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Paul P. Wang

Conference Manager:
Anna Menzies

Conference/Program Chairs:
David Brady, Duke University, USA
Shu-Heng Chen, Chengchi University, ROC
Heng-Da Cheng, Utah State University, USA
David K.Y. Chiu, University of Guelph, Canada
Sanjoy Das, Kansas State University, USA
Richard Duro, Universidade da Coruña, Spain
Zhen Jiang, West Chester University, USA
Nik Kasabov, Auckland University of Technology, New Zealand
Etienne E. Kerre, Ghent University, Belgium
Hong Va Leong, Hong Kong Polytechnic University, Hong Kong
Qing Li, City University of Hong Kong, Hong Kong
Mi Lu, Texas A&M University, USA
Manuel Grana Romay, Universidad del Pais Vasco, Spain
Dan Ventura, Brigham Young University, USA
Paul P. Wang, Duke University, USA
Jie Wu, Florida Atlantic University, USA
Xin Yao, University of Birmingham, UK

Honorary Chair:
Kristina Johnson, Duke University

Advisory Committee:
Rachelle Bienstock
Edith Bomers
April Brown
Howard Clark
Azriel Rosenfeld
Lotfi A. Zadeh

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For information on the 8th Joint Conference on Information Sciences, to be held July/August, 2005 in Salt Lake City, Utah please visit our Web site at www.ee.duke.edu/JCIS
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<td>9/26</td>
<td>9 A.M. – 9:45 A.M.</td>
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<td>9/26</td>
<td>9:45 A.M. – 10 A.M.</td>
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<td>9/26</td>
<td>10 A.M. – 12 NOON</td>
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<td>9/26</td>
<td>12 NOON – 1:15 P.M.</td>
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<td>9/26</td>
<td>1:15 P.M. – 2:05 P.M.</td>
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<td>9/26</td>
<td>3 P.M. – 3:15 P.M.</td>
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<td>3:15 P.M. – 5:30 P.M.</td>
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<td>9/26</td>
<td>5:30 P.M. – 5:40 P.M.</td>
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<td>Time</td>
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<tr>
<td>9/26 5:40 P.M. - 7:30 P.M.</td>
<td>Room: Tanglewood CBG-3: DATABASE AND RETRIEVAL SYSTEMS (I)</td>
</tr>
<tr>
<td></td>
<td>Room: Bilmore CVP-2: BIOMETRICS</td>
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<tr>
<td></td>
<td>Room: Pinehurst CIN-3: CURRENT TRENDS IN NEURAL NETWORKS: THEORY AND APPLICATIONS (INVITED)</td>
</tr>
<tr>
<td>9/26 7:30 P.M. - 9:00 P.M.</td>
<td>Room: Registration Area WELCOME RECEPTION Hors d'oeuvres/Cash Bar</td>
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**SATURDAY, SEPTEMBER 27, 2003**

<table>
<thead>
<tr>
<th>Time</th>
<th>Location</th>
<th>Presentation</th>
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</thead>
</table>
| 9/27 8 A.M. - 8:50 A.M. | Room: Chimney Rock | MICHAEL WATERMAN, U. OF SOUTHERN CALIFORNIA  
"The Role of Algorithmic Research in Computational Genomics" |
|                  | Room: Tanglewood MARK ADAMS, CASE WESTERN RESERVE U. | "Applying Genomics" |
|                  | Room: Pinehurst CLINTON W. KELLY, III, SAIC | "What Robots Can Really Do" |
| 9/27 8:50 A.M. - 9:00 A.M. | Room: Chimney Rock | BREAK |
| 9/27 9 A.M. - 9:45 A.M. | Room: Tanglewood | COFFEE BREAK |
|                  | Room: Pinehurst | |
|                  | Room: Chimney Rock | |
|                  | Room: Hope | |
|                  | Room: Bellamy | |
|                  | Room: Biltmore | |
|                  | Room: Biltmore | |
| 9/27 9:45 A.M. - 10 A.M. | Room: Tanglewood | COFFEE BREAK |
|                  | Room: Biltmore | |
|                  | Room: Biltmore | |
|                  | Room: Biltmore | |
| 9/27 10 A.M. - 12 NOON | Room: Tanglewood CBG-5: BIOINFORMATICS TECHNIQUES | |
|                  | Room: Pinehurst CIN-11: INTELLIGENT SYSTEMS | |
|                  | Room: Biltmore CSI-7: HEURISTIC SEARCH AND COMPUTER GAME PLAYING (I) | |
|                  | Room: Biltmore CEF-15: AGENT-BASED MODELING OF SOCIAL BEHAVIOR | |
|                  | Room: Biltmore CEF-14: ORGANIZATIONAL DECISION | |
| 9/27 12 NOON - 1:15 P.M. | Room: Tanglewood RUTH NUSINOV, NCI | "Protein Interactions: Binding and Folding" |
|                  | Room: Pinehurst LEONID PERLOVSKY, AFRL | "Mathematics of Intelligence and Emotions" |
|                  | Room: Mendehall | "Computational Intelligence for Applied Research" |
| 9/27 1:15 P.M. - 2:05 P.M. | Room: Chimney Rock | |
|                  | Room: Chimney Rock | |
|                  | Room: Chimney Rock | |
|                  | Room: Chimney Rock | |
|                  | Room: Chimney Rock | |
### Schedule for September 27, 2003

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<th>Location</th>
<th>Room</th>
<th>Topic</th>
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<tbody>
<tr>
<td>2:10 P.M. – 3 P.M.</td>
<td>Room: Tanglewood</td>
<td>TOM KEPLER, DUKE U.</td>
<td>&quot;Minimum Description Length Methods in the Discovery of Invertebrate Immunogenetic Diversification&quot;</td>
</tr>
<tr>
<td></td>
<td>Room: Pinehurst</td>
<td>NESTOR SCHMAJUK, DUKE U.</td>
<td>&quot;Pre-Pulse Inhibition: A Neural Network Model&quot;</td>
</tr>
<tr>
<td>9/27</td>
<td>Room: Mendenhall</td>
<td>ETIENNE KERRE, GHENT U.</td>
<td>&quot;The Unbearable Richness of Fuzzy Relational Calculus for Knowledge Representation&quot;</td>
</tr>
<tr>
<td>9/27</td>
<td>Room: Chimney Rock</td>
<td>CEF-14:</td>
<td>ORGANIZATIONAL DECISION</td>
</tr>
<tr>
<td>3 P.M. – 3:15 P.M.</td>
<td>Coffee Break</td>
<td></td>
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<tr>
<td>9/27</td>
<td>Room: Tanglewood</td>
<td>CBR-4:</td>
<td>DATABASE AND RETRIEVAL SYSTEMS (II)</td>
</tr>
<tr>
<td>3:15 P.M. – 5:30 P.M.</td>
<td>Room: Pinehurst</td>
<td>CIN-4:</td>
<td>THEORETICAL CONCEPTS</td>
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<td>Room: Biltmore</td>
<td>CSI-8:</td>
<td>HEURISTIC SEARCH AND COMPUTER GAME PLAYING II (INVITED)</td>
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<td>Room: Bellamy</td>
<td>PNC-4:</td>
<td>OPTICAL IMAGING</td>
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<tr>
<td>5:30 P.M. – 5:40 P.M.</td>
<td>Break</td>
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<td>9/27</td>
<td>Room: Tanglewood</td>
<td>CBG-6:</td>
<td>BIOLOGICAL KNOWLEDGE DISCOVERY AND DATA MINING (BIO-KDD)</td>
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<tr>
<td>5:40 P.M. – 7:30 P.M.</td>
<td>Room: Pinehurst</td>
<td>CIN-5:</td>
<td>BIOLOGICALLY-INSPIRED NATURAL COMPUTING</td>
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<td>Room: Bellamy</td>
<td>CSI-3:</td>
<td>INFORMATION SYSTEM AND DATA PROCESSING</td>
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<td></td>
<td>Room: Hope</td>
<td>PNC-1:</td>
<td>NETWORKING/ALGORITHMS &amp; PROTOCOLS</td>
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<td></td>
<td>Room: Cape Fear</td>
<td>CVP-4:</td>
<td>DOCUMENT PROCESSING</td>
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<td></td>
<td>Room: Cape Hatteras</td>
<td>FEA-5:</td>
<td>APPLICATIONS II</td>
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<tr>
<td></td>
<td>Room: Biltmore</td>
<td>CEF-16:</td>
<td>AGENT-BASED MODELING OF ECONOMIC AND FINANCIAL MARKETS (I)</td>
</tr>
<tr>
<td>9/27</td>
<td>Room: Chimney Rock/Blowing Rock</td>
<td>Dinner Banquet</td>
<td>SPEAKER: JOHN CAULFIELD, FISK U. &quot;My Logic Is Fuzzier Than Yours&quot;</td>
</tr>
<tr>
<td>7:45 P.M. – 10:00 P.M.</td>
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### Sunday, September 28, 2003

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<th>Topic</th>
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<td>8 A.M. – 8:50 A.M.</td>
<td>Room: Chimney Rock</td>
<td>LOTFI ZADEH, U. OF CALIFORNIA, BERKELEY</td>
<td>&quot;Protoform Theory and Its Basic Role in Human Intelligence, Deduction, Definition and Search&quot;</td>
</tr>
<tr>
<td>9/28</td>
<td>Room: Chimney Rock</td>
<td>I. BURHAN TURKSEN, U. OF TORONTO</td>
<td>&quot;Reconstruction of Epistemology with Fuzzy Theory&quot;</td>
</tr>
<tr>
<td>9 A.M. – 9:45 A.M.</td>
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<tr>
<td>9/28</td>
<td>Coffee Break</td>
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<tr>
<td>Date/Time</td>
<td>Location</td>
<td>Room</td>
<td>Presentation/Activity</td>
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<tr>
<td>9/28 10 A.M. - 12 NOON</td>
<td>Tanglewood</td>
<td>CBG-1</td>
<td>GENOME INFORMATICS AND COMPARATIVE ANALYSIS</td>
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<td>9/28 12 NOON - 1:15 P.M.</td>
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<td>9/28 1:15 P.M. - 2:05 P.M.</td>
<td>Chimney Rock</td>
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<td>INFORMATION SCIENCE AWARD PRESENTATION</td>
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<td>Room: Tanglewood</td>
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<td>EMMETT LEITH, U. OF MICHIGAN</td>
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<td></td>
<td>&quot;Holography, Synthetic Apertures, and Confocal Imaging, Cross Fertilization&quot;</td>
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<tr>
<td>9/28 2:10 P.M. - 3 P.M.</td>
<td>Chimney Rock</td>
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<td>INFORMATION SCIENCE AWARD PRESENTATION</td>
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<td>Room: Tanglewood</td>
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<td>WALTER FREEMAN, U. CAL., BERKELEY</td>
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<td></td>
<td>&quot;High-Resolution of Spatiotemporal Phase Patterns in Scalp EEG Reveals Sequential Global State Transitions in Cortex at 5-10/Second&quot;</td>
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<tr>
<td>9/28 3 P.M. - 3:15 P.M.</td>
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<td>COFFEE BREAK</td>
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<tr>
<td>9/28 3:15 P.M. - 5:30 P.M.</td>
<td>Tanglewood</td>
<td>BLC-5</td>
<td>CSI-2: SCHEDULING, TRAFFIC CONTROLLING, AND OTHERS</td>
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<td>9/28 5:30 P.M. - 5:40 P.M.</td>
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<td>BREAK</td>
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<tr>
<td>9/28 5:40 P.M. - 7:30 P.M.</td>
<td>Mendenhall</td>
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<td>FTT-4: APPLICATIONS OF FUZZY SET THEORY I</td>
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Additional Locations:
- Room: Bellamy
- Room: Mendenhall
- Room: Biltmore
- Room: Hope
- Room: Chimney Rock
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<td>9/29 9 A.M. – 9:45 A.M.</td>
<td>Tanglewood</td>
<td>JOEG SCHILLING, CAL TECH: &quot;Photonic Crystals for Information Technology&quot;</td>
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<tr>
<td>9/29 10 A.M. – 12 NOON</td>
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<td>COFFEE BREAK</td>
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<td>9/29 12 NOON – 1:15 P.M.</td>
<td>Mendenhall</td>
<td>BLC-3</td>
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<td>9/29 1:15 P.M. – 2:05 P.M.</td>
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<td>CIN-6: CLASSIFICATION AND PREDICTION</td>
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<tr>
<td>9/29 2:10 P.M. – 3 P.M.</td>
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<td>FEA-4: APPLICATIONS I</td>
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<td>9/29 3 P.M. – 3:15 P.M.</td>
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<td>CHF-5: APPLICATIONS OF FUZZY SET THEORY II</td>
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<tr>
<td>9/29 3:15 P.M. – 5:30 P.M.</td>
<td>Biltmore</td>
<td>CVP-13: CVPRII ALGORITHMS IV</td>
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<td>9/29 5:30 P.M. – 5:40 P.M.</td>
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<td>COFFEE BREAK</td>
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<tr>
<td>9/29 5:40 P.M. – 6:30 P.M.</td>
<td>Hope</td>
<td>PNC-5: PHOTONIC DEVICES/DEVICE LEVEL/LASERS</td>
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<tr>
<td>9/29 6:30 P.M. – 7:30 P.M.</td>
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<td>CHF-7: FINANCIAL TIME SERIES FORECASTING AND ANALYSIS (I)</td>
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<tr>
<td>9/29 7:30 P.M. – 8:30 P.M.</td>
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<td>CHF-8: FINANCIAL TIME SERIES FORECASTING AND ANALYSIS (II)</td>
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<tr>
<td>9/29 8:30 P.M. – 9 P.M.</td>
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<td>SPEAKER: STEVE GARDNER, KILPATRICK STOCKTON LLP: &quot;Patents in Computational Excellence in Economics and Finance&quot;</td>
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<td>9/29 9 P.M. – 10 P.M.</td>
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<td>DAVE GOLDBERG, U. OF ILLINOIS AT URBANA-CHAMPAIGN: &quot;From Competence To Efficiency To Innovation Support&quot;</td>
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<td>9/29 10 P.M. – 11 P.M.</td>
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<td>JIM ALBUS, NIST: &quot;Intelligent Vehicle Systems For On-road and Off-road Driving&quot;</td>
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**Monday, September 29, 2003**
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<td>9/29</td>
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<td>Room: Tanglewood</td>
<td>BLC-4</td>
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<td>Room: Pinehurst</td>
<td>CIN-8: BIOINFORMATICS</td>
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<td>Room: Bellamy</td>
<td>CSI-11: INTELLIGENT SYSTEMS (INVITED)</td>
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<td>9/29</td>
<td>Room: Mendonha</td>
<td>FTT-6: COMPUTING WITH WORDS UNDER A FUZZY LOGIC APPROACH: MODELS AND APPLICATIONS</td>
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<td>7:30 P.M. – 7:45 P.M.</td>
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<td>BREAK</td>
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<td>9/29</td>
<td>Room: Cape Fear</td>
<td>FEA-3: REPRESENTATION AND CONVERGENCE III</td>
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<td>7:45 P.M. – 9:30 P.M.</td>
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<td>ROUNDTABLE DISCUSSION ON BRAIN-LIKE COMPUTER ARCHITECTURE</td>
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<td>Chair: James Allus</td>
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<td>Panelists: Walter Freeman, Nik Kasabov, Karl Pribram, Azriel Rosenfeld, Nestor Schmajuk, Sidney Simon, Lotfi Zadeh,</td>
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**TUESDAY, SEPTEMBER 30, 2003**

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<tr>
<td>9/30</td>
<td>8 A.M. – 8:50 A.M.</td>
<td>Room: Cape Hatteras</td>
<td>AZRIEL ROSENFELD, U. OF MARYLAND</td>
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<td>&quot;Digital Geometry: A New Overview&quot;</td>
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<td>Room: Cape Hatteras</td>
<td>CIN-9: NEURAL NETWORKS</td>
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<td>Room: Crescent</td>
<td>FTT-13: FUZZY LEARNING AND MEDICAL APPLICATIONS</td>
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<td>11 A.M. – 11:15 A.M.</td>
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<td>COFFEE BREAK</td>
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<tr>
<td>9/30</td>
<td>11:15 A.M. – 1:15 P.M.</td>
<td>Room: 21B</td>
<td>CVP-12: CVPRIP ALGORITHMS III</td>
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<td>Room: Cape Hatteras</td>
<td>CIN-10: GENETIC ALGORITHMS</td>
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<td>Room: Crescent</td>
<td>FTT-7: INFORMATION FUSION AND DECISION MAKING</td>
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<td>9/30</td>
<td>Room: 21B</td>
<td>CVP-14: CVPRIP ALGORITHMS V</td>
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<td>1:15 P.M. – 1:30 P.M.</td>
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<td>Room: Cape Hatteras</td>
<td>CSI-9: DATA MINING (INVITED)</td>
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<td>Room: Crescent</td>
<td>FTT-12: FUZZY FOUNDATIONS II</td>
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<td>Room: Outer Banks</td>
<td>CVP-3: MOTION AND MATCHING</td>
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FRIDAY, 9/26

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

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

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

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

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

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

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

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

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

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

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

KEYNOTE/FEATURED SPEAKERS

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

On Some Sequences Spaces of Fuzzy Numbers
Mursaleen, Aligarh U., India; M. Basarir, Z. Demir, Sakarya U., Turkey
FTT-5: APPLICATIONS OF FUZZY SET THEORY II
CHAIR: K. HUARNG, 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

Some Useful Procedures Towards Consistent Preference Modeling
D. Gómez, J. Montero, J. Yáñez, Complutense U., Spain

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

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

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

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

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

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 Momoidal 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

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.
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 ?-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

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

FEA-2: REPRESENTATION AND CONVERGENCE II
CHAIR: RICHARD DURO, UNIVERSIDADE DA CORUNA, 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, Techsnische Universteit Eindhoven, The Netherlands

Simple Genetic Algorithms for Pattern Learning: The Role of Crossovers
Predrag Tosic, Gul Agha, U. of Illinois at Urbana-Champaign
**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, CITIDI, Mexico

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

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**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

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**FEA-6: APPLICATIONS III**
CHAIR: MANUEL GRAÑA, UNIVERSIDAD PAIS VASCO, SPAIN

- **Learning Linear Operators Through Genetic Algorithms**
  Gilson A. Giraldi, 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

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.

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

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

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

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

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, Hsiiupg Institute of Technology, Taiwan

Image Self-Copying Theorem: An Application of Cellular Automata
Shushuang Man, Southwest State U.; Dowei Hong, Rutgers U.-Camden

A Quorum-Based Fault-Tolerant Method for Distributed Mutual Exclusion
Xiao Chen, Jian Shen, Southwest Texas State U.

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 Müeller, U. of Alberta, Canada

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

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

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
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

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 Rishe, Mark Allen Weiss, Florida International U.; Xinran Wang, Microsoft Corp.

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.

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
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

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

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 Jiaxin, 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

CVP-5: FUZZY LOGIC AND ROUGH SET THEORY
CHAIR: SHOUPU CHEN, EASTMAN KODAK

Fuzzy Non-Reducible Descriptors
Venteslav Valev, Asai Asaithambi, St. Louis U.

Fuzzy Min-Max Neural Network for Image Segmentation
Pablo A. Estévez, Gonzalo A. Ruiz, Claudia 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

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.

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

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  

Detection and Classification of Microcalcification: Advances and Prospects  

Peaks Recognition in Electrocardiogram Waveforms  
Syed Sahal Nazli Alhady, Mohd Rizal Arshad, Mohd Yusof Mashor, U. Sains Malaysia, Malaysia

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.
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

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

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.

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

CVP-14: CVPRIP ALGORITHMS V
CHAIR: VLADIMIR SHAPIRO, ORBOGRAPH LTD., ISRAEL

Supervised Pattern Recognition by Parallel Feature Partitioning
Venizeslav 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

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

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

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

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.

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
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

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.

### 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

### 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

### 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

### 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.
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

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 Svangard, 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

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

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
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 Svangard, 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.
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

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

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

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 McGeary, 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, C. Cirillo, G. Conzelmann, V. Koritarov, P. Thimmapuram, T. Veselka, Argonne National Laboratory
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

**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 Kolippakkkam, 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*
Tat-Wan Leung, Chong-Wah Ngo, Rynson Lau, city U. of Hong Kong, Hong Kong

**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, Chaoyand 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.
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

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 Ghabakhlo, 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

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
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.

Bi$_2$O$_3$-Based Erbium-Doped Fibers for Broadband Photonic Network Applications
Hideyuki Sotobayashi, Juliet T. Gopinath, Erich P. Ippen, MIT

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

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

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

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.
6TH INTERNATIONAL CONFERENCE ON COMPUTATIONAL INTELLIGENCE AND NATURAL COMPUTING

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

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, Xiaoju Guan, John Reif, Duke U.

A New Approach to Autonomous Kinase Computing
Jian-Qin Liu, Katsunori Shimohara, ATR Human Informaton Science Laboratories, Japan

Combinatory Logic for Autonomous Molecular Computation
Bruce T. MacLennan, U. of Tennessee

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

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.
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

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, Ferdowski 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.

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 Ljubljiana, 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.
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

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

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
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

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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

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

SOLAR and its Hardware Development
Janusz Starzyk, Yongtao Guo, Zhineng Zhu, Ohio U.

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

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 Brahnam, 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.

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 Intellegent Conjectures
Zhengxin Chen, U. Nebraska, Omaha

Applying Non-Darwinian Evolution to Autonomous Robots
Hugo Degaris, Utah State U.

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.

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

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

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

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