

COMPLEX ADAPTIVE SYSTEMS CONFERENCE 2017

SCHEDULE OF SPEAKERS

Monday, October 30, 2017	Tuesday, October 31, 2017	Wednesday, November 1, 2017
Monday, October 30, 2017		
Technical Session (General)		
9:00am – 10:30am Ontario B	Session 1 - Intelligent Knowledge Based Data Analysis Session Chair: Mika Sato-Ilic University of Tsukuba, Japan	
	216 - Knowledge-based Comparable Predicted Values in Regression Analysis Mika Sato-Ilic (University of Tsukuba, Japan)	
	224 - M&MFCM: Fuzzy C-Means Clustering with Mahalanobis and Minkowski Distance Metrics Natacha Gueorguieva (City University of New York, USA); Iren Valova (University of Massachusetts Dartmouth, USA); George Georgiev (University of Wisconsin Oshkosh, USA)	
	234 - Partial Least Squares Method for Three-Mode Three-Way Datasets Based on Tucker Model Jun Tsuchida Hiroshi Yadohisa (Doshisha University, Japan)	
	242 - Time Series Classification Using Deep Learning for Process Planning: A Case from the Process Industry Nijat Mehdiyev Johannes Lahann Andreas Emrich Peter Fettke Peter Loos (German Research Center for Artificial Intelligence (DFKI) & Saarland University, Germany); David Enke (Missouri University of Science and Technology, USA)	
Technical Session (Concurrent)		
11:00 am - 12:30 pm Ontario B	Session 2 - Architecting Cyber Physical Systems Session Chair: Kathleen Giles Naval Postgraduate School, USA	
	4 - Increasing System Failure Analysis Effectiveness Through Architecture Modeling S. Alex Rambikur Kristin Giammarco Bryan O'Halloran (Naval Post Graduate School, USA)	
	14 - Establishing Rules for Self-Organizing Systems-of-Systems David M. Curry Cihan H. Dagli (Missouri University of Science and Technology, USA)	
	57 - Mission-based Architecture for Swarm Composability (MASC) Kathleen Giles Kristin Giammarco (Naval Postgraduate School, USA)	

	<p>19 - Enabling Flexibility Through Forming and Evolving Systems of Systems <u>Walter L. Barnes, II</u> Cihan H. Dagli Ruwen Qin (Missouri University of Science and Technology, USA); Ya-nan Song and Rong-hua Xu (Guangdong University of Technology, P.R. China)</p>
<p>11:00 am - 12:30 pm</p> <p><u>Ontario C</u></p>	<p>Session 2 - Deep Learning Convolution Neural Network Applications</p> <p>Session Chair: Fred Highland University of Maryland, Baltimore County</p>
	<p>281 - Convolutional Neural Network Based Localized Classification of Uterine Cervical Cancer Digital Histology Images <u>Haidar A. Almubarak</u> R. Joe Stanley (Missouri University of Science and Technology, USA); Rodney Long Sameer Antani George Thoma (National Institutes of Health, USA); Rosemary Zuna (University of Oklahoma Health Sciences Center, USA); Shelliane R. Fr</p>
	<p>296 - LPR CNN Cascade and Adaptive Deskewing George Abou Kassm <u>Roger Achkar</u> (American University of Science and Technology, Lebanon)</p>
	<p>349 - An Application of Convolutional Neural Networks to Aircraft Ejection Seat Testing <u>Kyle Buller</u> (Missouri University of Science and Technology, USA)</p>
	<p>304 - Solar Irradiance Forecasting Using Deep Neural Networks <u>Ahmad Alzahrani</u> Pourya Shamsi Cihan H Dagli Mehdi Ferdowsi (Missouri University of Science and Technology, USA)</p>
Technical Session (Concurrent)	
<p>1:30 pm - 3:00 pm</p> <p><u>Ontario B</u></p>	<p>Session 3 – Cyber Security</p> <p>Session Chair: Nichole Levy National Conservatory of Arts and Crafts, France</p>
	<p>100 - A Threat to Vehicular Cyber Security and the Urgency for Correction Syed Rizvi Jonathan Willett <u>Donte Perino</u> Seth Marasco Chandler Condo (Penn State University, USA)</p>
	<p>93 - Secure Online Transaction Algorithm: Securing Online Transaction Using Two-Factor Authentication <u>Joseph Gualdoni</u> Andrew Kurtz Ilva Myzyri Megan Wheeler Syed Rizvi (Penn State University, USA)</p>
	<p>132 - An Outlier-Based Intention Detection for Discovering Terrorist Strategies <u>Salih Tutun</u> Mohammad T. Khasawneh (Binghamton University, USA); Murat Akça Ömer Bıyıklı (Gazi University, Turkey)</p>
	<p>126 - High Availability Layers and Failure Recovery Timers for Virtualized Systems and Services <u>Mehmet Toy</u> (Verizon, USA)</p>

1:30 pm - 3:00 pm <u>Ontario C</u>	Session 3 - Data Analysis for Complex and High Dimensional Data Session Chair: Ruwen Qin Missouri University of Science and Technology, USA
	250 - Learning Curve Analysis Using Intensive Longitudinal and Cluster-Correlated Data Xiao Zhong Zeyi Sun Haoyi Xiong Md. Monirul Islam (Missouri University of Science and Technology, USA); Neil Heffernan (Worcester Polytechnic Institute, USA)
	258 - Interactive Pattern Discovery in High-Dimensional, Multimodal Data Using Manifolds Jinhong K. Guo Martin O. Hofmann (Lockheed Martin Advanced Technology Laboratories, USA)
	266 - Crack Detection and Identification Using Vibration Signals and Fuzzy Clustering Issam Abu-Mahfouz Amit Banerjee (Penn State University Harrisburg, USA)
	275 - Classification of Rest and Active Periods in Actigraphy Data Using PCA Isaac W. Muns Yogesh Lad Ivan G. Guardiola Matthew Thimgan (Missouri University Science and Technology, USA)
Technical Session (Concurrent)	
3:30 pm - 5:00 pm <u>Ontario B</u>	Session 4 – Cyber Social Systems Session Chair: William P. Fisher University of California, Berkeley, USA
	139 - Complex Adaptive Behavior of Hybrid Teams Mustafa Canan Andres Sousa-Poza Anthony Dean (Old Dominion University, USA)
	149 - Data Swapping for Private Information Sharing of Web Search Logs Kato Mivule (Norfolk State University, USA)
	159 - Point-Of-Interest Recommender System for Social Groups Ram Deepak Gottapu Lakshmi Venkata Sriram Monangi (Missouri University of Science and Technology, USA)
	165 - A Practical Approach to Modeling Complex Adaptive Flows in Psychology and Social Science William P. Fisher, Jr. (University of California, Berkeley & LivingCapitalMetrics.com, USA)

3:30 pm - 5:00 pm <u>Ontario C</u>	Session 4 - Computational Intelligence Applications Session Chair: Yanan Song Missouri University of Science and Technology, USA	
	341 - The Application of One-Class Classifier Based on CNN in Image Defect Detection Mei Zhang Jinglan Wu Huifeng Lin Peng Yuan (South China University of Technology, P.R. China); <u>Yanan Song</u> (Guangdong University of Technology, P.R. China)	
	288 - ERP Neural Network Inventory Control Jad Farhat <u>Michel Owayjan</u> (American University of Science and Technology, Lebanon)	
	357 - Weighted Evaluation of Wind Power Forecasting Models Using Evolutionary Optimization Algorithms <u>Amit Banerjee</u> (Penn State University Harrisburg, USA); Jianyan Tian Shengqiang Wang Wei Gao (Taiyuan University of Technology, P.R. China)	
	65 - A Comparative Analysis of the Performance of Scalable Parallel Patterns Applied to Genetic Algorithms and Configured for NVIDIA GPUs David Radford <u>David Calvert</u> (University of Guelph, Canada)	
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Tuesday, October 31, 2017

Technical Session (General)

<p>9:00 am - 10:30 pm</p> <p><u>Ontario B</u></p>	<p>Session 5 – Biologically Inspired Neural Network Architectures</p> <p>Session Chair: Walker Land Binghamton University, USA</p>
	<p>184 - Initial Experiments Evolving Spiking Neural Networks with Supervised Learning Capability <u>J. David Schaffer</u> (Binghamton University, USA)</p>
	<p>192 - The Uncertainty Area Metric: a Method for Comparing Learning Machines on What They Don't Know <u>Walker H. Land, Jr.</u> <u>J. David Schaffer</u> (Binghamton University, USA)</p>
	<p>200 - Predicting with Confidence: Classifiers That Know What They Don't Know <u>J. David Schaffer</u> <u>Walker H. Land, Jr.</u> (Binghamton University, USA)</p>
	<p>208 - Investigating Artificial Cells' Spatial Proliferation with a Gene Regulatory Network <u>Jean Marie Demebele</u> (Université Gaston Berger de Saint-Louis, Sénégal & Sorbonne Universités, France); <u>Sylvain Cussat-Blanc</u> <u>Jean Dissot</u> <u>Yves Duthen</u> (University of Toulouse, France)</p>

Technical Session (Concurrent)

<p>11:00 am - 12:30 pm</p> <p><u>Ontario B</u></p>	<p>Session 6 - Risk in Complex Systems</p> <p>Session Chair: Davinia Rizzo Sandia National Laboratories, USA</p>
	<p>28 - Minimizing Safety Risks in Complex Systems <u>Chandru Mirchandani</u> (George Washington University, USA)</p>
	<p>37 - Architecting Very Large, Complex Bayesian Network Simulations for Practical Airworthiness Risk Assessment Applications <u>John G. Lindley</u> <u>Mark R. Blackburn</u> (Stevens Institute of Technology, USA)</p>
	<p>106 - A Statistical and Cluster Analysis Exploratory Study of Snort Rules <u>Claude Turner</u> (Norfolk State University, USA); <u>Anthony Joseph</u> (Pace University, USA)</p>
	<p>47 - Is Digital Thread/Digital Twin Affordable? A Systemic Assessment of the Cost of DoD's Latest Manhattan Project <u>Timothy D. West</u> (US Air Force, USA); <u>Mark R. Blackburn</u> (Stevens Institute of Technology, USA)</p>

11:00 am - 12:30 pm <u>Ontario C</u>	Session 6 – Business and Financial Analytics Session Chair: David Enke Missouri University of Science and Technology, USA 465 - Instance Selection Using Genetic Algorithms for an Intelligent Ensemble Trading System Youngmin Kim David Enke (Missouri University of Science and Technology, USA) 473 - A Deep Neural-Network Based Stock Trading System Based on Evolutionary Optimized Technical Analysis Parameters Omer Berat Sezer Murat Ozbayoglu (TOBB University of Economics and Technology, Turkey); Erdogan Dogdu (Cankaya University, Turkey) 481 - Daily Stock Returns Characteristics and Forecastability Anthony Joseph Maurice Larrain (Pace University, USA); Claude Turner (Norfolk State University, USA)
Technical Session (Concurrent)	
1:30 am - 3:00 pm <u>Ontario B</u>	Session 7 - Complex System Architecting Session Chair: Chandru Mirchandani Leidos/George Washington University, USA 175 - The Impact of Funding Profiles on Budget Success Alan K. Gideon (The MITRE Corporation, USA) 83 - Three-Step Approach to QoS Maintenance in Cloud Computing Using a Third Party Auditor Hannah Roddy Joseph Pfeffer Syed Rizvi Joseph Gualdoni Ilva Myzyri (Pennsylvania State University, USA) 73 - Improper Program Management Induced System Archetypes Luciano Sales (Brasilia University, Brazil); Rodrigo Augusto (University of Texas at Arlington, USA); Sanderson Barbalho (University of Brasilia, Brazil) 116 - A Framework to Study the Emergence of Non-Communicable Diseases Orlando Simpson Sergio Camorlinga (University of Winnipeg, Canada)
1:30 am - 3:00 pm <u>Ontario C</u>	Session 7 – Computational Intelligence Models for Intelligent Transportation Systems Session Chair: Omer Berat Sezer TOBB University of Economics and Technology, Turkey 515 - Automated Vehicle Classification with Image Processing and Computational Intelligence Selim S. Sarikan Oguzhan Zilci (Aselsan Inc, Turkey) A. Murat Ozbayoglu (TOBB University of Economics and Technology, Turkey)

	<p>523 - An Empirical Study to Investigate the Effect of Air Density Changes on the DSRC Performance <u>Mostafa El-Said</u> Vijay Bhuse (Grand Valley State University, USA); Alexander Arendsen (University of Central Florida, USA)</p>
	<p>507 - A Novel Feature Extraction Algorithm for IED Detection from 2-D Images Using Minimum Connected Components <u>Vijayalakshmi Ramasamy</u> (Miami University, USA); D. Nandagopal M. Tran (University of South Australia, Australia); C. Abeynayake (Defence Science and Technology Group, Australia)</p>
	<p>499 - Scheduling the Real-Time Transmission of Periodic Measurements in 802.15.4 Wireless Sensor Network Sixto Campaña (Universidad Nacional Abierta y a Distancia - UNAD, Colombia); <u>Jorge Londoño</u> (Universidad Pontificia Bolivariana, Colombia)</p>
Technical Session (Concurrent)	
<p>3:30 pm - 5:00 pm <u>Ontario B</u></p>	<p>Session 8 - Machine Learning and Optimization Applications Session Chair: Dincer Konur Missouri University of Science and Technology, USA</p>
	<p>314 - Reducing Tropical Cyclone Prediction Errors Using Machine Learning Approaches <u>Michael B. Richman</u> Lance M. Leslie (University of Oklahoma , USA); Hamish A. Ramsay (Monash University, Australia); Philip J. Klotzbach (Colorado State University, USA)</p>
	<p>333 - Atlantic Tropical Cyclone Rapid Intensification Probabilistic Forecasts from an Ensemble of Machine Learning Methods <u>Andrew Mercer</u> Alexandria Grimes (Mississippi State University, USA)</p>
	<p>491 - Loading Time Flexibility in Cross-docking Systems <u>Dincer Konur</u> (Missouri University of Science and Technology, USA); Mihalis M. Golias (University of Memphis, USA)</p>
	<p>324 - Defining Philippine Climate Zones Using Surface and High-Resolution Satellite Data <u>Irenea L. Corporal-Lodangco</u> (University of Oklahoma, USA); Lance M. Leslie (University of Technology Sydney, Australia)</p>
<p>3:30 pm - 5:00 pm <u>Ontario C</u></p>	<p>Session 8 – Micro Grid Applications Session Chair: Hiroyuki Mori Meiji University, Japan</p>
	<p>417 - Application of DEPSO to Maximizing Margin to Saddle Node Bifurcation in Power System Voltage Instability <u>Manami Okada</u> Hiroyuki Mori (Meiji University, Japan)</p>

	<p>441 - A Fuzzy-Preconditioned GRBFN Model for Electricity Price Forecasting Satoshi Itaba Hiroyuki Mori (Meiji University, Japan)</p>	
	<p>449 - Fault Diagnosis Based Approach to Protecting DC Microgrid Using Machine Learning Technique Ibrahim Almutairy Marwan Alluhaidan (Western Michigan University, USA)</p>	
	<p>457 - Modeling and Protection for Low-Voltage DC Microgrids Riding Through Short Circuiting Marwan Alluhaidan Ibrahim Almutairy (Western Michigan University, USA)</p>	
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Wednesday, November 1, 2017

Technical Session (General)

<p>9:00 am - 10:30 am</p> <p><u>Ontario B</u></p>	<p>Session 9 - Cyber Manufacturing Systems</p> <p>Session Chair: Young Moon Syracuse University, USA</p>
	<p>375 - Coordination of Constituent Systems for Functionalizing Systems of Systems: An Exploration</p> <p>Walter L. Barnes, II Madison Calvin Katherine Linville <u>Ruwen Qin</u> (Missouri University of Science and Technology, USA); Ya-nan Song Rong-hua Xu (Guangdong University of Technology, P.R. China); Bo Zhao (State Grid Zhejiang Electric Power Company)</p>
	<p>384 - A General Algorithm for Assessing Product Architecture Performance Considering Architecture Extension in Cyber Manufacturing</p> <p><u>Md. Monirul Islam</u> Zeyi Sun Cihan H. Dagli (Missouri University of Science and Technology, USA)</p>
	<p>367 - Taxonomy of Cross-Domain Attacks on CyberManufacturing System</p> <p>Mingtao Wu <u>Young B. Moon</u> (Syracuse University, USA)</p>
	<p>425 - Reward/Penalty Design in Demand Response for Mitigating Overgeneration Considering the Benefits from Both Manufacturers and Utility Company</p> <p><u>Md. Monirul Islam</u> Zeyi Sun Cihan H Dagli (Missouri University of Science and Technology, USA)</p>
<h3 style="text-align: center;">Technical Session (General)</h3>	
<p>11:00 am - 12:30 pm</p> <p><u>Ontario B</u></p>	<p>Session 10 - Smart Grid and Manufacturing</p> <p>Session Chair: Zeyi Sun Missouri University of Science and Technology, USA</p>
	<p>392 - Modeling and Simulation of Microgrid</p> <p><u>Ahmad Alzahrani</u> Mehdi Ferdowsi Pourya Shamsi Cihan H Dagli (Missouri University of Science and Technology, USA)</p>
	<p>433 - Design the Capacity of Onsite Generation System with Renewable Sources for Manufacturing Plant</p> <p>Xiao Zhong Md Monirul Islam Haoyi Xiong <u>Zeyi Sun</u> (Missouri University of Science and Technology, USA)</p>

	<p>408 - Chaotic Behavior in High-Gain Interleaved Dc-Dc Converters <u>Ahmad Alzahrani</u> Pourya Shamsi Mehdi Ferdowsi Cihan H Dagli (Missouri University of Science and Technology, USA)</p>	
	<p>401 - Fuzzy Inference System-based Recognition of Slow, Medium and Fast Running Conditions Using a Triaxial Accelerometer <u>Nizam Uddin Ahamed</u> Lauren Benson Christian Clermont Sean T. Osis Reed Ferber (University of Calgary, Canada)</p>	
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