

Lionel Morel - Publications - 2001-2024

Journals

- [J1] Laure Gonnord, Ludovic Henrio, *Lionel Morel*, and Gabriel Radanne. A survey on parallelism and determinism. *ACM Comput. Surv.*, aug 2022. Just Accepted.
 - [J2] *Lionel Morel*, Damien Courousse, and Thomas Hiscock. Code polymorphism meets code encryption: Confidentiality and side-channel protection of software components. *Digital Threats: Research and Practice*, sep 2021.
 - [J3] *Lionel Morel*. Array Iterators in Lustre: From a Language Extension to Its Exploitation in Validation. *EURASIP Journal on Embedded Systems*, page 59130, 2007.
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Conferences

- [C4] Lucas Chaloyard, Florent de Dinechin, Marie-Pierre Escudié, and *Lionel Morel*. A bare minimal computer for everyone. In *Undone Computer Science*, 2 2024.
- [C5] *Lionel Morel* and Damien Couroussé. Idols with Feet of Clay: On the Security of Boot-loaders and Firmware Updaters for the IoT. In *17th IEEE International NEWCAS Conference*, Munich, Germany, 2019.
- [C6] Romain Fontaine, Laure Gonnord, and *Lionel Morel*. Polyhedral Dataflow Programming: a Case Study. In *SBAC-PAD 2018 - 30th International Symposium on Computer Architecture and High-Performance Computing*, pages 1–9, Lyon, France, September 2018. IEEE.
- [C7] François TRAHAY, Manuel Selva, *Lionel Morel*, and Kevin Marquet. NumaMMA: NUMA MeMory Analyzer. In *ICPP 2018 - 47th International Conference on Parallel Processing*, Eugene, United States, August 2018.
- [C8] *Lionel Morel*, Manuel Selva, Kevin Marquet, Coralie Saysset, and Tanguy Risset. Work-in-Progress: CalMAR -a Multi-Application Dataflow Runtime. In *Thirteenth ACM International Conference on Embedded Software 2017, EMSOFT'17*, Seoul, South Korea, October 2017.
- [C9] Manuel Selva, *Lionel Morel*, and Kevin Marquet. numap: A portable library for low level memory profiling. In *2016 International Conference on Embedded Computer Systems: Architectures, Modeling, and Simulation, SAMOS 2016, Samos, Greece, July 18-21, 2016*, 2016.
- [C10] Manuel Selva, *Lionel Morel*, Kevin Marquet, and Stephane Frenot. A Monitoring System for Runtime Adaptations of Streaming Applications. In *International Conference on Parallel, Distributed and Network-based Processing*, International Conference on Parallel, Distributed and Network-based Processing, Turku, Finland, March 2015.
- [C11] Tewodros Deneke, *Lionel Morel*, Sébastien Lafond, and Johan Lilius. Integration of Dataflow Components Within a Legacy Video Transcoding Framework. In *2015 IEEE Workshop on Signal Processing Systems, SiPS 2015*, Hangzhou, China, October 2015.
- [C12] Manuel Selva, *Lionel Morel*, Kévin Marquet, and Stéphane Frénot. Extending dataflow programs for guaranteed throughput. In *MES '13 - International Workshop on Many-core Embedded Systems*, Proceedings of the First International Workshop on Many-core Embedded Systems, pages 54–57, Tel Aviv, Israel, June 2013. ACM.

- [C13] Johan Lilius, Andreas Dahlin, and Lionel Morel. Rialto 2.0: A Language for Heterogeneous Computations. In *Distributed, Parallel and Biologically Inspired Systems*, pages 7–18, Brisbane, Australia, September 2010.
- [C14] Lionel Morel, Jean-Philippe Babau, and Belgacem Ben Hedia. Formal modelling framework of data acquisition software using a synchronous approach for timing analysis. In *30th IFAC Workshop on Real-Time Programming and 4th International Workshop on Real-Time Software (WRTP/RTS'09)*, pages 1–8, Mragowo, Poland, October 2009.
- [C15] Firas Alhalabi, Narkoy Batouma, Mathieu Maranzana, Lionel Morel, and Jean-Louis Sourrouille. Centralized vs. Decentralized QoS Management policy. In *ICTTA'08*, pages 1–6, Damas, Syria, April 2008. IEEE Press.
- [C16] Mohammed Hindawi, Lionel Morel, Régis Aubry, and Jean-Louis Sourrouille. Description and Implementation of a UML Style Guide. In *Workshop Quality in Modeling*, LNCS 5241, pages 291–302, France, September 2008. Springer Verlag. Version courte.
- [C17] Mohammed Hindawi, Lionel Morel, Régis Aubry, and Jean-Louis Sourrouille. Description and Implementation of a Style Guide for UML. In Jean-Louis Sourrouille & AI, editor, *Quality in Modeling (co-located with MODELS'08)*, pages 31–45, Toulouse, France, September 2008.
- [C18] Jean-Louis Sourrouille, Mohammed Hindawi, Lionel Morel, and Régis Aubry. Specifying consistent subsets of UML. In Michal Śmialek, editor, *Educator symposium (co-located with Models'08)*, pages 26–38, Toulouse, France, September 2008. Warsaw University of Technology.
- [C19] Lionel Morel and Pontus Boström. Design and Validation of Digital Controllers for Hydraulic Systems. In *Tenth Scandinavian International Conference on Fluid Power*, page 1, Finland, 2007.
- [C20] Lionel Morel and Pontus Boström. Design and Implementation of Energy Saving Digital Hydraulic Control System. In *The Tenth Scandinavian International Conference on Fluid Power (SICFP)*, page 1, Finland, 2007.
- [C21] Lionel Morel and Louis Mandel. Executable Contracts for Incremental Prototypes of Embedded Systems. In *Formal Foundations of Embedded Software and Component-Based Software Architectures (FESCA)*, pages 121–135, Portugal, 2007.
- [C22] Lionel Morel, Pontus Boström, and Marina Waldén. Stepwise development of Simulink models using the refinement calculus framework. In *ICTAC'07 - International Colloquium on Theoretical Aspects of Computing*, pages 79–93, Macao, China, September 2007.
- [C23] Lionel Morel and Florence Maraninchi. Arrays and contracts for the specification and analysis of regular systems. In *Application of Concurrency to System Design, 2004. ACSD 2004. Proceedings. Fourth International Conference on*, pages 57–66, Hamilton, Canada, June 2004.
- [C24] Lionel Morel and Florence Maraninchi. Logical-time contracts for reactive embedded components. In *Euromicro Conference, 2004. Proceedings. 30th*, pages 48 – 55, Rennes, France, September 2004.
- [C25] Lionel Morel. Efficient compilation of array iterators for Lustre. In *Synchronous Languages and Applications*, page 1, France, 2002.

National Conferences

- [NC26] Paul Iannetta, Laure Gonnord, and *Lionel Morel*. On optimizing scalar self-rebalancing trees. In *COMPAS 2020 - Conférence francophone d'informatique en Parallélisme, Architecture et Système*, pages 1–7, Lyon, France, June 2020. A long version is also available as a research report under the same name.
- [NC27] Trahay Trahay, Manuel Selva, *Lionel Morel*, and Marquet. Numamma: Numa memory analyzer. In *COMPAS 2017 - Conférence d'informatique en Parallélisme, Architecture et Système*, Sophia Antipolis, France, June 2017. Inria, N/A.
- [NC28] Kevin Marquet, *Lionel Morel*, Tanguy Risset, and Manuel Selva. CalMAR: Un runtime multi-applicatif pour l'exécution efficace d'applications flot-de-données. In *COMPAS 2017 - Conférence d'informatique en Parallélisme, Architecture et Système*, Sophia Antipolis, France, June 2017. Inria, N/A.
- [NC29] Manuel Selva, *Lionel Morel*, Kevin Marquet, and Stéphane Frénot. Une Bibliothèque Portable de Profilage Mémoire Bas-Niveau. In *COMPAS 2016 - Conférence d'informatique en Parallélisme, Architecture et Système*, Lorient, France, June 2016. Inria, N/A.
- [NC30] Manuel Selva, *Lionel Morel*, Kevin Marquet, and Stéphane Frénot. A QoS Monitoring System for Dataflow Programs. In *COMPAS 2013 - Conférence d'informatique en Parallélisme, Architecture et Système*, Grenoble, France, January 2013. Inria, N/A.

Thesis

- [T31] *Lionel Morel*. *Exploitation des structures régulières et des spécifications locales pour le développement correct de systèmes réactifs de grande taille*. Theses, Institut National Polytechnique de Grenoble - INPG, March 2005.
- [T32] *Lionel Morel*. *Compilation Efficace d'Itérateurs de Tableaux Lustre*. Master's thesis, Université Joesph Fourier - Grenoble I, 2001.

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- [R33] Paul Iannetta, Laure Gonnord, and *Lionel Morel*. On optimizing scalar self-rebalancing trees. Research Report RR-9343, INRIA , LIP ; Inria - Research Centre Grenoble – Rhône-Alpes ; Université de Lyon I Claude Bernard, 2020.
- [R34] Paul Iannetta, Laure Gonnord, *Lionel Morel*, and Tomofumi Yuki. Semantic Array Dataflow Analysis. Research Report RR-9232, Inria Grenoble Rhône-Alpes, December 2018.
- [R35] Laure Gonnord, Szabolcs-Martón Bagoly, and *Lionel Morel*. Static Analysis via Horn Encoding from synchronous Dataflow Programs. Technical Report RT-0492, Université Lyon 1 Claude Bernard, LIP & INSA, CITI , October 2017.
- [R36] Romain Fontaine, *Lionel Morel*, and Laure Gonnord. Combining dataflow programming and polyhedral optimization, a case study. Technical Report RT-0490, Inria Rhône-Alpes ; CITI - CITI Centre of Innovation in Telecommunications and Integration of services ; LIP - ENS Lyon, July 2017.

- [R37] Manuel Selva, *Lionel Morel*, and Kevin Marquet. numap: A Portable Library For Low Level Memory Profiling. Research Report RR-8879, INRIA, March 2016.
- [R38] Pontus Boström and *Lionel Morel*. Mode-automata in stateflow/simulink. Technical Report 772, TUCS (Turku University Computer Science), 2006.
- [R39] Pontus Boström, Matti Linjama, *Lionel Morel*, Lauri Siivonen, and Marina Waldén. Design and validation of digital controllers for hydraulics systems. Technical Report 800, TUCS (Turku University Computer Science), 2006.

Science Popularization - Vulgarisation Scientifique

- [SP40] *Lionel Morel*, Guillaume Salagnac, Lucas Chaloyard, Marie-Pierre Escudié, and Nicolas Stouls. Informatique frugale : à quand un numérique compatible avec les limites planétaires ? The Conversation, 5 2023. <https://theconversation.com/informatique-frugale-a-quand-un-numerique-compatible-avec-les-limites-planetaires-204625>.