

Sven Apel

Curriculum Vitae

2017-11-22



Coordinates

Position: Full Professor

Affiliation: University of Passau
Department of Informatics and Mathematics
Innstr. 33, 94032 Passau, Germany

E-Mail: apel@uni-passau.de
Office: +49 851 509 3225
Home: +49 851 756 6642

Citizenship: German
Town of birth: Osterburg, Germany

Year of birth: 1977
Marital status: Married, three children

WWW: <http://www.infosun.fim.uni-passau.de/se/apel/>

Research Interests

My research focuses on methods, tools, and theories for the construction of manageable, reliable, efficient, configurable, and evolvable software systems. In particular, I am interested in:

- **Programming methods** (feature orientation, generative techniques, modularity)
- **Software engineering** (variability, evolution, feature interactions, domain-specific optimization)
- **Empirical methods** (program comprehension, organizational structures, neuro imaging)
- **Formal methods** (program algebra, type systems, program analysis)

Furthermore, I am interested in how human and organizational factors influence software projects and vice versa, giving rise to a notion of **socio-technical software engineering**. For evaluation, I apply my research results to real-world systems from different domains, in particular, **distributed, data-intensive, high-performance computing, and embedded systems**.

Education

Mar. 2003 – Mar. 2007 Doctoral degree in Computer Science (Doktor-Ingenieur),
University of Magdeburg, Germany,
Grade "**summa cum laude**" (with distinction)

Oct. 1996 – Jul. 2002 Diploma degree in Computer Science (Diplom-Informatiker),
University of Magdeburg, Germany, Grade "**A**" (excellent)

Academic Employment

since Apr. 2016 Full Professor, Chair of Software Engineering,
University of Passau, Germany

Oct. 2013 – Mar. 2016 Full Professor, Chair of Software Product Lines,
University of Passau, Germany

Nov. 2010 – Sep. 2013 Leader of the Emmy-Noether Research Group
"Safe and Efficient Software Product Lines",
University of Passau, Germany

Jul. 2012 – Sep. 2012	Visiting Scholar, Hosts: Prof. Joanne Atlee and Prof. Krzysztof Czarnecki, University of Waterloo, Canada
Apr. 2007 – Oct. 2010	Akademischer Rat (Post-Doc), Host: Prof. Christian Lengauer, University of Passau, Germany
Jan. 2006 – Jul. 2006	Visiting Scholar, Host: Prof. Don Batory, University of Texas at Austin, USA
Mar. 2003 – Mar. 2007	Research Assistant, Host: Prof. Gunter Saake, University of Magdeburg, Germany
Oct. 2002 – Feb. 2003	Research Assistant, Metop Research Center, Magdeburg, Germany
Jul. 1998 – Jul. 2002	Research Student, Host: Prof. Wolfgang Schröder-Preikschat, University of Magdeburg, Germany

Awards and Honors

Dec. 2016	Hugo Junkers Award for Research and Innovation, awarded by the State of Saxony-Anhalt (Category ‘Innovative Research Alliance’)
Jun. 2015	Appointment to the Young Academy of Europe
May 2015	ACM SIGSOFT Distinguished Paper Award , 37th International Conference on Software Engineering (ICSE)
Mar. 2015	Best Paper Award, 14th International Conference on Modularity
Jan. 2013	Heisenberg Professorship of the German Research Foundation
Aug. 2011	Best Research Paper Award, 15th International Software Product Line Conference (SPLC)
Sep. 2010	Emmy-Noether Fellowship of the German Research Foundation
Feb. 2008	Nomination for the Dissertation Award of the German Computer Society
Nov. 2007	Dissertation Award of the University of Magdeburg, endowed by the Karin-Witte Foundation (1 000 €)
Nov. 2007	Award of the School of Computer Science, University of Magdeburg for the best doctoral dissertation
Sep. 2007	Software-Engineering Award of the Ernst-Denert Foundation for the best doctoral dissertation (5 000 €)
Dec. 2006	Award of the School of Computer Science, University of Magdeburg for outstanding scientific work
Nov. 2005	Doctoral Scholarship of the Germany Academic Exchange Service, PKZ D/05/44809 (5 677 €)
Sep. 2004	Best Student Paper Award, 4th International Workshop on Software Engineering and Middleware

Research Grants

- Performance Evolution of Highly Configurable Software Systems (Pervolution), funded by **DFG** (AP 206/11-1): 2017–2020, **290 000 €** of **580 000 €**, with Norbert Siegmund
- Advanced Stencil-Code Engineering (ExaStencils), funded within **DFG Priority Program 1648** (AP 206/7-1&2): 2013–2018, **510 000 €** of **2 500 000 €**, with Christian Lengauer, Ulrich Rude, Jürgen Teich, and Matthias Bolten
- Generation of Correct and Efficient Software based on Product-Line Technology (SafeSPL++), funded within **DFG Heisenberg Program** (AP 206/6-1&2): 2013– 2018, **660 000 €**
- Techniques and Prediction Models for Sustainable Product-Line Engineering (Pythia), funded within **DFG Priority Program 1593** (AP 206/5-1&2): 2012–2017, **700 000 €**

- Taming and Optimizing Feature Interaction in Software-intensive Automotive Systems (FeatureOpt), funded by **FFG**: 2015–2018, **100 000 €** of **500 000 €**, with Hermann Kaindl and Bosch Austria
- Software Intelligence, funded by **Siemens AG**: 2013–2016, **50 820 €**
- Safe and Efficient Software Product Lines (SafeSPL), funded within **DFG Emmy-Noether Program** (AP 206/4-1&2): 2010–2015, **1 300 000 €**
- Typing of MapReduce (MapReduceFoundation), funded by **DFG** (LE 912/13-1): 2011–2013, **160 000 €** (no share), with Christian Lengauer
- Algebra-Based Feature-Oriented Program Synthesis (FeatureFoundation), funded by **DFG** (AP 206/2-1&2): 2009–2013, **320 000 €** of **640 000 €**, with Christian Lengauer and Bernhard Möller

Software

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|--|--|
| <ul style="list-style-type: none"> • FeatureHouse
Language-Independent Feature Composition
http://fosd.net/fh/ | <ul style="list-style-type: none"> • cppstats
Analyzing C Preprocessor Directives
http://fosd.net/cppstats/ |
| <ul style="list-style-type: none"> • JDime
Structured Merge of Software Versions
http://fosd.net/JDime/ | <ul style="list-style-type: none"> • SPL Conqueror
Performance Prediction of Software Variants
http://fosd.net/SPLConqueror/ |
| <ul style="list-style-type: none"> • SPLverifier
Variability-Aware Model Checking
http://fosd.net/FAV/ | <ul style="list-style-type: none"> • TypeChef
Variability-Aware Static Analysis
http://fosd.net/TypeChef/ |
| <ul style="list-style-type: none"> • FeatureVisu
Layout-Based Feature Clustering
http://fosd.net/FeatureVisu/ | <ul style="list-style-type: none"> • Codeface
Project Analysis and Dashboard Framework
http://siemens.github.io/codeface/ |
| <ul style="list-style-type: none"> • FeatureIDE
Feature-Oriented Software Development
http://fosd.net/fide/ | <ul style="list-style-type: none"> • Fuji
Feature-Oriented Programming in Java
http://www.fosd.de/fuji/ |
| <ul style="list-style-type: none"> • CIDE
Virtual Separation of Concerns
http://fosd.net/cide/ | |

Professional Service

Faculty Committees

- Vice chair of the faculty's Ph. D. committee, since 2016
- Member of the recruiting commission "Software Engineering", 2016
- Chair of the recruiting commission "Theoretical Computer Science", 2014
- Member of the accreditation committee for Computer-Science studies, 2014
- Head of the Master program of Computer Science, 2013–2015
- Member of the faculty's studies committee, since 2013
- Member of the recruiting commission "Complex Systems Engineering", 2012–2013
- Member of the recruiting commission "Software Systems", 2008

Steering Committees

- ACM Joint European Software Engineering Conference and Symposium on the Foundations of Software Engineering (ESEC/FSE), since 2017
- IEEE/ACM Int'l Conference on Automated Software Engineering (ASE), since 2016
- Int'l Conference on Software Composition (SC), 2011–2013
- Int'l Workshop on Feature-Oriented Software Development (FOSD), since 2009

- Int'l Workshop on Formal Methods and Analysis in Software Product Line Engineering (FMSPLE), since 2012

Organization Committees

- 27th ACM Joint European Software Engineering Conference and Symposium on the Foundations of Software Engineering (ESEC/FSE'19), Program-Committee Chair
- 41th ACM/IEEE Int'l Conference on Software Engineering (ICSE'19), Workshop Chair
- 40th ACM/IEEE Int'l Conference on Software Engineering (ICSE'18), Program Chair of New Ideas and Emerging Results Track
- 31th IEEE/ACM Int'l Conference on Automated Software Engineering (ASE'16), Program-Committee Chair
- 30th IEEE/ACM Int'l Conference on Automated Software Engineering (ASE'15), Doctoral-Symposium Chair
- 10th Joint Meeting of the European Software Engineering Conference and the ACM SIGSOFT Symposium on the Foundations of Software Engineering (ESEC/FSE'15), Workshop Chair
- Dagstuhl Seminar on Feature Interactions: The Next Generation, 2014
- 16th Int'l Software Product Line Conference (SPLC'12), Workshop Chair
- 11th ACM Int'l Conference on Aspect-Oriented Software Development (AOSD'12), Workshop Chair
- 3rd Int'l Workshop on Feature-Oriented Software Development (FOSD'11)
- 10th Int'l Conference on Software Composition (SC'11), Program-Committee Chair
- Dagstuhl Seminar on Feature-Oriented Software Development, 2011
- 2nd Int'l Workshop on Feature-Oriented Software Development (FOSD'10)
- 1st Int'l Workshop on Formal Methods in Software Product Line Engineering (FMSPLE'10)
- 1st Int'l Workshop on Feature-Oriented Software Development (FOSD'09)
- 1st Int'l Workshop on Modularization, Composition, and Generative Techniques for Product-Line Engineering (McGPLE'08)
- Dagstuhl Seminar on Software Engineering for Tailor-made Data Management, 2008
- 1st Int'l Workshop on Software Engineering for Tailor-made Data Management (SETDM'08)
- 2nd Int'l Workshop on Aspect-Oriented Product-Line Engineering (AOPLE'07)
- 1st Int'l Workshop on Tailor-made Data Management (TDM'07)

Editorships

- IEEE Transactions on Software Engineering, Member of Editorial Board, since 2017
- Empirical Software Engineering, Member of Editorial Board, since 2015
- IEEE Software, Member of Editorial Board, since 2015
- Science of Computer Programming, Guest Editor, Special Issue on FOSD, 2009

Program Committees

- 27th ACM Joint European Software Engineering Conference and Symposium on the Foundations of Software Engineering (ESEC/FSE'19)
- 33rd IEEE/ACM Int'l Conference on Automated Software Engineering (ASE'18)
- 26th ACM Joint European Software Engineering Conference and Symposium on the Foundations of Software Engineering (ESEC/FSE'18)
- 32nd IEEE/ACM Int'l Conference on Automated Software Engineering (ASE'17), Expert Review Panel
- 39th ACM/IEEE Int'l Conference on Software Engineering (ICSE'17), Program Board
- 31st IEEE/ACM Int'l Conference on Automated Software Engineering (ASE'16)

- 30th European Conference on Object-Oriented Programming (ECOOP'16), External Review Committee
- 2nd Int'l Workshop on Performance Modeling: Methods and Applications (PMMA'16)
- 38th ACM/IEEE Int'l Conference on Software Engineering (ICSE'16)
- 30th IEEE/ACM Int'l Conference on Automated Software Engineering (ASE'15), Expert Review Panel
- 31st IEEE Int'l Conference on Software Maintenance and Evolution (ICSME'15)
- 19th Int'l Software Product Line Conference (SPLC'15)
- 2nd Int'l Workshop on Software Product Line Teaching (SPLTea'15)
- 6th Int'l Workshop on Formal Methods in Software Product Line Engineering (FMSPLE'15)
- 37th ACM/IEEE Int'l Conference on Software Engineering (ICSE'15)
- 9th Int'l Workshop on Variability Modeling of Software-Intensive Systems (VAMOS'15)
- 29th IEEE/ACM Int'l Conference on Automated Software Engineering (ASE'14), Expert Review Panel
- 18th Int'l Software Product Line Conference (SPLC'14)
- 1st Int'l Workshop on Software Product Line Teaching (SPLTea'14)
- 28th European Conference on Object-Oriented Programming (ECOOP'14)
- 36th ACM/IEEE Int'l Conference on Software Engineering (ICSE'14)
- 13th International Conference on Modularity (MODULARITY'14)
- 13th Int'l Workshop on Foundations of Aspect-Oriented Languages (FOAL'14)
- 8th Int'l Workshop on Variability Modeling of Software-Intensive Systems (VAMOS'14)
- 28th IEEE/ACM Int'l Conference on Automated Software Engineering (ASE'13), Expert Review Panel
- 12th ACM Int'l Conference on Generative Programming and Component Engineering (GPCE'13)
- 17th Int'l Software Product Line Conference (SPLC'13)
- 9th Joint Meeting of the European Software Engineering Conference and the ACM SIGSOFT Symposium on the Foundations of Software Engineering (ESEC/FSE'13)
- 12th Int'l Conference on Software Composition (SC'13)
- 13th Int'l Conference on Software Reuse (ICSR'13)
- IFIP Joint International Conference on Formal Techniques for Distributed Systems (33rd FORTE / 15th FMOODS)
- 12th ACM Int'l Conference on Aspect-Oriented Software Development (AOSD'13)
- 12th Int'l Workshop on Foundations of Aspect-Oriented Languages (FOAL'13)
- 1st Int'l Workshop on Reverse Variability Engineering (REVE'13)
- 7th Int'l Workshop on Variability Modeling of Software-Intensive Systems (VAMOS'13)
- 4th Int'l Workshop on Feature-Oriented Software Development (FOSD'12)
- 4th Int'l Workshop on Non-functional System Properties in Domain Specific Modeling Languages (NFPinDSML'12)
- 1st German Workshop on the Development of Energy-Aware Software (EEBS'12)
- 16th Int'l Software Product Line Conference (SPLC'12)
- 34th ACM/IEEE Int'l Conference on Software Engineering (ICSE'12), Demonstrations and Posters Track
- 11th Int'l Conference on Software Composition (SC'12)
- 11th ACM Int'l Conference on Aspect-Oriented Software Development (AOSD'12)
- 11th Int'l Workshop on Foundations of Aspect-Oriented Languages (FOAL'12)
- 3rd Int'l Workshop on Empirical Evaluation of Software Composition Techniques (ESCOT'12)
- 6th Int'l Workshop on Variability Modeling of Software-Intensive Systems (VAMOS'12)
- 26th IEEE/ACM Int'l Conference on Automated Software Engineering (ASE'11), Expert Review Panel

- 1st Workshop on Software Language Engineering for Cyber-physical Systems (WS4C'11)
- 15th Int'l Software Product Line Conference (SPLC'11)
- 2nd Int'l Workshop on Formal Methods in Software Product Line Engineering (FMSPL'11)
- 3rd Int'l Workshop on Model-driven Approaches in Software Product Line Engineering (MAPLE'11)
- 25th European Conference on Object-Oriented Programming (ECOOP'11)
- 4th Summer School on Generative and Transformational Techniques in Software Engineering (GTTSE'11)
- 10th Int'l Conference on Software Composition (SC'11)
- 10th ACM Int'l Conference on Aspect-Oriented Software Development (AOSD'11)
- 5th Int'l Workshop on Variability Modeling of Software-Intensive Systems (VAMOS'11)
- 25th IEEE/ACM Int'l Conference on Automated Software Engineering (ASE'10)
- 9th ACM Int'l Conference on Generative Programming and Component Engineering (GPCE'10)
- 1st Int'l Workshop on Variability in Software Product Line Architectures (VARI-ARCH'10)
- 2nd Model-Driven Product Line Engineering Workshop (MDPLE'10)
- 2nd Int'l Workshop on Context-Oriented Programming (COP'10)
- 7th Int'l Workshop on Reflection, AOP and Meta-Data for Software Evolution (RAM-SE'10)
- 5th IEEE Int'l Conference on Software Engineering Advances (ICSEA'10)
- 9th Int'l Conference on Software Composition (SC'10)
- 9th Int'l Workshop on Foundations of Aspect-Oriented Languages (FOAL'10)
- 4th Int'l Workshop on Variability Modeling of Software-Intensive Systems (VAMOS'10)
- 24th IEEE/ACM Int'l Conference on Automated Software Engineering (ASE'09)
- 8th ACM Int'l Conference on Generative Programming and Component Engineering (GPCE'09)
- 1st Int'l Workshop on Context-Aware Software Technology and Applications (CASTA'09)
- 4th IEEE Int'l Conference on Software Engineering Advances (ICSEA'09)
- 8th Int'l Conference on Software Composition (SC'09)
- 2nd Int'l Workshop on the Assessment of Contemporary Modularization Techniques (ACoM'08)
- 3rd IEEE Int'l Conference on Software Engineering Advances (ICSEA'08)
- 2nd IEEE Int'l Conference on Software Engineering Advances (ICSEA'07)
- 1st IEEE Int'l Conference on Software Engineering Advances (ICSEA'06)

Reviewing

- German Research Foundation (DFG)
- Austrian Academy of Sciences
- The Netherlands Organisation for Scientific Research (NWO)
- Luxembourg National Research Fund (FNR)
- Israel Science Foundation (ISF)
- IEEE Software
- ACM Transactions on Software Engineering and Methodology (TOSEM)
- IEEE Transactions on Software Engineering (TSE)
- Empirical Software Engineering (EMSE)
- Journal on Systems and Software (JSS)
- Journal on Software and System Modeling (SoSyM)
- Journal on Software: Practice and Experience (SPE)
- International Journal on Software Tools for Technology Transfer (STTT)
- Science of Computer Programming (SCP)
- Computer Networks

- Journal on Information and Software Technology (IST)
- Journal of Object Technology (JOT)
- Journal of Logical and Algebraic Methods in Programming (JLAMP)

Invited Talks and Lectures

- The New Feature Interaction Challenge, **Keynote** at the International Workshop on Variability Modelling of Software-intensive Systems, Eindhoven, The Netherlands, 02/2017
- From Crosscutting Concerns to Feature Interactions: A Tale of Misunderstandings and Enlightenments, **Keynote** at the International Conference on Modularity, Malaga, Spain, 03/2016
- Analyzing Configurable Software, TU Munich, 05/2015
- Analyzing Configurable Software, Robert Bosch GmbH, 01/2015
- Conquering the Combinatorial Explosion: Analyzing Configurable Software, Polytechnic University of Milan, Milan, Italy, 12/2014
- Conquering the Combinatorial Explosion: Analyzing Configurable Software, National Research Council (CNR), Pisa, Italy, 12/2014
- Conquering the Combinatorial Explosion: Analyzing Variable Software, **Keynote** at the Brazilian Symposium on Software Components, Architectures and Reuse, Maceió, Brazil, 09/2014
- Techniques and Prediction Models for Sustainable Product-Line Engineering, Federal University of Alagoas, Brazil, 09/2014
- Techniques and Prediction Models for Sustainable Product-Line Engineering, Federal University of Pernambuco, Brazil, 09/2014
- Product-Line Analysis, Fraunhofer IESE, 06/2013
- Language-Independent and Automated Software Composition: The FeatureHouse Experience, **Keynote** at the International Conference on Software Composition, Budapest, 06/2013
- Maßfertigung, Automatisierung und Evolution in der Softwareentwicklung: Ein Featureorientierter Ansatz, **Keynote** at the Inauguration of the Christian Doppler Lab, Universität Linz, 03/2013
- Maßfertigung und Automatisierung in der Softwareentwicklung, Universität Ulm, 11/2012
- An Introduction to Variability-Aware Analysis, Tech talk at GPCE'12 (mit Christian Kästner), 09/2012
- Feature-Oriented Software Development, University of Waterloo, Canada, 07/2012
- Feature-orientierte und generative Softwareproduktlinien, Universität Magdeburg, 07/2012
- Produktlinien für eine offene und mobile Welt, Universität Bamberg, 06/2012
- Feature-Oriented Software Product Lines, Wirtschaftsuniversität Wien, 12/2011
- Feature-orientierte Softwareentwicklung—Ein Überblick, Universität Paderborn, 11/2011
- Feature-orientierte Softwareentwicklung—Ein Überblick, Philipps-Universität Marburg, 11/2011
- Sichere und effiziente Softwareproduktlinien, Jahrestreffen des Beirates der Universitätsprofessoren in der GI, 04/2011
- Feature-orientierte Softwareentwicklung—Ein Überblick, Universität Erlangen-Nürnberg, 01/2011
- Maßgeschneiderte und verlässliche Software für eingebettete Systeme, Technische Universität Kaiserslautern, 12/2010
- Automatisierung und Sicherheit in der Softwareentwicklung, Bayerische Akademie der Wissenschaften, 02/2010
- Safe Generation in Feature-Oriented Software Development, Universität Linz, 11/2009
- Feature-Oriented Software Architecture, TU München, 11/2009
- Aktuelle Entwicklungen im Bereich Feature-orientierter Softwareentwicklung, Universität Bern, 11/2008

- Aktuelle Entwicklungen im Bereich Feature-orientierter Softwareentwicklung, Universität Erlangen-Nürnberg, 10/2008
- An Algebra for Features and Feature Composition, University of Texas at Austin, USA, 07/2008
- The Role of Features and Aspects in Software Development, Lancaster University, UK, 02/2007
- Aspectual Feature Modules, Oxford University, UK, 02/2007
- Aspectual Mixin Layers, Hasso-Plattner-Institut Potsdam, 12/2006
- Die Rolle von Features und Aspekten in der Softwareentwicklung, Universität Passau, 11/2006
- Features and Aspects in Concert, Invited lecture at the University of Texas at Austin, USA, 03/2006
- On the Symbiosis of Features and Aspects, Universität Darmstadt, 12/2005

Advising

Ph.D. students (current)

- Florian Sattler, since 2017
- Christian Kaltenecker, since 2016
- Thomas Bock, since 2016
- Georg Seibt, since 2016
- Gustavo Do Vale, since 2016
- Andreas Stahlbauer, since 2015
- Alexander Grebhahn, since 2013
- Claus Hunsen, since 2012
- Olaf Leßenich, since 2012
- Sergiy Kolesnikov, since 2011

Ph.D. students (past)

- Dr. Mitchell Joblin, defended in 2017
- Dr. Alexander von Rhein, defended in 2016
Dissertation Award of the University of Passau
- Dr. Jörg Liebig, defended in 2015
Software-Engineering Award of the Ernst-Denert Foundation

Doctoral committees

- Dr. Andreas Vogelsang, defended in 2015 (supervised by Prof. Manfred Broy)
- Dr. Bo Zhang, defended in 2015 (supervised by Prof. Dieter Rombach)
- Dr. Reinhard Tartler, defended in 2013 (supervised by Prof. Wolfgang Schröder-Preikschat)

Master theses

- Adjustable Family-Based Performance Measurement, Christian Kapfhammer, 2017
- Assessing the Scope of Safety Properties, Peter Dahlberg, 2017
- A Variability-Aware Region Analyzer in LLVM, Florian Sattler, 2017
- Assessing the Scope of Safety Properties, Peter Dahlberg, 2017
- GitCop: A Machine Learning Based Approach to Predicting Merge Conflicts from Repository Metadata, Thomas Ziegler, 2017
- Comparison of Analytical and Empirical Performance Models: A Case Study on Multigrid Systems, Christian Kaltenecker, 2016
- Applying Flexible Tree Matching to Abstract Syntax Trees, Georg Seibt, 2016
- Generating Realistic Attributed Variability Models, Thomas Leutheusser, 2016
- Synchronous Development in Open-Source Systems: File-based, Feature-based, and Function-based, Thomas Bock, 2016

- Feature-Aware Collaboration Tracking with Codeface, Matthias Dittrich, 2015
- On the Relation of Type Errors and Static Attributes of Feature-Oriented Product Lines, Judith Roth, 2014
- Visualization and Analysis of Product-Line Evolution in Codeface, Simon Niechzial, 2014
- Variability-aware Data-flow Analysis for Smartphone Applications, Daniel Hausknecht, 2013
- Experiments on Type Checking of Software Product Lines, Claus Hunsen, 2013
- Typprüfung von Produktlinien in Fuji, Peter Lutz, 2013
- Ein graphbasierter Formalismus zur Programmmanipulation, Bernhard Stadler, 2012
- Adjustable Syntactic Merge of Java Programs, Olaf Leßenich, 2012
- Feature-orientierte Entwicklung von Programmiersprachwerkzeugen: Eine Fallstudie, Rolf Daniel, 2011
- A Case Study on Feature-Aware Verification, Stefan Boxleitner, 2011
- Ein empirischer Vergleich von semistrukturierter und unstrukturierter Konfliktbehandlung in Versionsverwaltungssystemen, Benjamin Brandl, 2011
- An Extensible Compiler for Feature-Oriented Programming in Java, Sergiy Kolesnikov, 2011
- A Specification Language for Observer Automata in Feature-Oriented Verification, Hendrik Speidel, 2011

Bachelor theses

- Sensitivity Analysis of Flexible AST Matching, Martin Bauer, 2017
- Performance and Energy Interactions of Configurable Systems, Niklas Werner 2017
- Evaluation des Projektzustands verschiedener LLVM Frontends, Constantin Wenger, 2017
- Automata-Guided Synthesis and Reuse of Precisions, Sebastian Böhm, 2017
- Analyzing Developer Networks Based on GitHub Issue Data, Raphael Nömmner, 2017
- Communication of Core and Peripheral Developers in OSS Projects: An Exploratory Study, Sofie Kemper, 2017
- Activity of Core and Peripheral Developers: A Case Study on Mozilla Firefox, Ferdinand Frank, 2017
- Erweiterung eines Software-Testansatzes durch soziale Aspekte, Kevin Glöckl, 2017
- Visualisierung von Git-Repositories, Verena Bader, 2016
- Visualizing General Morphological Analysis via Multidimensional Scaling, Julius Kempf, 2015.
- Generating Realistic Non-functional Property Attributes for Feature Models, Philipp Eichhammer, 2014
- Implementierung und Evaluierung Konfigurierbarer Mehrgitterlöser für Multiprozessorsysteme, Christian Kaltenecker, 2014
- Unerlaubte Weitergabe von privaten Daten zwischen Android-Apps: Analyse eines Szenarios, Felix Steghofer, 2014.
- Evaluierung experimenteller Designs zur Bestimmung des nichtfunktionalen Einflusses metrischer Konfigurationsoptionen, Martin Bocheneck, 2014
- Entwurf und Implementierung einer optimalen Benutzerobfläche zur Darstellung komplexer Produktkonfigurationen mit Schwerpunkt auf der Anzeige und Auswahl von alternativen Konfigurationsschritten, Patrick Kuglmeier, 2013
- Optimierung von BDD-basierten Model-Checking durch effiziente Variablenordnung, Andreas Buchecker, 2012
- Empirische Untersuchung des Zusammenhangs zwischen Fehlerhäufigkeit und ausgewählten Softwaremaßen, Stefan John, 2012
- Next-Generation Feature Models with Pseudo-Boolean SAT Solvers, Sebastian Henneberg, 2011
- Klassifikation von Methoden zur Qualitätsbeurteilung in der Softwareproduktlinienentwicklung, Semah Senkaya, 2011
- Feature-Orientierte Analyse von Service-orientierten Architekturen, Rolf Daniel, 2009
- Komposition von Features durch Quantifizierung, Stefan Boxleitner, 2008

- Feature-orientierte Programmierung mit Superimposition in C#, Alexander von Rhein, 2008

Diploma theses

- Empirical Comparison of FOSD Approaches Regarding Program Comprehension – A Feasibility Study, Janet Feigenspan, 2009
- Thread Parallelism by Concurrent Mixin Layers, Heiko Studt, 2009
- Alternative Features in Colored Featherweight Java, Malte Rosental, 2009
- A Description Language for Feature-Oriented Software Development, Sebastian Scharinger, 2009
- Feature-Oriented Composition of XML Artifacts, Jens Dörre, 2009
- Aspect-Oriented Refactoring of Berkeley DB, Christian Kästner, 2007
(**Software-Engineering Award of the Ernst-Denert Foundation**)
- Moderne Modularisierungstechniken und ihre Bedeutung für qualitativ hochwertige Software, Martin Kuhlemann, 2006
- Werkzeugunterstützung für die Merkmalorientierte Softwareentwicklung, Laura Marnitz, 2005
- Modulare Mechanismen zur Lastbalancierung in Peer-to-Peer Systemen, Karl-Heinz Deutinger, 2005
- Merkmalsorientierte Programmierung in C++, Marko Rosenmüller, 2005
- Middleware-Architektur für mobile Informationssysteme, Helge Sichtung, 2004

Teaching

Lecture Courses

- Software Product Line Engineering, since 2011
- Types and Programming Languages, since 2008
- Software Engineering, 2010–2012
- Modern Programming Paradigms, 2007–2010
- Computer Science for Non-Computer Scientists, 2008–2009

Exercise Classes

- Types and Programming Languages, 2008
- Modern Programming Paradigms, 2007
- Algorithms and Data Structures, 2007

Seminars

- Software Evolution, 2014
- Modern Analysis Techniques of Product Lines, 2012
- Software Engineering for Exascale Computing, 2012–2013
- Software Product Line Engineering, 2009–2011
- Modern Programming Paradigms, 2008
- Database Implementation Techniques, 2004

Working Groups

- Feature-Oriented Software Development, since 2009

Lab Exercises

- Feature-Oriented Decomposition of Haskell Programs, 2008
- Feature-Oriented Decomposition of Bali Grammars, 2007
- Aspect-Oriented and Feature-Oriented Refactoring, 2006
- Tailoring Data Structures, 2006

- Tool Support for Feature-Oriented Programming, 2005
- Aspect Orientation in Peer-to-Peer Systems, 2004
- Cooperative Work, 2004

Miscellaneous

- Students' Computer Science Summer Camp, University of Passau, 2007

Memberships

- Young Academy of Europe, since 2015
- German Informatics Society (GI), since 2013
- Association for Computing Machinery (ACM), since 2011
- IFIP Working Group 2.11 (Program Generation), 2009–2015

Publications

total: 194 h-index: 50 i10-index: 130¹

Key publications are highlighted with ☆. Awarded publications are highlighted with ✨.

Electronic versions of all publications are available on the Web:

<http://www.infosun.fim.uni-passau.de/spl/apel/>.

Dissertation

- ✨ 1. Sven Apel. *The Role of Features and Aspects in Software Development*. PhD thesis, School of Computer Science, University of Magdeburg, March 2007. **Software-Engineering Award of the Ernst-Denert Foundation.**

Books

- ☆ 1. Sven Apel, Don Batory, Christian Kästner, and Gunter Saake. *Feature-Oriented Software Product Lines: Concepts and Implementation*. Springer-Verlag, October 2013. 315 pages, ISBN 978-3-642-37520-0.
- ☆ 2. Sven Apel. *The Role of Features and Aspects in Software Development: Similarities, Differences, and Synergetic Potential*. VDM Verlag Dr. Müller, December 2007. 172 pages, ISBN 978-3836433440.

Refereed Journal Articles

- ☆ 1. Claire Le Goues, Yuriy Brun, Sven Apel, Emery Berger, Sarfrad Khurshid, and Yannis Smaragdakis. Effectiveness of Anonymization in Double-Blind Review. *Communications of the ACM*, 2018. To appear.
- 2. Jianmei Guo, Dingyu Yang, Norbert Siegmund, Sven Apel, Atrisha Sarkar, Pavel Valov, Krzysztof Czarnecki, Andrzej Wasowski, and Huiqun Yu. Data-Efficient Performance Learning for Configurable Systems. *Empirical Software Engineering*, 2018. To appear.
- 3. Thiago Castro, André Lanna, Vander Alves, Leopoldo Teixeira, Sven Apel, and Pierre-Yves Schobbens. All Roads Lead to Rome: Commuting Strategies for Product-Line Reliability Analysis. *Science of Computer Programming (SCP)*, 2018. To appear.
- 4. Olaf Leßenich, Janet Siegmund, Sven Apel, Christian Kästner, and Claus Hunsen. Indicators for Merge Conflicts in the Wild: Survey and Empirical Study. *Automated Software Engineering*, 2018. To appear.
- 5. Florian Sattler, Alexander von Rhein, Thorsten Berger, Niklas Schalck Johansson, Mikael Mark Hardø, and Sven Apel. Lifting Inter-App Data-Flow Analysis to Large App Sets. *Automated Software Engineering*, 2018. To appear.
- 6. Vivek Nair, Tim Menzies, Norbert Siegmund, and Sven Apel. Faster Discovery of Faster System Configurations with Spectral Learning. *Automated Software Engineering*, 2018. To appear.
- ☆ 7. Flavio Medeiros, Marcio Ribeiro, Rohit Gheyi, Sven Apel, Christian Kästner, Bruno Ferreira, Luiz

¹The h-index and the i10-index have been computed by Google Scholar.

- Carvalho, and Balduino Fonseca. Discipline Matters: Refactoring of Preprocessor Directives in the #ifdef Hell. *IEEE Transactions on Software Engineering (TSE)*, 2018. To appear.
8. André Lanna, Thiago Castro, Vander Alves, Genaina Rodrigues, Pierre-Yves Schobbens, and Sven Apel. Feature-Family-Based Reliability Analysis of Software Product Lines. *Information and Software Technology (IST)*, 94:59–81, February 2018.
 9. Stefan Ganser, Armin Größlinger, Norbert Siegmund, Sven Apel, and Christian Lengauer. Iterative Schedule Optimization for Parallelization in the Polyhedron Model. *ACM Transactions on Architecture and Code Optimization (TACO)*, 14(3):23:1–23:26, 2017.
 10. Alexander Grebhahn, Christian Engwer, Matthias Bolten, and Sven Apel. Variability of Stencil Computations for Porous Media. *Concurrency and Computation: Practice and Experience (CCPE)*, 29(17):14 pages, September 2017.
 11. Alexander Grebhahn, Carmen Rodrigo, Norbert Siegmund, Francisco J. Gaspar, and Sven Apel. Performance-Influence Models of Multigrid Methods: A Case Study on Triangular Meshes. *Concurrency and Computation: Practice and Experience (CCPE)*, 29(17):13 pages, September 2017.
 - ☆ 12. Mitchell Joblin, Sven Apel, and Wolfgang Mauerer. Evolutionary Trends of Developer Coordination: A Network Approach. *Empirical Software Engineering (EMSE)*, 22(4):2050–2094, August 2017.
 - ☆ 13. Jörg Liebig, Sven Apel, Andreas Jancker, Florian Garbe, and Sebastian Oster. Handling Static Configurability in Refactoring Engines. *IEEE Computer*, 50(7):44–53, July 2017.
 14. Rodrigo Queiroz, Leonardo Passos, Marco Tulio Valente, Claus Hunsen, Sven Apel, and Krzysztof Czarnecki. The Shape of Feature Code: An Analysis of Twenty C-Preprocessor-Based Systems. *Software and Systems Modeling (SoSyM)*, 16(1):77–96, February 2017.
 - ☆ 15. Leonardo Passos, Leopoldo Teixeira, Nicolas Dintzner, Sven Apel, Andrzej Wasowski, Krzysztof Czarnecki, Paulo Borba, and Jianmei Guo. Coevolution of Variability Models and Related Software Artifacts: A Fresh Look at Evolution Patterns in the Linux Kernel. *Empirical Software Engineering (EMSE)*, 21(4):1744–1793, August 2016.
 - ☆ 16. Stefan Sobernig, Sven Apel, Sergiy Kolesnikov, and Norbert Siegmund. Quantifying Structural Attributes of System Decompositions in 28 Feature-oriented Software Product Lines: An Exploratory Study. *Empirical Software Engineering (EMSE)*, 21(4):1670–1705, August 2016.
 17. Barbara Paech, Sven Apel, Lars Grunske, and Christian Prehofer. Empirische Forschung zu Software-Evolution: Bestandsaufnahme und Vision aus dem DFG-Schwerpunktprogramm Design for Future – Managed Software Evolution. *Informatik-Spektrum*, 39(3):186–193, May 2016.
 - ☆ 18. Claus Hunsen, Bo Zhang, Janet Siegmund, Christian Kästner, Olaf Lessenich, Martin Becker, and Sven Apel. Preprocessor-Based Variability in Open-Source and Industrial Software Systems: An Empirical Study. *Empirical Software Engineering (EMSE)*, 21(2):449–482, April 2016.
 19. Alexander von Rhein, Thomas Thüm, Ina Schaefer, Jörg Liebig, and Sven Apel. Variability Encoding: From Compile-Time to Load-Time Variability. *Journal of Logical and Algebraic Methods in Programming (JLAMP)*, 85(1):125–145, January 2016.
 20. Olaf Leßenich, Sven Apel, and Christian Lengauer. Balancing Precision and Performance in Structured Merge. *Automated Software Engineering*, 22(3):367–397, September 2015.
 21. Jens Dörre, Sven Apel, and Christian Lengauer. Modeling and Optimizing MapReduce Programs. *Concurrency and Computation: Practice and Experience (CCPE)*, 27(7):1734–1766, May 2015.
 - ☆ 22. Janet Feigenspan, Christian Kästner, Jörg Liebig, Sven Apel, and Stefan Hanenberg. Measuring and Modeling Programming Experience. *Empirical Software Engineering (EMSE)*, 19(5):1299–1334, October 2014.
 23. Alexander Grebhahn, Sebastian Kuckuk, Christian Schmitt, Harald Köstler, Norbert Siegmund, Sven Apel, Frank Hannig, and Jürgen Teich. Experiments on Optimizing the Performance of Stencil Codes with SPL Conqueror. *Parallel Processing Letters (PPL)*, 24(3):Article 1441001, September 2014.
 - ☆ 24. Thomas Thüm, Sven Apel, Christian Kästner, Ina Schaefer, and Gunter Saake. A Classification and Survey of Analysis Strategies for Software Product Lines. *ACM Computing Surveys*, 47(1):6:1–6:45, June 2014.
 25. Sven Apel, Alexander von Rhein, Thomas Thüm, and Christian Kästner. Feature-Interaction Detection based on Feature-Based Specifications. *Computer Networks*, 57(12):2399–2409, August 2013.

- ☆ 26. Janet Feigenspan, Christian Kästner, Sven Apel, Jörg Liebig, Michael Schulze, Raimund Dachsel, Maria Papendieck, Thomas Leich, and Gunter Saake. Do Background Colors Improve Program Comprehension in the #ifdef Hell? *Empirical Software Engineering (EMSE)*, 18(4):699–745, July 2013.
- 27. Norbert Siegmund, Marko Rosenmüller, Christian Kästner, Paolo Giarrusso, Sven Apel, and Sergiy Kolesnikov. Scalable Prediction of Non-functional Properties in Software Product Lines: Footprint and Memory Consumption. *Information and Software Technology (IST)*, 55(3):491–507, March 2013.
- ☆ 28. Sven Apel, Christian Kästner, and Christian Lengauer. Language-Independent and Automated Software Composition: The FeatureHouse Experience. *IEEE Transactions on Software Engineering (TSE)*, 39(1):63–79, January 2013.
- 29. Norbert Siegmund, Marko Rosenmüller, Martin Kuhlemann, Christian Kästner, Sven Apel, and Gunter Saake. SPL Conqueror: Toward Optimization of Non-functional Properties in Software Product Lines. *Software Quality Journal – Special Issue on Quality Engineering for Software Product Lines*, 20(3–4):487–517, September 2012.
- ☆ 30. Christian Kästner, Sven Apel, Thomas Thüm, and Gunter Saake. Type Checking Annotation-Based Product Lines. *ACM Transactions on Software Engineering and Methodology (TOSEM)*, 21(3):14:1–14:39, June 2012.
- 31. Sven Apel, Sergiy Kolesnikov, Jörg Liebig, Christian Kästner, Martin Kuhlemann, and Thomas Leich. Access Control in Feature-Oriented Programming. *Science of Computer Programming – Special Issue on Feature-Oriented Software Development*, 77(3):174–187, March 2012.
- 32. Marko Rosenmüller, Norbert Siegmund, Sven Apel, and Gunter Saake. Flexible Feature Binding in Software Product Lines. *Automated Software Engineering*, 18(2):165–197, March 2011.
- 33. Sven Apel, Christian Lengauer, Bernhard Möller, and Christian Kästner. An Algebraic Foundation for Automatic Feature-Based Program Synthesis. *Science of Computer Programming (SCP)*, 75(11):1022–1047, November 2010.
- ☆ 34. Sven Apel, Christian Kästner, Armin Gröblinger, and Christian Lengauer. Type Safety for Feature-Oriented Product Lines. *Automated Software Engineering*, 17(3):251–300, September 2010.
- ☆ 35. Friedrich Steimann, Thomas Pawlitzki, Sven Apel, and Christian Kästner. Types and Modularity for Implicit Invocation with Implicit Announcement. *ACM Transactions on Software Engineering and Methodology (TOSEM)*, 20(1):1:1–1:43, June 2010.
- ☆ 36. Sven Apel and DeLesley Hutchins. A Calculus for Uniform Feature Composition. *ACM Transactions on Programming Languages and Systems (TOPLAS)*, 32(5):19:1–19:33, May 2010.
- 37. Sven Apel. How AspectJ is Used: An Analysis of Eleven AspectJ Programs. *Journal of Object Technology (JOT)*, 9(1):117–142, January 2010.
- 38. Marko Rosenmüller, Sven Apel, Thomas Leich, and Gunter Saake. Tailor-Made Data Management for Embedded Systems: A Case Study on Berkeley DB. *Data & Knowledge Engineering (DKE)*, 68(12):1493–1512, December 2009.
- ☆ 39. Sven Apel, Thomas Leich, and Gunter Saake. Aspectual Feature Modules. *IEEE Transactions on Software Engineering (TSE)*, 34(2):162–180, April 2008.
- 40. Sven Apel, Christian Kästner, Martin Kuhlemann, and Thomas Leich. Pointcuts, Advice, Refinements, and Collaborations: Similarities, Differences, and Synergies. *Innovations in Systems and Software Engineering – A NASA Journal*, 3(4):281–289, December 2007.
- 41. Sven Apel, Christian Kästner, Thomas Leich, and Gunter Saake. Aspect Refinement – Unifying AOP and Stepwise Refinement. *Journal of Object Technology (JOT)*, 6(9):13–33, June 2007.
- 42. Marko Rosenmüller, Thomas Leich, Sven Apel, and Gunter Saake. Von Mini- über Micro- bis zu Nano-DBMS: Datenhaltung in eingebetteten Systemen. *Datenbank Spektrum*, 7(20):33–43, February 2007.
- 43. Sven Apel and Erik Buchmann. Biology-Inspired Optimizations of Peer-to-Peer Overlay Networks. *Practices in Information Processing and Communications (Praxis der Informationsverarbeitung und Kommunikation)*, 28(4):199–205, October 2005.

Refereed Conference Papers (with acceptance rates if known)

- ☆ 1. Olaf LeBenich, Sven Apel, Christian Kästner, Georg Seibt, and Janet Siegmund. Renaming and Shifted Code in Structured Merging: Looking Ahead for Precision and Performance. In *Procee-*

- dings of the IEEE/ACM International Conference on Automated Software Engineering (ASE)*, pages 543–553. IEEE Computer Society, November 2017. Acceptance rate (full papers): 21% (67 / 322).
- ☆ 2. Norbert Siegmund, Stefan Sobernig, and Sven Apel. Attributed Variability Models: Outside the Comfort Zone. In *Proceedings of the European Software Engineering Conference and the ACM SIGSOFT International Symposium on the Foundations of Software Engineering (ESEC/FSE)*, pages 268–278. ACM Press, September 2017. Acceptance rate: 24% (72 / 295).
 - ☆ 3. Vivek Nair, Tim Menzies, Norbert Siegmund, and Sven Apel. Using Bad Learners to find Good Configurations. In *Proceedings of the European Software Engineering Conference and the ACM SIGSOFT International Symposium on the Foundations of Software Engineering (ESEC/FSE)*, pages 257–267. ACM Press, September 2017. Acceptance rate: 24% (72 / 295).
 - ☆ 4. Janet Siegmund, Norman Peitek, Chris Parnin, Sven Apel, Johannes Hofmeister, Christian Kästner, Andrew Begel, Anja Bethmann, and André Brechmann. Measuring Neural Efficiency of Program Comprehension. In *Proceedings of the European Software Engineering Conference and the ACM SIGSOFT International Symposium on the Foundations of Software Engineering (ESEC/FSE)*, pages 140–150. ACM Press, September 2017. Acceptance rate: 24% (72 / 295).
 - ☆ 5. Mitchell Joblin, Sven Apel, Claus Hunsen, and Wolfgang Mauerer. Classifying Developers into Core and Peripheral: An Empirical Study on Count and Network Metrics. In *Proceedings of the IEEE/ACM International Conference on Software Engineering (ICSE)*, pages 164–174. IEEE Computer Society, May 2017. Acceptance rate: 16% (68 / 415).
 - ☆ 6. Sven Apel, Dirk Beyer, Vitaly Mordan, Vadim Mutilin, and Andreas Stahlbauer. On-The-Fly Decomposition of Specifications in Software Model Checking. In *Proceedings of the ACM SIGSOFT International Symposium on the Foundations of Software Engineering (FSE)*, pages 349–361. ACM Press, November 2016. Acceptance rate: 27% (74 / 273).
 - 7. Gabriel Ferreira, Momin Malik, Christian Kästner, Jürgen Pfeffer, and Sven Apel. Do #ifdefs Influence the Occurrence of Vulnerabilities? An Empirical Study of the Linux Kernel. In *Proceedings of the International Software Product Line Conference (SPLC)*, pages 65–73. ACM Press, September 2016. Acceptance rate (full papers): 39% (17 / 44).
 - ☆ 8. Flávio Medeiros, Christian Kästner, Márcio Ribeiro, Rohit Gheyi, and Sven Apel. A Comparison of 10 Sampling Algorithms for Configurable Systems. In *Proceedings of the ACM/IEEE International Conference on Software Engineering (ICSE)*, pages 643–654. ACM Press, May 2016. Acceptance rate: 19% (101 / 530).
 - 9. Bruno Cafeo, Claus Hunsen, Alessandro Garcia, Sven Apel, and Jaejoon Lee. Segregating Feature Interfaces to Support Software Product Line Maintenance. In *Proceedings of the International Conference on Modularity (MODULARITY)*, pages 1–12. ACM Press, March 2016. Acceptance rate: 37% (10 / 27).
 - ☆ 10. Andreas Wölfl, Norbert Siegmund, Sven Apel, Harald Kosch, Johann Krautlager, and Guillermo Weber-Urbina. Generating Qualifiable Avionics Software: An Experience Report. In *Proceedings of the IEEE/ACM International Conference on Automated Software Engineering (ASE)*, pages 726–736. IEEE Computer Society, November 2015. Acceptance rate (full papers): 21% (60 / 289).
 - ☆ 11. Atri Sarkar, Jianmei Guo, Norbert Siegmund, Sven Apel, and Krzysztof Czarnecki. Cost-Efficient Sampling for Performance Prediction of Configurable Systems. In *Proceedings of the IEEE/ACM International Conference on Automated Software Engineering (ASE)*, pages 342–352. IEEE Computer Society, November 2015. Acceptance rate (full papers): 21% (60 / 289).
 - ☆ 12. Norbert Siegmund, Alexander Grebhahn, Sven Apel, and Christian Kästner. Performance-Influence Models for Highly Configurable Systems. In *Proceedings of the European Software Engineering Conference and the ACM SIGSOFT International Symposium on the Foundations of Software Engineering (ESEC/FSE)*, pages 284–294. ACM Press, August 2015. Acceptance rate: 25% (74 / 291).
 - ✱ 13. Janet Siegmund, Norbert Siegmund, and Sven Apel. Views on Internal and External Validity in Empirical Software Engineering. In *Proceedings of the IEEE/ACM International Conference on Software Engineering (ICSE)*, pages 9–19. IEEE Computer Society, May 2015. Acceptance rate: 19% (84 / 452); **ACM SIGSOFT Distinguished Paper Award**.
 - ☆ 14. Alexander von Rhein, Alexander Grebhahn, Sven Apel, Norbert Siegmund, Dirk Beyer, and Thorsten Berger. Presence-Condition Simplification in Highly Configurable Systems. In *Proceedings of the IEEE/ACM International Conference on Software Engineering (ICSE)*, pages 178–188. IEEE Computer Society, May 2015. Acceptance rate: 19% (84 / 452).

- ☆ 15. Jörg Liebig, Andreas Janker, Florian Garbe, Sven Apel, and Christian Lengauer. Morpheus: Variability-Aware Refactoring in the Wild. In *Proceedings of the IEEE/ACM International Conference on Software Engineering (ICSE)*, pages 380–391. IEEE Computer Society, May 2015. Acceptance rate: 19% (84 / 452).
- ☆ 16. Mitchell Joblin, Wolfgang Mauerer, Sven Apel, Janet Siegmund, and Dirk Riehle. From Developer Networks to Verified Communities: A Fine-Grained Approach. In *Proceedings of the IEEE/ACM International Conference on Software Engineering (ICSE)*, pages 563–573. IEEE Computer Society, May 2015. Acceptance rate: 19% (84 / 452).
- 17. Johannes Bürdek, Malte Lochau, Stefan Bauregger, Andreas Holzer, Alexander von Rhein, Sven Apel, and Dirk Beyer. Facilitating Reuse in Multi-Goal Test-Suite Generation for Software Product Lines. In *Proceedings of the International Conference on Fundamental Approaches to Software Engineering (FASE)*, volume 9033 of *Lecture Notes in Computer Science*, pages 84–99. Springer-Verlag, April 2015. Acceptance rate: 28% (23 / 82).
- ✱ 18. Leonardo Passos, Jesus Padilla, Thorsten Berger, Sven Apel, Krzysztof Czarnecki, and Marco Tulio Valente. Feature Scattering in the Large: A Longitudinal Study of Linux Kernel Device Drivers. In *Proceedings of the International Conference on Modularity (MODULARITY)*, pages 81–92. ACM Press, March 2015. Acceptance rate: 48% (12 / 25); **Best Paper Award**.
- 19. Eric Walkingshaw, Christian Kästner, Martin Erwig, Sven Apel, and Eric Bodden. Variational Data Structures: Exploring Tradeoffs in Computing with Variability. In *Proceedings of the ACM Symposium on New Ideas in Programming and Reflections on Software (Onward!)*, pages 213–226. ACM Press, October 2014. Acceptance rate: 46% (16 / 35).
- ☆ 20. Jianmei Guo, Edward Zulkoski, Rafael Olaechea, Derek Rayside, Krzysztof Czarnecki, Sven Apel, and Joanne Atlee. Scaling Exact Multi-Objective Combinatorial Optimization by Parallelization. In *Proceedings of the ACM/IEEE International Conference on Automated Software Engineering (ASE)*, pages 409–420. ACM Press, September 2014. Acceptance rate: 20% (55 / 276).
- ☆ 21. Janet Siegmund, Christian Kästner, Sven Apel, Chris Parnin, Anja Bethmann, Thomas Leich, Gunter Saale, and André Brechmann. Understanding Understanding Source Code with Functional Magnetic Resonance Imaging. In *Proceedings of the ACM/IEEE International Conference on Software Engineering (ICSE)*, pages 378–389. ACM Press, May 2014. Acceptance rate: 20% (99 / 495).
- ☆ 22. Andreas Simbürger, Sven Apel, Armin Größlinger, and Christian Lengauer. The Potential of Polyhedral Optimization: An Empirical Study. In *Proceedings of the IEEE/ACM International Conference on Automated Software Engineering (ASE)*, pages 508–518. IEEE Computer Society, November 2013. Acceptance rate (full papers): 16% (51 / 317).
- ☆ 23. Jianmei Guo, Krzysztof Czarnecki, Sven Apel, Norbert Siegmund, and Andrzej Wasowski. Variability-Aware Performance Prediction: A Statistical Learning Approach. In *Proceedings of the IEEE/ACM International Conference on Automated Software Engineering (ASE)*, pages 301–311. IEEE Computer Society, November 2013. Acceptance rate (full papers): 16% (51 / 317).
- 24. Sven Apel, Dirk Beyer, Karlheinz Friedberger, Franco Raimondi, and Alexander von Rhein. Domain Types: Abstract-Domain Selection Based on Variable Usage. In *Proceedings of the Haifa Verification Conference (HVC)*, volume 8244 of *Lecture Notes in Computer Science*, pages 262–278. Springer-Verlag, November 2013. Acceptance rate: 47% (23 / 49).
- 25. Sergiy Kolesnikov, Alexander von Rhein, Claus Hunsen, and Sven Apel. A Comparison of Product-based, Feature-based, and Family-based Type Checking. In *Proceedings of the International Conference on Generative Programming: Concepts & Experiences (GPCE)*, pages 115–124. ACM Press, October 2013. Acceptance rate (full papers): 30% (17 / 57).
- 26. Norbert Siegmund, Alexander von Rhein, and Sven Apel. Family-Based Performance Measurement. In *Proceedings of the International Conference on Generative Programming: Concepts & Experiences (GPCE)*, pages 95–104. ACM Press, October 2013. Acceptance rate (full papers): 30% (17 / 57).
- 27. Sandro Schulze, Jörg Liebig, Janet Siegmund, and Sven Apel. Does the Discipline of Preprocessor Annotations Matter? A Controlled Experiment. In *Proceedings of the International Conference on Generative Programming: Concepts & Experiences (GPCE)*, pages 65–74. ACM Press, October 2013. Acceptance rate (full papers): 30% (17 / 57).
- ☆ 28. Jörg Liebig, Alexander von Rhein, Christian Kästner, Sven Apel, Jens Dörre, and Christian Lengauer. Scalable Analysis of Variable Software. In *Proceedings of the European Software Engineering Conference and the ACM SIGSOFT International Symposium on the Foundations of Software*

- Engineering (ESEC/FSE)*, pages 81–91. ACM Press, August 2013. Acceptance rate: 20% (51 / 251).
- ☆ 29. Sven Apel, Alexander von Rhein, Philipp Wendler, Armin Größlinger, and Dirk Beyer. Strategies for Product-Line Verification: Case Studies and Experiments. In *Proceedings of the IEEE/ACM International Conference on Software Engineering (ICSE)*, pages 482–491. IEEE Computer Society, May 2013. Acceptance rate: 19% (85 / 461).
 - 30. Janet Siegmund, Christian Kästner, Sven Apel, André Brechmann, and Gunter Saake. Experience from Measuring Program Comprehension—Toward a General Framework. In *Proceedings of Software Engineering – Fachtagung des GI-Fachbereichs Softwaretechnik*, GI Edition – Lecture Notes in Informatics, pages 239–257. Gesellschaft für Informatik, February 2013.
 - 31. Janet Siegmund, André Brechmann, Sven Apel, Christian Kästner, Jörg Liebig, Thomas Leich, and Gunter Saake. Toward Measuring Program Comprehension with Functional Magnetic Resonance Imaging. In *Proceedings of the ACM SIGSOFT International Symposium on the Foundations of Software Engineering (FSE)*, pages 24:1–24:4. ACM Press, November 2012. Acceptance rate (NIER track): 20% (12 / 59).
 - ☆ 32. Sven Apel, Olaf Leßenich, and Christian Lengauer. Structured Merge with Auto-Tuning: Balancing Precision and Performance. In *Proceedings of the IEEE/ACM International Conference on Automated Software Engineering (ASE)*, pages 120–129. ACM Press, September 2012. Acceptance rate: 13% (21 / 167).
 - 33. Thomas Thüm, Ina Schaefer, Sven Apel, and Martin Hentschel. Family-Based Theorem Proving for Deductive Verification of Software Product Lines. In *Proceedings of the ACM International Conference on Generative Programming and Component Engineering (GPCE)*, pages 11–20. ACM Press, September 2012. Acceptance rate: 40% (14 / 35).
 - ☆ 34. Norbert Siegmund, Sergiy Kolesnikov, Christian Kästner, Sven Apel, Don Batory, Marko Rosenmüller, and Gunter Saake. Predicting Performance via Automated Feature-Interaction Detection. In *Proceedings of the IEEE/ACM International Conference on Software Engineering (ICSE)*, pages 167–177. IEEE Computer Society, June 2012. Acceptance rate: 21% (87 / 408).
 - 35. Janet Feigenspan, Christian Kästner, Jörg Liebig, Sven Apel, and Stefan Hanenberg. Measuring Programming Experience. In *Proceedings of the International Conference on Program Comprehension (ICPC)*, pages 73–82. IEEE Computer Society, June 2012. Acceptance rate: 41% (21 / 51).
 - 36. Thomas Thüm, Ina Schaefer, Martin Kuhlemann, Sven Apel, and Gunter Saake. Applying Design by Contract to Feature-Oriented Programming. In *Proceedings of the International Conference on Fundamental Approaches to Software Engineering (FASE)*, volume 7212 of *Lecture Notes in Computer Science*, pages 255–269. Springer-Verlag, March 2012. Acceptance rate: 25% (33 / 134).
 - 37. Sven Apel, Hendrik Speidel, Philipp Wendler, Alexander von Rhein, and Dirk Beyer. Detection of Feature Interactions using Feature-Aware Verification. In *Proceedings of the IEEE/ACM International Conference on Automated Software Engineering (ASE)*, pages 372–375. IEEE Computer Society, November 2011. Acceptance rate (short papers): 22% (56 / 252).
 - 38. Marko Rosenmüller, Norbert Siegmund, Mario Pukall, and Sven Apel. Tailoring Dynamic Software Product Lines. In *Proceedings of the ACM International Conference on Generative Programming and Component Engineering (GPCE)*, pages 3–12. ACM Press, October 2011. Acceptance rate: 31% (18 / 58).
 - ☆ 39. Sven Apel, Jörg Liebig, Benjamin Brandl, Christian Lengauer, and Christian Kästner. Semistructured Merge: Rethinking Merge in Revision Control Systems. In *Proceedings of the European Software Engineering Conference and the ACM SIGSOFT International Symposium on the Foundations of Software Engineering (ESEC/FSE)*, pages 190–200. ACM Press, September 2011. Acceptance rate: 17% (34 / 203).
 - 40. Janet Feigenspan, Sven Apel, Jörg Liebig, and Christian Kästner. Exploring Software Measures to Assess Program Comprehension. In *Proceedings of the International Symposium on Empirical Software Engineering and Measurement (ESEM)*, pages 1–10, paper 3. IEEE Computer Society, September 2011. Acceptance rate: 31% (33 / 105).
 - ✱ 41. Norbert Siegmund, Marko Rosenmüller, Christian Kästner, Paolo Giarrusso, Sven Apel, and Sergiy Kolesnikov. Scalable Prediction of Non-functional Properties in Software Product Lines. In *Proceedings of the Software Product Line Conference (SPLC)*, pages 160–169. IEEE Computer Society, August 2011. Acceptance rate: 29% (20 / 69). **Best Research Paper Award.**

- ☆ 42. Sven Apel and Dirk Beyer. Feature Cohesion in Software Product Lines: An Exploratory Study. In *Proceedings of the ACM/IEEE International Conference on Software Engineering (ICSE)*, pages 421–430. ACM Press, May 2011. Acceptance rate: 14% (62 / 441).
- 43. Jörg Liebig, Christian Kästner, and Sven Apel. Analyzing the Discipline of Preprocessor Annotations in 30 Million Lines of C Code. In *Proceedings of the ACM International Conference on Aspect-Oriented Software Development (AOSD)*, pages 191–202. ACM Press, March 2011. Acceptance rate: 23% (21 / 92).
- 44. Sven Apel, Wolfgang Scholz, Christian Lengauer, and Christian Kästner. Detecting Dependences and Interactions in Feature-Oriented Design. In *Proceedings of the IEEE International Symposium on Software Reliability Engineering (ISSRE)*, pages 161–170. IEEE Computer Society, November 2010. Acceptance rate: 31% (40 / 130).
- 45. Sandro Schulze, Sven Apel, and Christian Kästner. Code Clones in Feature-Oriented Software Product Lines. In *Proceedings of the ACM International Conference on Generative Programming and Component Engineering (GPCE)*, pages 103–112. ACM Press, October 2010. Acceptance rate: 31% (18 / 59).
- ☆ 46. Jörg Liebig, Sven Apel, Christian Lengauer, Christian Kästner, and Michael Schulze. An Analysis of the Variability in Forty Preprocessor-Based Software Product Lines. In *Proceedings of the ACM/IEEE International Conference on Software Engineering (ICSE)*, pages 105–114. ACM Press, May 2010. Acceptance rate: 14% (52 / 380).
- 47. Christian Kästner, Sven Apel, and Gunter Saake. Virtuelle Trennung von Belangen (Präprozessor 2.0). In *Proceedings of Software Engineering – Fachtagung des GI-Fachbereichs Softwaretechnik*, number P-159 in GI Edition – Lecture Notes in Informatics, pages 165–176. Gesellschaft für Informatik, February 2010. Acceptance rate: 36% (17 / 47).
- 48. Christian Kästner, Sven Apel, and Martin Kuhlemann. A Model of Refactoring Physically and Virtually Separated Features. In *Proceedings of the ACM International Conference on Generative Programming and Component Engineering (GPCE)*, pages 157–166. ACM Press, October 2009. Acceptance rate: 31% (19 / 62).
- 49. Martin Kuhlemann, Don Batory, and Sven Apel. Refactoring Feature Modules. In *Proceedings of the International Conference on Software Reuse (ICSR)*, volume 5791 of *Lecture Notes in Computer Science*, pages 106–115. Springer-Verlag, September 2009. Acceptance rate: 41% (28 / 68).
- 50. Christian Kästner, Sven Apel, Syed Saif ur Rahman, Marko Rosenmüller, Don Batory, and Gunter Saake. On the Impact of the Optional Feature Problem: Analysis and Case Studies. In *Proceedings of the International Software Product Line Conference (SPLC)*, pages 181–190. Software Engineering Institute, Carnegie Mellon University, August 2009. Acceptance rate: 36% (30 / 83).
- 51. Sven Apel, Christian Kästner, Armin Gröblinger, and Christian Lengauer. Feature (De)composition in Functional Programming. In *Proceedings of the International Conference on Software Composition (SC)*, volume 5634 of *Lecture Notes in Computer Science*, pages 9–26. Springer-Verlag, July 2009. Acceptance rate: 33% (10 / 30).
- 52. Stefan Boxleitner, Sven Apel, and Christian Kästner. Language-Independent Quantification and Weaving for Feature Composition. In *Proceedings of the International Conference on Software Composition (SC)*, volume 5634 of *Lecture Notes in Computer Science*, pages 45–54. Springer-Verlag, July 2009. Acceptance rate: 33% (10 / 30).
- 53. Sven Apel, Florian Janda, Salvador Trujillo, and Christian Kästner. Model Superimposition in Software Product Lines. In *Proceedings of the International Conference on Model Transformation (ICMT)*, volume 5563 of *Lecture Notes in Computer Science*, pages 4–19. Springer-Verlag, July 2009. Acceptance rate: 21% (14 / 67).
- 54. Christian Kästner, Sven Apel, Salvador Trujillo, Martin Kuhlemann, and Don Batory. Guaranteeing Syntactic Correctness for all Product Line Variants: A Language-Independent Approach. In *Proceedings of the International Conference on Objects, Models, Components, Patterns (TOOLS EUROPE)*, volume 33 of *Lecture Notes in Business and Information Processing*, pages 174–194. Springer-Verlag, June 2009. Acceptance rate: 28% (19 / 67).
- ☆ 55. Sven Apel, Christian Kästner, and Christian Lengauer. FeatureHouse: Language-Independent, Automated Software Composition. In *Proceedings of the IEEE/ACM International Conference on Software Engineering (ICSE)*, pages 221–231. IEEE Computer Society, May 2009. Acceptance rate: 12% (50 / 405).

56. Sven Apel, Christian Kästner, and Christian Lengauer. Vergleich und Integration von Komposition und Annotation zur Implementierung von Produktlinien. In *Proceedings of Software Engineering – Fachtagung des GI-Fachbereichs Softwaretechnik*, volume P-143 of *GI-Edition – Lecture Notes in Informatics*, pages 101–112. Gesellschaft für Informatik, March 2009.
57. Norbert Siegmund, Christian Kästner, Marko Rosenmüller, Florian Heidenreich, Sven Apel, and Gunter Saake. Bridging the Gap between Variability in Client Application and Database Schema. In *Proceedings of Datenbanksysteme in Business, Technologie und Web – Fachtagung des GI-Fachbereichs Datenbanken und Informationssysteme*, volume P-144 of *GI-Edition – Lecture Notes in Informatics*, pages 297–306. Gesellschaft für Informatik, March 2009.
58. Marko Rosenmüller, Christian Kästner, Norbert Siegmund, Sagar Sunkle, Sven Apel, Thomas Leich, and Gunter Saake. SQL á la Carte – Toward Tailor-made Data Management. In *Proceedings of Datenbanksysteme in Business, Technologie und Web – Fachtagung des GI-Fachbereichs Datenbanken und Informationssysteme*, volume P-144 of *GI-Edition – Lecture Notes in Informatics*, pages 117–136. Gesellschaft für Informatik, March 2009.
59. Sven Apel, Christian Kästner, and Don Batory. Program Refactoring using Functional Aspects. In *Proceedings of the ACM International Conference on Generative Programming and Component Engineering (GPCE)*, pages 161–170. ACM Press, October 2008. Acceptance rate: 29% (16 / 55).
60. Marko Rosenmüller, Norbert Siegmund, Gunter Saake, and Sven Apel. Code Generation to Support Static and Dynamic Composition of Software Product Lines. In *Proceedings of the ACM International Conference on Generative Programming and Component Engineering (GPCE)*, pages 3–12. ACM Press, October 2008. Acceptance rate: 29% (16 / 55).
61. Sven Apel, Christian Kästner, and Christian Lengauer. Feature Featherweight Java: A Calculus for Feature-Oriented Programming and Stepwise Refinement. In *Proceedings of the ACM International Conference on Generative Programming and Component Engineering (GPCE)*, pages 101–112. ACM Press, October 2008. Acceptance rate: 29% (16 / 55).
- ☆ 62. Christian Kästner and Sven Apel. Type-checking Software Product Lines – A Formal Approach. In *Proceedings of the IEEE/ACM International Conference on Automated Software Engineering (ASE)*, pages 258–267. IEEE Computer Society, September 2008. Acceptance rate: 12% (30 / 280).
63. Sven Apel, Christian Lengauer, Bernhard Möller, and Christian Kästner. An Algebra for Features and Feature Composition. In *Proceedings of the International Conference on Algebraic Methodology and Software Technology (AMAST)*, volume 5140 of *Lecture Notes in Computer Science*, pages 36–50. Springer-Verlag, July 2008. Acceptance rate: 40% (23 / 58).
64. Martin Kuhlemann, Sven Apel, Marko Rosenmüller, and Roberto Lopez-Herrejon. A Multiparadigm Study of Crosscutting Modularity in Design Patterns. In *Proceedings of the International Conference on Objects, Models, Components, Patterns (TOOLS EUROPE)*, Lecture Notes in Business and Information Processing, pages 121–140. Springer-Verlag, June 2008. Acceptance rate: 36% (21 / 58).
- ☆ 65. Christian Kästner, Sven Apel, and Martin Kuhlemann. Granularity in Software Product Lines. In *Proceedings of the ACM/IEEE International Conference on Software Engineering (ICSE)*, pages 311–320. ACM Press, May 2008. Acceptance rate: 15% (56 / 371).
66. Sven Apel and Christian Lengauer. Superimposition: A Language-Independent Approach to Software Composition. In *Proceedings of the ETAPS International Symposium on Software Composition (SC)*, volume 4954 of *Lecture Notes in Computer Science*, pages 20–35. Springer-Verlag, March 2008. Acceptance rate: 14% (13 / 90).
67. Christian Kästner, Sven Apel, and Don Batory. A Case Study Implementing Features using AspectJ. In *Proceedings of the International Software Product Line Conference (SPLC)*, pages 222–232. IEEE Computer Society, September 2007. Acceptance rate: 35% (28 / 80).
68. Martin Kuhlemann, Sven Apel, and Thomas Leich. Streamlining Feature-Oriented Designs. In *Proceedings of the ETAPS International Symposium on Software Composition (SC)*, volume 4829 of *Lecture Notes in Computer Science*, pages 168–175. Springer-Verlag, March 2007. Acceptance rate: 34% (20 / 59).
69. Roberto Lopez-Herrejon and Sven Apel. Measuring and Characterizing Crosscutting in Aspect-Based Programs: Basic Metrics and Case Studies. In *Proceedings of the International Conference on Fundamental Approaches to Software Engineering (FASE)*, volume 4422 of *Lecture Notes in*

Computer Science, pages 423–437. Springer-Verlag, March 2007. Acceptance rate: 21% (30 / 141).

70. Martin Kuhlemann, Sven Apel, and Thomas Leich. Streamlining Feature-Oriented Designs. In *Proceedings of the ETAPS International Symposium on Software Composition (SC)*, pages 177–184. University of Minho, March 2007.
71. Sven Apel and Don Batory. When to Use Features and Aspects? A Case Study. In *Proceedings of the ACM International Conference on Generative Programming and Component Engineering (GPCE)*, pages 59–68. ACM Press, October 2006. Acceptance rate: 28% (25 / 88).
72. Sven Apel, Martin Kuhlemann, and Thomas Leich. Generic Feature Modules: Two-Stage Program Customization. In *Proceedings of the International Conference on Software and Data Technologies (ICSOFT)*, pages 127–132. INSTICC Press, July 2006.
- ☆ 73. Sven Apel, Thomas Leich, and Gunter Saake. Aspectual Mixin Layers: Aspects and Features in Concert. In *Proceedings of the ACM/IEEE International Conference on Software Engineering (ICSE)*, pages 122–131. ACM Press, May 2006. Acceptance rate: 9% (36 / 395).
74. Thomas Leich, Sven Apel, and Gunter Saake. Using Step-Wise Refinement to Build a Flexible Lightweight Storage Manager. In *Proceedings of the East-European Conference on Advances in Databases and Information Systems (ADBIS)*, volume 3631 of *Lecture Notes in Computer Science*, pages 324–337. Springer-Verlag, September 2005.
75. Sven Apel, Marko Rosenmüller, Thomas Leich, and Gunter Saake. FeatureC++: On the Symbiosis of Feature-Oriented and Aspect-Oriented Programming. In *Proceedings of the ACM International Conference on Generative Programming and Component Engineering (GPCE)*, volume 3676 of *Lecture Notes in Computer Science*, pages 125–140. Springer-Verlag, September 2005. Acceptance rate: 29% (25 / 87).
76. Ahmed Gohneim, Sven Apel, and Gunter Saake. Evolutionary Software Life Cycle for Self-Adapting Software Systems. In *Proceedings of the International Conference on Enterprise Information Systems (ICEIS)*, pages 211–216. INSTICC Press, May 2005.
77. Sven Apel, Gunter Saake, Sebastian Herden, and Andre Zwanziger. A Mediator for E-Business. In *Proceedings of the International Conference on Web Information Systems and Technologies (WEBIST)*, pages 427–430. INSTICC Press, May 2005.
78. Erik Buchmann, Sven Apel, and Gunter Saake. Piggyback Meta-Data Propagation in Distributed Hash Tables. In *Proceedings of the International Conference on Web Information Systems and Technologies (WEBIST)*, pages 72–79. INSTICC Press, May 2005.

Refereed Tool Demos (with acceptance rates if known)

1. Michael Stengel, Janet Feigenspan, Mathias Frisch, Christian Kästner, Sven Apel, and Raimund Dachsel. View Infinity: A Zoomable Interface for Feature-Oriented Software Development. In *Proceedings of the ACM/IEEE International Conference on Software Engineering (ICSE)*, pages 1031–1033. ACM Press, May 2011. Acceptance rate: 37% (22 / 60).
2. Janet Feigenspan, Christian Kästner, Mathias Frisch, Raimund Dachsel, and Sven Apel. Visual Support for Understanding Product Lines. In *Proceedings of the IEEE International Conference on Program Comprehension (ICPC)*, pages 34–35. IEEE Computer Society, July 2010.
3. Christian Kästner, Thomas Thüm, Gunter Saake, Janet Feigenspan, Thomas Leich, Fabian Wielgorz, and Sven Apel. FeatureIDE: Tool Framework for Feature-Oriented Software Development. In *Proceedings of the ACM/IEEE International Conference on Software Engineering (ICSE)*, pages 611–614. IEEE Computer Society, May 2009. Acceptance rate: 33% (24 / 72).

Invited Papers

1. Sven Apel. The New Feature Interaction Challenge (Keynote). In *Proceedings of the International Workshop on Variability Modelling of Software-intensive Systems (VaMoS)*, page 1. ACM Press, January 2017.
2. Sven Apel. From Crosscutting Concerns to Feature Interactions: A Tale of Misunderstandings and Enlightenments (Keynote). In *Companion Proceedings of the International Conference on Modularity*, page 2. ACM Press, March 2016.
3. Janet Siegmund and Sven Apel. The Human Factor in Computer Science and How to Teach Students to Care: An Experience Report. In *Social Informatics – The Social Impact of Interactions*

between Humans and IT, Springer Proceedings in Complexity, pages 13–21. Springer-Verlag, August 2014.

4. Christian Kästner and Sven Apel. Feature-Oriented Software Development. In *Generative and Transformational Techniques in Software Engineering IV*, volume 7680 of *Lecture Notes in Computer Science*, pages 346–382. Springer-Verlag, January 2013.
5. Christian Lengauer and Sven Apel. Feature-Oriented System Design and Engineering. *International Journal of Software and Informatics (IJSI)*, 5(1–2, Part II):231–244, July 2011. Special Issue on Foundations and Practice of Systems and Software Engineering, Festschrift in Honor of Manfred Broy.
6. Christian Kästner and Sven Apel. Virtual Separation of Concerns – A Second Chance for Preprocessors. *Journal of Object Technology (JOT)*, 8(6):59–68, September 2009. Guest column.
7. Sven Apel and Christian Kästner. An Overview of Feature-Oriented Software Development. *Journal of Object Technology (JOT)*, 8(5):49–84, July 2009. Guest column.
8. Sven Apel. Die Rolle von Features und Aspekten in der Softwareentwicklung. In *Ausgezeichnete Informatikdissertationen*, volume D-8 of *GI-Edition – Lecture Notes in Informatics*, pages 13–19. Gesellschaft für Informatik, September 2008.
9. Sven Apel. Die Rolle von Features und Aspekten in der Softwareentwicklung. *it – Information Technology*, 50(2):128–130, April 2008.
10. Sven Apel, Christian Kästner, Martin Kuhleemann, and Thomas Leich. Modularität von Softwarebausteinen: Aspekte versus Merkmale. *iX Magazin für Professionelle Informationstechnik*, 2006(10):116–122, October 2006.

Edited Proceedings

1. David Lo, Sven Apel, and Sarfraz Khurshid, editors. *Proceedings of the IEEE/ACM International Conference on Automated Software Engineering, ASE 2016, Singapore, September 3–7, 2016*. ACM Press, September 2016.
2. Ulrich Eisenecker, Sven Apel, and Stefania Gnesi, editors. *Sixth International Workshop on Variability Modelling of Software-Intensive Systems, Leipzig, Germany, January 25–27, 2012. Proceedings*. ACM Press, January 2012.
3. Sven Apel and Ethan Jackson, editors. *Software Composition, 10th International Conference, SC 2011, Zurich, Switzerland, June 30 – July 1, 2011, Proceedings*, volume 6708 of *Lecture Notes in Computer Science*. Springer-Verlag, June 2011.
4. Sven Apel, Don Batory, Krzysztof Czarnecki, Florian Heidenreich, Christian Kästner, and Oscar Nierstrasz, editors. *Proceedings of the Second International Workshop on Feature-Oriented Software Development (FOSD'10), October 10, 2010, Eindhoven, The Netherlands*. ACM Press, October 2010.
5. Sven Apel, William Cook, Krzysztof Czarnecki, Christian Kästner, Neil Loughran, and Oscar Nierstrasz, editors. *Proceedings of the First International Workshop on Feature-Oriented Software Development (FOSD), October 6, 2009, Denver, Colorado, USA*. ACM Press, October 2009.
6. Neil Loughran, Iris Groher, Roberto Lopez-Herrejon, Sven Apel, and Christa Schwanninger, editors. *Workshop on Modularization, Composition, and Generative Techniques for Product Line Engineering, Proceedings, Nashville, TN, October 23, 2008*, number MIP-0804. Department of Informatics and Mathematics, University of Passau, October 2008.
7. Sven Apel, Don Batory, Goetz Graefe, Gunter Saake, and Olaf Spinczyk, editors. *Software Engineering for Tailor-made Data Management*, number 08281 in Dagstuhl Seminar Proceedings. Schloss Dagstuhl – Leibniz-Zentrum für Informatik, Germany, September 2008.
8. Sven Apel, Marko Rosenmüller, Gunter Saake, and Olaf Spinczyk, editors. *EDBT'08 Workshop on Software Engineering for Tailor-made Data Management, Proceedings, Nantes, France, March 29, 2008*. ACM Press, March 2008.
9. Matthias Jarke, Thomas Seidl, Christoph Quix, David Kensche, Stefan Conrad, Erhard Rahm, Ralf Klamma, Harald Kosch, Michael Granitzer, Sven Apel, Marko Rosenmüller, Gunter Saake, and Olaf Spinczyk, editors. *Datenbanksysteme in Business, Technologie und Web (BTW 2007) Workshop Proceedings*. Verlag Mainz, March 2007.

Refereed Workshop Papers

1. Rodrigo Queiroz, Leonardo Passos, Marco T. Valente, Sven Apel, and Krzysztof Czarnecki. Does Feature Scattering Follow Power-law Distributions?: An Investigation of Five Pre-processor-based Systems. In *Proceedings of the International Workshop on Feature-Oriented Software Development (FOSD)*, pages 23–29. ACM Press, September 2014.
2. Christian Lengauer, Sven Apel, Matthias Bolten, Armin Größlinger, Frank Hannig, Harald Köstler, Ulrich Rude, Jürgen Teich, Alexander Grebhahn, Stefan Kronawitter, Sebastian Kuckuk, Hannah Rittich, and Christian Schmitt. ExaStencils: Advanced Stencil-Code Engineering. In *Euro-Par 2014: Parallel Processing Workshops, Part II*, volume 8806 of *Lecture Notes in Computer Science*, pages 554–565. Springer, August 2014.
3. Sergiy Kolesnikov, Judith Roth, and Sven Apel. On the Relation Between Internal and External Feature Interactions in Feature-oriented Product Lines: A Case Study. In *Proceedings of the International Workshop on Feature-Oriented Software Development (FOSD)*, pages 1–8. ACM Press, September 2014.
4. Alexander Grebhahn, Norbert Siegmund, Sven Apel, Sebastian Kuckuk, Christian Schmitt, and Harald Köstler. Optimizing Performance of Stencil Code with SPL Conqueror. In *Proceedings of the International Workshop on High-Performance Stencil Computations (HiStencils)*, pages 7–14. www.epubli.de, January 2014.
5. Sven Apel, Sergiy Kolesnikov, Norbert Siegmund, Christian Kästner, and Brady Garvin. Exploring Feature Interactions in the Wild: The New Feature-Interaction Challenge. In *Proceedings of the International Workshop on Feature-Oriented Software Development (FOSD)*, pages 1–8. ACM Press, October 2013.
6. Alexander von Rhein, Sven Apel, Christian Kästner, Thomas Thüm, and Ina Schaefer. The PLA Model: On the Combination of Product-Line Analyses. In *Proceedings of the International Workshop on Variability Modelling of Software-intensive Systems (VaMoS)*, pages 73–80. ACM Press, January 2013.
7. Jörg Liebig, Sven Apel, and Rolf Daniel. Feature-Oriented Language Families: A Case Study. In *Proceedings of the International Workshop on Variability Modelling of Software-intensive Systems (VaMoS)*, pages 53–60. ACM Press, January 2013.
8. Leonardo Passos, Krzysztof Czarnecki, Sven Apel, Andrzej Wasowski, Christian Kästner, Jianmei Guo, and Claus Hunsen. Feature Oriented Software Evolution. In *Proceedings of the International Workshop on Variability Modelling of Software-intensive Systems (VaMoS)*, pages 95–102. ACM Press, January 2013.
9. Sergiy Kolesnikov, Sven Apel, Norbert Siegmund, Stefan Sobernig, Christian Kästner, and Semah Senkaya. Predicting Quality Attributes of Software Product Lines Using Software and Network Measures and Sampling. In *Proceedings of the International Workshop on Variability Modelling of Software-intensive Systems (VaMoS)*, pages 25–29. ACM Press, January 2013.
10. Janet Siegmund, Christian Kästner, Jörg Liebig, and Sven Apel. Comparing Program Comprehension of Physically and Virtually Separated Concerns. In *Proceedings of the International Workshop on Feature-Oriented Software Development (FOSD)*, pages 17–24. ACM Press, September 2012.
11. Christian Kästner, Alexander von Rhein, Sebastian Erdweg, Jonas Pusch, Sven Apel, Tillmann Rendel, and Klaus Ostermann. Toward Variability-Aware Testing. In *Proceedings of the International Workshop on Feature-Oriented Software Development (FOSD)*, pages 1–8. ACM Press, September 2012.
12. Christian Kästner, Sven Apel, and Klaus Ostermann. The Road to Feature Modularity? In *Proceedings of the International Workshop on Feature-Oriented Software Development (FOSD)*, pages 5:1–5:8. ACM Press, August 2011.
13. Wolfgang Scholz, Christian Lengauer, Thomas Thüm, and Sven Apel. Automatic Detection of Feature Interactions using the Java Modeling Language: An Experience Report. In *Proceedings of the International Workshop on Feature-Oriented Software Development (FOSD)*, pages 7:1–7:8. ACM Press, August 2011.
14. Jens Dörre, Sven Apel, and Christian Lengauer. Static Type Checking of Hadoop MapReduce Programs. In *Proceedings of the International Workshop on MapReduce and its Applications (MapReduce)*, pages 17–24. ACM Press, June 2011.
15. Thomas Thüm, Ina Schaefer, Martin Kuhlemann, and Sven Apel. Proof Composition for Deductive Verification of Software Product Lines. In *Proceedings of the International Conference on Softwa-*

- re Testing, Verification, and Validation Workshops (VAST'11 Workshop)*, pages 270–277. IEEE Computer Society, March 2011.
16. Sven Apel, Wolfgang Scholz, Christian Lengauer, and Christian Kästner. Language-Independent Reference Checking in Software Product Lines. In *Proceedings of the International Workshop on Feature-Oriented Software Development (FOSD)*, pages 65–71. ACM Press, October 2010.
 17. Norbert Siegmund, Marko Rosenmüller, and Sven Apel. Automating Energy Optimization with Features. In *Proceedings of the International Workshop on Feature-Oriented Software Development (FOSD)*, pages 2–9. ACM Press, October 2010.
 18. Martin Kuhlemann, Norbert Siegmund, and Sven Apel. Using Collaborations to Encapsulate Features? An Explorative Study. In *Proceedings of the International Workshop on Variability Modelling of Software-intensive Systems (VaMoS)*, pages 139–142. University of Duisburg-Essen, January 2010.
 19. Norbert Siegmund, Martin Kuhlemann, Sven Apel, and Mario Pukall. Optimizing Non-functional Properties of Software Product Lines by means of Refactorings. In *Proceedings of the International Workshop on Variability Modelling of Software-intensive Systems (VaMoS)*, pages 115–122. University of Duisburg-Essen, January 2010.
 20. Sven Apel, Jörg Liebig, Christian Lengauer, Christian Kästner, and William Cook. Semistructured Merge in Revision Control Systems. In *Proceedings of the International Workshop on Variability Modelling of Software-intensive Systems (VaMoS)*, pages 13–19. University of Duisburg-Essen, January 2010.
 21. Sven Apel, Jörg Liebig, Christian Kästner, Martin Kuhlemann, and Thomas Leich. An Orthogonal Access Modifier Model for Feature-Oriented Programming. In *Proceedings of the International Workshop on Feature-Oriented Software Development (FOSD)*, pages 26–32. ACM Press, October 2009.
 22. Janet Feigenspan, Christian Kästner, Sven Apel, and Thomas Leich. How to Compare Program Comprehension in FOSD Empirically – An Experience Report. In *Proceedings of the International Workshop on Feature-Oriented Software Development (FOSD)*, pages 52–59. ACM Press, October 2009.
 23. Jörg Liebig, Sven Apel, Christian Lengauer, and Thomas Leich. RobbyDBMS – A Case Study on Hardware/Software Product Line Engineering. In *Proceedings of the International Workshop on Feature-Oriented Software Development (FOSD)*, pages 60–65. ACM Press, October 2009.
 24. Syed Saif ur Rahman, Marko Rosenmüller, Norbert Siegmund, Sagar Sunkle, Gunter Saake, and Sven Apel. Data Management for Embedded Systems: A Cell-based Approach. In *Proceedings of the International Workshop on Embedded Data-Centric Systems (EDACS)*, pages 9–13. IEEE Computer Society, September 2009.
 25. Sagar Sunkle, Marko Rosenmüller, Norbert Siegmund, Syed Saif ur Rahman, Gunter Saake, and Sven Apel. Features as First-class Entities – Toward a Better Representation of Features. In *Workshop on Modularization, Composition, and Generative Techniques for Product Line Engineering, Proceedings, Nashville, TN, October 23, 2008*, number MIP-0804, pages 27–34. Department of Informatics and Mathematics, University of Passau, October 2008.
 26. Christian Kästner and Sven Apel. Integrating Compositional and Annotative Approaches for Product Line Engineering. In *Workshop on Modularization, Composition, and Generative Techniques for Product Line Engineering, Proceedings, Nashville, TN, October 23, 2008*, number MIP-0804, pages 35–40. Department of Informatics and Mathematics, University of Passau, October 2008.
 27. Christian Kästner, Sven Apel, and Salvador Trujillo. Visualizing Software Product Line Variabilities in Source Code. In *Proceedings of the SPLC Workshop on Visualization in Software Product Line Engineering (ViSPLE)*, pages 303–313. Lero, International Science Centre, University of Limerick, September 2008.
 28. Sven Apel, Christian Kästner, and Christian Lengauer. Research Challenges in the Tension Between Features and Services. In *Proceedings of the ICSE Workshop on Systems Development in SOA Environments (SDSOA)*, pages 53–58. ACM Press, May 2008.
 29. Marko Rosenmüller, Norbert Siegmund, Horst Schirmeier, Julio Sincero, Sven Apel, Thomas Leich, Olaf Spinczyk, and Gunter Saake. FAME-DBMS: Tailor-made Data Management Solutions for Embedded Systems. In *Proceedings of EDBT Workshop on Software Engineering for Tailor-made Data Management (SETMDM)*, pages 1–6. ACM Press, March 2008.
 30. Salvador Trujillo, Christian Kästner, and Sven Apel. Product Lines that supply other Product Lines: A Service-Oriented Approach. In *Proceedings of the SPLC Workshop on Service-Oriented Archi-*

tures and Product Lines (SOAPL), number CMU/SEI-2008-SR-006, pages 69–74. Software Engineering Institute, Carnegie Mellon University, September 2007.

31. Sven Apel, Christian Kästner, and Salvador Trujillo. On the Necessity of Empirical Studies in the Assessment of Modularization Mechanisms for Crosscutting Concerns. In *Proceedings of the International Conference on Software Engineering Workshops (ICSEW)*, page 161. IEEE Computer Society, May 2007.
32. Marko Rosenmüller, Thomas Leich, and Sven Apel. Konfigurierbarkeit für ressourceneffiziente Datenhaltung in eingebetteten Systemen am Beispiel von Berkeley DB. In *Datenbanksysteme in Business, Technologie und Web (BTW 2007) Workshops Proceedings*, pages 329–341. Verlag Mainz, March 2007.
33. Martin Kuhlemann, Thomas Leich, and Sven Apel. Merkmalorientierte Architekturen für eingebettete Datenmanagementsysteme. In *Datenbanksysteme in Business, Technologie und Web (BTW 2007) Workshops Proceedings*, pages 342–354. Verlag Mainz, March 2007.
34. Martin Kuhlemann, Marko Rosenmüller, Sven Apel, and Thomas Leich. On the Duality of Aspect-Oriented and Feature-Oriented Design Patterns. In *Proceedings of the Workshop on Aspects, Components, and Patterns for Infrastructure Software (ACP4IS'07)*, page 5. ACM Press, March 2007.
35. Sven Apel, Don Batory, and Marko Rosenmüller. On the Structure of Crosscutting Concerns: Using Aspects or Collaborations? In *GPCE Workshop on Aspect-Oriented Product Line Engineering (AOPLE)*, October 2006. Published at the Workshop Web site: <http://www.softeng.ox.ac.uk/aople/>.
36. Christian Kästner, Sven Apel, and Gunter Saake. Implementing Bounded Aspect Quantification in AspectJ. In *Proceedings of the ECOOP Workshop on Reflection, AOP and Meta-Data for Software Evolution (RAM-SE)*, pages 111–122. School of Computer Science, University of Magdeburg, July 2006.
37. Sven Apel and Jia Liu. On the Notion of Functional Aspects in Aspect-Oriented Refactoring. In *Proceedings of the ECOOP Workshop on Aspects, Dependencies, and Interactions (ADI)*, pages 1–9. Computing Department, Lancaster University, July 2006.
38. Thomas Leich, Sven Apel, Marko Rosenmüller, and Gunter Saake. Handling Optional Features in Software Product Lines. In *OOPSLA Workshop on Managing Variabilities consistently in Design and Code*, October 2005. Published at the Workshop Web site: <http://www.kircherschwanninger.de/workshops/MVDCDC/>.
39. Sven Apel, Thomas Leich, and Gunter Saake. Aspect Refinement and Bounded Quantification in Incremental Designs. In *Proceedings of the Asia-Pacific Software Engineering Conference (APSEC)*, pages 796–804. IEEE Computer Society, December 2005. Presented at AOAsia'05 Workshop.
40. Thomas Leich, Sven Apel, Laura Marnitz, and Gunter Saake. Tool Support for Feature-Oriented Software Development – FeatureIDE: An Eclipse-Based Approach. In *Proceedings of the OOPSLA Workshop on Eclipse Technology eXchange (ETX)*, pages 55–59. ACM Press, October 2005.
41. Sven Apel, Thomas Leich, and Gunter Saake. Aspect Refinement in Software Product Lines. In *Aspects and Software Product Lines (ASPL'05): An Early Aspects Workshop at SPLC-Europe'05*, September 2005. Published at the Workshop Web site: <http://www.earlyaspects.net/events/splc2005ws/>.
42. Sven Apel, Thomas Leich, Marko Rosenmüller, and Gunter Saake. Combining Feature-Oriented and Aspect-Oriented Programming to Support Software Evolution. In *Proceedings of the ECOOP Workshop on Reflection, AOP and Meta-Data for Software Evolution (RAM-SE)*, pages 3–16. School of Computer Science, University of Magdeburg, July 2005.
43. Sven Apel and Klemens Böhm. Self-Organization in Overlay Networks. In *Proceedings of CAISE'05 Workshops (Workshop on Adaptive and Self-Managing Enterprise Applications)*, volume 2, pages 139–153. FEUP Edicoes, June 2005.
44. Sven Apel and Klemens Böhm. Towards the Development of Ubiquitous Middleware Product Lines. In *Software Engineering and Middleware*, volume 3437 of *Lecture Notes in Computer Science*, pages 137–153. Springer-Verlag, September 2004.
- * 45. Sven Apel and Klemens Böhm. Using Mixins to Build a Flexible Lightweight Middleware for Ubiquitous Computing. In *Proceedings of the ASE Workshop on Software Engineering and Middleware (SEM'04)*, pages 99–114. Austrian Computer Society, September 2004. **Best Student Paper Award.**

46. Sven Apel. Towards a Flexible Tailor-Made Middleware for Mobile Distributed Information Systems. In *Proceedings of PhD Workshop at the British National Conference on Databases (BN-COD20)*, pages 24–32. School of Mathematical and Information Sciences, University of Coventry, July 2003.
47. Sven Apel and Marco Plack. Überblick und Vergleich von Technologien zur Realisierung einer Middleware für mobile Informationssysteme. In *Proceedings of Persistence, Scalability, Transactions – Database Mechanisms for Mobile Applications, Workshop of the GI-Arbeitskreis Mobile Datenbanken und Informationssysteme*, volume P-43 of *GI-Edition – Lecture Notes in Informatics*, pages 40–54. Gesellschaft für Informatik, March 2003.
48. Sven Apel and Marco Plack. Vergleich von Technologien als Grundlage einer Middleware für mobile Informationssysteme. In *Pre-Proceedings of the Workshop Scalability, Persistence, Transactions – Database Mechanisms for Mobile Applications*, pages 13–23. University of Karlsruhe, March 2003.