

## Conference Schedule and Preliminary Program

### ACMSE 2008

March 28-29, 2008  
Auburn University Hotel and Conference Center  
<http://eng.auburn.edu/acmse/>

#### Conference Schedule

##### **Thursday March 27**

6:30 PM – 8:30 PM Pre-Conference Reception (Shelby Center)

##### **Friday March 28**

8:30 AM – 9:45 AM Opening Plenary Session  
Keynote: Dr. Jeannette Wing  
9:45 AM – 10:15 AM Break  
10:15 AM – 11:30 AM Paper Session A  
11:45 AM – 12:45 PM Lunch  
1:00 PM – 2:30 PM Paper Session B  
2:40 PM – 3:30 PM Paper Session C  
3:30 PM – 3:45 PM Break  
3:45 PM – 4:50 PM Paper Session D  
5:00 PM – 6:30 PM Posters and Workshop  
6:45 PM – 8:45 PM Conference Banquet  
Keynote: Dr. Mark Guzdial

##### **Saturday March 29**

8:30 AM – 10:00 AM Paper Session E  
10:00 AM – 10:30 AM Break  
10:30 AM – 12:15 PM Paper Session F  
12:30 PM – 1:30 PM Lunch and Awards  
- Conference Closes -

#### Registration and Check-In

##### **Thursday March 27**

6:30 PM – 8:30 PM Shelby Center and Conference Center

##### **Friday March 28**

7:30 AM – 5:00 PM Conference Center

##### **Saturday March 29**

7:30 AM – 8:30 AM Conference Center

# Preliminary Program

Friday March 28, 2008

## Session A Friday March 28 • 10:15 AM – 11:30 AM

### Track A1 Computer Organization/Architecture/Operating Systems Room A

*High Precision Automatic Scheduling of Periodic Task Sets for Microcontrollers*

Benjamin Ness, Vanderbilt University  
Gabor Karsai, Vanderbilt University

*Energy Efficient and Reliable Storage Disks*

Kiranmai Bellam, Auburn University  
Adam Manzanares, Auburn University  
Xiao Qin, Auburn University

*Customized File Systems: An Investigator's Approach* (Student Paper)

Marc Parisi, Mississippi State University

### Track A2 Computing Education Room B

*Biometrics Education with Hands-on Labs*

Li Yang, University of Tennessee at Chattanooga  
Kathy Winters, University of Tennessee at Chattanooga  
Joseph M. Kizza, University of Tennessee at Chattanooga

*FunFonts: Introducing 4th and 5th Graders to Programming Using Squeak*

Arturo J. Sánchez-Ruíz, University of North Florida  
Lisa A. Jamba, University of North Florida

*A Review of Using Design Patterns in CSI* (Student Paper)

Jacqueline Hundley, Auburn University

### Track A3 Data Mining and Database Systems Room D

*Mining Frequent Sequential Patterns with First-Occurrence Forests*

Erich A. Peterson, University of Arkansas at Little Rock  
Peiyi Tang, University of Arkansas at Little Rock

*Xdiff+: A Visualization System for XML Document and Schema*

Guangming Xing, Western Kentucky University  
Zhonghang Xia, Western Kentucky University  
Huanjing Wang, Western Kentucky University

*A Bioinformatics-Inspired Adaptation to Ukkonens Edit Distance Calculating Algorithm* (Student Paper)

Bruce Johnson, University of Tennessee

### Track A4 Artificial Intelligence Room E

*Training Approaches in Neural Enhancement for Multiobjective Optimization*

Aaron Garrett, Jacksonville State University  
Gerry V. Dozier, North Carolina A&T University

*Generating Better Text Summaries for a Patient Simulation Program*

Kuo-pao Yang, Southeastern Louisiana University  
Martha W. Evens, Illinois Institute of Technology  
David Trace, Trace Consulting

*Optimal Artificial Neural Network Topology for Foreign Exchange Forecasting (Work in Progress)*

Ahmed Emam, Western Kentucky University

<b>Track A5</b>	<b>Systems and Applications</b>	<b>Room G</b>
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*Parallel Integration of Planetary Systems on GPUs*

Jianwei Gao, University of Florida  
Eric Ford, University of Florida  
Jörg Peters, University of Florida

*Evaluating Service-Based Software Applications (Student Paper)*

Kinnis Gosha, Auburn University  
Jakita O. Thomas, IBM Almaden Research Center

*Comparison of Microarray Image Analysis Software (Student Paper)*

Richa Tiwari, University of Alabama at Birmingham

**Friday March 28, 2008**

<b>Session B</b>	<b>Friday March 28 • 1:00 PM – 2:30 PM</b>
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<b>Track B1</b>	<b>Software Engineering</b>	<b>Room A</b>
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*Extreme Programming for a Single Person Team*

Ravikant Agarwal, Auburn University  
David Umphress, Auburn University

*The Automated Web Application Testing (AWAT) System*

Mate' Sztipanovits, Southern Polytechnic State University  
Kai Qian, Southern Polytechnic State University  
Xiang Fu, Georgia Southwestern State

*A Concurrent Automatic Programming System (Student Paper)*

K. E. Kennedy, Clemson University

*Heavyweight or Lightweight: A Process Selection Guide For Developing Grid Software (Work in Progress)*

Cong Liu, Auburn University  
David Umphress, Auburn University

<b>Track B2</b>	<b>Computing Education</b>	<b>Room B</b>
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*Competence and Character: Pedagogical Considerations for*

*Preparing Students to be Professionals*  
John M. Hunt, Covenant College

*Service Learning Meets Mobile Computing*  
Susan Reiser, University of North Carolina at Asheville  
Rebecca Bruce, University of North Carolina at Asheville

*Web Based Ink Submission and Playback in MessageGrid* (Work in Progress)  
David R. Bowman, Clemson University

*Using Greenfoot and a Moon Scenario to Teach Java Programming in CSI* (Work in Progress)  
Randy J. Gallant, University of Guelph-Humber  
Qusay H. Mahmoud, University of Guelph-Humber

**Track B3**

**Database Systems**

**Room D**

*A Domain-independent, Ontology-agnostic Approach to Leveraging Unstructured Data Sources*  
Christine Le, University of Arkansas at Little Rock  
Srini Ramaswamy, University of Arkansas at Little Rock  
Coskun Bayrak, University of Arkansas at Little Rock

*A New Watermarking Approach for Relational Data* (Student Paper)  
Vahab Pournaghshband, University of California, Berkeley

*SubCOID: An Attempt to Explore Cluster-Outlier Iterative Detection Approach to Multi-Dimensional Data Analysis in Subspace* (Work in Progress)  
Yong Shi, Kennesaw State University

*Effects of Multiple Words on Ambiguity in Information Retrieval* (Work in Progress)  
Clint Fuchs, University of South Carolina  
Caroline Eastman, University of South Carolina

**Track B4**

**Artificial Intelligence and Computational Methods**

**Room E**

*A study of fuzzy clustering within the IGSCR framework*  
Rhonda D. Phillips, Virginia Tech  
Layne T. Watson, Virginia Tech  
Randolph H. Wynne, Virginia Tech

*E-TCP: An Evolutionary Computation Approach for Congestion Avoidance in Bulk-Data Transfers Networks*  
Taha Ben Brahim, Auburn University  
Driss Aboutajdine, University Mohamed V  
Saad Biaz, Auburn University

*Meta-BCS: A Novel Way to BCS Ranking Using Generalized Regression Neural Network and Genetic Algorithm* (Work in Progress)  
Lei Zhang, Auburn University  
Haiquan Chen, Auburn University

*Stabilized Approximate Inverse Preconditioners for Indefinite Matrices*  
Eun-Joo Lee, University of Kentucky

**Track B5**

**Systems and Applications**

**Room G**

*OrganicPad: A Tablet PC Based Chemistry Tool* (Student Paper)  
Sam Bryfczynski, Clemson University

*TSPad: A Tablet-PC Based Application for Annotation and Collaboration on Time Series Data* (Student Paper)  
William B. S. Pressly, Jr., Clemson University

*Campus Directions* (Work in Progress)  
Tim Hammond, Clemson University  
Tucker Watson, Clemson University  
Will Pressly, Clemson University

*CU Safe: A Software Tool for Campus Safety* (Work in Progress)  
Tucker Watson, Clemson University  
Tim Hammond, Clemson University  
Will Pressly, Clemson University

**Friday March 28, 2008**

**Session C Friday March 28 • 2:40 PM – 3:30 PM**

**Track C1**

**Software Engineering**

**Room A**

*Automating Test Case Definition Using a Domain Specific Language*  
Kyungsoo Im, Clemson University  
Tacksoo Im, Clemson University  
John D. McGregor, Clemson University

*Agile Versus CMMI - Process Template Selection and Integration with Microsoft Team Foundation Server*  
Robert Leithiser, Auburn University  
Drew Hamilton, Auburn University

**Track C2**

**Computing Education**

**Room B**

*Student Development of Web Services for the STEM Disciplines*  
Barry L. Kurtz, Appalachian State University  
James B. Fenwick Jr., Appalachian State University

*Testing the jGRASP Structure Identifier with Data Structure Examples from Textbooks*  
Lacey Montgomery, Auburn University  
James H. Cross II, Auburn University  
T. Dean Hendrix, Auburn University  
Larry A. Barowski, Auburn University

**Track C3**

**Database Systems**

**Room D**

*3D Ontology Visualization in Semantic Search*  
Cody Buntain, University of Alabama in Huntsville

*A Data Mining Study of the Matriculation of Covenant College Applicants* (Student Paper)  
Christopher Jeff Stanley, Covenant College

<b>Track C4</b>	<b>Network and System Security</b>	<b>Room E</b>
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*Digital Forensics: Forensic Analysis of an iPod Shuffle*  
Iyatiti Mokube, Armstrong Atlantic State University

*A Distributed Firewall and Active Response Architecture Providing Preemptive Protection*  
J. Lane Thames, Georgia Institute of Technology  
Randal Abler, Georgia Institute of Technology  
David Keeling, Georgia Institute of Technology

<b>Track C5</b>	<b>Programming Languages, Algorithms, and Theory</b>	<b>Room G</b>
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*A Space Efficient Algorithm for the Constrained Heaviest Common Subsequence Problem*  
Rao Li, University of South Carolina Aiken

*Using Java's Generics Mechanism to Improve Type Safety in the Command Pattern*  
Karl Ridgeway, Rosetta Stone, Ltd.  
David Bernstein, James Madison University  
John Magnotti, Auburn University

## Friday March 28, 2008

<b>Session D</b>	<b>Friday March 28 • 3:45 PM – 4:50 PM</b>
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<b>Track D1</b>	<b>Software Engineering</b>	<b>Room A</b>
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*Improving the Capstone Project Experience: A Case Study in Software Engineering* (Student Paper)  
John G. Flowers, University of South Carolina

*Open Source Software Development: Expectations and Experience From a Small Development Project* (Work in Progress)  
Adanna Ezeala, Jackson State University  
Hyunju Kim, Jackson State University  
Loretta A. Moore, Jackson State University

<b>Track D2</b>	<b>Computing Education</b>	<b>Room B</b>
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*Game Design from the Lens of a Student* (Student Paper)  
E. Vincent Cross II, Auburn University  
Kinnis Gosha, Auburn University  
Wanda Eugene, Auburn University  
Francisco Arcediano, Auburn University  
Christin Hamilton, Auburn University

Jacqueline Hundley, Auburn University

*Studio-Based Learning in CS2: An Experience Report* (Work in Progress)

Lakshman Myneni, Auburn University

Margaret Ross, Auburn University

T. Dean Hendrix, Auburn University

N. Hari Narayanan, Auburn University

*Some Methods for Teaching Functions First Using Java* (Work in Progress)

Ian Barland, Radford University

**Track D3**

**Database Systems**

**Room D**

*FuzzyShrinking: Improving Shrinking-based Data Mining*

*Algorithms Using Fuzzy Concept for Multi-Dimensional Data* (Work in Progress)

Yong Shi, Kennesaw State University

*An Online Condition Number Query System* (Work in Progress)

Dianwei Han, University of Kentucky

Shuting Xu, Virginia State University

Jun Zhang, University of Kentucky

*An Instance-Based Approach for Domain-Independent Schema Matching* (Work in Progress)

Yan Liang, The University of Alabama

**Track D4**

**Software and System Security**

**Room E**

*Gnutella: Integrating Performance And Security In Fully Decentralized P2P Models* (Student Paper)

Rossana Motta, Florida State University

Wickus Nienaber, Florida State University

Jon Jenkins, Florida State University

*Tracking Requirements and Threats for Secure Software Development* (Work in Progress)

Brandon Malone, Tennessee Technological University

Ambareen Siraj, Tennessee Technological University

**Track D5**

**Programming Languages, Algorithms, and Theory**

**Room G**

*A Little Language for Surveys: Constructing an Internal DSL in Ruby*

H. Conrad Cunningham, University of Mississippi

*Developing a Tokenizer and Morphological Parser for English Text in C#* (Student Paper)

Cody Boisclair, The University of Georgia

*Minimal Finite Automata from Finite Training Sets* (Work in Progress)

Bennett Setzer, Kennesaw State University

**Saturday March 29, 2008**

**Session E Saturday March 29 • 8:30 AM – 10:00 AM**

**Track E1 Software Engineering**

**Room A**

*Assessing Conformance of Pattern-based Design in UML*

Jaeyong Park, George Mason University  
David C. Rine, George Mason University  
Elizabeth White, George Mason University

*A Self-Testing Autonomic Job Scheduler (Student Paper)*

Alain E. Ramirez, Florida International University  
Barbara Morales, University of Puerto Rico  
Tariq M. King, Florida International University

*Certified Code Development for a Microcontroller Architecture  
(Work in Progress)*

Nadeem Abdul Hamid, Berry College

*Web Service Composition Process Verification Methods (Work in  
Progress)*

Mate' Sztipanovits, Southern Polytechnic State University

**Track E2 Artificial Intelligence**

**Room B**

*Determining the Preferences*

Earl B. Smith, Tuskegee University

*Introducing a Vertical Viral Infection Method for Solving Problems  
with Evolutionary Programming (Student Paper)*

Jonathan W. Lartigue, Auburn University

*Nastaliq Optical Character Recognition (Work in Progress)*

Sohail A. Sattar, University of Central Florida  
Shamsul Haque, NED University of Eng. & Tech  
Mahmood K. Pathan, NED University of Eng. & Tech

*Effective Supervision of a Robot Team through User Interface  
Design (Work in Progress)*

E. Vincent Cross II, Auburn University  
Juan Gilbert, Auburn University

**Track E3 Human-Computer Interaction**

**Room D**

*Vibrotactile Glove Guidance for Semi-Autonomous Wheelchair  
Operations*

H. Uchiyama, The University of Georgia  
M. A. Covington, The University of Georgia  
W. D. Potter, The University of Georgia

*A Study of the Performance of Steering Tasks under Spatial  
Transformation of Input*

M. Eduard Tudoreanu, University of Arkansas at Little Rock  
Eileen Kraemer, The University of Georgia

*Education and Design: Using Human-Computer Interaction Case Studies to Learn* (Student Paper)

Gregory Smith, Virginia Tech  
Laurian C. Vega, Virginia Tech  
D. Scott McCrickard, Virginia Tech

*COSA: A Contents-Oriented Self Adaptive Browsing Approach*  
(Work in Progress)

Li Liu, The University of Alabama  
Jingyuan Zhang, The University of Alabama  
Michael Galloway, The University of Alabama

**Track E4**

**Security**

**Room E**

*Detection of Networks Blocks Used by the Storm Worm Botnet*

Chun Wei, University of Alabama at Birmingham  
Alan Sprague, University of Alabama at Birmingham  
Gary Warner, University of Alabama at Birmingham

*A Case Study on Computer Security for Non-Expert Computer User*

Felicia Doswell, Norfolk State University

*Threat of Renovated .NET Viruses to Mobile Devices* (Student Paper)

Jose Andre Morales, Florida International University

*IT Security Risk Management* (Work in Progress)

Mohammed Ketel, University of Baltimore

**Track E5**

**Systems and Applications**

**Room G**

*SolarCAST: Using Widely Accessible Environmental Variables to Forecast Solar Power*

Chris Hatfield, Asbury College  
David Umphress, Auburn University

*High Dynamic Range Imaging with PERIODIC* (Student Paper)

Brian Gray, Wake Forest University  
Donghui Chen, Wake Forest University

*TabletNotes* (Student Paper)

David Dorothy, Clemson University

*Race Condition in Ajax-based Web Application* (Work in Progress)

Therese J Albert, Southern Polytechnic State University  
Kai Qian, Southern Polytechnic State University  
Xiang Fu, Southern Polytechnic State University

**Track E6**

**Simulation**

**Room F**

*Construction of a Smooth Multivariate Simulation Environment from a Finite One-to-One Mapping*

Shaun Gittens, Auburn University

*A Framework for Integrated Flight Simulation and Design* (Student Paper)

Jeff Parrish, University of Georgia  
Micah Cooper, University of Georgia

*Reusing Objects for Realistic 3D Maps* (Work in Progress)

Bradley J. Wimpey, The University of Georgia  
Walter D. Potter, The University of Georgia

*GPU-based Spatial Interaction Force Simulation* (Work in Progress)

Chris Truszkowski, University of Scranton  
Benjamin Bishop, University of Scranton

## Saturday March 29, 2008

### Session F Saturday March 29 • 10:30 AM – 12:15 PM

#### Track F1 Computer Organization/Architecture/Operating Systems Room A

*An Object Discarding Policy with FI Systems for Cooperative Hybrid Caching Architecture*

Jinsuk Baek, Winston-Salem State University  
Paul S. Fisher, Winston-Salem State University  
Yuri Kim, Winston-Salem State University  
Mingyung Kwak, Winston-Salem State University

*Parallel Processing Flow Models on Desktop Hardware*

Robert Geist, Clemson University  
Zachary Jones, Clemson University  
Jay Steele, Clemson University

*Improving Code Compression using Clustered Modalities*

Chris J. Michael, Louisiana State University  
Maciej Brodowicz, Louisiana State University  
Thomas Sterling, Louisiana State University

*Profiler Instrumentation Using Metaprogramming Techniques*

Ritu Arora, University of Alabama at Birmingham  
Yu Sun, University of Alabama at Birmingham  
Zekai Demirezen, University of Alabama at Birmingham  
Jeff Gray, University of Alabama at Birmingham

#### Track F2 Computing Education Room B

*Computer Science III – A Required Course on Client-Server Computing*

David J. Powell, Elon University  
Joel Hollinsworth, Elon University  
Shannon Duvall, Elon University

*Induction as a Tool for Conceptual Coherence in Computer Science*  
(Student Paper)

Irene Polycarpou, Florida International University

*Education and Design: Using Human-Computer Interaction Case Studies to Learn* (Student Paper)

Gregory Smith, Virginia Tech

Laurian C. Vega, Virginia Tech

D. Scott McCrickard, Virginia Tech

*C-PAL: Cultural-Based Programming for Adult Learners* (Work in Progress)

Wanda Eugene, Auburn University

Juan Gilbert, Auburn University

**Track F3**

**Computer Networks**

**Room D**

*Enabling IPv6 Within a Campus Network*

Homer Carlisle, Auburn University

Bliss Bailey, Auburn University

*DSR and TORA in Fixed and Mobile Wireless Networks*

Suhair Hafez Amer, Auburn University

John A. Hamilton, Jr., Auburn University

*Mobile Agents Based Infrastructure for Web Services Composition*

Mohammed Ketel, University of Baltimore

*Clear Channel Assessment in Wireless Sensor Networks* (Student Paper)

J. Collin Engstrom, Southwest Minnesota State University

Chase Gray, University of South Carolina

**Track F4**

**Social Networks**

**Room E**

*Social Network Analysis for Email Classification*

K. Yelupula, University of Arkansas at Little Rock

Srini Ramaswamy, University of Arkansas at Little Rock

*Using an Edge-dual Graph and  $k$ -connectivity to Identify Strong Connections in Social Networks*

Li Ding, The University of Alabama

Brandon Dixon, The University of Alabama

*Multiagent-Based Simulation of Societal Networking in a Consumer Marketplace* (Student Paper)

Andrew Smith, Winthrop University

*Using XML to Map Relationships in Hacker Forums* (Student Paper)

Jonathan F. Spencer, UNC Charlotte

**Track F5**

**Computational Systems**

**Room G**

*Optimization of the Multiple Retailer Supply Chain Management Problem*

Caio Soares, Auburn University

Gerry Dozier, North Carolina A&T State University

Emmett Lodree, Auburn University

Jared Phillips, Auburn University  
Katie Nobles, Auburn University  
Yong won Park, Auburn University

*Grid Computing: Student Research Experiences*

Darren W Greene, Lowe's Companies, Inc.  
Rahman Tashakkori, Appalachian State University  
Barry L Kurtz, Appalachian State University

*The Relationship Between the Features of Sparse Matrix and the  
Matrix Solving Status*

Dianwei Han, University of Kentucky  
Shuting Xu, Virginia State University  
Jun Zhang, University of Kentucky