WED, 30TH NOVEMBER (morning)

7:30 – 8:30   Registration

8:30 – 9:00   Opening

Hall   **603**   [General Chairs, PC Chairs, Local Organization Chairs]

9:00 – 10:00   Plenary 1

Hall   **603**   **On Evidential Measures of Support for Reasoning with Integrated Uncertainty: A Lesson from the Ban of P-values in Statistical Inference**
Hung T. Nguyen, New Mexico State University, USA, and Chiang Mai University, Thailand
Chair: **Vladik Kreinovich**

10:00 – 10:30   Coffee break

10:30 – 12:10   Parallel Session A: **Uncertainty Management and Decision Support I**

Room   **702**   Chair: **Van-Nam Huynh**

Sequential Decision Process Supported by a Compositional Model
Radim Jiroušek and Lucie Váchová

A Theory of Modeling Semantic Uncertainty in Label Representation
Zengchang Qin, Tao Wan, and Hanqing Zhao

Non-uniqueness of Interval Weight Vector to Consistent Interval Pairwise Comparison Matrix and Logarithmic Estimation Methods
Masahiro Inuiguchi

Minimax Regret Relaxation Procedure of Expected Recourse Problem with Vectors of Uncertainty
Thibhadha Saraprang and Phantipa Thipwiwatpotjana

10:30 – 12:10   Parallel Session B: **Soft Clustering and Classification I**

Room   **706**   Chair: **Hung Son Nguyen**

Generalizations of Fuzzy c-Means and Fuzzy Classifiers
Sadaaki Miyamoto, Yoshiyuki Komazaki, and Yasunori Endo

Partial Data Querying Through Racing Algorithms
Vu-Linh Nguyen, Sébastien Destercke, and Marie-Hélène Masson

Fuzzy DA Clustering-Based Improvement of Probabilistic Latent Semantic Analysis
Takafumi Goshima, Katsuhiro Honda, Seiki Ubukata, and Akira Notsu

Exclusive Item Partition with Fuzziness Tuning in MMMs-Induced Fuzzy Co-clustering
Takaya Nakano, Katsuhiro Honda, Seiki Ubukata, and Akira Notsu

12:10 – 13:30   Lunch

WED, 30ᵀᴴ NOVEMBER (afternoon)

13:30 – 14:30 Plenary 2

Hall **603** **Machine Learning Applications: Past, Present and Future**
Hiroshi Mamitsuka, Kyoto University, JAPAN
Chair: **Thierry Denoeux**

14:30 – 15:00 Coffee break

15:00 – 17:30 Parallel Session A: **Statistical Methods**

Room **702** Chair: **Hung T. Nguyen**

Need for Most Accurate Discrete Approximations Explains Effectiveness of Statistical Methods Based on Heavy-Tailed Distributions
Songsak Sriboonchitta, Vladik Kreinovich, Olga Kosheleva, and Hung T. Nguyen

A New Method for Hypothesis Testing Using Inferential Models with an Application to the Change-point Problem
Son Phuc Nguyen, Uyen Hoang Pham, Thien Dinh Nguyen, and Hoa Thanh Le

Confidence Intervals for the Ratio of Coefficients of Variation in the Two-Parameter Exponential Distributions
Patarawan Sangnawakij, Sa-Aat Niwitpong, and Suparat Niwitpong

Simultaneous Fiducial Generalized Confidence Intervals for All Differences of Coefficients of Variation of Log-Normal Distributions
Warisa Thangjai, Sa-Aat Niwitpong, and Suparat Niwitpong

Confidence Intervals for Common Variance of Normal Distributions
Narudee Smithpreecha, Sa-Aat Niwitpong, and Suparat Niwitpong

Confidence Intervals for Common Mean of Normal Distributions with Known Coefficient of Variation
Sukritta Sodanin, Sa-Aat Niwitpong, and Suparat Niwitpong

15:00 – 17:30 Parallel Session B: **Machine Learning for Social Media Analytics**

Room **706** Chair: **Bac Le**

Estimating Asymmetric Product Attribute Weights in Review Mining
Wei Ou, Anh-Cuong Le, and Van-Nam Huynh

Deep Bi-directional Long Short-Term Memory Neural Networks for Sentiment Analysis of Social Data
Ngoc Khuong Nguyen, Anh-Cuong Le, and Hong Thai Pham

An Evidential Method for Multi-relational Link Prediction in Uncertain Social Network
Sabrine Mallek, Imen Boukhris, Zied Elouedi, and Eric Lefevre

Detecting Thai Messages Leading to Deception on Facebook
Panida Songram, Atchara Choompol, Paitoon Thipsanthia, and Veera Boonjing

Answer Validation for Question Answering Systems by Using External Resources
Van-Tu Nguyen and Anh-Cuong Le

Phrase-Based Compressive Summarization for English-Vietnamese
Tung Le, Le-Minh Nguyen, Akira Shimazu, and Dinh Dien

17:30 – 18:00 Move to **Truc Lam Vien Restaurant, 8 Tran Quy Cap str, Da Nang city**

18:00 – 20:00 **Welcome Reception** (Chair: Bao N. Le, Thierry Denoeux)

7:30 – 8:30   Registration

8:30 – 9:30   Plenary 3

Hall   **603**   **Autonomous Systems: Many Possibilities and Challenges**
Akira Namatame, National Defense Academy of Japan; Asian Office of Aerospace Research & Development, US Air Force Research Laboratory
Chair: **Masahiro Inuiguchi**

9:30 – 10:00   Coffee break

10:00 – 12:05   Parallel Session A: **Uncertainty Management and Decision Support II**

Room   **702**   Chair: **Zengchang Qin**

Bottom Up Review of Criteria in Hierarchically Structured Decision Problem
Tomoe Entani

A Probability Based Approach to Evaluation of New Energy Alternatives
Hong-Bin Yan

A Two-Stage Fuzzy Quality Function Deployment Model for Service Design
Hong-Bin Yan, Shaojing Cai, and Ming Li

Usages of Fuzzy Returns on Markowitz's Portfolio Selection
Tanarat Rattanadamrongaksorn, Jirakom Sirisrisakulchai, and Songsak Sriboonjitta

A Flood Risk Assessment Based on Maximum Flow Capacity of Canal System
Jirakom Sirisrisakulchai, Napat Harnpornchai, Kittawit Autchariyapanitkul, Songsak Sriboonchitta

10:00 – 12:05   Parallel Session B: **Soft Clustering and Classification II**

Room   **706**   Chair: **Khoat Than**

Evidential Clustering: A Review
Thierry Denœux and Orakanya Kanjanatarakul

The Rough Membership k-Means Clustering
Seiki Ubukata, Akira Notsu, and Katsuhiro Honda

A Hybrid Model of ARIMA, ANNs and k-Means Clustering for Time Series Forecasting
Warut Pannakkong, Van Hai Pham, and Van-Nam Huynh

Instance Reduction for Time Series Classification by Exploiting Representative Characteristics using k-Means
Vo Thanh Vinh, Hien T. Nguyen, and Tin T. Tran

A New Fault Classification Scheme Using Vibration Signal Signatures and the Mahalanobis Distance
Jaeyoung Kim, Hung Nguyen Ngoc, and Jongmyon Kim

12:05 – 13:30   Lunch

13:30 – 14:30   Plenary 4

Hall   **603**   **Fuzzy Co-clustering and Application to Collaborative Filtering**
Katsuhiro Honda, Osaka Prefecture University, JAPAN
Chair: **Sadaaki Miyamoto**

14:30 – 15:00   Coffee break

15:00 – 17:30   Parallel Session A: **Econometric Applications I**

Room   **702**   Chair: **Vladik Kreinovich**

Pair Trading Rule with Switching Regression GARCH Model
Kongliang Zhu, Woraphon Yamaka, and Songsak Sriboonchitta

An Empirical Confirmation of the Superior Performance of MIDAS over ARIMAX
Tanaporn Tungtrakul, Natthaphat Kingnetr, and Songsak Sriboonchitta

Modelling Co-movement and Portfolio Optimization of Gold and Global Major Currencies
Methas Rattanasorn, Jianxu Liu, Jirakom Sirisrisakulchai, and Songsak Sriboonchitta

Does Asian Credit Default Swap Index Improve Portfolio Performance?
Chatchai Khiewngamdee, Woraphon Yamaka, and Songsak Sriboonchitta

A Copula-Based Stochastic Frontier Model and Efficiency Analysis: Evidence from Stock Exchange of Thailand
Phachongchit Tibprasorn, Somsak Chanaim, and Songsak Sriboonchitta

Economic Growth and Income Inequality: Evidence from Thailand
Paravee Maneejuk, Pathairat Pastpipatkul, and Songsak Sriboonchitta

15:00 – 17:30   Parallel Session B: **Biomedical and Image Applications**

Room   **706**   Chair: **Tuan T. Dao**

Biomechanics of Biomimetic and Bioinspired Systems
Karim El Kirat

Clustering of Children with Cerebral Palsy with Prior Biomechanical Knowledge Fused from Multiple Data Sources
Tuan Nha Hoang, Tien Tuan Dao, and Marie-Christine Ho Ba Tho

Co-Simulation of Electrical and Mechanical Models of the Uterine Muscle
Maxime Yochum, Jérémy Laforêt, and Catherine Marque

Computing EHG Signals from a Realistic 3D Uterus Model: A Method to Adapt a Planar Volume Conductor
Maxime Yochum, Pamela Riahi, Jérémy Laforêt, and Catherine Marque

Ant Colony Optimization Based Anisotropic Diffusion Approach for Despeckling of SAR Images
Vikrant Bhateja, Abhishek Tripathi, Aditi Sharma, Bao Nguyen Le, Suresh Chandra Satapathy, Gia Nhu Nguyen, and Dac-Nhuong Le

A Fusion of Bag of Word Model and Hierarchical k-Means++ in Image Retrieval
My Kieu, Khai Dinh Lai, Tam Duc Tran, and Thai Hoang Le

17:20 – 18:00 Move to Whale Park Restaurant (My Khe Beach, Da Nang city)

18:00 – 20:00   **Banquet and Closing Session**
Chair: Bao N. Le, Masahiro Inuiguchi

8:30 – 10:10   Parallel Session A: **Econometric Applications II**

Room   **702**   Chair: **Jianxu Liu**

Thailand's Export and ASEAN Economic Integration: A Gravity Model with State Space Approach
Pathairat Pastpipatkul, Petchaluck Boonyakunakorn, and Songsak Sriboonchitta

Volatility Hedging Model for Precious Metal Futures Returns
Roengchai Tansuchat, Paravee Maneejuk, and Songsak Sriboonchitta

What Firms Must Pay Bribes and How Much? An Empirical Study of Small and Medium Enterprises in Vietnam
Thi Thuong Vu and Chon Van Le

Analysis of Agricultural Production in Asia and Measurement of Technical Efficiency Using Copula-Based Stochastic Frontier Quantile Model
Varith Pipitpojanakarn, Paravee Maneejuk, Woraphon Yamaka, and Songsak Sriboonchitta

8:30 – 10:10   Parallel Session B: **Data Mining and Application**

Room   **706**   Chair: **Anh Cuong Le**

Linguistic Features and Learning to Rank Methods for Shopping Advice
Xuan-Huy Nguyen and Le-Minh Nguyen

An Approach to Decrease Execution Time and Difference for Hiding High Utility Sequential Patterns
Minh Nguyen Quang, Ut Huynh, Tai Dinh, Nghia Hoai Le, and Bac Le

Statistical and ANN Approaches in Credit Rating for Vietnamese Corporate: A Comparative Empirical Study
Hung Nguyen and Tung Nguyen

Modeling Global-scale Data Marts Based on Federated Data Warehousing Application Framework
Ngoc Sy Ngo and Binh Thanh Nguyen

10:10 – 10:30   Coffee break

10:30 – 12:35   Parallel Session A: **Dependency Modelling and Application**

Room   **702**   Chair: **Hong-Bin Yan**

Modeling and Forecasting Interdependence of the ASEAN-5 Stock Markets and the US, Japan and China
Krit Lattayaporn, Jianxu Liu, Jirakom Sirisrisakulchai, and Songsak Sriboonchitta

A Convex Combination Method for Linear Regression with Interval Data
Somsak Chanaim, Songsak Sriboonchitta, and Chongkolnee Rungruang

A Copula-Based Markov Switching Seemingly Unrelated Regression Approach for Analysis the Demand and Supply on Sugar Market
Pathairat Pastpipatkul, Nisit Panthamit, Woraphon Yamaka, and Songsak Sriboochitta

The Best Copula Modeling of Dependence Structure Among Gold, Oil Prices, and U.S. Currency
Pathairat Pastpipatkul, Paravee Maneejuk, and Songsak Sriboonchitt

How to Select an Appropriate Similarity Measure: Towards a Symmetry-Based Approach
Ildar Batyrshin, Thongchai Dumrongpokaphan, Vladik Kreinovich, and Olga Kosheleva

10:30 – 12:10 Parallel Session B: **Miscellaneous**

Room **706** Chair: **Atsuo Yoshitaka**

Optimizing Selection of PZMI Features Based on MMAS Algorithm for Face Recognition of the Online Video Contextual Advertisement User-Oriented System
Bao Nguyen Le, Dac-Nhuong Le, Gia Nhu Nguyen, and Do Nang Toan

Improve the Performance of Mobile Applications Based on Code Optimization Techniques Using PMD and Android Lint
Man D. Nguyen, Thang Q. Huynh, and T. Hung Nguyen

The Marker Detection from Product Logo for Augmented Reality Technology
Thummarat Boonrod, Phatthanaphong Chomphuwiset, and Chatklaw Jareanpon

Accelerating Envelope Analysis-Based Fault Diagnosis Using a General-Purpose Graphics Processing Unit
Viet Tra, Sharif Uddin, Jaeyoung Kim, Cheol-Hong Kim, and Jongmyon Kim