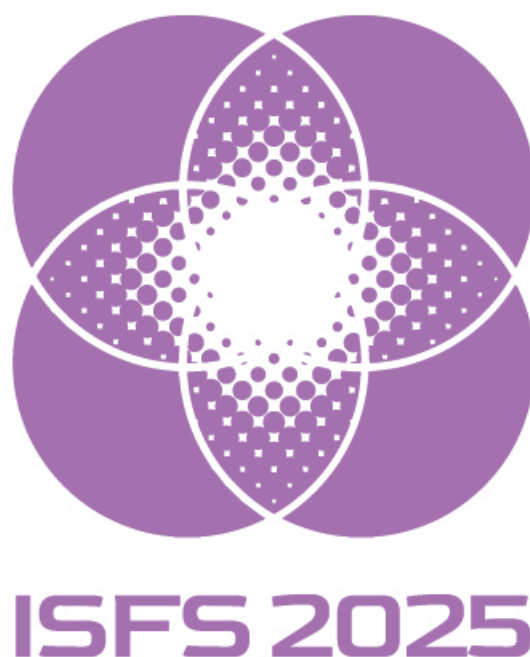




**6th International Symposium
on Fuzzy Sets (ISFS 2025)**

May 23–25, 2025
University of Silesia in Katowice, Poland

CONFERENCE PROGRAMME

Version: May 22, 2025

ISFS 2025
Katowice



PROGRAMME

FRIDAY, MAY 23, 2025

Conference place, 1st day, part I:
spinPLACE in Katowice, ul. Bankowa 5, 40-007 Katowice

9³⁰ – 10¹⁵ REGISTRATION

9³⁰ – 10¹⁵ **Coffee break**

10¹⁵ – 10³⁰ OPENING OF THE SYMPOSIUM ROOM A

SESSION 1 (Plenary Lectures), ROOM A **CHAIR:** P. GRZEGORZEWSKI

10³⁰ – 11¹⁵ J. DOMBI
On the fuzzy concept

11¹⁵ – 12⁰⁰ L. COROIANU
Approximation methods in fuzzy analysis

12⁰⁰ – 12³⁰ **Coffee break**

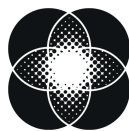
SESSION 02 (Regular talks), ROOM A **CHAIR:** O. HUTNIK

12³⁰ – 12⁵⁰ S. BASARIK, L. HALCINOVA
Conditional and permutation-based OWA operator

12⁵⁰ – 13¹⁰ M. KALINA
Bipolar Sugeno integral and bipolar OWA operators on complete distributive lattices

13¹⁰ – 13³⁰ K. KACZMAREK-MAJER, M. STEPNIKA, O. HRYNIEWICZ
Assessing the stability of fuzzy linguistic summaries for time series

13⁴⁵ – 14⁴⁵ **Lunch (Hotel Novotel Katowice Centrum)**



Conference place, 1st day, part II:
spinPLACE in Katowice, ul. Bankowa 5, 40-007 Katowice

SESSION 03a (Regular talks), Room A **CHAIR:** V. JANIS

15²⁰ – 15⁴⁰

Z. MATUSIEWICZ, T. MROCZEK

A Three-Valued Logic Approach to Data Mining in Survey Research

15⁴⁰ – 16⁰⁰

O. HRYNIEWICZ, K. KACZMAREK-MAJER

Monitoring inhomogeneous complex segmented processes by fuzzy control charts based on Liu's credibility index

16⁰⁰ – 16²⁰

Z. MATUSIEWICZ, P. DRYGAŚ

Different approaches to defining the union and intersection of balanced fuzzy sets using uninorms and nullnorms

16²⁰ – 16⁴⁰

K. CUNDERLIKOVÁ

On the convergence of interval valued observables

SESSION 03b (Regular talks), Room B **CHAIR:** K. DYCZKOWSKI

15²⁰ – 15⁴⁰

M. BOCZEK, T. JOZEFIĄK, M. KALUSZKA, A. OKOLEWSKI

Applications of the Choquet-like integrals based on multidimensional input

15⁴⁰ – 16⁰⁰

A. CENA

Comparative study of fuzzy clustering techniques

16⁰⁰ – 16²⁰

M. STEPNIKA, N. CAO

Partial fuzzy logics – how far can we get in modeling the missing data in the knowledge systems

16²⁰ – 16⁴⁰

X. GONZALEZ-GARCIA, M. FERRERO-JAURRIETA, L. HORANSKA, H. BUSTINCE

F-Integral Driven Aggregation Framework for Message Passing Neural Networks

16⁴⁰ – 17¹⁰

Coffee break

SESSION 04a (Regular talks), Room A **CHAIR:** M. STEPNIKA

- 17¹⁰ – 17³⁰ M. DUBEK
The complement operation of φ -intuitionistic fuzzy sets
- 17³⁰ – 17⁵⁰ M.K. URBAŃSKI, K.M. WÓJCICKA, P.M. WÓJCICKI
On fuzzy threshold in measurement theory
- 17⁵⁰ – 18¹⁰ V. KOBZA
Entropy measures for hesitant fuzzy sets
- 18¹⁰ – 18³⁰ K. RUDNIK
Modeling and decision-making methods with ordered fuzzy numbers

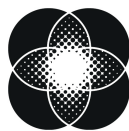
SESSION 04b (Regular talks), Room B **CHAIR:** M. KALINA

- 17¹⁰ – 17³⁰ D. BURESOVA, K. HOUSKOVA, M. NAVARA, P. PTAK, J. SEVIC, M. SLOUKA
Is there a link between Reichenbach implication and Reichenbach's common cause principle?
- 17³⁰ – 17⁵⁰ J. KALAFUT
Internal pseudo-uninorms on bounded lattices
- 17⁵⁰ – 18¹⁰ K. FIALA, A. RUTKOWSKA, P. MURINOVA, K. KACZMAREK-MAJER
Fuzzy Association Rules with Evolving Contexts
- 18¹⁰ – 18³⁰ P. HELBIN
Triangular norms in some Grothendieck topoi

20⁰⁰ – 23⁰⁰ **Gala Dinner**

Gala Dinner will take place in the Hotel Novotel Katowice Centrum

ISFS 2025
Katowice



PROGRAMME

SATURDAY, MAY 24, 2025

Conference place, 2nd day, part I:
spinPLACE in Katowice, ul. Bankowa 5, 40-007 Katowice

9⁰⁰ – 9³⁰ **Coffee break**

SESSION 05 (Plenary Lectures), ROOM A **CHAIR:** B. PĘKALA

9³⁰ – 10¹⁵ M. REFORMAT
State Assessment in Complex Systems: An Evidence Theory Approach to Multi-granular Data Integration

10¹⁵ – 11⁰⁰ G. CASALINO
Explaining Evolving Data

11⁰⁰ – 11³⁰ AWARD CEREMONY AND TALK OF THE AWARDED STUDENT – M. ZACHARCZUK
(POLFUZZ COMPETITION) – THIS PART WILL BE IN POLISH LANGUAGE

11³⁰ – 12¹⁰ **Coffee break**

SESSION 06 (Regular talks), ROOM A **CHAIR:** K. KACZMAREK-MAJER

12¹⁰ – 12³⁰ M. ZEMLITIS, S. ASMUS, D. GROMOV, O. GRIGORENKO
A Fuzzy Set-based Approach to Evaluating the Value of Information Under Uncertainty

12³⁰ – 12⁵⁰ M. FERRERO-JAURRIETA, X. GONZALEZ-GARCIA, L. HORANSKA, Z. TAKAC,
H. BUSTINCE
Combining time series forecasters using operators induced by non-symmetric aggregation functions

12⁵⁰ – 13¹⁰ J. BORZOVA, O. HUTNIK, M. KLEINOVA
Scientometric indices: the compensation of different research careers

13¹⁰ – 13³⁰ P. GRZEGORZEWSKI, A. KRÓL, P. GROCHOWALSKI, W. RZĄSA
Time Series Classification with Fuzzy Equivalences and Aggregation Techniques

13⁴⁵ – 14⁴⁵ **Lunch (Hotel Novotel Katowice Centrum)**



Conference place, 2nd day, part II:
spinPLACE in Katowice, ul. Bankowa 5, 40-007 Katowice

SESSION 07a (Regular talks), Room A **CHAIR:** LENKA HALCINOVA

- 15²⁰ – 15⁴⁰** A. WÓJTOWICZ, W. PAJA, U. BENTKOWSKA
A feature selection method based on aggregation functions
- 15⁴⁰ – 16⁰⁰** V. JANIS
Relational modifiers corresponding to the Delphi method
- 16⁰⁰ – 16²⁰** D. JARDON, K. AGUIRRE
Some properties of Zadeh's extension regarding d_p metrics

SESSION 07b (Regular talks), Room B **CHAIR:** M. BACZYŃSKI

- 15²⁰ – 15⁴⁰** M. GAGOLEWSKI
Yet another graphical aid to the interpretation and validation of cluster analysis
- 15⁴⁰ – 16⁰⁰** B. PĘKALA, P. GRZEGORZEWSKI, J. SZKOŁA, D. KOSIOR
A Privacy-Focused Decision Support System for Advanced Medical Diagnostics Using Federated Learning
- 16⁰⁰ – 16²⁰** F. WICHROWSKI, K. KACZMAREK-MAJER
Soft labeling in semi-supervised hidden Markov models
- 16²⁰ – 16⁵⁰** **Coffee break**

SESSION 08a (Regular talks), Room A **CHAIR:** M. GAGOLEWSKI

- 16⁵⁰ – 17¹⁰** K. KUSZTAL, M. PRZYBYŁA-KASPEREK
Dispersed Data Classification with Rule Induction and Conflict Analysis
- 17¹⁰ – 17³⁰** K. KMITA
Selection of loss function in Semi-Supervised Fuzzy c-Means
- 17³⁰ – 17⁵⁰** K. MIŚ, K. KACZMAREK-MAJER, M. BACZYŃSKI
Consistency of fuzzy linguistic summaries

SESSION 08b (Regular talks), Room B **CHAIR:** K. PANCERZ

- 16⁵⁰ – 17¹⁰** P. GRZEGORZEWSKI, D. POŁAWSKI
Statistical inference about the treatment effect based on imprecise data
- 17¹⁰ – 17³⁰** A. KOZAK, H. RUCZYŃSKI, M. TABIAN
Impact of data preprocessing methods on the performance of machine learning models
- 17³⁰ – 17⁵⁰** K. PANCERZ, P. KULICKI, M. KALISZ, A. BURDA, M. STANISŁAWSKI, J. SARZYŃSKI
HuReTE_x: Human Readable Twin Explainer for Deep Learning Models Based on Imprecise Information Flow Models - a General View

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- 17⁵⁰ – 18⁰⁰** CLOSING SESSION *ROOM A*

ISFS 2025
Katowice



P R O G R A M M E

SUNDAY, MAY 25, 2025

$10^{15} - 14^{15}$

Excursion

Excursion (by bus) to the Castle Museum in Pszczyna. The entire trip, including travel to Pszczyna and back to Katowice, is expected to take approximately four hours. Departure from the hotel Novotel Katowice Centrum