

# CEA LIST 2014 scientific articles

## EMBEDDED SYSTEMS

### **Conference**

Aminot, A.; Lhuillier, Y.; Chateigner, A. & Charles, H.-P.

On the advantage of time-varying diversity of workload on Functionally Asymmetric multi-core  
*ACM International Conference Proceeding Series*, **2014**, 11-13

[url](#) | [doi](#)

### **Article**

Carbon, A.; Lhuillier, Y. & Charles, H.-P. c.

Hardware Acceleration of Red-Black Tree Management and Application to Just-In-Time Compilation  
*Journal of Signal Processing Systems*, **2014**

[url](#) | [doi](#)

### **Conference**

Clermidy, F.; Heliot, R.; Valentian, A.; Gamrat, C.; Bichler, O.; Duranton, M.; Blehadj, B. & Temam, O.  
Advanced technologies for brain-inspired computing

*Proceedings of the Asia and South Pacific Design Automation Conference, ASP-DAC*, **2014**, 563-569

[url](#) | [doi](#)

### **Conference**

Cudennec, L.; Dubrulle, P.; Galea, F.; Goubier, T. & Sirdey, R.

Generating code and memory buffers to reorganize data on many-core architectures  
*Procedia Computer Science, Elsevier*, **2014**, 29, 1123-1133

[url](#) | [doi](#)

### **Conference**

Dkhil, A.; Do, X.; Dubrulle, P.; Louise, S. & Rochange, C.

Self-timed periodic scheduling for a cyclo-static dataflow model  
*Procedia Computer Science, Elsevier*, **2014**, 29, 1134-1145

[url](#) | [doi](#)

### **Conference**

Dupret, A.; Verdant, A.; Millet, L.; Alacoque, L.; Peizerat, A.; Benetti, M.; Laforest, T.; Guicquero, W. & Tchagaspanian, M.

Niemier M., P. W. (Ed.)

Processing next to the pixel: Lessons from some developments at CEA-Leti

*International Workshop on Cellular Nanoscale Networks and their Applications, IEEE Computer Society*, **2014**

[url](#) | [doi](#)

### **Conference**

Endo, F.; Courousse, D. & Charles, H.-P.

Veidenbaum A.V., G. C. (Ed.)

Micro-architectural simulation of in-order and out-of-order ARM microprocessors with gem5

*Proceedings - International Conference on Embedded Computer Systems: Architectures, Modeling and Simulation, SAMOS 2014, Institute of Electrical and Electronics Engineers Inc.*, **2014**, 266-273

[url](#) | [doi](#)

### **Article**

Evain, S.; Savin, V. & Gherman, V.

Error correction schemes with erasure information for fast memories

*Journal of Electronic Testing: Theory and Applications (JETTA)*, Kluwer Academic Publishers, **2014**, 30, 183-192

[url](#) | [doi](#)

#### **Conference**

Goubier, T.; Couroussé, D. & Azaiez, S.

Ī,C: C with process network extensions for embedded manycores

*Procedia Computer Science, Elsevier*, **2014**, 29, 1100-1112

[url](#) | [doi](#)

#### **Conference**

Guerre, A.; Acquaviva, J.-T. & Lhuillier, Y.

A unified methodology for a fast benchmarking of parallel architecture

*Proceedings -Design, Automation and Test in Europe, DATE, Institute of Electrical and Electronics Engineers Inc.*, **2014**

[url](#) | [doi](#)

#### **Article**

Imperiale, S. b. & Joly, P.

Mathematical modeling of electromagnetic wave propagation in heterogeneous lossy coaxial cables with variable cross section

*Applied Numerical Mathematics, Elsevier*, **2014**, 79, 42-61

[url](#) | [doi](#)

#### **Conference**

Jan, M.; Zaourar, L.; Legout, V. & Pautet, L.

Handling criticality mode change in time-triggered systems through linear programming

*Ada User Journal, Ada-Europe*, **2014**, 35, 133-137

[url](#)

#### **Article**

Legout, V. b.; Jan, M. & Pautet, L.

Scheduling algorithms to reduce the static energy consumption of real-time systems

*Real-Time Systems, Kluwer Academic Publishers*, **2014**

[url](#) | [doi](#)

#### **Conference**

Lomüller, V. & Charles, H.-P.

A LLVM extension for the generation of low overhead runtime program specializer

*ACM International Conference Proceeding Series*, **2014**, 14-16

[url](#) | [doi](#)

#### **Conference**

Lomüller, V.; Ledru, S. & Charles, H.-P.

Scilab on a hybrid platform

*Advances in Parallel Computing, Elsevier*, **2014**, 25, 743-752

[url](#) | [doi](#)

#### **Conference**

Maurras, J.-F.; Nguyen, T. & Nguyen, V.

On the linear description of the Huffman trees polytope

*Discrete Applied Mathematics*, **2014**, 164, 225-236

[url](#) | [doi](#)

#### **Conference**

Roclin, D.; Bichler, O.; Gamrat, C. & Klein, J.-O.

Sneak paths effects in CBRAM memristive devices arrays for spiking neural networks

*Proceedings of the 2014 IEEE/ACM International Symposium on Nanoscale Architectures, NANOARCH 2014, IEEE Computer Society*, **2014**, 13-18

[url](#) | [doi](#)

#### **Conference**

Sarrazin, S.; Evain, S.; Miro-Panades, I.; Valentian, A.; Pajaniradja, S.; De Barros Naviner, L. & Gherman, V.

Shadow-scan design with low latency overhead and in-situ slack-time monitoring

*Proceedings - 2014 19th IEEE European Test Symposium, ETS 2014, IEEE Computer Society*, **2014**

[url](#) | [doi](#)

#### **Conference**

Sarrazin, S. c.; Evain, S.; Miro-Panades, I.; De Barros Naviner, L. & Gherman, V.

Fip-flop selection for in-situ slack-time monitoring based on the activation probability of timing-critical paths

*Proceedings of the 2014 IEEE 20th International On-Line Testing Symposium, IOLTS 2014, IEEE Computer Society*, **2014**, 160-163

[url](#) | [doi](#)

#### **Conference**

Sassolas, T.; Sandionigi, C.; Guerre, A.; Aminot, A.; Vivet, P.; Boussetta, H.; Ferro, L. & Peltier, N.

Early design stage thermal evaluation and mitigation: The locomotiv architectural case

*Proceedings - Design, Automation and Test in Europe, DATE, Institute of Electrical and Electronics Engineers Inc.*, **2014**

[url](#) | [doi](#)

#### **Article**

AdjÃ©, A.; Gaubert, S. & Goubault, E.

Computing the smallest fixed point of order-preserving nonexpansive mappings arising in positive stochastic games and static analysis of programs

*Journal of Mathematical Analysis and Applications*, **2014**, 410, 227-240

[url](#) | [doi](#)

#### **Conference**

Bannour, B.; Escobedo, J.; Gaston, C.; Gall, P. & Pedroza, G.

Designing sequence diagram models for robustness to attacks

*Proceedings - IEEE 7th International Conference on Software Testing, Verification and Validation Workshops, ICSTW 2014, IEEE Computer Society*, **2014**, 26-33

[url](#) | [doi](#)

#### **Conference**

Bardin, S.; Chebaro, O.; Delahaye, M. & Kosmatov, N.

An all-in-one toolkit for automated white-box testing

*Lecture Notes in Computer Science (including subseries Lecture Notes in Artificial Intelligence and Lecture Notes in Bioinformatics)*, Springer Verlag, **2014**, 8570 LNCS, 53-60

[url](#) | [doi](#)

### **Conference**

Bardin, S.; Kosmatov, N. & Cheynier, F.

Efficient leveraging of symbolic execution to advanced coverage criteria

*Proceedings - IEEE 7th International Conference on Software Testing, Verification and Validation, ICST 2014, IEEE Computer Society, 2014, 173-182*

[url](#) | [doi](#)

### **Conference**

Bencomo, N. & Belaggoun, A.

A world full of surprises: Bayesian theory of surprise to quantify degrees of uncertainty

*36th International Conference on Software Engineering, ICSE Companion 2014 - Proceedings, Association for Computing Machinery, 2014, 460-463*

[url](#) | [doi](#)

### **Conference**

Blazy, S.; Böhler, D. & Jakobowski, B.

Improving static analyses of C programs with conditional predicates

*Lecture Notes in Computer Science (including subseries Lecture Notes in Artificial Intelligence and Lecture Notes in Bioinformatics), Springer Verlag, 2014, 8718 LNCS, 140-154*

[url](#) | [doi](#)

### **Article**

Bobot, F.; Filiâtre, J.-C. c. d.; Marché, C. c. d. & Paskevich, A. c. d.

Let's verify this with Why3

*International Journal on Software Tools for Technology Transfer, 2014*

[url](#) | [doi](#)

### **Article**

Cachera, D. b.; Jensen, T. c.; Jobin, A. b. & Kirchner, F.

Inference of polynomial invariants for imperative programs: A farewell to Gröbner bases

*Science of Computer Programming, 2014*

[url](#) | [doi](#)

### **Conference**

Cachera, D. b.; Jensen, T. c.; Jobin, A. b. & Kirchner, F.

Inference of polynomial invariants for imperative programs: A farewell to Gröbner bases

*Science of Computer Programming, Elsevier, 2014, 93, 89-109*

[url](#) | [doi](#)

### **Article**

Chebaro, O.; Cuoq, P.; Kosmatov, N.; Marre, B.; Pacalet, A. d.; Williams, N. & Jakobowski, B.

Behind the scenes in SANTE: A combination of static and dynamic analyses

*Automated Software Engineering, Kluwer Academic Publishers, 2014, 21, 107-143*

[url](#) | [doi](#)

### **Conference**

Correnson, L.

Qed. Computing what remains to be proved

*Lecture Notes in Computer Science (including subseries Lecture Notes in Artificial Intelligence and Lecture Notes in Bioinformatics), Springer Verlag, 2014, 8430 LNCS, 215-229*

[url](#) | [doi](#)

**Article**

Delahaye, M.; Botella, B. & Gotlieb, A.  
Infeasible path generalization in dynamic symbolic execution  
*Information and Software Technology*, **2014**

[url](#) | [doi](#)

**Article**

García, A. b.  
Effective connectivity at synaptic level in humans: a review and future prospects  
*Biological Cybernetics*, **2014**

[url](#) | [doi](#)

**Conference**

Goubault, E.; Jourdan, J.-H.; Putot, S. & Sankaranarayanan, S.  
Finding non-polynomial positive invariants and Lyapunov functions for polynomial systems through Darboux polynomials  
*Proceedings of the American Control Conference, Institute of Electrical and Electronics Engineers Inc.*, **2014**, 3571-3578

[url](#) | [doi](#)

**Conference**

Goubault, E.; Mullier, O.; Putot, S. & Kieffer, M.  
Inner approximated reachability analysis  
*HSCC 2014 - Proceedings of the 17th International Conference on Hybrid Systems: Computation and Control (Part of CPS Week), Association for Computing Machinery*, **2014**, 163-172

[url](#) | [doi](#)

**Article**

Kosmatov, N.; Lemerre, M. & Alec, C.  
A case study on verification of a cloud hypervisor by proof and structural testing  
*Lecture Notes in Computer Science (including subseries Lecture Notes in Artificial Intelligence and Lecture Notes in Bioinformatics)*, Springer Verlag, **2014**, 8570 LNCS, 158-164

[url](#) | [doi](#)

**Conference**

Kosmatov, N. & Signoles, J.  
Runtime assertion checking and its combinations with static and dynamic analyses tutorial synopsis  
*Lecture Notes in Computer Science (including subseries Lecture Notes in Artificial Intelligence and Lecture Notes in Bioinformatics)*, Springer Verlag, **2014**, 8570 LNCS, 165-168

[url](#) | [doi](#)

**Article**

Le Cadre, H.  
Infrastructure topology optimization under competition through cross-entropy  
*Journal of the Operational Research Society, Palgrave Macmillan Ltd.*, **2014**, 65, 824-841

[url](#) | [doi](#)

**Conference**

Mehiaoui, A.; Tucci-Piergiovanni, S.; Mraidha, C. & Babau, J.-P.

Extending response-time analysis for the automatic synthesis of functional graphs into fixed-priority distributed systems

*Proceedings of the 9th IEEE International Symposium on Industrial Embedded Systems, SIES 2014, IEEE Computer Society, 2014, 122-132*

[url](#) | [doi](#)

#### **Article**

Mimram, S.

Towards 3-dimensional rewriting theory

*Logical Methods in Computer Science, Logical Methods in Computer Science, 2014, 10*

[url](#) | [doi](#)

#### **Conference**

Mzid, R.; Mraidha, C.; Babau, J.-P. & Abid, M.

SRMP: A software pattern for deadlocks prevention in real-time concurrency models

*QoSA 2014 - Proceedings of the 10th International ACM SIGSOFT Conference on Quality of Software Architectures (Part of CompArch 2014), Association for Computing Machinery, 2014, 139-144*

[url](#) | [doi](#)

#### **Conference**

Petiot, G. b.; Kosmatov, N.; Giorgetti, A. c. & Julliand, J.

How test generation helps software specification and deductive verification in Frama-C

*Lecture Notes in Computer Science (including subseries Lecture Notes in Artificial Intelligence and Lecture Notes in Bioinformatics), Springer Verlag, 2014, 8570 LNCS, 204-211*

[url](#) | [doi](#)

#### **Conference**

Tatibouët, J.; Cuccuru, A.; Gérard, S. & Terrier, F.

Towards a systematic, tool-independent methodology for defining the execution semantics of UML profiles with fUML

*MODELSWARD 2014 - Proceedings of the 2nd International Conference on Model-Driven Engineering and Software Development, SciTePress, 2014, 182-192*

[url](#)

#### **Article**

Yildirim, K. & Gökçan, O. b.

Efficient time synchronization in a wireless sensor network by adaptive value tracking

*IEEE Transactions on Wireless Communications, Institute of Electrical and Electronics Engineers Inc., 2014, 13, 3650-3664*

[url](#) | [doi](#)

#### **Conference**

Schultz, E.; Simon, A.-C.; Strola, S.; Perenon, R.; Espagnon, I.; Allier, C.; Claustre, P.; Jary, D. & Dinten, J.-M.

A novel method for single bacteria identification by Raman spectroscopy

*Progress in Biomedical Optics and Imaging - Proceedings of SPIE, SPIE, 2014, 8939*

[url](#) | [doi](#)

#### **Article**

Stan, O.; Sirdey, R.; Carlier, J. & Nace, D.

The robust binomial approach to chance-constrained optimization problems with application to stochastic

partitioning of large process networks

*Journal of Heuristics*, **2014**, 1-30

[url](#) | [doi](#)

**Conference**

Strola, S.; Marcoux, P.; Schultz, E.; Perenon, R.; Simon, A.-C.; Espagnon, I.; Allier, C. & Dinten, J.-M.

Differentiating the growth phases of single bacteria using Raman spectroscopy

*Progress in Biomedical Optics and Imaging - Proceedings of SPIE, SPIE*, **2014**, 8939

[url](#) | [doi](#)

**Conference**

Ventroux, N.; Peeters, J.; Sassolas, T. & Hoe, J.

Veidenbaum A.V., G. C. (Ed.)

Highly-parallel special-purpose multicore architecture for SystemC/TLM simulations

*Proceedings - International Conference on Embedded Computer Systems: Architectures, Modeling and Simulation, SAMOS 2014, Institute of Electrical and Electronics Engineers Inc.*, **2014**, 250-257

[url](#) | [doi](#)

**Conference**

Vincent, A.; Larroque, J.; Zhao, W.; Romdhane, N.; Bichler, O.; Gamrat, C.; Klein, J.-O.; Galdin-Retailleau, S. & Querlioz, D.

Spin-transfer torque magnetic memory as a stochastic memristive synapse

*Proceedings - IEEE International Symposium on Circuits and Systems, Institute of Electrical and Electronics Engineers Inc.*, **2014**, 1074-1077

[url](#) | [doi](#)