

Dr. Arnaud Hubaux

Principal Business Architect expert in product lifecycle and variant management

Languages: French, English, Dutch (elementary)
Birth date: August 31, 1984
Citizenship: Belgian

Phone: +32 498 303 506
email: contact@ahubaux.com
Homepage: www.ahubaux.com

FIELDS OF COMPETENCE

Enterprise Architecture – ALM – PLM – Software Engineering – Configuration – Variability Management
Communication – Training – Coaching

EDUCATION

2016 CMII Professional & Software
Institute of Configuration Management

2014 - 2016 ASML Technical Talent Program
Lithography System Engineering ; Business Analysis ; Personal Development

2013 Certified Professional for Requirements Engineering
International Requirements Engineering Board (IREB)

2007 - 2012 PhD in Computer Science
Thesis title: *Feature-based Configuration: Collaborative, Dependable, and Controlled*
Faculty of Computer Science, University of Namur

2002 - 2007 MSc in Computer Science (*Magna cum laude*)
Thesis title: *On the Use of Semantic Web Agents in Video Analysis Sharing*
Faculty of Computer Science, University of Namur

WORK EXPERIENCE

April 2014 - present
ASML
Semiconductor
Eindhoven, The Netherlands

Principal Business Architect
Lead business architect team.
Design business architecture for product structure and variant management.
Design product change process and organisation support.
Implement business case management for product changes.
Deliver communication and training material.
Support program execution and business change management.
Manage stakeholders up to executive committee members.
Lead outsourced developments.
Execute company benchmarking.

January 2013 - March 2014
ASML
Semiconductor
Eindhoven, The Netherlands

Software Variability Architect
Audit and document existing variability mechanisms.
Improve variability management.
Document and improve processes.
Write software specifications.
Supervise outsourced development.

May 2012 - June 2013
ClinBAY
Pharmaceutical
International

Project Manager & System Engineer
Elicit the requirements for a new report and analysis plan system for clinical trials.
Design and implement a web solution.

<p>February 2012 - April 2012 escent Business Consulting Brussels, Belgium</p>	<p>Requirements Engineer & Presentation Coach Assess and revise the training material for the CPRE (Certified Professional for Requirements Engineering) certificate.</p>
<p>February 2012 ClinBAY Pharmaceutical International</p>	<p>Requirements Engineer Elicit and document requirements. Estimate resource and budget requirements. Evaluate alternative technologies.</p>
<p>January 2012 - December 2012 University of Namur Research Namur, Belgium</p>	<p>Postdoctoral Researcher Lead the working group on the unification of research in configuration. Manage a configuration re-engineering project. Develop the spin-off CONF&Ti project (today SkalUP).</p>
<p>September 2007 - December 2011 University of Namur Research Namur, Belgium</p>	<p>PhD Candidate Write, present and review scientific papers and trainings (see appendix). Supervise MSc and PhD students. Participate in the organisation of scientific events. Manage a tool integration project for feature-based configuration. Conduct user studies for the evaluation of the TVL language with GeezTeem (CMS), OSL (printing software), VirageLogic (semiconductors), and NXP (semi-conductors).</p>
<p>October 2010 - September 2011 University of Waterloo Research Waterloo, ON, Canada</p>	<p>Visiting Researcher Develop a conflict diagnosis and fixing tool for interactive configuration. Conduct user study (configuration challenges in Linux and eCos).</p>
<p>September 2006 - January 2007 Multitel Research Centre Research Mons, Belgium</p>	<p>System Engineer (Internship) Contribute to the European CARETAKER project. Develop an agent-oriented system (1) converting XML digests of video footages into RDF, (2) storing RDF files in a data warehouse, and (3) guaranteeing real-time access to data.</p>
<p>August 2006 - December 2006 Eli Lilly pharmaceutical Pharmaceutical Wavre, Belgium</p>	<p>Software Developer (Internship) Develop an automatic report generation package (doc, odt,pdf) for R (open source environment for statistical computing).</p>
<p>Summer 2003 - 2005 St-Luc hospital Healthcare Namur, Belgium</p>	<p>Software Developer (Internship) Manage a database and input forms. Analyse stitch costs and achieve estimated saving of €25 000.</p>

TECHNOLOGY AND TOOL KNOW-HOW

<i>Modelling languages</i>	Feature Model, UML, Entity Relationship, YAWL
<i>Programming languages</i>	HTML, jQuery/javascript, Java, Java2EE, LaTeX, RDF, Scala, Unix Shell script, SQL, VB, XML
<i>Tools</i>	Configit, Drupal, Eclipse, Enterprise Architect, Git, JBoss/WildFly, Maven, MySQL, MySQL Workbench, SAT4j, SVN, WordPress, YAWL, Z3
<i>Operating systems</i>	eCos, Linux, MacOS, Windows

HONOURS AND AWARDS

- 2010 MoVES Most Promising Young Researcher Award (Inter-university Attraction Pole).
2010 Excellence Scholarship IN.WALLONIE-Brussels International (IN.WBI).

VOLUNTEERING

1. ICSE'09: Student volunteer at the 31st International Conference on Software Engineering (ICSE'09) (Vancouver, BC, Canada).
2. VaMoS'08: Student volunteer at the 2nd International Workshop on Variability Modelling of Software-intensive Systems (VaMoS'08) (Essen, Germany).

OTHER SKILLS AND SPECIALITIES

<i>Communication</i>	Effective communication through visual media; Technical writing.
<i>Aptitudes</i>	Very creative; Strong team player; Very structured; Self-starter; Able to deal with multiple tasks, deadlines, and changing priorities.
<i>Misc</i>	Photography; Mixed Martial Arts; West Coast Swing; Soccer (Faculty team).

Appendix

PRESENTATIONS

KEYNOTES

1. **Foundations of Variability Management**, INCOSE monthly meeting (Dutch Chapter) (Eindhoven, The Netherlands), 2014.
2. **What research in software product line engineering is not solving in configuration**, 18th Software Product Line Conference (SPLC'14) (Florence, Italy), 2014.
3. **What research in software product line engineering is not solving in configuration**, 5th Software Product Line Day, Sorbonne (Paris, France), 2013.
4. **Workflow-driven product derivation**, 1st Workshop on Product Line Requirements Engineering and Quality (PLREQ'10) (Essen, Germany), 2010

INTERNATIONAL CONFERENCES AND WORKSHOPS

1. **CM@ASML: From outside in to inside out (invited talk)**, Institute of Configuration Management's 29th Annual CMII/IPE Symposium (Las Vegas, NV, USA) 2016.
2. **An introduction to conflict resolution with range fixes in software configuration (invited talk)**, 23rd CREST Open Workshop, University College London (London, UK), 2012.
3. **Unifying software and product configuration: A research roadmap**, Configuration Workshop (ConfWS'12) collocated with ECAI'12 (Montpellier, France), 2012.
4. **Towards more reliable configurators: A re-engineering perspective**, Workshop on Product Line Approaches in Software Engineering (PLEASE'12) (Zurich, Switzerland), 2012.
5. **A survey of configuration challenges in linux and ecos**, 6th International Workshop on Variability Modelling of Software-intensive Systems (VaMoS'12) (Leipzig, Germany), 2012.
6. **Towards multi-view feature-based configuration**, 16th International Working Conference on Requirements Engineering: Foundation for Software Quality (REFSQ'10) (Essen, Germany), 2010.
7. **A preliminary review on the application of feature diagrams in practice**, 4th International Workshop on Variability Modelling of Software-intensive Systems (VaMoS'10) (Linz, Austria), 2010.
8. **Taking care of cooperation when evolving socially embedded systems: The plonemeeting case**, Workshop on Cooperative and Human Aspects of Software Engineering (CHASE'09), collocated with ICSE'09 (Vancouver, BC, Canada), 2009.
9. **On the evaluation and improvement of feature-based configuration techniques in software product lines**, 31st International Conference on Software Engineering (ICSE'09), Companion Volume, Doctoral Symposium (Vancouver, BC, Canada), 2009.
10. **A formal semantics for multi-level staged configuration**, 3rd International Workshop on Variability Modelling of Software-intensive Systems (VaMoS'09) (Sevilla, Spain), 2009.
11. **Formal modelling of feature configuration workflow**, 13th International Software Product Lines Conference (SPLC'09) (San Francisco, CA, USA), 2009.
12. **Combining Context-Oriented Programming and Feature Diagrams: Towards a Position Statement**, 1st Workshop on Context-Oriented Programming (COP'09) (Blankenberge, Belgium), 2009.
13. **A Formal Semantics for Multi-level Staged Configuration**, 7th BELgian-Netherlands software eVOLution workshop (BENEVOL'08) (Eindhoven, The Netherlands), 2008.
14. **Variability modelling challenges from the trenches of an open source product line re-engineering project**, 12th International Software Product Line Conference (SPLC'08) (Limerick, Ireland), 2008.
15. **Modelling variability in self-adaptive systems: Towards a research agenda**, 1st International Workshop on Modularization, Composition, and Generative Techniques for Product Line Engineering (McGPLE08) (Nashville, USA), 2008.
16. **Separating variability concerns in a product line re-engineering project**, International workshop on Early Aspects (EA'08) collocated with AOSD'08 (Brussels, Belgium), 2008.

SEMINARS HELD AT UNIVERSITIES

17. **Software and product configuration: One wheel is enough**, UCL, Department of Computing Science and Engineering (Louvain-la-Neuve, Belgium), December 2012.
18. **Software and product configuration: One wheel is enough**, TU Dortmund, Department of Computer Science (Dortmund, Germany), July 2012.
19. **Software and product configuration: One wheel is enough**, Centre de Recherche en Informatique de Lens (Lens, France), June 2012.

20. **Theory of diagnosis: Foundations, extension, application**, University of Waterloo (ON, Canada), May 2011.
21. **Taming the configuration space: A divide and conquer approach**, University of Toronto (ON, Canada), February 2011.
22. **Taming the configuration space: A divide and conquer approach**, University of Waterloo (ON, Canada), October 2010.
23. **A formal semantics for multi-level staged configuration**, University of Luxembourg (Luxembourg), November 2008.
24. **A formal semantics for multi-level staged configuration**, University of Namur (Belgium), November 2009.
25. **Formal modelling of feature configuration workflows**, University of Namur (Belgium), November 2009.
26. **Software product lines engineering and feature modelling in a nutshell**, Vrije Universiteit Brussels (Belgium), November 2008.

SELECTED PEER-REVIEWED PUBLICATIONS

BOOK CHAPTER

1. A. Hubaux, M. Acher, T. T. Tun, P. Heymans, P. Collet, P. Lahire, **Concerns in Feature Models: Retrospective and Multi-View Support** in I. P. Reinhartz-Berger, A. Sturm, T. Clark, J. Bettin, S. Cohen (Eds.), **Domain Engineering: Product Lines, Conceptual Models, and Languages Separating**, Springer, 2013, pp. 3–28.

JOURNALS

2. Y. Xiong, H. Zhang, A. Hubaux, S. She, J. Wang, and K. Czarnecki, **Range Fixes: Interactive Error Resolution for Software Configuration**, *Transactions on Software Engineering (TSE)*, IEEE, 2014.
3. A. Hubaux, T. T. Tun, P. Heymans, **Separation of concerns in feature diagram languages: A systematic survey**, *ACM Computing Surveys*, ACM, 2013, 45, 4, Article 51, pp. 1–23.
4. A. Hubaux, P. Heymans, P.-Y. Schobbens, D. Deridder, and E. Abbasi **Supporting multiple perspectives in feature-based configuration**, *Software and Systems Modeling (SoSyM)*, Springer Berlin / Heidelberg, 2011, pp. 1–23.

CONFERENCES

5. E. Abbasi, A. Hubaux, M. Acher, Q. Boucher, P. Heymans, **The Anatomy of a sales configurator: An empirical study of 111 cases**, *Proceedings of the 25th International Conference on Advanced Information Systems Engineering (CAISE'13)* (Valencia, Spain), Springer-Verlag, pp. 162–177.
6. Y. Xiong, A. Hubaux, S. She, K. Czarnecki, **Generating range fixes for software configuration**, *Proceedings of the 34th International Conference on Software Engineering (ICSE'12)* (Zurich, Switzerland), IEEE Computer Society, 2012, pp. 58–68.
7. E. Abbasi, A. Hubaux, P. Heymans, P., **A toolset for feature-based configuration workflows**, *Proceedings of the 15th International Software Product Lines Conference (SPLC'11)* (Munich, Germany), IEEE Computer Society, 2011, pp. 65–69.
8. A. Hubaux, Q. Boucher, H. Hartmann, R. Michel, and P. Heymans, **Evaluating a textual feature modelling language: Four industrial case studies**, *Proceedings of the 3rd International Conference on Software Language Engineering (SLE'10)* (Eindhoven, The Netherlands), vol. 6563, Springer Berlin / Heidelberg, 2010, pp. 337–356.
9. A. Hubaux, P. Heymans, P.-Y. Schobbens, and D. Deridder, **Towards multi-view feature-based configuration**, *Proceedings of the 16th International Working Conference on Requirements Engineering: Foundation for Software Quality (REFSQ'10)* (Essen, Germany), Springer-Verlag, 2010, pp. 106–112.
10. A. Hubaux, A. Classen, and P. Heymans, **Formal modelling of feature configuration workflow**, *Proceedings of the 13th International Software Product Lines Conference (SPLC'09)* (San Francisco, CA, USA), Carnegie Mellon University, 2009, pp. 221–230.
11. T. T. Tun, Q. Boucher, A. Classen, A. Hubaux, and P. Heymans, **Relating requirements and feature configurations: A systematic approach**, *Proceedings of the 13th International Software Product Lines Conference (SPLC'09)* (San Francisco, CA, USA), ACM Press, 2009, pp. 201–210.
12. A. Hubaux, P. Heymans, and D. Benavides, **Variability modelling challenges from the trenches of an open source product line re-engineering project**, *Proceedings of the 12th International Software Product Line Conference (SPLC'08)* (Limerick, Ireland), IEEE Computer Society, 2008, pp. 55–64.

WORKSHOPS

13. A. Hubaux; D. Jannach; C. Drescher; L. Murta; T. Mannisto; K. Czarnecki; P. Heymans; T. Nguyen, and M. Zanker **Unifying software and product configuration: A research roadmap** *Proceedings of the Workshop on Configuration (ConfWS'12)*, 2012, pp. 31-35.

14. Q. Boucher, E. Abbasi, A. Hubaux, G. Perrouin, M. Acher and P. Heymans, **Towards more reliable configurators: A re-engineering perspective**, Proceedings of the International Workshop on Product Line Approaches in Software Engineering (PLEASE'12) (Zurich, Switzerland), IEEE Computer Society, 2012, pp. 29–32.
15. R. Michel, A. Hubaux, V. Ganesh, and P. Heymans, **An SMT-based approach to automated configuration**, Proceedings of the 10th International Workshop on Satisfiability Modulo Theories (SMT'12) (Manchester, UK), 2012, pp. 107–117.
16. A. Hubaux, Y. Xiong, and K. Czarnecki, **A survey of configuration challenges in linux and ecos**, Proceedings of the Sixth International Workshop on Variability Modelling of Software-intensive Systems (VaMoS'12) (Leipzig, Germany), ACM Press, 2012, pp. 149–155.
17. R. Michel, A. Classen, A. Hubaux, and Q. Boucher, **A formal semantics for feature cardinalities in feature diagrams**, Proceedings of the 5th International Workshop on Variability Modelling of Software-intensive Systems (VaMoS'11) (Namur, Belgium), ACM Press, 2011, pp. 82–89.
18. A. Hubaux, E. Abbasi, A. Classen, and P. Heymans, **Workflow-driven product derivation (invited talk)**, Proceedings of the 1st Workshop on Product Line Requirements Engineering and Quality (PLREQ'10) (Essen, Germany), 2010, pp. 39–41.
19. A. Hubaux, A. Classen, M. Mendonça, and P. Heymans, **A preliminary review on the application of feature diagrams in practice**, Proceedings of the 4th International Workshop on Variability Modelling of Software-intensive Systems (VaMoS'10) (Linz, Austria), Universität Duisburg-Essen, 2010, pp. 53–59.
20. A. Hubaux and P. Heymans, **On the evaluation and improvement of feature-based configuration techniques in software product lines**, Proceeding of the 31st International Conference on Software Engineering (ICSE'09), Companion Volume, Doctoral Symposium (Vancouver, BC, Canada), IEEE, 2009, pp. 367–370.
21. H. Unphon, Y. Dittrich, and A. Hubaux, **Taking care of cooperation when evolving socially embedded systems: The plonemeeting case**, Proceedings of the Workshop on Cooperative and Human Aspects of Software Engineering (CHASE'09), collocated with ICSE'09 (Vancouver, BC, Canada), IEEE Computer Society, 2009, pp. 96–103.
22. A. Classen, A. Hubaux, and P. Heymans, **A formal semantics for multi-level staged configuration**, Proceedings of the 3rd International Workshop on Variability Modelling of Software-intensive Systems (VaMoS'09) (Sevilla, Spain), University of Duisburg-Essen, 2009, pp. 51–60.
23. A. Classen, A. Hubaux, F. Sanen, E. Truyen, J. Vallejos, P. Costanza, W. De Meuter, P. Heymans, and W. Joosen, **Modelling variability in self-adaptive systems: Towards a research agenda**, 1st International Workshop on Modularization, Composition, and Generative Techniques for Product Line Engineering (McGPLE08) (Nashville, USA), 2008.
24. A. Classen, R. Laney, T. T. Tun, P. Heymans, and A. Hubaux, **Using the event calculus to reason about problem diagrams**, Proceedings of the Third International Workshop on Applications and Advances in Problem Frames (IWAAPF'08), (Leipzig, Germany), ACM Press, 2008, pp. 74–77.

TOOL DEMOS AND POSTERS

25. E. Abbasi, A. Hubaux, and P. Heymans, **An interactive multi-perspective toolset for non-linear product configuration processes (tool demo)**, Proceedings of the 15th International Software Product Lines Conference (SPLC'11) (Munich, Germany), IEEE Computer Society, 2011, pp. 50–50.
26. A. Classen, A. Hubaux, and P. Heymans, **Analysis of feature configuration workflows (poster)**, Proceedings of the 17th International Requirements Engineering Conference (RE'09) (Atlanta, Georgia, USA), IEEE, 2009.

SCHOLARLY ACTIVITIES

PROGRAM CO-CHAIR

1. Dagstuhl'14: Co-organiser of the first Dagstuhl seminar on the unification of software and product configuration (Dagstuhl, Germany) , 2014.

PROGRAM COMMITTEES

1. HP3C'14: International Conference on High Performance Compilation, Computing, and Communications (HP3C'14), Track 13: Tools and Environments for Software Development (Aizu-Wakamatsu, Japan) , 2014.
2. MPLE'13: Multi Product Line Engineering workshop (MPLE'13) (Tokyo, Japan) , 2013.
3. ConfWS'13: 18th International Workshop on Configuration (ConfWS'13) (Vienna, Austria) , 2013.
4. SLE'12 (DS): 5th International Conference on Software Language Engineering (SLE'12), Doctoral Symposium (Dresden, Germany), 2012.
5. FMSPLE'12: 3rd International Workshop on Formal Methods and Analysis in Software Product Line Engineering (FMSPLE'12) (Salvador, Brazil), 2012.

REVIEWS FOR INTERNATIONAL JOURNALS, CONFERENCES, AND WORKSHOPS

1. REJ: Springer Requirements Engineering Journal, 2013, Invited by Prof. Patrick William Robinson.
2. ESEC/FSE'13: 9th joint meeting of the European Software Engineering Conference and the ACM SIGSOFT Symposium on the Foundations of Software Engineering (ESEC/FSE'13), 2013, Invited by Prof. Patrick Heymans.
3. TSE: IEEE Transactions on Software Engineering, 2012, Invited by Prof. Patrick Heymans.
4. JSS: Elsevier Journal of Systems and Software, Special Issue on Variability in SW Arch, 2012, Invited by Prof. Hans van Vliet.
5. STTT: Springer Journal on Software Tools for Technology Transfer, 2012, Invited by Prof. Dr. Bernhard Steffen.
6. HICSS'12: 46th Hawaiian International Conference on System Sciences (HICSS'12) (Hawaii), 2012.
7. SPLC'12: 16th International Software Product Line Conference (SPLC'12) (Salvador, Brazil), 2012, Invited by Prof. Patrick Heymans.
8. ICSOB'12: 3rd International Conference on Software Business (ICSOB'12) (MIT, Cambridge, Massachusetts), 2012, Invited by Prof. Patrick Heymans.
9. STTT: Springer Journal on Software Tools for Technology Transfer, Special Section on SW-Diversity, 2012, Invited by Dr. Rick Rabiser, and Prof. Dave Clarke.
10. REJ: Springer Requirements Engineering Journal, 2012, Invited by Prof. Patrick Heymans
11. STTT: Springer Journal on Software Tools for Technology Transfer, Special Section on SW-Diversity, 2011, Invited by Prof. Ina Schäfer, Dr. Rick Rabiser, and Prof. Dave Clarke.
12. MODELS'11: 14th International Conference on Model Driven Engineering Languages and Systems (MODELS'11) (Wellington, New Zealand), 2011, Invited by Prof. Krzysztof Czarnecki.
13. ASE'11: 26th International Conference On Automated Software Engineering (ASE'11) (Lawrence, Kansas), 2011, Invited by Prof. Krzysztof Czarnecki.
14. VaMoS'10: 3rd International Workshop on Variability Modelling of Software-intensive Systems (VaMoS'10) (Linz, Austria), 2010, Invited by Prof. Patrick Heymans.
15. SLE'10: 3rd International Conference on Software Language Engineering (SLE'10) (Eindhoven, The Netherlands), 2010, Invited by Prof. Patrick Heymans.
16. SAC'10: 25th Symposium On Applied Computing (SAC'10) (Lausanne Switzerland), 2010, Invited by Prof. Patrick Heymans.
17. SPLC'10: 14th International Software Product Line Conference (SPLC'10) (San Francisco, CA, USA), 2010, Invited by Prof. Patrick Heymans.
18. FOSD'10: 1st workshop in Feature-Oriented Software Development (FOSD'10) (Eindhoven, The Netherlands), 2010, Invited by Prof. Patrick Heymans.
19. CAiSE'10: 22nd International Conference on Advanced Information Systems Engineering (CAiSE'10) (Hammamet, Tunisia), 2010, Invited by Prof. Patrick Heymans.
20. SPLC'09: 13rd International Software Product Line Conference (SPLC'09) (San Francisco, CA, USA), 2009, Invited by Prof. Patrick Heymans.
21. SCALE'09: 1st workshop on Scalable Modeling Techniques for Software Product Lines (SCALE'09) (San Francisco, CA, USA), 2009, Invited by Prof. Patrick Heymans.
22. CAiSE'09: 21st International Conference on Advanced Information Systems Engineering (CAiSE'09) (Amsterdam, The Netherlands), 2009, Invited by Prof. Patrick Heymans.
23. SPLC'08: 12th International Software Product Line Conference (SPLC'08) (Limerick, Ireland), 2008, Invited by Prof. Patrick Heymans.
24. EA'08: International workshop on Early Aspects (EA'08) collocated with AOSD'08 (Brussels, Belgium), 2008, Invited by Prof. Patrick Heymans.