

# MDAI 2012

modeling decisions

The 9th International Conference on  
Modeling Decisions for Artificial Intelligence

[Girona, Catalunya](#), Novembre 21 - 23, 2012

<http://www.mdai.cat/mdai2012>

## November 21st, Wednesday (morning)

**9:00 - 9:30 Registration**

**9:30 - 10:00 Opening session**

**10:00 - 11:00 Plenary talk**

Do we know how to integrate?

Radko Mesiar

Chair: Y. Narukawa

**11:00 – 11:30 Coffee break**

**11:30 – 12:50 Parallel Sessions**

### **Session. Aggregation Operators I**

Chair: Y. Narukawa

Using linear programming for weights identification of generalized Bonferroni means in R  
Gleb Beliakov, Simon James

An Ordered Weighted Average with a Truncation Weight on Intervals

Yuji Yoshida

Choquet integral on the real line as a generalization of the OWA operator

Yasuo Narukawa

On WOWA Rank Reversal

Włodzimierz Ogryczak, Patrice Perny, Paul Weng

### **Session. Clustering and Similarity I**

Chair: E. Armengol

Inductive Clustering and Twofold Approximations in Nearest Neighbor Clustering

Sadaaki MIYAMOTO, Satoshi TAKUMI

Marginality: a Numerical Mapping for Enhanced Exploitation of Taxonomic Attributes

Josep Domingo-Ferrer

Introducing Incomparability in Modeling Qualitative Belief Functions

Amel Ennaceur, Zied Elouedi, Eric Lefevre

Basic Concepts of Relational Query Language for Similarity-Based Databases

Petr Krajca, Vilem Vychodil

**12:50 – 14:30 Lunch**

## **November 21st, Wednesday (afternoon)**

### **14:30 – 15:50 Parallel Sessions**

#### **Session. Aggregation Operators II**

**Chair:** [M. Cardin](#)

Combination and soft-normalization of belief functions on MV-algebras  
Tommaso Flaminio, Lluís Godo, Tomás Kroupa

Extending Concordance and Discordance Relations to Hierarchical Sets of Criteria in ELECTRE-III Method

Luis Del Vasto-Terrientes, Aida Valls, Roman Slowinski, Piotr Zielniewicz

An Extended LibQUAL+ Model Based on Fuzzy Linguistic Information

Francisco J. Cabrerizo, Ignacio J. Pérez, Javier López-Gijón, Enrique Herrera-Viedma

Measure of Inconsistency for the Potential Method

Lavoslav Čaklović

#### **Session. Clustering and Similarity II**

**Chair:** [Y. Yoshida](#)

On Relational Fuzzy c-Means and Kernel Fuzzy c-Means Using Object-wise beta-spread Transformation

Yuchi Kanzawa

Preferentially ordered clustering

Patrick MEYER, Alexandru-Liviu OLTEANU

On Rough Set Based Non Metric Model

Yasunori ENDO, Ayako HEKI, Yukihiro HAMASUNA

An Efficient Reasoning Method for Dependencies over Similarity and Ordinal Data

Radim Belohlavek, Pablo Cordero, Manuel Enciso, Angel Mora, Vilem Vychodil

### **15:50 – 16:30 Coffee break**

### **17:30 – 19:30 Guided tour**

### **19:30 – 20:30 Welcome reception Teatre Municipal**

# November 22nd, Thursday

## 9:00 – 10:00 Plenary talk

Fuzzy Programming Approaches to Robust Optimization

Masahiro Inuiguchi

Chair: V. Torra

## 10:00 – 11:00 Parallel Sessions

### Session. Online Social Networks

Chair: J. Domingo

Analysis of On-line Social Networks Represented as Graphs – Extraction of an Approximation of Community Structure Using Sampling

Néstor Martínez Arqué, David F. Nettleton

Using Profiling Techniques to Protect the User's Privacy in Twitter

Alexandre Viejo, David Sánchez, Jordi Castellà-Roca

Comparing Random-based and k-Anonymity-based Algorithms for Graph Anonymization

Jordi Casas-Roma, Jordi Herrera-Joancomartí, Vicenç Torra

### Session. Reasoning I

Chair: A. Mora

Derivation Digraphs for Graded If-Then Rules

Lucie Urbanova, Vilem Vychodil

Representing Fuzzy Logic Programs by Graded Attribute Implications

Tomas Kuhr, Vilem Vychodil

Refining Discretizations of Continuous-Valued Attributes

Eva Armengol, Àngel García-Cerdaña

## 11:00 – 11:30 Coffee break

## **11:30 – 12:50 Parallel Sessions**

### **Session. Fuzzy Integrals**

Chair: R. Mesiar

Hierarchical Bipolar Sugeno Integral can be Represented as Hierarchical Bipolar Choquet Integral  
Katsushige FUJIMOTO, Michio SUGENO

A Quantile Approach to Integration with Respect to Non-additive Measures  
Marta Cardin

Fuzzy-integral based fairness for the evaluation of user preference  
Aoi Honda, Mario Köppen

### **Session. Applications**

Chair: D. Nettleton

Multi Criteria operators for Multi-attribute Auctions  
Albert Pla, Beatriz Lopez, Javier Murillo

Situation-Dependent Dispatching Rule Approach to Wafer Test Scheduling  
Tsubasa Matsuo, Masahiro Inuiguchi, Kenichiro Masunaga, Daisuke Hirota

Application of quantitative MCDA methods for parameter setting support of an image processing system  
Lionel Valet, Vincent Clivillé

Finding patterns in large star schemas at the right aggregation level  
Andreia Silva, Cláudia Antunes

## **12:50 – 14:30 Lunch**

## **14:30 – 21:00 Social program to Dalí Museum in Figueres**

# November 23rd, Friday

## 9:00 – 10:00 Plenary talk

An Overview of Hierarchical and Non-hierarchical Algorithms of Clustering for Semi-supervised Classification

Sadaaki MIYAMOTO

Chair: V. Torra

## 10:00 – 11:00 Parallel Sessions

### Session. Security

Chair: A. Viejo

A Study of Anomaly Detection in Data from Urban Sensor Networks  
Christoffer Brax, Anders Dahlbom

Dynamic Credit-Card Fraud Profiling

Marc Damez, Marie-Jeanne Lesot, Adrien Revault d'Allonnes

### Session. Reasoning II

Chair: P. Krajca

On the variety of multi-dimensional t-norms  
Masaya Nohmi, Aoi Honda, Yoshiaki Okazaki

On some properties of the negative transitivity obtained from transitivity  
Susana Díaz, Susana Montes, Bernard De Baets

Sharing online cultural experiences: An argument-based approach

Leila Amgoud, Roberto Confalonieri, Dave de Jonge, Mark d'Inverno, Katina Hazelden, Nardine Osman, Henri Prade, Carles Sierra, Matthew Yee-King

## 11:00 – 11:30 Coffee break

## **11:30 – 12:30 Parallel Sessions**

### **Session. Data privacy and applications**

Chair: A. Valls

Detecting sensitive information from textual documents: an information-theoretic approach  
David Sánchez, Montserrat Batet, Alexandre Viejo

Heuristic Supervised Approach for Record Linkage  
Javier Murillo, Daniel Abril, Vicenç Torra

Comparison of baselines in analysis of F-Responses  
Aoi Honda, Ryoji Fukuda, Akiko Hachisuka, Kenji Hachisuka

### **Session. Reasoning III**

Chair: S. Díaz

Linear Programming with Graded III-known Sets  
Shizuya Kawamura, Masahiro Inuiguchi

Simple Proof of Basic Theorem for General Concept Lattices by Cartesian Representation  
Radim Belohlavek, Jan Konecny, Petr Osicka

Qualitative integrals and desintegrals - Towards a logical view  
Didier Dubois, Henri Prade, Agnés Rico

## **12:30 – 13:30 Pannel session:**

**Fuzzy measures, fuzzy integrals and aggregation operators**

## **13:30 – 14:00 Closing session**

## **14:00 – 15:00 Lunch**