

7TH JOINT CONFERENCE ON INFORMATION SCIENCES

SEPTEMBER 26–30, 2003 • RESEARCH TRIANGLE PARK,
NORTH CAROLINA, USA

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Paul P. Wang

Conference Manager:

Anna Menzies

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Joint Conference on Information Sciences
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FRIDAY, SEPTEMBER 26, 2003

<p>9/26 8 A.M. – 8:50 A.M.</p>	<p>Room: CHIMNEY ROCK RICHARD KARP, U. OF CALIFORNIA, BERKELEY <i>"The Role of Algorithmic Research in Computational Genomics"</i></p>		
<p>9/26 9 A.M. – 9:45 A.M.</p>	<p>Room: CHIMNEY ROCK RAYMOND TENNANT, NIEHS <i>"Toxicogenomics — A Portal for Knowledge Base Development in Toxicology"</i></p>		
<p>9/26 9:45 A.M. – 10 A.M.</p>	<p>COFFEE BREAK</p>		
<p>9/26 10 A.M. – 12 NOON</p>	<p>Room: Tanglewood ANDREW K.C. WONG, PDSS <i>"Pattern Discovery and Exploratory Data Mining"</i></p>	<p>Room: Biltmore CVP-1: 3D IMAGE PROCESSING</p>	<p>Room: Pinehurst CIN-2: APPLICATIONS OF COMPUTATIONAL INTELLIGENCE (INVITED)</p>
	<p>IGOR ROGOZIN, NCBI <i>"Computational Pipeline for Comparative Analysis of Eukaryotic Gene Structure"</i></p> <p>RACHELLE BIENSTOCK, NIEHS <i>"Structural Genomics and Protein Structure Prediction"</i></p>	<p>Room: Hope IMN-3: CODING, ADAPTATION, AND EXTRACTION</p>	<p>Room: Chimney Rock CEF-6: SELF-ORGANISING LEARNING & CEF-13: PORTFOLIO MANAGEMENT (II)</p>
<p>9/26 12 NOON – 1:15 P.M.</p>	<p>BREAK</p>		
<p>9/26 1:15 P.M. – 2:05 P.M.</p>	<p>Room: Tanglewood JANE RICHARDSON, DUKE U. <i>"Telling Errors From Outliers In Structural Bioinformatics"</i></p>	<p>Room: Pinehurst JOHN REIF, DUKE U. <i>"Programmable Molecular Self-Assembly: Theory and Experimental Demonstrations"</i></p>	<p>Room: Mendenhall WITOLD PEDRYCZ, U. OF ALBERTA <i>"Concepts and Models of Granular Computing"</i></p>
	<p>Room: Tanglewood CHRISTOPHER BYSTROFF, RPI <i>"Non-sequential Alignment of Protein Structures Using Local Structure Motifs and Contact Maps"</i></p>	<p>Room: Pinehurst JAMES ANDERSON, BROWN U. <i>"The Ersatz Brain Project: Building a Brain Like Computer for Cognitive Applications."</i></p>	<p>Room: Chimney Rock CEF-2: TUTORIAL</p> <p>REINFORCEMENT LEARNING <i>Nicholas Feltovich, U. of Texas at Houston</i></p> <p>BAYESIAN NETWORKS <i>Chiu-Che Tseng, Texas AMU</i></p>
<p>9/26 3 P.M. – 3:15 P.M.</p>	<p>COFFEE BREAK</p>		
<p>9/26 3:15 P.M. – 5:30 P.M.</p>	<p>Room: Tanglewood CBG-2: MICROARRAY AND GENE EXPRESSION ANALYSIS</p>	<p>Room: Biltmore CVP-6: FOURIER AND WAVELET TRANSFORMS</p>	<p>Room: Pinehurst CIN-1: MOLECULAR COMPUTING (INVITED)</p>
	<p>Room: Bellamy CSI-12: FAULT TOLERANT AND QUERIES</p>	<p>Room: Hope IMN-1: MEDIA RETRIEVAL</p>	<p>Room: Chimney Rock CEF-1: CAPITAL, GROWTH, AND BUSINESS CYCLE</p>
<p>9/26 5:30 P.M. – 5:40 P.M.</p>	<p>BREAK</p>		

9/26 5:40 P.M. – 7:30 P.M.	Room: Tanglewood CBG-3: DATABASE AND RETRIEVAL SYSTEMS (I)	Room: Biltmore CVP-2: BIOMETRICS	Room: Pinehurst CIN-3: CURRENT TRENDS IN NEURAL NETWORKS: THEORY AND APPLICATIONS (INVITED)
	Room: Hope IMN-2: FEATURE SELECTION, ANNOTATION, AND EXTRACTION	Room: Chimney Rock CEF-12: PORTFOLIO MANAGEMENT (I)	
9/26 7:30 P.M. – 9:00 P.M.	Room: Registration Area WELCOME RECEPTION Hors d'œuvres/Cash Bar		

SATURDAY, SEPTEMBER 27, 2003

9/27 8 A.M. – 8:50 A.M.	Room: Chimney Rock MICHAEL WATERMAN, U. OF SOUTHERN CALIFORNIA <i>"The Role of Algorithmic Research in Computational Genomics"</i>			
9/27 8:50 A.M. – 9:00 A.M.	BREAK			
9/27 9 A.M. – 9:45 A.M.	Room: Tanglewood MARK ADAMS, CASE WESTERN RESERVE U. <i>"Applying Genomics"</i>	Room: Pinehurst CLINTON W. KELLY, III, SAIC <i>"What Robots Can Really Do"</i>	Room: Chimney Rock ROBERT AXTELL, THE BROOKINGS INSTITUTION <i>"Artificial Economies of Adaptive Agents: Positive Economics via Agent Computing"</i>	
9/27 9:45 A.M. – 10 A.M.	COFFEE BREAK			
9/27 10 A.M. – 12 NOON	Room: Tanglewood CBG-5: BIOINFORMATICS TECHNIQUES	Room: Pinehurst CIN-11: INTELLIGENT SYSTEMS	Room: Bellamy CSI-6: ALGORITHMS	Room: Biltmore CSI-7: HEURISTIC SEARCH AND COMPUTER GAME PLAYING (I)
	Room: Mendenhall FTT-11: FUZZY FOUNDATIONS I	Room: Cape Fear FEA-1: REPRESENTATION AND CONVERGENCE I	Room: Hope IMN-4: VIDEO PROCESSING	Room: Chimney Rock CEF-15: AGENT-BASED MODELING OF SOCIAL BEHAVIOR
9/27 12 NOON – 1:15 P.M.	BREAK			
9/27 1:15 P.M. – 2:05 P.M.	Room: Tanglewood RUTH NUSSINOV, NCI <i>"Protein Interactions: Binding and Folding"</i>	Room: Pinehurst LEONID PERLOVSKY, AFRL <i>"Mathematics of Intelligence and Emotions"</i>	Room: Mendenhall DA RUAN, BNRC <i>"Computational Intelligence for Applied Research"</i>	Room: Chimney Rock CEF-14: ORGANIZATIONAL DECISION

9/27 2:10 P.M. – 3 P.M.	Room: Tanglewood TOM KEPLER, DUKE U. <i>"Minimum Description Length Methods in the Discovery of Invertebrate Immunogenetic Diversification"</i>	Room: Pinehurst NESTOR SCHMAJUK, DUKE U. <i>"Pre-Pulse Inhibition: A Neural Network Model"</i>	Room: Mendenhall ETIENNE KERRE, GHENT U. <i>"The Unbearable Richness of Fuzzy Relational Calculus for Knowledge Representation"</i>	Room: Chimney Rock CEF-14: ORGANIZATIONAL DECISION (continued)
9/27 3 P.M. – 3:15 P.M.	COFFEE BREAK			
9/27 3:15 P.M. – 5:30 P.M.	Room: Tanglewood CBG-4: DATABASE AND RETRIEVAL SYSTEMS (II)	Room: Pinehurst CIN-4: THEORETICAL CONCEPTS	Room: Biltmore CSI-8: HEURISTIC SEARCH AND COMPUTER GAME PLAYING II (INVITED)	Room: Bellamy PNC-4: OPTICAL IMAGING
	Room: Mendenhall FTT-1: FUZZY MATHEMATICAL STRUCTURES I	Room: Hope IMN-5: CACHING, SEARCHING, AND ROUTING	Room: Chimney Rock CEF-18 and CEF-19: AGENT-BASED MODELING OF ECONOMIC & FINANCIAL MARKETS (III & IV)	
9/27 5:30 P.M. – 5:40 P.M.	BREAK			
9/27 5:40 P.M. – 7:30 P.M.	Room: Tanglewood CBG-6: BIOLOGICAL KNOWLEDGE DISCOVERY AND DATA MINING (BIO-KDD)	Room: Pinehurst CIN-5: BIOLOGICALLY-INSPIRED NATURAL COMPUTING	Room: Bellamy CSI-3: INFORMATION SYSTEM AND DATA PROCESSING	Room: Hope PNC-1: NETWORKING/ALGORITHMS & PROTOCOLS
	Room: Mendenhall FTT-2: FUZZY MATHEMATICAL STRUCTURES II	Room: Cape Fear FEA-5: APPLICATIONS II	Room: Cape Hatteras CVP-4: DOCUMENT PROCESSING	Room: Biltmore CEF-16: AGENT-BASED MODELING OF ECONOMIC AND FINANCIAL MARKETS (I)
9/27 7:45 P.M. – 10:00 P.M.	Room: Chimney Rock/Blowing Rock DINNER BANQUET SPEAKER: JOHN CAULFIELD, FISK U. <i>"My Logic Is Fuzzier Than Yours"</i>			

SUNDAY, SEPTEMBER 28, 2003

9/28 8 A.M. – 8:50 A.M.	Room: Chimney Rock LOTFI ZADEH, U. OF CALIFORNIA, BERKELEY <i>"Protoform Theory and Its Basic Role in Human Intelligence, Deduction, Definition and Search"</i>
9/28 9 A.M. – 9:45 A.M.	Room: Chimney Rock I. BURHAN TÜRKSEN, U. OF TORONTO <i>"Reconstruction of Epistemology with Fuzzy Theory"</i>
9/28 9:45 A.M. – 10 A.M.	COFFEE BREAK

9/28 10 A.M. – 12 NOON	Room: Tanglewood CBG-1: GENOME INFORMATICS AND COMPARATIVE ANALYSIS	Room: Bellamy CSI-4: DATA MINING AND KNOWLEDGE LEARNING	Room: Mendenhall CSI-1: NETWORKS	Room: Hope PNC-2: OPTICAL INFORMATION SCIENCE THEORY/ANALYSIS
	Room: Pinehurst BLC-1	Room: Biltmore CVP-5: FUZZY LOGIC AND ROUGH SET THEORY	Room: Chimney Rock CEF-17: AGENT-BASED MODELING OF ECONOMIC AND FINANCIAL MARKETS (II)	
9/28 12 NOON – 1:15 P.M.	BREAK			
9/28 1:15 P.M. – 2:05 P.M.	INFORMATION SCIENCE AWARD PRESENTATION Room: Tanglewood EMMETT LEITH, U. OF MICHIGAN <i>"Holography, Synthetic Apertures, and Confocal Imaging, Cross Fertilization"</i>			Room: Chimney Rock CEF-20: DOUBLE AUCTION AND ARTIFICIAL STOCK MARKETS
9/28 2:10 P.M. – 3 P.M.	INFORMATION SCIENCE AWARD PRESENTATION Room: Tanglewood WALTER FREEMAN, U. CAL., BERKELEY <i>"High-Resolution of Spatiotemporal Phase Patterns in Scalp EEG Reveals Sequential Global State Transitions in Cortex at 5-10/Second"</i>			
9/28 3 P.M. – 3:15 P.M.	COFFEE BREAK			
9/28 3:15 P.M. – 5:30 P.M.	Room: Tanglewood BLC-5	Room: Bellamy CSI-2: SCHEDULING, TRAFFIC CONTROLLING, AND OTHERS	Room: Hope PNC-3: OPTOELECTRONIC DEVICES/ CIRCUIT LEVEL/CHARACTERISTIC & SIMULATION	
	Room: Mendenhall FTT-9: SOFT COMPUTING IN IMAGE PROCESSING	Room: Biltmore CVP-8: MEDICAL AND BIOLOGICAL IMAGE PROCESSING	Room: Cape Fear FEA-6: APPLICATIONS III	Room: Chimney Rock CEF-4 and CEF-5: APPLICATIONS IN BUSINESS AND MANAGEMENT I & II
9/28 5:30 P.M. – 5:40 P.M.	BREAK			
9/28 5:40 P.M. – 7:30 P.M.	Room: Tanglewood BLC-2	Room: Biltmore CVP-7: CVPRIP APPLICATIONS	Room: Bellamy CSI-5: PREDICTIVE MODELING	Room: Cape Hatteras 5:30-7:00 P.M. PNC RECEPTION SPONSORED BY DUKE U. PHOTONICS DEPT.
	Room: Mendenhall FTT-4: APPLICATIONS OF FUZZY SET THEORY I	Room: Pinehurst CVP-9: FACE RECOGNITION	Room: Chimney Rock CEF-3: ECONOMIC AGENTS DESIGN	

MONDAY, SEPTEMBER 29, 2003

<p>9/29 8 A.M. – 8:50 A.M.</p>	<p>Room: Chimney Rock BURGHARD RIEGER, U. OF TRIER <i>"Understanding Is Meaning Constitution. Perception-Based Processing of Natural Language Texts in Procedural Models of Scip Systems"</i></p>			
<p>9/29 8:50 A.M. – 9 A.M.</p>	<p>BREAK</p>			
<p>9/29 9 A.M. – 9:45 A.M.</p>	<p>Room: Tanglewood JOERG SCHILLING, CAL TECH <i>"Photonic Crystals for Information Technology"</i></p>	<p>Room: Pinehurst KARL PRIBRAM, GEORGETOWN U. <i>"Brain and Mathematics: Some Surprising Commonalities"</i></p>		
<p>9/29 9:45 A.M. – 10 A.M.</p>	<p>COFFEE BREAK</p>			
<p>9/29 10 A.M. – 12 NOON</p>	<p>Room: Tanglewood BLC-3</p>	<p>Room: Pinehurst CIN-6: CLASSIFICATION AND PREDICTION</p>	<p>Room: Biltmore CVP-13: CVPRIP ALGORITHMS IV</p>	<p>Room: Hope PNC-5: PHOTONIC DEVICES/DEVICE LEVEL/LASERS</p>
	<p>Room: Mendenhall FTT-5: APPLICATIONS OF FUZZY SET THEORY II</p>	<p>Room: Cape Fear FEA-4: APPLICATIONS I</p>	<p>Room: Chimney Rock CEF-8: FINANCIAL TIME SERIES FORECASTING AND ANALYSIS (II)</p>	
<p>9/29 12 NOON – 1:15 P.M.</p>	<p>Room: Blowing Rock LUNCHEON SPEAKER: STEVE GARDNER, KILPATRICK STOCKTON LLP <i>"Patents in Computational Excellence in Economics and Finance"</i></p>			
<p>9/29 1:15 P.M. – 2:05 P.M.</p>	<p>Room: Cape Fear DAVE GOLDBERG, U. OF ILLINOIS AT URBANA-CHAMPAIGN <i>"From Competence To Efficiency To Innovation Support"</i></p>	<p>Room: Pinehurst JIM ALBUS, NIST <i>"Intelligent Vehicle Systems For On-road and Off-road Driving"</i></p>		
<p>9/29 2:10 P.M. – 3 P.M.</p>	<p>Room: Cape Fear FERNANDO LOBO, U. OF ALGARVE, PORTUGAL <i>"An Overview of the Parameter-Less Genetic Algorithm"</i></p>			
<p>9/29 3 P.M. – 3:15 P.M.</p>	<p>COFFEE BREAK</p>			
<p>9/29 3:15 P.M. – 5:30 P.M.</p>	<p>Room: Tanglewood ASBLC</p>	<p>Room: Pinehurst CIN-7: KNOWLEDGE DISCOVERY AND HYBRID SYSTEMS</p>	<p>Room: Bellamy CSI-10: GRAPH THEORY AND APPLICATIONS (INVITED)</p>	<p>Room: Hope PNC-6: PHOTONIC DEVICES AND SWITCHES</p>
	<p>Room: Mendenhall FTT-8: OPTIMIZATION AND INFORMATION MANAGEMENT</p>	<p>Room: Biltmore CVP-10: CVPRIP ALGORITHMS I</p>	<p>Room: Cape Fear FEA-2: REPRESENTATION AND CONVERGENCE II</p>	<p>Room: Chimney Rock CEF-7 and CEF-9: FINANCIAL TIME SERIES FORECASTING AND ANALYSIS (I & III)</p>
<p>9/29 5:30 P.M. – 5:40 P.M.</p>	<p>BREAK</p>			

9/29 5:40 P.M. – 7:30 P.M.	Room: Tanglewood BLC-4	Room: Pinehurst CIN-8: BIOINFORMATICS	Room: Bellamy CSI-11: INTELLIGENT SYSTEMS (INVITED)	
	Room: Mendenhall FTT-6: COMPUTING WITH WORDS UNDER A FUZZY LOGIC APPROACH: MODELS AND APPLICATIONS	Room: Cape Fear FEA-3: REPRESENTATION AND CONVERGENCE III	Room: Biltmore CVP-11: CVPRIP ALGORITHMS II	Room: Chimney Rock CEF-11: TRADING STRATEGIES (II)
9/29 7:30 P.M. – 7:45 P.M.	BREAK			
9/29 7:45 P.M. – 9:30 P.M.	Room: Tanglewood ROUND TABLE DISCUSSION ON BRAIN-LIKE COMPUTER ARCHITECTURE Chair: James Albus Panelists: Walter Freeman, Nik Kasabov, Karl Pribram, Azriel Rosenfeld, Nestor Schmajuk, Sidney Simon, Lotfi Zadeh,			

TUESDAY, SEPTEMBER 30, 2003

9/30 8 A.M. – 8:50 A.M.	Room: Cape Hatteras AZRIEL ROSENFELD, U. OF MARYLAND <i>"Digital Geometry: A New Overview"</i>		
9/30 9 A.M. – 11 A.M.	Room: 218 CSI-13: HALTON CONJECTURE AND STATISTICS	Room: Cape Hatteras CIN-9: NEURAL NETWORKS	
	Room: Crescent FTT-13: FUZZY LEARNING AND MEDICAL APPLICATIONS	Room: Outer Banks CEF-10: TRADING STRATEGIES (I)	
9/30 11 A.M. – 11:15 A.M.	COFFEE BREAK		
9/30 11:15 A.M. – 1:15 P.M.	Room: 218 CVP-12: CVPRIP ALGORITHMS III	Room: Cape Hatteras CIN-10: GENETIC ALGORITHMS	
	Room: Crescent FTT-7: INFORMATION FUSION AND DECISION MAKING	Room: Outer Banks FTT-10: FUZZY GRAPHS	
9/30 1:15 P.M. – 1:30 P.M.	COFFEE BREAK		
9/30 1:30 P.M. – 3 P.M.	Room: 218 CVP-14: CVPRIP ALGORITHMS V	Room: Cape Hatteras CSI-9: DATA MINING (INVITED)	
	Room: Crescent FTT-12: FUZZY FOUNDATIONS II	Room: Outer Banks CVP-3: MOTION AND MATCHING	

FRIDAY, 9/26

8:00-8:50 A.M.
ROOM: CHIMNEY ROCK

RICHARD KARP, U. CALIFORNIA, BERKELEY
"The Role of Algorithmic Research in Computational Genomics"

9:00-9:45 A.M.
ROOM: CHIMNEY ROCK

RAYMOND TENNANT, NIEHS
"Toxicogenomics — A Portal for Knowledge Base Development in Toxicology"

10:00-10:40 A.M.
ROOM: TANGLEWOOD

ANDREW K.C. WONG, PATTERN DISCOVERY SOFTWARE SYSTEMS
"Pattern Discovery and Exploratory Data Mining"

10:40-11:20 A.M.
ROOM: TANGLEWOOD

IGOR ROGOZIN, NCBI, NLM, NIH
"Computational Pipeline for Comparative Analysis of Eukaryotic Gene Structure"

11:20 A.M.-12:00 P.M.
ROOM: TANGLEWOOD

RACHELLE BIENSTOCK, NIEHS
"Structural Genomics and Protein Structure Prediction"

1:15-2:05 P.M.
ROOM: TANGLEWOOD

JANE RICHARDSON, DUKE U.
"Telling Errors from Outliers in Structural Bioinformatics"

1-15-2:05 P.M.
ROOM: PINEHURST

JOHN REIF, DUKE U.
"Programmable Molecular Self-Assembly: Theory and Experimental Demonstrations"

1-15-2:05 P.M.
ROOM: MENDENHALL

WITOLD PEDRYCZ, U. OF ALBERTA
"Concepts and Models of Granular Computing"

2:10-3:00 P.M.
ROOM: TANGLEWOOD

CHRIS BYSTROFF, RENSSELAER POLYTECHNIC INSTITUTE
"Non-sequential Alignment of Protein Structures Using Local Structure Motifs and Contact Maps"

2:10-3:00 P.M.
ROOM: PINEHURST

JAMES ANDERSON, BROWN U.
"The Ersatz Brain Project: Building a Brain Like Computer for Cognitive Applications."

SATURDAY,
9/27

8:00-8:50 A.M.
ROOM: CHIMNEY ROCK

MICHAEL S. WATERMAN, U. OF SOUTHERN CALIFORNIA
"Algorithms for Partitioning Sequence Variation in Human Chromosomes"

9:00-9:45 A.M.
ROOM: TANGLEWOOD

MARK ADAMS, CASE WESTERN RESERVE U.
"Applying Genomics"

9:00-9:45 A.M.
ROOM: PINEHURST

CLINTON W. KELLY, III SAIC
"What Robots Can Really Do"

9:00-9:45 A.M.
ROOM: CHIMNEY ROCK

ROBERT AXTELL, THE BROOKINGS INSTITUTION
"Artificial Economies of Adaptive Agents: Positive Economics via Agent Computing"

1:15-2:05 P.M.
ROOM: TANGLEWOOD

RUTH NUSSINOV, NATIONAL CANCER INSTITUTE
"Protein Interactions: Binding and Folding"

1:15-2:05 P.M.
ROOM: PINEHURST

LEONID I. PERLOVSKY, AFRL
"Mathematics of Intelligence and Emotions"

1:15-2:05 P.M.
ROOM: MENDENHALL

DA RUAN, THE BELGIAN NUCLEAR RESEARCH CENTRE, BELGIUM
"Computational Intelligence for Applied Research"

2:10-3:00 P.M.
ROOM: TANGLEWOOD

2:10-3:00 P.M.
ROOM: PINEHURST

2:10-3:00 P.M.
ROOM: MENDENHALL

SUNDAY,
9/28

8:00-8:50 A.M.
ROOM: CHIMNEY ROCK

9:00-9:45 A.M.
ROOM: CHIMNEY ROCK

1:15-2:05 P.M.
ROOM: TANGLEWOOD

2:10-3:00 P.M.
ROOM: TANGLEWOOD

MONDAY,
9/29

8:00-8:50 A.M.
ROOM: CHIMNEY ROCK

9:00-9:45 A.M.
ROOM: TANGLEWOOD

9:00-9:45 A.M.
ROOM: PINEHURST

12:20-1:00 P.M.
ROOM: BLOWING ROCK

1:15-2:05 P.M.
ROOM: CAPE FEAR

1:15-2:05 P.M.
ROOM: PINEHURST

2:10-3:00 P.M.
ROOM: CAPE FEAR

TUESDAY,
9/30

8:00-8:50 A.M.
ROOM: CAPE HATTERAS

THOMAS B. KEPLER, DUKE U.

"Minimum Description Length Methods in the Discovery of Invertebrate Immunogenetic Diversification"

NESTOR SCHMAJUK, DUKE U.

"Pre-Pulse Inhibition: A Neural Network Model"

ETIENNE KERRE, GHENT U, BELGIUM

"The Unbearable Richness of Fuzzy Relational Calculus for Knowledge Representation"

LOTFI ZADEH, U. CALIFORNIA, BERKELEY

"Protoform Theory and Its Basic Role in Human Intelligence, Deduction, Definition and Search"

I. BURHAN TÜRKSEN, U. OF TORONTO

"Reconstruction of Epistemology with Fuzzy Theory"

EMMETT N. LEITH, U. OF MICHIGAN

"Holography, Synthetic Apertures, and Confocal Imaging, Cross Fertilization (Summary)"

WALTER FREEMAN, U. CALIFORNIA, BERKELEY

"High-Resolution of Spatiotemporal Phase Patterns in Scalp EEG Reveals Sequential Global State Transitions in Cortex at 5-10/Second"

BURGHARD B. RIEGER, U. OF TRIER

"Understanding Is Meaning Constitution. Perception-Based Processing of Natural Language Texts in Procedural Models of Scip Systems"

JOERG SCHILLING, CALTECH

"Photonic Crystals for Information Technology"

KARL PRIBRAM, GEORGETOWN U.

"Brain and Mathematics: Some Surprising Commonalities"

STEVE GARDNER, KILPATRICK STOCKTON LLP

"Patents in Computational Excellence in Economics and Finance"

DAVID E. GOLDBERG, U. OF ILLINOIS AT URBANA-CHAMPAIGN

"From Competence to Efficiency to Innovation Support"

JAMES ALBUS, NIST

"Intelligent Vehicle Systems For On-road and Off-road Driving"

FERNANDO LOBO, U. OF ALGARVE, PORTUGAL

"An Overview of the Parameter-Less Genetic Algorithm"

AZRIEL ROSENFELD, U. OF MARYLAND

"Digital Geometry: A New Overview"

9TH INTERNATIONAL CONFERENCE ON FUZZY THEORY AND TECHNOLOGY

CHAIR: ETIENNE KERRE, U. OF GHENT, BELGIUM

SATURDAY, 9/27

3:15–5:30 P.M.

ROOM:
MENDENHALL

FTT-1: FUZZY MATHEMATICAL STRUCTURES I

CHAIR: J. MONTERO, COMPLUTENSE U., SPAIN

Pseudo-Convergence of Measurable Functions on Sugeno Fuzzy Measure Spaces

J. Li, Y. Ouyang, Southeast U., China; M. Yasuda, Chiba U., Japan

An Approach To Maximum Likelihood Estimation With Fuzzy Random Variables Via Support Function

D. Wang, M. Yasuda, Chiba U., China

Truth, Fuzziness, Polarity, and Modality

W.-R. Zhang, Georgia Southern U.

Fuzzy Sets and Algebraic Hyperstructures

P. Corsini, Via delle Scienze, Italy

The Solution-Base-Matrix and Branch-Point-Solutions in Fuzzy Relation Equations

L. Chen, U. of D.C.; P. P. Wang, Duke U.

SATURDAY, 9/27

5:40–7:30 P.M.

ROOM:
MENDENHALL

FTT-2: FUZZY MATHEMATICAL STRUCTURES II

CHAIR: TBA

Weakly Sp-Compact Sets in L-Topological Spaces

B. Shi-Zhong, Wayi U., China

Fuzzy Weighted Limits

J. M. Barone, Datatek Applications

Multi-Valued t-Norms and t-Conorms

A. Kehagias, K. Serafimidis, Aristotle U., Greece

The Symmetrical Polygonal Fuzzy Numbers

P. Liu, H. Li, Beijing National U., China

FTT-3: ROUGH SET THEORY (CANCELED)

FTT-4: APPLICATIONS OF FUZZY SET THEORY I

CHAIR: G. CHEN, TSINGHUA U., CHINA

Comparison of Patient Curing Efforts Using Fuzzy Graded Mean integration Method

C.-C. Wang, National Defense U.; S.-H. Chen, Ching Yun Science and Technology U., China

Fuzzy Probabilistic QoS Routing for Uncertain Networks

A. S. Moussa, L. J. Kohout, Florida State U.

Relative Sea Level Modeling Using Fuzzy Logic

J. D. Warren, L. R. Bartek, H. N. Ramsey, U. of North Carolina; P. P. Wang, Duke U.

On Some Sequences Spaces of Fuzzy Numbers

Mursaleen, Aligarh U., India; M. Basarir, Z. Demir, Sakarya U., Turkey

SUNDAY, 9/28

5:40–7:40 P.M.

ROOM:
MENDENHALL

MONDAY, 9/29
10 A.M.–12 P.M.
ROOM:
MENDENHALL

FTT-5: APPLICATIONS OF FUZZY SET THEORY II

CHAIR: K. HUARNNG, FENG CHIA U., TAIWAN

A Mathematical Simulation of a Social Norm Using Fuzzy Sets

B. I. Eke, Morgan State U.

Borda Method of Fuzzy Decision Making

Z. Kai-Qi, Dalian U., Dalian

Properties and Algorithmic Improvement in Discovering Fuzzy Implication-Based Association Rules

P. Yan, G. Chen, Tsinghua U., China

A Self-Tuning Fuzzy Pi Controller for PV-Wind-Diesel-Battery Hybrid Energy Systems

E. Sweelem, A. E.-S. Nafeh, F. H. Fahmy, Electronics Research Inst.; H. T. Dorha, M. Farouk A., Cairo U., Egypt

Some Useful Procedures Towards Consistent Preference Modeling

D. Gómez, J. Montero, J. Yáñez, Complutense U., Spain

MONDAY, 9/29
5:40–7:30 P.M.
ROOM:
MENDENHALL

FTT-6: COMPUTING WITH WORDS UNDER A FUZZY LOGIC APPROACH: MODELS AND APPLICATIONS

CHAIR: L. MARTINEZ-LOPEZ, U. OF JAÉN, SPAIN

Linguistic Assessments and Rankings in Two-Stage Group Decision Making Procedures

J. L. García-Lapresta, U. de Valladolid, Spain

A Linguistic Approach of the Median Aggregator

I. Truck, H. Akdag, A. Borgi, U. of Reims, France

A Methodology for Generating the Semantics of Unbalanced Linguistic Term Sets

F. Herrera, E. Herrera-Viedma, U. of Granada; L. Martínez, P.J. Sánchez, U. of Jaén, Spain

Analysis of the Majority Process in Group Decision Making Process

J. I. Peláez, J. M. Doña, U. De Malaga, Spain; D. La Red, U. Nacional del Nordeste, Argentina

TUESDAY, 9/30
11:15 A.M.–1 P.M.
ROOM: CRESCENT

FTT-7: INFORMATION FUSION AND DECISION MAKING

CHAIR: D. RUAN, BNRC, BELGIUM AND X. ZENG, ENSAIT, FRANCE

A 2-Tuple Fuzzy Linguistic Model for Sensory Fabric Hand Evaluation

X. Zeng, L. Koehl, ENSAIT, France; Y. Ding, Donghua U., China

A Linguistic Decision Process for Evaluating the Installation of an Enterprise Resource Planning System

F. Herrera, E. Herrera-Viedma, U. of Granada; L. Martínez, P.J. Sánchez, U. of Jaén, Spain

Mechanism of Trust in Panel System

M. Oussalah, U. of Birmingham, UK

Using General Fuzzy Number To Handle Fuzziness in Group Decision Making

G. Zhang, J. Lu, U. of Technology, Australia

MONDAY, 9/29
3:15–5:30 P.M.
ROOM:
MENDENHALL

FTT-8: OPTIMIZATION AND INFORMATION MANAGEMENT

CHAIR: D. RUAN, BNRC, BELGIUM AND X. ZENG, ENSAIT, FRANCE

Incomplete Information System and Its Optimal Selections

W.-X. Zhang, J.-S. Mi, Xian Jiantong U., China

Ratio-Based Lengths of Intervals To Improve Enrollment Forecasting

K. Huarng, H. Yu, Feng Chia U.

An Information Criterion for Fuzzy Time Series To Forecast Stock Exchange index on Taiex

K. Huarng, H. Yu, Feng Chia U.

Plant Monitoring and Diagnostics Using intuitionistic Fuzzy Systems

O. Castillo, P. Melin, Tijuana Institute of Technology, Mexico

SUNDAY, 9/28

3:15–5:30 P.M.

ROOM:

MENDENHALL

FTT-9: SOFT COMPUTING IN IMAGE PROCESSING

CHAIR: M. NACHTEGAEL, GHENT U.

Fuzzy Evidential Reasoning Applied to Multi-Modality MR Brain Image Segmentation with Source Selection

H. Zhu, O. Basir, U. of Waterloo, Canada

A Fast and Less Loss Fractal Image Coding Method Using Simulated Annealing

S. Furao, O. Hasegawa, Tokyo Institute of Technology, Japan

Fuzzy Adjunctions in Mathematical Morphology

M. Nachtegael, D. Van Der Weken, E. E. Kerre, Ghent U., Belgium; H. Heijmans, CWI, The Netherlands

TUESDAY, 9/30

11:15 A.M.–1 P.M.

ROOM:

OUTER BANKS

FTT-10: FUZZY GRAPHS

CHAIR: KIRAN BHUTANI, THE CATHOLIC U. OF AMERICA

Properties of Geodesics in Fuzzy Graphs

Kiran Bhutani, The Catholic U. of America; John Mordeson, Creighton U., Azriel Rosenfeld, U. of Maryland

Fuzzy Distance Transform in General Digital Grids and Applications

Punam K. Saha, Felix Wehril, U. of Pennsylvania

Unsupervised Learning in Fuzzy Cognitive Map

Amit Konar, Jadavpur U., India; Uday K. Chakraborty, U. of Missouri

SATURDAY, 9/27

10 A.M.–12 P.M.

ROOM:

MENDENHALL

FTT-11: FUZZY FOUNDATIONS I

CHAIR: LI CHEN, U. OF D.C.

The Solution-Base-Matrix and Branch Point Solutions in Fuzzy Relation Equation

Li Chen, U. of D.C.; Paul P. Wang, Duke U.

Questions on Probabilistic Theory and Its Effect on Probabilistic Reasoning

Ahmed S. Moussa, Florida State U.

Justification of the Logical Implication of Propositional Calculus: Proof by Incremental Constructive Reasoning

Ahmed S. Moussa, Florida State U.

Defining Homomorphisms and Other Generalized Morphism of Fuzzy Relations in Monoidal Fuzzy Logics by Means of BK-Products

Ladislav Kohout, Florida State U.

Fuzzy Algebraic Set in BCK-algebras

Bio Qing Hu, Bin Luo, Juan Juan He, Wuhan U., China

TUESDAY, 9/30

1:30–3 P.M.

ROOM: CRESCENT

FTT-12: FUZZY FOUNDATIONS II

CHAIR: LI CHEN, U. OF D.C.

Multi-valued t-Norms and t-Conorms

Ath. Kahagias and K. Serafimidas, Aristotle U., Greece

Bipolar Fuzzy Sets — A Yin Yang Fusion of the East and West

Wen-Ran Zhang, Georgia Southern U.

TUESDAY, 9/30
9–11 A.M.
ROOM: CRESCENT

Approximation, Imprecision, and Causal Modeling

Lawrence Mazlack, U. of Cincinnati

Fuzzy Cognitive Map and People's Web Behavior

George Meghabghab, Roane State

Course Evaluation Using Fuzzified Merrill's Matrix and β -Connectedness

Li Chen, U. of D.C.; Paul P. Wang, Duke U.

FTT-13: FUZZY LEARNING AND MEDICAL APPLICATIONS

CHAIR: SHUSAKU TSUMOTO, SHIMANE MEDICAL U., JAPAN

On Characteristics of the Dissimilarity Measure for Time-Series Multiscale Matching

Shoji Hirano and Shusaku Tsumoto, Shimane Medical U., Japan

Automated Discovery of Diagnostic Taxonomy from Medical Databases

Shusaku Tsumoto, Shimane Medical U., Japan

**5TH INTERNATIONAL WORKSHOP ON FRONTIERS IN
EVOLUTIONARY ALGORITHMS**

CO-CHAIRS: MANUEL GRANA ROMANY, U. PAIS VASCO/EHU;
RICHARD DURO, U. DA CORUNA

SATURDAY, 9/27
10 A.M.–12 P.M.
ROOM: CAPE FEAR

FEA-1: REPRESENTATION AND CONVERGENCE I

CHAIR: SHIGEYOSHI TSUTSUI, HANNAN U.

The Effects of Static Fitness Function Noise Upon the Performance of Genetic Algorithms

Alexander Grushin, U. of Maryland, USA

Smooth Non-Linear Floating-Point Bit-Mapping Technique

Tom Dickens, The Boeing Company

Edge Histogram Based Sampling Algorithm and Its Application to ACO

Shigeyoshi Tsutsui, Hannan U., Japan

A Filter-Based Evolutionary Algorithm for Constrained Optimization

Lauren Ferguson, Texas Technical U.; William E. Hart, Sandia National Laboratories

MONDAY, 9/29
3:15–5:30 P.M.
ROOM: CAPE FEAR

FEA-2: REPRESENTATION AND CONVERGENCE II

CHAIR: RICHARD DURO, UNIVERSIDADE DA CORUÑA, SPAIN

Optimizing Genetic Algorithms Using Self-Adaptation and Explored Space Modelization

Olivier Martin, Robin Gras, David Hernandez, Ron D. Appel, Swiss Institute of Bioinformatics, CMU

Evolving Evolutionary Algorithms for Function Optimization

Mihai Oltean, Babes-Bolyai U., Romania

A Finite Population Model Analysis of Co-Evolution with "Matching Pennies"

Anthony M.L. Lieskens, Huub M.M. ten Eikelder, Peter A.J. Hilbers, Technische Universiteit Eindhoven, The Netherlands

Simple Genetic Algorithms for Pattern Learning: The Role of Crossovers

Predrag Tosic, Gul Agha, U. of Illinois at Urbana-Champaign

MONDAY, 9/29
5:40–7:30 P.M.
ROOM: CAPE FEAR

FEA-3: REPRESENTATION AND CONVERGENCE III

CHAIR: PATRICIA MELIN, TIJUANA INSTITUTE OF TECHNOLOGY

Multivariate Feature Coupling and Discretization

Stefan Zemke, Royal Institute of Technology, Sweden; Michal Rams, Universite de Bourgogne, France

Obtaining Multimodule ANNs through Evolution Using an Affinity Based Operator

F. Bellas and R. J. Duro, Universidade da Coruña, Spain

Solving Even-Parity Problems Using Multi Expression Programming

Mihai Oltean, Babes-Bolyai U., Romania

Evolutionary Learning Rule for System Identification in Adaptive Filters

Oscar Castillo, Patricia Melin, Tijuana Institute of Technology, Mexico; Oscar Montiel, Roberto Sepulveda, CITEDI, Mexico

MONDAY, 9/29
10 A.M.–12 P.M.
ROOM: CAPE FEAR

FEA-4: APPLICATIONS I

CHAIR: H.S. NG, OPEN U. OF HONG KONG

An Application of Evolutional Algorithm to DNA Sequencing by Oligonucleotide Hybridization

Hiroshi Dozono, Shigeomi Hara, Hisao Tokushima and Yoshio Noguchi, Saga U., Japan

Application of Dynamic Genetic Fuzzy Expert Trading System to a Declining Stock Market

S.S. Lam, The Open U. of Hong Kong; H.S. Ng, K.P. Lam, The Chinese U. of Hong Kong

Reliable Cost Predictions for Finding Optimal Solutions to LABS Problem: Evolutionary and Alternative Algorithms

Franz Brglez, Matthias F. Stallmann, and Xiao Yu Li, N.C. State U.; Burkhard Militzer, Lawrence Livermore National Laboratory

SATURDAY, 9/27
5:40–7:30 P.M.
ROOM: CAPE FEAR

FEA-5 APPLICATIONS II

CHAIR: JOSHUA MICHAEL KUNKEN, STATE U. OF NEW YORK

Using Evolutionary Computation in the Selection of Stock Prediction Models

S. I. Ao, The Chinese U. of Hong Kong, Hong Kong

Cooperative Coevolution of Technical Trading Rules

Lee A. Becker, Mukund Seshadri, Worcester Polytechnic Institute

Forecasting Tourist Demand with Hybrid Regression-NN-EC System

S.I. Ao, The Chinese U. of Hong Kong

Mapping Ganglion Cell Receptive Fields Using a Genetic Algorithm

Joshua Michael Kunken, State U. of New York

SUNDAY, 9/28
3:15–5:30 P.M.
ROOM: CAPE FEAR

FEA-6: APPLICATIONS III

CHAIR: MANUEL GRAÑA, UNIVERSIDAD PAIS VASCO, SPAIN

Learning Linear Operators Through Genetic Algorithms

Gilson A. Giralidi, Ricardo N. Thess, Jean Faber, LNCC, Brazil

Eco-Grammar Systems Modelling Non-Linear Chemical Phenomena

Sergio Anchorena, Blanca Cases, U. of the Basque Country, Spain

Evolutionary Algorithms for Operator Selection in Vision

Vadim Bulitko, Greg Lee, Ilya Levner, U. of Alberta, Canada

A Single Individual Evolutionary Strategy for Endmember Search in Hyperspectral Images

Manuel Graña, Josune Gallego, Carmen Hernandez, Universidad Pais Vasco, Spain

7TH INTERNATIONAL CONFERENCE ON COMPUTER SCIENCE AND INFORMATICS

CO-CHAIRS: MI LU, TEXAS A&M U.; JIE WU, FLORIDA ATLANTIC U.
PROGRAM CHAIR: ZHEN JIANG, WEST CHESTER UNIVERSITY

SUNDAY, 9/28
10 A.M.—12 P.M.
ROOM:
MENDENHALL

CSI-1: NETWORKS

CHAIR: CORY BUTZ, U. OF REGINA, CANADA

Efficient Data Routing Strategy for Scalable Distributed Mobile Multiprocessor Networks

Ekpe Okorafor, Unoma Ndili, M. Lu, Texas A&M U.

Projecting High-Dimensional Data for Network Intrusion Detection

Hongmei Deng, Qing-An Zeng, Dharma P. Agrawal, U. of Cincinnati

A Route Optimization Method for Mobile IP Using MMA (Middle Mobility Agent)

Tsung-Chuan Huang, Chu-Sing Yang, Sheng-Wen Bai, Chen-Chi Wu, National Sun Yat-Sen U., Taiwan

Communication Software Performance for Linux Clusters with Mesh Connections

Jie Chen, William Watson, III, Thomas Jefferson National Accelerator Facility

Three Bluetree Formations for Constructing Efficient Scatternets in Bluetooth

Yuhong Dong, Jie Wu, Florida Atlantic U.

Fault-Tolerant Routing in Dual-Cube Networks

Zhen Jiang, West Chester U.; Jie Wu, Florida Atlantic U.

SUNDAY, 9/28
3:15—5:30 P.M.
ROOM: BELLAMY

CSI-2: SCHEDULING, TRAFFIC CONTROLLING, AND OTHERS

CHAIR: WENYING FENG, TRENT U., CANADA

Improved Parallel Job Scheduling with Overhead

Jessen T. Havill, Vesselin Dimitrov, Denison U.; Weizhen Mao, College of William & Mary

Lookahead Scheduling of Unrelated Machines

Ben Coleman, Weizhen Mao, College of William & Mary

A Traffic Engineering Approach Employing Genetic Algorithms over MPLS Networks

Noppadol Wanichworanant, Rave Pendse, Wichita State U.

Increasing Web Cache Hit Rate by Dynamic Location Partitioning

W. Feng, R.T. Hurley, Z. Tan, Trent U.

Preventing Cache Overflows in an Object-Oriented Database Management System with the Object-Descriptor Architecture

Byung S. Lee, U. of Vermont

SATURDAY, 9/27
5:40—7:30 P.M.
ROOM: BELLAMY

CSI-3: INFORMATION SYSTEM AND DATA PROCESSING

CHAIR: MICHAEL MASCAGNI, FLORIDA STATE U.

Consistent Requirements of Web Services within Their Extension and Composition

Xiang Gao, Tilburg U., The Netherlands

Design of Metadata in a Hydrological Integrated Scientific Data Management System

Zhenping Liu, Yao Liang, Virginia Polytechnic Institute and State U.

The Bounded Trapezoidal Attribute Cardinality Map and Its Application to Query Optimization

B. John Oommen, Jing Chen, Carleton U., Canada

Problems in Designing Data Warehouses and Datamarts

Didier Nakache, CEDRIC, France

SUNDAY, 9/28
10 A.M.—12 P.M.
ROOM: BELLAMY

CSI-4: DATA MINING AND KNOWLEDGE LEARNING

CHAIR: YONGQIAO XIAO, GEORGIA COLLEGE & STATE U.

On Granular Computing for Aggregate Data Mining

Z. Chen, U. of Nebraska at Omaha

Discovering Rules and Answering Queries at the Right Granulation Levels

Z. Chen, U. of Nebraska at Omaha

Competence Sets for Deriving Two-Stage Learning Sequences From Fuzzy Knowledge

Yi-Chung Hu, Chung Yuan Christian U.; Gwo-Hshiung Tzeng, National Chiao Tung U., Taiwan

SUNDAY, 9/28
5:40—7:30 P.M.
ROOM: BELLAMY

CSI-5: PREDICTIVE MODELING

CHAIR: BYUN S. LEE, U. OF VERMONT

Optimizing Job Scheduling in the Grid Environment

Edward Xia, Igo Jurisica, U. of Toronto, Canada

Utility-Theoretic Information Retrieval, Cognitive Hacking, and Intelligence and Security Informatics

Paul Thompson, Dartmouth College

Predicting Ad Sales Using Hybrid Models

Yongqiao Xiao, Georgia College and State U., Jimmy Martin

Use of Numerical Models as Data Proxies for Approximate Ad-Hoc Query Processing

R. Kamimura, G. Abdulla, C. Baldwin, T. Critchlow, I. Lozares, N. Tang, Lawrence Livermore National Laboratory; B. Lee, U. of Vermont; N. Tang, Ikuni, Inc.

SATURDAY, 9/27
10 A.M.—12 P.M.
ROOM: BELLAMY

CSI-6: ALGORITHMS

CHAIR: XIAO CHEN, SOUTHWEST TEXAS STATE U.

Constructing the Maximal Prime Decomposition of Bayesian Networks

C.J. Butz, U. of Regina, Canada

A General Coarsening Method for Granular Probabilistic Networks

C.J. Butz, U. of Regina, Canada

Image Watermarking Through Attacking Simulation

Jiann-Shu Lee, National Huwei Institute of Technology; Chin-Tsorng Tsai, Tungh U.; Tsao-Hwei Koi, Hsiuping Institute of Technology, Taiwan

Image Self-Copying Theorem: An Application of Cellular Automata

Shushuang Man, Southwest State U.; Dowe Hong, Rutgers U.-Camden

A Quorum-Based Fault-Tolerant Method for Distributed Mutual Exclusion

Xiao Chen, Jian Shen, Southwest Texas State U.

SATURDAY, 9/27
10 A.M.—12 P.M.
ROOM: BILTMORE

CSI-7: HEURISTIC SEARCH AND COMPUTER GAME PLAYING I (INVITED)

CHAIR: KEN CHEN, UNCC

Restricting Moves When Solving the NxP-Puzzle

Mohammed Almulla, Kuwait U., Kuwait; Monty Newborn, McGill U., Canada

RTS Games as Test Bed for Real-Time AI Research*Michael Buro, U. of Alberta, Canada***Enhanced Forward Pruning***Mark Winands, Jaap van den Herik, Jos Uiterwijk, Erik van der Werf, U. Maastricht, The Netherlands***A Solution to the GHI Problem for Depth-First Proof-Number Search***Akihiro Kishimoto, Martin Müller, U. of Alberta, Canada*SATURDAY, 9/27

3:15–5:30 P.M.

ROOM: BILTMORE

CSI-8: HEURISTIC SEARCH AND COMPUTER GAME PLAYING II (INVITED)

CHAIR: KEN CHEN, UNCC

A New Positional Evaluation Strategy for Global Search in Go*Keh-Hsun Chen, U. of North Carolina at Charlotte***Search for Transitive Connections***Tristan Cazenave, Bernard Helmstetter, U. Paris 8, France***Learning to Predict Life and Death from Go Game Records***Erik van der Werf, Mark Winands, Jaap van den Herik, Jos Uiterwijk, U. Maastricht, The Netherlands***Associating Domain-Dependent Knowledge and Monte Carlo Approaches within a Go Program***Bruno Bouzy, U. Paris 5, France*TUESDAY, 9/30

1:30–3:00 P.M.

ROOM:

CAPE HATTERAS

CSI-9: DATA MINING (INVITED)

CHAIR: JIANPING ZHANG

Change Detection in Meteorological Data*Jiang Zhao, Chang-Tien Lu, Yufeng Kou, Virginia Polytechnic U.***Applications of Distributed Mining Techniques for Knowledge Discovery in Dispersed Sensory Data***Jerzy Bala, Yiling Weng, Al Williams, Datamat Systems Research; B.K. Gogia, InferX Corp.; Harry Kay Lesser, Lockheed Martin Missile and Fire Control***Adapting Linear Classifiers for Complex Text Categories***Ali Hadjarian, Peter Pachowicz, Mo Shahbazi, George Mason U.***Optimizing Fuzzy Controller for Qos Improvement in Diff-Serv Networks***Baolin Sun, Xianhong Yin, Wuhan Inst. of Science and Technology; Layuan Li, Wuhan U. of Technology, China***Neural Network Algorithm in ATM Buffer Management***XianHong Yin, Huaibei Zhou, Wuhan U.; Baolin Sun, Wuhan Institute of Science and Technology, China*MONDAY, 9/29

3:15–5:30 P.M.

ROOM: BELLAMY

CSI-10: GRAPH THEORY AND APPLICATIONS (INVITED)

CHAIR: W.C-K YEN, U. TAIWAN, TAIWAN

Constructing a Minimum Height Elimination Tree of a Tree in Linear Time*Chung Hsien Hsu, Private Tamkang College; Sheng-Lung Peng, Chang-Hui Shi, National Dong Hwa U., Taiwan***The Strongly k-Edge Hamiltonian Graphs***Chun-Nan Hung and Ching-Hui Chen, Da-Yeh U., Taiwan***The Flow-Orientation Problems or the Weighted Real Networks***Shiin-Jer Yang, Soochow U., Taiwan***Finding the Most-Vital-Vertices with Respect to Dominating Sets on Graphs***William Chung-Kung Yen, Shih Hsin U., Taiwan*

MONDAY, 9/29
5:40–7:30 P.M.
ROOM: BELLAMY

CSI-11: INTELLIGENT SYSTEMS (INVITED)

CHAIR: JOHN HALTON, U OF NORTH CAROLINA

The Study of Information Fusion Algorithm in INS/SARI/GPS Integrated System

Gao Shesheng, Yang Bo, Zhang Zhenlong, Northwestern Polytechnic U., China

Improving MDS-MAP for Node Localization in Sensor Networks

Yi Shang, U. of Missouri-Columbia

Cardinal Directions between Spatial Objects: The Pairwise-Consistency Problem

Serafino Cicerone, Paolino D. Felice, U. degli Studi dell' Aquila, Italy

A Java Garbage Collection Workload

Woo H. Lee, Samsung

FRIDAY, 9/26
3:15–5:30 P.M.
ROOM: BELLAMY

CSI-12: FAULT TOLERANT AND QUERIES

CHAIR: XIANG GAO, TILBURG U., THE NETHERLANDS

Permutation Routing in Wireless Networks: Energy Efficiency and Fault Tolerance

Amitava Datta, U. of Western Australia, Australia

An Efficient Run-Time Paralyzing Scheme for Wavefront Scheduling

Tsung-Chuan Huang, National Sun Yat-sen U.; Po-Hsueh Hsu, Cheng Shiu U., Taiwan

Spatial Data Accesses With Semantic R-Trees

Shu-Ching Chen, Naphtali Rische, Mark Allen Weiss, Florida International U.; Xinran Wang, Microsoft Corp.

TUESDAY, 9/30
9–11 A.M.
ROOM: 218

CSI-13: HALTON CONJECTURE AND STATISTICS

CHAIR: JOHN HALTON, U. OF NORTH CAROLINA

A Prediction Sufficient Statistic for the Exponentially Distributed Censoring Data

S-C Cheng, Creighton U.

A New Approach to the Rigorous Validation of Quasi-Monte-Carlo Methods

John H. Halton, U. of North Carolina

Quasi-Monte Carlo Methods for Some Linear Algebra Problems

Aneta Karairanova, Michael Mascagni, Florida State U.

**5TH INTERNATIONAL CONFERENCE ON COMPUTER VISION,
PATTERN RECOGNITION AND IMAGE PROCESSING**

CHAIR: HENG-DA CHENG: UTAH STATE U.

FRIDAY, 9/26
10 A.M.–12 P.M.
ROOM: BILTMORE

CVP-1: 3D IMAGE PROCESSING

CHAIR: ARNON AMIR, IBM

Autonomous Target Recognition Using Images Containing 3-D Information

Robert Y. Li, NCA&T U.

Adjustment of Imaging Directions Through Post-Processing in Multiview Imagery

Xiaoyong Sun, Eric Dubois, U. of Ottawa, Canada

A New Morphology-Based Interpolation for 3D Image Reconstruction

Sun Da, Tang Xianglong, Huang Jianhua, Harbin Institute of Technology, China

FRIDAY, 9/26
5:40–7:30 P.M.
ROOM: BILTMORE

CVP-2: BIOMETRICS

CHAIR: XIAOJUN QI, UTAH STATE U.

An Embedded System for an Eye Detection Sensor

Lior Zimet, U. of California, Santa Cruz; Sean Kao, Alberto Sangiovanni-Vincentelli, U. of California, Berkeley; Arnon Amir, IBM

Estimation of Depth from Defocus as Rational System Identification

Jitendra Rayala, LSI Logic Corp., USA; Sumana Gupta, S.K. Mullick, Indian Institute of Technology, India

Image Database for Biometrics Personal Authentication Systems

Mayank Vatsa, Richa Singh, P. Gupta, Indian Institute of Technology; Anurag Srivastava, Indian Institute of Information Technology, India

TUESDAY, 9/30
1:30–3 P.M.
ROOM:
OUTER BANKS

CVP-3: MOTION AND MATCHING

CHAIR: NING XU, U. OF ILLINOIS AT URBANA-CHAMPAIGN

Moving Area Detection Based on Color Background in Outdoor Scenes

Yinghua He, Hong Wang, Bo Zhang, Tsinghua U., China

Circular Gabor Based Object Matching by Using Weighted Modified Hausdorff Distance

Zhenfeng Zhu, Ming Tang, Hanqing Lu, Chinese Academy of Sciences, China

A Three-view Matching Algorithm Considering Foreshortening Effects

Ning Xu, Narendra Ahuja, U. of Illinois at Urbana-Champaign

SATURDAY, 9/27
5:40–7:30 P.M.
ROOM:
CAPE HATTERAS

CVP-4: DOCUMENT PROCESSING

CHAIR: MOTOHIDE YOSHIMURA, KOBE U., JAPAN

A Proposed HMM Using Structural Features of Printed Arabic Characters

Abbas H. Hassin, Huang Jian Hua, Tang Xianglong, Harbin Institute of Technology, China

A Self-adaptive Pseudo 2D HMM for Off-line Handwritten Chinese Character Recognition

Li Jie, Wang Jiabin, Zhao Yannan, Yang Zehong, Tsinghua U., China

Multi-Layers Segmentation Method for Complex Document Images

Bing-Fei Wu, Yen-Lin Chen, and Chung-Cheng Chiu, National Chiao Tung U., Taiwan

SUNDAY, 9/28
10 A.M.–12 P.M.
ROOM: BILTMORE

CVP-5: FUZZY LOGIC AND ROUGH SET THEORY

CHAIR: SHOUPU CHEN, EASTMAN KODAK

Fuzzy Non-Reducible Descriptors

Ventzeslav Valev, Asai Asaithambi, St. Louis U.

Fuzzy Min-Max Neural Network for Image Segmentation

Pablo A. Estévez, Gonzalo A. Ruz, Claudio A. Perez, U. of Chile, Chile

A Novel Mammogram Enhancement Algorithm Using Fuzzy Logic Technique

Yanhui Guo, Jianhua Huang, Tang Xianglong, Harbin Institute of Technology, China

FRIDAY, 9/26
3:15–5:30 P.M.
ROOM: BILTMORE

CVP-6: FOURIER AND WAVELET TRANSFORMS

CHAIR: ROBERT LI, NCA&T U.

Object Contour Matching Using the Biorthogonal Wavelet Transform

Xiaojun Qi, Utah State U.

A Novel Feature Extraction Method — Wavelet-Fourier Analysis and Its Application to Glaucoma Classification

Yufeng Zheng, Edward A. Essock, U. of Louisville

Palmprint Features Extraction Using Wavelet Transform

Xiaosheng Su, Xirong Lin, Tianhuai Ding, Tsinghua U., China

A Novel Wavelet Approach to Contrast Enhancement

Heng-Da Cheng, R. Min, Utah State U.

SUNDAY, 9/28
5:40–7:30 P.M.
ROOM: BILTMORE

CVP-7: CVPRIP APPLICATIONS

CHAIR: TANG XIAO LONG, HARBIN INSTITUTE OF TECHNOLOGY, CHINA

A Neural Network Based System for Vehicle Classification

Jing He, Haipeng Du, Donald Cooley, Utah State U.

A Novel Weighted Likelihood Measure for Speech Recognition under G-Force

Zhang Lei, Han Jiqing, Wang Chengfa, Harbin Institute of Technology, China

Visual Urban Space Assessment from Sky Shape Analysis

François Sarradin, Daniel Siret, CERMA, France; Jacques Teller, U. of Liege, Belgium

License Plate Recognition by Multiresolution Information

Koji Yokoyama, Motohide Yoshimura, Shigeo Abe, Kobe U., Japan

3D Shape Measurement Based on a Color-coded Binary Fringe Projection Technique

Jiahui Pan, Peisen S. Huang, Fu-Pen Chiang, SUNY at Stony Brook

SUNDAY, 9/28
3:15–5:30 P.M.
ROOM: BILTMORE

CVP-8: MEDICAL AND BIOLOGICAL IMAGE PROCESSING

CHAIR: PABLO ESTEVEZ, U. OF CHILE

Effective Classification of 3D Closed Surfaces: Application to Modeling Neuroanatomical Structures

Li Shen, James Ford, Fillia Makedon, Dartmouth Medical School; Andrew Saykin, Dartmouth College

A Novel Machine Vision Application for Confocal Microscopic Images

Qiang Zhou, Limin Ma, David Chelberg, Jingbing Xue, Ellengene Peterson, Michael Rowe, Ohio U.

Prediction-Based Compression Ratio Boundaries for Medical Images

XiaoJun Qi, Utah State U.

A Survey on Mass Detection in Mammograms

H.D. Cheng, X.J. Shi, R. Min, X.P. Cai, H.N. Du, L. Feng, Utah State U.

Detection and Classification of Microcalcification: Advances and Prospects

H.D. Cheng, H.P. Cai, X.W. Chen, L.M. Hu, X.L. Lou, Utah State U.

Peaks Recognition in Electrocardiogram Waveforms

Syed Sahal Nazli Alhady, Mohd Rizal Arshad, Mohd Yusof Mashor, U. Sains Malaysia, Malaysia

SUNDAY, 9/28
5:40–7:30 P.M.
ROOM: PINEHURST

CVP-9: FACE RECOGNITION

CHAIR: NING XU, U. OF ILLINOIS AT URBANA-CHAMPAIGN

Face and Eye Detection Using PCA and SVM in Color Images

Frank Y. Shih, Shouxian Cheng, Chao-Fa Chuang, New Jersey Institute of Technology

Distributed Face Detection System with Complementary Classifiers

Shoupu Chen, Henry Nicponski, Lawrence A. Ray, Eastman Kodak Co.

Facial Feature Detection in Near-Infrared Images

Dai-yun Li, Wen-Hung Liao, National Chengchi U., Taiwan

A Novel Face Recognition Algorithm Based on PCA

Rajkiran Gottumukkal, Vijayan K. Asari, Old Dominion U.

An Adaptive Skin Extraction Technique for Face Images with Complex Lighting Environments

Deepthi P. Valaparla, Vijayan K. Asari, Old Dominion U.

MONDAY, 9/29
3:15–5:30 P.M.
ROOM: BILTMORE

CVP-10: CVPRIP ALGORITHMS I

CHAIR: FRANK Y. SHIH, NJIT

A New Adaptive Window Interpolation Corner Detection Algorithm

Yang Li, Li Yu-shan, Xidian U., China

Image Correction and Fusion for Large-Area CCD Sensor Arrays

Hairong Qi, U. of Tennessee; Wesley E. Snyder, N.C. State U.

A Simple Effective Approach for Histogram Equalization and its Application to Image Enhancement

H.D. Cheng, X.J. Shi, Utah State U.

Improving Rotation-Invariance for Texture Classification Through Randomization of Operator Orientation

Jens Pannekamp, Engelbert Westkämper, IPA, Germany

MONDAY, 9/29
5:40–7:30 P.M.
ROOM: BILTMORE

CVP-11: CVPRIP ALGORITHMS II

CHAIR: VIJAYAN ASARI, OLD DOMINION U.

Generalized Optimal Set of Discriminant Vectors Using Kernel Approach

Wenming Zheng, Li Zhao, Cairong Zou, Southeast U., China

Pose-Invariant View Synthesis Using Image-Based Visual Hull

Zhanfeng Yue, Rama Chellappa, U. of Maryland

Robustness of Embedded Linear Predictors

Minghong Pi, Anup Basu, U. of Alberta, Canada

A Generalized Adaptive Gradient Descent Algorithm for the Deconvolution of Noisy Blurred Images

Daan Zhu, Moe Razaz, Richard Lee, U. of East Anglia, UK

Efficient Computation of Full and Subset of Zernike Moments

Chong-Yaw Wee, Paramesran Raveendran, U. of Malaya, Malaysia; Fumiaki Takeda, Kochi U. of Technology, Japan

Properties of Binary Vector Dissimilarity Measures

Bin Zhang, Sargue N. Srihari, SUNY at Buffalo

TUESDAY, 9/30
11:15 A.M.–
1:15 P.M.
ROOM: 218

CVP-12: CVPRIP ALGORITHMS III

CHAIR: VENTZESLAV VALEV, ST. LOUIS U.

The Objective Functions of Hybrid Image Restoration Filters

Wen-Hung Liao, National Chengchi U., Taiwan

Optical Flow Estimation Through Velocity-Based Surface Fitting

Hongshi Yan, Tardi Tjahjadi, U. of Warwick, UK

Robust Watermarking Method Under Histogram Attacks

Feng Jiang, Hongxun Yao, Wen Gao, Harbin Institute of Technology, China

An Online Incremental Learning Using Bagging-SVMs

G.Sun, X.Tang, D.Shi, Harbin Institute of Technology, China

'Eye-Proximation' in Digital Images Based on Chrominance Paradigms

Harishwaran Hariharan, Vijayan K. Asari, Old Dominion U.

MONDAY, 9/29
10 A.M.–12 P.M.
ROOM: BILTMORE

CVP-13: CVPRIP ALGORITHMS IV

CHAIR: HAIRONG QI, U. OF TENNESSEE

Object Representation Based on Sweep Mathematical Morphology

Frank Y. Shih, Vijayalakshmi, Gaddipati, New Jersey Institute of Technology

A Deriving Two-Scan Approach for Exact Euclidean Distance Transformation

Frank Y. Shih, Yi-Ta Wu, New Jersey Institute of Technology

An ROI DCT-based Transcoder for Multi-User Videoconference

Jong-Chih Chien, Li-Chang Liu, L.F. Chaparro, C. C. Li, U. of Pittsburgh

A General Edge Token-based Method for Motion Object Segmentation

Qigang Gao, Yun Zhang, Dalhousie U., Canada

TUESDAY, 9/30
1:30–3:00 P.M.
ROOM: 218

CVP-14: CVPRIP ALGORITHMS V

CHAIR: VLADIMIR SHAPIRO, ORBOGRAPH LTD., ISRAEL

Supervised Pattern Recognition by Parallel Feature Partitioning

Ventzeslav Valev, St. Louis U.

Effective Computation of the Hough-Green Transform

Vladimir Shapiro, Orbograph Ltd, Israel

Simultaneous Object Detection and Recognition Using Markov Random Field

Qiang Zhou, Limin Ma, David Chelberg, Ohio U.

Segmentation of Texture Image Using Modified Messy GA

Takashi Sato, Motohide Yoshimura, Shigeo Abe, Kobe U., Japan

**ATLANTIC SYMPOSIUM ON
COMPUTATIONAL BIOLOGY AND GENOME INFORMATICS**

CHAIR: DAVID K.Y. CHIU, U. OF GUELPH, CANADA

SUNDAY, 9/28
10 A.M.–12 P.M.
ROOM:
TANGLEWOOD

CBG-1: GENOME INFORMATICS AND COMPARATIVE ANALYSIS

CHAIR: LEWIS LUKENS, U. OF GUELPH, CANADA

**Finding the Functional Amino Acid Associations with and without
Assuming the Protein Sequence Phylogeny**

Thomas W.H. Lui, Elisabeth R.M. Tillier, Ontario Cancer Institute, Canada

Molecular Systematics: Not All Phylogenies Are Created Equal

Barbara K. Mable, U. of Guelph, Canada

**Comparative Analyses of Small Bacterial Genomes Using Global
Computational Tools Geneorder and Oregenes**

*Anjan Purkayastha, Srikanth Celamkot, Sashidhara Kundeti, Donald Seto,
George Mason U.; Charles Buck, ATEC*

**Genetic Map and Genome Comparisons Within Plants: Approaches for the
Analysis of Variable Genomes**

Lewis Lukens, U. of Guelph, Canada

FRIDAY, 9/26
3:15–5:30 P.M.
ROOM:
TANGLEWOOD

CBG-2: MICROARRAY AND GENE EXPRESSION ANALYSIS

CHAIR: BJORN OLSSON, U. OF SKÖVDE, SWEDEN

Use of Mixture Models in MALDI-TOF Proteomic Data for Peak Registration

*Simon M. Lin, Michael J. Campa, Michael Wang, Brandon Howard, M. Fitzgerald, Edward
Patz, Duke U. and Medical Center*

Microarray-Based Diagnosis of Breast Cancer Using Decision Trees

*Neda Rahpeyma, Bjorn Olsson, U. of Skövde; Magnus L. Anderson, Astrazeneca R&D,
Sweden*

**Using Random Forest Similarities in Unsupervised Learning: Applications to
Microarray Data**

Tao Shi, Steve Horvath, UCLA

***In Silico* Gene Expression Profiling of Basic Active Genes (BAGS) in Porcine Embryos and Reproductive Tissues Using a Comparative Gene-Based Approach**

Zhihua Jiang, Xiao-Lin Wu, Ming Zhang, Raymond W. Wright, Jr., Washington State U.

Quantifying Gene Expression Networks: Identifying Network Structure

Takeharu Yamanaka, Hiroyoshi Toyoshiba, Christopher J. Portier, NIEHS

A GUI-Based Program for Analysis of DNA Microarray Data Using Bayesian Networks

Fred Parham, Hiroyoshi Toyoshiba, Takeharu Yamanaka, Chris Portier, NIEHS

FRIDAY, 9/26
5:40–7:30 P.M.
ROOM:
TANGLEWOOD

CBG-3: DATABASE AND RETRIEVAL SYSTEMS (I)

CHAIR: JASON T.L. WANG, NJIT

Data Integration in Biological Databases

Katherine G. Herbert, Jason T.L. Wang, New Jersey Institute of Technology;
John Westbrook, Rutgers U.

Automatic Classification of Proper Names in Protein-Related Literatures Using Database Retrieval on WWW

Masayuki Numa, Yoshikazu Kaneta, Takenao Ohkawa, Osaka U., Japan

Guidelines for Data Modeling for Bioinformatics

Greg Butler, Yueqin Chen, Yimin Liu, Yan Meng, Concordia U., Canada

A Method for Extraction of Surface Motifs from a Protein Molecular Surface Database Using Normal Vectors with Attributes

Nripendra L. Shrestha, Youhei Kawaguchi, Takenao Ohkawa, Osaka U., Japan

A Non-Homology Method for Sensitive Information Retrieval from Biological Databases

Gautam B. Singh, Haiping Song, Donglin Liu, Oakland U.; Derek Wildman, Morris Goodman, Wayne State U.; Christyne Bliton, Georgi Kostov, Brian Athey, U. of Michigan

SATURDAY, 9/27
3:15–5:30 P.M.
ROOM:
TANGLEWOOD

CBG-4: DATABASE AND RETRIEVAL SYSTEMS (II)

CHAIR: DAVID K.Y. CHIU, U. OF GUELPH, CANADA

Fusing Information Involving Multiple Databases in Bioinformatics

David K.Y. Chiu, Thomas W.H. Lui, U. of Guelph, Canada

Protein Molecular Surface Retrieval System by Constructing Logical Clusters on GRID

Kenji Inoue, Yusuke Nonomura, Takenao Ohkawa, Osaka U., Japan

Application of Stacked Generalization to a Protein Localization Prediction Task

Melissa K. Carroll, Sung-Hyuk Cha, Pace U.

SATURDAY, 9/27
10 A.M.–12 P.M.
ROOM:
TANGLEWOOD

CBG-5: BIOINFORMATICS TECHNIQUES

CHAIR: KAIZHONG ZHANG, U. OF WESTERN ONTARIO, CANADA

Predicting Distinct Fold-Back Structures and Related MicroRNAs in Genomic Sequences

Shu-Yun Le, Jacob V. Maizel, Jr., National Cancer Institute; Kaizhong Zhang, U. of Western Ontario, Canada

Rotational Matching and Error Bound Calculations

Gregory S. Chirikjian, Johns Hopkins U.; Peter T. Kim, U. of Guelph, Canada;
Christine H. Lee, McMaster U., Canada

Application of Support Vector Regression to Quantitative Structure-Activity Relationships (QSAR)

Hsiao-Mei Lu, Lei Huang, Yang Dai, U. of Illinois at Chicago

SATURDAY, 9/27
5:40–7:30 P.M.
ROOM:
TANGLEWOOD

Gene Finding Using Ordered Sets

Albee Jhoney, Jagir Jussan R.J., IBM, India

Using Virtual Reality To Understand Complex Metabolic Networks

J.A. Dickerson, Y. Yang, K. Blom, A. Reinot, J.Lie, C.Cruz-Neira, E.S. Wurtele, Iowa State U.

Identification of High-Polymorphic Dinucleotide Tandem Repeats Using a Machine Learning Approach

Haifeng Liu, Loo-Nin Teow, DSO National Laboratories, Singapore

CBG-6: BIOLOGICAL KNOWLEDGE DISCOVERY AND DATA MINING (BIO-KDD)

CHAIR: TBA

Informative Network Priors: Joint Learning of Cell Cycle Regulatory Networks from Multiple Types of Data

Alex Hartemink, Duke U.

VEDA: A New DNA Fragment Assembler

Mark K. Goldberg, Darren Lim, Rensselaer Polytechnic Institute

Using Discretization Techniques to Discover Trends and Differential Equations to Infer Gene Networks for Diagnostics

Ru-ting Yang, Ming-Syan Chen, National Taiwan U; Hsueh-Fen Juan, National Taipei U. of Technology, Taiwan

A "Signature" Signal Spectral Characterization of DNA Sequences and Its Biological Implications

Randhir Korlapati, Pentagram Research Center; E.G. Rajan, Vasavi College of Engineering, India

Clustering by Recursive Noise Removal

Ahsan Abdullah, National U. of Computer & Emerging Sciences, Pakistan; Stephen Brobst, NCR Corp.

Discovering Clusters in Gene Expression Data

Patrick Ma, Keith C.C. Chan, The Hong Kong Polytechnic U., Hong Kong; David K.Y. Chiu, U. of Guelph, Canada

3RD INTERNATIONAL WORKSHOP ON COMPUTATIONAL INTELLIGENCE IN ECONOMICS AND FINANCE

CO-CHAIRS: SHU-HENG CHEN, NATIONAL CHENGCHI U.;
XIN YAO, THE UNIVERSITY OF BIRMINGHAM, UK

FRIDAY, 9/26
3:15–5:30 P.M.
ROOM:
CHIMNEY ROCK

CEF-1: CAPITAL, GROWTH, AND BUSINESS CYCLE

CHAIR: ALEXEI G. ORLOV, RADFORD U.

A Preview of the Third International Workshop on Computational Intelligence in Economics and Finance

Shu-Heng Chen, Chung-Ching Tai, National Chengchi U., Taiwan; Xin Yao, U. of Birmingham, UK

Heterogeneous Expectations and Learning Mechanisms in a RBC Model

Ching Yang Lin, Ching-Seng Mao, National Taiwan U., Taiwan

The Learn by Doing Endogenous Growth Model of Environment Pollution and Population Growth

Li Li, Shigeng Hu, Huazhong U. of Science and Technology; Tong Li, Pan Wang, Wuhan U. of Technology, China

Enclosing the Behaviors Happening in Stock Market into One Model Involving Two Differential Equations

Jishou Ruan, Nankai U., China

Capital Controls and Firm's Dynamics

Alexei G. Orlov, Radford U.

FRIDAY, 9/26

1:15–3:00 P.M.

ROOM:

CHIMNEY ROCK

CEF-2: TUTORIAL

CHAIR: W. F. LAWLESS, PAINE COLLEGE

Reinforcement Learning

Nicholas Feltovich, U. of Texas at Houston

Bayesian Networks

Chiu-Che Tseng, Texas AMU

SUNDAY, 9/28

5:40–7:30 P.M.

ROOM:

CHIMNEY ROCK

CEF-3: ECONOMIC AGENTS DESIGN

CHAIR: NICK FELTOVICH, U. OF HOUSTON

Designing Agents That Strategically Use Time in Negotiation Situations

Norberto Eiji Nawa, ATR Human Information Science Labs, Japan

Utility Modules: Embedding Real World Preferences and Behaviors in Artificial Economic Agents

Yuya Sasaki, Utah State U.

Behavioral Modeling in Optimal Investment-Consumption Decisions for Long-term Financial Planning

Aparna Gupta, Lepeng Li, Rensselaer Polytechnic Institute

Slow Learning in the Market for Lemons: A Note on Reinforcement Learning and the Winner's Curse

Nick Feltovich, U. of Houston

SUNDAY, 9/28

3:15–5:30 P.M.

(COMBINED WITH CEF-5)

ROOM:

CHIMNEY ROCK

CEF-4: APPLICATIONS IN BUSINESS AND MANAGEMENT (I)

CHAIR: EDIT J. KAMINSKY, U. OF NEW ORLEANS

IT Management Effectiveness: Business Value and Barriers

Yasuo Kadono, Tsukuba U., Japan

Fuzzy Network Decision for the Shortest Path Problem

Tzung-Nan Chuang, National Taiwan Ocean U.; Jung-Yuan Kung, Chinese Naval Academy, Taiwan

A Fuzzy-Neural Highly Accurate Cost Estimating Model (HACEM)

Edit J. Kaminsky, U. of New Orleans; Freddie Douglas, NASA

SUNDAY, 9/28

3:15–5:30 P.M.

(COMBINED WITH CEF-4)

ROOM:

CHIMNEY ROCK

CEF-5: APPLICATIONS IN BUSINESS AND MANAGEMENT (II)

CHAIR: CHINGPING HAN, FLORIDA ATLANTIC U.

Computer-Aided Software Project Management in Stochastic Environments

Lukas Pichl, Yusuke Sugawara, U. of Aizu, Japan; Takuya Yamano, Max-Planck Institute, Germany

Real Options Modelling Using Automated Software Generation

A. Chortaras, Y. Guo, M. M. Ghanem, F. O. Bunnin, Imperial College London, UK

A Genetic Algorithm Based Supply Chain Inventory and Distribution Cost Reduction Model

Montri Damrongwongsiri, Chingping Han, Florida Atlantic U.

FRIDAY, 9/26
10 A.M.–12 P.M.
(COMBINED
WITH CEF-13)
ROOM:
CHIMNEY ROCK

CEF-6: SELF-ORGANISING LEARNING

CHAIR: RAQUEL FLOREZ-LOPEZ, U. OF LEON, SPAIN

Self-Organizing Learning Array and Its Application to Economic and Financial Problems

J. A. Starzyk, Zhen Zhu, H. He, Zhineng Zhu, Ohio U.

Forecasting Using Self-Organising Maps

Pei Ling Lai, Colin Fyfe, The U. of York and The U. of Paisley, Scotland

Strategic Supplier Selection in the Added-Value Perspective: An AI Approach

Raquel Florez-Lopez, U. of Leon, Spain

MONDAY, 9/29
3:15–5:30 P.M.
(COMBINED
WITH CEF-9)
ROOM:
CHIMNEY ROCK

CEF-7: FINANCIAL TIME SERIES FORECASTING AND ANALYSIS (I)

CHAIR: CHRISTOPHER ZAPART, FINANCIAL TRADING SOLUTIONS LTD.

Predicting Stock Market Reactions to Financial News Using Naive Bayesian Classifiers

Nils Svargard, Peter Nordin, Stefan Lloyd, Chalmers U. of Technology, Sweden

Stock Price Prediction using News Factor Correlation Model

H.S. Ng, K. P. Lam, The Chinese U. of Hong Kong, Hong Kong

Discovering Temporal Categorical Association Rules (TcARs) on Stock Returns

Jing Hu, Guoqing Chen, Peng Yan, Tsinghua U., China

Application of the Wavelet Correlation Measure in Computational Finance

Christopher Zapart, Advanced Financial Trading Solutions Ltd., UK

MONDAY, 9/29
10 A.M.–12 P.M.
ROOM:
CHIMNEY ROCK

CEF-8: FINANCIAL TIME SERIES FORECASTING AND ANALYSIS (II)

CHAIR: CHUNG-CHIH LIAO, NAT. CHENGCHI U., TAIWAN

The States Transition Modeling for Taiwan Stock Market

Yen-Tseng Hsu, Ho-Chih-We, Ling-Ling Wu, Yu-Min Chou, Hiu-Fen Hung, Yi-Yih Kang, Ming-Chung Liu, National Taiwan U., Taiwan

Fuzzy Logic in the Stock-Exchange Finances

Hector Guevara-Islas and Neil Hernandez-Gress, ITESM-CEM, Mexico

The Influence of GP's Representations in Financial Data Mining

Chia-Hsuan Yeh, Yuan Ze U., Taiwan

Stock Forecasting by ARCH Driven Gaussian TFA and Alternative Mixture Experts Models

Kai-Chun Chiu, Lei Xu, The Chinese U. of Hong Kong, Hong Kong

Applying the Analogue Complexing with Active Neurons Modelling Method for the Forecast of the Exchange Rate Market

Leonidas Anastasakis, Neil Mort, U. of Sheffield, UK

MONDAY, 9/29
3:15–5:30 P.M.
(COMBINED
WITH CEF-7)
ROOM:
CHIMNEY ROCK

CEF-9: FINANCIAL TIME SERIES FORECASTING AND ANALYSIS (III)

CHAIR: TBA

A Hybrid Support Vector Regression Model of Chaotic Time Series Forecasting

Chih-Hung Wu, Kang-Lin Peng and Yeong-Jia James Goo, Takming College, Taiwan

Volatility Asymmetry in High Frequency Data

Julia Litvinova, Duke U.

Testing for Nonlinearity and Determinism in Stock Market

Lu Shan, Wang Haiyan, Southeast U., China

Finite Mixture of ARMA-GARCH Model for Stock Price Prediction

Him Tang, Kai-Chun Chiu, and Lei Xu, The Chinese U. of Hong Kong, Hong Kong

TUESDAY, 9/30
9–11 A.M.
ROOM:
OUTER BANKS

MONDAY, 9/29
5:40–7:30 P.M.
ROOM:
CHIMNEY ROCK

FRIDAY, 9/26
5:40–7:30 P.M.
ROOM:
CHIMNEY ROCK

FRIDAY, 9/26
10 A.M.–12 P.M.
(COMBINED
WITH CEF-6)
ROOM:
CHIMNEY ROCK

CEF-10: TRADING STRATEGIES (I)

CHAIR: H.S. NG, CHINESE U. OF HONG KONG

Using Neuro Fuzzy to Find Price-Quantity Based Technical Trading Rules

Chien-Shien Lin, Providence U., Taiwan

Advanced Trading Strategy Using Neuro-Candlestick

Y. T. Yan, H. S. Ng, K. P. Lam, The Chinese U. of Hong Kong, Hong Kong

Multi-Valued Stock Valuation Based on Fuzzy Genetic Programming Approach

Jiah-Shing Chen, National Central U.; Ping-Chen Lin, Van Nung Institute of Technology, Taiwan

CEF-11: TRADING STRATEGIES (II)

CHAIR: PHILIP L. H. YU, THE U. OF HONG KONG, CHINA

The Evolution of Security Design

Thomas H. Noe, Michael J. Rebello, and Jun Wang, Tulane U.

Applying Real Options and Maximum NPV Rule to Market Enter/Exit Strategies

Tyrone T. Lin, Ming Chuan U; Tung-Li Shih, I-Shou U., Taiwan

GP-evolved Technical Trading Rules Can Outperform Buy and Hold

Lee A. Becker, Mukund Seshadri, Worcester Polytechnic Institute

Modeling International Short-Term Capital Flow with Genetic Programming

Shu-Heng Chen, Tzu-Wen Kuo, National Chengchi U., Taiwan

Automating Technical Analysis

Philip L. H. Yu, S. H. Ng, The U. of Hong Kong; K. Lam, Hong Kong Baptist U., Hong Kong

CEF-12: PORTFOLIO MANAGEMENT (I)

CHAIR: BIN-TZONG CHIE, NATIONAL CHENGCHI U., TAIWAN

Portfolio Selection Based on Possibilistic Mean and Variance of Fuzzy Numbers

Wei-Guo Zhang and Zan-Kan Nie, Xian Jiaotong U., China

Grey-Based Stock Selection System

Yen-Tseng Hsu, Yen-Chih Wu, Hui-Fen Hung, Yi-Yih Kang, Ming-Chung Liu, National Taiwan U. of Science and Technology; Ya-Min Chou, National Taiwan U., Taiwan

Stock Exchange Prediction and Portfolio Administration by Statistics and Artificial Neural Networks

Fernando Ortiz-Rossains, Alejandro Calderon-Aveitua, Neil Hernandez-Gress, Campus Estado de Mexico, Mexico

Generating Investment Policies for Nonlinear Portfolio Optimization with Genetic Programming

Nils Svargard, Peter Nordin, Chalmers U. of Technology, Sweden

CEF-13: PORTFOLIO MANAGEMENT (II)

CHAIR: PAUL MCNELIS, GEORGETOWN U.

Application of Quantitative Credit Risk Models in Fixed Income Portfolio Management

Ron D'Vari, Kishore Yalamanchili, David Bai, State Street Research and Management

Influence Diagram for Investment Portfolio Selection

Chiu-Che Tseng, Texas A&M U.

Idiosyncratic Risk and Downside Risk: Portfolio Choice in Globalized Markets

Paul McNelis, Simone Koo, Georgetown U.

SATURDAY, 9/27
1:15–3:00 P.M.
ROOM:
CHIMNEY ROCK

CEF-14: ORGANIZATIONAL DECISION

CHAIR: ANA MAROSTICA, U. OF BUENOS AIRES, ARGENTINA

The Inter-Organizational Strategic Alliance Impact on Organizational Value Decision Choice Mode and Intellectual Capital

Tsai-Lung Liu, I-Shou U., Taiwan

Computational Intelligence for Predicting Corporate Takeovers: A Comparison of Alternative Methods

Chao-Hsien Chu, Penn State U.; Dan Zhu, Iowa State U.

A Quantum Model of Organization Mergers

W. F. Lawless, Paine College; James M. Grayson, Augusta State U.

Modern Organizations and Decision-Making Processes: A Heuristic Approach

Ana Marostica, Cesar Briano, U. of Buenos Aires, Argentina

SATURDAY, 9/27
10 A.M.–12 P.M.
ROOM:
CHIMNEY ROCK

CEF-15: AGENT-BASED MODELING OF SOCIAL BEHAVIOR

CHAIR: SEAN BOYLE, LONDON SCHOOL OF ECONOMICS, UK

Creativity in Agent-Based Systems

Russ Abbott, California State U.

Measuring Peer Effects in Youth Smoking Behavior

Ryo Nakajima, New York U.

Online Optimization of Traffic Policy through Multi-Agent Reinforcement Learning

Yuya Sasaki, Nicholas S. Flann, Utah State U.

An Application of Agent-Based Simulation to Policy Appraisal in the Criminal Justice System in England and Wales

Sean Boyle, London School of Economics, UK

SATURDAY, 9/27
5:40–7:30 P.M.
ROOM: BILTMORE

CEF-16: AGENT-BASED MODELING OF ECONOMIC AND FINANCIAL MARKETS (I)

CHAIR: JUDY K. FRELS, U. OF MARYLAND

Soft Computing Approaches to Market Forecasting and Trading Rules

Arnold F. Shapiro, Penn State U.

Adaptive Traders in Call Markets

Sebastien Pouget, Georgia State University

Measuring the Effect of Indirect Network Externality in VCR Standardization Process

Masayuki Tsuji, Hidenori Kawamura, and Azuma Ohuchi, Hokkaido University

Standard-Scape: An Agent-Based Model of Adoption with Incomplete Information and Network Externalities

Judy K. Frels, Debbie Heisler, James A. Reggia, U. of Maryland

SUNDAY, 9/28
10 A.M.–12 P.M.
ROOM:
CHIMNEY ROCK

CEF-17: AGENT-BASED MODELING OF ECONOMIC AND FINANCIAL MARKETS (II)

CHAIR: M. NORTH, ARGONNE NATIONAL LABORATORY

Limitedly Rational Autonomous Agents as Simulations of Economic Actors

Foster McGearry, Keith Decker, U. of Delaware

Agent-Based Modeling of Lottery Markets

Shu-Heng Chen, Bin-Tzong Chie, National Chengchi U., Taiwan

Applying Computational Intelligence to Economic Policy

M. North, C. Macal, D. Cirillo, G. Conzelmann, V. Koritarov, P. Thimmapuram, T. Veselka, Argonne National Laboratory

SATURDAY, 9/27
3:15–5:30 P.M.
(COMBINED
WITH CEF-19)
ROOM:
CHIMNEY ROCK

SATURDAY, 9/27
3:15–5:30 P.M.
(COMBINED WITH
CEF-18)
ROOM:
CHIMNEY ROCK

SUNDAY, 9/28
1:15–3:00 P.M.
ROOM:
CHIMNEY ROCK

FRIDAY, 9/26
3:15–5:30 P.M.
ROOM: HOPE

CEF-18: AGENT-BASED MODELING OF ECONOMIC AND FINANCIAL MARKETS (III)

CHAIR: BRUNO H. STRULOVICI, STANFORD U.

Behavioral Finance and Agent-Based Computational Finance: Toward an Integrating Framework

Shu-Heng Chen, National Chengchi U.; Chung-Chih Liao, National Taiwan U., Taiwan

Prediction Accuracy and Imitating Behavior in Artificial Markets with Endogenous Pricing

Bruno H. Strulovici, Kushagra Saxena, Stanford U.

Agent-based Simulation of Price and Wealth Dynamics with Direct Information Exchange among Investors

Bruno H. Strulovici and Anthony Hui, Stanford U.

CEF-19: AGENT-BASED MODELING OF ECONOMIC AND FINANCIAL MARKETS (IV)

CHAIR: TAKAO TERANO, U. OF TSUKUBA, JAPAN

Trader Behavior in the Modeling of Asset Price Dynamics

James A. Primbs, Stanford U.; Muruhan Rathinam, U. of Maryland.

Portfolio Optimization with Hedging in Strictly Convergent Coevolutionary Markets

Lukas Pichl, Lothar M. Schmitt, U. of Aizu; Ayako Watanabe, Ochanomizu U., Japan

Analyzing Micro-Macro Structures in a Financial Market via Agent-Based Simulation

Takao Terano, Hiroshi Takahashi, U. of Tsukuba, Japan

CEF-20: DOUBLE AUCTION AND ARTIFICIAL STOCK MARKETS

CHAIR: BRUNO H. STRULOVICI, STANFORD U.

Electronic Market Making: Initial Investigation

Yuriy Nevmyvaka, Katia Sycara, Duane J. Seppi, Carnegie Mellon U.

Minimal Intelligence Agents in Double Auction Markets with Speculators

Senlin Wu and Siddhartha Bhattacharyya, U. of Illinois at Chicago

Interaction of Human Traders and Artificial Agents on Double Auction Markets: Simulations and Laboratory Experiments

*Jens Grossklags, U. of California at Berkeley; Carsten Schmidt, Max-Planck Institute,
Germany*

Price Formation Rules in an Artificial Stock Market with Heterogenous, Risk-Averse Investors

Bruno H. Strulovici, Stephanie Leung, Stanford U.

3RD INTERNATIONAL WORKSHOP ON INTELLIGENT MULTIMEDIA COMPUTING AND NETWORKING

CO-CHAIRS: QING LI, CITY U. OF HONG KONG,
HONG VA LEONG, HONG KONG POLYTECHNIC U.

IMN-1: MEDIA RETRIEVAL

CHAIR: TBA

Content-Based 3D Object Retrieval on VRML Database

Ching-Sheng Wang, Altheia U.; Timothy K. Shih, Chun-Hung Huang, Tamkang U., Taiwan

A Semantic Approach for Content-Based Flash Retrieval

*Bo Feng, Qing Li, Jun Yang, Wenyin Liu, City U. of Hong Kong, Hong Kong; Dawei Ding,
Zhejiang U., China*

Supporting Intelligent Querying Over Multimedia Digital Libraries (Invited)
Ling Feng, U. of Twente, The Netherlands

FRIDAY, 9/26
5:40–7:30 P.M.
ROOM: HOPE

IMN-2: FEATURE SELECTION, ANNOTATION, AND EXTRACTION

CHAIR: TBA

Feature Selection for Image Data Via Learning (Invited)

Patricia G. Foschi, San Francisco State U.; Deepak Kolippakkam, Huan Liu, Arizona State U.

Improving Automatic Annotation for Medical Images Based on Feedback

H. L. Tang, L. Chen, U. of Surrey, UK

Singing Voice Extraction from Polyphonic Pop Song

Tai-Wan Leung, Chong-Wah Ngo, Rynson Lau, city U. of Hong Kong, Hong Kong

FRIDAY, 9/26
TO A.M.–12 P.M.
ROOM: HOPE

IMN-3: CODING, ADAPTATION, AND AUTHORING APPLICATION

CHAIR: TBA

A Robust Halftone Binary Image Hiding Method

Yung-Kuan Chan, National Huwei Institute of Technology; Sheng-Chu Wu, Chaoyang U. of Technology; Dei-Yen Huang, National Chung Hsing U., Taiwan

Alternative Sequencing for Courseware Authoring

Timothy K. Shih, Che-Yu Yang, Jyh Yu Hu, Tamkang U., Taiwan

Enabling Multimedia Adaptation Services in Content Delivery Networks (Invited)

Wei-Ying Ma, Xing Xie, Chun Yuan, Yu Chen, Zheng Zhang, Hong-Jiang Zhang, Microsoft Research Asia, China

An Approach for Supporting On-Line Chain Store

Jason C. Hung, Chun-Chia Wang, Kuang Wu Institute of Technology; Schummi Yang, Keith Hsieh, Hsuan-Pu Chang, Tamkang U.

SATURDAY, 9/27
TO A.M.–12 P.M.
ROOM: HOPE

IMN-4: VIDEO PROCESSING

CHAIR: TBA

Visual Computing in Arts and Media Retrieval (Invited)

Horace IP, City U. of Hong Kong, Hong Kong

On the Characteristics of the Sequence Generated by a Sliding Window on MPEG-4 FGS Video and Its Use in Streaming

Philips Koshy, S.V. Raghavan, Indian Institute of Technology, India

Automatic Parsing of Broadcasted Sports Videos

Fei Wang, Jintao Li, Chinese Academy of Sciences, China; Kevin Lü, Brunel U., UK

A Fast Encryption Method for Compressed MPEG Video

Chang N. Zhang, Yawen Wu, U. of Regina, Canada

SATURDAY, 9/27
3:15–5:30 P.M.
ROOM: HOPE

IMN-5: CACHING, SEARCHING, AND ROUTING

CHAIR: TBA

Intelligent Cache Capacity Allocation and Relocation Schemes in a Mobile Proxy (Invited)

Jiun-Long Huang, Ming-Syan Chen, National Taiwan U., Taiwan

A Concept + Metadata Search Engine for Digital Libraries

Su-Shing Chen, U. of Florida; Baomin Li, Microsoft Corp.

A Hybrid Routing Algorithm based on Local Optimal Clusters for Ad-hoc Networks

Wang Lei, Lin Yaping, Yang Xio-lin, Shrestha Raju, Hunan U., China

Quality-of-Service Routing for Web-Based Multimedia Servers (Invited)

Shui Yu, Wanlei Zhou, Morshed U. Chowdhury, Deakin U., Australia

**3RD INTERNATIONAL WORKSHOP ON
ADAPTIVE SYSTEMS AND BRAIN-LIKE COMPUTING**

CHAIR: NIK KASABOV, AUCKLAND U. OF TECHNOLOGY, NEW ZEALAND

MONDAY, 9/29
3:15–5:30 P.M.
ROOM:
TANGLEWOOD

ABC-1

CHAIR: NIK KASABOV, AUT

Evolving Connectionist Modeling of Auditory, Visual and Combined Stimuli Perception Based on EEG Data

David Zhang, Nikola Kasabov, Qun Song, Auckland U. of Technology, New Zealand; Ikuku Nishikawa, Ritsumeikan U., Japan

Connectionist Systems for Rapid Adaptive Learning: A Comparative Analysis on Speech Recognition

George Coghill, U. of Auckland; David Zhang, Akbar Ghobakhlou, Nikola Kasabov, Auckland U. of Technology, New Zealand

Information Flow Control by Autonomous Adaptive Nodes and Its Application to an On-line Traffic Control

Ikuku Nishikawa, Ritsumeikan U.; Hajime Kita, Kyoto U., Japan

Real-time Recognition of the Operating Modes of Plants and Machines by Use of Self-Organizing Maps

Gancho Vachkov, Kagawa U., Japan; Nikola Kasabov, Auckland U. of Technology, New Zealand

Adaptive Neural Networks, Gene Networks, and Evolutionary Systems — Real and Artificial Evolving Intelligence

Nikola Kasabov, Auckland U. of Technology, New Zealand

**2ND SYMPOSIUM ON PHOTONICS, NETWORKING AND
COMPUTING**

CHAIR: DAVID BRADY, DUKE UNIVERSITY

SATURDAY, 9/27
5:40–7:30 P.M.
ROOM: HOPE

PNC-1: NETWORKING/ALGORITHMS & PROTOCOLS

CHAIR: NELSON TANSU, LEHIGH U.

Evolution, Challenges and Enabling Technologies for Future WDM-Based Optical Access Networks

Fu-Tai An, Kyeong Soo Kim, Yu-Li Hsueh, Matthew Rogge, Wei-Tao Shaw, Leonid Kazovsky, Stanford U.

A Novel Fast Dynamic Restoration with Just Enough Utilization (DRJEU) Algorithm in IP/GMPLS over DWDM Networks

I-Feng Huang, Ning Junior College; I-Shyan Hwang, Chia-Chia Chien, Yuan Ze U., Taiwan

A New Media Access Control Protocol with Quality of Service and Fairness Guarantee in Ethernet-based Passive Optical Networks

Yu-Li Hsueh, Fu-Tai An, Kyeong Soo Kim, Leonid G. Kazovsky, Stanford U.

A Deterministic Fault-Tolerant Connection-Scheduling Algorithm for Dilated Benes Network

I-Shyan Hwang, Wang-Dauh Tseng, I-Feng Huang, Yuan Ze U., Taiwan

SUNDAY, 9/28
10 A.M.-12 P.M.
ROOM: HOPE

PNC-2: OPTICAL INFORMATION SCIENCE THEORY/ANALYSIS

CHAIR: SULE OZEV, U. CALIFORNIA, SAN DIEGO

Information Transfer and Landauer's Principle

Michael C. Parker, Fujitsu Network Communications, Inc.; Stuart D. Walker, U. of Essex, UK

An Information-Based Analysis of Two Single-Detector Imaging Systems

Mark A. Neifeld, Amit Ashok, U. of Arizona

Artificial Perception as a Research Paradigm

H. John Caulfield, Fisk U.

Bi₂O₃-Based Erbium-Doped Fibers for Broadband Photonic Network Applications

Hideyuki Sotobayashi, Juliet T. Gopinath, Erich P. Ippen, MIT

SUNDAY, 9/28
3:15-5:30 P.M.
ROOM: HOPE

PNC-3: OPTOELECTRONIC DEVICES/ CIRCUIT LEVEL/CHARACTERISTIC & SIMULATION

CHAIR: MIKE PARKER, FUJITSU NETWORK COMM.

Integrated EOADC with Spatial Filter

T. Renkoski, Wen-Ren Yang, J. Gahl, W.C.Nunnally, U. Missouri-Columbia

Picosecond Pulse Generation and Distribution for Electro-Optical Analog to Digital Converters

A. Kathuria, R.Rajendran, J. Gaul, W.C. Nunnally, U. Missouri-Columbia

Characterization of Photonic Devices by Finite Element Method

B.M.A Rahman, T. Wongcharoen, S.S.A. Obayya, A. Haxha, N. Somasiri, C. Themistos, M. Rajarajan, K.T.V. Grattan, City U., London, UK

Extraction and Modeling of the Optoelectronic Characteristics of an Optical Interconnect Link by Direct Measurement of its Electrical Performance

Emel Yuceturk, Sule Ozev, Sadik Esener, U. California, San Diego

Polarization Issues in Photonics

B.M.A Rahman, S.S.A Obayya, N. Somasiri, M. Rajarajan, K.T.V. Grattan, City U., London, UK

SATURDAY, 9/27
3:15-5:30 P.M.
ROOM: BELLAMY

PNC-4: OPTICAL IMAGING

CHAIR: HUBEI JIANG, CLEMSON U.

Differentiation of Cysts from Solid Tumors with Diffuse Optical Mammography

Huabei Jiang, Xuejun Gu, Yong Xu, Clemson U.; Leonard Schutz, Horizon Hematology-Oncology; Laurie L. Fajardo, U. of Iowa

Inversion Methods for Imaging and Synthesis

Michael Fiddy, U. of North Carolina, Charlotte

MONDAY, 9/29
10 A.M.-12 P.M.
ROOM: HOPE

PNC-5: PHOTONIC DEVICES/DEVICE LEVEL/LASERS

CHAIR: JOSEPH KIM, STANFORD U.

Distributed Cost-based Update Policies for QoS Routing on Hierarchical Networks

Ben-Jye Chang, Chaoyang U. of Technology; Reb-Hung Hwang, Nat. Chung Chen U., Taiwan

Nonlinear Photonic Crystals

Aref Chowdhury, Bell Laboratories

Development of an X-Ray Transmitting Catheter

F.H. Cocks, P.A. Klenk, W.N. Simmons, Duke U.

MONDAY, 9/29
3:15–5:30 P.M.
ROOM: HOPE

PNC-6: PHOTONIC DEVICES AND SWITCHES

CHAIR: SANGROK LEE, DUKE U.

Optimization of Frame Buffer Pixels for an LCOS Microdisplay

Sangrok Lee, James C. Morizio, Kristina M. Johnson, Duke U.

High Performance Dilute-Nitride Telecommunication Lasers

Nelson Tansu, Lehigh U.; Luke J. Mawst, U. of Wisconsin-Madison

A Photonic Switch Architecture with Wavelength Exchangers

Haitham Hamza, Jitender Deogun, Ahmed Mahdy, Kefei Wang, U. of Nebraska-Lincoln

ALL PNC 2003 PARTICIPANTS ARE INVITED TO A RECEPTION SPONSORED BY DUKE UNIVERSITY, SUNDAY, 9/28, 5:30-7:00 PM IN THE CAPE HATTERAS ROOM, EMBASSY SUITES HOTEL.

6TH INTERNATIONAL CONFERENCE ON COMPUTATIONAL INTELLIGENCE AND NATURAL COMPUTING

CO-CHAIRS: DAN VENTURA, BRIGHAM YOUNG U., SANJOY DAS, KANSAS ST. U.

FRIDAY, 9/26
3:15–5:30 P.M.
ROOM: PINEHURST

CIN-1: MOLECULAR COMPUTING (INVITED)

CHAIR: BRUCE MACLENNAN, U. OF TENNESSEE

Overview of New Structures for DNA-Based Nanofabrication and Computation

Thomas H. LaBean, Hao Yan, Sun Ha Park, Liping Feng, Peng Yin, Hanying Li, Sang Jung Ahn, Dage Liu, Xiaojun Guan, John Reif, Duke U.

A New Approach to Autonomous Kinase Computing

Jian-Qin Liu, Katsunori Shimohara, ATR Human Information Science Laboratories, Japan

Combinatory Logic for Autonomous Molecular Computation

Bruce T. MacLennan, U. of Tennessee

FRIDAY, 9/26
10 A.M.–12 P.M.
ROOM: PINEHURST

CIN-2: APPLICATIONS OF COMPUTATIONAL INTELLIGENCE (INVITED)

CHAIR: CLAUS NEUBAUER, SIEMENS CORP.

Using Bayesian Network Classifiers To Analyze Gene Expression Data: A Case Study

Jie Cheng, Siemens Corp. Research

Using ROC Curve in the Absence of Positive Examples

Zehra Cataltepe, Ming-Wei Chang, Thomas Stiefmeier, Bo-Juen Chen, Claus Neubauer, Siemens Corp. Research

Image Watermarking Using Fuzzy Logic

Ayman M. Ahmed, Dwight D. Day, Kansas State U.

Image Watermarking Using Hartley Based Naturalness Preserving Transform

Ayman M. Ahmed, Dwight D. Day, Kansas State U.

Fast Pattern Recognition Incorporating Biological Principles

Claus Neubauer, M. Fang, Siemens Corp. Research

FRIDAY, 9/26
5:40–7:30 P.M.
ROOM: PINEHURST

CIN-3: CURRENT TRENDS IN NEURAL NETWORKS: THEORY AND APPLICATIONS (INVITED)

CHAIR: SIMON LEVY, WASHINGTON & LEE U.

Dynamical Parsing to Fractal Representations

Simon Levy, Washington & Lee U.

Shallow Parsing with Long Short-Term Memory

James Hammerton, U. of Groningen, The Netherlands

A Neural Network for High-Level Cognitive Control of Serial Order Behavior

Steve Donaldson, Samford U.

Feed-forward Neural Networks Based on Self-extracted Knowledge

Hyeoncheol Kim, Korea U., Korea

An Evolutionary Strategy for Supervised Training of Biologically Plausible Neural Networks

Ammar Belatreche, Liam P. Maguire, Martin McGinnity, Qing Xiang Wu, U. of Ulster, N. Ireland

Mapping a Decision Tree for Classification into a Neural Network

Li Aijun, Liu Yunhui, Luo Siwei, Northern Jiaotong U., China

SATURDAY, 9/27
3:15–5:30 P.M.
ROOM: PINEHURST

CIN-4: THEORETICAL CONCEPTS

CHAIR: SANJOY DAS, KANSAS STATE U.

Fuzzy Learning Compatible with Quantum Mechanics Postulates

G.G. Rigatos, U. of Patras; S.G. Tzafestas, National Technical U. of Athens, Greece

Quantum-wave Pattern Recognition: From Simulations Toward Implementation

Mitja Perus, Horst Bischof, Groz U. of Technology, Austria

Formulating Machine Intelligence Quotient: A Bottom-Up Approach

Armin Shams-Baragh, Mohammad Akbarzadeh, Ferdowsi U. of Mashhad

A New Type of Learning Automaton with Q-Learning Behaviors

Fei Qian, Hiroshima Kokusai, Gakuin U.; Akinobu Tanaka, Hironori Hirata, Chiba U., Japan

Target Sets: A Tool for Understanding and Predicting the Behavior of Interacting Q-learners

Nancy Fulda, Dan Ventura, Brigham Young U.

SATURDAY, 9/27
5:40–7:30 P.M.
ROOM: PINEHURST

CIN-5: BIOLOGICALLY-INSPIRED NATURAL COMPUTING

CHAIR: MING ZHANG, CHRISTOPHER NEWPORT U.

Applying the Ant-Colony Algorithm for Mesh-Partitioning Refinement

P. Korosec, J. Silc, Jozed Sterna Institute; B. Robic, U. of Ljubljana, Slovenia

Dynamic Sociometry in Particle Swarm Optimization

Mark Richards, Dan Ventura, Brigham Young U.

Non-Intersecting Connections of Grid-Points to Boundaries Using an Evolutionary Algorithm Based on Bacterial Reproduction

Erik Buehler, Sanjoy Das, Mohamed Awadallah, Kansas State U.

An Ant Colony Algorithm for Data-Centric Routing in Sensor Networks

Sanjoy Das, Gurdip Singh, Shekhar Gosavi and Sandeep Pujar, Kansas State U.

Can Problem Generators Identify the Beneficial Use of Inversion

Seamus Hill, Colm O'Riordan, National U. of Ireland, Ireland

Object-Oriented Genetic Programming, An Initial Implementation

Russ Abbott, The Aerospace Corp.

MONDAY, 9/29
10 A.M.–12 P.M.
ROOM: PINEHURST

CIN-6: CLASSIFICATION AND PREDICTION

CHAIR: HYEONCHEOL KIM, KOREA U.

Estimating Rainfall System Using NAN Model

Ming Zhang, Christopher Newport U., USA; Shuxiang Xu, U. of Tasmania, Australia; John Fulcher, U. of Wollongong, Australia

Adaptive-Neuron Neural Network to Estimate Rainfall

Ming Zhang, Christopher Newport U., USA; Shuxiang Xu, U. of Tasmania, Australia; John Fulcher, U. of Wollongong, Australia

Classification of LIDAR Signals by Committee Machines Applied to Automatic Forest Fire Detection

Armando Fernandes, Andrei Utkin, Alexander Lavrov, Rui Vilar, Institute Superior Técnico, Portugal

Simulating Eye Movement in Reading the Document Containing Various Sized Letters

Satoru Morita, Yamaguchi U., Japan

Root Word Stemming by Multiple Evidence from Corpus

Utpal Sharma, Rajib Das, Tezpur U., India; Jugal Kalita, U. of Colorado

MONDAY, 9/29
3:15–5:30 P.M.
ROOM: PINEHURST

CIN-7: KNOWLEDGE DISCOVERY AND HYBRID SYSTEMS

CHAIR: DAN VENTURA, BRIGHAM YOUNG U.

Evolution of Modular Neural Networks Using a Hierarchical Genetic Algorithm Approach

Patricia Melin, Oscar Castillo, Tijuana Institute of Technology

Optimal Design of GA Based Complexity Reduced Flexible Fuzzy PID Controller

P. Anitha, G. Gurusamy, PSG College of Technology, India

Application of Evolutionarily Optimized Fuzzy Controllers for Virtual Robots

Maciej Hapke, Maciej Komosinski, Dawid Waclawski, Poznan U. of Technology, Poland

Mining of Customer Behaviors in Web Mining Architecture with FP-tree Algorithm

I-Shyan Hwang, Yuan-Ze U., Ruey-Rong Su, Kang-Ning Junior College, Taiwan

Organization, Management and Knowledge Discovery from the English Vietnamese Text Collection

Hoang Kiem, Huynh Ngoc Tin, U. of Natural Sciences, Viet Nam

Horizontal vs. Vertical Partitioning in Association Rule Mining: A Comparison

A. Das, St. Anthony College, India; D. K. Bhattacharyya, Tezpur U., India; Jugal Kalita, U. of Colorado

MONDAY, 9/29
5:40–7:30 P.M.
ROOM: PINEHURST

CIN-8: BIOINFORMATICS

CHAIR: MITJA PERUS, GROZ U. OF TECHNOLOGY, AUSTRIA

Problem Solving Environment for Gene Analysis

K. Ghosh, U. Wisconsin-Milwaukee; D. Chen, Point One Systems; J. Nie, P.J. Tonallato, Medical College of Wisconsin

Protein Structure Prediction Using an Adaptive Neuro-Fuzzy Inference System

Yongxian Wang, Zhenghua Wang, National U. of Defense Technology; Xiaomei Li, College of Command and Technology of Equipment, China

Bioinformatics as a Study of Structured Granules

Z. Chen, U. of Nebraska at Omaha

TUESDAY, 9/30
9–11 A.M.
ROOM:
CAPE HATTERAS

CIN-9: NEURAL NETWORKS

CHAIR: JUGAL KALITA, U. OF COLORADO

Notes on the Hidden Nodes of Multilayer Perceptron Classifiers

Wang Shuyan, Gao Daqi, East China U. of Science and Technology, China

ψ NAM for Massive Neuronal Assembly Modeling: Part I, Processing Elements

N. Venkateswaran, R. Rajesh, N. Sudarshan, R. Rajasimhan, C. Chandramouli, R. Chidambareswaran, B. Harish, Kolluru Arvind, M. Muhilan, Waran Research Foundation, India

ψ NAM for Massive Neuronal Assembly Modeling: Part II, The Array Architecture

N. Venkateswaran, R. Chidambareswaran, B. Harish, Kolluru Arvind, C. Chandramouli, R. Rajesh, R. Rajasimhan, N. Sudarshan, Waran Research Foundation, India

Automatically Deciding the Centers of RBF Network Using Regression Tree and EM Algorithm

Zhenjiu Liu, Xiaobing Feng, U. of Tennessee; Jaques Reifman, USAMRMC/TATRC

SOLAR and its Hardware Development

Janusz Starzyk, Yongtao Guo, Zhineng Zhu, Ohio U.

TUESDAY, 9/30
11:15 A.M.–
1:15 P.M.
ROOM:
CAPE HATTERAS

CIN-10: GENETIC ALGORITHMS

CHAIR: MACIEJ HAPKE, POZNAN U. OF TECH., POLAND

Solving the Royal Road Function Tests Using Mobile Genetic Element Operators

Alexander V. Spirov, SUNY at Stony Brook

Tuning Genetic Algorithms for Problems Including Neutral Networks — The Simplest Case: The Balance Beam Function

Yoshiaki Katada, Kazuhiro Ohkura, Kobe U.; Kanji Ueda, U. of Tokyo, Japan

Tuning Genetic Algorithms for Problems Including Neutral Networks — A More Complex Case: The Terraced NK Problem

Yoshiaki Katada, Kazuhiro Ohkura, Kobe U.; Kanji Ueda, U. of Tokyo, Japan

A Multi-objective Genetic Algorithm for Designing Complex Spreading Codes for DS-CDMA

E. Buehler, S. Das, B. Natarajan, Kansas State U.

An Improved SA-like GA in Continuous Optimization

Zhi-Feng Hao, Shu Yu, Xiao Wei Yang, Guo-Qiang Wang, South China U. of Technology, China

SATURDAY, 9/27
10 A.M.–12 P.M.
ROOM: PINEHURST

CIN-11: INTELLIGENT SYSTEMS

CHAIR: STEVE DONALDSON, SAMFORD U.

1, 2, 3, More: An Accumulator Architecture for Anchoring and Adjustment

Kevin Burns, The MITRE Corp.

Smart Faces for Smart Agents: Modeling the Social Impressions of the Face for Face Synthesis

Sheryl Brahnham, Southwest Missouri State U.

The Intelligent Agent Design of Information Appliance

Huey-Ming Lee, Yen-Chih Chen, Chinese Culture U., Taiwan; Jan-Jo Chen, Chicago State U.

Explicit Goals Treatment in Representing Knowledge within Intelligent Tutoring Systems

André Mayers, Mehdi Najjar, U. of Sherbrooke, Canada

Intelligent System for Tourist Demand Prediction — A Note on the Patterns of Asian Pacific Markets

S. I. Ao, The Chinese U. of Hong Kong, Hong Kong

1ST SYMPOSIUM ON BRAIN-LIKE COMPUTER ARCHITECTURE

CHAIR: PAUL P. WANG, DUKE U.

SUNDAY, 9/28
10 A.M.—12 P.M.
ROOM: PINEHURST

BLC-1

CHAIR: WALTER J. FREEMAN, U.C. BERKELEY

Brain-Like Computer Architecture

Walter J. Freeman, U.C. Berkeley

Three Fundamental Brain-like "Circuits" for Polymer Neural Computers

Jonathan W. Mills, Indiana U.

Developing Computer Systems Based on Intelligent Conjectures

Zhengxin Chen, U. Nebraska, Omaha

Applying Non-Darwinian Evolution to Autonomous Robots

Hugo Degaris, Utah State U.

SUNDAY, 9/28
5:40—7:30 P.M.
ROOM:
TANGLEWOOD

BLC-2

CHAIR: NIK KASABOV, AUT

Engineering of Mind

Jim Albus, NIST

Research Interest on Brain-like Computer Architecture

Ismael Lopez-Juarez, MiMSRG, Mexico

MADWH for Brain Modeling & Fuzzy Control

Wen R. Zhang and Lulu Zhang, Georgia Southern U.

Clinical Informatics

Jason Cooper, Duke U.

MONDAY, 9/29
10 A.M.—12 P.M.
ROOM:
TANGLEWOOD

BLC-3

CHAIR: ALADE TOKUTA, NCCU

What is SORE (Self Organizable & Regulating Engine)?

Paul P. Wang, Joshua Robinson, Duke U.

A Study of Two-Genes Network — The Simplest Special Case of SORE (Self-Organizable & Regulating Engine)

Paul P. Wang, Yingjun Cao, Joshua Robinson, Duke U.; Alade Tokuta, N.C. Central U.

A Novel Method of Error Correcting Code Generation Based Upon Self Organizable & Regulating Engine

Paul P. Wang, Hailiang Tao, Duke U.

SORE: Self Organizable & Regulating Engine — A Powerful Classifier

Paul P. Wang, Jing Yu, Duke U.

SORE (Self Organizable Regulating Engine) — An Example of a Possible Building Block for a "Biologizing" Control System

Paul P. Wang, Joshua Robinson, Duke U.; B.J. Choi, Daegu U., Korea

MONDAY, 9/29
5:40—7:30 P.M.
ROOM:
TANGLEWOOD

BLC-4

CHAIR: CHRIS TSENG, CALIFORNIA STATE

Evolutionary Processor Architectures for Media/Image

Jih-Kwon Peir, U. of Florida

Brain Like Computing — An Integrated Approach of Neuronal and Gene Information Processing

Nik Kasabov, AUT, New Zealand

Brain-like Architecture and Experienced-Based Reasoning

Zhaohao Sun, Gavin Finnie, Bond U., Australia

SUNDAY, 9/28

3:15–5:30 P.M.

ROOM:

TANGLEWOOD

BLC-5

CHAIR: WEN R. ZHANG, GEORGIA SOUTHERN U.

Intelligent Signal Fusion Algorithm Using BEL-Brain Emotional Learning

D. Shahmirzadi, R. Langari, Texas A&M University; C. Lucas, U. of Tehran, Iran

Intelligent Modeling and Decision Making in Networks of Sensors

Sylvia Ferrari, Alberto Waghi, Duke U.

Holographic Wave Phase Storage in a Novel Panassociative Circuit

Steven R. Grimm, Biobotics R&D; Ronald C. Blue, Lehigh Carbon Community College

MONDAY, 9/29

7:45–9:30 P.M.

ROOM:

TANGLEWOOD

ROUND TABLE DISCUSSION ON BRAIN-LIKE COMPUTER ARCHITECTURE

Chair:

James Albus, NIST

Participants:

Walter Freeman, U. Cal., Berkeley

Nik Kasabov, AUT

Karl Pribram, Georgetown University

Azriel Rosenfeld, U. of Maryland

Nestor Schmajuk, Duke U.

Sidney Simon, Duke U.

Lotfi Zadeh, U. Cal., Berkeley