



# INFORMATICS COLLOQUIUM

**Speaker:**

**Prof. Dr. Miroslav Hudec, Faculty of Economic Informatics, University of Economics in Bratislava, Slovakia and Faculty of Economics VSB–Technical University of Ostrava, Czech Republic**

## **Asymmetry in conjunctive and disjunctive evaluation and the role of machine learning in this field**

**Abstract:**

In many real–world decisions (either professional or everyday ones), we experience the fusion of full alternative and less relevant one, which leads to an OR ELSE evaluation (e.g., *spacious basement or else spacious attic*). This aggregation is so-called intensified disjunction, because the optional alternative might be more or less (but not fully) relevant. The dual observation holds for the evaluation by constraints and wishes expressed by an AND IF POSSIBLE aggregation (e.g., *low price and if possible short travel distance*). This aggregation is so-called relaxed conjunction, because the optional constraint (or wish) might more or less (but not fully) restrict the overall condition for evaluation. In order to cover these evaluations, we should apply the suitable aggregation functions. The talk is focused on the demonstration of the most suitable ways for solving these tasks also considering the usual human uncertainty. By applying machine learning, we are able to adjust parameters of aggregation functions to meet as close as possible our expectation. Finally, the asymmetric evaluation is illustrated on examples.

**Bio:**

Miroslav Hudec is an associate professor at the VSB Technical University of Ostrava (Czech Republic) and University of Economics (Slovakia). He received the PhD degree in Operational research from the University of Belgrade (Serbia). Currently, he is a visiting professor at the University of Belgrade (Serbia). He was a visiting professor at the Medical University of Graz (Austria). His work is mainly focused on fuzzy logic, aggregation functions, knowledge discovery and business intelligence. He is a member of program committees of several international conferences and serves as an editorial board member in several journals including *Applied Soft Computing* (Q1 in WoS). He has published more than 50 articles including a monograph in Springer. In years 2005-2010 and in 2013 he was a representative of the Slovak Republic on the Meeting on Statistical Information Systems organized by UN and Eurostat.

*Date and time: Monday December 12<sup>th</sup>, 2022, 11.00 am*  
*Location: Pérolles 21, room D230, Bd de Pérolles 90, Fribourg*  
*Contact person: Prof. Edy Portmann*

*The colloquium is free and open to the public.*