

	October 23 (Thursday)	
7:30 – 9:00 (Ball Room C, D, E Prefunction Lounge)	Registration	
9:00 – 9:10 (Ball Room C, D, E)	Opening Session Dr. L. Proenza, President of the University of Akron	
9:10 – 10:00 (Ball Room C, D, E)	Keynote 1: Prof. J. Kacprzyk: Neuroeconomics: Yet Another Field Where Rough Sets Can Be Useful? (Chair: J. W. Grzymala-Busse)	
10:00 – 10:50 (Ball Room C, D, E)	Keynote 2: Prof. L. Jain: Research Directions in the KES Centre (Chair: S. Tsumoto)	
10:50 – 11:20 (Prefunction Lounge)	Coffee Break (Prefunction Lounge)	
11:20 – 12:10 (Ball Room C, D, E)	Industrial Talk 1: Dr. A. Srinivasan: Classification Challenges in Email Archiving (Chair: C.-C. Chan)	
12:10 – 13:30	Lunch Break	
13:30 – 15:10	Session RA1: Logical and Mathematical Foundations I (Ball Room C, D, E, Session Chair: Salvatore Greco) <ul style="list-style-type: none"> • On Irreducible Descriptive Sets of Attributes for Information Systems <i>Mikhail Moshkov, Andrzej Skowron, Zbigniew Suraj</i> • Dominance-Based Rough Set Approach and Bipolar Abstract Rough Approximation Spaces <i>Salvatore Greco, Benedetto Matarazzo, Roman Slowinski</i> • Paraconsistent Logic Programs with Four-Valued Rough Sets <i>Jan Maluszynski, Andrzej Szalas, Aida Vitória</i> • An Equivalent Definition of Rough Sets <i>Guilong Liu, James Kuodo Huang</i> 	Session RB1: Data Mining I (Room 312, Session Chair: Zbigniew Ras) <ul style="list-style-type: none"> • Inducing Better Rule Sets by Adding Missing Attribute Values <i>Jerzy W. Grzymala-Busse, Witold J. Grzymala-Busse</i> • Rule Induction: Combining Rough Set and Statistical Approach <i>Wojciech Jaworski</i> • Action Rules Discovery without Pre-Existing Classification Rules <i>Zbigniew Ras, Agnieszka Dardzinska</i> • Hierarchical Learning in Classification of Structured Objects <i>Trung T. Nguyen</i>
15:10 – 15:40	Coffee Break (Prefunction Lounge)	

15:40 – 17:45	<p>Session RA2: Data Analysis (Ball Room C, D, E, Session Chair: <i>Lech Polkowski</i>)</p> <ul style="list-style-type: none"> • Statistical Independence of Multi-Variables From the Viewpoint of Linear Algebra <i>Shusaku Tsumoto, Shoji Hirano</i> • Rough Mereology in Classification of Data: Voting by Means of Residual Rough Inclusions <i>Lech Polkowski, Piotr Artiemjew</i> • Rough Set Approach to Information Tables with Imprecise Decisions <i>Masahiro Inuiguchi, Bingjun Li</i> • Computing Approximations of Dominance-Based Rough Sets by Bit-Vector Encodings <i>Chien-Chung Chan, Gwo-Hshiung Tzeng</i> • A Framework for Multiagent Mobile Robotics: Spatial Reasoning Based on Rough Mereology in Player/Stage System <i>Lech Polkowski, Paweł Osmiałowski</i> 	<p>Session RB2: Data Mining II (Room 312, Session Chair: <i>Zbigniew Suraj</i>)</p> <ul style="list-style-type: none"> • A Comparison of the LERS Classification System and Rule Management in PRSM <i>Jerzy W. Grzymala-Busse, Yiyu Yao</i> • Similarity Relation in Classification Problems <i>Andrzej Janusz</i> • Probabilistic Granule Analysis <i>Ivo Düntsch, Günther Gediga</i> • Solving the Attribute Reduction Problem with Ant Colony Optimization <i>Hong Yu, Guoyin Wang, Fakuan Lan</i> • Actor Critic Learning : A Near Set Approach <i>Shamama Anwar, K Sridhar Patnaik</i>
18:30 – 21:00	<p>Reception Location: Bowling Alley on the first floor of Student Union</p>	

Roo Express shuttle service back to Quaker Square Inn and Radisson Akron City Centre running from 20:45 – 21:45. Boarding at the Student Union Carroll Street entrance.

	October 24 (Friday)	
7:30 – 9:00 (Prefunction Lounge)	Registration	
9:00 – 9:10		
9:10 – 10:00 (Ball Room C, D, E)	Keynote 3: Prof. L. A. Zadeh: Computation with Imprecise Probabilities—A Bridge to Reality (Chair: A. Skowron)	
10:00 – 10:50 (Ball Room C, D, E)	Industrial Talk 2: Dr. D. Slezak: Rough Sets in Data Warehousing: The Case Study of Infobright Community Edition (Chair: W. Ziarko)	
10:50 – 11:20 (Prefunction Lounge)	Coffee Break (Prefunction Lounge)	
11:20 – 12:10 (Ball Room C, D, E)	Plenary Panel : “RS and SC Challenges in AI and KDD” (Moderator: A. Skowron) Panelists: J.W. Grzymala-Busse, M. Inuiguchi, R. Janicki, J. Kacprzyk, T.Y. Lin, P. Lingras, T. Munakata, Z. Ras, D. Slezak, R. Słowiński, S. Tsumoto, G. Wang, W.-Z. Wu, Y. Yao, W. Ziarko	
12:10 – 13:30	Lunch Break	
13:30 – 15:10	Session FA1: Logical and Mathematical Foundations II (Ball Room C, D, E, Session Chair: Yiyu Yao) <ul style="list-style-type: none"> • A Note on Attribute Reduction in the Decision-Theoretic Rough Set Model <i>Yan Zhao, S.K.M. Wong, Yiyu Yao</i> • An Interpretation of Belief Functions on Infinite Universes in the Theory of Rough Sets <i>Wei-Zhi Wu, Ju-Sheng Mi</i> • Some Remarks on Approximations of Arbitrary Binary Relations by Partial Orders <i>Ryszard Janicki</i> • On Rough Equalities and Rough Equivalences of Sets <i>Bala Krushna Tripathy, Anirban Mitra, Jaladhar Ojha</i> 	Session FB1: Data Mining III (Room 312, Session Chair: Pawan Lingras) <ul style="list-style-type: none"> • Precision of Rough Set Clustering <i>Pawan Lingras, Min Chen, Duoqian Miao</i> • A Dynamic Approach to Rough Clustering <i>Georg Peters, Richard Weber</i> • Learning Patterns from Clusters using Reduct <i>Alka Arora, Shuchita Upadhyaya, Rajni Jain</i> • Feature Selection Based on the Rough Set Theory and Expectation-Maximization Clustering Algorithm <i>Farideh Fazayeli, Lipo Wang, Jacek Mandziuk</i>
15:10 – 15:40	Coffee Break (Prefunction Lounge)	

15:40 – 17:45	<p>Session FA2: Decision Support Systems (Ball Room C, D, E, Session Chair: <i>Roman Słowinski</i>)</p> <ul style="list-style-type: none"> • Towards Approximation of Risk <i>Marcin Szczuka</i> • Business Aviation Decision-Making using Rough Sets <i>Yu-Ping Ou Yang, How-Ming Shieh, Gwo-Hshung Tzeng, Leon Yen, Chien-Chung Chan</i> • A New Rough Sets Decision Method Based on PCA and Ordinal Regression <i>Dun Liu, Tianrui Li, Pei Hu</i> • Rough Set Flow Graphs and Max-* Fuzzy Relation Equations in State Prediction Problems <i>Zofia Matusiewicz, Krzysztof Pancierz</i> • Paraconsistent Case-Based Reasoning Applied to a Restoration of Electrical Power Substations <i>Helga Gonzaga Martins, Germano Lambert-Torres, Luiz Eduardo Borges da Silva, Claudio Inácio Almeida Costa, Maurilio Coutinho</i> 	<p>Session FB2: Data Mining IV (Room 312, Session Chair: <i>Masahiro Inuiguchi</i>)</p> <ul style="list-style-type: none"> • A New Approach to Fuzzy-Rough Nearest Neighbour Classification <i>Richard Jensen, Chris Cornelis</i> • Compact Rule Learner on Weighted Fuzzy Approximation Spaces for Class Imbalanced and Hybrid Data <i>Yang Liu, Boqin Feng, Guohua Bai</i> • Outlier Detection Based on Granular Computing <i>Yuming Chen, Duoqian Miao, Ruizhi Wang</i> • Implementing a Rule Generation Method Based on Secondary Differences of Two Criteria <i>Hidenao Abe, Shusaku Tsumoto</i> • Lower and Upper Approximations of Rules in Non-Deterministic Information Systems <i>Hiroshi Sakai, Ryuji Ishibashi, Michinori Nakata</i>
18:30 – 21:00	<p>Banquet Location: The Martin University Center 105 Fir Hill Street, Akron, OH 44325</p>	

Designated Roo Express shuttle service back to Quaker Square Inn and Radisson Akron City Centre running from 20:45 – 21:45. Boarding in front of the Martin University Center.

	October 25 (Saturday)	
7:30 – 9:00	Registration (Room 312 Hallway Lounge)	
9:00 – 9:10		
9:10 – 10:00 (Room 312)	Plenary Panel: “Theories of Approximation” (Moderator: T.Y. Lin) Panelists: S. Greco, J. W. Grzymala-Busse, Y. Kudo, G. Liu, L. Polkowski, A. Skowron, D. Slezak, and S. Tsumoto	
10:00 – 10:30	Coffee Break (Room 312 Hallway Lounge)	
10:30 – 12:10	Session SA1: Pattern Recognition and Image Processing I (Room 312, Session Chair: <i>Guoyin Wang</i>) <ul style="list-style-type: none"> • Experiments with Rough Set Approach to Face Recognition <i>Xuguang Chen, Wojciech Ziarko</i> • Evolutionary Algorithm for Fingerprint Images Filtration <i>Marcin Jedryka, Władysław Skarbek</i> • Standard and Fuzzy Rough Entropy Clustering Algorithms in Image Segmentation <i>Dariusz Matyszko, Jarosław Stepaniuk</i> • A Data Driven Emotion Recognition Method Based on Rough set Theory <i>Yong Yang, Guoyin Wang, Fei Luo, Zhenjing Li</i> 	Session SB1: Bioinformatics (Room 310, Session Chair: <i>Hiroshi Sakai</i>) <ul style="list-style-type: none"> • Shadowed Clustering for Speech Data and Medical Image Segmentation <i>Bishal Barman, Sushmita Mitra, Witold Pedrycz</i> • Computational Intelligence Techniques Applied to Magnetic Resonance Spectroscopy Data of Human Brain Cancers <i>Alan J. Barton, Julio J. Valdes</i> • A Hybrid Model for Aiding in Decision Making for the Neuropsychological Diagnosis of Alzheimer’s Disease <i>Ana Karoline Araújo de Castro, Plácido Rogério Pinheiro, Mirian Calíope Dantas Pinheiro</i> • Natural versus Granular Computing: Classifiers from Granular Structures <i>Piotr Artiemjew</i>
12:10 – 13:30	Lunch Break	
13:30 – 15:10	Session SA2: Pattern Recognition and Image Processing II (Room 312, Session Chair: <i>T.Y. Lin</i>) <ul style="list-style-type: none"> • Efficient Mining of Jumping Emerging Patterns with Occurrence Counts for Classification <i>Lukasz Kobylinski, Krzysztof Walczak</i> • Efficient Discovery of Top-K Minimal Jumping Emerging Patterns <i>Pawel Terlecki, Krzysztof Walczak</i> • Hierarchical Tree for Dissemination of Polyphonic Noise <i>Rory Lewis, Wenxin Jiang, Amanda Cohen, Zbigniew Ras</i> • Learning From Soft-Computing Methods on Abnormalities in Audio Data <i>Alicja Wieczorkowska</i> 	(TBA)

15:10 – 15:40	Coffee Break (Room 312 Hallway Lounge)
15:40 – 16:30	IRSS Business Meeting (Room 312)
16:30	Conference End