

This document lists the sessions for the
Plenary Keynotes
Research and Technical Track
Software Engineering in Education
Software Engineering in Practice
May 5-7, 2010

PLENARY KEYNOTES

Wednesday 09:00 – 11:00

Welcome Address: The Most Reverend Desmond Tutu, *Archbishop Emeritus of Cape Town. Bishop Tutu is one of South Africa's most famous sons, recipient of the 1984 Nobel Peace prize, and author of the book "Reconciliation: the Ubuntu Theology"*

South Africa and the World Beyond 2010 – the latest scenarios, Clem Sunter, *Leading South African Businessman, author and scenario strategist*

Thursday 09:00- 10:30

Beyond Hacking: An SOS, Fred Schneider, *Samuel B. Eckert Professor of Computer Science, Cornell – Chief Scientist for the NSF "TRUST" Science and Technology Centre and Professor-at-large, University of Tromso, Norway*

Friday 09:00 – 10:30

Planning for Climate Change in the 21st Century, Sir David King, *Director of the Smith School of Enterprise and Environment at the University of Oxford. He was the UK Government Chief Scientific Adviser and Head of the Government Office of Science from October 2000 to 31 December 2007*

RESEARCH AND TECHNICAL TRACK

CHAIRS: Premkumar Devanbu (*University of California, Davis*) and Sebastian Uchitel (*University of Buenos Aires, Buenos Aires*)

Wed 11:30-12:30

Dynamic Analysis

Efficient and precise Typestate Analysis by determining Continuation-equivalent States, Eric Bodden (*Technische Universitaet Darmstadt, Germany*)

Online Inference and Enforcement of Temporal Properties, Mark Gabel and Zhendong Su (*University of California, Davis, USA*)

Performance and Reliability

Quality of Service Profiling, Sasa Misailovic, Stelios Sidiroglou, Henry Hoffman, and Martin Rinard (*MIT, Cambridge, USA*)

Collaborative Reliability Prediction of Service-Oriented Systems , Zibin Zheng and Michael R. Lyu (*The Chinese University of Hong Kong, Hong Kong, China*)

Wed 14:00-15:30

Faults 1

Discriminative Model Approach Towards Accurate Duplicate Bug Report Retrieval, Chengnian Sun and David Lo, (*Singapore Management University, Singapore*) Xiaoyin Wang (*Peking University, Beijing, China*), Jing Jiang (*Singapore Management University, Singapore*) and Siau-Cheng Khoo (*National University of Singapore, Singapore*)

Has the Bug Really Been Fixed?, Zhongxian Gu, Earl T. Barr, David J. Hamilton and Zhendong Su (*University of California, Davis, USA*)

An Exploratory Study of Fault-Proneness in Evolving Aspect-Oriented Programs,

Fabiano C Ferrari (*University of Sao Paulo, Sao Paulo, Brazil*), Rachel Burrows (*Lancaster University, Lancaster, UK*), Otávio A L Lemos (*University of Sao Paulo, Sao Paulo, Brazil*), Alessandro Garcia (*Pontifical Catholic University, Rio De Janeiro, Brazil*), Eduardo Figueiredo (*Lancaster University, Lancaster, UK*), Nelio Cacho and Frederico Lopes (*Federal University of Rio Grande do Norte, Natal, Brazil*), Nathalia M Temudo, Liana Silva and Sergio Soares (*University of Pernambuco, Pernambuco, Recife, Brazil*)

Software Architecture

Archface: A Contract Place Where Architectural Design and Code Meet Together, Naoyasu Ubayashi, Jun Nomura and Tetsuo Tamai (*University of Tokyo, Tokyo, Japan*)

Developing next generation ADLs through MDE techniques, Davide Di Ruscio, Ivano Malavolta, Henry Muccini, Patrizio Pelliccione and Alfonso Pierantonio, (*University of L'Aquila, L'Aquila, Italy*)

Software Traceability with Topic Modeling, Hazeline U. Asuncion, Arthur Asuncion and Richard N. Taylor (*University of California, Irvine, USA*)

Software Archaeology

Analysis of the Variability in Forty Preprocessor-Based Software Product Lines, by Joerg Liebig, Sven Apel and Christian Lengauer (*University of Passau, Passau, Germany*), Christian Kaestner and Michael Schulze (*University of Magdeburg, Magdeburg, Germany*)

A large-scale empirical study of practitioners' use of object-oriented concepts, Tony Gorschek, Blekinge (*Institute of Technology, Ronneby, Sweden*), Ewan Tempero (*The University of Auckland, Auckland, New Zealand*), Lefteris Angelis Aristotle (*University of Thessaloniki, Thessaloniki, Greece*)

Codebook: Discovering and Exploiting Relationships in Software Repositories, Andrew Begel (*Microsoft Research, Redmond, USA*), Yit Phang Khoo (*University of Maryland, College Park, USA*) and Thomas Zimmermann (*Microsoft Research, Redmond, USA*)

Wed 16.00 - 17.30

Legal Issues

Legal Issues Liability in Software Engineering - Overview of the LISE Approach and Illustration on a Case Study, Daniel Le Métayer, Manuel Maarek, Marie-Laure Potet and Eduardo Mazza (*University of Grenoble, Grenoble, France*)

An Exploratory Study of the Evolution of Software Licensing, by Massimiliano Di Penta (*University of Sannio, Benevento, Italy*), Daniel M. German (*University of Victoria, Victoria, Canada*), Yann-Gael Gueheneuc and Giuliano Antoniol (*Ecole Polytechnic de Montreal, Montreal, Canada*)

A Machine Learning Approach for Tracing Regulatory Codes to Product Specific Requirements, Jane Cleland-Huang, Adam Czauderna, John Emenecker and Marek Gibiec (*DePaul University, Chicago, USA*)

Supporting Programmers 1

Supporting Developers with Natural Language Queries, Michael Würsch, Giacomo Ghezzi, Gerald Reif and Harald Gall (*University of Zurich, Zurich, Switzerland*)

Using Information Fragments to Answer the Questions Developers Ask, Thomas Fritz and Gail C. Murphy (*University of British Columbia, Vancouver, Canada*)

Developers Ask Reachability Questions, Thomas D. LaToza and Brad A. Myers (*Carnegie Mellon University, Pittsburgh, USA*)

Program Transformation and Synthesis

Mining API Mapping for Language Migration, Hao Zhong (*Chinese Academy of Sciences, Beijing, China*), Suresh Thummalapenta and Tao Xie (*North Carolina State University, Raleigh, USA*), Lu Zhang (*Peking University, Beijing, China*), Qing Wang (*Chinese Academy of Sciences, Beijing, China*)

Using Twinning to Adapt Programs to Alternative APIs, Marius Nita and David Notkin (*University of Washington, Seattle, USA*)

Oracle-Guided Component-Based Program Synthesis, Susmit Jha (*UC Berkeley, Berkeley, USA*) Sumit Gulwani (*Microsoft Research, Redmond, USA*), Sanjit A. Seshia (*UC Berkeley, Berkeley, USA*) and Ashish Tiwari (*SRI International, Palo Alto, USA*)

Thursday 11:00-12:30

Testing

Test Generation through Programming in UDITA, Milos Gligoric (*University of Illinois, Urbana-Champaign USA*), Tihomir Gvero (*Ecole Polytechnique Federale de Lausanne, Lausanne, Switzerland*), Vilas Jagannath (*University of Illinois, Urbana-Champaign USA*), Sarfraz Khurshid (*University of Texas, Austin, USA*), Viktor Kuncak (*Ecole Polytechnique Federale de Lausanne, Lausanne, Switzerland*) and Darko Marinov (*University of Illinois, Urbana-Champaign USA*)

Detecting Atomic-Set Serializability Violations in Multithreaded Programs through Active Randomized Testing, Zhifeng Lai and S.C. Cheung (*Hong Kong University of Science and Technology, Hong Kong, China*) and W.K. Chan (*City University of Hong Kong, Hong Kong, China*)

Faults 2

Falcon: Fault Localization in Concurrent Programs, Sangmin Park, Richard Vuduc and Mary Jean Harrold (*Georgia Institute of Technology, Atlanta, USA*)

Adaptive Bug Isolation, Piramanayagam Arumuga Nainar and Ben Liblit (*University of Wisconsin, Madison, USA*)

Practical Fault Localization for Dynamic Web Applications, Shay Artzi, Julian Dolby, Frank Tip and Marco Pistoi (*IBM T.J. Watson Research Center, Yorktown Heights, USA*)

Human Factors 1

Moving into a New Software Project Landscape, Barthelemy Dagenais (*McGill University, Montreal, Canada*), Harold Ossher and Rachel Bellamy (*IBM T.J. Watson Research Center, Yorktown Heights, USA*), Martin Robillard (*McGill University, Montreal, Canada*) and Jacqueline De Vries (*IBM T.J. Watson Research Center, Yorktown Heights, USA*)

Organizing Self-Organizing Teams, Rashina Hoda, James Noble and Stuart Marshall (*Victoria University of Wellington, Wellington, New Zealand*)

StakeNet: Using Social Networks to Analyse the Stakeholders of Large-Scale Software Projects, Soo Ling Lim (*University College, London, UK*), Daniele Quercia (*MIT, Cambridge, USA*) and Anthony Finkelstein (*University College, London, UK*)

Thursday 16.00 – 17.00

Mining Software Repositories

Identifying Crosscutting Concerns Using Historical Code Changes, Bram Adams, Zhen Ming Jiang and Ahmed E. Hassan (*Queen's University, Kingston, Canada*)

Recurring Bug Fixes in Object-Oriented Programs, Tung Nguyen, Hoan Nguyen, Nam Pham, Jafar Al-Kofahi and Tien Nguyen (*Iowa State University, Ames, USA*)

AURA: A Hybrid Approach to Identify Framework Evolution, Wei Wu (*University de Montreal, Montreal, Canada*), Yann-Gael Gueheneuc and Giuliano Antoniol (*Ecole Polytechnique de Montreal, Montreal, Canada*) and Miryung Kin (*University of Texas, Austin, USA*)

Verification

Model Checking Lots of Systems: Efficient Verification of Temporal Properties in Software Product Lines, Andreas Classen, Patrick Heymans and Pierre-Yves Schobbens (*University of Namur, Namur, Belgium*), Axel Legay (*IRISA/INRIA, Rennes Cedex,)* and Jean-François Raskin (*Université Libre de Bruxelles, Brussels, Belgium*)

A Cut-off Approach for Bounded Verification of Parameterized Systems, Qiusong Yang and Mingshu Li (*Chinese Academy of Sciences, Beijing, China*)

An Empirical Study of Optimizations in Yogi, Aditya Nori and Sriram Rajamani (*Microsoft Research India, Bangalore, India*)

Friday 11.00 – 12.30

Human Factors 2

Awareness 2.0: Staying Aware of Projects, Developers and Tasks using Dashboards and Feeds, Christoph Treude and Margaret-Anne Storey (*University of Victoria, Victoria, Canada*)

Linking E-Mails and Source Code Artifacts, Alberto Bacchelli, Michele Lanza and Romain Robbes (*University of Lugano, Lugano, Switzerland*)

A Degree-of-Knowledge Model to Capture Source Code Familiarity, Thomas Fritz, Jingwen Ou, Gail C. Murphy and Emerson Murphy-Hill (*University of British Columbia, Vancouver, Canada*)

Parallelism & Concurrency

Views: Object-Inspired Concurrency Control, Brian Demsky (*University of California, Irvine, USA*) and Patrick Lam (*University of Waterloo, Waterloo, Canada*)

Engineering Parallel Applications with Tunable Architectures, Christoph A. Schaefer, Victor Pankratius and Walter F. Tichy (*University of Karlsruhe, Karlsruhe, Germany*)

Determin: Inferring Likely Deterministic Specifications of Multithreaded Programs, Jacob Burnim and Koushik Sen (*University of California, Berkeley, USA*)

Testing

From Behaviour Preservation to Behaviour Modification: Constraint-Based Mutant Generation, Andreas Thies and Friedrich Steimann (*Fernuniversität in Hagen, Hagen, Germany*)

Is Operator-Based Mutant Selection Superior to Random Mutant Selection? Zhang Lu, Shan-Shan Hou and Jun-Jue Hu (*Peking University, Beijing, China*), Tao Xie (*North Carolina State University, Raleigh, USA*) and Hong Mei (*Peking University, Beijing, China*)

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

Friday 14.00 – 15.30

Supporting Programmers 2

Code Bubbles: Rethinking the User Interface Paradigm of Integrated Development Environments, Andrew Bragdon, Steven P. Reiss, Robert Zeleznik, Suman Karumuri, William Cheung, Joshua Kaplan, Christopher Coleman, Ferdi Adeptura and Joseph J. LaViola (*Brown University, Providence, USA*)

Customized Awareness: Recommending Relevant External Change Events, Reid Holmes (*University of Washington, Seattle, USA*)

A Search Engine For Finding Highly Relevant Applications, Mark Grechanik, Chen Fu and Qing Xie (*Accenture Technology Labs, Chicago, USA*), Collin McMillan and Denys Poshyvanyk (*The College of William and Mary, Williamsburg, USA*)

Faults 3

An Empirical Study of Reported Bugs in Server Software with Implications for Automated Bug Diagnosis, Swarup K Sahoo, John Criswel and Vikram S. Adve (*University of Illinois, Urbana-Champaign, USA*)

Characterizing and Predicting Which Bugs Get Fixed: An Empirical Study of Microsoft Windows, Philip J. Guo (*Stanford University, Palo Alto, USA*) Thomas Zimmermann and Nachiappan Nagappan (*Microsoft Research, Redmond, USA*) and Brendan Murphy (*Microsoft Research, Cambridge, UK*)

Summarizing Software Artifacts: A Case Study of Bug Reports, Sarah Rastkar, Gail C. Murphy and Gabriel Murray (*University of British Columbia, Vancouver, USA*)

Program Analysis

LEAKPOINT: Pinpointing the Causes of Memory Leaks, James A. Clause and Alessandro Orso (*Georgia Institute of Technology, Atlanta, USA*)

Precise Calling Context Encoding, William N. Sumner, Yunhui Zheng, Dasarath Weeratunge and Xiangyu Zhang (*Purdue University, Lafayette, USA*)

Effective Interprocedural Resource Leak Detection, Emina Torlak and Satish Chandra (*IBM T. J. Watson Research Center, Yorktown Heights, USA*)

SOFTWARE ENGINEERING IN EDUCATION

Chairs: Carlo Ghezzi (*Politecnico di Milano*) and Mehdi Jazayeri (*University of Lugano*)

Wed 11:30-12:30

Keynote talk **From programming to software engineering**, Bertrand Meyer (*ETH, Zurich*)

Wed 14:00-15:30 Evaluating software engineering courses

Measuring complexity, effectiveness and efficiency in software course projects, Wilson Padua (*Federal University of Minas Gerais, Brazil*)

Advanced Hands-on Training for Distributed and Outsourced Software Engineering, Martin Nordio, Roman Mitin, and Bertrand Meyer (*ETH Zurich, Switzerland*)

A HOT -- Human, Organizational and Technological -- Framework for a Software Engineering Course, Orit Hazzan (*Israel Institute of Technology, Israel*) and Yael Dubinsky (*IBM Haifa Research Lab, Israel*)

Wed 16:00-17:00 Team orientation

Empirical Analysis of Team Review Approaches for Teaching Quality Software Development, Amna Humayun, WafaTahir, Farrukh Ahmad Ghulam, and Fakhar Lodhi (*National University of Computer and Emerging Sciences, Pakistan*)

An Empirical Study of the Effects of Conscientiousness in Pair Programming using the Five Factor Personality Model, Norsaremah Salleh, Emilia Mendes, John Grundy, and Giles St. J Burch (*University of Auckland, New Zealand*)

Fri 11:00-12:30 Panel on Master's Programs in Software Engineering

Mehdi Jazayeri, University of Lugano (Chair)

Panelists: John Brackett (*Boston University*), Ivica Crnkovic (*Malardalen University*), Bertrand Meyer (*ETH Zurich*), Art Pyster (*Stevens Institute of Technology*), Tony Wasserman (*CMU West*)

Fri 14:00-15:00 Effect of context in software engineering education

The Educational Value of Mapping Studies of Software Engineering Literature, Barbara Kitchenham, Pearl Brereton, and David Budgen (*School of Computing and Mathematics, Keele University, UK*)

Towards Contextualised Software Engineering Education: An African Perspective, Jens Fendle and Heike Winschiers, ÆTheophilus (*Polytechnic of Namibia, Namibia*)

SOFTWARE ENGINEERING IN PRACTICE

Chairs: Ingolf Krüger (*University of California, San Diego*) and Willem Visser (*University of Stellenbosch*)

Wed 11:30-12:30 Quality of Service

Performance Modeling in Industry: A Case Study on Storage Virtualization, Nikolaus Huber (*Karlsruhe Institute of Technology, IPD, Germany*), Steffen Becker and Christoph Rathfelder (*FZI Forschungszentrum Informatik, Germany*), Jochen Schweflinghaus (*IBM Research and Development GmbH, Germany*), and Ralf Reussner (*Karlsruhe Institute of Technology, IPD, Germany*)

Improving Throughput via Slowdowns, Maayan Goldstein, Onn Shehory, Rachel Tzoref-Brill, and Shmuel Ur (*IBM Haifa Research Lab, Israel*)

Wed 14:00-15:30 Certification, Assessment & Governance

A role-based qualification and certification program for software architects: An experience report from Siemens, Frances Paulisch and Peter Zimmerer (*Siemens AG, Germany*)

Assessments in Global Software Development: A Tailorable Framework for Industrial Projects, Frank Salger (*Capgemini sd&m, Germany*), Gregor Engels (*Dept. of Computer Science, University of Paderborn, Germany*), Alexander Hofmann (*Capgemini sd&m, Germany*)

Penalty Policies in Professional Software Development Practice: A Multi-Method Field Study, Yi Wang (*City University of Hong Kong, China*), and Min Zhang (*JAIST, Japan*)

Wed 16:00-17:30 Model-Driven Development

A modeling language's evolution driven by tight interaction between academia and industry, Thomas Aschauer, Gerd Dauenhauer, and Wolfgang Pree (*University of Salzburg, Austria*)

Staying Afloat in an Expanding Sea of Choices: Emerging Best Practices for Eclipse Rich Client Platform Development, Andreas Kornstädt and Eugen Reisch (*C1 WPS GmbH, Germany*)

Integrating Legacy Systems with MDE, Mickael Clavreul (*INRIA, France*), Olivier Barais and Jean-Marc Jézéquel (*IRISA - Université Rennes 1, France*)

Thu 11:00-12:30 Quality Assurance I: Static and Dynamic Analysis

Can Clone Detection Support Quality Assessments of Requirements Specifications?, Elmar Juergens, Florian Deissenboeck, Martin Feilkas, Benjamin Hummel, Bernhard Schaetz and Stefan Wagner (*Institut für Informatik, Technische Universität München, Germany*), Christoph Domann and Jonathan Streit (*itestra GmbH, Germany*)

Comprehending Module Dependencies and Sharing, Yongzheng Wu, Roland H.C. Yap, Rajiv Ramnath (*National University of Singapore, Singapore*)

Khasiana: Making Defect-Finding Tools Work for You, Mangala Gowri Nanda, Monika Gupta, Saurabh Sinha (*IBM Research, India, India*), Satish Chandra (*IBM T.J. Watson Research Center, USA*), David Schmidt (*IBM Tivoli, USA*), and Pradeep Balachandran (*IBM Rational, India*)

Thu 16:00-17:30 Quality Assurance II: Defect Modeling, Prediction & Testing

Formalization and Validation of a Subset of the European Train Control System, Angelo Chiappini (*European Railway Agency, France*), Alessandro Cimatti (*FBK - IRST, Italy*), Luca Macchi (*Registro Italiano Navale, Italy*), Oscar Rebollo (*European Railway Agency, France*), Marco Roveri, Angelo Susi and Stefano Tonetta (*FBK - IRST, Italy*) and Bernardino Vittorini (*Registro Italiano Navale, Genova, Italy*)

Transparent Combination of Expert and Measurement Data for Defect Prediction - An Industrial Case Study, Michael Klaes, Frank Elberzhager, and Jürgen Münch (*Fraunhofer Institute for Experimental Software Engineering, Germany*), Klaus Hartjes and Olaf von Graevemeyer (*Deutsche Telekom AG, Germany*)

From Scripts to Specifications: The Evolution of a Flight Software Testing Effort, Alex Groce (*Oregon State University, USA*), Klaus Havelund and Margaret Smith (*Jet Propulsion Laboratory, USA*)

Fri 11:00-12:30 Innovation Drivers & Cost Models

Experiences in Initiating Concurrency Software Research Efforts, K. Eric Harper, Jiang Zheng and Shakeel Mahate (*ABB Inc., US Corporate Research, USA*)

A Cost-Benefit Framework for Making Architectural Decisions in a Business Context, Jeromy Carriere (*Vistaprint Corporation, USA*), Rick Kazman (*U. of Hawaii and SEI/CMU, USA*), and Ipek Ozkaya (*SEI/CMU, USA*)