

Programme

Wednesday, October 17th

15:00-18:30 Tutorial

15:00-16:30 Introduction to Symbolic Data Analysis
Paula Brito

16:30-17:00 Coffee-break

17:00-18:30 Presentation of the RSDA Package with Case Studies
Oldemar Rodriguez

Thursday, October 18th

9:00-9:30 Opening Session

9:30-10:05 **New Perspectives on SDA**
Chair: Paula Brito

New Advances on the Symbolic Data Analysis Framework:
Basic Theory, Explanatory Criteria, Improving Machine Learning,
New Directions of Research
Edwin Diday

10:05-11:20 **Session I - Foundations of SDA**
Chair: Monique Noirhomme-Fraiture

10:05-10:30 Complex Aggregation of Large Data Sets
Vladimir Batagelj

10:30-10:55 Measuring Statistical Relation Between Non-Ordinal Bar Chart Symbolic Variables
Edwin Diday, Simona Korenjak-Černe

10:55-11:20 Symbolic Polygonal Data Analysis
Wagner J.F. da Silva, Renata M.C.R. de Souza, Francisco J.A. Cysneiros

11:20-11:45 Coffee-break

11:45-13:00 Session II - Clustering I

Chair: Francisco de Carvalho

11:45-12:10 Multiple-Valued Symbolic Data Clustering: A Model-Based Approach
José G. Dias

12:10-12:35 Symbolic Data Clustering Using Quasi-Arithmetic Means
Etienne Cuvelier, Marie-Aude Aufaure

12:35-13:00 Dissimilarity Between Aggregated Symbolic Data Using Chi-Squared Statistics
Nobuo Shimizu, Junji Nakano, Yoshikazu Yamamoto

13:00-14:30 Lunch

14:30-16:10 Session III - Factorial Methods

Chair: Rosanna Verde

14:30-14:55 Maximizing Symbolic Variance to Derive Interval-Valued Principal Components
M. Rosário Oliveira, Margarida Azeitona

14:55-15:20 Multiple Correspondence Analysis for Symbolic Multi-Valued Variables
Jorge Arce, Oldemar Rodríguez

15:20-15:45 Analysis of Drinking Water Consumption Using Interval-Valued Principal Component Analysis

Margarida Azeitona, M. Rosário Oliveira, Sérgio Teixeira Coelho, Diogo Vitorino

15:45-16:10 Analysis of University Students' Online Behavior Based on Symbolic Data
Qing Zhao, Huiwen Wang

16:10-16:35 Coffee-break

16:35-17:50 Session IV - Applications of SDA I

Chair: José G. Dias

16:35-17:00 Symbolic Data in Botany (and Zoology)
Matthias H. Hoffmann

17:00-17:25 Exploratory Meta-Analysis with SDA
Masahiro Mizuta

17:25-17:50 Reducibility of Multilayer Networks: Symbolic Data Analysis with Applications to Business Economics
Pedro Campos

Friday, October 19th

9:00-10:40 Session V - Statistical Modelling

Chair: Pedro Duarte Silva

9:00-9:25 Dirichlet Process Mixture Models for Distributional Data

Richard Emilion

9:25-9:50 Spatial Autocorrelation Measure for Symbolic Data

Justyna Wilk, Tomasz M. Kossowski

9:50-10:15 Hypothesis Testing of Equality of Two Mean Intervals

Anuradha Roy, Daniel Klein

10:15-10:40 Symbolic Input-Output Analysis: A Harmonic Analysis Approach to Combine Statistical Distributions

Andrej Srakar

10:40-11:05 Coffee-break

11:05-12:45 Session VI - Clustering II

Chair: Edwin Diday

11:05-11:30 Co-Clustering Algorithms on Distributional Data

Rosanna Verde, Francisco de A.T. de Carvalho, Antonio Balzanella

11:30-11:55 Clustering Aggregated Ordinal Data

Margarida G. M. S. Cardoso

11:55-12:20 Self-Organizing Maps with Adaptive Distances for Distributional Data

Antonio Irpino, Francisco de A.T. de Carvalho, Rosanna Verde

12:20-12:45 Identification and Interval Based Clustering of Meaning Density-Based Spatial Areas

Carlo Drago, Alessandra Reale

12:45-14:15 Lunch

14:15-15:55 Session VII - Applications of SDA II

Chair: Masahiro Mizuta

14:15-14:40 Processing Symbolic Modal Valued Textual Data Through Compositional Approaches

Mireille Gettler Summa, Paula Brito

14:40-15:05 Analysis of the Distribution of Participation in Wikis Using the Gini Coefficient, the Frequency Distribution and the Lorenz Curve

Javier Arroyo, Antonio Irpino, Samer Hassan

15:05-15:30 Analysis of Gender-Age-Cause-Specific Mortality in European Countries with SYR Software

Filipe Afonso, Aleša Lotrič Dolinar, Simona Korenjak-Černe, Edwin Diday

15:30-15:55 Symbolic Data Analysis in Health Program Evaluations: Methods and Applications

Carlo Drago, Matteo Ruggeri

15:55-16:20 Coffee-break

16:20-17:35 Session VIII - Regression

Chair: Sónia Dias

16:20-16:45 Exponential-Type Kernel Based Robust Regression for Interval-Valued Data
Francisco de A.T. de Carvalho, Eufrasio de A. Lima Neto

16:45-17:10 Estimating Risk in Capital Asset Pricing for Interval-Valued Data
Dailys M.A. Reye, Renata M.C.R. de Souza,
Francisco J.A. Cysneiros, Audrey H.M.A. Cysneiros

17:10-17:35 Where Symbolic and Functional Data Analysis Meet:
Regressions for Nonparametric Symbolic Data
Andrej Srakar

Saturday, October 20th

9:00-10:40 Session IX - Time Series

Chair: Javier Arroyo

9:00-9:25 Time-Varying Coefficient Models for Interval-Valued Time Series
Yuying Sun, Ai Han, Yongmiao Hong, Shouyang Wang

9:25-9:50 Nonparametric Estimation and Identification of Models with
Interval-Valued Time Series
Yuying Sun, Aman Ullah, Shouyang Wang

9:50-10:15 Prediction Regions for Interval-Valued Time Series
Gloria González-Rivera, Yun Luo, Esther Ruiz

10:15-10:40 Robust Reconciliation for Hierarchical Interval Time Series Forecasting
Zhi-Chao Wang, Hui-Wen Wang

10:40-11:05 Coffee-break

11:05-12:20 Session X - Visualization and Modelling of Interval Data

Chair: Vladimir Batagelj

11:05-11:30 MAINT.Data 2.0: A Mature Framework for Modelling and Analysing Interval Data
A. Pedro Duarte Silva, Paula Brito

11:30-11:55 Symbolic Clustering and Anomaly Detection for Business Analytics
Ana Teresa Fernandes, M. Rosário Oliveira, Conceição Amado, Sérgio Pinheiro,
Nuno Dias

11:55-12:20 Matrix Visualization and Exploratory Data Analysis for Big Data
Chiun-How Kao, Chun-houh Chen

12:20-13:20 Discussion

13:20-13:30 Closing Session

13:30-15:00 Lunch