TABLE OF CONTENTS

Part I Conference Schedule (English Version) 2

Part II Invited Keynote Speakers 6

Keynote Speech 1: Monotonicity in Fuzzy Modelling and Data Mining 6

Keynote Speech 2: Recommender Systems for Business Intelligence 8

Keynote Speech 3: The practical Application of Knowledge Discovery to Image Data: A Practitioners View in The Context of Image Analysis 9

Keynote Speech 4: Data Mining on Cloud Computing Platforms - Challenges and Solutions 10

Keynote Speech 5: On Definition and Construction of Association Measures 11

Keynote Speech 6: Towards Cognitively-inspired Multi-modal Big Data Computation 12

Part III Poster Session 14

Poster Session_ Fussy System and Data Mining 15

Part IV Oral Session 17

Oral Session_ Fuzzy Theory and Fuzzy Control 17

Part V Hotel Information 19

Part VI Tourism 21

Part VII Introduction of IOS Library Information 23

Part I Conference Schedule (English Version)

Saturday Dec. 12, 2015

Time	Activity	Location
09:00-19:00	Registration	Lobby of Guang Dong Hotel

Notes: Please take the Participating Card during the conference and the Tour Card for the tour.

Sunday Morning, Dec. 13

Time	Activity Location: 2nd floor, Guangdong Hall
09:00-09:10	Opening Ceremony
09:10-09:50	Keynote Speech 1: Monotonicity in Fuzzy Modelling and Data Mining *Prof. Bernard De Baets*
09:50-10:30	Keynote Speech 2: Recommender Systems for Business Intelligence *Prof. Jie Lu*
10:30-10:50	Pose for a Group Photo and Coffee Break
10:50-11:30	Keynote Speech 3: The practical Application of Knowledge Discovery to Image Data: A Practitioners View in The Context of Image Analysis *Prof. Frans Coenen*
11:30-12:10	Keynote Speech 4: Data Mining on Cloud Computing Platforms - Challenges and Solutions *Prof. Yi Pan*

Sunday Noon, Dec. 13

12:00-13:00	Buffet Lunch	Location: 1st floor, 328 Western Restaurant

Sunday Afternoon, Dec. 13

Time	Activity Location: 2nd floor, Guangdong Hall
14:30-15:10	Keynote Speech 5: On Definition and Construction of Association Measures *Prof. IIdar Batyrshin*
15:10-15:30	Coffee Break
15:30-17:00	Poster : Fuzzy System and Data Mining

Sunday Evening, Dec. 13

17:30-18:30	Buffet Dinner	Location: 1st floor, 328 Western Restaurant

The 2015 International Conference on Fuzzy System and Data Mining
Dec.12th-15th, 2015 Shanghai, China

Monday Morning, Dec. 14

Time	Oral Presentation	Location
08:30-12:30	Keynote Speech 6: Towards Cognitively-inspired Multi-modal Big Data Computation *Prof. Amir Hussain*	4th floor, Lotus Hall
	Oral : Fuzzy Theory and Fuzzy Application	

Monday Noon, Dec. 14

12:00-13:00	Buffet Lunch Location: 1st floor, 328 Western Restaurant

Monday Afternoon, Dec. 14

14:00-20:00	Shanghai Guang Dong Hotel →The Oriental Pearl TV Tower → Dinner →Huangpu River Cruises →Shanghai Guang Dong Hotel

Tuesday Morning, Dec. 15

08:15-12:00	Shanghai Guang Dong Hotel → the Old City God's Temple → Yuyuan Garden→ Lunch → Shanghai Guang Dong Hotel

大会日程（**Chinese Version**）

2015 年 12 月 12 日，星期六

时间	日程安排	地点
09:00-19:00	注册报到	粤海酒店大厅

注：会议期间请随身携带参会胸牌，旅游需出示旅游券。

12 月 13 日，星期天上午

时间	日程安排 地点: 粤海厅（2 楼）
09:00-09:10	开幕式
09:10-09:50	主题报告 1：Monotonicity in Fuzzy Modelling and Data Mining 报告专家：*Bernard De Baets* 教授
09:50-10:30	主题报告 2：Recommender Systems for Business Intelligence 报告专家：*Jie Lu* 教授
10:30-10:50	与会代表集体合影及茶歇
10:50-11:30	主题报告 3：The practical Application of Knowledge Discovery to Image Data: A Practitioners View in The Context of Image Analysis 报告专家：*Frans Coenen* 教授
11:30-12:10	主题报告 4：Data Mining on Cloud Computing Platforms - Challenges and Solutions 报告专家：*Yi Pan* 教授

12 月 13 日，星期天中午

时间	日程安排	地点
12:00-13:00	自助午餐	328 西餐厅（1 楼）

12 月 13 日，星期天下午

时间	日程安排 地点: 粤海厅（2 楼）
14:30-15:10	主题报告 5：On Definition and Construction of Association Measures 报告专家：*Ildar Batyrshin* 教授
15:10-15:30	茶歇
15:30-17:00	张贴报告：模糊系统和数据挖掘

12 月 13 日，星期天晚上

时间	日程安排	地点
17:30-18:30	自助晚餐	328 西餐厅（1 楼）

12 月 14 日，星期一上午

时间	日程安排	地点
08:30-12:30	主题报告 6：Towards Cognitively-inspired Multi-modal Big Data Computation 报告专家：*Amir Hussain* 教授	荷花厅（4 楼）
	口头报告：模糊理论与模糊应用	

12 月 14 日，星期一中午

时间	日程安排	地点
12:00-13:00	自助午餐	328 西餐厅（1 楼）

12 月 14 日，星期一下午

14:00-20:00	上海半日游：上海粤海酒店→东方明珠广播电视塔→黄浦江→上海粤海酒店

12 月 15 日，星期二上午

08:15-12:00	上海半日游：上海粤海酒店→城隍庙→豫园→上海粤海酒店

Part II Invited Keynote Speakers

Keynote Speech 1: Monotonicity in Fuzzy Modelling and Data Mining

Keynote Speaker: Prof. Bernard De Baets, Universiteit Gent, Belgium
Time: 09:10-09:50, Sunday Morning, Dec. 13
Location: 2nd floor, Guangdong Hall

B. De Baets holds a M.Sc. degree in Mathematics (1988), a Postgraduate degree in Knowledge Technology (1991) and a Ph.D. degree in Mathematics (1995), all summa cum laude. He is a Full Professor (2008) in Applied Mathematics at Ghent University, Belgium, where he is leading the research unit Knowledge-based Systems (KERMIT, 2000) at the Faculty of Bioscience Engineering. He is an affiliated professor (2009) at the Anton de Kom Universiteit (Suriname) and an Honorary Professor (2006) of Budapest Tech (Hungary). He was a Government of Canada Award holder (1988-89) at the Intelligent Systems Research Laboratory of the University of Saskatchewan. He was elected Fellow of the International Fuzzy Systems Association in 2011 and has been nominated for the 2012 Ghent University Prometheus Award for Research.
KERMIT is an interdisciplinary team of (bio-) engineers, computer scientists and mathematicians. Its current activities consist of three interwoven threads: knowledge-based, pr
edictive and spatio-temporal modelling. B. De Baets has acted as supervisor of 48 Ph.D. students. At present, more than 20 Ph.D. students are involved in the research activities of KERMIT, either in-house, through affiliations or in the framework of joint projects. Due to its unique position, KERMIT serves as an attraction pole for applications in the applied biological sciences.
The bibliography of B. De Baets comprises more than 370 publications in international peer-reviewed journals, 60 chapters in books and 270 contributions to proceedings of international conferences. He delivered over 200 lectures at conferences and research institutes. He has received several best paper awards (1994, 2006, 2007, 2009, 2010, 2013 and 2015). B. De Baets is co-editor-in-chief (2007) of Fuzzy Sets and Systems and member of the editorial board of several other journals.

Abstract of the speech: In many modelling problems, there exists a monotone relationship between one or more of the input variables and the output variable, although this may not always be fully the case in the observed input-output data due to data imperfections. Monotonicity is also a common property of evaluation and selection procedures. In contrast to a local property such as continuity, monotonicity is of a global nature and any violation of it is therefore simply unacceptable. We explore several problem settings where monotonicity matters, including fuzzy modelling, machine learning and decision making. By far the most popular fuzzy modelling paradigm, despite its weak theoretical foundations, is the rule-based approach of Mamdani and Assilian. In numerous applied papers, authors innocently assume that given a fuzzy rule base that appears monotone at the linguistic level, this will be the case for the generated input-output mapping as well.

Unfortunately, this assumption is false, and we will show how to counter it. Moreover, we will show that an implication-based interpretation, accompanied with a cumulative approach based on at-least and/or at-most quantifiers, might be a much more reasonable alternative. Next, we deal with a particular type of classification problem, in which there exists a linear ordering on the label set (as in ordinal regression) as well as on the domain of each of the features. Moreover, there exists a monotone relationship between the features and the class labels. Such problems of monotone classification typically arise in a multi-criteria evaluation setting. When learning such a model from a data set, we are confronted with data impurity in the form of reversed preference. We present the Ordinal Stochastic Dominance Learner framework, which permits to build various instance-based algorithms able to process such data. Moreover, we explain how reversed preference can be eliminated by relating this problem to the maximum independent set problem and solving it efficiently using flow network algorithms. Finally, we explore a pairwise preference setting where each stakeholder expresses his/her preferences in the shape of a reciprocal relation that is monotone w.r.t. a linear order on the set of alternatives. The goal is to come up with an overall monotone reciprocal relation reflecting `best' the opinions. We formulate the problem as an optimization problem, where the aggregated linear order is that for which the implied stochastic monotonicity conditions are closest to being satisfied by the distribution of the input monotone reciprocal relations. A monotone reciprocal relation is then easily found on the basis of the (possibly) constructed stochastically monotone reciprocal distributional relation. Interesting links with social choice will be pointed out. As will be explained, central to the above three settings is the cumulative approach, which matches nicely with the monotonicity requirement.

Keynote Speech 2: Recommender Systems for Business Intelligence

Speaker: Prof. Jie Lu, University of Technology, Sydney (UTS), Australia
Time: 09:50-10:30, Sunday Morning, Dec. 13
Location: 2nd floor, Guangdong Hall

Professor Jie Lu is the Associate Dean in Research in the Faculty of Engineering and Information Technology, and the Director of the Decision Systems and e-Service Intelligence Research Laboratory in the Centre for Quantum Computation & Intelligent Systems at the University of Technology Sydney (UTS). Her main research interests lie in the area of decision support systems, recommender systems, prediction and early warning systems, fuzzy transfer learning, and e-Service intelligence. She has published five research books and 400 papers in refereed journals and conference proceedings. She has won seven Australian Research Council (ARC) discovery grants, and 10 other research grants. She received the first UTS Research Excellent Medal for Teaching and Research Integration in 2010. She serves as Editor-In-Chief for Knowledge-Based Systems (Elsevier), Editor-In-Chief for International Journal on Computational Intelligence Systems (Atlantis), Associate Editor for IEEE Transaction on Fuzzy Systems, editor for book series on Intelligent Information Systems (World Scientific) and proceedings series on Computer Engineering and Information Science (World Scientific), and has delivered many keynote speeches at international conferences.

Abstract of the speech: A recommender system aims to provide online users with personalized recommendations about products or services to handle the increasing problem of online information overload and to improve the management of customer relations. An increasing number of real-world applications of recommender systems have recently been successfully developed, demonstrating that recommender systems now provide business with unprecedented opportunities. At the same time, real-world reports show that recommender systems continue to face challenges in handling prediction accuracy, sparsity, cold start, and uncertainty issues. This talk first systematically examines the recent development of recommender systems through three dimensions: recommendation methods, recommender systems software, and real-world application domains. It then explains how fuzzy technique can effectively support recommendation methods to handle the current challenging issues. It particularly describes the up-to-date applications of recommender systems in e-government, e-business, e-commerce, e-learning, e-tourism, and e-group activities. This talk will provide researchers and professionals with state-of-the-art knowledge and techniques to the development of recommender system methods and applications, supported by fuzzy techniques, for business intelligence.

Keynote Speech 3: The practical Application of Knowledge Discovery to Image Data: A Practitioners View in The Context of Image Analysis

Speaker: Prof. Frans Coenen, The University of Liverpool, UK
Time: 10:50-11:30, Sunday Morning, Dec. 13
Location: 2nd floor, Guangdong Hall

Frans Coenen has been working in the field of data mining and Knowledge Discovery in Data (KDD) for the last fifteen years. He is particular interests are: Big Data; Social Network and Trend Mining; the mining of non-standard data sets such as Graph, Image and document collections; and the practical application of data mining in its many forms. He currently leads a small research group (11 PhDs and 3 RAs) working on many aspect of data mining and KDD. He has some 300 refereed publications on KDD and AI related research, and has been on the programme committees for many KDD events. He is pleased to have been the founder of the UK KDD symposia series, which is now in its ninth year. Frans Coenen is a member of the IFIP WG12.2 --- Machine Learning and Data Mining group, The British Computer Society (BCS) and the BCS' Specialist Group in AI (BCS-SGAI). He has been chair and deputy/technical programme chair for the BCS-SGAI AI series of conference for many years. Frans Coenen is currently professor within the Department of Computer Science at the University of Liverpool where he is the director of studies for the department's on-line MSc programmes, and Deputy Head of Department.

Abstract of the speech: Knowledge Discovery in Images (KDI) is concerned with the discovery of hidden information in image data of all kinds. The actual image mining element is well understood. The challenge is the end-to-end process of knowledge discovery in images from translating the input data into a form whereby it can be mined to understanding the result. A review is presented of image mining in the wider context, both 2D and 3D, in terms of the mechanisms where by image data can be translated into an eventual feature vector format to which established data mining techniques, of many kinds, can be applied. A number of alternative representations are considered: graph based, point series based, histogram based and others. The ideas presented are illustrated using a number of applications including Magnetic Resonance Image analysis (2D and 3D), Google Earth satellite image interpretation for population estimation, retina image diagnosis (2D and 3D) and 3D surface analysis in the sheet metal forming industry.

Keynote Speech 4: Data Mining on Cloud Computing Platforms - Challenges and Solutions

Speaker: Prof. Yi Pan, Georgia State University, Atlanta, Georgia, USA
Time: 11:30-12:10, Sunday Morning, Dec. 13
Location: 2nd floor, Guangdong Hall

Yi Pan is a Distinguished University Professor of the Department of Computer Science and an Interim Associate Dean at Georgia State University, USA. Dr. Pan received his B.Eng. and M.Eng. degrees in computer engineering from Tsinghua University, China, in 1982 and 1984, respectively, and his Ph.D. degree in computer science from the University of Pittsburgh, USA, in 1991. His profile has been featured as a distinguished alumnus in both Tsinghua Alumni Newsletter and University of Pittsburgh CS Alumni Newsletter. Dr. Pan's research interests include parallel and cloud computing, wireless networks, and bioinformatics. Dr. Pan has published more than 180 journal papers with over 50 papers published in various IEEE journals. In addition, he has published over 150 papers in refereed conferences. He has also co-authored/co-edited 40 books. His work has been cited more than 5000 times. Dr. Pan has served as an editor-in-chief or editorial board member for 15 journals including 7 IEEE Transactions. He is the recipient of many awards including IEEE Transactions Best Paper Award, IBM Faculty Award, JSPS Senior Invitation Fellowship, IEEE BIBE Outstanding Achievement Award, NSF Research Opportunity Award, and AFOSR Summer Faculty Research Fellowship. He has organized many international conferences and delivered over 40 keynote speeches at various international conferences around the world.

Abstract of the speech: Cloud computing has emerged rapidly as a growing paradigm of on-demand access to computing, data and software utilities using a usage-based billing model. Users essentially rent resources and pay for what they use and everything including software, platform, and infrastructure is as a service. Many massive data applications including data mining should be the ideal applications on cloud platforms. However, with the current cloud programming models, complicated data mining algorithms cannot be implemented easily and executed efficiently on the many cloud platforms. In this talk, I will give a review of different massively parallel computing platforms and compare various computing domains and programming models on these platforms, their limitations and potential solutions, especially to data mining applications. In particular, I will point out the shortcomings and limitations of current cloud computing programming models for typical data mining algorithms, and propose possible solutions. Current MapReduce model and its variants have succeeded in data-parallel applications such as database operations and web searching; however, they are still not effective for applications with a lot of data dependency such as data mining and graph applications. We propose several approaches to solving this problem through extension of current programming models, automatic translation from sequential codes to cloud codes, simple API and framework built on current cloud models, detection of data and task parallelism, and their efficient scheduling. Some preliminary theoretical and experimental results will also be reported in this talk.

Keynote Speech 5: On Definition and Construction of Association Measures

Speaker: Prof. Ildar Batyrshin, National Polytechnic Institute of Mexico, Mexico
Time: 14:30-15:10, Sunday Afternoon, Dec. 13
Location: 2nd floor, Guangdong Hall

Ildar Batyrshin graduated from the Moscow Physical-Technical Institute, Faculty of Control and Applied Mathematics in 1975. He received PhD and Dr. Sci. (habilitation) degrees in 1983 and 1996, respectively. He served as Professor and Head of Department of Informatics and Applied Mathematics of Kazan State Technological University (currently National Research Technological University), Russia, and Leading Researcher of the Institute of Problems of Informatics of Academy of Sciences of the Republic of Tatarstan, Russia. Since 2003 he was with Research Program of Applied Mathematics and Computations of Mexican Petroleum Institute as Invited Distinguished Researcher, Leading Researcher and Project Head. Currently he is a Titular Professor "C" of the Center for Computing Research of Mexican National Polytechnic Institute. He is a Past President of the Russian Association for Fuzzy Systems and Soft Computing, a member of the Council of the Mexican Society for Artificial Intelligence, Senior Member of IEEE Computational Intelligence Society and the member of the Board of Directors of NAFIPS. He is a member of editorial boards of several scientific journals. He served as a Co-Chair of 9 International Conferences on Soft Computing, Artificial Intelligence and Computational Intelligence. He is an author and editor of 20 books and special volumes of journals. He was awarded by the State Research Fellowship of the Presidium of Russian Academy of Sciences for Distinguished Researchers, by the titles of Honorary Researcher of the Republic of Tatarstan, Russia, Honorary Professor of Budapest Tech (currently Obudu University), Hungary, and Member of the National System of Researchers of Mexico.

Abstract of the speech: In this talk the theoretical bases of constructing association measures on different domains will be discussed. An association measure is considered as a function defined on a set X with involutive operation and satisfying a set of axioms. The general methods of construction of such functions related with t-conorms and similarity measures defined on X are considered. It is shown that a sample correlation coefficient can be obtained by these methods as a specific case. The methods of constructing association measures on different domains are considered. The examples of association measures on the sets of time series, fuzzy sets, etc. are discussed.

Keynote Speech 6: Towards Cognitively-inspired Multi-modal Big Data Computation

Speaker: Prof. Amir Hussain, University of Stirling, UK
Time: 11:40-12:30, Monday Morning, Dec. 14
Location: 4th floor, Lotus Hall

Amir obtained his BEng (with the highest 1st Class Honours) and PhD (in novel neural network architectures and algorithms) from the University of Strathclyde in Glasgow, UK, in 1992 and 1997 respectively. Following a Research Fellowship at the University of Paisley, UK (96-98), and a research Lectureship at the University of Dundee, UK (98-00), he joined the University of Stirling in 2000, where he is currently Professor of Computing Science, and founding Director of the Cognitive Big Data Informatics (CogBDI) Research Laboratory. He has authored over 260 publications (including over a dozen Books and 80+ journal papers); conducted and led collaborative research with industry; partnered in major European research programs, and supervised more than 20 PhDs. He is an Associate Editor of the IEEE Transactions on Neural Networks and Learning Systems, IEEE Computational Intelligence Magazine, founding Editor-in-Chief of Springer's Cognitive Computation journal, Springer/BioMed Central's Big Data Analytics journal, SpringerBriefs in Cognitive Computation and the Springer Book Series on Socio-Affective Computing. He holds several Visiting Professorships and serves as an International Advisor to various Governmental Higher Education and Research Councils, Universities and Companies. He has served as invited/keynote speaker, general/program/organizing (co)chair for over 50 international conferences and workshops, including IEEE WCCI, IJCNN, IEEE SSCI etc. He is a member of several Technical Committees of the IEEE Computational Intelligence Society (CIS), founding publications co-Chair of the INNS Big Data Section and its annual INNS Conference on Big Data, and Chapter Chair of the IEEE UK & RI Industry Applications Society. He is a Senior Fellow of the Brain Sciences Foundation.

Abstract of the speech: Multi-modal cognitive informatics is a rapidly developing discipline, bringing together neurobiology, cognitive psychology and artificial intelligence. Springer Neuroscience has launched a journal in this exciting multidisciplinary field, which seeks to publish biologically-inspired theoretical, computational, experimental and integrative accounts of all aspects of natural and artificial cognitive systems. In this talk, we outline a proposal, inspired by the seminal work of the late Professor John Taylor, to create a future cognitive machine equipped with multi-modal cognitive capabilities. Recent work at Stirling University has explored the application of multi-modal Big Data cognitive computing to solving challenging real world applications. Three case studies are introduced. Firstly, on-going research into cognitively-inspired multi-modal speech perception has led to the development of a novel fuzzy-logic based audio-visual speech processing system. The proposed framework exploits cognitively inspired use of both audio and visual (lip-tracking)

information, with potential applications in next-generation multimodal hearing aids and listening device technology. Other work has focused on open-domain sentiment analysis of natural language text using sentic computing: a novel multi-disciplinary paradigm, which is based on the semantic, latent and implicit meaning of natural language concepts, and implicitly exploits the psychologically inspired notion of dual (unconscious and conscious) processing. Ongoing extensions of this work include a cognitively-inspired emotion recognition system based on multimodal input, including text, audio and facial information, which is shown to significantly outperform state-of-the-art uni-modal and bi-modal systems. A third strand of on-going interdisciplinary research investigates autonomous vehicle control, in the two challenging problem domains of planetary rovers and smart cars. The proposed framework is aimed at developing a multi-modal vision-based cognitive control system exploiting a psychologically motivated dual-process switching model and basal-ganglia inspired 'soft' selection and on-line learning of multiple-controllers. We present a brief summary of these interdisciplinary research areas, and outline possible parallels, links and some future research directions and challenges.

Part III Poster Session

Poster Presentation

Materials Provided by the Conference Organizer:

- X Racks & Base Fabric Canvases (60cm×160cm, see the figure below)
- Adhesive Tapes or Clamps

Materials Provided by the Presenters:

- Home-made Posters

Requirement for the Posters:

- Material: not limited, can be posted on the Canvases
- Size: smaller than 60cm×160cm
- Content: for demonstration of the presenter's paper

Requirement for the Presenters:

- Stand beside his/her Poster through the Session, and discuss with the readers about his/her paper

组委会提供：X 展架和展布
海报张贴者：自制海报
海报要求：

1. 材质：铜版纸，双胶纸，喷绘布等；
2. 横批： 请将本次会议名称， 即‘ The 2015 International Conference on Fuzzy System and Data Mining’作为海报横批，字体&字号不限；
3. 尺寸： 60cm*160cm；
4. 内容：请不要直接将论文直接打印在海报上，请以图片和文字结合的方式陈列研究成果；
5. 其他：请在海报四角分别做四个小孔方便张贴；
6. 海报张贴的作者需要自行进行海报张贴，请您于海报展示当天携带您的海报至海报展示厅进行海报张贴；另外，海报张贴的主要目的是为了与其他学者、研究员进行研究交流，因此请展示者参会时务必站立于您的海报旁边，回答其他参会者对您的研究提出的疑问；

备注：

1. 您可以根据自行合理选择海报背景颜色；
2. 请注意海报四周要留出足够的空间方便张贴；
3. 可以用海报圆筒或者画筒装海报；

Time:

- Dec. 13, 15:30-17:00

Location:

- 2nd floor, Guang Dong Hotel

Poster Session_ Fussy System and Data Mining

FSDM1051	Fault diagnosis of AS and RS based on fuzzy Petri net	Yacheng Zhu
FSDM1166	A new nonlinear fuzzy TOPSIS method based on the possibility theory	Xiaoxia Wang
FSDM1193	An approach to fault diagnosis based on Fuzzy Bayesian network for FMS	Jun Su
FSDM1209	Deep learning algorithm and its applications in location big data mining	Faqin Gao
FSDM1238	Variable universe fuzzy control for excitation system of HTS machine	Zhang Lanyong
FSDM1246	Crop region extraction of remote sensing images based on fuzzy ARTMAP and adaptive boost	Dawei Li
FSDM1264	A Multi-criteria Decision-making Approach based on Convex Aggregation Operator within a Multi-hesitant Fuzzy Environment	Juanjuan Peng
FSDM1301	Fuzzy Optimization Control for NOx Emissions from Power Plant Boilers Based on Nonlinear Optimization	Wenjie Zhao
FSDM1306	A research method to capture design state based on multi-fuzzy cognitive mapping	Mingjiu Yu
FSDM1308	A novel fuzzy-logic based control strategy for a semi-active battery/super-capacitor hybrid energy storage system in vehicular applications	Yuan bin Yu
FSDM1324	An Efficient Differential Evolution Based on Evolutional Information Matrix	Lili Zhu
FSDM1352	A Non-recursive Agorithm Based on Binary for Hanoi Problem	Meiqin Pan
FSDM1405	The quantitative assessment of flight risk probabilities during wake encountering using multivariate Copula model	Yuan Xue

FSDM1444	An Integrated Clustering Method of SM-SOM for Detecting Abnormal Data of Listed Electrical Manufacturing Sector in China	Ruicheng Yang
FSDM1452	Robust adaptive fuzzy control design for nearspace vehicle	Nai-bao He
FSDM1518	Particle Swarm Optimization Tuned Fuzzy Terminal Sliding Mode Control for UPS Inverters	Zhiyi Su
FSDM1519	Fuzzy Grey Predictor Compensated Time-Varying Variable Structure Controller for Solar Inverters	Ziang Xu
FSDM1523	Fuzzy logic-based multi-factor aided multiple-model filter for general aviation target tracking	Quanhui Wang
FSDM1529	Data Mining Application in Smart Meter Problems	Yunan Zhu
FSDM1530	Fuzzy Logic Controller for Static Synchronous Compensator to Enhance the Voltage Stability of Power System	Yunan Zhu
FSDM1551	Selective and incremental fusion for fuzzy and uncertain data based on probabilistic graphical model	Xingjun Dong
FSDM1553	A classification method for speech signal nonlinear prediction models	Yumei Zhang
FSDM1587	Consensus Development in Group Decision Making under Uncertainty	Hepu Deng
FSDM1595	Intelligent traffic signal controller based on type-2 fuzzy logic and NSGAII	Chen Wen
FSDM1657	Fault Propagation Analysis with Uncertain Parallel Reasoning for Process Safety	Jinqiu Hu
FSDM1663	Data mining in Fault Diagnosis for Substation based on Kohonen and BP network	Huilan Jiang
FSDM1672	Web-based Geodetic Data Processing System	Wenbo Zhao
FSDM1704	Domain mining for machine translation	Junfei Guo
FSDM1706	Assessing Chinese campus building energy performance using fuzzy analytic network approach	Feng Liu
FSDM1710	Three-dimensional audio parametric encoding based on perceptual characteristics of spatial cue	Cong Zhang
FSDM1727	Distributed Diffusion-scheme ECME Estimator for Distributed Estimation in Wireless Networks	Xiaofei Li

NOTE: If you want to make a poster presentation but your paper ID is not included in the list, please contact the organizing committee to arrange it.

Part IV Oral Session

Oral Presentation

Devices Provided by the Conference Organizer:

- Laptops (with MS-Office & Adobe Reader)
- Projectors & Screen
- Laser Sticks

Materials Provided by the Oral Presenters:

- PowerPoint (Note: Please show your paper ID as FSDM**** in the last page)

Duration of each Presentation (Tentatively):

- Regular Oral Session: 10 Minutes of Presentation, 3-5 Minutes of Q&A

Time:

- Dec. 14, 08:30-12:30

Location:

- 4th floor, Lotus Hall

Oral Session_1 Fuzzy Theory and Fuzzy Control

Time: 08:30-12:30 Location: 4th floor, Lotus Hall

Paper ID	Paper Title	Author
FSDM1385	Visual Data Mining in Transportation Using Multiresolution Data Aggregation	Li YANG
FSDM1319	The comparison of significance of fuzzy community partition across optimization methods	Hui Jia LI
FSDM1338	Teaching-learning-based optimization with a fuzzy grouping learning strategy for global numerical optimization	Shu Juan LI
FSDM1355	An indirect tire identification method based on a two-layered fuzzy scheme	Dai Lin ZHANG
FDSM1267	A Fast Algorithm for Mining Fuzzy Frequent Itemsets	Jerry Chun-Wei Lin
FSDM1393	Stability analysis and fuzzy smith compensation control for semi-active suspension systems with time delay	Hui PANG
FSDM1501	Model and application of green industry evaluation based on fuzzy control	Hui WANG

FSDM1561	FuzzyRULES-II: A New Approach to Fuzzy Rule Induction from Numerical Data	Ashraf Afify
FSDM1621	Generalized trajectory fuzzy clustering based on the multi-objective mixed function	Qian Sheng ZHAO
FSDM1629	Select actionable positive or negative sequential patterns	Xiang Jun DONG
FSDM1662	Attitude control based on fuzzy logic for continuum aircraft fuel tank inspection robot	Guo Chen NIU
FSDM1703	Parameterization Sets	Ismail Ibedou
FSDM1441	Research on Drilling Technique of Permanent Magnet Motor Direct-Drive Winch Based on Fuzzy Logic	Kai LIU
FSDM1379	Adaptive Step Length Method of Dead Reckoning	Cheng Yu FEI
Keynote speech	Towards Cognitively-inspired Multi-modal Big Data Computation	Prof. Amir Hussain

NOTE: If you want to make an oral presentation but your paper ID is not included in the list, please contact the organizing committee or the session chair to arrange it.

Part V Hotel Information

1. Hotel Information

Guangdong Hotel (Shanghai) is located on Yi Xian Road, DaBaiShu industry & trading center in Shanghai, adjacent to the prestigious universities, such as Fudan, Tongji and Shanghai International Studies University. DaBaiShu area is one of the 12 commercial zones in Shanghai, where conveniently linked by track line 3 and inner elevated ring road. It will take 15 minutes ride to the Bund and Downtown area.

Address: 328 Yixian Road, Hongkou District, Shanghai, China
Tel.: 86-21-55589888
Website: www.shgdh.com/en

2. How to get to the hotel

1) From Shanghai Pudong International Airport (about 50 kilometres from the Hotel)

(a)It will cost about 170 RMB to take a taxi from Shanghai Pudong International Airport to the Shanghai Guang Dong Hotel. For non-Chinese attendees, please show the following information to the driver if you are taking a taxi: 请送我到：上海市虹口区逸仙路 328 号粤海酒店

(b)Take magnetic levitation (LONGYANG ROAD Direction) from stop- Pudong International Airport Stop (浦东国际机场站) to the stop- LONGYANG ROAD (龙阳路站), and then change for subway line 2(XU HENGJING EAST Direction) to the stop- CENTURY AVENUE (世纪大道站), and next change for subway line 4(PUDONG AVENUE Direction) to the stop- BAOSHAN ROAD (宝山路站), and next change for subway line 3(JIANG YANG NORTH ROAD Direction) to the stop- JIANGWAN TOWN (江湾镇站), and get out from Exit 4. It is about 650 meters from the Hotel.

2) From Shanghai Hongqiao International Airport (about 26 kilometres from the Hotel)

(a)It will cost about 90 RMB to take a taxi from Shanghai Hongqiao International Airport to the Shanghai Guang Dong Hotel. For non-Chinese attendees, please show the following information to the driver if you are taking a taxi: 请送我到：上海市虹口区逸仙路 328 号粤海酒店

(b)Take the subway line 10（XINJIANGWANCHENG Direction）from stop-Hongqiao Airport Terminal (虹桥 1 号航站楼站) to the stop- HONGQIAO ROAD (虹桥路站), and change for the subway line 3(JIANG YANG NORTH ROAD Direction) to the stop- JIANGWAN TOWN (江湾镇站), and get out from Exit 4. It is about 650 meters from the Hotel.

3) From Shanghai Railway Station (about 9 kilometres from the Hotel)

Take the subway line 3 (JIANG YANG NORTH ROAD Direction) from stop- Shanghai Railway Station (上海火车站)to the stop- JIANGWAN TOWN (江湾镇站), and get out from Exit 4. It is about 650 meters from the Hotel.

4) From Shanghai South Railway Station (about 20 kilometres from the Hotel)

Take the subway line 3 (JIANG YANG NORTH ROAD Direction) from stop- Shanghai South Railway Station (上海南站)to the stop- JIANGWAN TOWN (江湾镇站), and get out from Exit 4. It is about 650 meters from the Hotel.

5) From Shanghai West Railway Station (about 13 kilometres from the Hotel)

Take the subway line 11（LUOSHAN ROAD Direction）from stop- Shanghai West Railway Station (上海西站) to the stop CAOYANG ROAD STATION (曹杨路), and change for the subway line 3(JIANG YANG NORTH ROAD Direction) to the stop- JIANGWAN TOWN (江湾镇站), and get out from Exit 4. It is about 650 meters from the Hotel.

3. Map of the hotel

More details about the map around the Guang Dong Hotel can be found from hotel website.

Part VI Tourism

1. Travel Tips

1) Tourists' information is required during registration. Accident Insurance is provided by Travel Agent.

2) Please show Tour Card when get on the bus. Please take care of your Tour Card as it is the only access to the tour.

3) Please follow the arrangement of the guide. Tourists are not allowed to leave team without permission.

4) For emergency, please contact Senlin Yan- 0086+18040526485.

2. Travel Route

We will depart from Guang Dong Hotel at 14:00 to the Oriental Pearl TV Tower, and then to cruise Huangpu River on Dec. 14, and will be back to the hotel at 20:00. We will depart from Guang Dong Hotel at 8:15 to the Old City God's Temple, and then go to Yuyuan Garden, and will be back to the hotel at about 12:00 on Dec. 15 (p. s. Remember to take your Tour Card)

1) Oriental Pearl TV Tower

The Oriental Pearl Tower stands by the bank of Huangpu River. It is in the centre of Lujiazui, opposite to the Bund which is famous for its grand buildings of various architectural styles. The tower is 468 metres high. It is the highest TV Tower in Asia and is the third highest one in the world. The designers magically set the eleven beautiful spheres of various sizes up from the green grassland to the blue sky with two giant spheres shining like two rubies. The whole design is rich in poetic and pictorial splendor, which gives the tourists the impression that pearls of various sizes are dropping onto the emerald plate.

The Oriental Pearl Tower consists of three big columns which are 9 metres in diameter, the space module, the upper sphere, the lower sphere, five small spheres, tower base and the square. In the tower, there is a double-decked elevator which can hold fifty people at a time and two speed elevator which can run at speed of 7 metres second. These two elevators are the only ones of their kinds in China. The tower is equipped with three-dimensional lighting installation, which makes the whole tower very colourful and beautiful.

2) Huangpu River Cruises

The Huangpu River (Huangpu Jiang) is the city's shipping artery both to the East China Sea and to the mouth of the Yangzi River, which the Huangpu joins 29km (18 miles) north of downtown Shanghai. The Huangpu's wharves are the most fascinating in China. Cruising on the Huangpu River starts from the Bund to the south of the Bund will take one or two hours. As the ship heads north,

downstream, it passes Huangpu Park across from the Peace Hotel, still considered by many to be the loveliest piece of architecture in Shanghai. Others prefer the architectural perfection of the Jin Mao Tower on the opposite shore, now flanked in the back by the even taller World Financial Center. Also on the Pudong shore are the can't-miss Oriental Pearl Tower, the Shanghai International Convention Center with its twin glass globes, and a slew of hotels, offices, and malls of the Lujiazui Financial Area.

3) The Old City God's Temple

Old City God's Temple (Lao cheng huang miao) is a major yet relatively inactive, Taoist temple in Shanghai. It is located in the area south of Yan'an Road on the Fangbang Zhong Road. During the Ming Dynasty, Zhangshouyue, the head of Shanghai County, dedicated a temple to the local city god. Since then, the City God's Temple has been destroyed several times and the current temple was built in 1926. During World War II, local merchants built a new City God's Temple in the Foreign Concession (between Lianyun Road and West Jinling Road). That area is now a high-rise residence building. The "former" temple is known as the Old City God's Temple.

4) Yuyuan Garden

Yuyuan Garden is a famous classical garden located in Anren Jie, Shanghai. The garden was finished in 1577 by a government officer of the Ming Dynasty (1368-1644) named Pan Yunduan. Yu in Chinese means pleasing and satisfying, and this garden was specially built for Pan's parents as a place for them to enjoy a tranquil and happy time in their old age. In the 400 years of its existence, Yuyuan Garden had undergone many changes. The Yuyuan Garden you see today is the result of a five year restoration project which began in 1956. The garden was open to the public in September, 1961. Yuyuan Garden occupies an area of 20,000 square meters (about five acres). However, the small size is not a representative of the attractions of the garden. The pavilions, halls, rockeries, ponds and cloisters all have unique characteristics. Yuyuan and the enclose Old City God's Temple are not only famous tourist sites but also popular shopping attractions with boutiques, shops selling local specialties as well as large jewelry stores, department stores and fabulous local snack restaurants.

Part VII Introduction of IOS Library Information

庆祝模糊数学理论创立五十周年纪念

2015 年模糊系统与数据挖掘国际学术会议召开之际同时也是模糊数学（fuzzy mathematics）诞生 50 年。经过半个世纪的发展，模糊数学在科学技术领域和日常生活方面正在扮演着越来越重要的角色。

在较长时间里，经典数学（精确数学和随机数学）在描述自然界多种事物的运动规律中，获得显著效果。但是，在客观世界中还普遍存在着大量的模糊性现象；但由于现代科技所面对的系统日益复杂，模糊性总是伴随着复杂性出现。尤其是随着电子计算机、控制论、系统科学的迅速发展，要使计算机能像人脑那样对复杂事物具有识别能力，就必须研究和处理模糊性现象。

1965 年，美国工程院院士、著名控制论专家查德（L. A. Zadeh）教授发表了经典论文《模糊集合》；这标志着模糊数学这门新学科的诞生。模糊集合是客观存在的模糊性概念的必然反映；模糊性概念就是边界不清晰、外延不确定的概念。以模糊集合代替原来的经典集合，把经典数学模糊化，便产生了以模糊集合论为基础的模糊数学。这一新学科为人们提供了一种处理不肯定性和不精确性问题的新方法，是描述人脑思维处理模糊信息的有力工具，也是运用数学方法研究和处理模糊性现象的一门数学新分支。

模糊数学的出现是当代数学适应描述复杂事物的需要，查德教授的功绩在于用模糊集合论找到解决模糊性对象加以精确化、确切化和科学化，从而使研究确定性对象的数学与不确定性对象的数学沟通起来，过去精确数学、随机数学描述感到不足之处，就能得到弥补。可以说，模糊数学在经典数学与充满了模糊性的客观世界之间架起了一座桥梁。

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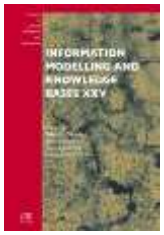

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