Complex Adaptive Systems Conference
Chicago, IL

Schedule

Monday, October 31, 2011

7:00 am	5:00 pm	Registration Desk Open	Chicago Boardroom
7:30 am	8:30 am	Continental Breakfast	Ontario Ballroom (A)
8:30 am	8:45 am	Opening Session - Welcome	Ontario Ballroom (B&C)
8:45 am	10:00 am	**Morning Plenary Speaker** **DNA Analysis for Forensic and Biometric Human Identification Using Integrated Microfluidic Systems** Dr. Joan M. Bienvenue, Ph.D. Chief Scientist and Program Manager Lockheed Martin Corporation, USA	Ontario Ballroom (B&C)
10:00 am	10:30 am	Break	Ontario Ballroom (A)
10:30 am	12:00 noon	Concurrent Sessions	

Complex Systems I Ontario Ballroom (B) Jason Dauby, Session Chair Naval Surface Warfare Center, USA	**Computational Intelligence and Machine Learning I** Ontario Ballroom (C) Rosemary Paradis, Session Chair Lockheed Martin IS&GS Advanced Technology Operations, USA	**Complex Systems Sensors I** Michigan Room Sagar Kamarthi, Session Chair Northeastern University, USA
13 - Heterogeneity and Its Impact on Thermal Robustness and Attractor Density Yuri Cantor | Bilal Khan | Kirk Dombrowski City University of New York, USA	**141 -** Evaluation of Classification Quality and Comparative Analysis of Clustering and Self-Organization Aaron Larocque | Iren Valova University of Massachusetts at Dartmouth, USA	**353 -** Correspondence Analysis for Symbolic Contingency Tables Based on Interval Algebra Ikufumi Takagi | Hiroshi Yadohisa Doshisha University, Japan
21 - Self-Reference as a Principal Indicator of Complexity Stefan Hempel | Ricardo Pineda | Eric Smith RIMES, University of Texas at El Paso, USA	**147 -** Adaptive Reconfiguration of Complex System Architecture Khaled Haris | Cihan H Dagli Missouri S&T, USA	**359 -** Symbolic Clustering with Interval-Valued Data Mika Sato-Ilic University of Tsukuba, Japan
27 - Market-Based Solution to the Allocation of Tasks to Agents Elad Kivelevitch | Kelly Cohen | Manish Kumar University of Cincinnati, USA	**153 -** Evolutionary Computation with Noise Perturbation and Cluster Analysis to Discover Biomarker Sets Ravi Mathur | J. David Schaffer | Walker H. Land Jr., Binghamton University, USA John J. Heine | Steven Eschrich | Timothy Yeatman, University of South Florida, USA	**365 -** Multidimensional Scaling with the Nested Hypersphere Model for Percentile Dissimilarities Yoshikazu Terada, Osaka University, Japan Hiroshi Yadohisa, Doshisha University, Japan
33 - Exploring Behavioral Dynamics in Systems of Systems Jason P. Dauby | Steven Upholzer Naval Surface Warfare Center, USA	**159 -** Analysis of Evolutionary Process in a Lot Sizing Application Gursel A Suer | Bulent Erenay | Meng-	**371 -** Clustering for Visual Analogue Scale Data in Symbolic Data Analysis Kotoe Katayama | Rui Yamaguchi | Seiya Imoto | Satoru Miyano, The University of Tokyo, Japan Keiko Matsuura | Kenji Watanabe, Keio

Presentations are noted by corresponding proceedings' page number.

		Yun Chen Ohio University, USA	University School of Medicine, Japan
12:00 noon	**1:15 pm**	**Luncheon Plenary Speaker** **Big Data and Linked Data Technologies** Ravi Hubbly Principal Architect Lockheed Martin IS&GS – Civil, USA	Ontario Ballroom (A)
1:30 pm	3:00 pm	Concurrent Sessions	

Complex Systems II Ontario Ballroom (B)	**Computational Intelligence and Machine Learning II** Ontario Ballroom (C)	**Complex Systems Sensors II** Michigan Room
John Colombi, Session Chair Air Force Institute of Technology, USA	Gursel Suer, Session Chair Ohio University, USA	Mika Sato-Ilic , Session Chair University of Tsukuba, Japan
39 - Cognition Evolutionary Computation for System-of-Systems Architecture Development Feng Yang	Cihan Dagli, Missouri S&T, USA Weiping Wang, National University of Defense Technology, China	**165 -** Robust Gene Expression Programming Noah Ryan	David Hibler Christopher Newport University, USA	**377 -** Classification of Electromyogram Using Recurrence Quantification Analysis Sivarit Sultornsanee	Ibrahim Zeid	Sagar Kamarthi Northeastern University, USA
45 - Generating Pareto Surface for Multi Objective Integer Programming Problems with Stochastic Objective Coefficients Ozgu Turgut	Alper E. Murat Wayne State University, USA	**171 -** An Evolutionary Computation Attack on One-Round TEA Eddie Yee-Tak Ma	Charlie Obimbo University of Guelph, Canada	**383 -** Multi-Pose Face Recognition and Tracking System Binu M Nair	Jacob Foytik	Richard Tompkins	Yakov Diskin	Theus Aspiras	Vijayan Asari University of Dayton, USA
51 - Phase Synchronization Approach to Construction and Analysis of Stock Correlation Network Sivarit Sultornsanee	Srinivasan Radhakrishnan	David Falco	Abe Zeid	Sagar Kamarthi Northeastern University, USA	**177 -** Sensitivity-Based SCG-Training of BP-Networks Iveta Mrazova	Zuzana Reitermanova Charles University, Czech Republic	**393 -** Parallel and Distributed Computations of Maximum Independent Set by a Hopfield Neural Net Embedded into a Wireless Sensor Network Gursel Serpen	Jiakai Li University of Toledo, USA
57 - Analysis of a Complex System for Electrical Mobility Using a Model-Based Engineering Approach Focusing on Simulation A. Votintseva	P. Witschel	A. Goedecke Siemens AG, Corporate Technology, Germany	**183 -** Basic Research on Speed-Up of Reinforcement Learning Using Parallel Processing for Combination Value Function Tsuguhisa Touma	Koji Yamada	Satoshi Endo, University of Ryukyus, Japan Yuuki Nakama, Kumamoto University, Japan	**399 -** nesC-TinyOS Model for Parallel and Distributed Computation of Max Independent Set by Hopfield Network on Wireless Sensor Network Jiakai Li	Gursel Serpen University of Toledo, USA

3:00 pm	3:30 pm	Break	Ontario Ballroom (A)
3:30 pm	5:00 pm	Concurrent Sessions	

Complex Systems III Ontario Ballroom (B)	**Computational Intelligence and Machine Learning III** Ontario Ballroom (C)	**Complex Systems Sensors III** Michigan Room

Presentations are noted by corresponding proceedings' page number.

Ricardo Pineda, Session Chair
RIMES, University of Texas at El Paso, USA

63 - SysML Profiling for Handling Army Base Camp Planning
Dustin Nottage | Steve Corns
Missouri S&T, USA

69 - A Combination of Shuffled Frog Leaping and Fuzzy Logic for Flexible Job-Shop Scheduling Problems
Wannaporn Teekeng | Arit Thammano
King Mongkut's Institute of Technology Ladkrabang, Thailand

77 - Medical Process Modeling with a Hybrid System Dynamics Zachman Framework
Bharath Dantu | Eric Smith
RIMES, University of Texas at El Paso, USA

83 - Enterprise Transformation Through Aspects and Levels: Zachman Bayesian Approach
Ramakanth Gona | Eric Smith
RIMES, University of Texas at El Paso, USA

Heidi Taboada, Session Chair
University of Texas at El Paso, USA

189 - Feature Selection for Multiclass Problems Based on Information Weights
George Georgiev, University of Wisconsin Oshkosh, USA
Iren Valova, University of Massachusetts Dartmouth, USA
Natacha Gueorguieva, City University of New York/ College of Staten Island, USA

195 - A Clustering Method Based on Dynamic Self Organizing Trees for Post-Pareto Optimality Analysis
Oswaldo Aguirre | Heidi Taboada
University of Texas at El Paso, USA

201 - Stock Market Prediction with Multiple Regression, Fuzzy Type-2 Clustering and Neural Networks
David Enke, The University of Tulsa, USA
Manfred Grauer | Nijat Mehdiyev,
University of Siegen, Germany

207 - Predictive Ability of Interest Rate Spread Using Neural Networks
Anthony Joseph | Maurice Larrain, Pace University, USA
Eshwar Singh, Bank of New York Mellon, USA

Gursel Serpen, Session Chair
University of Toledo, USA

405 - Scale-Free Networks of Collaborative Processes to Design Distributed Control Systems
Francesco Rago, Megatris Comp. LLC, USA
Pasquale Franzese, University Federico II, Italy

411 - TOSSIM Simulation of Wireless Sensor Network Serving as Hardware Platform for Hopfield Neural Net Configured for Max Independent Set
Jiakai Li | Gursel Serpen
University of Toledo, USA

417 - Gravity Compensation in Accelerometer Measurements for Robot Navigation on Inclined Surfaces
Jonathan R. Nistler | Majura F. Selekwa
North Dakota State University, USA

343 - Control and Optimization of a Sensor Manufacturing Process
Muhittin Yilmaz
Texas A&M University-Kingsville, USA

Tuesday, November 1, 2011

7:00 am	5:00 pm	Registration Desk Open	Chicago Boardroom
7:30 am	8:30 am	Continental Breakfast	Ontario Ballroom (A)
8:30 am	8:45 am	Session Convenes (Announcements and Introductions)	Ontario Ballroom (B&C)
8:45 am	10:00 am	**Morning Plenary Speaker** **Complex Adaptive Human Systems** Anna M. Kallay Senior Systems Engineer Lockheed Martin Engineering and Science Solutions, USA	Ontario Ballroom (B&C)
10:00 am	10:30 am	Break	Ontario Ballroom (A)
10:30 am	12:00 noon	Concurrent Sessions	

Complex Systems IV Ontario Ballroom (B) Eric Smith, Session Chair RIMES, University of Texas at El Paso, USA	**Computational Intelligence and Machine Learning IV** Ontario Ballroom (C) Abhijit Gosavi, Session Chair Missouri S&T, USA	**Modern and Biologically Inspired Paradigm I** Michigan Room Ravi Mathur, Session Chair Binghamton University, USA

Presentations are noted by corresponding proceedings' page number.

89 - Fractal-COSYSMO Systems Engineering Cost Estimation for Complex Projects
Manish Khadtare | Eric Smith
RIMES, University of Texas at El Paso, USA

95 - Innovation As Emergence: Hybrid Agent Enablers for Evolutionary Competence
William D. Schindel
ICTT System Sciences, USA

101 - Model Development of a Virtual Learning Environment to Enhance Lean Education
Akalpit Gadre | Elizabeth Cudney | Steven Corns
Missouri S&T, USA

107 - An Intelligent Control Approach for Oil Drilling Processes
Muhittin Yilmaz | Naren Reddy Dhansri | Salman Mujeeb
Texas A&M University-Kingsville, USA

213 - Forecasting Purchasing Managers' Index with Compressed Interest Rates and Past Values
Anthony Joseph | Maurice Larrain, Pace University, USA
Claude Turner, Bowie State University, USA

219 - Multiple SOFMs Working Cooperatively in a Vote-Based Ranking System for Network Intrusion Detection
Charlie Obimbo | Haochen Zhou | Ryan Wilson
University of Guelph, Canada

225 - A Statistical Approach for Multiclass Target Detection
Semih Dinc | Abdullah Bal
Yildiz Technical University, Turkey

231 - Identification of Severe Weather Outbreaks Using Kernel Principal Component Analysis
Andrew E. Mercer, Northern Gulf Institute, Mississippi State University, USA
Michael B. Richman | Lance M. Leslie, University of Oklahoma, USA

267 - A New Tool for Survival Analysis: Evolutionary Programming/Evolutionary Strategies (EP/ES) Support Vector Regression Hybrid Using Both Censored / Non-Censored (Event) Data
Walker H. Land Jr. | Xingye Qiao | Dan Margolis | Binghamton University, USA
Ron Gottlieb, University of Arizona, USA

273 - Partial Least Squares (PLS) Applied to Medical Bioinformatics
Walker H. Land Jr. | William Ford | Jin-Woo Park | Ravi Mathur | Nathan Hotchkiss | Xingye Qiao, Binghamton University, USA
John Heine | Steven Eschrich | Timothy Yeatman, Moffitt Cancer Center and Univ. of South Florida, USA

279 - A Complex Adaptive System Using Statistical Learning Theory as an Inline Preprocess for Clinical Survival Analysis
Dan Margolis | Walker H. Land Jr. | Xingye Qiao | Binghamton University, USA
Ron Gottlieb, University of Arizona, USA

285 - GC Wave Analysis in Promoter Regions via Wavelet and Support Vector Machine
Makihiko Sato
Maebashi Institute of Technology, Japan

12:00 noon	1:15 pm	**Luncheon Plenary Speaker** **Evolving Systems for Practical Adaptive Control** Dr. Dimitar P. Filev Senior Technical Leader Ford Research & Advanced Engineering, USA	Ontario Ballroom (A)

1:30 pm	3:00 pm	Concurrent Sessions	

Complex Systems V Ontario Ballroom (B)	**Computational Intelligence and Machine Learning V** Ontario Ballroom (C)	**Modern and Biologically Inspired Paradigm II** Michigan Room
Haluk Gorgun, Session Chair Yildiz Technical University, Turkey	Iveta Mrazova , Session Chair Charles University, Czech Republic	Nil Ergin, Session Chair Penn State University, USA
113 - Estimating Power/Energy Consumption in Database Servers Manuel Rodriguez-Martinez	Harold Valdivia	Jaime Seguel, University of Puerto Rico at Mayaguez, Puerto Rico Melvin Greer, Lockheed Martin Corporation, USA	**237 -** Probability of Potential Model Pruning in Monte-Carlo *Go* Makoto Oshima	Koji Yamada	Satoshi Endo University of the Ryukyus, Japan **243 -** Applications and Performance of the Non-Numerical Ranking Preferences	**291 -** A Multi-Agent Framework for Industrial Robotic Applications Marko Svaco	Bojan Sekoranja	Bojan Jerbic University of Zagreb, Croatia **297 -** Design and Evolution of an Agent Based System Applied to an Autocatalytic Network

Presentations are noted by corresponding proceedings' page number.

119 - An Interactive Simulation Model of Human Drivers to Study Autonomous Haulage Trucks
John Meech | Juliana Parreira
The University of British Columbia, Canada

125 - The Wavelet and Fourier Transforms in Feature Extraction for Text-Dependent, Filterbank-Based Speaker Recognition
Claude Turner | Murat Aksu | Heather Langdon, Bowie State University, USA
Anthony Joseph, Pace University, USA

131 - Performance of Rate 1/2 Convolutional Encoder with Adaptive Feedback-Controlled on Hyperchaotic-Chaotic States
Davoud Arasteh
Southern University and A & M College, USA

Method for Post-Pareto Optimality
Victor M. Carrillo | Oswaldo Aguirre | Heidi Taboada
University of Texas at El Paso, USA

249 - Approximate Policy Iteration for Semi-Markov Control Revisited
Abhijit Gosavi
Missouri S&T, USA

257 - Tracking and Recognizing Multiple Faces Using Kalman Filter and Modular PCA
Jacob Foytik | Vijayan Asari, University of Dayton, USA
Praveen Sankaran, National Institute of Technology Calicut, India

Sukanya Balasubramanian | Fouad Teymour | Ali Cinar
Illinois Institute of Technology, USA

303 - Exploring Ancient Landscapes Under Lake Huron Using Cultural Algorithms
Kevin Vitale | Robert G. Reynolds, Wayne State University, USA
John O'Shea | Guy Meadows, University of Michigan-Ann Arbor, USA

311 - Agent-Based Modeling of Dynamic Pricing Scenarios to Optimize Multiple-Generation Product Lines with Cannibalization
Chun-yu Lin | Nil H. Kilicay-Ergin | Gul E. Okudan
Penn State University, USA

3:00 pm	3:30 pm	Break		Ontario Ballroom (A)

3:30 pm	5:00 pm	Concurrent Sessions	

Smart Grid	**Environmental Sustainability**	**Modern and Biologically Inspired Paradigm III**
Ontario Ballroom (B)	Ontario Ballroom (C)	Michigan Room

Steven Corns, Session Chair
Missouri S&T, USA

Arun Kulkarni, Session Chair
The University of Texas at Tyler, USA

Selahattin Ozcelik, Session Chair
Texas A&M University-Kingsville, USA

433 - Development of Hybrid-Coded EPSO for Optimal Allocation of FACTS Devices in Uncertain Smart Grids
Hiroyuki Mori | Hajime Fujita
Meiji University, Japan

439 - Modified SPEA2 for Probabilistic Reliability Assessment in Smart Grids
Hiroyuki Mori | Hiroki Kakuta
Meiji University, Japan

445 - Model Based Systems Engineering for Smart Grids as Systems of Systems
A. J. Lopes | R. Lezama | R. Pineda
RIMES, University of Texas at El Paso, USA

455 - An Integrated Optimization and Agent-Based Framework for the U.S. Power System
Moeed Haghnevis | Amit Shinde | Ronald G. Askin
Arizona State University, USA

427 - Models for Model-Based User-Centric Energy Analysis of Industrial Automation Systems
Andreas Beck | Peter Gohnera
University of Stuttgart, Germany

479 - Water Quality Retrieval from Landsat TM Imagery
Arun Kulkarni
University of Texas at Tyler, USA

485 - Pollutant Transport in Geomedia Using X-ray Computed Tomography
S.H. Anderson | X. Liu
University of Missouri – Columbia, USA

Presentation Only - Novel Framework to Exploit Freight-Forwarders' Opportunities in Air-Road Multimodal Transportation Under Alternative Access Airport Policy
Farshid Azadian | Alper Murat | Ratna Babu Chinnam
Wayne State University, USA

317 Implementation of an Artificial Immune System on a Mobile Robot
Selahattin Ozcelik | Shriram Sukumaran
Texas A&M University - Kingsville,USA

323 - Simulating the Influence of Ca on the Na Channel Excitability
Iren Valova, University of Massachusetts at Dartmouth, USA
 Natacha Gueorguieva | Vyacheslav Glukh, City University of New York, USA
George Gueorguiev, University of Wisconsin Oshkosh, USA

329 - Evolving Spiking Neural Networks for Robot Control
R. Batllori | C. B. Laramee | W. Land | J. D. Schaffer
Binghamton University, USA

335 - A Modified Marriage in Honey-Bee Optimization for Function Optimization Problems
Patcharawadee Poolsamran | Arit Thammano
King Mongkut's Institute of Technology Ladkrabang, Thailand

Presentations are noted by corresponding proceedings' page number.

6:30 pm	7:00 pm	Cash Bar		Pre-Function Area
7:00 pm	9:30 pm	**Banquet and Awards Presentation Plenary Speaker** **Addressing the Tactical and Influencing the Strategic** Haden A. Land Vice President, Chief Technology Officer Lockheed Martin IS&GS – Civil, USA		Ontario Ballroom (A)

Wednesday, November 2, 2011

7:00 am	12:00 noon	Registration Desk Open		Chicago Boardroom
7:30 am	8:30 am	Continental Breakfast		Ontario Ballroom (A)
8:30 am	8:45 am	Session Convenes (Announcements and Introductions)		Ontario Ballroom (B&C)
8:45 am	10:00 am	**Morning Plenary Speaker** **Web-Scale Adaptive Enterprise Information Fusion Architecture** Dr. Gautam Shroff Vice President & Head, TCS Innovation Labs - Delhi Tata Consultancy Services, India		Ontario Ballroom (B&C)
10:00 am	10:30 am	Break		Ontario Ballroom (A)
10:30 am	12:00 noon	Concurrent Sessions		

Power Systems Ontario Ballroom (B) Jose F. Espiritu, Session Chair University of Texas at El Paso, USA	**Energy Systems** Ontario Ballroom (C) A. Murat Ozbayoglu, Session Chair TOBB University of Economics and Technology, Ankara-Turkey	**Tutorial** Michigan Room
461 - Two-Axis Solar Tracker Analysis and Control for Maximum Power Generation Selahattin Ozcelik | Harish Prakash | Rajab Challoo Texas A&M University-Kingsville, USA	**491 -** Application of Self Tuning Fuzzy Logic Control to Full Railway Vehicle Model Semih Sezer | Saban Cetin | A. Erdem Atalay Yildiz Technical University, Turkey	Topics in Statistical Decision Theory: Does the Decision Mechanism Matter? Walker H Land Jr. Binghamton University, USA John Heine Moffitt Cancer Center, USA
467 - An Approach to Hybrid Power Systems Integration Considering Different Renewable Energy Technologies Nicolas Lopez | Jose F. Espiritu University of Texas at El Paso, USA	**497 -** Estimation of Multiphase Flow Properties Using Computational Intelligence Models A. Murat Ozbayoglu | H. Ertan Yuksel TOBB University of Economics and Technology, Ankara-Turkey	
473 - Optimization of Wind Turbine Placement Using a Viral Based Optimization Algorithm Carlos M. Ituarte-Villarreal | Jose F. Espiritu University of Texas at El Paso, USA	**503 -** Arguing Security of Generic Avionic Mission Control Computer System (MCC) Using Assurance Cases Bhanuchander Reddy Poreddy | Steven Corns Missouri S&T, USA	
Presentation Only - Dynamic Routing in Stochastic Time	**509 -** A Comparative Study on	

Presentations are noted by corresponding proceedings' page number.

Dependent Networks with Arc Interactions Ali R Guner | Ratna Babu Chinnam | Alper Murat Wayne State University, USA	Pricing Rules and Its Effect on Total Dispatch Cost Zhigang Liao | Ly-Fie Sugianto Monash University, Australia	

Presentations are noted by corresponding proceedings' page number.