

June 2 (Monday)

June 2 8:00 - 9:00	<p>Plenary Session @ Convention Hall</p> <p>Visual Cluster Validity Speaker: Jim Bezdek Chair: Jacek M. Zurada</p>																		
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9:00-9:30	<p>Coffee Break & <u>Poster Session</u> @ Convention Hall Foyer</p>																		
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Room	Convention Hall A	Convention Hall B	Convention Hall C	402	403	404	405	406	407	408	409	410	603	604	605	606	607	608	609
June 2 9:30 - 11:30		<p>Panel Session</p> <p>Preparing Academics for a Business World - Part I</p>		<p><u>Reinforcement Learning I</u></p> <p>Chair: Siu-Yeung Cho Co-Chair: Hamid Reza Tizhoosh</p> <p>NN0291, NN0621, NN0990, NN0809, NN0246, NN0720</p>	<p><u>Signal Processing</u></p> <p>Chair: Paolo Crippa Co-Chair: Joao M. M. Silva</p> <p>NN0672, NN0906, NN0386, NN0840, NN0054, NN0212</p>	<p><u>Special Session: Virtual Community in Computational Intelligence</u></p> <p>Chair: Jacek M. Zurada Co-Chair: Fahmida Chowdhury</p> <p>NN0702, NN0257, NN0362, NN0324, NN0915, NN0289</p>	<p><u>Special Session: Biologically Inspired Computational Vision</u></p> <p>Chair: Khan Iftekharuddin</p> <p>NN0702, NN0257, NN0362, NN0324, NN0915, NN0289</p>	<p><u>Neurodynamic Optimization</u></p> <p>Chair: S. N. Balakrishnan Co-Chair: Zeng-Guang Hou</p> <p>NN0067, NN0474, NN0385, NN1086, NN0740, NN0215</p>	<p><u>Fuzzy Real-World Applications I</u></p> <p>Chair: Koichi Yamada Co-Chair: Levente L. Simon</p> <p>FS0383, FS0106, FS0017, FS0196, FS0258, FS0184</p>	<p><u>Fuzzy Pattern Recognition I</u></p> <p>Chair: Hidetomo Ichihashi Co-Chair: Woei Wan Tan</p> <p>FS0062, FS0074, FS0152, FS0092, FS0081, FS0191</p>	<p><u>Fuzzy Control and Systems I</u></p> <p>Chair: Xiping Guan Co-Chair: Hiroshi Ohtake</p> <p>FS0053, FS0201, FS0221, FS0246, FS0302, FS0315</p>	<p><u>Fuzzy Logic</u></p> <p>Chair: Vilem Vychodil Co-Chair: K. Robert Lai</p> <p>FS0153, FS0440, FS0076, FS0154, FS0078, FS0426</p>	<p><u>Special Session: Ant Colony Optimization in Real World Problems</u></p> <p>Chair: Haibin Duan Co-Chair: Maria Cristina Riff</p> <p>EC0852, EC0234, EC0243, EC0194, EC0450</p>	<p><u>Special Session: Computational Intelligence for Solving Complex Combinatorial Problems</u></p> <p>Chair: Pei Chann Chang Co-Chair: Yaochu Jin</p> <p>EC0373, EC0147, EC0579, EC0298, EC0313, EC0557</p>	<p><u>Artificial Life</u></p> <p>Chair: Agoston Eiben Co-Chair: Thomas Miceni</p> <p>EC0363, EC0492, EC0681, EC0717</p>	<p><u>Constraint Handling I</u></p> <p>Chair: Tapabrata Ray Co-Chair: Zhi-Hua Zhou</p> <p>EC0625, EC0214, EC0086, EC0474</p>	<p><u>Special Session: Differential Evolution</u></p> <p>Chair: Uday Chakraborty Co-Chair: Fatih Tasgetiren</p> <p>EC0189, EC0744, EC0595, EC0071, EC0629</p>	<p><u>Bioinformatics</u></p> <p>Chair: Keith Chan Co-Chair: Chengpeng Bi</p> <p>EC0244, EC0068, EC0196, EC0268, EC0620</p>	<p><u>Estimation of Distribution Algorithms I</u></p> <p>Chair: Sam Kwong Co-Chair: Shubei Kimura</p> <p>EC0084, EC0094, EC0183, EC0310</p>

June 2 11:30 - 12:30	<p><u>Invited Session @ Convention Hall B</u></p> <p>Toward Brain Computer Interfacing Speaker: Klaus-Robert Muller Chair: Derong Liu</p>						<p><u>Invited Session @ Convention Hall A</u></p> <p>Collaborative Architectures of Fuzzy Modeling Speaker: Witold Pedrycz Chair: Gary G. Feng</p>						<p><u>Invited Session @ Convention Hall C</u></p> <p>Evolution of Cooperation in Biological and Robotic Societies Speaker: Dario Floreano Chair: Zbigniew Michalewicz</p>					
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12:30-14:00	<p>Lunch Break</p>																		
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June 2 14:00 - 16:00	<p><u>Pattern Recognition I</u></p> <p>Chair: George Darmiton Da Cunha Cavalcanti Co-Chair: Kanta Tachibana</p> <p>NN1080, NN0427, NN0429, NN0947, NN0600, NN0311</p>	<p>Panel Session</p> <p>Foundations of Computational Intelligence - the Basis of Smart Adaptive Systems of the Future?</p> <p>Panel Session</p> <p>The Art of Data Mining, and the Quest for Greater Insight</p>	<p><u>Unsupervised Learning I</u></p> <p>Chair: Dacheng Tao Co-Chair: Sarajane Marques Peres</p> <p>NN0223, NN0202, NN0347, NN0470, NN0400, NN0432</p>	<p><u>Reinforcement Learning II</u></p> <p>Chair: Ah-Hwee Tan Co-Chair: Wenjia Wang</p> <p>NN0510, NN0694, NN1116, NN1002</p>	<p><u>Image Processing I</u></p> <p>Chair: Wai-Keung Fung Co-Chair: Xiaodong Gu</p> <p>NN0312, NN0726, NN1081, NN0087, NN0154, NN0367</p>	<p><u>Special Session: Computational Intelligence in Earth and Environmental Sciences</u></p> <p>Chair: Vladimir Cherkassky Co-Chair: Dimitri Solomatine</p> <p>NN0632, NN0618, NN0743, NN0185, NN0889, NN0674</p>	<p><u>Special Session: Advances in Brain Computer Interface I</u></p> <p>Chair: Yuanqing Li Co-Chair: Cuntai Guan</p> <p>NN0695, NN0635, NN0654, NN1092, NN0515, NN0687</p>	<p><u>Neurodynamic Analysis I</u></p> <p>Chair: Norikazu Takahashi Co-Chair: Tingwen Huang</p> <p>NN0189, NN0675, NN1021, NN0316, NN0524, NN0646</p>	<p><u>Fuzzy Real-World Applications II</u></p> <p>Chair: Kazuo Ohmi Co-Chair: Kuang-Yow Lian</p> <p>FS0438, FS0437, FS0392, FS0441, FS0457, FS0475</p>	<p><u>Fuzzy Pattern Recognition II</u></p> <p>Chair: James Keller Co-Chair: Richard Jensen</p> <p>FS0295, FS0305, FS0334, FS0403, FS0429, FS0408</p>	<p><u>Fuzzy Control and Systems II</u></p> <p>Chair: Laszlo T. Koczy Co-Chair: Gregorio Drayer</p> <p>FS0351, FS0359, FS0363, FS0397, FS0372, FS0369</p>	<p><u>Fuzzy Mathematics and Applications</u></p> <p>Chair: Sy-Ming Guu Co-Chair: Irina Perfilieva</p> <p>FS0516, FS0489, FS0140, FS0009, FS0055, FS0117</p>	<p><u>Ant Colony Optimization I</u></p> <p>Chair: Bernd Meyer Co-Chair: Roberto Candela</p> <p>EC0312, EC0007, EC0025, EC0309, EC0412, EC0485</p>	<p><u>Combinatorial Optimization I</u></p> <p>Chair: Abderrafia Koukam Co-Chair: Robin Gras</p> <p>EC0223, EC0078, EC0032, EC0172, EC0390, EC0554</p>	<p><u>Special Session: Evolutionary Computation in Uncertain Environments I</u></p> <p>Chair: Andries Engelbrecht Co-Chair: Kay Chen Tan</p> <p>EC0426, EC0447, EC0494, EC0502, EC0529, EC0734</p>	<p><u>Constraint Handling II</u></p> <p>Chair: Kang Tai Co-Chair: Xianbin Cao</p> <p>EC0859, EC0780, EC0688, EC0860</p>	<p><u>Differential Evolution I</u></p> <p>Chair: Kiyoharu Tagawa Co-Chair: Anyong Qing</p> <p>EC0091, EC0149, EC0008, EC0067, EC0269, EC0336</p>	<p><u>Special Session: Bioinformatics and Intelligent Computing Methods</u></p> <p>Chair: Chengpeng Bi Co-Chair: Shinn-Ying Ho</p> <p>EC0170, EC0628, EC0591, EC0776</p>	<p><u>Estimation of Distribution Algorithms II</u></p> <p>Chair: Luis Marti Co-Chair: Roberto Santana</p> <p>EC0637, EC0865, EC0596, EC0855</p>
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16:00 - 16:30	<p>Coffee Break & <u>Poster Session</u> @ Convention Hall Foyer</p>																		
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June 2 16:30 - 18:30	<u>Pattern Recognition II</u> Chair: Brijesh Verma Co-Chair: Guangshun Shi NN0686, NN0643, NN0772, NN0825, NN0360, NN0276	<u>Panel Session</u> Industrial Applications of Computational Intelligence	<u>Unsupervised Learning II</u> Chair: Hong Yan Co-Chair: Seungjin Choi NN0570, NN0592, NN0606, NN0604, NN0612, NN0532	<u>Image Processing II</u> Chair: Plamen Angelov Co-Chair: Yoshifumi Nishio NN1101, NN0213, NN0664, NN0483, NN0477, NN0147	<u>Special Session: Complex-Valued Neural Networks</u> Chair: Akira Hirose Co-Chair: Jeeck M. Zurada NN0004, NN0854, NN1107, NN0519, NN0005, NN0722	<u>Special Session: Advances in Brain Computer Interface II</u> Chair: Yuanqing Li Co-Chair: Cuntai Guan NN0712, NN0758, NN0803, NN0865, NN0986	<u>Neurodynamic Analysis II</u> Chair: Toshimichi Saito Co-Chair: Emilio Del-Moral-Hernandez NN0504, NN0930, NN1072, NN0079, NN0133	<u>Fuzzy Real-World Applications III</u> Chair: Uzay Kaymak Co-Chair: Jianwei Zhang FS0444, FS0477, FS0482, FS0511, FS0513, FS0534, FS0545	<u>Fuzzy Pattern Recognition III</u> Chair: H. B. Kazemian Co-Chair: Hichem Frigui FS0444, FS0449, FS0460, FS0514, FS0061, FS0067	<u>Fuzzy Control and Systems III</u> Chair: Cailian Chen Co-Chair: Peter Baranyi FS0130, FS0320, FS0508, FS0434, FS0443, FS0328	<u>Special Session: Fuzzy Cognitive Maps - Theory, Learning, and Applications I</u> Chair: Wojciech Stach Co-Chair: Raimundas Jasinevicius FS0318, FS0356, FS0357, FS0431, FS0453, FS0486	<u>Ant Colony Optimization II</u> Chair: Carlos Cotta Co-Chair: He Jiang EC0753, EC0873, EC0455, EC0499, EC0508, EC0719	<u>Combinatorial Optimization II</u> Chair: Andreas Albrecht Co-Chair: Mohammad-R Akbarzadeh-T. EC0574, EC0606, EC0568, EC0594, EC0604	<u>Special Session: Evolutionary Computation in Uncertain Environments II</u> Chair: Andries Engelbrecht Co-Chair: Kay Chen Tan EC0722, EC0470, EC0076, EC0651, EC0712, EC0662	<u>Special Session: Bio-inspired Constrained Optimization</u> Chair: Efrén Mezura-Montes Co-Chair: Helio Barbosa EC0738, EC0377, EC0519, EC0706, EC0727	<u>Differential Evolution II</u> Chair: Tetsuyuki Takahama Co-Chair: Lam Bui EC0537, EC0635, EC0368, EC0472, EC0689, EC0781	<u>Evolutionary Computation for Bioinformatics</u> Chair: Zhen Ji Co-Chair: Qinghua Huang EC0644, EC0212, EC0559, EC0582	<u>Quantum and Molecular Computing</u> Chair: Marek Perkowski Co-Chair: Weng-Long Chang EC0730, EC0275, EC0429, EC0581
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June 3 (Tuesday)

June 3 8:00 - 9:00	<p><u>Plenary Session @ Convention Hall</u></p> <p>The Burden of Proof - Part II Speaker: David B. Fogel Chair: Zbigniew Michalewicz</p>																		
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9:00-9:30	<p><u>Coffee Break & Poster Session @ Convention Hall Foyer</u></p>																		
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June 3 9:30 - 11:30		<u>Panel Session</u> Preparing Academics for a Business World - Part II		<u>Competition Session</u> Games - Pac Man / Othello Chair: Simon Lucas	<u>Robotic Systems I</u> Chair: Yunong Zhang Co-Chair: Peng-Yung Woo NN0144, NN0160, NN0449, NN0031, NN0541, NN0608	<u>Special Session: Ensemble Methods and Applications</u> Chair: Wenjia Wang NN0934, NN0658, NN0097, NN0661, NN0667, NN0739	<u>Special Session: Analysis of High Dimensional Data in Bioinformatics</u> Chair: Alexandru Floares Co-Chair: Leif E. Peterson NN0973, NN0852, NN0415, NN0503, NN0426, NN1039	<u>Principal Component Analysis</u> Chair: Stephen Sheel Co-Chair: Katsuhiko Honda NN0102, NN0461, NN0365	<u>Special Session: Theoretical Advances on Type-2 Fuzzy Logic</u> Chair: Robert John Co-Chair: Jerry Mendel FS0157, FS0090, FS0126, FS0339, FS0234, FS0380	<u>Fuzzy Image Processing</u> Chair: Annamaria R. Varkonyi-Koczy Co-Chair: Hamid Reza Tizhoosh FS0273, FS0309, FS0495, FS0401, FS0409, FS0310	<u>Special Session: Recent Advances in Dynamic System Identification and Control I</u> Chair: Meng Joo Er Co-Chair: Shaoyuan Li FS0116, FS0281, FS0122, FS0219, FS0235, FS0120	<u>Fuzzy Set Theory and Granular Computing</u> Chair: Jonathan M. Garibaldi Co-Chair: Michinori Nakata FS0024, FS0268, FS0269, FS0525, FS0165, FS0254	<u>Hybrid Algorithms I</u> Chair: Abderraffaa Koukam Co-Chair: Xiufen Zou EC0297, EC0210, EC0088, EC0153, EC0185, EC0661	<u>Combinatorial Optimization III</u> Chair: Frank Neumann Co-Chair: Jixian Wang EC0814, EC0692, EC0725, EC0750, EC0840	<u>Dynamic and Uncertain Environments I</u> Chair: Hans-Georg Beyer Co-Chair: Jinhua Zheng EC0133, EC0156, EC0236, EC0240, EC0256, EC0290	<u>Applications I</u> Chair: Daniel Ashlock Co-Chair: Rolf Dornberger EC0339, EC0245, EC0198, EC0249, EC0271	<u>Special Session: Intelligent Forecasting Systems and Application I</u> Chair: James N. K. Liu Co-Chair: Weimin Ma EC0403, EC0462, EC0481, EC0483	<u>Data Mining I</u> Chair: Chi Hung Patrick Ma Co-Chair: Shyh Wei Teng EC0090, EC0092, EC0132, EC0139, EC0072	<u>Theory I</u> Chair: Jinglu Hu Co-Chair: Colin G. Johnson EC0044, EC0152, EC0562, EC0227, EC0096, EC0116

June 3	Invited Session @ Convention Hall B				Invited Session @ Convention Hall A							Invited Session @ Convention Hall C				
11:30 - 12:30	Bayesian Ying Yang System, Best Harmony Learning, and Gaussian Manifold Based Models Speaker: Lei Xu Chair: Robert Kozma				Type-2 Fuzzy Logic Controllers: A way Forward for Fuzzy Systems in Real World Environments Speaker: Hani Hagrass Chair: Jerry M. Mendel							Simulated Evolution Under Multiple Criteria Conditions Revisited Speaker: Hans-Paul Schwefel Chair: Robert G. Reynolds				

12:30 - 14:00	Lunch Break																			
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June 3 14:00 - 16:00	Pattern Recognition III Chair: Anthony Kuh Co-Chair: Lori Delooze	Panel Session Computational Intelligence and Games	Unsupervised Learning III Chair: Wenwu Wang Co-Chair: Babak Nadjar Araabi	Competition Session Robotics Chairs: Daniele Loiacono, Julian Togetilus, Pier Luca Lanzi, Simon Lucas, Nicolas Brodu and Julien Pettre	Robotic Systems II Chair: Masumi Ishikawa Co-Chair: Haibin Duan	Special Session: Hybrid Systems, Ensembles, and Meta-Learning Algorithms	Special Session: Computational Analysis of Gene and Protein Expression Data	Independent Component Analysis Chair: Simone Fiori Co-Chair: Ryotaro Kamimura	Special Session: Type-2 Fuzzy Logic Systems Application Chair: Hani Hagrass Co-Chair: Simon Coupland	Fuzzy Data Mining Chair: Tzung-Pei Hong Co-Chair: Janusz Kacprzyk	Fuzzy System Modeling Chair: Uzay Kaymak Co-Chair: Radim Jirousek	Fuzzy Hybrids Chair: Qiang Shen Co-Chair: Leszek Rutkowski	Hybrid Algorithms II Chair: He Jiang Co-Chair: Michael Kirley	Special Session: Evolutionary Computer Vision I Chair: Vic Ciesielski Co-Chair: Mengjie Zhang	Dynamic and Uncertain Environments II Chair: Q. H. Wu Co-Chair: Luigi Barone	Applications II Chair: Tomoyuki Hiroyasu Co-Chair: Dipti Srinivasan	Special Session: Intelligent Forecasting Systems and Application II Chair: James N. K. Liu Co-Chair: Weimin Ma	Data Mining II Chair: Andre De Carvalho Co-Chair: Jun Zhang	Theory II Chair: Aluizio F. R. Araujo Co-Chair: Frank Neumann
	Panel Session Computational Intelligence in Bioinformatics and Bioengineering																		

16:00 - 16:30	Coffee Break & Poster Session @ Convention Hall Foyer																			
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June 3 16:30 - 18:30	Pattern Recognition IV Chair: Cesare Alippi Co-Chair: Fakhri Karray	Panel Session Publication Opportunities in Computational Intelligence	Unsupervised Learning IV Chair: Gerson Zaverucha Co-Chair: Amir Atiya	Competition Session Reception and Award Ceremony	Robotic Systems III Chair: Zeng-Guang Hou Co-Chair: Eduard Petlenkov	Special Session: Computational Intelligence for E-Learning	Special Session: Prediction of Protein Structures and Features	Connectionist Theory Chair: Tsvi Achler Co-Chair: Richard Neville	Special Session: The Web of Uncertainty - Computational Intelligence and the Internet Chair: Trevor Martin Co-Chair: Anca Ralescu	Fuzzy Data Mining and Forecasting Chair: Janusz Kacprzyk Co-Chair: Celine Fiot	Fuzzy Optimization Chair: Jie Lu Co-Chair: Markos G. Tsipouras	Special Session: Inter-Relation between Interval and Fuzzy Techniques Chair: Vladik Kreinovich Co-Chair: Karen Villaverde	Hybrid Algorithms III Chair: David Corne Co-Chair: Daniel Ashlock	Special Session: Evolutionary Computer Vision II Chair: Vic Ciesielski Co-Chair: Mario Koepfen	Dynamic and Uncertain Environments III Chair: Maumita Bhattacharya Co-Chair: Aluizio F. R. Araujo	Applications III Chair: Tughrul Arslan Co-Chair: Mario A. Gongora	Special Session: Evolutionary Computation in Bioinformatics and Computational Biology Chair: Alioune Ngom Co-Chair: Clare Bates Congdon	Data Mining III Chair: Zhenya Zhang Co-Chair: James Smith	Theory III Chair: Peter Whigham Co-Chair: Benjamin Doerr

June 4 (Wednesday)

June 4 8:00 - 9:00	Plenary Session @ Convention Hall Data Management by Self-Organizing Maps Speaker: Teuvo Kohonen Chair: Derong Liu																			
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9:00 - 9:30	Coffee Break & Poster Session @ Convention Hall Foyer																			
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Room	Convention Hall A	Convention Hall B	Convention Hall C	402	403	404	405	406	407	408	409	410	603	604	605	606	607	608	609
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June 2				<u>Competition Session</u> Data Mining 1 - Ford Challenge Chair: Mahmoud Abou-Nasr	<u>Control Systems I</u> Chair: Kathleen Kramer Co-Chair: Wen Yu NN0567, NN0080, NN0671, NN0455, NN0070, NN0270	<u>Special Session: Autonomous Learning Systems for Optimization and Control</u> Chair: Haibo He Co-Chair: Xin Xu NN0645, NN0736, NN0744, NN0800, NN1022, NN0895	<u>Special Session: Computational Intelligence towards Medical Informatics and Assisted Diagnosis</u> Chair: Pau-Choo Chung Co-Chair: Gary G. Yen NN0749, NN0609, NN0855, NN0313, NN1003, NN1055	<u>Computational Neuroscience I</u> Chair: Matthew Casey Co-Chair: Douglas S. Greer NN0352, NN0116, NN0357, NN0776, NN0157, NN0343	<u>Special Session: Fuzzy Robotics</u> Chair: Honghai Liu Co-Chair: Rainer Palm FS0150, FS0285, FS0345, FS0366, FS0464, FS0282	<u>Fuzzy Information Processing</u> Chair: Patrick Bosc Co-Chair: Simone Ludwig FS0479, FS0037, FS0060, FS0128, FS0364, FS0512	<u>Special Session: Recent Results in Control and Observation Using Takagi-Sugeno Fuzzy Models I</u> Chair: Kevin Guelton Co-Chair: Jun Yoneyama FS0158, FS0231, FS0278, FS0294, FS0045, FS0290	<u>Fuzzy Computing with Words</u> Chair: Yongming Li Co-Chair: Rudolf Seising FS0127, FS0079, FS0040, FS0509, FS0529, FS0530	<u>Hybrid Algorithms IV</u> Chair: Yi Shang Co-Chair: Xiao-Bing Hu EC0615, EC0778, EC0342, EC0755, EC0759	<u>Applications and Evolved Art</u> Chair: Vic Ciesielski Co-Chair: Maria Cristina Riff EC0617, EC0854, EC0087, EC0748, EC0791, EC0812	<u>Numerical Optimization</u> Chair: Jong-Hwan Kim Co-Chair: P. N. Suganthan EC0547, EC0548, EC0544, EC0206, EC0514, EC0868	<u>Self-adaptation and Operators</u> Chair: Shiu Yin Yuen Co-Chair: Daan Wierstra EC0458, EC0518, EC0731, EC0305	<u>Representation and Operators</u> Chair: V.C. Georgopoulos Co-Chair: Mengjie Zhang EC0608, EC0425, EC0592, EC0695, EC0641, EC0787	<u>Special Session: Evolutionary Computation for Data Mining with Applications to Finance and Economics</u> Chair: Zhongxing Ye Co-Chair: Yi Xie EC0109, EC0532, EC0540, EC0370, EC0561	<u>Special Session: Evolutionary Techniques in Nanotechnology and Quantum Computing</u> Chair: William N. N. Hung Co-Chair: Marek Perkowski EC0685, EC0054, EC0435, EC0515, EC0572	
June 4		<u>Panel Session</u> Computational Finance and Economics: Research, Applications, and the Future																		
June 4	9:30 - 11:30																			
June 4	11:30 - 12:30	<u>Invited Session @ Convention Hall B</u> Shiro Usui Chair: Jagath C. Rajapakse Basic Scheme of Neuroinformatics Platform: XooNlps				<u>Invited Session @ Convention Hall A</u> Ronald R. Yager Chair: Xiao-Jun Zeng Human Behavioral and Social Network Modeling Using Soft Computing				<u>Invited Session @ Convention Hall C</u> David Wolfe Corne Chair: Yuhui Shi Single Objective = Past, Multiobjective = Present, ??? = Future										
June 4	12:30 - 14:00	Lunch Break																		
June 4	14:00 - 16:00	<u>Pattern Recognition V</u> Chair: Michel Pasquier Co-Chair: Amir Atiya NN0328, NN0945, NN0363, NN0759, NN0648, NN0964	<u>Special Invited Session</u> Speaker: Lotfi A. Zadeh Chair: Jerry M. Mendel <u>Panel Session</u> Type-2 Fuzzy Systems: Past, Present, Challenges and Future Directions	<u>Supervised Learning I</u> Chair: Vahl Gordon Co-Chair: Chi Chung Cheung NN0258, NN0463, NN0435, NN0370, NN0405, NN0217	<u>Competition Session</u> Data Mining 2 - Causality Competition Chair: Isabelle Guyon	<u>Control Systems II</u> Chair: Edgar Sanchez Co-Chair: Ying Tan NN0656, NN0676, NN0593, NN0350, NN0927, NN0355	<u>Special Session: Computational Intelligence for Anomaly Detection, and Prognosis</u> Chair: Feng Xue Co-Chair: Xiao Hu NN0779, NN0939, NN0971, NN0512, NN0897, NN0178	<u>Special Session: Biologically Plausible Neural Network Models: Spiking, Genetic, and Their Integration</u> Chair: Nikola Kasabov NN0342, NN0756, NN0562, NN0757, NN0967, NN0629	<u>Computational Neuroscience II</u> Chair: Hualou Liang Co-Chair: Bertram E. Shi NN0361, NN0734, NN0333, NN0774, NN0830, NN0414	<u>Fault Diagnosis</u> Chair: Ratna Babu Chinnam Co-Chair: Xue Wang NN0387, NN0122, NN0703, NN0907, NN0227, NN1009	<u>Energy & Environment</u> Chair: Vladimir Krasnopolsky Co-Chair: Teresa Ludermir NN0529, NN0239, NN0963, NN0498, NN0911, NN0546		<u>Multi-Objective Optimization I</u> Chair: Lishan Kang Co-Chair: Luigi Barone EC0128, EC0129, EC0051, EC0060, EC0099, EC0163	<u>Evolutionary Design I</u> Chair: Ozer Ciftcioglu Co-Chair: Kang Tai EC0254, EC0456, EC0224, EC0421, EC0466	<u>Swarm Intelligence I</u> Chair: Arvind Choubey Co-Chair: Yan Meng EC0124, EC0114, EC0115, EC0031, EC0035, EC0093	<u>Robotics</u> Chair: Patricia Vargas Co-Chair: Yoshiyuki Matsumura EC0856, EC0389, EC0102, EC0432, EC0477, EC0512	<u>Special Session: Grammars in Evolutionary Computation, Enterprise Decision Support Systems</u> Chair: Michael O'Neill Co-Chair: Mu-Yen Chen EC0570, EC0107, EC0190, EC0798, EC0802, EC0804	<u>Special Session: Computational Intelligence for Software Engineering</u> Chair: Ramon Sagarna Co-Chair: Per Kristian Lehre EC0818, EC0334, EC0668, EC0761, EC0833		
June 4	16:00 - 16:30	Coffee Break & Poster Session @ Convention Hall Foyer																		
June 4	16:30 - 18:30	<u>Pattern Recognition VI</u> Chair: Bao-Liang Lu Co-Chair: Shuichi Kurogi NN0677, NN0297, NN0547, NN1054, NN0506, NN0916	<u>Panel Session</u> Challenges and Opportunities of Computational Intelligence Research - Pioneers Speaking	<u>Supervised Learning II</u> Chair: Abdesselam Bouzerdoum Co-Chair: Silvia Ferrari NN0683, NN0728, NN0619, NN0823, NN0900, NN0633	<u>Competition Session</u> Data Mining 3 - NNS Time Series Competition Chair: Sven Crone	<u>Control Systems III</u> Chair: Edgar Sanchez Co-Chair: I.N. Kar NN1105, NN0816, NN0765, NN0372, NN0255	<u>Special Session: Computational Intelligence in Games</u> Chair: Jacek Mandziuk Co-Chair: Philip Hingston NN0158, NN1016, NN0644, NN0682, NN1061	<u>Special Session: Hardware Platform for Spiking Neural Networks</u> Chair: David Lester Co-Chair: Yajie Chen NN0520, NN0484, NN0773,	<u>Computational Neuroscience III</u> Chair: Hujun Yin Co-Chair: Angel Pascual Del Pobil NN0849, NN0892, NN0984, NN1028, NN1085, NN0987	<u>Special Session: Theory and Applications of Intuitionistic Fuzzy Sets I</u> Chair: Eulalia Szmidi Co-Chair: Vicenc Torra FS0086, FS0220, FS0251,	<u>Fuzzy Data Analysis</u> Chair: Mika Sato-Ilic Co-Chair: Christian Borgelt FS0187, FS0417, FS0214, FS0223, FS0410, FS0193	<u>Special Session: Learning in Fuzzy Control</u> Chair: Shun-Feng Su Co-Chair: Philip Chen FS0083, FS0100, FS0109, FS0197, FS0271, FS0314	<u>Fuzzy Hybrids and Data Analysis</u> Chair: Satish Kumar Co-Chair: Nick Pizzi FS0413, FS0419, FS0424, FS0043, FS0164, FS0181	<u>Multi-Objective Optimization II</u> Chair: Q. H. Wu Co-Chair: Carlos Coello Coello EC0291, EC0410, EC0168, EC0263, EC0292, EC0407	<u>Evolutionary Design II</u> Chair: Kalyanmoy Deb Co-Chair: Maziar Falhang EC0479, EC0534, EC0686, EC0549	<u>Swarm Intelligence II</u> Chair: Yuhui Shi Co-Chair: Min Huang EC0270, EC0176, EC0265, EC0288, EC0841	<u>Evolvable Hardware</u> Chair: Andy Tyrrell Co-Chair: Garrison Greenwood EC0590, EC0195, EC0475, EC0602, EC0611, EC0729	<u>Evolvable Software</u> Chair: Mengjie Zhang Co-Chair: Xiufen Zou EC0631, EC0842, EC0063, EC0569	<u>Intelligent Agents</u> Chair: Hugo De Garis Co-Chair: Ronaldo Menezes EC0065, EC0612, EC0136, EC0276, EC0672, EC0826	<u>Special Session: Intelligent Agents</u> Chair: Hani Hagrass Co-Chair: Dipti Srinivasan FS0049, FS0232, FS0250, FS0306, FS0425, FS0519

							NN0796, NN0715, NN0790		FS0296, FS0331, FS0386									
June 5 (Thursday)																		
June 5 8:00 - 9:00	Plenary Session @ Convention Hall Bio-inspired Self-Organizing Relationship Network as Knowledge Acquisition Tool and Fuzzy Inference Engine Speaker: Takeshi Yamakawa Chair: Gary Feng																	
9:00- 9:30	Coffee Break & Poster Session @ Convention Hall Foyer																	
Room	Convention Hall A	Convention Hall B	Convention Hall C	402	403	404	405	406	407	408	409	410	603	604	605	606	607	608
June 5 9:30 - 11:30		Panel Session Funding Opportunities in Computational Intelligence		Kernel Methods I Chair: Jose Principe Co-Chair: Pei-Yi Hao NN0173, NN0430, NN0145, NN0364, NN0262, NN0913	Time Series Analysis Chair: Mohammad Bagher Menhaj Co-Chair: Min Han NN0271, NN0464, NN0762, NN0041, NN0976, NN0263	Special Session: Hybrid Neural Systems I Chair: Patricia Melin Co-Chair: Oscar Castillo NN0266, NN0530, NN0767, NN0493, NN0977, NN0500	Special Session: Neural Modeling Fields, a Cognitive and Engineering Paradigm Chair: Jose Fontanari Co-Chair: Leonid Perlovsky NN0561, NN0951, NN0791, NN0948, NN0950	Mathematical Modeling of Neural Systems Chair: Haibo He Co-Chair: A. Ravishanker Rao NN0818, NN0564, NN0820, NN0444, NN0456, NN0169		Special Session: Soft Computing in Image Processing: Recent Advances Chair: Mike Nachtgael Co-Chair: Imre J. Rudas FS0343, FS0391, FS0455, FS0491, FS0494, FS0528	Special Session: Recent Results in Control and Observation Using Takagi-Sugeno Fuzzy Models: II Chair: Thierry Marie Guerra Co-Chair: Kazuo Tanaka FS0046, FS0065, FS0089, FS0147, FS0129, FS0101	Special Session: Grey Systems-Theory and Applications I Chair: Sifeng Liu Co-Chair: Ker-Tah Hsu FS0064, FS0098, FS0123, FS0135, FS0160, FS0163	Multi-Objective Optimization III Chair: Andrzej Osyczka Co-Chair: Tomoyuki Hiroyasu EC0047, EC0460, EC0535, EC0630	Special Session: Evolutionary Computation for Expensive Optimization Problems Chair: Yoel Tenne Co-Chair: Yew-Soon Ong EC0385, EC0701, EC0378, EC0623, EC0742, EC0843	Swarm Intelligence III Chair: Zhen Ji Co-Chair: Shang-Ming Zhou EC0452, EC0379, EC0384, EC0399, EC0457	Special Session: Computational Intelligence in Games Chair: Jacek Mardziuk Co-Chair: Tomoharu Nakashima EC0824, EC0521, EC0741, EC0743	Special Session: Memetic Algorithms Chair: Ferrante Neri Co-Chair: Hisao Ishibuchi EC0500, EC0505, EC0648, EC0793, EC0769, EC0825	Special Session: Computational Intelligence on Consumer Games and Graphics Hardware I Chair: W. B. Langdon Co-Chair: Simon Harding EC0126, EC0110, EC0215, EC0253
	Invited Session @ Convention Hall B Cocktail Party Processing Speaker: DeLiang Wang Chair: Wlodzislaw Duch						Invited Session @ Convention Hall A Toward Exploring Language Functions in the Brain: Top-Down, Intermediate, and Bottom-Up Approaches Speaker: Michio Sugeno Chair: Qiang Shen						Invited Session @ Convention Hall C Attaining Fault Tolerance through Self-Adaption: The Strengths and Weaknesses of Evolvable Hardware Approaches Speaker: Garrison W. Greenwood Chair: Russell Eberhart					
12:30- 14:00	Lunch Break																	
June 5 14:00- 16:00	Pattern Recognition VII Chair: Liying Ma Co-Chair: Luiz Oliveira NN0436, NN0869, NN0969, NN1082, NN0517, NN0196	Data Mining I Chair: Hau-San Wong Co-Chair: Jose Aguilar NN0253, NN0923, NN0861, NN0222, NN0307, NN0107	Supervised Learning III Chair: Vladimir Cherkassky Co-Chair: Yong Liu NN0581, NN0659, NN0839, NN0544, NN0576	Kernel Methods II Chair: Jose Refugio Vallejo Co-Chair: Sorin Draghici NN0902, NN0956, NN0104, NN0968, NN0716, NN0921	Transportation Systems Chair: Yi Murphey Co-Chair: Yingjie Yang NN0998, NN0288, NN1015, NN0925, NN0221, NN0591	Special Session: Hybrid Neural Intelligent Systems II Chair: Patricia Melin Co-Chair: Oscar Castillo NN0940, NN1024, NN1074, NN0198, NN0066, NN0639	Special Session: Cognitive Architectures: Towards Human-Level Intelligence I Chair: Wlodzislaw Duch Co-Chair: Ben Goertzel NN0817, NN0339, NN0587, NN0613, NN0769, NN0890	Neural Information Processing I Chair: Stanislaw Osowski Co-Chair: Robert Kozma NN0946, NN0580, NN0610, NN0091, NN0725, NN0616	Special Session: Fuzzy Cognitive Maps - Theory, Learning, and Applications II Chair: Ah-Hwee Tan Co-Chair: Dimitrios Georgiou FS0504, FS0527, FS0544, FS0501, FS0028, FS0487	Special Session: Fuzzy Systems in Bioinformatics Chair: Mihail Popescu Co-Chair: Hong Yan FS0033, FS0095, FS0176, FS0476, FS0463, FS0277	Special Session: Recent Advances in Dynamic System Identification and Control II Chair: Xiao-Jun Zeng Co-Chair: Plamen Angelov FS0284, FS0367, FS0393, FS0507, FS0215, FS0228	Special Session: Grey Systems - Theory and Applications II Chair: Yingjie Yang Co-Chair: Ming-Feng Yeh FS0206, FS0266, FS0276, FS0297, FS0299	Multi-Objective Optimization IV Chair: Gunter Rudolph Co-Chair: Jong-Hwan Kim EC0650, EC0675, EC0646, EC0655, EC0679, EC0694	Special Session: Knowledge Swarms: Socially Motivated Problem Solving Using Cultural Algorithms Chair: Robert Reynolds Co-Chair: Timo Mantere EC0893, EC0894, EC0862, EC0362	Swarm Intelligence IV Chair: Fakhri Karray Co-Chair: Nian Zhang EC0732, EC0745, EC0295, EC0577, EC0771	Games Chair: Peter Andras Karray Co-Chair: Wendy Ashlock EC0158, EC0411, EC0048, EC0758, EC0877	Memetic Algorithms Chair: Meng Hiot Lim Co-Chair: Javier Virela EC0857, EC0511, EC0279, EC0659, EC0822	Special Session: Computational Intelligence on Consumer Games and Graphics Hardware II Chair: W. B. Langdon Co-Chair: Simon Harding EC0465, EC0811, EC0881, EC0885

June 5 16:30 - 18:30	<u>Speech Recognition</u>	<u>Data Mining II</u>	<u>Supervised Learning IV</u>	<u>Kernel Methods III</u>	<u>Telecommunication Systems</u>	<u>Hybrid Intelligent Systems</u>	<u>Special Session: Cognitive Architectures: Towards Human-Level Intelligence II</u>	<u>Neural Information Processing II</u>	<u>Special Session: Soft Decision Making - Theory and Applications</u>	<u>Special Session: Fuzzy Systems: Control and Hardware</u>	<u>Special Session: Grey Systems - Theory and Applications III</u>	<u>Multi-Objective Optimization V</u>	<u>Emerging Areas I</u>	<u>Swarm Intelligence V</u>	<u>Classifier Systems and Learning</u>	<u>Special Session: Large Scale Global Optimization I</u>	<u>Special Session: Biologically-Inspired Optimization Methods for High Performance and Grid Computing</u>
	Chair: Dominic K. C. Ho Co-Chair: Seungjin Choi NN0802, NN0768, NN0525, NN0764, NN1065, NN0526	Chair: Shaoning Pang Co-Chair: Michel Pasquier NN0489, NN0811, NN0719, NN0417, NN0234	Chair: Hiroshi Dozono Co-Chair: Ben Van Calster NN0466, NN0886, NN0050, NN0226, NN0788, NN0431	Chair: Shigeo Abe Co-Chair: Jinglu Hu NN0231, NN0780, NN0225, NN0699, NN0336, NN0711	Chair: Ying Tan Co-Chair: Cuiran Li NN0924, NN1079, NN0979, NN0186, NN0191, NN0412	Chair: Alex Tay Co-Chair: Patricia Melin NN0445, NN0166, NN0356, NN0151, NN0903, NN1047	Chair: Wlodzislaw Duch Co-Chair: Byoung-Tak Zhang NN0891, NN1056, NN0523, NN0859, NN0942, NN0318	Chair: Minho Lee Co-Chair: Nadia Mammone NN0338, NN0766, NN0081, NN0843, NN0999	Chair: Francisco Chiclana Co-Chair: Tsung-Han Chang FS0019, FS0291, FS0301, FS0329, FS0385, FS0402	Chair: Yoichiro Maeda Co-Chair: Daisuke Katagami FS0350, FS0358, FS0445, FS0467, FS0471, FS0474	Chair: Oscar Castillo Co-Chair: Han-Xiong Li FS0139, FS0225, FS0502, FS0073, FS0247, FS0068	Chair: Sifeng Liu Co-Chair: Yingjie Yang FS0337, FS0360, FS0415, FS0430, FS0493, FS0134	Chair: Kalyanmoy Deb Co-Chair: Licheng Jiao EC0560, EC0705, EC0765, EC0720, EC0721, EC0871	Chair: Tim Hendtlass Co-Chair: Alberto Prieto EC0192, EC0357, EC0430, EC0442	Chair: Toshimichi Saito Co-Chair: Somnuk Phon-Amnuaisuk EC0823, EC0289, EC0786, EC0806, EC0815	Chair: Jose Aguilar Co-Chair: Cheng-Hsiung Chiang EC0471, EC0346, EC0404, EC0439, EC0829, EC0669	Chair: Ke Tang Co-Chair: Cara Macnish EC0552, EC0484, EC0418, EC0439, EC0605

June 6 (Friday)

June 6 8:00 - 9:00	<p><u>Plenary Session @ Convention Hall</u></p> <p>A New Framework for Machine Learning</p> <p>Speaker: Christopher M. Bishop Chair: Gary G. Yen</p>																	
9:00-9:30	<p><u>Coffee Break & Poster Session @ Convention Hall Foyer</u></p>																	

Room	Convention Hall A	Convention Hall B	Convention Hall C	402	403	404	405	406	407	408	409	410	603	604	605	606	607	608
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June 6 9:30 - 11:30				<u>Kernel Methods IV</u>	<u>Industrial Applications</u>	<u>Real-world Applications I</u>	<u>Self-Organizing Networks I</u>	<u>Bioinformatics</u>	<u>Fuzzy Decision Making</u>	<u>Special Session: Theory and Applications of Intuitionistic Fuzzy Sets II</u>	<u>Rough Data Analysis</u>	<u>Special Session: Aggregation Operators in Practice I</u>	<u>Artificial Immune Systems I</u>	<u>Emerging Areas II</u>	<u>Special Session: Adaptive Immune Learning and Its Applications on Networks</u>	<u>Evolving Neural Networks and Fuzzy Systems</u>	<u>Special Session: Large Scale Global Optimization II</u>	<u>Special Session: Evolving Gene Regulatory Networks I</u>
				Chair: Vladimir Cherkassky Co-Chair: Bao-Liang Lu NN0917, NN0105, NN0565, NN0269, NN0254, NN0953	Chair: Jose Alfredo F. Costa Co-Chair: Johannes Schemmel NN0176, NN0346, NN0679, NN0994, NN1045	Chair: Yingjie Yang Co-Chair: Mohammad Bagher Menhaj NN0741, NN0395, NN0747, NN0841, NN0842, NN0826	Chair: Janusz A. Starzyk Co-Chair: Ah-Hwee Tan NN0786, NN0636, NN0928, NN1013, NN1115, NN1020	Chair: Edmondo Trentin Co-Chair: Khan Wahid NN0778, NN0888, NN0556, NN0867, NN0872	Chair: Hongmei He Co-Chair: Caro Lucas FS0226, FS0370, FS0162, FS0050, FS0161	Chair: Chris Hinde Co-Chair: Lakshmana Gomathi Nayagam Velu FS0414, FS0452, FS0480, FS0492, FS0472, FS0473	Chair: Elisabeth Rakus-Andersson Co-Chair: Robert John FS0396, FS0243, FS0261, FS0270, FS0373, FS0023	Chair: Gleb Beliakov Co-Chair: Jozo Djumovic FS0260, FS0257, FS0217, FS0311, FS0346, FS0347	Chair: Uday Chakraborty Co-Chair: Marek Ostaszewski EC0528, EC0498, EC0166, EC0325, EC0444	Chair: Lishan Kang Co-Chair: Erfu Yang EC0867, EC0619, EC0809, EC0816	Chair: Geok See Ng Co-Chair: Eduardo Carrano EC0585, EC0713, EC0372, EC0416, EC0488, EC0715	Chair: Ke Tang Co-Chair: P. N. Suganthan EC0817, EC0678, EC0682, EC0788, EC0827	Chair: Yaochu Jin Co-Chair: Andy Tyrrell EC0111, EC0588, EC0209, EC0428, EC0431	

June 6 11:30 - 12:30	<p><u>Invited Session @ Convention Hall B</u></p> <p>Optimization and Machine Learning</p> <p>Speaker: Kristin P. Bennett Chair: Isabelle Guyon</p>						<p><u>Invited Session @ Convention Hall A</u></p> <p>Similarities in Fuzzy Data Mining: From a Cognitive View to Real-World Applications</p> <p>Speaker: Bernadette Bouchon-Meunier Chair: Leszek Rutkowski</p>						<p><u>Invited Session @ Convention Hall C</u></p> <p>Handling Uncertainties in Evolutionary Multi-Objective Optimization</p> <p>Speaker: Kay Chen Tan Chair: Philip Hingston</p>					
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June 6 12:30 - 14:00	<p><u>Lunch Break</u></p>																	
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June 6 14:00 - 16:00	<u>Clustering Techniques</u>	<u>Probabilistic Methods</u>	<u>Supervised Learning V</u>	<u>Information Security</u>	<u>Real-world Applications II</u>	<u>Self- Organizing Networks II</u>	<u>Biomedical Applications</u>	<u>Special Session: Fuzzy Logic in Ontologies and the Semantic Web</u>	<u>Special Session: Advances in Granular Computing</u>	<u>Special Session: Computational Intelligence in Games</u>	<u>Special Session: Aggregation Operators in Practice II</u>	<u>Artificial Immune Systems II</u>	<u>Economics, Finance, and Marketing</u>	<u>Artificial Ecology, Collective & Coevolutionary Behaviour, and Collective Systems</u>	<u>Special Session: Advanced Intelligent Interaction</u>	<u>Special Session: Evolutionary Algorithms Based on Probabilistic Models</u>	<u>Special Session: Evolving Gene Regulatory Networks II</u>
	Chair: Jose Alfredo F. Costa Co-Chair: Vassilios Petridis NN0516, NN0220, NN0248, NN0893, NN0995, NN0585	Chair: Sheng Chen Co-Chair: James Lo NN0201, NN0630, NN0508, NN0003, NN1068, NN0836	Chair: Guang- Bin Huang Co-Chair: Vincent Lemaire NN0901, NN0247, NN0905, NN0161, NN0543, NN0089	Chair: Amir Atiya Co-Chair: El-Sayed El-Alfy NN0085, NN0123, NN0960	Chair: Henry Leung Co-Chair: Han-Xiong Li NN0179, NN0203, NN0425, NN0628, NN0571, NN0761	Chair: James Kirk Co-Chair: Campbell Wilson NN0273, NN0814, NN0295, NN0300, NN0883, NN0335	Chair: Ming- Hwi Horng Co-Chair: Noriyasu Homma NN0919, NN0876, NN0693, NN0065, NN1095, NN0846	Chair: Z. M. Ma Co-Chair: David Parry FS0159, FS0308, FS0323, FS0326, FS0341, FS0361	Chair: Tsau- Young Lin Co-Chair: Tzung-Pei Hong FS0549, FS0550, FS0552, FS0553, FS0554, FS0555	Chair: Seiya Fujii Co-Chair: Satish Kumar FS0496, FS0522, FS0422, FS0439, FS0330, FS0418	Chair: Paul Gader Co-Chair: Vicenc Torra FS0175, FS0371, FS0406, FS0459, FS0461, FS0481	Chair: Gary Yen Co-Chair: Licheng Jiao EC0506, EC0145, EC0735, EC0740	Chair: Kwang Mong Sim Co-Chair: Arvind Choubey EC0348, EC0330, EC0326, EC0516, EC0736	Chair: Daniel Ashlock Co-Chair: Ho- Fung Leung EC0169, EC0318, EC0401, EC0424, EC0716, EC0634	Chair: Takashi Onoda Co-Chair: Seiji Yamada EC0320, EC0869, EC0524, EC0539, EC0467, EC0639	Chair: Qingfu Zhang Co-Chair: Jose Antonio Lozano EC0376, EC0327, EC0083, EC0406, EC0666	Chair: Yaochi Jin Co-Chair: Miguel Nicolau EC0830, EC0795, EC0733, EC0228