Werner M. Dietl

Department of Electrical & Computer Engineering
University of Waterloo
200 University Avenue West
Waterloo, Ontario, N2L 3G1, Canada

wdietl@uwaterloo.ca
https://ece.uwaterloo.ca/~wdietl/
Tel: +1 (519) 888-4567 x37979
Fax: +1 (519) 746-3077

Publications

Total citations: 2553; most cited: [C11] with 918. h-index of 20, i10-index of 27. Information based on manually edited Google Scholar profile.

Students under my supervision are highlighted with a * suffix.

Journals and Book Chapters

[J1] P. Gill*, W. Dietl, and M. Tripunitara. Least-Privilege Calls to Amazon Web Services. *IEEE Transactions on Dependable and Secure Computing*, pages 1–13, 2022.

[J2] N. Juma*, W. Dietl, and M. Tripunitara. A Computational Complexity Analysis of Tunable Type Inference for Generic Universe Types. *Theoretical Computer Science*, 814:189–209, 2020.

[J3] W. Dietl and P. Müller. Object ownership in program verification. In D. Clarke, J. Noble, and T. Wrigstad, editors, *Aliasing in Object-Oriented Programming*, volume 7850 of *Lecture Notes in Computer Science*, pages 289–318. Springer-Verlag, 2013.

[J4] W. Dietl, S. Drossopoulou, and P. Müller. Separating ownership topology and encapsulation with Generic Universe Types. *ACM Transactions on Programming Languages and Systems*, 33:20:1–20:62, 2011.

[J5] W. Dietl and P. Müller. Universes: Lightweight Ownership for JML. *Journal of Object Technology (JOT), Special Issue: ECOOP 2004 Workshop FTfJP*, 4(8):5–32, October 2005.

[J6] W. Dietl, P. Meerwald, and A. Uhl. Protection of Wavelet-based Watermarking Systems using Filter Parametrization. *Signal Processing (Special Issue on Security of Data Hiding Technologies)*, 83:2095–2116, July 2003.

Conference Proceedings

[C1] F. Lanzinger, A. Weigl, M. Ulbrich, and W. Dietl. Scalability and Precision by Combining Expressive TypeSystems and Deductive Verification. *Object-Oriented Programming Systems, Languages, and Applications (OOPSLA)*, 5:1–29, 2021.

[C2] T. Xiang*, J.Y. Luo*, and W. Dietl. Precise Inference of Expressive Units of Measurement Types. *Object-Oriented Programming Systems, Languages, and Applications (OOPSLA)*, pages 1–28, 2020.

[C3] C.Z. Chen* and W. Dietl. Don't miss the end: Preventing unsafe end-of-file comparisons. In *NASA Formal Methods*, pages 87–94. Springer-Verlag, 2018.

[C4] D. Brotherston*, W. Dietl, and O. Lhoták. Granullar: Gradual Nullable Types for Java. In *Compiler Construction (CC)*, pages 87–97, February 2017.

[C5] P. Barros, R. Just, S. Millstein, P. Vines, W. Dietl, M. d'Amorim, and M. D. Ernst. Static analysis of implicit control flow: Resolving Java reflection and Android intents. In *Automated Software Engineering (ASE)*, pages 669–679, November 2015.

[C6] M. D. Ernst, R. Just, S. Millstein, W. Dietl, S. Pernsteiner*, F. Roesner, K. Koscher, P. Barros, R. Bhoraskar, S. Han, P. Vines, and E. X. Wu. Collaborative verification of information flow for a high-assurance app store. In *Computer and Communications Security (CCS)*, pages 1092–1104, November 2014.

[C7] C. S. Gordon, W. Dietl, M. D. Ernst, and D. Grossman. JavaUI: Effects for Controlling UI Object Access. In *European Conference on Object-Oriented Programming (ECOOP)*, pages 179–204, July 2013.

[C8] W. Huang, A. Milanova, W. Dietl, and M. D. Ernst. ReIm & ReImInfer: Checking and inference of reference immutability and method purity. In *Object-Oriented Programming Systems, Languages, and Applications (OOPSLA)*, pages 879–896, October 2012.

[C9] W. Huang, W. Dietl, A. Milanova, and M. D. Ernst. Inference and checking of object ownership. In *European Conference on Object-Oriented Programming (ECOOP)*, pages 181–206, June 2012.

[C10] W. Dietl, M. D. Ernst, and P. Müller. Tunable Static Inference for Generic Universe Types. In *European Conference on Object-Oriented Programming (ECOOP)*, pages 333–357, July 2011. Best Paper Award.

[C11] A. Sampson, W. Dietl, E. Fortuna, D. Gnanapragasam, L. Ceze, and D. Grossman. EnerJ: Approximate Data Types for Safe and General Low-Power Computation. In *Programming Language Design and Implementation (PLDI)*, pages 164–174, June 2011.

[C12] W. Dietl, S. Dietzel*, M. D. Ernst, K. Muslu, and T. W. Schiller. Building and Using Pluggable Type-Checkers. In *Software Engineering in Practice Track, International Conference on Software Engineering (ICSE)*, pages 681–690, May 2011.

[C13] D. Cunningham, W. Dietl, S. Drossopoulou, A. Francalanza, P. Müller, and A. J. Summers. Universe Types for Topology and Encapsulation. In F. S. de Boer, M. M. Bonsangue, S. Graf, and W.-P. de Roever, editors, *Formal Methods for Components and Objects (FMCO)*, volume 5382 of *Lecture Notes in Computer Science*, pages 72–112. Springer-Verlag, December 2008.

[C14] W. Dietl, S. Drossopoulou, and P. Müller. Generic Universe Types. In E. Ernst, editor, *European Conference on Object-Oriented Programming (ECOOP)*, volume 4609 of *Lecture Notes in Computer Science*, pages 28–53. Springer-Verlag, July 2007.

[C15] W. Dietl and A. Uhl. Robustness against Unauthorized Watermark Removal Attacks via Key-dependent Wavelet Packet Subband Structures. In *International Conference on Multimedia and Expo (ICME)*, June 2004.

[C16] W. Dietl and A. Uhl. Watermark Security via Secret Wavelet Packet Subband Structures. In A. Lioy and D. Mazzocchi, editors, *Communications and Multimedia Security*, volume 2828 of *Lecture Notes in Computer Science*, pages 214–225. Springer-Verlag, October 2003.

Workshop Proceedings

[W1] W. Xing*, Y. Cheng*, and W. Dietl. Ensuring correct cryptographic algorithm and provider usage at compile time. *Formal Techniques for Java-like Programs (FTfJP)*, pages 43–50, 2021.

[W2] D. Dean, S. Guarino, L. Eusebi, A. Keplinger, T. Pavlik, R. Watro, A. Cammarata, J. Murray, K. McLaughlin, J. Cheng, and T. Maddern. Lessons learned in game development for crowdsourced software formal verification. In *USENIX Summit on Gaming, Games, and Gamification in Security Education (3GSE)*, August 2015.

[W3] E. Spishak*, W. Dietl, and M. D. Ernst. A type system for regular expressions. In *Formal Techniques for Java-like Programs (FTfJP)*, pages 20–26, June 2012.

[W4] W. Dietl, S. Dietzel*, M. D. Ernst, N. Mote*, B. Walker, S. Cooper, T. Pavlik, and Z. Popović. Verification games: Making verification fun. In *Formal Techniques for Java-like Programs (FTfJP)*, pages 42–49, June 2012.

[W5] N. Cameron and W. Dietl. Comparing Universes and Existential Ownership Types. In *International Workshop on Aliasing, Confinement and Ownership in object-oriented programming (IWACO)*, July 2009.

[W6] W. Dietl and P. Müller. Ownership Type Systems and Dependent Classes. In *Foundations of Object-Oriented Languages (FOOL)*, January 2008.

[W7] W. Dietl and P. Müller. Runtime Universe Type Inference. In *International Workshop on Aliasing, Confinement and Ownership in object-oriented programming (IWACO)*, July 2007.

[W8] W. Dietl and P. Müller. 2007 State of the Universe Address. In *International Workshop on Aliasing, Confinement and Ownership in object-oriented programming (IWACO)*, July 2007.

[W9] W. Dietl, S. Drossopoulou, and P. Müller. Generic Universe Types. In *Foundations and Developments of Object-Oriented Languages (FOOL/WOOD)*, January 2007.

[W10] W. Dietl and P. Müller. Exceptions in Ownership Type Systems. In E. Poll, editor, *Formal Techniques for Java-like Programs (FTfJP)*, technical report, Nr. NIII-R0426, University of Nijmegen, pages 49–54, June 2004.

[W11] W. Dietl, P. Müller, and A. Poetzsch-Heffter. A Type System for Checking Applet Isolation in Java Card. In *Construction and Analysis of Safe, Secure and Interoperable Smart devices (CASSIS)*, volume 3362 of *Lecture Notes in Computer Science*, pages 129–150. Springer-Verlag, March 2004.

[W12] M. Brachtl, W. Dietl, and A. Uhl. Key-Dependency for a Wavelet-Based Blind Watermarking Algorithm. In J. Dittmann and J. Fridrich, editors, *Multimedia and Security Workshop*, pages 175–179, September 2004.

[W13] W. Dietl, P. Meerwald, and A. Uhl. Key-dependent Pyramidal Wavelet Domains for Secure Watermark Embedding. In E. J. Delp and P. W. Wong, editors, *Electronic Imaging, Security and Watermarking of Multimedia Contents V*, volume 5020, pages 728–739. SPIE, January 2003.

[W14] W. Dietl, P. Meerwald, and A. Uhl. Watermark Security via High-Resolution Wavelet Filter Parametrization. In S. Kmeť and M. Pavluš, editors, *International Scientific Conference, Section 1: Applied Mathematics*, pages 21–28, May 2002.

Technical Reports, Theses, and Unpublished Material

[U1] JSR 308 Expert Group. Annotations on Java types. `http://download.oracle.com/otndocs/jcp/annotations-2014_01_08-pfd-spec/`, January 2014. Proposed Final Draft.

[U2] W. Dietl. Type Annotations, the Checker Framework, and JML. In Gary T. Leavens, Peter H. Schmitt, and Jooyong Yi, editors, *The Java Modeling Language.*, number 2013-3 in NII Shonan Meeting Report, pages 12–13, May 2013. `http://www.nii.ac.jp/shonan/wp-content/uploads/2011/09/No.2013-3.pdf`.

[U3] A. Sampson, W. Dietl, E. Fortuna, D. Gnanapragasam, L. Ceze, and D. Grossman. EnerJ: Approximate Data Types for Safe and General Low-Power Computation — Full Proofs. Technical Report UW-CSE-10-12-01, University of Washington, June 2011.

[U4] W. Dietl. Universe Types: Topology, Encapsulation, Genericity, and Tools. Summary of my thesis published in the 2009 GI Outstanding Dissertation Award proceedings. Available in German only, July 2010.

[U5] W. Dietl, M. D. Ernst, and P. Müller. Tunable Universe Type Inference. Technical Report 659, Department of Computer Science, ETH Zurich, December 2009. Updated March 2010.

[U6] W. Dietl. *Universe Types: Topology, Encapsulation, Genericity, and Tools*. PhD thesis, Department of Computer Science, ETH Zurich, December 2009. Doctoral Thesis ETH No. 18522.

[U7] N. Cameron and W. Dietl. Comparing Universes and Existential Ownership Types. Technical Report 06, School of Engineering and Computer Science, VUW, July 2009. `https://ecs.victoria.ac.nz/twiki/pub/Main/TechnicalReportSeries/ECSTR09-06.pdf`.

[U8] W. Dietl et al. Three papers. In B. Meyer, P. Müller, and M. Oriol, editors, *Annual Report*. Chair of Software Engineering, ETH Zurich, 2008.

[U9] G. T. Leavens, E. Poll, C. Clifton, Y. Cheon, C. Ruby, D. Cok, P. Müller, J. Kiniry, P. Chalin, D. M. Zimmerman, and W. Dietl. JML Reference Manual. Available from `http://www.jmlspecs.org/`, June 2008.

[U10] W. Dietl, P. Müller, and D. Schregenberger. Universe Type System — Quick-Reference. Available from `http://pm.inf.ethz.ch/research/universes/tools/juts-quickref.pdf`, July 2008.

[U11] W. Dietl et al. Four papers. In B. Meyer, P. Müller, and M. Oriol, editors, *Annual Report*. Chair of Software Engineering, ETH Zurich, 2007.

[U12] W. Dietl, S. Drossopoulou, and P. Müller. Formalization of Generic Universe Types. Technical Report 532, Department of Computer Science, ETH Zurich, 2006.

[U13] W. Dietl et al. Four papers. In B. Meyer, P. Müller, and M. Oriol, editors, *Annual Report*. Chair of Software Engineering, ETH Zurich, 2006.

[U14] W. Dietl. Improving the Security of Wavelet-based Watermarking Systems. Master's thesis, Salzburg University, Department of Scientific Computing, December 2002.