

ICSM 2004

Final Conference Program

Saturday, September 11

6th floor Registration Area

8:30am-8:00pm **Registration**
8:00am-9:00am **Coffee Break**
10:30am-11:00am **Coffee Break**
2:30pm-3:00pm **Coffee Break**

6th floor Parlor A

9:00am-noon **Tutorial I**

- Ned Chapin, Management of Maintenance and Evolution

6th floor Parlor A

1:00pm-4:00pm **Tutorial II**

- Stan Jarzabek, Meta-programming in XVCL for Enhanced Changeability

6th floor Parlor F

9:00am-4:00pm **Tutorial III**

- Hongjun Zheng and Ira Baxter, Program Transformation Systems: Theory and Practice for Software Generation, Maintenance and Reengineering

6th floor Parlor B

9:00am-4:00pm **Tutorial IV**

- Norman Schneidewind, Developing Software for Safety Critical Systems: When Failure is not an Option

Sunday, September 12

6th floor Registration Area

8:00am-5:00pm **Registration**

6th floor Monroe Ballroom

9:00am-9:15am **Opening Remarks**

6th floor Monroe Ballroom

9:15am-10:30am **Keynote Speaker: Bill Woodworth**

Using Metrics to Drive Quality Improvements and Value - Company Wide

6th floor Adams Ballroom

10:30am-11:00am **Coffee Break**

3rd floor Salon 1

11:00am-12:30pm **Technical Session T1: Regression Testing** – Chair: Gregg Rothermel

- A. Memon, Q. Xie, Empirical Evaluation of the Fault-Detection Effectiveness of Smoke Regression Test Cases for GUI-based Software
- L. White, B. Robinson, Industrial Real-Time Regression Testing and Analysis Using Firewalls
- T. Xie, D. Notkin, Checking Inside the Black Box: Regression Testing Based on Value Spectra Differences

3rd floor Salon 2

11:00am-12:30pm Technical Session T2: Reverse Engineering – Chair: Ira Baxter

- T. Gırba, S. Ducasse, M. Lanza, Yesterday's Weather: Guiding Early Reverse Engineering Efforts by Summarizing the Evolution of Changes
- C. Riva, P. Selonen, T. Systä, J. Xu, UML-based Reverse Engineering and Model Analysis Approaches for Software Architecture Maintenance
- R. Ferenc, I. Siket, T. Gyimóthy, Extracting Facts from Open Source Software

3rd floor Salon 3

11:00am-12:30pm Technical Session T3: Program Comprehension –
Chair: Jonathan Maletic

- M. Salah, S. Mancoridis, A Hierarchy of Dynamic Software Views: From Object-Interactions to Feature-Interactions
- A. Rountev, Precise Identification of Side-Effect-Free Methods in Java
- A. Rostkowycz, V. Rajlich, A. Marcus, A Case Study on the Long-Term Effects of Software Redocumentation

6th floor Adams Ballroom

12:30am-2:00pm Lunch

3rd floor Salon 1

2:00pm-3:30pm Technical Session T4: Testing – Chair: Lee White

- S. Sampath, V. Mihaylov, A. Souter, L. Pollock, Composing a Framework to Automate Testing of Operational Web-Based Software
- M. Gälli, M. Lanza, O. Nierstrasz, R. Wuyts, Ordering Broken Unit Tests for Focused Debugging
- M. Satpathy, N. Siebel, D. Rodriguez, Assertions in Object Oriented Software Maintenance: Analysis and a Case Study

3rd floor Salon 2

2:00pm-3:30pm Technical Session T5: Reengineering – Chair: Spiros Mancoridis

- N. Mendonça, P. Maia, L. Fonseca, R. Andrade, RefaX: A Refactoring Framework Based on XML

3rd floor Salon 3

2:00pm-3:30pm Panel Session I

Test-Driven Development and Software Maintenance

Moderator: S. Tilley

Panelists: H. Sneed, M. Harman, P. Linos

3rd floor Common Area

3:30pm-4:00pm Coffee Break

3rd floor Salon 1

4:00pm-5:30pm Technical Session T6: Slicing and Change Analysis –

Chair: David Binkley

- J. Krinke, Visualization of Program Dependence and Slices
- T. Ishio, S. Kusumoto, K. Inoue, Debugging Support for Aspect-Oriented Program Based on Program Slicing and Call Graph
- S. Raghavan, R. Rohana, D. Leon, A. Podgurski, V. Augustine, Dex: A Semantic -Graph Differencing Tool for Studying Changes in Large Code Bases

3rd floor Salon 2

4:00pm-5:30pm Technical Session T7: Source Code Analysis and Manipulation –

Chair: Tibor Gyimóthy

- M. Bruntink, A. van Deursen, T. Tourwé, R. van Engelen, An Evaluation of Clone Detection Techniques for Identifying Cross-Cutting Concerns
- J. Maletic, M. Collard, Supporting Source Code Difference Analysis
- P. Tonella, M. Ceccato, Migrating Interface Implementation to Aspects

3rd floor Salon 3

4:00pm-5:30pm Technical Session T8: Evolution I – Chair: Ned Chapin

- H. J. Kung, Quantitative Method to Determine Software Maintenance Life Cycle
- Z. Xing, E. Stroulia, Understanding Phases and Styles of Object-Oriented Systems' Evolution
- I. Ivkovic, K. Kontogiannis, Tracing Evolution Changes of Software Artifacts through Model Synchronization

6th floor Monroe Ballroom

5:35pm-6:05pm Open Steering Committee Meeting

6th floor Adams Ballroom

7:00pm-9:00pm Poster Session/ Reception

- X. Huang, D. Ho, J. Ren, L.F. Capretz, A Neuro-Fuzzy Tool for Software Estimation
- C. C. Chiang, Development of CORBA Components in COBOL for Reusability and Interoperability
- N. Chapin, Agile Methods' Contributions in Software Evolution
- Y. G. Guéhéneuc, Abstract and Precise Recovery of UML Diagram Constituents
- J. Gustavsson, Strategies for Handling the Activity Problem in Runtime Software Evolution by Reducing Activity
- H. Teoh, D. Wortman, Tools for Extracting Software Structure from Compiled Programs
- J. Li, K. Moore, Exploiting Global Causality in Testing of Distributed and Component-Based Applications
- W. Zhao, L. Zhang, D. Hao, H. Mei, J. Sun, Alternative Scalable Algorithms for Lattice-Based Feature Location
- C. Boldyreff, D. Nutter, S. Rank, The Experience of OSCAR
- A. Mohan, N. Gold, P. Layzell, An Approach to Understanding Program Comprehensibility Using Spatial Complexity, Concept Assignment and Typographical Style
- J. Granja -Alvarez, Software Maintenance: Analysis of Estimates Based on Requirement Specification in the Context of New Technologies, a Case Study
- J. Rilling, W. Meng, O. Ormandjieva, Context Driven Slicing Based Coupling Measures
- M. Pinzger, M. Fischer, M. Jazayeri, H. Gall, Abstracting Module Views from Source Code

Monday, September 13

6th floor Registration Area

8:00am-noon **Registration**

6th floor Adams Ballroom

8:00am-9:00am **Coffee/Pastry – round table discussions**

3rd floor Common Area

9:00am-5:00pm **Tools Demos**

3rd floor Salon 1

9:00am-10:30am **Technical Session T9: Evolution II – Chair: Giuseppe Visaggio**

- H. Sneed, A Cost Model for Software Maintenance & Evolution
- N. Janssens, S. Michiels, T. Holvoet, P. Verbaeten, A Modular Approach Enforcing Safe Reconfiguration of Producer-Consumer Applications
- A. Hassan, R. Holt, Predicting Change Propagation in Software Systems

3rd floor Salon 2

9:00am-10:30am **Short Paper Session I – Chair: Rainer Koschke**

- E. Merlo, G. Antoniol, M. Di Penta, F. Rollo, Linear Complexity Object-Oriented Similarity for Clone Detection and Software Evolution Analysis
- T. Everitt, R. Tvedt, J. Tvedt, Validating and Improving an Existing Software Architectural Evaluation Process
- P. Wernick, T. Hall, The Impact of Using Pair Programming on System Evolution: A Simulation-Based Study
- L. Tahvildari, K. Kontogiannis, Developing a Multi-objective Decision Approach to Select Source-Code Improving Transformations
- M. Kajko-Mattsson, C. Ahnlund, E. Lundberg, CM³: Service Level Agreement

3rd floor Salon 3

9:00am-10:30am **Tools Session I – Chair: Andrian Marcus**

- P. Anderson, CodeSurfer/Path Inspector
- I. Baxter, R. Akers, Component Architecture Reengineering by Program Transformation
- T. Nguyen, E. Munson, J. Boyland, C. Thao, Molhado: Object-Oriented Architectural Software Configuration Management

3rd floor Common Area

10:30am-11:00am **Coffee Break**

3rd floor Salon 1

11:00am-12:30pm Technical Session T10: Configuration Management –

Chair: Harry Sneed

- T. Nguyen, E. Munson, J. Boyland, C. Thao, Architectural Software Configuration Management in Molhado
- A. De Lucia, F. Fasano, R. Oliveto, G. Tortora, Enhancing an Artefact Management System with Traceability Recovery Features
- D. German, An Empirical Study of Fine-Grained Software Modifications

3rd floor Salon 2

11:00am-12:30pm Industrial Applications Session I – Chair: Vaclav Rajlich

- B. Down, Migrating the Enterprise
- T. Lau, T. Tong, K. Kontogiannis, I. Ivkovic, Y. Zou, Q. Zhang, R. Mckegney, P. Liew, M. Hung, Model Synchronization for Efficient Software Application Maintenance

3rd floor Salon 3

11:00am-12:30pm Tools Session II – Chair: Juergen Rilling

- D. Zage, W. Zage, Module Metric Signature (MMS) Visualization
- R. Ferenc, Á. Beszédes, T. Gyimóthy, Fact Extraction and Code Auditing with Columbus and SourceAudit

6th floor Adams Ballroom

12:30pm-2:00pm Lunch

3rd floor Salon 1

2:00pm-3:30pm Panel Session II

Evolution and Maintenance of Web Service Applications

Moderator: M. Kajko-Mattsson

Panelists: S. Bohner, C. Boldyreff, N. Chapin, J. Fisher, H. Sneed, P. Tonella

3rd floor Salon 2

2:00pm-3:30pm Industrial Applications Session II – Chair: Giuliano Antoniol

- T. Lamoreaux, M. Ofori-Kyei, M. Pinone, A Process for Improving Software Testability
- H. Sood, D. Delaurier, An Approach to Measure Software Maintenance and Support as a Value Added Component of To-Day's Business
- D. Pazel, P. Varma, A. Paradkar, B. Tibbitts, A. Anand, P. Charles, A Framework and Tool for Porting Assessment and Remediation

3rd floor Salon 3

2:00pm-3:30pm Tools Session III – Chair: Massimiliano Di Penta

- F. Balmas, DDFgraph: a Tool for Dynamic Data Flow Graphs Visualization
- W. Abdelmoez, M. Shereshevsky, R. Gunnalan, H. Ammar, B. Yu, S. Bogazzi, M. Korkmaz, A. Milli, Software Architecture Change Propagation Tool (SACPT)

3rd floor Common Area

3:30pm-4:00pm Coffee Break

3rd floor Salon 1

**4:00pm-5:00pm Technical Session T11: Program Comprehension and Visualization –
Chair: Gerardo Canfora**

- F. Van Rysselberghe, S. Demeyer, Studying Software Evolution Information by Visualizing the Change History
- C. Dang, A. Le, A. Michail, K. Pham, T. Pham, N. Seow, A. Sridhar, J. Timm, Design Recovery of Real-Time Graphical Applications using Video

3rd floor Salon 2

4:00pm-6:00pm PhD Dissertation Session – Chair: Shawn Bohner

- J. Krinke, Advanced Slicing of Sequential and Concurrent Programs
- A. Marcus, Semantic Driven Program Analysis
- F. Ricca, Analysis, Testing and Re-structuring of Web Applications
- L. Tahvildari, Quality-Driven Object-Oriented Re-Engineering Framework

6th floor Monroe Ballroom

6:00pm-6:30pm Open Meeting for ICSM 2005

- Harry M. Sneed, General Chair of [ICSM 2005](#) , to be held September 25-30, 2005, Budapest Hungary, will introduce the location and plans for sessions and submissions and members of the Conference Committee, and host questions and suggestions.

1st floor The Empire Room

7:30pm-11:00pm Banquet/Award Ceremony

Tuesday, September 14

6th floor Adams Ballroom

8:00am-9:00am Coffee/Pastry – round table discussions

6th floor Monroe Ballroom

9:00am-10:30am Keynote Speaker: Vic Basili

Empirically Evolving Software Techniques: the High Dependability Computing Project

6th floor Adams Ballroom

10:30am-11:00am Coffee Break

3rd floor Salon 1

11:00am-12:30pm Technical Session T12: Metrics for Maintenance –

Chair: Stanislaw Jarzabek

- R. Marinescu, Detection Strategies: Metrics-Based Rules for Detecting Design Flaws
- J. F. Girard, M. Verlage, D. Ganesan, Monitoring the Evolution of an OO System with Metrics: an Experience from the Stock Market Software Domain
- Z. Wen, V. Tzerpos, Evaluating Similarity Measures for Software Decompositions

3rd floor Salon 2

11:00am-12:30pm Technical Session T13: Empirical Study – Chair: Nicholas Zvegintzov

- L. Briand, Y. Labiche, H. D. Yan, M. Di Penta, A Controlled Experiment on the Impact of the Object Constraint Language in UML-Based Development
- J. Luo, R. Jiang, L. Zhang, H. Mei, J. Sun, An Experimental Study of Two Graph Analysis Based Component Capture Methods for Object-Oriented Systems
- M. Mäntylä, J. Vanhanen, C. Lassenius, Bad Smells - Humans as Code Critics

3rd floor Salon 3

11:00am-12:30pm Short Paper Session II – Chair: Cornelia Boldyreff

- M. Skoglund, P. Runeson, A Case Study on Regression Test Suite Maintenance in System Evolution
- R. Bahsoon, W. Emmerich, Evaluating Architectural Stability with Real Options Theory
- D. Willmor, S. Embury, J. Shao, Program Slicing in the Presence of a Database State
- B. Breech, A. Danalis, S. Shindo, L. Pollock, Online Impact Analysis via Dynamic Compilation Technology
- S. Deelstra, M. Sinnema, J. Nijhuis, J. Bosch, COSVAM: A Technique for Assessing Software Variability in Software Product Families

6th floor Adams Ballroom

12:30pm-2:00pm Lunch/Closing Remarks