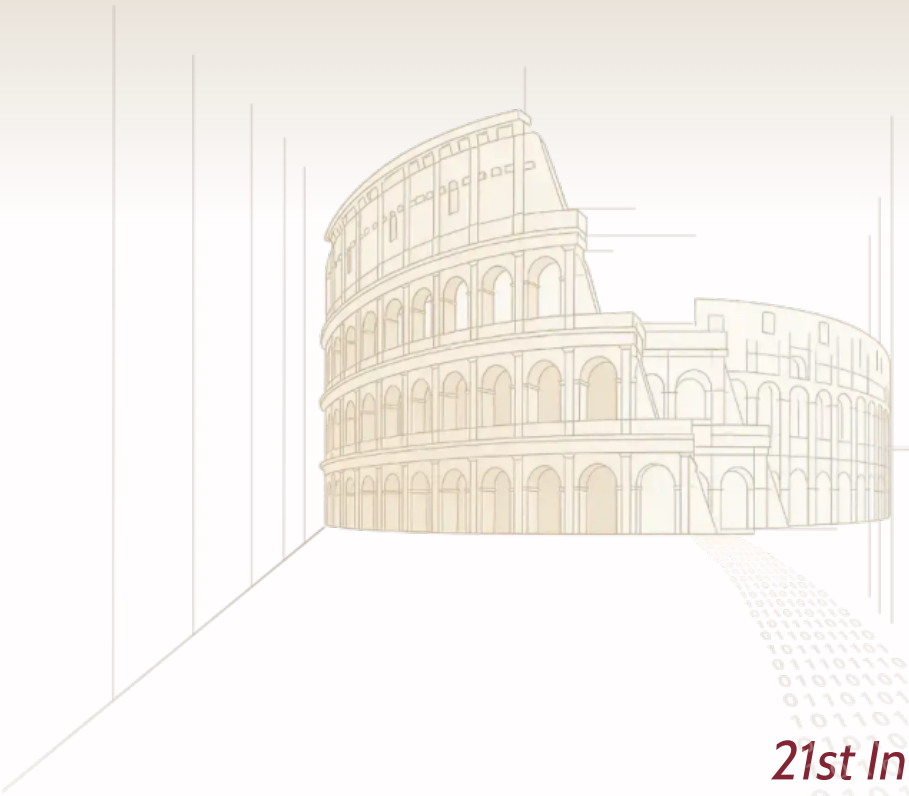

IPMU 2026 ROME

21st International Conference on

Information Processing and Management of Uncertainty in Knowledge-Based Systems

Rome, Italy – 15-19 June 2026

PROGRAM

SAPIENZA
UNIVERSITÀ DI ROMA

Thumbs up to IPMU's 40th anniversary

Monday, 15 June 2026

	Parallel 1 – Room 6A	Parallel 2 – Room ACQUARIO	Parallel 3 – Room 6B
13:00-14:00	**Registration**		
14:00-14:30	**Opening – Room 5**		
14:30- 15:30	**SS19: Soft computing in data analysis - Part 1**	**SS15: Multivalued logics**	**SS02: Aggregation theory**
	Chair: K. Kacmarek-Majer	**Chair: G. Filippone**	**Chair: B. de Baets**
14:30-14:50	**Maciej Romaniuk and Weronika Kamińska**	**Manuel Mancini and Federica Piazza**	**Marina Iturrate-Bobes, Ignacio Montes and Raúl Pérez-Fernández**
	Fuzzy Approach for Catastrophic Data Improved with Resampling and GAN Algorithms	*Ideally Exact Categories, Varieties of Universal Algebras and Multi-Valued Logics*	*Two-sample goodness-of-fit tests to a location-scale family using OWA-based skewness coefficients*
14:50-15:10	**Matteo Castano, Davide Cazzorla and Corrado Mencar**	**Lydia Castronovo, Giuseppe Filippone, Gianmarco La Rosa and Marco Elio Tabacchi**	**Marina Iturrate-Bobes, Ignacio Montes and Raúl Pérez-Fernández**
	A Bayesian framework for ranking healthcare facilities under uncertainty	*Fuzzy Rule-Based Approach for Weighting Artificial Experts involved in a Multi-Criteria Group Decision-Making Problem*	*Asymptotic confidence intervals for a skewness parameter by using OWA functions*
15:10-15:30	**Ansh Kapadia, Katarzyna Kaczmarek-Majer and Olgierd Hryniewicz**	**Gianmarco La Rosa and Federica Piazza**	**Ander Goñi-Medrano, Raúl Pérez-Fernández, Marisol Gómez and Bernard De Baets**
	Classification-aligned Quality Criteria for Fuzzy Linguistic Summaries	*Functors between Fuzzy Varieties*	*Construction methods for uninorms on a specific family of bounded lattices*
15:30- 16:00	**Coffee break**		
16:00-18:00	**SS18: Robustness in economics**	**SS23: Eusflat WG on Mathematical Fuzzy Logic**	**Data mining**
	Chair: A. Cinfrignini	**Chair: M. Bianchi**	**Chair: G. de Tré**
16:00-16:20	**Achraf Walli, Lamia Hadrich Belguith and Jose M. Alonso-Moral**	**Serafina Lapenta and Sebastiano Napolitano**	**Janneke Bolt, Arjen Hommersom and Silja Renooij**
	A Risk Management Agent with Uncertainty Quantification for Financial Trading	*Optimizing de Finetti's Coherence: a Complexity Analysis*	*Take Care when Tuning Bayesian Networks*
16:20-16:40	**Davide Petturiti, Barbara Vantaggi and Gabriele Stabile**	**Stefano Aguzzoli and Matteo Bianchi**	**Iván Pérez, Jiří Vomlel and Patrícia Martinková**
	On the role of ambiguity in randomized reinsurance contracts	*On the complexity of the logics of strongly perfect MTL-algebras and related systems*	*On Item Selection Algorithms for Noisy-AND Computerized Adaptive Testing*

16:40-17:00	**Luca Palmacci**	**Valeria Giustarini, Luca Carai and Francesco Manfucci**	**Fares Grina, Zied Elouedi and Eric Lefevre**
	Validating Conditional Generators via Induced Metric Laws	*Free Nelson Algebras: an algebraic overview*	*Uncertainty-Driven Imbalanced Image Classification: Enhancing Robustness with GANs and Evidence Theory*
17:00-17:20	**Andrea Cinfrignini, Silvia Lorenzini, Davide Petturiti and Barbara Vantaggi**	**Francesco Manfucci, Luca Carai and Valeria Giustarini**	**Marcelo Loor, Ana Tapia-Rosero and Guy De Tré**
	Enforcing Sparsity of Imprecise Transport Plans in Dempster-Shafer Optimal Transport	*Free Nelson algebras: a dual description*	*Handling Veracity in Multi-class SVM Classification*
17:20-17:40	**Aleksandra Rutkowska**	**Sarah Nastasi and Brunella Gerla**	**Chunyang Fan, Fadi Badra and Marie-Jeanne Lesot**
	A Robust Approach to Model Selection in Learning-to-Forecast Exercises	*On the Gödel algebra of fuzzy languages*	*Compatibility-based Similarity Learning for Case Base Prediction*
17:40-18:00	**Alessandro Bottino, Salvatore Cuomo and Vincenzo Vocca**	**Pavle Milošević, Milica Zukanović, Miroslav Hudec, Ivana Dragovic and Javier Fernandez**	**Davide Petturiti and Maria Rifqi**
	A Machine Learning Pipeline for Freight Transport Pricing	*Introducing Interpolative Boolean Algebra for Interval-Valued Fuzzy Sets*	*Credal Ensemble Classification with Structural Discriminative Gaussian-Bernoulli RBMs*
18:00-19:30	**Welcome cocktail**		

Tuesday, 16 June 2026

	Parallel 1 – Room 6A	Parallel 2 – Room ACQUARIO	Parallel 3 - Room 6B
09:00-10:20	**SS10: Uncertainty in cooperative automated systems - Part 1**	**SS21: Eusflat WG on Aggregation Functions**	**SS14: Modeling uncertainty - Part 1**
	Chair: D. Pelta	**Chair: O. Hutnik**	**Chair: A. Bouchet**
9:00-9:20	**Juan Carlos Figueroa-García, Roman Neruda, Yurilev Chalco-Cano and Carlos Franco**	**Juraj Kalafut and Andrea Mesiarová-Zemánková**	**Marina Dáder-Suárez, Emilio Torres-Manzanera, Javier Fernandez, Susana Montes and Humberto Bustince**
	A TOPSIS-based cooperative strategy for solving imprecise MCDM problems	*Review on recent advances in non-commutative associative aggregation functions*	*Structural Centrality in Admissible Orders for Interval-Valued Fuzzy Sets: How the Wisdom of Crowds Operationalizes Consensus Ranking*
9:20-9:40	**Boris Pérez-Cañedo, José Luis Verdegay, Eduardo René Concepción-Morales and David A. Pelta**	**Yasuo Narukawa, Zuzana Ontkovicova and Vicenc Torra**	**Jono Sonck, Antoon Bronselaer and Guy De Tré**
	A Cooperative ADM System for Fuzzy Multi-objective Optimization	*Derivative for discrete Sugeno integral*	*Dynamic Belief Networks for Data Currency Estimation*
9:40-10:00	**Mariia Godz, Pavel Novoa-Hernández and David A. Pelta**	**Gül Deniz Çaylı**	**Swikar Bhandari, Thuy Nhat Vy Dinh and Maurice van Keulen**
	A Cooperative and Context-Aware Approach for Employee Attrition Prevention	*A new construction method for uninorms on a bounded lattice through uninorms on its subintervals*	*Towards a Systematic Open-Source Information Fusion Framework for Criminal Investigations*
10:00-10:20	**Natalio Krasnogor**	**Jana Borzová, Ondrej Hutník and Miriam Kleinová**	**Sara Suarez-Fernandez, Agustina Bouchet, Susana Diaz-Vazquez and Susana Montes**
	Vibe Coding Experiments for Reducing Vagueness in Scientific Mining: Expert-LLM Aggregation for Data-Card Extraction	*Fill-in Restrictions and Conditioning for Measure-Based Level-Set Functionals*	*Embedding-based similarity approaches under data uncertainty*
10:20-11:00	**Coffee break**		
11:00-12:00	**Plenary – Room 5: Marco Zaffalon. Chair: E. Miranda**		

12:00-13:00	**SS10: Uncertainty in cooperative automated systems - Part 2**	**SS03: Bridging statistical theory and computational methods**	**SS20: Imprecise probabilities - Part 1**
	Chair: D. Pelta	**Chair: R. de Andrés**	**Chair: D. Nieto**
12:00-12:20	**Hanane El Raoui, John Quigley, Jonathan Corney, Gokula Vijaykumar Annamalai Vasantha and Andrew Sherlock**	**Thomas A. Runkler**	**Pierre Pomeret**
	Cooperative Multi-Strategy Assisted Reinforcement Learning in Agent-Based Simulation of Industrial Safety Compliance	*Utility Estimation from Fuzzy Preference Matrices by Approximating Consistency*	*Minimum Expected Utility and Non-maximal Credal Sets in the Uncertain Evidence Framework for Belief Functions*
12:20-12:40	**Juan Lara-Rubio, Andrés Navarro-Galera, M. Elena Gómez-Miranda and Dionisio Buendía-Carrillo**	**Rocio de Andres Calle, José Manuel Cascon Barbero and Silvia Prieto Herráez**	**Vaclav Kratochvil, Radim Jirousek and Milan Daniel**
	Post-Insolvency Zombification in SMEs: A Cooperative AI-Based Predictive Framework	*Supporting collective decision-making for redrawing primary healthcare areas*	*A Polyhedral Approach to Learning Belief Functions from Imprecise Data*
12:40-13:00	**Juan Lara-Rubio, Andrés Navarro-Galera and Ana Martín-Schubert**	**de Andrés Calle Rocío, José Manuel Pavía and Patrizia Pérez-Asurmendi**	**Ignacio Montes and Enrique Miranda**
	A Cooperative AI Framework for Risk-Sensitive Microcredit Pricing: PD Estimation and IRB-Based Interest Rates in Microfinance	*A Computational Entropy-Based Approach to Intention-Vote Transitions*	*On the commutativity of the aggregation of capacities and the natural extension to gambles*
13:00-14:20	**Lunch**		
14:20- 16:20	**SS09: Foundations of fuzzy sets - Part 1**	**Fuzzy implication**	**SS20: Imprecise probabilities - Part 2**
	Chair: J. Elorza	**Chair: L. Godó**	**Chair: I. Montes**
14:20-14:40	**Jiří Močkoř**	**Milan Studeny**	**Francesc Pifarre-Esquerda, Eric Goubault and Sylvie Putot**
	Extended quantales and new fuzzy set types	*Semi-graphoids viewed as collections of posets*	*Propagation of interval belief structures and imprecise copulas for neural network verification*

14:40-15:00	**Pablo Hernández-Varela, Francisco Javier Talavera, Carmen Torres-Blanc, Pedro Huidobro, Susana Cubillo and Jorge Elorza**	**Petra Murinová and Vilém Novák**	**Darío Tagarro, Enrique Miranda and Raúl Pérez-Fernández**
	New negations for notable restrictions on the membership degrees of type-2 fuzzy sets	*Extended Peterson's Rules for Verification of Validity of Syllogisms Related to Graded Cube of Opposition*	*An order-theoretic study of the credal sets generated by comparative probabilities*
15:00-15:20	**Patrik Eklund and Jari Kortelainen**	**Henri Prade and Gilles Richard**	**David Nieto-Barba, Sébastien Destercke and Enrique Miranda**
	On type reductions with quantale based fuzzy sets	*Pair Comparators: a Family of Connectives Related to Logical Proportions*	*Weighted Total Variation distances for contextual robustification*
15:20-15:40	**Carolina Díaz-Montarroso, Nicolás Madrid and Jorge Elorza**	**Didier Dubois, Lluis Godo and Rico Agnès**	**Nicolás Carrizosa, Ignacio Montes and Enrique Miranda**
	On the Monotonicity of Fuzzy Inference Systems Based on f-inclusion	*Implication-based qualitative integrals and a logical formalization*	*Decision making with generalised distortion models*
15:40-16:00	**Arnau Mir Fuentes and Oscar Valero**	**Ronald Manríquez and Cristian Carvajal**	**Justyna Dąbrowska, Banda Norimarna and Arthur Van Camp**
	On admisible interval orders and partial metrics on discrete fuzzy numbers	*A New Model to Fuzzy Voronoi Diagram*	*A preliminary study of notions of independence for choice functions*
16:00-16:20	**Matúš Ďubek and Mikel Ferrero-Jaurrieta**	**Jelizaveta Jelinska and Olga Grigorenko**	**Alexander Erreygers**
	General negation for φ-intuitionistic fuzzy sets	*Learning Expert Importance via Fuzzy Equivalence–Based Aggregation*	*Allowing for imprecision in the game-theoretic characterisation of the Poisson process*
16:20-16:50	**Tea break**		
16:50-18:30	**Eusflat meeting – Room 5**		

Wednesday, 17 June 2026

	Parallel 1 – Room 6A	Parallel 2 – Room ACQUARIO	Parallel 3 – Room 6B	Parallel 4 – Room 5
09:00-10:20	**Aggregation**	**SS04: Explainable AI - Part 1**	**SS06: Fuzzy logic and quantum computing**	
	Chair: P. Vicig	**Chair: M. Ferrara**	**Chair: A. Laurent**	
9:00-9:20	**Mustapha Reda Senouci, Faouzi Sebbak and Latifa Oukhellou**	**Dario Artuso and Gianluca Lax**	**Ilyas Sabeshuly, Sadok Ben Yahia and Assel Akzhalova**	
	Discounting Operators in Belief Functions Theory: Taxonomies and Operational Analysis	*Automatic Assessment of Node Compromise Risks in Critical Infrastructures via a Multi-Stage Uncertainty Reduction Model using LLMs*	*Quantum-Inspired Fuzzy Committee Optimization for Blockchain Consensus*	
9:20-9:40	**Faouzi Sebbak and Mustapha Reda Senouci**	**Giuseppe Caristi and Massimiliano Ferrara**	**Patrice Van de Velde**	
	Efficient Exact Decombination for Belief Functions Theory: A Commonality-Based Framework for Dynamic Reasoning	*Neural Networks for Non-Convex Lattice Geometry: Extending Stoka's Theory with Machine Learning Application to Financial Risk and Economic Forecasting*	*Fuzzy Logic as the Orchestrator for Hybrid HPC-Quantum Architectures: Uncertainty Management in Hybrid HPC-Quantum Systems*	
9:40-10:00	**David Nieto-Barba and Sébastien Destercke**	**Massimiliano Ferrara and Valeria Isgrò**	**Patrice Van de Velde**	
	On the specific commutativity with Bayesian conditioning of systematic aggregation rules for probability measures	*Multi-Objective Optimization and Machine Learning Framework for Tax Risk Management: Theory and Applications*	*Fuzzy Logic for Error-Tolerant Quantum Computing in Combinatorial Optimization*	

10:00-10:20	**Juan Carlos Gonzalez-Quesada, Francisco Javier Cabrerizo, Sergio Alonso, Enrique Herrera-Viedma and Ignacio Javier Perez**	**Osamu Takahashi, Annie Cuyt, Anthony O'Hare, Wen-Shin Lee and Massimiliano Ferrara**	**Ingo Schmitt**	
	A Blockchain-Inspired Trust Mechanism for Consensus Reaching in Online Social Networks	*An Explainable Estimation Model for Financial Time Series*	*Boolean Algebra: Fuzzy Logic versus Quantum Logic*	
10:20-11:00	**Coffee break**			
11:00-12:00	**<u>Plenary – Room 5</u>: Luc de Raedt. Chair: D. Petturiti**			
12:00-13:00	**SS12: Interval uncertainty**	**SS04: Explainable AI - Part 2**	**Uncertainty quantification**	
	Chair: V. Kreinovich	**Chair: C. Marsala**	**Chair: R. Pérez-Fernández**	
12:00-12:20	**Marek T. Malinowski**	**Qusai Khaled, Bahjat Mallak, Uzay Kaymak and Laura Genga**	**Vitor Martin Bordini, Sébastien Destercke and Benjamin Quost**	
	Fuzzy Extensions of SDEs and the Non-Overlap of Crisp and Fuzzy Solution Trajectories	*Explainable Uncertainty Quantification for Wastewater Treatment Energy Prediction via Interval Type-2 Neuro-Fuzzy System*	*Cautious Self-Learning via Labelwise Uncertainty Quantification*	
12:20-12:40	**Maria Letizia Guerra, Laerte Sorini and Luciano Stefanini**	**Toon Boeckling, Janne Cools, Antoon Bronselaer, Guy De Tré, Mieke Deschepper and Kirsten Colpaert**	**Maria Sartzetaki, Aristi Karagkouni and Dimitrios Dimitriou**	
	Useful elements in common between gH-based extended-interval and probabilistic arithmetic	*Constraint-Based Reliability Estimation in Sparse and Irregular Time Series*	*Measuring Social Value of Large scale Investments under Uncertainty: A Fuzzy Social Cash Flow Framework*	

12:40-13:00	**Zahra Alijani and Babak Shiri**	**Luigi Lomasto, Roberto Abbruzzese, Donato Cappetta, Emilio Lanzara, Nicola Lettieri, Delfina Malandrino and Rocco Zaccagnino**	**Beatriz Sinova and Ignacio Cascos**	
	Incommensurate Fractional Recurrent Neural Networks for Sequential Time-Series Prediction	*An Engineering Methodology for Verifying Compliance with the EU AI Act in Industrial AI Systems*	*Depths for interval-valued data*	
13:00-14:20	**Lunch**			
14:20- 16:20	**SS19: Soft computing in data analysis - Part 2**	**SS13: Knowledge representation**	**Multivalued logic**	
	Chair: P. Grzegorzewski	**Chair: D. Lobo**	**Chair: A. Rico**	
14:20-14:40	**Maciej Romaniuk and Przemyslaw Grzegorzewski**	**Martina Daňková**	**Libor Behounek**	
	Bootstrap Methods for Interval-Valued Time Series	*Optimal Transport based Dissimilarity of Fuzzy Association Rules*	*A Dual-Channel Semantics for Semiring-Valued Logics*	
14:40-15:00	**Przemysław Grzegorzewski, Maha Moussa, Yan Sun and Said Elshafae**	**Mārtiņš Zemlītis and Olga Grigorenko**	**Vilém Novák and Petra Murinová**	
	Uncertainty-Aware Repeated-Measures ANOVA for Interval-Valued Data with an Application to Longitudinal CT Tumor Imaging	*Implicative Fuzzy Rules Systems in Water Quality Evaluation and Reasoning*	*Fractional quantifiers*	
15:00-15:20	**Katarzyna Miś, Katarzyna Kaczmarek-Majer and Michał Baczyński**	**Roberto G. Aragón, Jesús Medina and Samuel Molina-Ruiz**	**Maxime Deforche, Guy De Tré, Paolo Fosci and Giuseppe Psaila**	
	Imprecision and Specificity of Fuzzy Linguistic Summaries	*Multi-adjoint bonds as a mechanism to aggregate multi-adjoint concept lattices*	*On Veracity Handling in Document Stores: A Novel Technique Based on L-graded Logic Running on the J-CO Framework*	

15:20-15:40	**Hisashi Noma, Theodoros Evrenoglou and Kazushi Maruo**	**David Lobo and Pablo López-Molina**	**Ismaïl Baaj, Isabelle Bloch, Agnès Rico and Oliver Strauss**	
	Managing Inferential Uncertainty in Rare-Event Meta-Analysis: Likelihood-Based Aggregation with Higher-Order and Bootstrap Adjustments	*Bipolar max-product equations with ceiling negation*	*A Max–Min Neural Network Model for Propositional Fuzzy Logic*	
15:40-16:00	**Marcin Ostrowski, Katarzyna Kaczmarek-Majer and Jose Maria Alonso-Moral**	**Maria Eugenia Cornejo Piñero, David Lobo and Jesús Medina**	**Michal Holcapek and Antonin Dvorak**	
	Consistency of Explanations in Evolving Supervised Learning Contexts	*Stratified extended multi-adjoint logic programs*	*On Aristotelian opposition relations for fuzzy quantifiers determined by fuzzy measures*	
16:00-16:20	**Antonio González Alves, Rafael Cabañas de Paz and Antonio Salmerón Cerdán**	**Manuel Ojeda-Hernandez and Domingo López-Rodríguez**	**Marwa Alali, Sebastian Cesario, Arnaud Castelltort, Marzieh Derakhshannia and Anne Laurent**	
	Efficient Causal Bounding Using Metropolis-Hastings Sampling	*How to build a direct-optimal system from a complete system of graded attribute implications*	*Uncertainty-Aware Graph Integration: A Fuzzy Logic Approach with Comparative Analysis*	
16:20-16:50	**Tea break**			
16:50-18:30	**SS25: Data Analysis and Machine Learning**	**Knowledge representation**	**SS08: Fuzzy modelling and control**	**Forecasting**
	Chair: V. Bruni	**Chair: M.-J. Lesot**	**Chair: J.M. Escaño**	**Chair: O. Kosheleva**
16:50-17:10	**Motaz Ben Hassine**	**Jonas Karlsson, Alexander Karlsson, Sunith Bandaru and Ebru Turanoglu Bekar**	**Jana Špirková, Igor Kollár and Silvia Zelinová**	**Dalel Ayed Lakhal, Saoussen Bel Hadj Kacem, Moncef Tagina and Mohamed Ali Amara**
	Toward Optimized Explainable Clustering through Unified Cover and Itemset Reduction	*Empirical Likelihood Stacking for Remaining Useful Life Estimation*	*Fuzzy BWM–Based Pension Sustainability Index*	*Anomaly Detection In Anticoagulant Drug Sales Data And Forecasting*

17:10-17:30	**Giuliana Ramella and Luca Serino**	**Jirka Vomlel**	**Rainer Palm and Achim Lilienthal**	**Ehsan Yahyazadeh Rineh, Ruey Long Cheu, Olga Kosheleva and Vladik Kreinovich**
	Susceptibility of Skin Lesion CNN Classifiers to Increasing Gaussian Noise	*Tucker unimodal decomposition of discrete probability distributions*	*Human-Robot Avoidance Under Uncertainty Using Fuzzy Approximation and Gaussian Sigma-Points*	*When Is a Safe Freeway Lane Change Possible? Relativity Principle Explains an Empirical Formula*
17:30-17:50	**Lorella Fatone and Francesca Mariani**	**Ismaïl Baaj and Henri Prade**	**Prasad Anjali R. Chandadevi and S. P. Tiwari**	**Luca Vincenzo Ballestra**
	Hybrid Forecasting with the Heston Model and K-Nearest Neighbors	*A possibilistic calculus of guarantees*	*Intracranial pressure controller for neurological condition using Fuzzy-PID controller*	*Medium-Range Temperature Forecasting: Neural Networks or a Linear Model?*
17:50-18:10	**Alberto Sorrentino**	**Brice Mayag**	**William D. Chicaiza, Ramón A. Garcia and Juan M. Escaño**	**Branislav Rudic, Veronika Putz, Markus Pichler-Scheder and Dmitry Efrosinin**
	Characterizing Non-Uniqueness in Inverse Problems: A Bayesian Analysis of Atmospheric LIDAR Data	*Enhancing the Yuka score: a 2-additive Choquet integral model for food additive risk assessment*	*Neuro-Fuzzy Identification of Pneumatic Levitation Dynamics for Cyberattack-Aware Control Monitoring*	*Extended Predecessor Decoding for Coherent MAP Inference in Non-Linear Bayesian Models*
18:10-18:30		**Christiaan Venter and Marek Reformat**	**Pablo G. Camacho, Francisco Fuentes and Juan M. Escaño**	**David Adamczyk and Jan Hůla**
		Conceptual Blending via Pushouts with Fuzzy Semantic Resolution in Typed Graphs	*Fuzzy Logic Controller for Room Temperature Regulation: A Co-Simulation Study with HOME I/O and MATLAB*	*Noise-Induced Training Collapse in Shortest Path Learning*

Thursday, 18 June 2026

	Parallel 1 – Room 6A	Parallel 2 – Room ACQUARIO	Parallel 3 – Room 6B
09:00-10:20	**SS01: Data mining and social networks - Part 1**	**SS11: Information fusion - Part 1**	**SS14: Modelling uncertainty - Part 2**
	Chair: J.A. Díaz García	**Chair: G. Lucca**	**Chair: S. Montes**
9:00-9:20	**Motaz Ben Hassine**	**José Carlos R. Alcantud and Aoi Honda**	**Adán Rodríguez-Martínez, Agustina Bouchet and Susana Montes**
	Reformulating Influence Maximization through Descriptive Clustering	*More on the inclusion–exclusion integral: benchmark interaction operators and equivalence concepts*	*Heuristic approach for the Travelling Salesman Problem under cost uncertainty*
9:20-9:40	**Roberto Morcillo Jiménez, Jose María Rivas, Carlos Fernández Basso, Maria J. Martin-Bautista and M.Dolores Ruiz**	**Māris Krastiņš and Ivana Štajner-Papuga**	**Lennart Bramlage and Cristóbal Curio**
	Federated Learning for Language Models: From Large-Scale LLMs to Efficient SLMs	*A Note on Fuzzy Integrals for Modeling Efficiency of Regulatory Environment*	*HIC SVNT DRACONES: Probing the Manifold Boundary for Post-Hoc Uncertainty Estimation*
9:40-10:00	**Jiri Janecek, Petra Stevuliakova and Michal Mistecky**	**Giancarlo Lucca, Graçaliz P. Dimuro, Tiago Asmus, Bruno Dalmazo, Abreu Quevedo, Rafael Berri, Renata Reiser, Adenauer Yamin and Humberto Bustince**	**Pedro Huidobro, Agustina Bouchet and Susana Montes**
	Can I Trust This Text?	*Using the Sugeno integral with the adaptive Power Measure in the Fuzzy Reasoning Method*	*Similarity measures for interval-valued fuzzy sets induced by cardinalities*
10:00-10:20	**José María Rivas, Roberto Morcillo-Jimenez, Carlos Fernandez-Basso, Maria J. Martin-Bautista and M. Dolores Ruiz**	**Yurilev Chalco-Cano, Tiago Costa, Roberto Carlos Cabrales and Juan Carlos Figueroa García**	**Pelayo S. Dosantos, Agustina Bouchet, Irene Mariñas-Collado and Susana Montes**
	Federated Learning for Mortality Prediction under Extreme Class Imbalance and Service Heterogeneity	*A new technique for TOPSIS with interval-valued data*	*A new admissible interval order based on optimistic-pessimistic attitudes*
10:20-11:00	**Coffee break**		
11:00-12:00	**Plenary – Room 5: Bob Kowalski. Chair: B. Bouchon-Meunier**		

12:00-13:00	**SS05: Fuzzy implications**	**SS11: Information fusion - Part 2**	**Non-additive measures**
	Chair: M. Baczynski	**Chair: G. Pereira**	**Chair: H. Prade**
12:00-12;20	**Ümit Ertuğrul, Funda Karaçal and Kübra Karacair**	**Juan Baz, Irene Diaz and Susana Montes**	**Asma Ammar, Zied Elouedi and Pawan Lingras**
	Methods for constructing implications on bounded posets	*Aggregation of random variables under weak stochastic orders*	*A Possibilistic k-Modes Approach for Incremental Object Integration*
12:20-12:40	**Isabel Aguiló, Pilar Fuster-Parra and J Vicente Riera**	**Rocío Cárdenas-Huamán, Yurilev Chalco-Cano, Nicolás Zumelzu and Benjamin Bedregal**	**Gabriele Carcassi, Christine Aidala and Tobias Thrien**
	S-generalized pseudo-multidistances from fuzzy implications	*A new proposal of order admissible for fuzzy numbers support on nearest interval approximation*	*What non-additive integral for ensemble spaces?*
12:40-13:00	**Arnau Mir, Alejandro Mus and Juan Vicente Riera**	**Xabier Gonzalez-Garcia, Ľubomíra Horanská, Graçaliz Dimuro and Humberto Bustince**	**Thierry Denoeux**
	(S,N)-Implications on Discrete Fuzzy Numbers via Admissible Orders	*Aggregation Functions as a Replacement for Capacities in F-Integrals*	*Combining Random Fuzzy Sets via Rejection Sampling*
13:00-14:20	**Lunch**		
14:20- 16:20	**SS09: Foundations of fuzzy sets - Part 2**	**SS26: Uncertainty representation**	**Decision making**
	Chair: O. Valero	**Chair: J. Medina**	**Chair: R. Guillaume**
14:20-14:40	**José Antonio Sanz and Mikel Sesma-Sara**	**Michinori Nakata, Hiroshi Sakai and Takeshi Fujiwara**	**Jérémy Sanna, Florence Dupin de Saint-Cyr, Francis Faux and Romain Guillaume**
	A preliminary study on the use of dCF-integrals in Fuzzy Rule-Based Classification Systems for Class Imbalance	*A Value Based Approach in Probabilistic Approximations*	*FIRE: Fuzzy Information for Reconstructing Events Fireteam schedule discovery by hybrid AI*

14:40-15:00	**Şuara Onbaşıoğlu Altuhovs, Banu Pazar Varol and Berna Kiraz**	**Fernando Chacón Gómez, Maria Eugenia Cornejo, Didier Dubois, Jesús Medina and Henri Prade**	**Gloria Lopiano, Andrea Campagner, Marco Pasqualini and Davide Ciucci**
	Picture Fuzzy Set–Based Approach for Classification	*A possibilistic framework for Formal Concept Analysis*	*Leveraging Causal Graphs to Improve LLM-Based Causal Reasoning: an Empirical Study*
15:00-15:20	**Arnau Mir-Fuentes and Oscar Valero**	**Łukasz Sosnowski and Iwona Szymusik**	**Amal Beldi and Bounia Louenas**
	A duality relationship between similarity metrics and Mathew's partial metrics based on boundedness	*Assessing Thyroid Disorder Susceptibility from Multi-Cycle Menstrual Data Using Granular Computing*	*Uncertainty Aware Contextual Recommendation under Possible Worlds Semantics*
15:20-15:40	**Gabriel Jaume-Martin and Oscar Valero**	**María Eugenia Cornejo, Jesús Medina and Francisco José Ocaña**	**Luis Crespo**
	Representation of quasi-(pesudo-)metrics by means of fuzzy sets	*A general fuzzy attribute implications theory based on Galois connection approaches*	*On the Calculation and Risk Analysis of Finite Interval Predictors*
15:40-16:00	**Ksenija Varfolomejeva and Ingrīda Uļjane**	**Antonin Dvorak, Balasubramaniam Jayaram and Martin Stepnicka**	**Shih-Ni Prim, Jonathan P. Williams and Ryan Martin**
	Behaviour of Morphological Operators in L-powersets of Additive Groups Under Powerset Operators	*Extensionality in Similarity-Based Reasoning Systems*	*Decision-making with possibilistic inferential models*
16:00-16:20	**Ezgi Türkarslan and Younes Hamdani**	**Luca Anzilli**	**Esra Çakir**
	Penrose-Banzhaf Weighted Aggregation Operator with Sugeno-Weber t-norms for Intuitionistic Fuzzy Valued Neutrosophic Sets: A Spatial Multi-Criteria Decision Illustration	*A fuzzy variational model for spatial innovation diffusion with uncertain inter-regional influence*	*Unveiling Continental Differences in AI-Supported Business Process Training: A Comparative Analysis via Intuitionistic Fuzzy V-PARS*
16:30-19:30	**Excursion**		
19:30--	**Gala dinner and awards ceremony**		

Friday, 19 June 2026

	Parallel 1 – Room 6A	Parallel 2 – Room ACQUARIO	Parallel 3 – Room 6B
09:00-10:20	**SS01: Data mining and social networks - Part 2**	**SS11: Information fusion - Part 3**	**Fuzzy control**
	Chair: J.A. Díaz García	**Chair: X. González**	**Chair: J.P. Carvalho**
9:00-9:20	**Andrea Morales-Garzón, Salvador Lopez-Joya, Miguel López-Pérez and Maria J. Martin-Bautista**	**Youssef Abdulghani, Christian Wagner and Stephen Broomell**	**Claudia Zucca, Jeroen Dortmans, Ábel Gergely Bocsárdi and Uzay Kaymak**
	Evaluating Zero-Shot Vision–Language Models for Agri-Food Image Classification	*Supervised Learning the Joint Weighted Average – Unique Solutions and How to Find Them*	*Fuzzy Causal Loop Diagrams: structure-informed diagrams enabling qualitative information for computational analysis of systems*
9:20-9:40	**Noelia Rico, Pablo Pérez-Núñez, Evangelos Katis and Eleni Katsarou**	**Aoi Honda and José Carlos R. Alcantud**	**Joao Paulo Carvalho and Rui Ribeiro**
	Towards a Formal Representation of Curricula Data for Comparative Analysis	*Revisiting Monotonicity of the Inclusion–Exclusion Integral: The Case of the Arithmetic–Mean Interaction Operator*	*Fuzzy Fingerprints in Limited Discrete Feature Spaces*
9:40-10:00	**Salvador Lopez-Joya, J. Angel Diaz-Garcia, M. Dolores Ruiz and Maria J. Martin-Bautista**	**Claudio Matulich, Boris Barja, Benjamín Bedregal, Ronald Manríquez, Pablo Riul and Nicolás Zumelzu**	**Jose Manuel Venade, Miguel Martins, Joao Sousa and Susana Vieira**
	Emotion Sequence Modelling for Fake News Detection	*A Choquet-Integral-Based Environmental Damage Index*	*Transport Mode Detection: A Novel Framework for Mode Classification Using Machine Learning*
10:00-10:20	**Gonzalo Jimenez, Andres Montoro-Montarroso, Jose A. Olivas, Jared D.T. Guerrero-Sosa, Francisco P. Romero and Jesus Serrano-Guerrero**	**Sifeddine Sellami, Juba Agoun, Louenas Bounia, Celine Rouveirol and Sébastien Destercke**	**Simão Fernandes, Rui Jorge Almeida, Susana Vieira and Frank Phillipson**
	Self-refining Retrieval-Augmented Generation for legal question answering via ensemble-based Small Language Model feedback	*MisShapForest: Reliable Missing Data Imputation via SHAP-enhanced MissForest*	*Transfer Learning with Graph Neural Networks for Cross-Scale Complexity in Vehicle Routing*

10:20-11:00	**Coffee break**		
11:00-12:00	**<u>Plenary – Room 5</u>: María Ángeles Gil. Chair: B. Vantaggi**		
12:00-13:00	**Decision aiding under uncertainty**	**Preference modelling**	**SS04: Explainable AI - Part 3**
	Chair: U. Kaymak	**Chair: L. Adam**	**Chair: M. Rifqi**
12:00-12:20	**Atiyeh Sayadi, Jiri Mazurek and Ryszard Janicki**	**Gilles Mauris and Frédéric Pourraz**	**Victor F. Lopes de Souza, Christophe Marsala and Abdelhak Imoussaten**
	On Qualitative Pairwise Comparisons under Insufficient Information	*Expression of Asymmetric Measurement Uncertainty in a Limited Information Context: A Possibility Distribution Based Approach*	*On Counterfactual Explanations and Adversarial Examples for Set-Valued Classifiers*
12:20-12:40	**Marco Baioletti, Andrea Capotorti and Francesco Santini**	**Loïc Adam, Aicha Ait Hammouch and Allel Hadjali**	**Haomiaomiao Wang, Tomás E Ward and Lili Zhang**
	A Mixed Integer Programming Approach to Solve Probabilistic Argumentation Tasks	*Handling inconsistency caused by an inadequate preferential model choice in uncertain preferences elicitation*	*Comparative reversal learning reveals rigid adaptation in LLMs under non-stationary uncertainty*
12:40-13:00	**Silvia Muzzioli, Alessio Capriotti and Lorenzo Vitale**	**Ana Tapia-Rosero, Marcelo Loor, Luz Marina Soto, Daniel Ochoa Donoso and Mercy Borbor-Cordova**	**Stefano Galiani, Davide Petturiti, Barbara Vantaggi and Luca Palmacci**
	Accounting for controversies in ESG scores: a Fuzzy TOPSIS approach	*A Participatory Process Under Heterogeneous Conditions for Prioritizing Climate Change Adaptation and Mitigation Measures in the Context of the Galápagos Islands*	*Bayesian Per-Sample Confidence Estimation via Decoupled Ensemble Modeling*
13:00-14:20	**Lunch**		
14:20- 15:00	**<u>Closing – Room 5</u>**		