

EUSFLAT 2007 (<http://www.eusflat2007.cz/>)

Ostrava became the "capital of fuzzy logic and related technologies" for four autumn days in 2007, from September 11 to September 14, in particular. It was the 5th EUSFLAT conference organized by the Institute for Research and Applications of Fuzzy Modeling (IRAFM) that took place in this city in the north-eastern part of the Czech Republic which attracted the attention of many top scientists, researchers and scholars working on the most fabulous topics of fuzzy sets and systems, aggregation operators or applications of soft computing.

It was truly a milestone for the EUSFLAT society whose importance was justified by the fact that the conference was organized jointly with 14th Zittau East West Fuzzy Colloquium and with the 6th Workshop of the ERCIM Working Group on Soft Computing. We would like to express our cordial thanks to Rainer Hampel and Petr Hájek as to the chairpersons of the affiliated events mentioned above and as to the representatives of the cooperating University of Applied Sciences Zittau/Görlitz and the ERCIM Working Group on Soft Computing, respectively, for their enormous endeavour and their support invested into the organization of the joint conference.



EUSFLAT 2007 Best paper awards ceremony.

I would like to emphasize that we are very glad we were a part of it and we could contribute to the development of the society and the community. We would like to express our grateful thanks to the University of Ostrava and to the Ostrava city council for their financial and organization support resulting in, for example, a TV news spot concerning the conference at the prime Czech Television channel. Finally, I would like to wish all the best to the newly elected board of the EUSFLAT in its innings and a great success to the organizers of the upcoming 6th EUSFLAT conference in Lisbon with their really hard job. We are looking forward to this definitely wonderful event.

On behalf of the EUSFLAT2007 Organizing committee,
Martin Štěpnička, Institute for Research and Applications of Fuzzy Modeling, University of Ostrava

Due to the efforts of hundreds of people, especially of yourselves - members of the "fuzzy community" and active participants as there would not be ever such a fruitful and professional conference without your participation and hard work - we all had the opportunity to participate in an unforgettable event. To justify the uniqueness of the conference, we remind that there were seven invited plenary lectures given by L. A. Zadeh (USA), C. Fermüller (Austria), S. Jenei (Hungary), M. Minoux (France), Da Ruan (Belgium), J. Gispert (Spain), P. Hájek (Czech Republic) and one free tutorial given by I. Perfilieva (Czech Republic). Besides the plenary lectures, there were 127 regular presentations provided by 157 registered participants from five continents. The list of 26 participant countries contained, e.g., Australia, Japan, India, USA or Brazil, so that we may undoubtedly conclude that the EUSFLAT is rather worldwide and cosmopolitan than European.

Calls for Papers

8th International FLINS Conference on Computational Intelligence in Decision and Control (FLINS 2008), Madrid, Spain, September 21-24, 2008. Deadline: Jan 15th, 2007

www.mat.ucm.es/congresos/flins2008

FLINS, an acronym for Fuzzy Logic and Intelligent Technologies in Nuclear Science, is a well-established international research forum to advance the theory and applications of computational intelligence for applied research in general and for complex engineering and decision support systems in particular. The principal mission of FLINS is bridging the gap between machine intelligence and real complex systems via joint research between Universities and international research institutions, by encouraging interdisciplinary research and bringing multi-discipline researchers together.

TOPICS OF INTEREST (but not limited): fuzzy logic, neural networks, genetic algorithms and evolutionary programming, probabilistic computing, hybrid methods, chaos theory, rough set theory, evidence theory, interactive computational models, artificial intelligence and expert systems, and machine learning, as well as their applications to the following domains: decision support systems, process and system control, system identification and modelling, optimization, signal and image processing, pattern recognition, condition monitoring, fault diagnosis, systems integration, internet tools, human-machine interface, time series prediction, noise analysis, real time systems, robotics, virtual reality, telecommunications, e-science and technology, data mining, data visualization, intelligent information retrieval, autonomous reasoning, risk analysis and safety related issues.

SOME FEATURES: Conference included in the ISI proceedings. All accepted papers in a book form by World Scientific Publisher. Special issue of Knowledge-Based Systems journal. Special issue of International Journal of General Systems. New Int. J. Computational Intelligence System dedicated to FLINS. Best posters contest and awards.

Upcoming EUSFLAT-Endorsed Events

- **9th International Conference on Fuzzy Set Theory and Applications (FSTA 2008)**, Liptovský Mikuláš, Slovak Republic, February 4-8, 2008.
<http://www.math.sk/FSTA/>
- **29th Linz Seminar on Fuzzy Set Theory (LINZ2008)**, Linz, Austria, February 12-16, 2008.
<http://www.fll.jku.at/research/linz2008/>
- **3rd International Conference on Genetic and Evolving Fuzzy Systems (GEFS'08)**, Witten-Bommerholz, Germany, March 4-7, 2008.
<http://www.gefs08.de/>
- **12th International Conference on Information Processing and Management of Uncertainty in Knowledge-Based Systems (IPMU 2008)**, Málaga, Spain, June 22-27, 2008. Deadline: December 1, 2007
<http://www.gimac.uma.es/ipmu08/>
- **4th International Conference on Soft Methods in Probability and Statistics (SMPS 2008)**, Toulouse, France, September 8-10, 2008. Deadline: February 1, 2008.
<http://www.irit.fr/smps08/>
- **8th International Conference on Hybrid Intelligent Systems (HIS 2008)**, Barcelona, Spain, September 10-12, 2008. Deadline: May 31, 2008.
<http://his2008.lsi.upc.edu/index.html>
- **14th Spanish Conference on Fuzzy Logic and Technologies (ESTYLF 2008)**, Mieres, Asturias, September 17-19, 2008. Deadline: April 4, 2008.
<http://www.softcomputing.es/estylf08/es/portada.php>
- **8th International FLINS Conference on Computational Intelligence in Decision and Control (FLINS 2008)**, Madrid, Spain, September 21-24, 2008. Deadline: January 15, 2008
<http://www.mat.ucm.es/congresos/flins2008/>
- **5th International Conference on Modeling Decisions for Artificial Intelligence (MDAI 2008)**, Sabadell, Catalonia, Spain, October 30-31, 2008. Deadline: April 1, 2008.
<http://www.mdai.cat/mdai2008/>

Other Events

- **2008 International Conference on Human System Interaction (HSI 2008)**, Krakow, Poland, May 25-27, 2008. Deadline: January 15, 2008.
<http://hsi.wsiz.rzeszow.pl>
- **IEEE World Congress on Computational Intelligence (WCCI 2008)**, Hong Kong, June 1-6, 2008: Deadline: December 15, 2008. Submissions made between December 15, 2007, and January 1, 2008, may still be considered if time permits review.
<http://www.wcci2008.org/>
- **9th International Conference Artificial Intelligence and Soft Computing (ICAISC 2008)**, Zakopane, Poland, June 22-26, 2008.
<http://icaisc.pcz.pl/>
- **4th International Conference on Natural Computation (ICNC'08), 5th International Conference on Fuzzy Systems and Knowledge Discovery (FSKD'08)**, Jinan, China, August 25-27, 2008. Deadline: March 25, 2008.
<http://www.icnc-fskd2008.sdu.edu.cn>

EUSFLAT Board

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Membership management: Thomas Vetterlein

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