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## Publications

### **Modal FRP for all: Functional reactive programming without space leaks in Haskell**

Bahr, P., 26 Dec 2022, In: Journal of Functional Programming. 32, e15.

### **Monadic Compiler Calculation (Functional Pearl)**

Bahr, P. & Hutton, G., Aug 2022, *Proceedings of the ACM on Programming Languages*. Association for Computing Machinery, Vol. 6.

### **Diamonds are not forever: Liveness in reactive programming with guarded recursion**

Bahr, P., Graulund, C. U. & Møgelberg, R. E., Jan 2021, *ACM SIGPLAN Symposium on Principles of Programming Languages*. POPL ed. Association for Computing Machinery, Vol. 5. 28 p. (Proceedings of the ACM on Programming Languages).

### **Calculating Correct Compilers II: Return of the Register Machines**

Bahr, P. & Hutton, G., 20 Aug 2020, In: Journal of Functional Programming. 30, e25.

### **Simply RaTT: A Fitch-style Modal Calculus for Reactive Programming**

Bahr, P., Graulund, C. U. & Møgelberg, R. E., 2019, *Proceedings of the ACM on Programming Languages*. IFCP ed. Association for Computing Machinery, Vol. 3. 109

### **Convergence in infinitary term graph rewriting systems is simple**

Bahr, P., 9 Aug 2018, In: Mathematical Structures in Computer Science. p. 1-52

### **Strict Ideal Completions of the Lambda Calculus**

Bahr, P., Jul 2018, *3rd International Conference on Formal Structures for Computation and Deduction (FSCD 2018)*. Schloss Dagstuhl - Leibniz-Zentrum fuer Informatik GmbH, p. 8:1-8:16 16 p. 8

### **What makes guarded types tick?**

Bahr, P., Mannaa, B. & Møgelberg, R. E., 2018.

### **Compiling a 50-year journey**

Hutton, G. & Bahr, P., 20 Sep 2017, In: Journal of Functional Programming. 27, 11 p., 20.

### **Böhm Reduction in Infinitary Term Graph Rewriting Systems**

Bahr, P., 1 Sep 2017, *2nd International Conference on Formal Structures for Computation and Deduction: FSCD 2017, September 3–9, 2017, Oxford, UK*. Miller, D. (ed.). Schloss Dagstuhl - Leibniz-Zentrum fuer Informatik GmbH, Vol. 84. p. 8:1-8:20

### **The Clocks Are Ticking: No More Delays! Reduction Semantics for Type Theory with Guarded Recursion**

Bahr, P., Grathwohl, H. B. & Møgelberg, R. E., 18 Aug 2017, In: Annual Symposium on Logic in Computer Science. 12 p.

### **Generalising tree traversals and tree transformations to DAGs: Exploiting sharing without the pain**

Bahr, P. & Axelsson, E., 4 Apr 2017, In: Science of Computer Programming. 137, p. 63-97

### **Cutting Out Continuations**

Bahr, P. & Hutton, G., 25 Mar 2016, *A List of Successes That Can Change the World: Essays Dedicated to Philip Wadler on the Occasion of His 60th Birthday*. Springer Publishing Company, Vol. 9600. p. 187-200 (Lecture Notes in Computer Science, Vol. 9600).

### **Calculating correct compilers**

Bahr, P. & Hutton, G., 1 Sep 2015, In: *Journal of Functional Programming*. 25

### **Certified Symbolic Management of Financial Multi-party Contracts**

Bahr, P., Berthold, J. & Elsmann, M., 1 Sep 2015, *ICFP 2015 Proceedings of the 20th ACM SIGPLAN International Conference on Functional Programming*. New York, NY, USA: Association for Computing Machinery, p. 315-327 13 p.

### **Type Families with Class, Type Classes with Family**

Serrano, A., Hage, J. & Bahr, P., 1 Sep 2015, *Proceedings of the 8th ACM SIGPLAN Symposium on Haskell*. New York, NY, USA: Association for Computing Machinery, p. 129-140 12 p.

### **Calculating Certified Compilers for Non-deterministic Languages**

Bahr, P., 1 Jun 2015, *Mathematics of Program Construction*. Hinze, R. & Voigtländer, J. (eds.). Springer International Publishing, Switzerland, Vol. 9129. p. 159-186 28 p.

### **Generalising Tree Traversals to DAGs: Exploiting Sharing without the Pain**

Bahr, P. & Axelsson, E., 1 Jan 2015, *Proceedings of the 2015 Workshop on Partial Evaluation and Program Manipulation*. New York, NY, USA: ACM, p. 27-38 12 p.

### **Domain-Specific Languages for Enterprise Systems**

Andersen, J., Bahr, P., Henglein, F. & Hvitved, T., 1 Oct 2014, *Leveraging Applications of Formal Methods, Verification and Validation. Technologies for Mastering Change*. Margaria, T. & Steffen, B. (eds.). Springer Berlin Heidelberg, Vol. 8802. p. 73-95 23 p.

### **Towards Certified Management of Financial Contracts**

Bahr, P., Berthold, J. & Elsmann, M., 1 Oct 2014, *Proceedings of the 26th Nordic Workshop on Programming Theory, NWPT '14*.

### **Composing and Decomposing Data Types: A Closed Type Families Implementation of Data Types à La Carte**

Bahr, P., 1 Aug 2014, *Proceedings of the 10th ACM SIGPLAN Workshop on Generic Programming*. New York, NY, USA: ACM, p. 71-82 12 p.

### **Pick'n'Fix: Capturing Control Flow in Modular Compilers**

Day, L. E. & Bahr, P., 1 Jul 2014, *TFP '14 pre-proceedings*.

### **Partial Order Infinitary Term Rewriting**

Bahr, P., 1 Jun 2014, In: *Logical Methods in Computer Science*. 10, 2

### **Proving Correctness of Compilers Using Structured Graphs**

Bahr, P., 1 Jun 2014, *Functional and Logic Programming*. Codish, M. & Sumii, E. (eds.). Springer International Publishing, Switzerland, Vol. 8475. p. 221-237 17 p.

### **Programming macro tree transducers**

Bahr, P. & Day, L. E., 1 Sep 2013, *Proceedings of the 9th ACM SIGPLAN Workshop on Generic Programming*. New York, NY, USA: ACM, p. 61-72 12 p.

### **Convergence in Infinitary Term Graph Rewriting Systems is Simple (Extended Abstract)**

Bahr, P., 1 Mar 2013, *Proceedings 7th International Workshop on Computing with Terms and Graphs*. Echahed, R. & Plump, D. (eds.). Vol. 110. p. 17-28 12 p.

### **Modes of Convergence for Term Graph Rewriting**

Bahr, P., 1 Jun 2012, In: Logical Methods in Computer Science. 8, 2

### **Modular Tree Automata**

Bahr, P., 1 Jun 2012, *Mathematics of Program Construction*. Gibbons, J. & Nogueira, P. (eds.). Springer Berlin Heidelberg, Vol. 7342. p. 263-299 37 p.

### **Infinitary Term Graph Rewriting is Simple, Sound and Complete**

Bahr, P., 1 May 2012, *23rd International Conference on Rewriting Techniques and Applications (RTA'12)*. Tiwari, A. (ed.). Dagstuhl, Germany: Schloss Dagstuhl - Leibniz-Zentrum fuer Informatik GmbH, Vol. 15. p. 69-84 16 p.

### **Parametric Compositional Data Types**

Bahr, P. & Hvitved, T., 1 Feb 2012, *Proceedings Fourth Workshop on Mathematically Structured Functional Programming*. Chapman, J. & Levy, P. B. (eds.). Open Publishing Association, Vol. 76. p. 3-24 22 p.

### **A Functional Language for Specifying Business Reports**

Bahr, P., 1 Oct 2011, *Proceedings of the 23rd Nordic Workshop on Programming Theory*. Pettersson, P. & Seceleanu, C. (eds.). p. 24-26 3 p.

### **Evaluation à la Carte: Non-Strict Evaluation via Compositional Data Types**

Bahr, P., 1 Oct 2011, *Proceedings of the 23rd Nordic Workshop on Programming Theory*. Pettersson, P. & Seceleanu, C. (eds.). p. 38-40 3 p.

### **Compositional data types**

Bahr, P. & Hvitved, T., 1 Sep 2011, *Proceedings of the seventh ACM SIGPLAN workshop on Generic programming*. New York, NY, USA: ACM, p. 83-94 12 p.

### **Modes of Convergence for Term Graph Rewriting**

Bahr, P., 1 May 2011, *22nd International Conference on Rewriting Techniques and Applications (RTA'11)*. Schmidt-Schau, M. (ed.). Dagstuhl, Germany: Schloss Dagstuhl--Leibniz-Zentrum für Informatik, Vol. 10. p. 139-154 16 p.

### **Compositional Data Types - A Report from the Field**

Bahr, P., 2011, *Proceedings of the 4th DIKU-IST Joint Workshop on Foundations of Software*.

### **Abstract Models of Transfinite Reductions**

Bahr, P., 2010, *Proceedings of the 21st International Conference on Rewriting Techniques and Applications*. Lynch, C. (ed.). Dagstuhl, Germany: Schloss Dagstuhl - Leibniz-Zentrum fuer Informatik GmbH, Vol. 6. p. 49-66 18 p.

### **Partial Order Infinitary Term Rewriting and Böhm Trees**

Bahr, P., 2010, *Proceedings of the 21st International Conference on Rewriting Techniques and Applications*. Lynch, C. (ed.). Dagstuhl, Germany: Schloss Dagstuhl - Leibniz-Zentrum fuer Informatik GmbH, Vol. 6. p. 67-84 18 p.

### **Infinitary Rewriting - Theory and Applications**

Bahr, P., 1 Sep 2009, Vienna.