# Useful Information

#### The City of Ostrava

Ostrava is the third largest city in the Czech Republic and the largest urban area at the meeting point of three countries: the Czech Republic, Poland and Slovakia. The city has a rather special position within the Czech Republic. In previous decades, it used to be known as the "steel heart" of the republic.

But nowadays it is a rather "green" city with lots of parks and green areas; a rather "sport" city full of playgrounds, sport arenas, swimming pools where many international sport events take place; a rather "cultural" city with an opera, theatres, the Puppet theatre, museums and churches: a rather "restful" city with many cafeterias, restaurants and architectonically unique buildings just 15km far from Klimkovice Spa; and finally, on the contrary to the previous one, a "live" city with its Stodolní Street region which definitely belongs to places with highest densities of bars, pubs and clubs at all. So, in general, nothing prevents you to accommodate in a comfort and incomparably cheap hotel, to visit the Fireman's Museum or the Mining Museum in the morning, then to go through the city center to see many interesting buildings and churches, to take a rest at one of many local restaurants to taste some typical Czech dishes and Czech beer for truly non-european prices, to relax by walking in more than 1 kilometer long park just 5 minutes far from the city center afternoon; practice squash, tennis or bowling which are situated directly in the park as well as a swimming pool; to visit opera, ballet or drama in one of theatres belonging to the National Moravian-Silesian Theatre or the Puppet Theatre. And if you still feel fresh you cannot avoid the region around Stodolní Street – "the street which never sleeps", the street which provides with such a variety of clubs you hardly can find anywhere else, the street which offers Irish pubs, old-time pubs, dance music bars, rock clubs and live concerts as well as a luxury restaurants with culinary specialities, a pub with aquarium or a pub with a real guillotine, a pub where you feel like in the Flinstone cave or an absolutely silent French tavern offering their wine and salads.

And after all this you still missed a view from the highest city hall tower in the Czech republic, a visit of Silesium Ostrava Castle, a walk in the so called MINIUNI or a cultural experience from one of more than twenty galleries.

The Imperial Hotel is conveniently placed in the heart of the city centre – only a few steps away from the main square and in walking distance to the main business and shopping districts. The hotel features 155 comfortable and tastefully furnished rooms and suites, extensive meeting and conference Hotel Imperial is located directly in the city centre on the beginning of city centre pedestrian zone, in walking distance to main Masarykovo nám. (Masaryk Square). Hotel is easily accessible by car and nearby main Nádražní street enables convenient connection by tram.

#### Time Zone

The Czech Republic is on Central European Time – Greenwich Mean Time (GMT) plus 1 hour. From April to October is summer time, i.e. GMT + 2 hours.

#### Currency and exchange rates

The official currency of the Czech Republic is the Czech Crown = Česká koruna (CZK = Kč). Approximately currency (September 2007):  $1~\mathrm{USD} = 20~\mathrm{CZK}, 1~\mathrm{EUR} = 28~\mathrm{CZK}$ 

#### Weather in autumn in the Czech Republic

Ostrava is a city with continental climate. September weather in Ostrava is usually quite pleasant and mild with temperatures between 15°C and 20°C. There might be an occasional shower, therefore it is advisable to bring a jacket, a sweater and an umbrella.

CONTACT AND USEFUL NUMBERS	(+420) – prefix to Czech Republic
EUSFLAT registration desk	606 677 063
Int. emergency number (Fire, Ambulance, Police)	112
City Police	156
Head dispatcher of CTV	974 723 824
Airport taxi	608 720 022
City taxi	800 290 000

#### Travel Information

Public transport in Ostrava is part of an integrated transport system ODIS. The fares of the Dopravní podnik Ostrava a.s. (Ostrava Transport, joint-stock co.) are a combination of zone- and time-based rates, and transfers are possible. Within the city limits of Ostrava (zones 1-4), passengers can use short-term tickets.

#### Ticket types

- short-term (e.g. 15 min. = 10 CZK, 45 min. = 14 CZK, 60 min. = 20 CZK)
- 24hrs only in the city Ostrava (44 CZK)

#### Remark:

All tickets are valid for all means of public transport within the city of Ostrava

#### Ticket sales points:

ticket vending machines (over 100 vending machines in Ostrava)

- Ostrava Transport's booking offices
- external vendors (designated by the ticket symbol)
- from the driver (with surcharge)

### Ticket use

Please invalidate your ticket using the electronic invalidating machines located at each door immediately after boarding the public transport vehicle! The invalidated ticket is good for the period corresponding to the ticket type and price. Please report any errors in ticket invalidation to the driver.

#### Name badge

Participants and accompanying persons will receive a name badge. Everyone is requested to wear this badge for all Conference activities. The name badge is the pass for the meeting rooms and to all social events.

Name badges have been color – coded as follows:

 $RED-PARTICIPANTS,\,GREEN-ACCOMAPANYING,\,ORANGE-ORGANIZERS$ 

#### Internet corner

As a courtesy to all delegates, internet terminals will be available in meeting room – BRATISLAVA (in front of the registration desk)

# Language

The official language for the Conference is English.

# Electricity

The Czech Republic uses a  $220~\mathrm{V},\,50~\mathrm{Hz}$  system. Sockets conform to the European standard lugs are three-pronged earthed.

#### Insurance

The organizing committee assumes no responsibility for injuries or losses occurring to persons or personal belongings during the Conference. Participants are advised to take out proper travel and health insurance.

# Force Majeure

In the event of the entire Conference having to be cancelled owing to force majeure, the organizer cannot accept liability for any claims for damages and/or losses.

# Registration desk

The registration desk will be located on the first floor of the Hotel Imperial.

### Opening hours:

Monday, September 10	14:00 - 20:00
Tuesday, September 11	08:00 - 17:00
Wednesday, September 12	08:30 - 16:00
Thursday, September 13	08:30 - 17:00
Friday, September 14	08:30 - 12:30

# Committees

#### Honorary President:

L. A. Zadeh (University of California, USA)

#### Chairpersons:

Vilém Novák (University of Ostrava)

Ulrich Bodenhofer (Johannes Kepler University)

#### Chairpersons of the affiliated conferences:

P. Hájek (Czech Republic) - 6th Workshop of the ERCIM Working Group on Soft Computing

R. Hampel (Germany) - 14th Zittau Fuzzy Colloquium

# Local Organizing Committee:

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A. Dvořák

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- M.-A. Vila (Spain)
- M. Wagenknecht (Germany)
- G. J. Wang (China)
- J. Watada (Japan)
- R. Yager (USA)

# EUSFLAT 2007 - Programme at Glance

# Monday September 10

	Congress Hall	Meeting room Budapest	Meeting room Praha	Atrium
14:00 - 17:00				Registration
17:00 - 18:00		Tutorial Fuzzy Transforms - the Bridge between Fuzzy and Classical Mathematics Irina Perfilieva		Registration
19:00 - 21:00	Welcome Cocktail			

# Tuesday September 11

ruesuay September 11				
	Congress Hall	Meeting room Budapest	Meeting room Praha	Atrium
8:45 - 9:15	Opening Ceremony			Registration
9:15 - 10:10	<i>Invited Talk</i> L.A. Zadeh			Registration
10:10 - 10:40				Coffee Break
10:40 - 12:40	<b>Fuzzy Logic 1</b> 6 Talks	Special Session <b>Aggregation Operators 1</b> R. Mesiar & A. Kolesárová 6 Talks	Special Session Fuzzy Sets in Distributive Artifical Intelligence A. Averkin 6 Talks	Registration
		Lunch		
14:30 - 15:25	<i>Invited Talk</i> Ch. G. Fermüller			Registration
15:30 - 16:30	Uncertainty Models 3 talks	Special Session Aggregation Operators 2 R. Mesiar & A. Kolesárová 3 Talks	<b>Applications 1</b> 3 Talks	
16:30 - 16:50				Coffee Break
16:50 - 18:30	<b>Fuzzy Rules</b> 5 Talks	Special Session Aggregation Operators 3 R. Mesiar & A. Kolesárová 5 Talks	<b>Applications 2</b> 4 Talks (16:50 - 18:10)	Registration

# Wednesday September 12

	Congress Hall	Meeting room Budapest	Meeting room Praha	Atrium
9:00 - 9:55	<i>Invited Talk</i> P. Hájek			Registration
9:55 - 10:25				Coffee Break
10:25 - 12:25	Special Session Axiomatic Fuzzy Mathematics P.Cintula & Běhounek 6 Talks	Special Session Copulas E.P.Klement & F. Durante 5 Talks (10:25 - 12:05)	<b>Measures of Vagueness</b> 6 Talks	Registration
		Lunch		
14:15 - 15:10	<i>Invited Talk</i> M. Minoux			Registration
15:10 - 15:35				Coffee Break
15:35 - 17:35	<b>Fuzzy Logic 2</b> 6 Talks	Special Session Fuzzy Measures and Integrals: Theory 1 E. Pap 6 Talks	Neuro-fuzzy, Predictions and Evolutionary Approaches 5 Talks (15:35 - 17:15)	Registration
20:00 - 23:00	Gala Dinner			

# EUSFLAT 2007 - Programme at Glance

# Thursday September 13

	Congress Hall	Meeting room Budapest	Meeting room Praha	Atrium
9:00 - 9:55	Invited Talk			Registration
	D. Ruan			0 " 0 1
9:55 - 10:25				Coffee Break
	Special Session	Special Session		Registration
	Fuzzy Methods in Learning	Fuzzy Measures and	Fuzzy Relations	
10:25 - 12:25	and Data Mining	Integrals: Applications in	6 Talks	
10.25 - 12.25	E. Hüllermeier & F. Klawonn	Decision Making and Game Theory		
	6 Talks	M. Grabisch		
		6 Talks		
		Lunch		
14:30 - 15:25	Invited Talk			Registration
14.30 - 13.23	J. Gispert			
	Special Session	Special Session		
	Fuzzy Sets – Philosophy	Fuzzy Measures and	Decision Making 1	
15:30 - 16:50	and Criticism 1	Integrals: Theory 2	4 Talks	
15:30 - 16:50	R. Seising	E. Pap		
	Part 1	3 Talks		
	4 Talks	(15:30 - 16:10)		
16:50 - 17:10		,		Coffee Break
	Special Session			
	Fuzzy Sets - Philosophy	Fuzzy Numbers	Decision Making 2	
	and Criticism 2	3 Talks	4 Talks	
17:10 - 18:30	R. Seising	(17:10 - 18:10)		
	Part 2	,		
	4 Talks			
18:45 - 19:30	EUSFLAT General Assembly			

# Friday September 14

	Congress Hall	Meeting room Budapest	Meeting room Praha	Atrium
9:00 - 9:55	<i>Invited Talk</i> S. Jenei			Registration
9:55 - 10:25				Coffee Break
10:25 - 12:05	<b>Categories and Topology</b> 5 Talks	Aggregation Operators in Decision Making 4 Talks (10:25-11:45)	Special Session The Two Decades of Fuzzy Research at the IPM (Zittau) - Past and Recent Developments M. Wagenknecht and R. Hampel 3 Talks (10:25-11:25)	Registration
12:10 - 12:30	Closing Ceremony			Registration
12:30 - 14:00	Farewell Party			

# Tuesday, September 11, 2007

#### Invited Talk: Fuzzy Logic - a New Direction. The Concept of f-Validity

Tuesday, September 11, 9:15 - 10:10, Room: Congress Hall, Speaker: L. A. Zadeh, Chair: L. Godo

#### Fuzzy Logic 1

Tuesday, September 11, 10:40 – 12:40, Room: Congress Hall, Chairs: F. Esteva and L. Godo

- 10:40 A Fuzzy Formal Logic for Interval-valued Residuated Lattices

  Van Gasse. B., Cornelis, C., Deschriiver, G., Kerre, E. E.
- 11:00 On Completeness Results for the Expansions with Truth-constants of Some Predicate Fuzzy Logics Esteva. F., Godo, L., Noquera, C.
- 11:20 Resolution Strategies for Fuzzy Description Logic Habiballa. H.
- 11:40 Left-continuous t-norms as Functional Algebras Vetterlein. T.
- 12:00 A Logic Determined by Commutative Residuated Lattices Kondo, M., Watari, O., Kawaquchi, M. F., Miyakoshi, M.
- 12:20 On the First Place Antitonicity in QL-implications Shi, Y., Ruan, D., Kerre, E. E.

### Special Session: Aggregation Operators 1 - R. Mesiar and A. Kolesárová

Tuesday, September 11, 10:40 – 12:40, Room: Meeting room Budapest, Chair: R. Mesiar

- 10:40 Dominance of Ordinal Sums of  $T_L$  and  $T_P$ Saminger, S., Sarkoci, P.
- 11:00 Domination and Information Boundedness Principle for Aggregation  $\check{S}abo,\ M.$
- 11:20 Triple Rotation: Gymnastics for t-norms Maes, K. C., De Baets, B.
- 11:40 Representations of Archimedean t-norms in Interval-valued Fuzzy Set Theory Deschrijver, G.
- 12:00 Construction of Aggregation Operators that Preserve Ordering of the Data Beliakov, G., Calvo, T.
- 12:20 Fitting ST-OWA Operators to Empirical Data Beliakov, G., Troiano, L.

#### Special Session: Fuzzy Sets in Distributive Artificial Intelligence – A. Averkin

Tuesday, September 11, 10:40 – 12:40, Room: Meeting room Praha, Chair: A. Averkin

- 10:40 Fuzzy Multiagent Distributed Assembly Chart Planning in Agriculture *Tikhonov*, E.
- 11:00 Synthesis of Distributed Fuzzy Hierarchical Model in Decision Support Systems in Fuzzy Environment Averkin, A. N., Agrafonova, T., Titova, N.
- 11:20 Fuzzy Calculating and Fuzzy Control in Wireless Sensor Network Kalqanova, I.
- 11:40 Soft Computing in Wireless Sensors Networks Averkin, A. N., Belenki, A. G.

12:00 Evaluation of Alternatives for the Disposition of Surplus Weapons-Usable Plutonium on the Basis of Fuzzy Sets

Averkin, A. N., Kosterev, V. V., Stankevich, K. V.

12:20 Towards to Automatic Tactics' Analysis in Soccer Averkin, A. N., Gusev, A., Shestakov, M.

### Invited Talk: Fuzzy Logic and Theories of Vagueness

Tuesday, September 11, 14:30 – 15:25, Room: Congress Hall, Speaker: Ch. G. Fermüller, Chair: V. Novák

#### **Uncertainty Models**

Tuesday, September 11, 15:30 - 16:30, Room: Congress Hall, Chair: M. Wygralak

- 15:30 Transforming Probability Intervals into Other Uncertainty Models Destercke, S., Dubois, D., Chojnacki, E.
- 15:50 Lattice-Valued Possibilistic Entropy Functions *Kramosil. I.*
- 16:10 Revisiting Bobylev's Definitions Rodríquez-Muñiz, L. J.

#### Special Session: Aggregation Operators 2 – R. Mesiar and A. Kolesárová

Tuesday, September 11, 15:30 – 16:30, Room: Meeting room Budapest, Chair: E. P. Klement

- 15:30 Ordinal Means Kolesárová, A., Mayor, G., Mesiar, R.
- 15:50 A New Look on Discrete Quasi-copulas Aguiló, I., Suner, J., Torrens, J.
- 16:10 Introduction to Asymptotically Idempotent Aggregation Operators

  Ghiselli Ricci. R.

#### Applications 1

Tuesday, September 11, 15:30 - 16:30, Room: Meeting room Praha, Chairs: D. Lakov and M. Petrík

- 15:30 Using Supervised Fuzzy Clustering and CWT for Ventricular Late Potentials Detection in HRECG Signal
  Salimi Khorshidi, G., Jaafari, A., Pourmorteza, A., Motie Nasrabadi, A., Hashemi Golpayegani, M.
- 15:50 Distributed Wireless Sensor Network Architecture: Fuzzy Logic Based Sensor Fusion Murthy, G. R., Iyer, V.
- 16:10 Soft Computing Robot Navigation Case Study Lakov, D. V., Saralieva, M. R.

# Fuzzy Rules

Tuesday, September 11, 16:50 – 18:30, Room: Congress Hall, Chairs: V. Novák and A. Dvořák

- 16:50 How to Use Controller with Conditionally Firing Rules Navara, M., Petrík, M.
- 17:10 On Additive and Multiplicative Fuzzy Models Štěpnička, M., De Baets, B., Nosková, L.
- 17:30 Automation of Human Reasoning in Economical Analysis Dvořák, A., Novák, V.

- 17:50 Advanced Inference in Fuzzy Systems by Rule Base Compression Gegov. A., Gobalakrishnan, N.
- 18:10 Using Generalized Constraints and Protoforms to Deal with Adverbs Soto, A., Olivas, J. A., Prieto, M. E.

#### Special Session: Aggregation Operators 3 - R. Mesiar and A. Kolesárová

Tuesday, September 11, 16:50 – 18:30, Room: Meeting room Budapest, Chair: S. Kolesárová

- 16:50 MP and MT-implications on a Finite Scale Mas. M., Monserrat. M., Torrens. J.
- 17:10 (U, N)-Implications and Their Characterizations Jayaram. B., Baczyński, M.
- 17:30 Intersections Between Basic Families of Fuzzy Implications: (S, N)-, R- and QL-Implications Javaram, B., Baczyński, M.
- 17:50 Logical Aggregation Based on Interpolative Realization of Boolean Algebra Radojević. D. G.
- 18:10  $E_T$ -Lipschitzian Aggregation Operators Jacas. J.. Recasens. J.

#### Applications 2

Tuesday, September 11, 16:50 – 18:10, Room: Meeting room Praha, Chair: W. Kästner

- 16:50 A Less Cumulative Algorithm of Mining Linguistic Browsing Patterns in the World Wide Web Duczkowski. K.
- 17:10 Skew-Tree Based Multistage Fuzzy Controller for Nonlinear Systems Khosravi, A., Lu, J., Zhenq, X., Barzamini, R.
- 17:30 Modifying the Classic Peak Picking Technique Using a Fuzzy Multi Agent to Have an Accurate P300-based BCI
  Salimi Khorshidi, G., Jaafari, A., Motie Nasrabadi, A., Hashemi Golpayegani, M.
- 17:50 Toward a Solution for "Genetic Algorithm"-"Support Vector Machine" Combination to Have a Reliable P300-based BCI
  Salimi Khorshidi, G., Jaafari, A., Motie Nasrabadi, A., Hashemi Golpayegani, M., Lucas, C.

#### Wednesday, September 12, 2007

#### Invited Talk: Mathematical Fuzzy Logic - a Survey and Some News

Wednesday, September 12, 9:00 – 9:55, Room: Congress Hall, Speaker: P. Hájek, Chair: F. Esteva

#### Special Session: Axiomatic Fuzzy Mathematics – P. Cintula and L. Běhounek

Wednesday, September 12, 10:25 – 12:25, Room: Congress Hall, Chair: P. Hájek

- 10:25 Fuzzy Class Theory: Some Advanced Topics Cintula, P., Horčík, R.
- 10:45 Interior-Based Topology in Fuzzy Class Theory *Běhounek, L., Kroupa, T.*
- 11:05 Valverde-Style Representation Results in a Graded Framework *Běhounek, L., Bodenhofer, U., Cintula, P.*
- 11:25 Enriched Generic Algebras of Fuzzy Relations Kohout, L. J.

- 11:45 Uncertainty as a Modality over t-norm Based Logics Marchioni. E.
- 12:05 Modal Systems Based on Many-valued Logics Bou, F., Esteva, F., Godo, L.

#### Special Session: Copulas - E. P. Klement and F. Durante

Wednesday, September 12, 10:25 – 12:05, Room: Meeting room Budapest, Chair: F. Durante

- 10:25 Different Types of Convexity and Concavity for Copulas Alvoni, E., Durante, F., Papini, P. L., Sempi, C.
- 10:45 A Method for Constructing Multivariate Copulas

  Durante, F., Quesada-Molina, J. J., Úbeda-Flores, M.
- 11:05 Semigroups of Semicopulas and Evolution of Dependence at Increase of Age Foschi. R.. Spizzichino, F.
- 11:25 An Aggregate Claims Model Between Independence and Comonotone Dependence Hürlimann. W.
- 11:45 Bounds for Value at Risk for Asymptotically Dependent Assets the Copula Approach Jaworski, P.

#### Measures of Vagueness

Wednesday, September 12, 10:25 – 12:25, Room: Meeting room Praha, Chairs: D. Dubois and M. Wygralak

- 10:25 A Characterization of the Ambiguity and Fuzziness by Means of Activity Orders on the Closed Interval in [0, 1] Alcalde, C., Burusco, A., Fuentes-González, R.
- 10:45 Extended Distances Between Fuzzy Points Casasnovas, J., Riera, J. V.
- 11:05 Conditional Entropy for the Union of Fuzzy and Crisp Partitions Vivona, D., Divari, M.
- 11:25 A Construction of a Fuzzy Valued Measure Based on Minimum t-norm  $Ruzha,\ V..\ Asmuss,\ S.$
- 11:45 Compensational Vagueness  $Mare\check{s}, M.$
- 12:05 On Monotonic Operations which Are Locally Internal on Some Subset of Their Domain Drygaś, P.

#### Invited Talk: Semirings, Dioids and Their Links to Fuzzy Sets and Other Applications

Wednesday, September 12, 14:15 – 15:10, Room: Congress Hall, Speaker: M. Minoux, Chair: I. Perfilieva

#### Fuzzy Logic 2

Wednesday, September 12, 15:35 – 17:35, Room: Congress Hall, Chairs: I. Perfilieva and A. Di Nola

- 15:35 The Logic of Perfect MV-algebras Belluce, L. P., Di Nola, A., Gerla, B.
- 15:55 An Algebraic Approach to States on MV-algebras Flaminio, T., Montagna, F.
- 16:15 Free MV-algebras Di Nola, A., Grigolia, R.

- 16:35 Concept Lattices under Non-commutative Conjunctors Are Generalized Concept Lattices Medina, J., Ojeda-Aciego, M., Ruiz-Calviño, J.
- 16:55 Mixed Integer Programming, General Concept Inclusions and Fuzzy Description Logics Bobillo. F., Straccia, U.
- 17:15 From Fuzzy- to Bipolar- Datalog  $Achs. \ \acute{A}.$

#### Special Session: Fuzzy Measures and Integrals: Theory 1 – E. Pap and R. Mesiar

Wednesday, September 12, 15:35 – 17:35, Room: Meeting room Budapest, Chair: R. Mesiar

- 15:35 Pseudo-integral of Set-valued Functions Grbić, T., Štajner-Papuga, I., Nedović, L.
- 15:55 M-probability Theory on IF-events Riečan. B.
- 16:15 Almost Everywhere Convergence in Family of IF-events With Product Lendelová. K.
- 16:35 Outer Measure on MV-algebras Michalíková, A.
- 16:55 A Fixed Point Theorem in Probabilistic Metric Spaces with a Convex Structure Žikić-Došenović. T.
- 17:15 Measuring the Similarity of Different Types of Fuzzy Sets in FRDB Takači, A., Škrbić, S.

### Neuro-fuzzy, Predictions and Evolutionary Approach

Wednesday, September 12, 15:35 – 17:15, Room: Meeting room Praha, Chairs: I. Křivý and J. Tvrdík

- 15:35 Training Neurofuzzy Networks with Participatory Learning Hell, M., Ballini, R., Costa, P., Gomide, F.
- 15:55 Time Series Prediction by Perturbed Fuzzy Model Salqado, P., Iqrejas, G., Gouveia, F.
- 16:15 Competitive Self-adaptation in Evolutionary Algorithms Tvrdik, J.,  $K\check{r}iv\acute{u}$ , I.
- 16:35 Differential Evolution Methods for LU-fuzzy Arithmetic Stefanini, L.
- 16:55 A New Preprocessing Approach to Preparation of Binary Patterns for FAM Neural Networks Chitsaz, M., Sadati, N., Barzamini, R., Jouzdani, J., Khosravi, A.

#### Thursday, September 13, 2007

#### Invited Talk: Lessons Learned from Fuzzy Logic Applications in Complex Systems

Thursday, September 13, 9:00 – 9:55, Room: Congress Hall, Speaker: D. Ruan, Chair: J. Kacprzyk

# Special Session: Fuzzy Methods in Learning and Data Mining – E. Hüllermeier and F. Klawonn

Thursday, September 13, 10:25 – 12:25, Room: Congress Hall, Chair: E. Hüllermeier

10:25 Towards a Robust Rank Correlation Measure for Numerical Observations on the Basis of Fuzzy Orderings Bodenhofer, U., Klawonn, F.

- 10:45 SPoID: Do Not Throw Meaningful Incomplete Sequences Away! Fiot. C., Laurent. A., Teisseire, M.
- 11:05 Measuring Variation Strength in Gradual Dependencies Molina, C., Serrano, J. M., Sánchez, D., Vila, M. A.
- 11:25 Forest of Fuzzy Decision Trees and Their Application in Video Mining Detyniecki, M., Marsala, C.
- 11:45 Fuzzy-Relational Classification: Combining Pairwise Decomposition Techniques with Fuzzy Preference Modeling Hüllermeier, E., Brinker, K.
- 12:05 Selecting the Optimal Rule Set Using a Bacterial Evolutionary Algorithm *Drobics, M., Botzheim, J., Adlassniq, K. P.*

# Special Session: Fuzzy Measures and Integrals: Applications in Decision Making and Game Theory – M. Grabisch

Thursday, September 13, 10:25 – 12:25, Room: Meeting room Budapest, Chair: M. Grabisch

- 10:25 Extending the Choquet integral Rossi. G.
- 10:45 Shortfall-dependant Risk Measures (and Previsions)

  Baroni, P., Pelessoni, R., Vicia, P.
- 11:05 Representation of Two Bipolar Decision Strategies with Generalized Choquet Integrals Labreuche, Ch., Grabisch, M.
- 11:25 Various Representations and Algebraic Structure of Linear Imprecision Indices Lepskiy, A. E., Bronevich, A. G.
- 11:45 On the Moments and the Distribution of the Choquet Integral Kojadinovic, I., Marichal, J. L.
- 12:05 The Core of Games on Distributive Lattices Xie, L., Grabisch, M.

#### **Fuzzy Relations**

Thursday, September 13, 10:25 - 12:25, Room: Meeting room Praha, Chair: M. Kalina

- 10:25 Algorithms for the Construction of Digital Convex Fuzzy Hulls Ralević, N. M., Čomić, L.
- 10:45 Lukasiewicz Filters as Convex Combinations of Crisp Filters Havranová, Z., Kalina, M.
- 11:05 Fuzzy Preference Relations and Lukasiewicz Filters  $Havranov\acute{a},~Z.,~Kalina,~M.$
- 11:25 On a Proximity-based Tolerant Inclusion Bosc, P., Hadjali, A., Pivert, O.
- 11:45 Finding Close T-indistinguishability Operators to a Given Proximity Garmendia, L., Recasens, J.
- 12:05 Preservation of Graded Properties of Fuzzy Relations by Aggregation Functions Dudziak, U.

#### Invited Talk: Algebraic Semantics for t-norm Based Fuzzy Logic

Thursday, September 13, 14:30 – 15:25, Room: Congress Hall, Speaker: J. Gispert, Chair: A. Di Nola

### Special Session: Fuzzy Sets - Philosophy and Criticism 1 - R. Seising

Thursday, September 13, 15:30 – 16:50, Room: Congress Hall, Chair: R. Seising

- 15:30 Scientific Theories and the Computational Theory of Perceptions A Structuralist View Including Fuzzy Sets Seising, R.
- 15:50 Fuzzy Set Theory and Philosophical Foundations of Medicine Limberg, J., Seising, R.
- 16:10 Fuzzy Logic as a Theory of Vagueness: 15 Conceptual Questions Bradley. J.
- 16:30 Postmodernism and Control Engineering Balas, V. E., Balas, M. M.

#### Special Session: Fuzzy Measures and Integrals: Theory 2 - E. Pap and R. Mesiar

Thursday, September 13, 15:30 - 16:30, Room: Meeting room Budapest, Chair: E. P. Klement

- 15:30 A Universal Integral
  Klement, E. P., Mesiar, R., Pap, E.
- 15:50 On the k-additive Core of Capacities Grabisch, M., Miranda, P.
- 16:10 Decomposable Signed Fuzzy Measures Mihailović. B., Pap. E.

#### **Decision Making 1**

Thursday, September 13, 15:30 – 16:50, Room: Meeting room Praha, Chair: D. Hliněná

- 15:30 Two Consensus Protocols Based on an Acceptance Threshold in Group Decision Making  $Labreuche,\ Ch.$
- 15:50 Modeling the Context in Multi-Criteria Decision Analysis Labreuche, Ch.
- 16:10 Representing Incomplete Knowledge about Fuzzy Sets Wuaralak. M.
- 16:30 Dealing with Incompleteness of Preferences in Group Decision Making Problems Pankowska, A.

#### Special Session: Fuzzy Sets – Philosophy and Criticism 2 – R. Seising

Thursday, September 13, 17:10 – 18:30, Room: Congress Hall, Chair: R. Seising

- 17:10 Power Sets and Implication Operators Revisited: A Retrospective Look at the Foundational and Conceptual Issues in Bandler and Kohout's Paper After 29 Years Kohout, L. J.
- 17:30 Exploring Dialogue Games as Foundation of Fuzzy Logic Fermüller, Ch. G.
- 17:50 Representing Groups with Imprecise Opinions Nurmi, H., Kacprzyk, J.
- 18:10 Fuzziness Representation of Dynamic Changes? Kosiński, W., Prokopowicz, P.

#### Fuzzy Numbers

Thursday, September 13, 17:10 – 18:10, Room: Meeting room Budapest, Chairs: R. Horčík and M. Mareš

- 17:10 Object Oriented Approach in Fuzzy Arithmetic Using Parametric Representation of Fuzzy Numbers  $Hu\~nka$ . F.
- 17:30 Inverse Arithmetic Operators for Fuzzy Intervals Boukezzoula, R., Galichet, S., Foulloy, L.
- 17:50 A Fuzzy Representation for Weights of Alternatives in AHP Ohnishi. S., Yamanoi, T., Imai, H.

#### Decision Making 2

Thursday, September 13, 17:10 - 18:30, Room: Meeting room Praha, Chair: J. Talašová

- 17:10 On the Reliability of Multistate Systems with Imprecise Probabilities Wagenknecht. M., Gocht. U.
- 17:30 Similarity of Fuzzy Preference Structures Based on Metrics *Hliněná*. D.. Kráľ. P.
- 17:50 Supporting Consumer Decision by Fuzzy Revealed Preference in Online Sales Georgescu. I., Oiu, X., Lin. R.
- 18:10 Revealed Preference in a Fuzzy Framework Georgescu, I.

# Friday, September 14, 2007

#### Invited Talk: Recent Advances in the Field of Left-continuous t-norms

Friday, September 14, 9:00 – 9:55, Room: Congress Hall, Speaker: S. Jenei, Chair: R. Mesiar

#### Categories and Topology

Friday, September 14, 10:25 – 12:05, Room: Congress Hall, Chairs: L. Běhounek and M. Holčapek

- 10:25 On L-valued Equalites on the L-power sets of Many-valued Sets  $Uljane,\ I.,\ \check{S}ostak,\ A.$
- 10:45 On Fuzzification of Algebraic and Topological Structures Soloviovs. S.
- 11:05 Fuzzy Order Relation and Fuzzy Ordered Set Category Lebedeva, O.
- 11:25 Monadic L-fuzzy Quantifiers of the Type  $\langle 1^n, 1 \rangle$ Holčapek, M.
- 11:45 Homomorphisms of Fuzzy Logic Models Based on Sets With Similarities  $\textit{Močkoř},\ J.$

#### Aggregation Operators in Decision Making

Friday, September 14, 10:25 – 11:45, Room: Meeting room Budapest, Chair: I. Georgescu

- 10:25 Applications of the Fuzzy Weighted Average of Fuzzy Numbers in Decision Making Models  $Pavlačka,\ O.,\ Talašová,\ J.$
- 10:45 The Induced Generalized OWA Operator Merigó, J. M., Gil-Lafuente, A. M.

- 11:05 Mixture Operators and Additional Insurance Špirková, J., Kráľ, P.
- 11:25 Using Quasiarithmetic Means in a Sequential Decision Procedure Ballester, M. A., García-Lapresta, J. L.

# Special Session: The Two Decades of Fuzzy Research at the IPM (Zittau) – Past and Recent Developments – M. Wagenknecht and R. Hampel

Friday, September 14, 10:25 – 11:25, Room: Meeting room Praha, Chairs: M. Wagenknecht and R. Hampel

- 10:25 Soft Computing at the Zittau IPM an Overview  $K\ddot{a}stner.~W..~Hampel.~R.$
- 10:45 Experiences in Soft Computing and Dynamical Simulation Kästner, W., Hampel, R.
- 11:05 Modelling the Differential Pressure at Sieves with Artificial Neural Networks (Multilayer Perceptron)
   a Contribution to Reactor Safety Research
   Kratzsch, A., Kästner, W., Hampel, R.