

RÉSUMÉ

DR. LIONEL C. BRIAND, P. ENG.

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HIGHLIGHTS:

- h-index: 40, g-index: 84
- IEEE Fellow (2010)
- Repeatedly ranked among the five best researchers worldwide in computer systems engineering by the Journal of Systems and Software (Elsevier) and Communications of the ACM
- Former Canada Research Chair (Tier I)
- Substantial track record in setting up and managing research projects with industry.

EMPLOYMENT:

July 07 – Present Scientific Director, Certus Software Verification and Validation center, Simula Research Laboratory, and professor, University of Oslo, Norway.

July 99 – July 08 Canada Research Chair in Software Quality Engineering (Tier I), Director of the Software Quality Engineering Laboratory, full professor, Systems and Computer Engineering, Carleton University, Ottawa, Canada

Feb. 96 – July 99 Head of the Software Quality Engineering department, Fraunhofer Institute for Experimental Software Engineering, Kaiserslautern, Germany.

Nov. 94 - Feb. 96 Lead Scientist in software engineering, Computer Research Institute of Montreal (CRIM - Industry-oriented research institute), Montreal, Canada.

Nov. 89- Nov. 94 Research scientist, Software Engineering Laboratory, University of Maryland and NASA GSFC, College Park, MD, USA

Oct 88- Nov. 89 Software Engineer, CISI Ingénierie, Rungis, France.

EDUCATION: B.Sc. Geophysics with honors (Mention Bien), University Pierre et Marie Curie (Paris VI), Paris, France, 1986.
M.Sc. Computer Engineering with honors (Mention Bien), University Pierre et Marie Curie (Paris VI), Paris, France, 1988.
Ph.D. Computer Science with high honors (“félicitations du jury”, granted to only 5% of Ph.D’s), University Paris-sud (Paris XI), Orsay, France, 1994.
Canadian registered professional engineer (P. Eng., Ontario)

EXPERTISE:

- Software testing; Quality measurement, control, and assurance
- Verification of embedded, real-time, and distributed systems
- Model-driven development with the UML and its extensions
- Empirical software engineering
- Applications of artificial intelligence and evolutionary computing to software engineering

TEACHING:

I have designed and taught three courses at Carleton U., Canada, over the years:

- Software Quality Engineering (graduate): testing, safety, reliability
- System Analysis and Design (3rd year): modelling (UML)
- Software Engineering (4th year): OO analysis and design + Labs

I am also teaching the first course above at the University of Oslo (Software Verification and Validation, INF4290)

GRADUATE SUPERVISION:

- Completed: 8 Ph.D. theses, 30 Master’s theses
- In Progress: 6 Ph.D. theses

GRANTS AND CONTRACTS:

- Carleton University: Approximately \$ 1 Million of research funding from NSERC & CITO (Canadian funding bodies), Nortel Networks, Mitel Corporation, IBM-Rational, Telcordia (USA), and Siemens (USA). Last NSERC discovery grant: \$38,000 per year (2008)
- Simula Research Laboratory: (1) Approximately \$ 3 Million in grants from DNV (Norwegian Veritas) and the Norwegian Research Council, to support collaborations with ABB, WesternGeco (Schlumberger), Cisco, Kongsberg, Tomra, and the tax department of Norway, (2) As of January 2011, an eight-year grant to establish a research-based innovation center (SFI) on software V&V, 10 MNOK a year (\$13.5 Million total) in collaboration with

Cisco, FMC, Kongsberg, and the Customs department of Norway, (3) FP7 ICT Opencoss (Open platform for evolutionary certification), 1.2 Million Euros a year for 3.5 years

PROFESSIONAL ACTIVITIES:

Scientific Advisory board: Excellence Center on Embedded Applications Software Engineering (EASE), Lund University, Sweden.

Editor in Chief: Empirical Software Engineering, Springer (2002-present)

Editorial boards: IEEE Transactions on Software Engineering (2000-2004); Software and Systems modelling, Springer (2002-present); Software Testing, Verification, and Reliability, Wiley, (2006-present)

Involvement in Selected Conferences:

- IEEE/ACM International Conference in Software Engineering (ICSE): PC member in 1996, 2000, 2001, 2006, 2007 (chair of future of software engineering sessions), 2009, 2010, 2011
- IEEE International Symposium on Software Reliability Engineering (ISSRE): PC member from 1999 to 2006, PC chair 2004
- IEEE International Symposium on Software Metrics (METRICS): PC chair 1999, GC in 2002, PC member in 1997, 1998, 2000, 2001, Steering committee member 2002-2005
- IEEE International Conference on Software Maintenance (ICSM): PC member from 1995 to 2004, PC chair 2000, Steering committee member 2004-2007
- IEEE/ACM International Conference on Model-Driven Engineering Languages and Systems (MoDELS): PC member 2003-2011, PC chair in 2005, Steering committee member since 2004
- IEEE International Symposium on Empirical Software Engineering (ISESE): PC member 2002-2010, PC chair 2003
- ACM Genetic and Evolutionary Computation Conference: PC member 2005-2007
- ACM European conference on Software Engineering and Foundations of Software Engineering (ESEC/FSE): PC member 2003, 2007, 2011
- ACM International Conference on Software Testing and Analysis (ISSTA): PC member 2007, 2008
- IEEE International Conference on Software Testing, Verification, and Validation (ICST): GC 2008, Steering committee member and PC member since 2008

Past and present Industrial collaborations:

- Europe: Alcatel, Siemens, Bosch, EADS, ESA, CNES, CNET, Telenor, ABB, DNV, Kongsberg, FMC, Cisco
- North-America: Nortel, Telcordia, Mitel, General Dynamics, Juniper Networks, Siemens Corporate Research, IBM-Rational, NASA

SELECTED PROFESSIONAL AWARDS:

2010	IEEE Fellow, for “contributions to the test of object-oriented systems”, Distinguished paper award (ACM ISSTA 2010)
2008-2010	Ranked 4/5 th researcher worldwide in software system engineering by the Journal of Systems and Software (Elsevier).
2007	Ranked 4 th researcher worldwide in software system engineering by both the Communications of the ACM (June 2007) and the Journal of Systems and Software (Elsevier).
2006	Simula Research Award 2006, Simula Research Laboratory, Oslo, Norway
2005	Distinguished paper award (IEEE ICSE 2005), best paper award (ACM GECCO, software engineering track, 2005)
2005	IEEE Senior member
2004-2006	Ranked 5 th scholar (software systems) worldwide by the annual ranking performed by the Journal of Systems and Software (Elsevier)
2003	Canada Research Chair in Software Quality Engineering (Tier I). Ranked 9 th scholar (software systems) worldwide by the annual ranking performed by the Journal of Systems and Software (Elsevier)
2001	Carleton University Research Award 2001-2002
2000	IEEE Computer Society Meritorious Service Award
1997	Best paper Quality Award at the IEEE International Symposium on Software Reliability Engineering, ISSRE'97

SELECTED PANELS AND KEYNOTE TALKS:

- IEEE Conference on Software Maintenance, 2011, Williamsburg, USA. Keynote address.
- Third int. workshop on Model-based Architecting and Construction of Embedded Systems (ACES), workshop in combination with ACM/IEEE MODELS 2010: Keynote on the application of randomized search for model verification
- Workshop on search-based Software Testing (SBST), workshop in combination with IEEE ICST 2010: Keynote on the empirical evaluation of randomized search techniques for test case generation.
- European symposium on Verification and Validation of Software Systems (VVSS), 2009 : Keynote on Model-based testing

- International conference on Software Process (ICSP 2009): Keynote address on model-driven development in safety-critical integrated control systems in the energy and maritime industry sectors
- IEEE Search-Based Software Engineering (SBSE 2009): Keynote address on search-based techniques for model-based testing and analysis
- IEEE QSIC 2008: Keynote address on Applications of Machine learning to software testing
- IEEE LMO 2008: Keynote address on Empirical studies of model-driven development
- ACM/IEEE ESEM 2007: Keynote address on Empirical Studies in Software Testing
- IEEE WCRE 2006: Keynote address on Empirical Studies in Reverse Engineering
- ACM/IEEE ICSE 2005: Foundations of Empirical Software Engineering workshop, keynote address on measurement and modelling in software engineering
- International Quality Conference, 2004, Toronto, Keynote address: Model-driven software testing
- IEEE ISSRE 2004: Panelist on model-driven software testing
- IEEE METRICS 2004: Panelist on Empirical Software Engineering
- IEEE ICSE 2003: Panelist on a panel entitled: Empirical Software Engineering
- IEEE CSMR 2003: Keynote address on software documentation and maintenance
- ACM SEKE 2002: Keynote address on the applications of knowledge engineering to software engineering
- IEEE METRICS'2001: Panel, What are useful software Metrics?, London, UK
- IEEE ICSM'2000: panel on Software Maintenance and Reliability Engineering, San Jose, USA
- ESCOM'99: keynote talk on software quality early in the life cycle, London, U
- IEEE ICSM'98: member of a panel on COTS software, Washington D.C., USA
- IEEE ISSRE'98: moderator of a panel of software reliability engineering, Paderborn, Germany
- EASE'98: keynote address on Software Cost and Risk Estimation, Keele, UK
- IEEE METRICS'97: member of panel on Software Measurement, Albuquerque, USA
- IEEE ICSE'96: member of panel on Software Complexity, Berlin, Germany

PUBLICATIONS:

Refereed Journal Articles (my graduate students' names are underlined)

A. Arcuri and L. Briand, “Formal Analysis of the Probability of Interaction Fault Detection Using Random Testing”, Accepted for publication in *IEEE Transactions on Software Engineering*.

K. Frouchni, L. Briand, Y. Labiche, L. Grady, and R. Subramanyan, “Automating Image Segmentation Verification and Validation by Learning Test Oracles”, Accepted for publication in *Information and Software Technology* (Elsevier).

D. Falessi, M. Sabetzadeh, L. Briand, E. Turella, T. Coq, “Planning for Safety Evidence Collection: A Tool-Supported Approach Based on Modeling of Standards Compliance Information”, Accepted for publication in *IEEE Software*.

S. Ali, L. Briand, H. Hemmati, “Modeling Robustness Behavior Using Aspect-Oriented Modeling to Support Robustness Testing of Industrial Systems”, Accepted for publication in *Software and Systems Modeling* (Springer).

J. Al Dalal, L. Briand, “A Precise Method-Method Interaction-Based Cohesion Metric for Object-Oriented Classes”, accepted for publication in *ACM Transactions on Software Engineering and Methodology* (TOSEM)

M. Shousha, L. Briand, and Y. Labiche, “A UML/MARTE Model Analysis Methodology for Detection of Starvation and Deadlocks in Concurrent Systems”, accepted for publication in *IEEE Transactions on Software Engineering*

G. Zoughbi, L. Briand, and Y. Labiche, “Modeling Safety and Airworthiness (RTCA DO-178B) Information – Conceptual Model and UML Profile”, *Software and System Modeling* (Springer), 10(3), 2011.

T. Yue, L. Briand, and Y. Labiche. A Systematic Review of Transformation Approaches between User Requirements and Analysis Models, *Requirements Engineering Journal* (Springer) ,16(2), 2011.

S. Mouchawrab, L. Briand, Y. Labiche, and M. Di Penta, “Assessing, Comparing, and Combining State machine-Based Testing and Structural Testing: A Series of Experiments”, *Transactions on Software Engineering*, 37(2), 2011

J. Al Dalal, L. Briand, “An Object-oriented High-Level Design-Based Cohesion Metric”, *Information and Software Technology* (Elsevier), 52(12), 2010.

H. Sahraoui, L.C. Briand, Y. Gueheneuc, O. Beaupaire ” Investigating the Impact of a Measurement Program on Software Quality”, *Information and Software Technology* (Elsevier), 52(9), 2010.

S. Ali, L. Briand, H. Hemmati, R. Panesar-Walagere, “A Systematic Review of the Application and Empirical Investigation of Search-based Test-Case Generation”, *IEEE Transactions on Software Engineering*, 36(6), 2010

L. Briand, Y. Labiche, Q. Lin, “Improving the Coverage Criteria of UML State Machines Using Data Flow Analysis”, *Software Testing, Validation, and Reliability* (Wiley), 20(3), 2010

E. Arisholm, L. Briand, E. Johannessen, “A Systematic and Comprehensive Investigation of Methods to Build and Evaluate Fault Prediction Models”, *Journal of Systems and Software* (Elsevier), 83(1):2-17, 2010.

M. Bowman, L. Briand, Y. Labiche, “Solving the Class Responsibility Assignment Problem in Object-oriented Analysis with Multi-Objective Genetic Algorithms”, *IEEE Transactions on Software*

Engineering, 36(6), 2010.

L. Briand, Y. Labiche, S. He, "Automating Regression Test Selection Based on UML Designs", *Information and Software Technology* (Elsevier) 51(1), 2009.

V. Garousi, L.C. Briand, Y. Labiche, "A UML-based Quantitative Framework for early Prediction of Resource Usage and Load in Distributed Real-Time Systems", *Software and Systems Modeling* (Springer), 8(2), 2009.

L. Briand, Y. Labiche, T. Yue, "Automated Traceability Analysis for UML Model Refinements", *Information and Software Technology* (Elsevier), 51(2), 2009.

J. Dzidek, E. Arisholm, L. Briand, "A Realistic Empirical Evaluation of the Costs and Benefits of UML in Software Maintenance", *IEEE Transaction on Software Engineering*, 34 (6), 2008.

V. Garousi, L.C. Briand and Y. Labiche, "Traffic-aware Stress Testing of Distributed Real-Time Systems Based on UML Models using Genetic Algorithms", *Journal of Systems and Software* (Elsevier), 81(2), 2008

Sh. Ali, L. C. Briand, M. Jaffar-ur Rehman, H. Asghar, Z. Zafar, A. Nadeem, "A State-based Approach to Integration Testing for Object-Oriented Programs", *Information and Software Technology* (Elsevier), 49(11-12), 2007

L. C. Briand, Y. Labiche, J. Leduc, "Towards the Reverse Engineering of UML Sequence Diagrams for Distributed Java Software", *IEEE Transactions on Software Engineering*, 32 (9), 2006

E. Arisholm, L. Briand, S. Hove, Y. Labiche, "The Impact of UML Documentation on Software Maintenance: An Experimental Evaluation", *IEEE Transaction on Software Engineering*, 32 (6), 2006.

J. H. Andrews, L. C. Briand, Y. Labiche and A. Siami Namin, "Using Mutation Analysis for Assessing and Comparing Testing Coverage Criteria", *IEEE Transactions on Software Engineering*, 32 (8), August 2006

L. Briand, Y. Labiche, M. Shousha, "Using Genetic Algorithms for Early Schedulability Analysis and Stress Testing in Real-Time Systems", *Journal of Genetic Programming and Evolvable Machines* (Springer), 7 (2), 2006.

B. Freimut, L. C. Briand, and F. Vollei, "Determining Inspection Cost-Effectiveness by Combining Project Data and Expert Opinion", *IEEE Transactions on Software Engineering*, 31 (12), 2005.

S. Mouchawrab, L. C. Briand, Y. Labiche, "A Measurement Framework for Object-Oriented Software Testability", *Journal of Information and Software Technology* (Elsevier), 47 (12), 2005.

L.C. Briand, Y. Labiche, M. Di Penta, H.-D. Yan "An Experimental Investigation of Formality in UML-Based Development", *IEEE Transactions on Software Engineering*, 31 (10), 2005.

L. Briand, Y. Labiche, L. O'Sullivan, M. Sowka, "Automated Impact Analysis of UML Models", *Journal of Systems and Software* (Elsevier), (79) 3, 2006.

L.C. Briand, Y. Labiche, J. Cui, "Automated Support for Deriving Test Requirements from UML Statecharts", *Journal of Software and Systems Modeling* (Springer), 4 (12), 2005

L.C. Briand, M. Di Penta and Y. Labiche, "Assessing and Improving State-Based Class Testing: A Series of Experiments", *IEEE Transactions on Software Engineering*, 30 (11), 2004.

E. Arisholm, L. C. Briand, A. Foyen, "Dynamic Coupling Measurement for Object-Oriented Software", *IEEE Transactions on Software Engineering*, 30 (8), 2004.

- L. C. Briand, B. Freimut, F. Vollei, "Using Multiple Adaptive Regression Splines to Understand Trends in Inspection Data and Identify Optimal Inspection Rates", *Journal of Systems and Software* (Elsevier), 73 (2) 2004
- L. C. Briand, J. Feng, Y. Labiche Experimenting with Genetic Algorithms and Coupling Measures to Devise Optimal Integration Test Orders, in *Software Engineering with Computational Intelligence*, Kluwer, 2003. (a special issue of *Annals of Software Engineering* that was edited as a book)
- L. C. Briand, Y. Labiche, H. Sun, Investigating the Use of Analysis Contracts to Improve the Testability of Object Oriented Code, *Software Practice and Experience* (Wiley), 33 (7), 2003
- L. Briand, Y. Labiche, Y. Wang, Revisiting Strategies for Ordering Class Integration Testing in the Presence of Dependency Cycles, *IEEE Transactions on Software Engineering*, 29 (7), 2003
- L. Briand, Y. Labiche, A UML-based Approach to System Testing, *Journal of Software and Systems Modeling* (Springer), 1 (1), 2002
- L. Briand, J. Wuest, Empirical Studies of Quality Models in Object-Oriented Systems, *Advances in Computers, Academic Press*, 56, Edited by M. Zelkowitz, 2002
- L. Briand, W. Melo, J. Wuest, Assessing the Applicability of Fault-Proneness Models Across Object-Oriented Software Projects, *IEEE Transactions on Software Engineering*, 28 (7), 2002
- L. C. Briand, S. Morasca and V. Basili, "An Operational Process for Goal-Driven Definition of Measures", *IEEE Transactions of Software Engineering*, 28 (12), 2002
- L. Briand, I. Wiczorek, Resource Modeling in Software Engineering, Second edition of the *Encyclopedia of Software Engineering*, Wiley, (Editor: J. Marciniak), 2002
- L. Briand, J. Wüst, The Impact of Design Properties on Development Cost in Object-Oriented Systems, *IEEE Transactions on Software Engineering*, 27 (11), 2001
- L. Briand, C. Bunse, J. Daly, "A Controlled Experiment for Evaluating Quality Guidelines on the Maintainability of Object-Oriented Designs", *IEEE Transactions on Software Engineering*, 27, (6), 2001.
- L. C. Briand, J. Wuest, "Integrating Scenario-based and Measurement-based Software Product Assessment", *Journal of Systems and Software* (Elsevier), 59 (1), 2001.
- L. C. Briand, J. Wuest, H. Lounis, "Replicated Case Studies for Investigating Quality Factors in Object-Oriented Designs", *Empirical Software Engineering: An International Journal*, 6 (6), 2001
- L. Briand, D. Pfahl, "Using Simulation for Assessing the Real Impact of Test Coverage on Defect Coverage", *IEEE Transactions on Reliability*, 49 (1), 2000.
- L. Briand, K. El Emam, B. Freimut, O. Laitenberger, "A Comprehensive Evaluation of Capture-Recapture Models for Estimating Software Defect Content ", *IEEE Transactions on Software Engineering*, 26 (6), 2000.
- L. Briand, S. Morasca, and V. Basili, " Defining and Validating Measures for Object-Based High-Level Designs", *IEEE Transactions on Software Engineering*, 25 (5), 2000.
- L. Briand, J. Wüst, J. Daly, V. Porter, "Exploring the Relationships between Design Measures and Software Quality in Object-Oriented Systems", *Journal of Systems and Software* (Elsevier), 51, pp. 245-273, 2000.
- L. Briand, E. Arisholm, S. Counsell, F. Houdek, P. Thévenod-Fosse, "Empirical Studies of Object-Oriented Artifacts, Methods, and Processes: State of the Art and Future Directions", *Empirical*

Software Engineering (Kluwer), 4 (4), 1999.

L. Briand, J. Daly, J. Wuest, “A Unified Framework for Coupling Measurement in Object-Oriented Systems”, *IEEE Transactions on Software Engineering*, 25 (1), 1999.

L. Briand, Y. Kim, W. Melo, C. Seaman, and V. Basili, “Q_MOPP: Qualitative Evaluation of Maintenance Organizations, Processes, and Products”, *Journal of Software Maintenance: Research and Practice* (Wiley), 10 (4), 1998.

C. Gresse, L. Briand. “Requirements for the Knowledge-Based Support of Software Engineering Measurement Plans”, *Journal of Knowledge-Based Systems* (Elsevier), 11 (11), 1998.

L. Briand, J. Daly, J. Wuest. “A Unified Framework for Cohesion Measurement in Object-Oriented Systems”, *Empirical Software Engineering* (Kluwer), 3 (1), 1998

K. El Emam, L. Briand, R. Smith. “Assessor Agreement in Rating SPICE Processes”, *Software Process Improvement and Practice Journal* (Wiley), 2 (4), 1997

L. Briand, C. Bunse, J. Daly, C. Differding. “An Experimental comparison of the Maintainability of Object-Oriented and Structured Design Documents”, *Empirical Software Engineering* (Kluwer), 2 (3), 1997

L. Briand, C. Differding, D. Rombach. “Practical Guidelines for Measurement-Based Process Improvement”, *Software Process Improvement and Practice Journal* (Wiley), 2 (4), 1996

V. Basili, L. Briand, W. Melo. “A Validation of Object-Oriented Design Metrics as Quality Indicators”, *IEEE Transactions on Software Engineering*, 22 (10), 1996

V. Basili, L. Briand, W. Melo. “Measuring the Impact of Reuse on Quality and Productivity in Object-Oriented Systems”, *Communications of the ACM*, 1996

L. Briand, K. El Emam, S. Morasca. “On the Application of Measurement Theory to Software Engineering”, *Empirical Software Engineering - An International Journal*, 1 (1), 1996

L. Briand, S. Morasca, V. Basili. “Property-based Software Engineering Measurement”, *IEEE Transactions on Software Engineering*, 22 (1), 1996

L. Briand, V. Basili, C. Hetmanski. “Developing Interpretable Models with Optimized Set Reduction for Identifying High Risk Software Components”, *IEEE Transactions on Software Engineering*, 19 (11), 1993

L. Briand, V. Basili, W. Thomas. “A Pattern Recognition Approach for Software Engineering Data Analysis”, *IEEE Transactions on Software Engineering*, 18 (11), 1992

Refereed Publications in Conference Proceedings (my graduate students' names are underlined)

M. Sabetzadeh, D. Falessi, L. Briand, Stefano Di Alesio, DagMcGeorge, Vidar Ahjem, Jonas Borg, “Combining Goal Models, Expert Elicitation, and Probabilistic Simulation for Qualification of New Technology”, *IEEE High Assurance Systems Engineering Symposium (HASE)*, 2011.

M. Sabetzadeh, S. Nejati, L. Briand, Anne-Heidi Eversen-Mills, “Using SysML for Modeling of Safety-Critical Software-Hardware Interfaces: Guidelines and Industry Experience”, *IEEE High Assurance Systems Engineering Symposium (HASE)*, 2011.

A. Arcuri, L. Briand, “Adaptive Random Testing: An Illusion of Effectiveness?”, *ACM International Conference on Software Testing and Analysis (ISSTA)*, 2011.

S. Ali, L. Briand, A. Arcuri and S. Walawege, “An Industrial Application of Robustness Testing using Aspect-Oriented Modeling, UML/MARTE, and Search Algorithms”, ACM/IEEE 14th International Conference on Model Driven Engineering Languages and Systems (Models 2011), 2011.

S. Ali, M. Iqbal, A. Arcuri, L. Briand, “A Search-based OCL Constraint Solver for Model-based Test Data Generation”, 11th IEEE International Conference On Quality Software (QSIC 2011), 2011.

L. Briand, Y. Labiche and R. Madrazo-Rivera, “An Experimental Evaluation of the Impact of System Sequence Diagrams and System Operation Contracts on the Quality of the Domain Model”, ACM/IEEE Int. Symposium on Empirical Software Engineering and Measurement (ESEM), 2011

W. Araujo, L. Briand and Y. Labiche, “On the Effectiveness of Contracts as Test Oracles in the Detection and Diagnosis of Race Conditions and Deadlocks in Concurrent Object-Oriented Software”, ACM/IEEE Int. Symposium on Empirical Software Engineering and Measurement (ESEM), 2011

R. Behjati, T. Yue, S. Nejati, L. Briand, B. Selic, “Extending SysML with AADL Concepts for Comprehensive System Architecture Modeling”, European Conference on Modelling Foundations and Applications (ECMFA), 2011.

T. Yue, S. Ali, L. Briand, “Automated Transition from Use Cases to UML State Machines to Support State-based Testing”, European Conference on Modelling Foundations and Applications (ECMFA), 2011.

W. Araujo, L. Briand, and Y. Labiche. Enabling the Runtime Assertion Checking of Concurrent Contracts for the Java Modeling Language, ACM/IEEE Int. Conference on Software Engineering (ICSE), 2011.

A. Arcuri, L. Briand, “A Practical Guide for Using Statistical Tests to Assess Randomized Algorithms in Software Engineering”, ACM/IEEE Int. Conference on Software Engineering (ICSE), 2011

H. Hemmati, A. Arcuri, L. Briand, Empirical Investigation of the Effects of Test Suite Properties on Similarity-Based Test Case Selection, 4th International Conference on Software Testing, Verification and Validation (ICST 2011), 2011.

M. Z. Iqbal, A. Arcuri, L. Briand, Environment Modeling to Support Model-Based Testing for Real-Time Embedded Systems: Industrial Case Studies, ACM/IEEE International Conference on Model Driven Engineering Languages and Systems (MODELS), 2010.

H. Hemmati, A. Arcuri, L. Briand, “Reducing the Cost of Model-Based Testing through Test Case Diversity”, IFIP International Conference on Testing Software and Systems (ICTSS), 2010.

A. Arcuri, M. Z. Iqbal, L. Briand, “Black-box System Testing of Real-Time Embedded Systems Using Random and Search-based Testing”, IFIP International Conference on Testing Software and Systems (ICTSS), 2010.

A. Arcuri, M. Z. Iqbal, and L. Briand, “Formal Analysis of the Effectiveness and Predictability of Random Testing”, ACM International Symposium on Software Analysis and Testing (ISSTA), 2010.

H. Hemmati, L. Briand, A. Arcuri, and S. Ali, “An Enhanced Test Case Selection Approach for Model-Based Testing: An Industrial Case Study”, ACM International Conference on Foundations of Software Engineering (FSE), 2010.

R. K. Panesar-Walawege, L. Briand, M. Sabetzadeh, and T. Coq, “Characterizing the Chain of Evidence for Software Safety Cases: A Conceptual Model Based on the IEC 61508 Standard”, Third IEEE International Conference on Software Testing, Verification and Validation (ICST), 2010.

M. Shousha, L. Briand, Y. Labiche, “A UML/MARTE Model Analysis Method for Detection of Data

Races in Concurrent Systems”, ACM/IEEE 12th International Conference in Model Driven Engineering Languages and Systems (MODELS 2009), Denver, USA, 2009.

T. Yue, L. Briand, Y. Labiche, “A Use Case Modeling Approach to Facilitate the Transition Towards Analysis Models: Concepts and Empirical Evaluation”, ACM/IEEE 12th International Conference in Model Driven Engineering Languages and Systems (MODELS 2009), Denver, USA, 2009.

W. Araujo, L. Briand, Y. Labiche, “Concurrent Contracts for Java in JML”, IEEE International Symposium on Software Reliability Engineering (ISSRE), Seattle, USA, 2008.

M. Shousha, L. Briand, Y. Labiche, “A UML/SPT Model Analysis Methodology for Concurrent Systems Based on Genetic Algorithms”, ACM/IEEE 11th International Conference in Model Driven Engineering Languages and Systems (MODELS 2008), Toulouse, France, 2008.

L. Briand, Y. Labiche, Z. Bawar, “Using Machine Learning to Refine Black-Box Test Specifications and Test Suites”, IEEE International Conference on Quality Software (QSIC 2008), London, UK, 2008.

E. Arisholm, L. Briand, M. Fuglerud, "Data Mining Techniques for Building Fault-proneness Models in Telecom Java Software", IEEE International Symposium on Software Reliability Engineering (ISSRE 2007), Sweden, 2007.

L.C. Briand, Y. Labiche, X. Liu, "Using Machine Learning to Support Debugging with Tarantula", IEEE International Symposium on Software Reliability Engineering (ISSRE 2007), Sweden, 2007.

M. Bowman, L.C. Briand, Y. Labiche, "Multi-Objective Genetic Algorithms to Support Class Responsibility Assignment", IEEE International Conference on Software Maintenance (ICSM 2007), Paris, France, 2007.

G. Zoughbi, L.C. Briand, Y. Labiche, A UML Profile For Developing Airworthiness-Compliant (RTCA DO-178B) Safety-Critical Software, ACM/IEEE International Conference on Model Driven Engineering Languages and Systems (MODELS 2007), Nashville, USA, 2007.

F. Massicotte, M. Couture, L.C. Briand, Y. Labiche, "An Object-Oriented Network-Context Sensitive Intrusion Detection System", ACM/IEEE International Conference on Model Driven Engineering Languages and Systems (MODELS 2007), Nashville, USA, 2007.

S. Mouchawrab, L. C. Briand, Y. Labiche, "Assessing, Comparing, and Combining Statechart- based testing and Structural testing: An Experiment", ACM/IEEE International Symposium on Empirical Software Engineering and Measurement (ESEM), Madrid, Spain, 2007

L. C. Briand, "A Critical Analysis of Empirical Software Testing Research", Keynote address, ACM/IEEE International Symposium on Empirical Software Engineering and Measurement (ESEM), Madrid, Spain, 2007

M. Elaasar, L. C. Briand and Y. Labiche, "A Metamodeling Approach to Pattern Specification and Detection", ACM/IEEE International Conference on Model Driven Engineering Languages and Systems (MoDELS), Genoa, Italy, 2006.

V. Garousi, L. C. Briand and Y. Labiche, "*Analysis and Visualization of Behavioral Dependencies among Distributed Objects based on UML Models*", ACM/IEEE International Conference on Model Driven Engineering Languages and Systems (MoDELS), Genoa, Italy, 2006.

N. Holt, B. Anda, K. Asskildt, L. C. Briand, J. Endresen, and S. Frøystein, "Experiences with Precise State Modeling in an Industrial Safety Critical System", Proc. of Critical Systems Development Using Modeling Languages, MoDELS 2006, Genoa, Italy, October 2006.

L. C. Briand, "The Experimental Paradigm in Reverse Engineering: Role, Challenges, and

Limitations", Keynote address, IEEE Working Conference on Reverse Engineering (WCRE), Italy, 2006

L. C. Briand, Y. Labiche, A. Sauv , "Guiding the Application of Design Patterns Based on UML Models", IEEE International Conference on Software Maintenance (ICSM), Philadelphia, USA, 2006

A. Arisholm, L. C. Briand, "Predicting Fault-prone Components in a Java Legacy System", ACM/IEEE International Symposium on Empirical Software Engineering (ISESE), Rio de Janeiro, Brazil, 2006

L. C. Briand, Y. Labiche, M. S wka, "Automated, Contract-based User Testing of Commercial-Off-The-Shelf Components", forthcoming in the IEEE/ACM Int. Conference on Software Engineering (ICSE 2006), Shanghai, China.

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