TABLE OF CONTENTS

Foreword......................................................................................................... iii
ICSE 2010 Conference Organization................................................................. v
ICSE 2010 Sponsors and Supporters............................................................... xiii
ICSE 2010 Contributors............................................................................... xiii
Author Index............................................................................................... 609

KEYNOTE PAPERS
South Africa and the World Beyond 2010 — The Latest Scenarios ...................... 1
Clem Sunter, Private Consultant in Scenario Planning, South Africa
Beyond Hacking: An SOS! ............................................................................. 2
Fred B. Schneider, Cornell University, USA
Planning for Climate Change in the 21st Century ............................................. 3
Sir David King, University of Oxford, UK

Research Papers

DYNAMIC ANALYSIS
Efficient Hybrid Typestate Analysis by Determining Continuation-Equivalent States ...................... 5
Eric Bodden, Technische Universität Darmstadt, Germany
Online Inference and Enforcement of Temporal Properties ........................................ 15
Mark Gabel, Zhendong Su, University of California at Davis, USA

PERFORMANCE AND RELIABILITY
Quality of Service Profiling ........................................................................... 25
Sasa Misailovic, Stelios Sidiroglou, Henry Hoffmann, Martin Rinard, MIT, USA
Collaborative Reliability Prediction of Service-Oriented Systems ......................... 35
Zibin Zheng, Michael R. Lyu, Chinese University of Hong Kong, China

FAULTS 1
A Discriminative Model Approach for Accurate Duplicate Bug Report Retrieval .................... 45
Chengnian Sun 1, David Lo 2, Xiaoyin Wang 3, Jing Jiang 2, Siau-Cheng Khoo 1; 1National University of
Singapore, Singapore; 2Singapore Management University, Singapore; 3Peking University, China
Has the Bug Really Been Fixed? ..................................................................... 55
Zhongxian Gu, Earl T. Barr, David J. Hamilton, Zhendong Su, University of California at Davis, USA
An Exploratory Study of Fault-Proneness in Evolving Aspect-Oriented Programs ............... 65
Fabiano Cutili Ferrari 1, Ráquel Burrows 2, Otávio Lemos 3, Alessandro Garcia 2,
Eduardo Figueiredo 4, Nello Cacho 5, Frederico Lopes 5, Nathalia Temudo 6, Liiana Silva 6,
Sergio Soares 7, Awaï Rashid 4, Paulo Masiero 4, Thais Batista 5, José Carlos Maldonado 1; 1University
of São Paulo, Brazil; 2Pontifical Catholic University of Rio de Janeiro, Brazil; 3Federal University of
São Paulo, Brazil; 4Lancaster University, UK; 5Federal University of Rio Grande do Norte, Brazil;
6University of Pernambuco, Brazil; 7Federal University of Pernambuco, Brazil

SOFTWARE ARCHITECTURE
Archface: A Contract Place Where Architectural Design and Code Meet Together ........ 75
Naoyasu Ubayashi 1, Jun Nomura 2, Tetsuo Tamai 3; 1Kyushu University, Japan; 2Kyushu Institute of
Technology, Japan; 3University of Tokyo, Japan
Developing Next Generation ADLs Through MDE Techniques ............................. 85
Davide Di Ruscio, Ivano Malavolta, Henry Muccini, Patrizio Pelliccione, Alfonso Pierantonio,
Università dell’Aquila, Italy
SOFTWARE TRACEABILITY WITH TOPIC MODELING ................................................................. 95
Hazeline U. Asuncion, Arthur U. Asuncion, Richard N. Taylor, University of California at Irvine, USA

SOFTWARE ARCHAEOLOGY

An Analysis of the Variability in Forty Preprocessor-Based Software Product Lines ............ 105
Jörg Liebig 1, Sven Apel 1, Christian Lengauer 1, Christian Kästner 2, Michael Schulze 2; 1University of Passau, Germany; 2University of Magdeburg, Germany

A Large-Scale Empirical Study of Practitioners’ Use of Object-Oriented Concepts .......... 115
Tony Gorschek 1, Ewan Tempero 2, Lefteris Angelis 3; 1Blekinge Institute of Technology, Sweden; 2University of Auckland, New Zealand; 3Aristotle University of Thessaloniki, Greece

A Large-Scale Empirical Study of the Variability in Forty Preprocessor-Based Software Product Lines ...................... 125
Andrew Begel 1, Khoo Yit Phang 2, Thomas Zimmermann 1; 1Microsoft Research, USA; 2University of Maryland at College Park, USA

LEGAL ISSUES

Liability in Software Engineering — Overview of the LISE Approach and Illustration on a Case Study ........................................................................................................ 135
Daniel Le Métayer 1, Manuel Maarek 1, Eduardo Mazza 2, Marie-Laure Potet 2, Stéphane Frénot 1, Valérie Viet Triem Tong 3, Nicolas Craipeau 4, Ronan Hardouin 5; 1INRIA, France; 2University of Grenoble, France; 3Supélec, France; 4University of Caen, France; 5University of Versailles, France

An Exploratory Study of the Evolution of Software Licensing ....................................... 145
Massimiliano Di Penta 1, Daniel M. German 2, Yann-Gaël Guéhéneuc 3, Giuliano Antoniol 3; 1University of Sannio, Italy; 2University of Victoria, Canada; 3École Polytechnique de Montréal, Canada

A Machine Learning Approach for Tracing Regulatory Codes to Product Specific Requirements .... 155
Jane Cleland-Huang, Adam Czauderna, Marek Gibiec, John Emenecker, DePaul University, USA

SUPPORTING PROGRAMMERS

Supporting Developers with Natural Language Queries ............................................ 165
Michael Würsch, Giacomo Ghezzi, Gerald Reif, Harald C. Gall, University of Zurich, Switzerland

Using Information Fragments to Answer the Questions Developers Ask ....................... 175
Thomas Fritz, Gail C. Murphy, University of British Columbia, Canada

Developers Ask Reachability Questions .................................................................... 185
Thomas D. LaToza, Brad A. Myers, Carnegie Mellon University, USA

PROGRAM TRANSFORMATION AND SYNTHESIS

Mining API Mapping for Language Migration ..................................................... 195
Hao Zhong 1, Suresh Thummalapenta 2, Tao Xie 2, Lu Zhang 3, Qing Wang 1; 1Chinese Academy of Sciences, China; 2North Carolina State University at Raleigh, USA; 3Peking University, China

Using Twinning to Adapt Programs to Alternative APIs ......................................... 205
Marius Nita, David Notkin, University of Washington, USA

Oracle-Guided Component-Based Program Synthesis .............................................. 215
Susmit Jha 1, Sumit Gulwani 2, Sanjit A. Seshia 1, Ashish Tiwari 3; 1University of California at Berkeley, USA; 2Microsoft Research, USA; 3SRI International, USA

TESTING

Test Generation Through Programming in UDITA ............................................. 225
Milos Gligoric 1, Tihomir Gvero 2, Vilas Jagannath 1, Sarfraz Khurshid 2, Viktor Kuncak 2, Darko Marinov 1; 1University of Illinois at Urbana-Champaign, USA; 2EPFL, Switzerland; 3University of Texas at Austin, USA

Detecting Atomic-Set Serializability Violations in Multithreaded Programs Through Active Randomized Testing ................................................................. 235
Zhifeng Lai 1, S.C. Cheung 1, Wing Kwong Chan 2; 1Hong Kong University of Science & Technology, China; 2City University of Hong Kong, China
Engineering Parallel Applications with Tunable Architectures .................................................. 405
Christoph A. Schaefer, Victor Pankratius, Walter F. Tichy, Karlsruhe Institute of Technology, Germany

DETERMIN: Inferring Likely Deterministic Specifications of Multithreaded Programs ................. 415
Jacob Burnim, Koushik Sen, University of California at Berkeley, USA

TESTING 2

From Behaviour Preservation to Behaviour Modification: Constraint-Based Mutant Generation .... 425
Friedrich Steimann, Andreas Thies, FernUniversität in Hagen, Germany

Is Operator-Based Mutant Selection Superior to Random Mutant Selection? .......................... 435
Lu Zhang 1, Shan-Shan Hou 1, Jiu-Jue Hu 1, Tao Xie 2, Hong Mei 1; 1 Peking University, China; 2 North Carolina State University at Raleigh, USA

Using Symbolic Evaluation to Understand Behavior in Configurable Software Systems ........ 445
Elnatan Reisner, Charles Song, Kin-Keung Ma, Jeffrey S. Foster, Adam Porter, University of Maryland at College Park, USA

SUPPORTING PROGRAMMERS 2

Code Bubbles: Rethinking the User Interface Paradigm of Integrated Development Environments .................................................. 455
Andrew Bragdon 1, Steven P. Reiss 1, Robert Zeleznik 1, Suman Karumuri 1, William Cheung 1, Joshua Kaplan 1, Christopher Coleman 1, Ferdi Adeputra 1, Joseph J. LaViola Jr. 2; 1 Brown University, USA; 2 University of Central Florida, USA

Customized Awareness: Recommending Relevant External Change Events ............................ 465
Reid Holmes 1, Robert J. Walker 2; 1 University of Washington, USA; 2 University of Calgary, Canada

A Search Engine for Finding Highly Relevant Applications ....................................................... 475
Mark Grechanik 1, Chen Fu 1, Qing Xie 1, Collin McMillan 2, Denys Poshvanyk 2, Chad Cumby 1; 1 Accenture Technology Labs, USA; 2 College of William & Mary, USA

FAULTS 3

An Empirical Study of Reported Bugs in Server Software with Implications for Automated Bug Diagnosis .................................................. 485
Swarup Kumar Sahoo, John Criswell, Vikram Adve, University of Illinois at Urbana-Champaign, USA

Characterizing and Predicting Which Bugs Get Fixed: An Empirical Study of Microsoft Windows ... 495
Philip J. Guo 1, Thomas Zimmermann 2, Nachiappan Nagappan 2, Brendan Murphy 2; 1 Stanford University, USA; 2 Microsoft Research, USA

Summarizing Software Artifacts: A Case Study of Bug Reports .............................................. 505
Sarah Rastkar, Gail C. Murphy, Gabriel Murray, University of British Columbia, Canada

PROGRAM ANALYSIS

LEAKPOINT: Pinpointing the Causes of Memory Leaks .............................................................. 515
James Clause, Alessandro Orso, Georgia Institute of Technology, USA

Precise Calling Context Encoding ...................................................................................... 525
William N. Sumner, Yunhui Zheng, Dasarath Weeratunge, Xiangyu Zhang, Purdue University, USA

Effective Interprocedural Resource Leak Detection .............................................................. 535
Emina Torlak, Satish Chandra, IBM T.J. Watson Research Center, USA

Software Engineering in Education

EVALUATING SOFTWARE ENGINEERING COURSES

Measuring Complexity, Effectiveness and Efficiency in Software Course Projects .................... 545
Wilson Pádua, Federal University of Minas Gerais, Brazil

Advanced Hands-On Training for Distributed and Outsourced Software Engineering ............... 555
Martin Nordio, Roman Mitin, Bertrand Meyer, ETH Zürich, Switzerland
A HOT — Human, Organizational and Technological — Framework for a Software Engineering Course ........................................................................................................................................................................ 559
Orit Hazzan 1, Yael Dubinsky 2; 1Technion – Israel Institute of Technology, Israel; 2IBM Haifa Research Lab, Israel

TEAM ORIENTATION

An Empirical Analysis of Team Review Approaches for Teaching Quality Software Development ........................................................................................................................................................................ 567
Amna Humayun 1, Wafa Basit 1, Ghulam A. Farrukh 2, Fakhar Lodhi 1, Rabea Aden 1; 1National University of Computer & Emerging Sciences, Pakistan; 2University of Agriculture Faisalabad, Pakistan

An Empirical Study of the Effects of Conscientiousness in Pair Programming Using the Five-Factor Personality Model ........................................................................................................................................................................ 577
Norsaremah Salleh 1, Emilia Mendes 1, John Grundy 2, Giles St.J. Burch 1; 1University of Auckland, New Zealand; 2Swinburne University of Technology, Australia

Panel: Master's Programs in Software Engineering

Panel on Master's Degree Programs in Software Engineering ........................................................................................................................................................................ 587
Mehdi Jazayeri, University of Lugano, Switzerland

EFFECT OF CONTEXT IN SOFTWARE ENGINEERING EDUCATION

The Educational Value of Mapping Studies of Software Engineering Literature ........................................................................................................................................................................ 589
Barbara Kitchenham 1, Pearl Brereton 1, David Budgen 2; 1Keele University, UK; 2Durham University, UK

Towards Contextualised Software Engineering Education: An African Perspective ........................................................................................................................................................................ 599
Jens Fendler, Heike Winschiers-Theophilus, Polytechnic of Namibia, Namibia
TABLE OF CONTENTS

Foreword ........................................................................................................................................... III
ICSE 2010 Conference Organization .................................................................................................. V
ICSE 2010 Sponsors and Supporters ................................................................................................... XIII
ICSE 2010 Contributors .................................................................................................................. XIII
Authors Index .................................................................................................................................... 527

Research Papers

QUALITY OF SERVICE:

Performance Modeling in Industry: A Case Study on Storage Virtualization ........................................... 1
Nikolaus Huber, Steffen Becker, Christoph Rathfelder, Jochen Schweblinghaus, Ralf H. Reussner

Improving Throughput Via Slowdowns .............................................................................................. 11
Maayan Goldstein, Om Shehory, Rachel Tzoref-Brill, Shmuel Ur

CERTIFICATION, ASSESSMENT & GOVERNANCE:

A Role-based Qualification and Certification Program for Software Architects: An Experience
Report from Siemens .......................................................................................................................... 21
Frances Paulisch, Peter Zimmerer

Assessments in Global Software Development: A Tailorable Framework for Industrial Projects............... 28
Frank Salger, Gregor Engels, Alexander Hofmann

Penalty Policies in Professional Software Development Practice: A Multi-Method Field Study ................... 38
Yi Wang, Min Zhang

MODEL-DRIVEN DEVELOPMENT:

A Modeling Language's Evolution Driven by Tight Interaction Between Academia and Industry ................. 47
Thomas Aschauer, Gerd Dauenhauer, Wolfgang Pree

Andreas Kornstaedt, Eugen Reiswich

Integrating Legacy Systems with MDE ............................................................................................... 66
Mickael Clavreul, Olivier Barais, Jean-Marc Jezequel

QUALITY ASSURANCE I: STATIC AND DYNAMIC ANALYSIS:

Can Clone Detection Support Quality Assessments of Requirements Specifications? ................................. 76
Elmar Juergens, Florian Deissenboeck, Martin Feilkas, Benjamin Hummel, Bernhard Schuetz, Stefan Wagner,
Christoph Domann, Jonathan Streit

Comprehending Module Dependencies and Sharing .............................................................................. 86
Yongzheng Wu, Roland H. C. Yap, Rajiv Ramnath

Making Defect-Finding Tools Work for you ....................................................................................... 96
Mangala Govri Nanda, Monika Gupta, Saurabh Sinha, Satish Chandra, David Schmidt, Pradeep Balachandran

QUALITY ASSURANCE II: DEFECT MODELING, PREDICTION & TESTING:

Formalization and Validation of a Subset of the European Train Control System .................................... 106
A. Chiappini, A. Cimatti, L. Macchi, O. Rebollo, M. Roveri, A. Susi, S. Tonetta, B. Vittorini
Bridging Lightweight and Heavyweight Task Organization: The Role of Tags in Adopting New Task Categories ............................................................................................................................... 227
Christoph Treude, Margaret-Anne Storey

COLLABORATIVE SOFTWARE DEVELOPMENT:

Syde: A Tool For Collaborative Software Development ................................................................................................................................. 231
Lile Hattori, Michele Lanza

Stakesource: Harnessing the Power of Crowdsourcing and Social Networks in Stakeholder Analysis ................................................................. 235
Soo Ling Lim, Daniele Quercia, Anthony Finkelstein

Codesign: A Highly Extensible Collaborative Software Modeling Framework ........................................................................................................... 239
Jae Young Bang, Daniel Popescu, George Edwards, Nenad Medvidovic, Naveen Kulkarni, Girish M. Rama, Srinivas Padmanabhan

SOFTWARE MAINTENANCE:

Flexible Architecture Conformance Assessment with Conqat ...................................................................................................................................................... 243
Florian Deissenboeck, Lars Heinemann, Benjamin Hummel, Elmar Juergens

Visualizing The Java Heap ........................................................................................................................................................................................................... 247
Steven P. Reiss

FLAT³: Feature Location and Textual Tracing Tool ................................................................................................................................................................. 251
Trevor Savage, Meghan Revelle, Denys Poshyvanyk

SOFTWARE COMPONENTS AND REUSE:

Exemplar: EXEcutible exaMPLes ARchive .............................................................................................................................................................................................. 255
Mark Grechanik, Chen Fu, Qing Xie, Collin McMillan, Denys Poshyvanyk, Chad Cumby

LSdiff: A Program Differencing Tool to Identify Systematic Structural Differences ........................................................................................................ 259
Alex Loh, Miryung Kim

Legacy Component Integration by the Fujaba Real-Time Tool Suite ............................................................................................................................... 263
Stefan Henkler, Jan Meyer, Wilhelm Schufer, Markus Von Detten, Ulrich Nickel

TESTING:

BPGen: An Automated Breakpoint Generator for Debugging ...................................................................................................................................................... 267
Cheng Zhang, Dacong Yan, Jianjun Zhao, Yuting Chen, Shengqian Yang

Runtime Repair of Software Faults Using Event-Driven Monitoring ............................................................................................................................... 271
Chris Lewis, Jim Whitehead

Testful: Automatic Unit-Test Generation for Java Classes ...................................................................................................................................................... 277
Luciano Baresi, Matteo Miraz

SOFTWARE DEVELOPMENT ENVIRONMENTS:

End-User Requirements Blogging with Irequire .............................................................................................................................................................................. 281
Norbert Seyff, Florian Graf, Neil Maiden

The Small Project Observatory: A Tool for Reverse Engineering Software Ecosystems ........................................................................................................ 285
Mircea Lungu, Michele Lanza

A Research Demonstration of Code Bubbles .................................................................................................................................................................................. 289
Andrew Bragdon, Steven P. Reiss, Robert Zeleznik, Suman Karumuri, William Cheung, Joshua Kaplan, Christopher Coleman, Ferdi Adeputra, Joseph J. Laviola

INFORMAL RESEARCH DEMOS:

A Flexible Tool Suite For Change-Aware Test-Driven Development of Web Applications ...................................................................................................... 293
Esteban Robles Luna, Juan Burella, Julian Grigera, Gustavo Rossi
Reverse Engineering with the Reclipse Tool Suite .......................................................... 295
Markus Von Detten, Matthias Meyer, Dietrich Travkin

SOABench: Performance Evaluation of Service-Oriented Middleware Made Easy ............... 297
Domenico Bianculli, Walter Binder, Mauro Luigi Drago

SM@RT: Representing Run-time System Data as MOF-compliant Models ........................... 299
Hui Song, Gang Huang, Franck Chauvel, Yanchun Sun, Hong Mei

Eliminating Dead-code from XQuery Programs .................................................................. 301
Pierre Geneves, Nabil Layaida

EMFStore: A Model Repository for EMF Models ............................................................... 303
Maximilian Koegel, Jonas Helming

CUTS: A System Execution Modeling Tool for Realizing Continuous System Integration Testing .......................................................... 305
James H. Hill

SSG: A Model-Based Development Environment for Smart, Security-Aware GUIs .................. 307
Miguel A. Garcia de Dios, Carolina Dania, Michael Schlapfer, David Basin, Manuel Clavel, Marina Egea

Managing Iterations with UNICASE .............................................................................. 309
Jonas Helming, Maximilian Koegel

JDF: Detecting Duplicate Bug Reports In Jazz ..................................................................... 311
Yoonki Song, Xiaoyin Wang, Tao Xie, Lu Zhang, Hong Mei

Using Invariant Functions and Invariant Relations to Compute Loop Functions .................. 313
Lamia Labed Jilani, Olfa Mraihi, Asma Louhichi, Wided Ghardallou, Ali MilI

LM: A Miner for Scenario-Based Specifications .................................................................... 315
Tuan-Anh Doan, David Lo, Shahar Maor, Siau-Cheng Khoo

RAW: Runtime Automatic Workarounds .......................................................................... 317
Antonio Carzaniga, Alessandra Gorla, Nicolo Perino, Mauro Pezze

SOFTWARE ENGINEERING IN SOUTH AFRICA:

Software Engineering in South Africa ................................................................................ 319
Derrick G. Kourie, Bruce W. Watson

EARLY PHASE:

Portable Secure Identity Management for Software Engineering .......................................... 321
Christopher Staite

Dynamic Service Quality And Resource Negotiation for High-Availability Service-Oriented Systems ........ 323
Nicholas May

Zenet: Generating and Enforcing Real-Time Temporal Invariants ........................................ 325
Chris Lewis

Balancing Collaboration and Discipline in Software Development Processes ....................... 327
Andrea Magalhaes Magdaleno

A Proposal for Consistency Checking in Dynamic Software Product Line Models Using OCL .... 329
Fabiana G. Marinho

Behavioural Validation of Software Engineering Artefacts ..................................................... 331
Guido De Caso

Umple: A Model-Oriented Programming Language .............................................................. 333
Omar Badreddin

An Incremental Methodology for Quantitative Software Architecture ..................................... 335
Indika Meedeniya

Evaluation with Probabilistic Models .................................................................................. 35
Xiaoru Zhang

Choreography of Intelligent E-Services .............................................................................. 339
W. L. Ntshinga

A Framework for Handling Variants of Software Models ....................................................... 341
Christian Pichler

Improving Wide-Area Distributed System Availability .......................................................... 343
Bruno Wassermann

Risk Assessment on Distributed Software Projects ............................................................ 345
Adailton Magalhaes Lima
VisAr3d: An Approach to Software Architecture Teaching Based on Virtual and Augmented Reality
Claudia Susie C. Rodrigues

Change Impact Analysis from Business Rules
Antonio Oliveira Filho

Software Architecture for Systems of Software Intensive Systems (S3): The Concepts and Detection of Inter-System Relationships
John Brondum

MATURE PHASE:

Formal Methods for Web Services: A Taxonomic Approach
K. S. May Chan

Exploratory Study of a UML Metric for Fault Prediction
Ana Erika Camargo Cruz

Feature-Oriented Requirements Modelling
Pourya Shaker

Automatic Enforcement of Architectural Design Rules
Anders Mattsson

SMT-Based Bounded Model Checking for Multi-Threaded Software in Embedded Systems
Lucas Cordeiro

Enhancing Collaboration of Multi-Developer Projects with Synchronous Changes
Lile Hattori

SOFAS: Software Analysis Services
Giacomo Ghezzi

Informal Software Design Knowledge Reuse
Gerald Bortis

The Role of Emergent Knowledge Structures in Collaborative Software Development
Christoph Treude

Capturing the Long-Term Impact of Changes
Kim Sebastian Herzig

Failure Preventing Recommendations
Adrian Schröter

Impact Analysis for Event-Based Components and Systems
Daniel Popescu

Empirical Evaluation of Effort on Composing Design Models
Kleinner Farias

Analysis of Execution Log Files
Meiyappan Nagappan

Towards End-User Enabled Web Service Consumption for Mashups
Marcus Roy

Constraint Solving Techniques for Software Testing and Analysis
Feifei Ma

A Methodology to Support Load Test Analysis
Haroon Malik

EMERGING FACULTY SYMPOSIUM:

Emerging Faculty Symposium 2010
Hausi Muller, Andreas Zeller

WORKSHOP INTRODUCTIONS:

Sushil Bajracharya, Adrian Kuhn, Yunwen Ye

Grace A. Lewis, Andreas Metzger, Marco Pistore, Dennis Smith, Andrea Zisman
New Horizons in Multicore Software Engineering
Victor Pankratius, Michael Philppsen
426

The 6th International Workshop on Software Engineering for Secure Systems (SESS'10)
Seok-Won Lee, Mattia Monga, Jan Jurjens
428

Cooperative and Human Aspects of Software Engineering (CHASE 2010)
Yvonne Dittrich, Cedidson de Souza, Mikko Korpela, Helen Sharp, Janice Singer, Helke Wulstiers Theophilus
430

Fifth International Workshop on Sharing and Reusing Architectural Knowledge (SHARK 2010)
Patria Lago, Paris Avgeriou, Philippe Kruchten
432

First International Workshop on Product Line Approaches in Software Engineering (PLEASE 2010)
Julia Rubin, Goetz Botterweck, Mira Mezini, Itay Maman, Andreas Pleuss
434

Flexible Modeling Tools (FlexiTools2010)
Harold Oscher, Andre Van Der Hoek, Margaret-Anne Storey, John Grundy, Rachel Bellamy
436

SESENA 2010: Workshop on Software Engineering for Sensor Network Applications
Kurt Geihs, Stefan Gruner, Kay Romer
438

Bridging the Gap Between the Theory and Practice of Software Test Automation
Christof J. Budnik, Wing Kwong Chan, Gregory M. Kaphamnner
440

Fifth Workshop on Software Engineering for Adaptive and Self-Managing Systems (SEAMS 2010)
Betty H. C. Cheng, Rogerio de Lemos, David Garlan, Holger Giese, Marin Litou, Jeff Magee, Hausi A. Muller,
Mauro Pezze, Richard Taylor
442

Second International Workshop on Software Research and Climate Change
Steve Easterbrook, Kim Mens, Steffen Zscharler
444

First International Workshop on Quantitative Stochastic Models in the Verification and Design of Software Systems (QUOVADIS 2010)
Carlo Ghezzi, Lars Grunske, Raffaella Mirandola
446

2nd International Workshop on Software Engineering in Health Care (SEHC 2010)
Lori A. Clarke, Jens Weber-Jahnke
448

RSSE 2010: Second International Workshop on Recommendation Systems for Software Engineering
Reid Holmes, Martin P. Robillard, Robert J. Walker, Thomas Zimmermann
450

Web2SE: First Workshop on Web 2.0 for Software Engineering
Christoph Treude, Margaret-Anne Storey, Kate Ehrlich, Ari van Deursen
452

Workshop on Emerging Trends in Software Metrics (WETSoM 2010)
Gerardo Canfora, Giulio Concas, Michele Marchesi, Ewan Tempo, Hongyu Zhang
454

1st International Workshop on Replication in Empirical Software Engineering Research (RESER)
Charles D. Knutson, Jonathan L. Krein, Lutz Prechelt, Natalia Juristo
456

Software Development Governance (SDG) Workshop
Katsuro Inoue, Stanislaw Jarzabek, James R. Cordy, Rainer Koskhe
458

Fourth International Workshop on Software Clones (IWSC)
Patricia Lago, Paris Avgeriou, Philippe Kruchten
460

2010 ICSE International Workshop on Advances and Applications of Problem Orientation (WAAP2010)
Jon G. Hall, Lucia Rapanotti, Liping Zhao, James Naish
462

TUTORIALS:

Analysing "People" Problems in Requirements Engineering
Alistair Sutcliffe, Sarah Thew
464

Software Architecture: Foundations, Theory, and Practice
Nenad Medvidovic, Richard N. Taylor
466

Generative Software Development
Bernhard Rumpe, Martin Schindler, Steven Voelkel, Ingo Weisemoller
468

Cloud Service Engineering
Stefan Tai, Jens Nimis, Alexander Lenk, Markus Klemms
470

Bayesian Methods For Data Analysis in Software Engineering
Mohan Sridharan, Akbar Siami Namin
472

Cost Effectiveness Analysis in Software Engineering
Hakan Erdogmus
474

Coaching Agile Software Projects: Tutorial Proposal - ICSE 2010
Orit Hazzan, Yael Dubinsky
476

Parameterized Unit Testing: Theory and Practice
Nikolai Tillmann, Jonathan De Halleux, Tao Xie
478
The "Physics" Of Notations: A Scientific Approach to Designing Visual Notations in Software Engineering ................................................................. 480
Daniel L. Moody

Multicore Software Engineering: The Next Challenge in Software Engineering ............................................................................................................. 482
Victor Pankratius, Walter F. Tichy, Peter Hinsbeec

Donald G. Firesmith

Using Ethnographic Methods in Software Engineering Research ............................................................................................................................... 485
Helen Sharp, Cleidson Desouza, Yvonne Dittrich

Design Science Methodology: Principles and Practice ............................................................................................................................... 487
Roel Wieringa

Combinatorial Test Design in Practice .............................................................................................................................................................................. 489
Myra B. Cohen, Shmuel Ur

Software Architecture and Agile Software Development: A Clash of Two Cultures? ............................................................................................................. 491
Philippe Kruchten

Code Clone Detection in Practice .............................................................................................................................................................................................. 493
Florian Deissenboeck, Benjamin Hummel, Elmar Juergens

New Processes for New Horizons: The Incremental Commitment Model ............................................................................................................. 495
Barry Boehm, Jo Ann Lane

Mining Software Engineering Data .............................................................................................................................................................................................. 497
Ahmed E. Hassan, Tao Xie

STUDENT RESEARCH COMPETITION:

Behavioural Validation of Software Engineering Artefacts ........................................................................................................................................... 499
Guido De Caso

QED: A Proof System Based on Reduction and Abstraction for the Static Verification of Concurrent Software ........................................................................... 501
Tayfun Elmas

Software Engineering Abstractions for the Multi-Touch Revolution ............................................................................................................................................. 503
Lode Hoste

Predicting Build Outcome with Developer Interaction in Jazz ............................................................................................................................................. 505
Adrian Schroter

Improved Social Trustability of Code Search Results .................................................................................................................................................. 507
Florian Deissenboeck

Test-Driven Roles for Pair Programming ......................................................................................................................................................................... 509
Max Goldman

Providing Support for Creating Next Generation Software Architecture Languages .................................................................................................. 511
Ivano Malavolta

STORM: Static Unit Checking of Concurrent Programs .................................................................................................................................................. 513
Zvonimir Rakamaric

Making Program Refactoring Safer .......................................................................................................................................................................................... 515
Gustavo Soares

Staying Aware of Relevant Feeds In Context ............................................................................................................................................................................. 517
Thomas Fritz

Developing And Evaluating the Code Bubbles Metaphor .................................................................................................................................................. 519
Andrew Bragdon

Summarizing Software Concerns .............................................................................................................................................................................................. 521
Sarah Rastkar

Commit 2.0: Enriching Commit Comments with Visualization ............................................................................................................................................. 523
Marco D'Ambros

Helios: Impact Analysis for Event-Based Components and Systems ........................................................................................................................................... 525
Daniel Popescu