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Born: August 22, 1960.
Married, 2 children.

Education

1991 Habilitation à Diriger des Recherches, University of Rennes I.
1989 PhD in Computer Science, University of Paris VI.
1987 DEA of Computer Science, Universities of Paris XIII and Paris VIII (intermediate degree).
1986 Maîtrise of Computer Science, University of Paris VIII (Masters degree).
1985 Licence of Computer Science, University of Paris VIII (Bachelor degree).
1984 DEUG Mathematics and Computer Science, University of Paris VIII (intermediate degree).

Professional Employment

2000 - Professor, Enseirb, Talence, France.
1993 - 2000 Professor, University of Rennes I, Rennes, France.
1992 - 1993 Assistant Professor, Oregon Graduate Institute of Technology & Science, Beaverton, OR, USA.
1989 - 1992 Associate Research Faculty, Yale University, New Haven, CT, USA.
1987 - 1989 Lecturer, Epita (a private institute of computer science), Paris, France.
1986 - 1987 Teaching assistant, University of Paris VIII, Paris, France.
1985 - 1987 Research assistant, Centre Mondial de l'Informatique, Paris, France.
1984 - 1985 System engineer, Société Axis Digital, Paris, France.

Grants and Contracts

- Microsoft, 2003-2004, *Nova: A Programmable Windows-based Platform for Multimedia Communication Services*, Principal Investigator, \$25,000.
- Microsoft, 2003-2004, *Programmable .NET Services*, Co-Principal Investigator (with C. Brabrand), 20,000 euros.
- ACI-Sécurité, 2003-2005, *Composition and refinement of reliable systems*, Co-Principal Investigator, 24,000 euros.
- RNRT, 2000-2003, *Adaptable distributed kernel*, Co-Principal Investigator (with G. Muller), 165,000 euros.
- European Project, 1999-2002, *Software Development Process for Real-Time Embedded Software Systems*, Principal Investigator, 80,000 euros.

- European Project, 1999-2001, *Engineering Software Architectures, Processes and Platforms for System-Families*, Principal Investigator, 80,000 euros.
- France Telecom, 1999-2001, *Adapting Reflective Systems via Domain-Specific Languages*, Co-Principal Investigator (with G. Muller), 150,000 eurs.
- Thomson Multimedia, 1999-2001, *Automatic Generation of Software Components from High-Level Descriptions (II)*, Co-Principal Investigator (with G. Muller), 110,000 euros.
- Bull, 1998-2001, *Optimization of Embedded Systems*, Co-Principal Investigator (with G. Muller), 110,000 euros.
- Thomson Multimedia, 1998-1998, *Automatic Generation of Software Components from High-Level Descriptions (I)*, Co-Principal Investigator (with G. Muller), 40,000 eurs.
- Alcatel, 1998-2000, *Tools and Techniques for Re-Usable Tecommunication Applications (II)* Co-Principal Investigator (with G. Muller), 110,000 euros.
- Alcatel, 1995-1997, *Tools and Techniques for Re-Usable Tecommunication Applications (I)* Co-Principal Investigator (with P. Le Guernic, C. Jard, and R. de Simone), 110,000 euros.
- France Telecom, 1996-1999, *Automatic Generation of Services for Intelligent Network*, Principal Investigator, 180,000 euros.
- France Telecom, 1995-98, *Dynamic Adaptation of Systems Software Via Incremental Specialization*, Co-Principal Investigator (with G. Muller), 150,000 euros.
- IBM, 1995-1996, *Specialization of the IBM Micro-Kernel*, Principal Investigator , \$5,000.
- ARPA, 1997-2000, *Applying Specialization to Improve Survivability of OS Kernels*, Co-Principal Investigator (with Andrew Black, Crispin Cowan, Calton Pu and Jonathan Walpole, Oregon Graduate Institute), \$1,198,000.
- ARPA, 1995-98, *Microlanguage-Based Specialization*, Co-Principal Investigator (with Andrew Back, Calton Pu and Jonathan Walpole, Oregon Graduate Institute), \$875,000.
- ARPA, 1994-97, *Making Production Operating System Kernels Adaptive: Incremental Specialization in Practice*, Co-Principal Investigator (with Calton Pu and Jonathan Walpole, Oregon Graduate Institute), \$895,000.
- National Science Foundation, 1993-96, *Refining and Extending Partial Evaluation*, Principal Investigator, \$250,000.
- National Science Foundation, 1991-93, *Principles and Applications of Partial Evaluation*, Co-Principal Investigator (with Paul Hudak, Yale University), \$60,000.
- DARPA, 1991-93, *Theory and Application of Types and Partial Evaluation in Support of Formal Program Methodologies*, Co-Principal Investigator (with Paul Hudak, Yale University), \$1,895,833.

PhD Students (Graduated)

1. Laurence Caillot: *A Specification Language for Robust Telephony Services*, University of Bordeaux I, to be completed in 2005.
2. Sapan Bathia: *Optimizing Operating Systems Using DSLs and Program Specialization*, University of Bordeaux I, to be completed in 2005.

3. Mathieu Minard: *Adapting Multimedia Streams to Heterogeneous Terminals*, University of Bordeaux I, to be completed in 2004.
4. Hedi Hamdi: *Spidle: A DSL Approach to Specifying Streaming Applications*, University of Bordeaux I, to be completed in 2004.
5. Anne-Françoise Le Meur: *A Declarative Approach to Specializing C Programs*, University of Rennes I, 2002.
6. Laurent Réveillère: *A language approach to the development of robust device drivers*, University of Rennes I, 2001.
7. Ulrik Pagh Schultz: *Object-Oriented Software Engineering using Partial Evaluation*, University of Rennes I, 2000.
8. Sandrine Chirokoff: *A Uniform Approach to Program and Data Specialization*. University of Rennes I, 2000.
9. Scott Thibault: *Domain-Specific Languages: Design, Implementation and Applications*. University of Rennes I, 1998.
10. Nic Volanski: *An Automatic Approach to Specializing Systems Components*. University of Rennes I, 1998.
11. Luke Hornof: *Static Analyses for the Effective Specialization of Realistic Programs*. University of Rennes I, 1997.
12. Barbara Moura: *Bridging the Gap Between Functional and Imperative Languages*. University of Rennes I, 1997.
13. Francois Noël: *Run-time Specialization of Imperative Programs*. University of Rennes I, 1996.
14. Siau Cheng Khoo: *Parameterized Partial Evaluation: Theory and Practice*. Yale University, 1992.
15. Amir Kishon: *Monitoring Semantics: a Formal Framework for Specifying, Implementing and Reasoning about Execution Monitors*. Yale University, 1992

Professional Activities

- Program Committee Member of the 2004 European Conference on Object Oriented Programming (ECOOP 2004).
- Program Committee Member of the 2004 ACM Sigplan Conference on Programming Language Design and Implementation (PLDI 2004).
- Co-organizer of Dagstuhl School on Domain-Specific Program Generation, 2003.
- Program Co-Chairman of the 2002 ACM Sigplan Conference on Generative Programming and Component Engineering (GPCE'02).
- Program Committee Member of the 2002 ACM Sigplan Conference on Programming Language Design and Implementation (PLDI 2002).
- Program Committee Member of the 2002 European Symposium on Programming (ESOP 2002).

- Program Committee Member of the 2002 ACM Sigplan Asian Symposium on Partial Evaluation and Semantics-Based Program Manipulation (ASIA-PEPM'02).
- Program Committee Member of the 2001 Third International Conference on Metalevel Architectures and Reflection (Reflection'2001).
- Program Committee Member of the Second Symposium on Programs as Data Objects (PADO II).
- Program Committee Member of the Third International Conference on Metalevel Architectures and Reflection (Reflection'2001).
- Program Committee Member of the 2000 ACM Sigplan Conference on Functional Programming (ICFP).
- Program Committee Member of the 2000 ACM Sigplan-Sigact Symposium on Principles of Programming Languages (POPL).
- Guest Editor for Theoretical Computer Science (TCS), 2000, Vol. 248/1-2.
- Program Committee Member of the 1999 Usenix Conference on Domain-Specific Languages (DSL).
- Program Committee Member of the 1998 European Conference on Object Oriented Programming (ECOOP).
- Program Chairman of the 1997 ACM Sigplan Conference on Partial Evaluation and Semantics Based Program Manipulation (PEPM).
- Program Committee Member of the 1996 ACM Sigplan Conference on Reflection.
- Co-organizer (with O. Danvy and P. Lee) of the 1994 Summer School on Partial Evaluation at Carnegie Mellon University (sponsored by NSF).
- Program Committee Member of the 1994 ACM Sigplan Workshop on Partial Evaluation and Semantics Based Program Manipulation (PEPM).
- Program Committee Member of the 1993 International Workshop on Static Analysis (WSA).
- Program Committee Member of the 1993 ACM Sigplan-Sigact Symposium on Principles of Programming Languages (POPL).
- Program Chairman of the 1992 ACM Sigplan Workshop on Partial Evaluation and Semantics Based Program Manipulation (PEPM).
- General Chairman and Program Committee Member of the 1991 ACM Sigplan Symposium on Partial Evaluation and Semantics Based Program Manipulation (PEPM).
- National Science Foundation Panel for the Research Initiation Award (1994).
- National Science Foundation Panel on Future Directions in Programming Languages and Compilers (1993).
- National Science Foundation Panel for the New Young Investigator Program (1993).
- Reviewer for National Science Foundation.

Courses Taught

- Introduction to operating systems: undergraduate level at Enseirb.
- Program analysis and transformation: graduate level at Enseirb.
- Functional programming: graduate level at University of Rennes I.
- Semantics of programming languages: graduate level at University of Rennes I.
- Compilation: graduate level at OGI and University of Rennes I.
- Partial evaluation: graduate level at OGI and University of Rennes I.
- Semantics-Based Program Manipulation Seminar: graduate level, with Paul Hudak, at Yale University.
- Compilation and Interpretation: graduate level at University of Rennes I.
- Courses on Scheme, Common Lisp, and C: undergraduate level at University of Rennes I and University of Paris 8.
- Introduction and advanced courses on Unix.

Publications

Journal Publications

- [J1] U. Schultz, J. Lawall, and C. Consel. Automatic Program Specialization in Java. *ACM Transactions on Programming Languages and Systems*, 25(4), 452–499, 2003.
- [J2] A.-F. Le Meur, J. Lawall, and C. Consel. Specialization Scenarios: A Pragmatic Approach to Declaring Program Specialization. In *Higher-Order and Symbolic Computation*, 2003. (Accepted for publication.) Kluwer Academic Publisher.
- [J3] D. McNamee, J. Walpole, C. Pu, C. Cowan, C. Krasic, A. Goel, C. Consel, G. Muller, and R. Marlet. Specialization tools and techniques for systematic optimization of system software. *ACM Transaction on Computer Systems*, Vol. 19, 217–251, 2001.
- [J4] L. Clausen, U. Schultz, C. Consel, and G. Muller. Java bytecode compression for low-end embedded systems. *ACM Transactions on Programming Languages and Systems*, 22(3), 471–489, 2000.
- [J5] S. Thibault, C. Consel, J. Lawall, R. Marlet, G. Muller. Static and Dynamic Program Compilation by Interpreter Specialization, In *Higher-Order and Symbolic Computation*, 13(3), 161–178, 2000. Kluwer Academic Publisher.
- [J6] C. Consel. Foreword to the Special Issue on Partial Evaluation and Semantics-Based Program Manipulation. *Theoretical Computer Science*, 248(1-2), 2000. Elsevier.
- [J7] S. Thibault, C. Consel, R. Marlet, G. Muller, and J. Lawall. Static and dynamic program compilation by interpreter specialization. *Higher-Order and Symbolic Computation*, 13(3):161–178, 2000.
- [J8] R. Marlet, S. Thibault, and C. Consel. Efficient implementations of software architectures via partial evaluation. *Journal of Automated Software Engineering*, 6(4):411–440, 1999.
- [J9] S. Chirokoff, C. Consel, and R. Marlet. Combining program and data specialization. *Higher-Order and Symbolic Computation*, 12(4):309–335, 1999. Kluwer Academic Publisher.
- [J10] S. Thibault, R. Marlet, and C. Consel. Domain-specific languages: from design to implementation – application to video device drivers generation. *IEEE Transactions on Software Engineering*, 25(3):363–377, 1999.
- [J11] G. Muller, C. Pu, C. Consel. Specialization. *Encyclopedia of Distributed Computing*, Kluwer Academic Publisher, 1999. To appear.
- [J12] C. Consel, L. Hornof, J. Lawall, R. Marlet, G. Muller, F. Noël, J. Noyé, S. Thibault, E. Volanschi. Tempo : Specializing Systems Applications and Beyond. *ACM Computing Surveys*, 30(3), 1998.
- [J13] C. Consel, L. Hornof, J. Lawall, R. Marlet, G. Muller, J. Noyé, S. Thibault, E. Volanschi. Partial Evaluation for Software Engineering. *ACM Computing Surveys*, 30(3), 1998.
- [J14] C. Consel. Program Adaptation based on Program Transformation. *ACM Computing Surveys*, 28A(4), 1996.
- [J15] C. Consel and S.C. Khoo. On-line & Off-line Partial Evaluation: Semantic Specifications and Correctness Proofs. *Journal of Functional Programming*, 5(4):461–500, 1995.

- [J16] J.M. Ashley and C. Consel. Fixpoint Computation for Polyvariant Static Analyses of Higher-Order Applicative Programs. *ACM Transactions on Programming Languages and Systems*, 16(5):1431–1448, 1994.
- [J17] C. Consel and O. Danvy. Partial evaluation in parallel. *Lisp and Symbolic Computation*, 5(4):315 – 330, 1993.
- [J18] C. Consel and S. C. Khoo. Semantics-Directed Generation of a Prolog Compiler. *Science of Computer programming*, 21:263 – 291, 1993.
- [J19] C. Consel and S. C. Khoo. Parameterized partial evaluation. *ACM Transactions on Programming Languages and Systems*, 15(3):463–493, 1993.
- [J20] C. Consel and O. Danvy. Partial evaluation of pattern matching in strings. *Information Processing Letters*, 30(2):79–86, 1989.
- [J21] C. Consel, A. Deutsch, R. Dumeur, and J-D. Fekete. Cskim: an extended dialect of Scheme. *Bigre Journal*, 1989.

Conference Articles

- [C1] C. Consel and L. Réveillère. A Programmable Client-Server Model: Robust Extensibility via DSLs. In *Proceedings of the 18th IEEE International Conference on Automated Software Engineering (ASE 2003)*, Montréal, Canada, 2003. IEEE Computer Society Press.
- [C2] C. Consel, H. Hamdi, L. Réveillère, L. Singaravelu, H. Yu and C. Pu. Spidle: A DSL Approach to Specifying Streaming Application. In *International Conference on Generative Programming and Component Engineering*, Erfurt, Germany, 2003.
- [C3] T. Amtoft, C. Consel, O. Danvy, K. Malmkjær. The Abstraction and Instantiation of String-Matching Programs. In *The Essence of Computation, Lecture Notes in Computer Science, 2566*, pages 367–390, 2002.
- [C4] A.-F. Le Meur, C. Consel, and B. Escrig. An environment for building customizable software components. In *IFIP/ACM Conference on Component Deployment*, Berlin, Germany, 2002.
- [C5] F. Mérillon, L. Réveillère, C. Consel, R. Marlet, and G. Muller. Devil: An IDL for hardware programming. In *Proceedings of the Fourth Symposium on Operating Systems Design and Implementation*, San Diego, California, 2000.
- [C6] G. Muller, C. Consel, R. Marlet, L.P. Barreto, F. Mérillon, and L. Réveillère. Towards robust oses for appliances: A new approach based on domain-specific languages. In *Proceedings of the ACM SIGOPS European Workshop 2000 (EW2000)*, Kolding, Denmark, 2000.
- [C7] P. Boinot, R. Marlet, Noyé J., G. Muller, and C. Consel. A declarative approach for designing and developing adaptive components. In *Proceedings of the 15th IEEE International Conference on Automated Software Engineering (ASE 2000)*, Grenoble, France, 2000. IEEE Computer Society Press.
- [C8] L. Réveillère, F. Mérillon, C. Consel, R. Marlet, and G. Muller. A DSL approach to improve productivity and safety in device drivers development. In *Proceedings of the 15th IEEE International Conference on Automated Software Engineering (ASE 2000)*, Grenoble, France, 2000. IEEE Computer Society Press.

- [C9] U. P. Schultz, J. L. Lawall, C. Consel, and G. Muller. Specialization patterns. In *Proceedings of the 15th IEEE International Conference on Automated Software Engineering (ASE 2000)*, Grenoble, France, September 2000. IEEE Computer Society Press.
- [C10] R. Marlet, C. Consel, P. Boinot. Efficient Incremental Run-Time Specialization for Free. In *ACM SIGPLAN Conference on Programming Language Design and Implementation, PLDI'99*, pages 281–292, 1999.
- [C11] U. Schultz, J. Lawall, C. Consel, G. Muller. Automatic Specialization of Java Programs. *Proceedings of the European Conference on Object-oriented Programming, ECOOP'99. Lecture Notes in Computer Science, 1628*, pages 367–390, 1999.
- [C12] S. Thibault, C. Consel, G. Muller. Safe and Efficient Active Network Programming. in: *17th IEEE Symposium on Reliable Distributed Systems, SRDS'98*, pages 135–143, 1998.
- [C13] G. Muller, R. Marlet, E. Volanschi, C. Consel, C. Pu, A. Goel. Fast, Optimized Sun RPC Using Automatic Program Specialization. In *International Conference on Distributed Computing Systems, ICDCS'98*, pages 240–249, 1998.
- [C14] F. Noël, L. Hornof, C. Consel, J. Lawall. Automatic, Template-Based Run-Time Specialization: Implementation and Experimental Study. In *IEEE International Conference on Computer Languages, ICCL'98*, pages 132–142, 1998.
- [C15] L. Hornof, J. Noyé, C. Consel. Effective Specialization of Realistic Programs via Use Sensitivity. In *Proceedings of the Fourth International Symposium on Static Analysis, SAS'97*, P. Van Hentenryck (Ed.), *Lecture Notes in Computer Science, 1302*, Springer-Verlag, p. 293–314, 1997.
- [C16] R. Marlet, S. Thibault, C. Consel. Mapping Software Architectures to Efficient Implementations via Partial Evaluation. In *IEEE Conference on Automated Software Engineering*, 1997.
- [C17] G. Muller, B. Moura, F. Bellard, C. Consel. Harissa: A Flexible and Efficient Java Environment Mixing Bytecode and Compiled Code. In *Proceedings of the 3rd Conference on Object-Oriented Technologies and Systems, COOTS'97*, Usenix, p. 1–20, 1997.
- [C18] S. Thibault, C. Consel. A Framework of Application Generator Design. In *Proceedings of the ACM SIGSOFT Symposium on Software Reusability*, p. 131–135, 1997.
- [C19] S. Thibault, R. Marlet, C. Consel. A Domain-Specific Language for Video Device Drivers: from Design to Implementation. In *Conference on Domain Specific Languages*, Usenix, p. 11–26, 1997.
- [C20] E. Volanschi, C. Consel, G. Muller, C. Cowan. Declarative Specialization of Object-Oriented Programs. In *OOPSLA'97 Conference Proceedings*, ACM Press, p. 286–300, 1997.
- [C21] C. Consel, L. Hornof, F. Noël, J. Noyé, E. Volanschi. A Uniform Approach for Compile-Time and Run-Time Specialization. In *Partial Evaluation, International Seminar, Dagstuhl Castle*, O. Danvy, R. Glück, P. Thiemann (Ed.), *Lecture Notes in Computer Science*, 1110, p. 54–72, 1996.
- [C22] C. Consel and F. Noël. A General Approach for Run-Time Specialization and its Application to C. In *Proceedings of the 23rd ACM SIGPLAN-SIGACT Symposium on Principles Of Programming Languages, POPL'96*, pages 145–156, 1996.
- [C23] C. Pu, T. Autrey, A. Black, C. Consel, C. Cowan, J. Inouye, L. Kethana, J. Walpole, and K. Zhang. Optimistic incremental specialization: streamlining a commercial operating system. In *ACM Symposium on Operating Systems Principles, SOSP'95*, pages 314–324, 1995.

- [C24] C. Consel. A tour of Schism: a partial evaluation system for higher-order applicative languages. In *ACM Symposium on Partial Evaluation and Semantics-Based Program Manipulation*, pages 66–77, 1993.
- [C25] C. Consel. Polyvariant binding-time analysis for higher-order, applicative languages. In *ACM Symposium on Partial Evaluation and Semantics-Based Program Manipulation*, pages 145–154, 1993.
- [C26] C. Consel and O. Danvy. Static and dynamic semantics processing. In *ACM Symposium on Principles of Programming Languages, POPL'89*, pages 14–23, 1991.
- [C27] C. Consel and O. Danvy. For a better support of static data flow. In *5th International Conference on Functional Programming Languages and Computer Architecture, FPCA'91*, pages 496–519, 1991.
- [C28] C. Consel and S. C. Khoo. Parameterized partial evaluation. In *ACM SIGPLAN Conference on Programming Language Design and Implementation, PLDI'91*, pages 92–106, 1991.
- [C29] A. Kishon, P. Hudak, and C. Consel. Monitoring semantics: a formal framework for specifying, implementing and reasoning about execution monitors. In *ACM SIGPLAN Conference on Programming Language Design and Implementation, PLDI'91*, pages 338–352, 1991.
- [C30] C. Consel and S. C. Khoo. Semantics-directed generation of a Prolog compiler. In *3rd International Symposium on Programming Language Implementation and Logic Programming, PLILP'91*, 1991.
- [C31] C. Consel and O. Danvy. From interpreting to compiling binding times. In N. D. Jones, editor, *ESOP'90, 3rd European Symposium on Programming*, volume 432 of *Lecture Notes in Computer Science*, pages 88–105. Springer-Verlag, 1990.
- [C32] C. Consel. Binding time analysis for higher order untyped functional languages. In *ACM Conference on Lisp and Functional Programming*, pages 264–272, 1990.
- [C33] C. Consel. New insights into partial evaluation: the Schism experiment. In H. Ganzinger, editor, *ESOP'88, 2nd European Symposium on Programming*, volume 300 of *Lecture Notes in Computer Science*, pages 236–246. Springer-Verlag, 1988.

Invited Articles

- [I1] C. Consel and R. Marlet. Architecturing Software using a Methodology for Language Development. In *International Symposium on Programming Languages, Implementations, Logics and Programs, PLILP'98*, pages 170–194, 1998.
- [I2] C. Consel. Fast strictness analysis via symbolic fixpoint iteration. In *International Static Analysis Symposium, SAS'94*, 1994.
- [I3] C. Consel and O. Danvy. Tutorial notes on partial evaluation. In *ACM Symposium on Principles of Programming Languages, POPL'93*, pages 493–501, 1993.
- [I4] C. Consel, C. Pu, and J. Walpole. Incremental Specialization: the Key to High Performance, Modularity and Portability in Operating Systems. In *ACM Symposium on Partial Evaluation and Semantics-Based Program Manipulation, PEPM'93*, pages 44–46, 1993.