# Table of Contents

**ASWEC 2006**

Message from the General Chair ............................................................................................................... x  
Message from the Research Program Chairs .......................................................................................... xi  
Organizing Committee ............................................................................................................................. xii  
Steering Committee ............................................................................................................................... xii  
Research Program Committee ............................................................................................................... xiii  
Industry Program Committee ................................................................................................................ xiv  
Additional Reviewers ............................................................................................................................... xv  

**Keynotes**

Software Product Lines: Reuse That Makes Business Sense ........................................................................ 3  
*Linda Northrop*

State of the Art v. State of the Practice: A Personal Perspective on the Changes in the Australian Software Engineering Landscape ...................................................................................................................... 4  
*Julian Edwards*

The Software Engineering Academy’s Role in Industrial Innovation .......................................................... 5  
*John Hosking*

**Software Requirements and Design**

An Agile Approach to Support Incremental Development of Requirements Specifications ....................... 9  
*Martin López-Nores, José Pazos-Arias, Jorge García-Duque, and Belén Barragáns-Martínez*

Requirements Capture and Specifications for Enterprise Applications:  
A UML Based Attempt ................................................................................................................................. 19  
*Christine Choppy and Gianna Reggio*

Proposed Notation for Exception Handling in UML 2 Sequence Diagrams .................................................. 29  
*Oddlief Halvorsen and Øystein Haugen*

**Component Based Software Engineering**

 Compatibility Test for Coordination Aspects of Software Components ................................................... 41  
*Johannes Zaha and Antonia Albani*

A Framework for Checking Behavioral Compatibility for Component Composition .................................. 49  
*Lei Wang and Padmanabhan Krishnan*
Web Services and Service Oriented Systems

SwinDeW-S: Extending P2P Workflow Systems for Adaptive Composite Web Services .................. 61
  Jun Shen, Jun Yan, and Yun Yang

A Runtime Monitoring and Validation Framework for Web Service Interactions ......................... 70
  Zheng Li, Yan Jin, and Jun Han

Checking Conformance between Business Processes and Web Service Contract in Service Oriented Applications ................................................................. 80
  Jenny Bhuiyan, Surya Nepal, and John Zic

A Coordinated Architecture for the Agent-Based Service Level Agreement Negotiation of Web Service Composition .............................................................. 90
  Mohan Chhetri, Jian Lin, SukKeong Goh, Jun Yan, Jian Zhang, and Ryszard Kowalczyk

Optimising Web Services Performance with Table Driven XML ............................................... 100
  Alex Ng

Software Patterns, Frameworks, and Architectures

Design of Agent-Oriented Pattern Templates .............................................................................. 113
  Ayodele Oluyomi, Shanika Karunasekera, and Leon Sterling

A Framework for Evaluating Alternative Architectures and Its Application to Financial Business Processes ................................................................. 122
  Feras Dabous and Fethi Rabhi

A Service-Oriented Architecture for Software Process Technology ............................................ 132
  Therese Helland, John Grundy, and John Hosking

The Transparent Adaptation Approach to the Development of Awareness Mechanisms for Groupware ................................................................. 142
  Minh Tran, Yun Yang, and Gitesh Raikundalia

A Holistic Framework for Mobile Environments ........................................................................ 152
  Anders Andersen and Torab Torabi

Over-the-Air Deployment of Applications in Multi-platform Environments ................................ 159
  Tore Fjellheim
Software Testing

Factors Affecting Software Testing Time Schedule ................................................................. 283
   Ossi Taipale, Kari Smolander, and Heikki Kälviäinen

Tailoring of Black-Box Testing Methods ............................................................................... 292
   Tafline Murnane, Karl Reed, and Richard Hall

Efficient and Effective Random Testing Using the Voronoi Diagram ..................................... 300
   T. Chen and Robert Merkel

Software Maintenance and Evolution

An Agent-Oriented Approach to Change Propagation in Software Evolution ....................... 309
   Khanh Dam, Michael Winikoff, and Lin Padgham

Cascaded Refactoring for Framework Development and Evolution ....................................... 319
   Lugang Xu and Greg Butler

Software Engineering Tools

Evaluating Software Refactoring Tool Support ........................................................................ 331
   Erica Mealy and Paul Strooper

Lock Selection Made Easy ....................................................................................................... 341
   Abdelsalam Shanneb and John Potter

A Java Reuse Repository for Eclipse Using LSI ....................................................................... 351
   Ming-Yang Lin, Robert Amor, and Ewan Tempero

Software Measurement and Experimentation

An Empirically-Based Criterion for Determining the Success of an Open-Source Project .......... 363
   Dror Feitelson, Gillian Heller, and Stephen Schach

CodeRank: A New Family of Software Metrics ......................................................................... 369
   Blair Neate, Warwick Irwin, and Neville Churcher

The Value of Architecturally Significant Information Extracted from Patterns for Architecture Evaluation: A Controlled Experiment ................................................................. 379
   Muhammad Ali Babar, Barbara Kitchenham, and Piyush Maheshwari
Software Process

Qualitative Simulation Model for Software Engineering Process ............................................................ 391
   He Zhang, Ming Huo, Barbara Kitchenham, and Ross Jeffery

Agile Practices in Software Development — Experiences from Student Projects ................................. 401
   Jean-Guy Schneider and Rajesh Vasa

Identifying Risks in XP Projects through Process Modeling ................................................................. 411
   Diana Kirk and Ewan Tempero

Author Index ............................................................................................................................................... 421