**Résumé Jörg Henkel**

CES – Chair for Embedded Systems

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**Working Positions**

**1991- 1996** PhD (“Summa cum Laude”) at Institute for Computer Engineering University of Braunschweig, Germany.

**1997- 2004** Senior Research Staff Member at Computer and Communication Research Laboratories CCRL (now NEC Laboratories America NECLA), NEC in Princeton, NJ, USA.

**2001** Visiting Professor, University of Notre Dame, IN, USA.

**2004 – present** Full Professor, Chair for Embedded Systems, Computer Science Department, Karlsruhe Institute of Technology, Germany.

**Five Most Relevant Publications**

* S. Rehman, M. Shafique, F. Kriebel, J. Henkel, “Reliable Software for Unreliable Hardware: Embedded Code Generation aiming at Reliability Coding”, [IEEE International Conference on Hardware-Software Codesign and System Synthesis](http://www.codes-isss.org/) [(CODES+ISSS’11)](http://www.codes-isss.org/), Taipei, Taiwan, pp. 237-246, October 2011. **Received the Codes+ISSS Best paper Award**.
* T. Ebi, M. Al Faruque, J. Henkel, “TAPE: Thermal-Aware Agent-Based Power Economy for Multi/Many-Core Architectures”, IEEE/ACM 27th International Conference on Computer-Aided Design (ICCAD’09), San Jose, CA, USA, pp. 302-309, Nov. 2009, **Received the IEEE/ACM William J. McCalla ICCAD Best Paper Award**.
* L. Bauer, M. Shafique, S. Kreutz, J. Henkel, “Run-time System for an Extensible Embedded Processor with Dynamic Instruction Set”, Proc. of IEEE/ACM Design Automation and Test in Europe Conference (DATE’08), pp. 752-757, Munich, Germany, 2008. **Received a DATE Best Paper Award**.
* M. A. Al Faruque, R. Krist, J. Henkel, “ADAM: run-time agent-based distributed application mapping for on-chip communication”, IEEE/ACM 45th Design Automation Conference (DAC’08), pp. 760-765, 2008.
* Y. Li, J. Henkel, “A Framework for Estimating and Minimizing Energy Dissipation of Embedded HW/SW Systems”, IEEE/ACM 35th Design Automation Conference (DAC’98), pp.188-193, 1998.

**Service**

* **Editor-in-Chief**
	+ ACM Transaction on Embedded Computing Systems (ACM TECS)
		- Jan. 2008 – Dec. 2013 (two periods of three years)
* **Chairman:**
	+ IEEE Computer Society, Germany Section (www.ieee.de/computer)
		- since 2005
* **DFG Fachkollegium:**
	+ Elected Board Member of the German Research Foundation (DFG) on “Computer Architecture and Embedded Systems”
		- since 2012
* **General Chair:**
	+ 2014 General Co-Chair 20th IEEE International Conference on Embedded and Real-Time Computing Systems and Applications (RTCSA)
	+ 2013 General Chair IEEE/ACM International Conference on CAD (ICCAD)
	+ 2012 General Chair IEEE ESTIMedia Symposium (part of the Embedded Systems Week)
	+ 2009 General Co-Chair IEEE/ACM International Symposium on Low Power Electronics and Design (ISLPED)
	+ 2008 (Vice General Chair) IEEE/ACM International Symposium on Low Power Electronics and Design (ISLPED)
	+ 2002 IEEE/ACM 10th Symposium on Hardware/Software Co-Design, Estes Park, Colorado.
* **Program Chair:**
	+ 2014 8th International Symposium on Networks-on-Chip (NOCS)
	+ 2013 International Workshop on Power and Timing Modeling, Optimization and Simulation (PATMOS)
	+ 2012 IEEE/ACM International Conference on Computer-Aided Design (ICCAD)
	+ 2012 IEEE International Conference on VLSI Design
	+ 2010 IEEE ESTIMedia Workshop (part of the Embedded Systems Week)
	+ 2009 IEEE/ACM Int'l Conference on Compilers, Architecture, and Synthesis for Embedded Systems (CASES)
	+ 2008 IEEE Workshop on Signal Processing Systems (SiPS www.sips08.org), Washington D.C. Metropolitan Area, Oct. 2008.
	+ 2006 IEEE/ACM International Symposium on Low Power Electronics and Design (ISLPED)
	+ 2002 IEEE/ACM Rapid System Prototyping Workshop, Darmstadt, Germany.
	+ 2001 IEEE/ACM 9th. Symposium on Hardware/Software Co-Design (CODES), Copenhagen, Denmark.
* **Associate Editor:**
	+ IEEE Transactions on Computer-Aided Design of Integrated Circuits (TCAD). Since 2012.
	+ IEEE Transaction on VLSI Systems (TVLSI). 2006-2010.
	+ Journal of Low Power Electronics (JOLPE). Since 2003.
* **Guest Editorials:**
	+ 2012 IEEE Transaction on Industrial Informatics on “Power-Aware Design for Embedded Systems”.
	+ 2010 ACM Transaction on Design Automation for Embedded Systems (TODAES), Special Section on Low Power Electronics and Design.
	+ 2008 IEEE Transaction on VLSI Systems (TVLSI), Special Issue on Low Power Electronics and Design.
	+ 2003 IEEE Computer Magazine, Vol. 36, No. 4: Special Issue on Hardware/Software Co-Design, April 2003.
	+ 2003 Kluwer, Journal on Design Automation for Embedded Systems, Vol. 8, Issue 4: Special Issue on Rapid System Prototyping, Dec 2003.
* **Steering/Executive Committees:**
	+ Chair of the ACM/IEEE CASES Conference (Compiler, Architecture and Synthesis for Embedded Systems)
		- since 2010
	+ Steering Committee Member of the ACM/IEEE Embedded Systems Week www.eswork.org
		- since 2010
	+ Steering Committee Member IEEE/ACM International Conference on Computer Aided Design (ICCAD)
		- 2014, 2013, 2012, 2011, 2009, 2008
	+ Editorial Board Member of the “Journal for Embedded Computing” by Cambridge International Science Publishing:
		- since 2003
	+ Steering Committee Member IEEE/ACM Codes+ISSS Conference
		- since 2004
* **Other Chair Position:**
	+ Workshop Chair CASA (Compiler Assisted SoC Assembly) 2008 at ESWeek
	+ Chair EDAA/DATE PhD Forum 2007
	+ Co-Chair EDAA/DATE PhD Forum 2006
* **Organizing Committees:**
	+ 2013 Track Chair CODES+ISSS, “Track 7: Power-aware Systems”
	+ 2012, 2011 “Sub-Committee Chair on Embedded Systems Platforms and Case Studies”, IEEE/ACM Design Automation Conference (DAC).
	+ 2012 Publicity Chair 7th IEEE International Symposium on Industrial Embedded Systems
	+ 2010, 2009 “Sub-Committee Chair on Low Power”. IEEE/ACM International Conf. on Computer Aided Design (ICCAD)
	+ 2011, 2010, 2009 “Sub-Committee Chair on Power Estimation and Optimization”, IEEE/ACM Design Automation and Test in Europe Conference (DATE).
	+ 2008 “Sub-Committee Chair on System-level Communication” IEEE/ACM Design Automation Conference (DAC).
	+ 2008 “Topic Chair on Low Power Design”, Codes+ISSS 2008.
	+ 2010, 2009, 2008, 2007, “Publicity Co-Chair” IEEE/ACM ESWeek.
	+ 2004 "Topic Chair on System Synthesis" at IEEE/ACM ICCAD Conference.
	+ 2004 "Special Session Chair" at IEEE/ACM Codes-ISSS Conference.
	+ 2003 "Topic Chair on System Synthesis" at IEEE/ACM ICCAD Conference.
	+ 2002 "Tutorial Chair" at IEEE/ACM CASES Conference.
* **Program Committees:**
	+ DAC (IEEE/ACM Design Automation Conference)
		- 2012, 2011, 2008, 2007, 2006
	+ ICCAD (IEEE/ACM Int’l. Conf on Computer Aided Design)
		- 2010, 2009, 2008, 2004, 2003, 2002
	+ DATE (IEEE/ACM Design Automation & Test in Europe Conf.)
		- 2014, 2013, 2012, 2011, 2010, 2009, 2008, 2007, 2006, 2005, 2004, 2003, 2002, 2001
	+ ISLPED (IEEE/ACM Int’l Symposium on Low Power Electronics and Design)
		- 2012, 2011, 2010, 2009, 2008, 2007, 2005, 2004, 2003, 2002, 2001, 2000
	+ ICCD (IEEE Int’l Conf. on Computer Design)
		- 2009, 2008
	+ ASPDAC (IEEE/ACM Asia & South Pacific Design Automation Conf.):
		- 2009, 2004
	+ Codes and Codes+ISSS (IEEE/ACM Hardware/Software Co-design Symposium):
		- 2014, 2013, 2012, 2011, 2010, 2009, 2008, 2007, 2005, 2004, 2003, 2002, 2001, 2000, 1999
	+ NoCS (IEEE International Symposium on Networks-on-Chip)
		- 2014, 2013, 2012, 2011, 2010, 2009
	+ CASES (IEEE/ACM Conf. on Compilers, Architectures and Synthesis for Embedded Systems):
		- 2013, 2012, 2011, 2010, 2009, 2002
	+ RTSS (IEEE/ACM Real Time System Symposium):
		- 2007, 2004, 2003
	+ ASAP (IEEE International Conference on Application-specific Systems, Architectures and Processors)
		- 2014
	+ ECRTS (IEEE European Micro Conference on Real-Time Systems)
		- 2007
	+ ISVLSI (IEEE/ACM International Symposium on VLSI)
		- 2011, 2010, 2009, 2008, 2007, 2006
	+ RSP (IEEE/ACM Rapid System Prototyping Workshop):
		- 2010, 2009, 2008, 2007, 2006, 2005, 2004, 2003, 2002
	+ ESTIMedia Workshop:
		- 2010, 2009, 2008, 2007, 2005, 2004, 2003
	+ Scopes Workshop
		- 2014, 2013, 2011, 2010, 2009, 2008, 2007
	+ Samos Conference
		- 2009, 2008, 2007
* **Other Committees**
	+ Best Paper Award Committee IEEE/ACM DAC, 2014
	+ Best Paper Award Committee IEEE/ACM ICCAD Conference 2007
	+ EDAA/DATE Best PhD Award Committee 2014, 2007, 2006
* **Other Memberships**
	+ Member HiPEAC European Network of Excellence on High Performance and Embedded Architecture and Compilation.

**Awards**

* Embedded Systems Week, IEEE International Conference on Hardware-Software Co-design and System Synthesis (CODES+ISSS'11) **Best Paper Award** for “Reliable Software for Unreliable Hardware: Embedded Code Generation aiming at Reliability”, 2011.
* MaXentric Technologies **AHS** **Best Paper Award** for “Concepts, Architectures, and Run-time Systems for Efficient and Adaptive Reconfigurable Processors”, 2011.
* William J. McCalla **Best Paper Award ICCAD 2009** (IEEE/ACM Int'l Conference on Computer Aided Design) for ”TAPE: Thermal-Aware Agent-Based Power Economy for Multi/Many-Core Architectures“
* **Best Paper Award DATE 2008** Conference for **”Run-time System for an Extensible Embedded Processor with Dynamic Instruction Set**“ (announced in April 2009).
* Best Paper Nomination at ICCAD 2010 for "Selective Instruction Set Muting for Energy-Aware Adaptive Processors"
* Best Paper Nomination at ICCAD 2010 for "SETS: Stochastic Execution Time Scheduling for Multicore Systems by Joint State Space and Monte Carlo".
* Six HiPEAC (European Network of Excellence on High Performance and Embedded Architecture and Compilation) Paper Awards between 2008-2011.
* “Summa cum Laude” for PhD Thesis, 1996.

**Student Awards** (received by Master and PhD students under my supervision):

* European Design and Automation Association (EDAA) Outstanding Dissertations Award for the Ph.D. Thesis by Dr. Lars Bauer entitled “RISPP: A Run-time Adaptive Reconfigurable Embedded Processor”, 2011.
* Hermann Billing Price for the Master Thesis of Florian Kriebel entitled “Analysis and Design of Hybrid Hardware/Software Reliability Techniques for Embedded Processors”, 2011.
* FZI (Research Center Computer Science) Best Dissertation Award for the Ph.D. Thesis by Dr. Lars Bauer entitled “RISPP: A Run-time Adaptive Reconfigurable Embedded Processor”, 2011.
* FZI (Research Center Computer Science) 2008 **Best Master Thesis Award** for the Master Thesis by Bastian Molkenthin entitled “Development of a Power-Aware Rate Controller for H.264 Video Encoder”.

**Delivered Keynotes**

* “Embedded On-Chip Reliability – It’s a Thermal Challenge”, M-Scopes, Schloss Rheinfels, June 20th, 2013.
* “Embedded On-Chip Reliability - It's a Thermal Challenge” at “Chip in Brasilia” (SBCCI / SBMicro), Brasilia, Brazil, September 1st., 2012
* “Dependable Software for Undependable Hardware” at 7th IEEE International Symposium on Industrial Embedded Systems (SIES'12), Karlsruhe, Germany, June 20th, 2012.
* “i-Core: A run-time adaptive processor for embedded multi-core systems”, by Jörg Henkel at International Conference on Engineering of Reconfigurable Systems and Algorithms (ERSA'11), Las Vegas, Nevada, July 20th. 2011.
* “Reliability of On-Chip Systems – A Thermal Perspective”, by Jörg Henkel at ISVLSI 2011 Conference, Chennai, India, July 4th. 2011.
* “Embedded Systems and the Reliability Challenge”, by Jörg Henkel at the 2008 World Computing Congress (WCC’08) at DIPES’08, Milano, Sept. 8th. 2008.

**Patents**

* H. Lekatsas, J. Henkel, S. Chakradhar, V. Jakkula, "Dynamic content-aware memory compression and encryption architecture", issued January 6th., 2009, US Patent No. 7,474,750
* H. Lekatsas, J. Henkel, S. Chakradhar, V. Jakkula, "Compressed memory architecture for embedded systems", issued November 27th., 2007, US Patent No. 7,302,543
* S. Chakradhar, J. Henkel, V. Jakkula, H. Lekatsas, S. Murugan: "Hardware/software platform for rapid prototyping of code compression technologies", issued April 10th, 2007; US Patent No.7,203,935
* J. Henkel, H. Lekatsas, V. Jakkula: ”Apparatus for one-cycle decompression of compressed data and methods of operation thereof”, issued May 10th, 2005; US Patent No. 6,892,292
* J. Henkel, F. Vahid, T. Givargis, "Method for core-based system-level power modeling using object-oriented techniques", issued March 8th, 2005, US Patent No. 6,865,526
* J. Henkel, H. Lekatsas: "Method and apparatus for adaptive bus coding for low power deep submicron designs", issued May 25th., 2004, US Patent No. 6,741,190
* J. Henkel, W. Wolf, H. Lekatsas, "Method and apparatus for object code compression and decompression for computer systems", issued May 4th., 2004, US Patent No. 6,732,256
* J. Henkel, W. Wolf, H. Lekatsas, "Object code compression using different schemes for different instruction types", issued Feb. 10th., 2004, US Patent No. 6,691,305
* J. Henkel, “Low power hardware/software partitioning approach for core-based embedded systems", issued Sept. 16, 2003, US Patent No. 6, 622, 287
* J. Henkel, H. Lekatsas, "Method and apparatus for adaptive bus coding for low power deep submicron designs", issued June 24, 2003, US Patent No. 6, 583, 735.

**Panel Invitations**

* "Reset Microprocessor Hardware and Software Roadmaps for the next 30 Years?", Panel at IEEE International Conference for Computer Design (ICCD'08), Moderator: Georgi Gaydadjiev, TU Delft. Panelists: Jörg Henkel, University of Karlsruhe, Edward Grochowski, Intel Corp., Tom Conte, Georgia Institute of Technology, Brian Flachs, IBM, Lake Tahoe, CA, Oct. 14th. 2008.
* "GP vs. ASP:  Are ASIPS just a short-term transition in computing?", Panel at IEEE Symposium on Application Specific Processor (SASP’08) , Moderator: Grant Martin, Tensilica. Panelists: Eric Collins, Novelics; Tim Kogel, CoWare; Nigel Topham, University of Edinburgh and ARC; Nader Bagherzadeh, University of Irvine; Jörg Henkel, University of Karlsruhe. Anaheim June 9th. 2008.
* “Best Ways to Use Billions of Devices on a Chip”, Panel at IEEE/ACM Asia and South Pacific Design Automation Conference (ASPDAC’08), Moderator: Grant Martin, Tensilica, Panelists: Deming Chen, Nikil Dutt, Jörg Henkel, Kyungho Kim, Kazutoshi Kobayashi, Seoul, Jan. 24th. 2008.

**Tutorials held (honorarium provided)**

* 2013 “Temperature- and Process Variation-Aware Dependable Embedded Systems” at ASP-DAC, Yokohama, Japan, January 22nd, 2013.
* 2009 “Security and Dependability of Embedded Systems: Computer Architects’ Perspective”, at IEEE VLSI Design Conf., Jan. 8th. 2009 in Delhi.
* 2003 Full-day tutorial on “Specification & Design of Multi-million gate SOCs”,
held at IEEE VLSI Conference, New Delhi, Jan 5th. 2003.
* 2002 Full-day tutorial on “Specification & Design of Multi-million gate SOCs”,
held at IEEE/ACM Int’l Conf. on CAD (ICCAD), San Jose, California, Nov. 2002.
* 2002 Full-day tutorial on “New Computing Platforms for Embedded Systems”,
held at IEEE/ACM Design Automation Conference (DAC), New Orleans, June 2002.
* 2001 Half-day tutorial on “Platform-based Design for Systems-on-Chips”,
held at IEEE/ACM DATE Conference, Munich, March 2001.
* 1998 Half-day tutorial on “Core based design of systems on a chip”,
held at IEEE 11th. Int’l ASIC Conf., Ann Arbor, Michigan, Sept. 1998.
* 1995 Full-day tutorial on “Hardware/Software Co-Design of Embedded Systems”,
held at IEEE/ACM Int’l Conf. on CAD (ICCAD), San Jose, California, Nov. 1995.

**Embedded Tutorials held**

* 2004 on “Quo Vadis Multimedia? From Desktop Multimedia to Distributed Multimedia Systems”, held at IEEE/ACM DATE Conference, Paris, Feb. 19th. 2004.
* 2004 on “On-chip networks: a scalable, communication-centric embedded system design paradigm”, held at 17th. IEEE VLSI Conference, Mumbai, India, Jan. 9th. 2004.

**Publications**

**Book / Book Contributions**

* Zatt, B., Shafique, M., Bampi, S., Henkel, J.: “**3D Video Coding for Embedded Devices - Energy Efficient Algorithms and Architectures“,** Springer 2013, Science+Business Media, LLC,
ISBN 978-1-4614-6758-8 (Book).
* Shafique, M., Henkel, J.: “Hardware/Software Architectures for Low-Power Embedded Multimedia Systems[”, Springer 2011](http://www.springer.com/engineering/circuits%2B%26%2Bsystems/book/978-1-4419-9691-6), ISBN 978-1-4419-9691-6 (Book).
* Bauer, L., Henkel, J., “Run-time Adaptation for Reconfigurable Embedded Processors”, [Springer](http://www.springer.com/engineering/circuits%2B%26%2Bsystems/book/978-1-4419-7411-2) 2007, ISBN 978-1-4419-7411-2 (Book).
* Henkel, J., Parameswaran, S. (Eds.), “Designing Embedded Processors - A low power perspective“, Springer 2007, ISBN 978-1-4020-5868-4 (Book).
* Henkel, J., Parameswaran, S., Cheung, N., „Application-Specific Embedded Processors“ in "Designing Embedded Processors", J. Henkel and S. Parameswaran (Eds.), Springer, pp. 3-23, 2007.
* Parameswaran, S., Henkel, J., Janapsatya, A., Bonny, T.,Ignjatovic, A., „Design and Run Time Code Compression for Embedded Systems“ in "Designing Embedded Processors", J. Henkel and S. Parameswaran (Eds.), Springer, pp. 97-128, 2007.
* Cheung, N., Henkel, J., Parameswaran, S., „Instruction Matching and Modelling“ in: "Customizable and Configurable Embedded Processors", Publisher: Lenne, P.; Leupers, R.; Elsevier: Morgan Kaufmann, pp. 257-277, 2006.
* P. Ashar, S. Chakradhar, A. Gupta, J. Henkel, A. Raghunathan, K. Wakabayashi, “NEC and ICCAD-EDA Partners in Success”, Proc. of "The Best of ICCAD: 20 Years of Excellence in Computer-Aided Design", A. Kuehlmann (ed.), Kluwer, pp.663-674, Feb. 2003.
* “Readings in Hardware/Software Co-Design” , Ed.: G. De Micheli, R. Ernst, W. Wolf, MORGAN KAUFMAN Publishers, Our contribution: Y. Li, J. Henkel, “A Framework for Estimating and Minimizing Energy Dissipation of Embedded HW/SW Systems”, to appear Spring 2001.
* J. Henkel, "Automated hardware/software partitioning in the design of integrated real-time systems", (published Ph.D. dissertation in German language), Shaker Publishing House, ISBN: 3-8265-2038-6, 1996.

**Journals/Magazins**

* H. Javaid, M. Shafique, J. Henkel, S. Parameswaran, „**Energy-Efficient Adaptive Pipelined MPSoCs for Multimedia Applications“,** IEEE Transactions on Computer-Aided Design of Integrated Circuits and Systems (TCAD), (to appear).
* H. Amrouch, T. Ebi, J. Henkel, „**RESI: Register-Embedded Self-Immunity for Reliability Enhancement“,** IEEE Transactions on Computer-Aided Design of Integrated Circuits and Systems (TCAD), (to appear).
* M. Shafique, L. Bauer, J. Henkel, „**Adaptive Energy Management for Dynamically Reconfigurable Processors“,** IEEE Transactions on Computer-Aided Design of Integrated Circuits and Systems (TCAD), vol. 33, Issue 1, pp. 50-63, Januar 2014.
* A. Herkersdorf, H. Aliee, M. Engel, M. Glaß, C. Gimmler-Dumont, J. Henkel, V. B. Kleeberger, M. A. Kochte, J. M. Kühn, D. Mueller-Gritschneder, S. R. Nassif, H. Rauchfuss, W. Rosenstielf, U. Schlichtmann, M. Shafique, M. B. Tahoori, J. Teich, N. Wehn, C. Weis, H.-J. Wunderlich, „**Resilience Articulation Point (RAP): Cross-layer Dependability Modeling for Nanometer System-on-chip Resilience“,** Elsevier Microelectronics Reliability Journal (to appear).
* B.B. Vizzotto, B. Zatt, M. Shafique, S. Bampi, J. Henkel, „**Model Predictive Hierarchical Rate Control with Markov Decision Process for Multiview Video Coding“,** IEEE Transactions on Circuits and Systems for Video Technology (TCSVT), vol. 23, no. 12, pp. 2090-2104, December 2013.
* L. Bauer, C. Braun, M.E. Imhof, M.A. Kochte, E. Schneider, H. Zhang, J. Henkel, H.-J. Wunderlich, „**Test Strategies for Reliable Runtime Reconfigurable Architectures“,** IEEE Transactions on Computers, vol. 62, no. 8, pp. 1494-1507, August 2013.
* M.A. Al Faruque, T. Ebi, J. Henkel, “AdNoC: Runtime Adaptive Network-on-Chip Architecture”, IEEE Transaction on Very Large Scale Integration Systems, Vol. 20 (2): pp. 257-269, 2012.
* J. Teich, J. Henkel, A. Herkersdorf, D. Schmitt-Landsiedel, W. Schröder-Preikschat, G. Snelting, ”Invasive Computing: An Overview ", Multiprocessor System-on-Chip -- Hardware Design and Tool Integration, M. Hübner and J. Becker (Eds.), pp. 241-268, Springer, 2011.
* N. Chang, J. Henkel, " Current Trends in Low Power Design ( Guest Editorial )", ACM Transactions on Design Automation of Electronic Systems (ACM TODAES), Vol. 16, No. 1, pp. 1-8, November 2010 .
* M.A. Al Faruque, J. Jahn, T. Ebi, J. Henkel, "Runtime Thermal Management Using Software Agents for Multi/Many-Core Architectures", EEE Design & Test (IEEE D&T), Special Issue on Post-Silicon Calibration and Repair for Yield and Reliability Improvement, Vol. 27, No. 6, pp. 58-68, Nov/Dec 2010.
* T. Bonny, J. Henkel, "Huffman-based code compression technique for embedded processors", ACM Trans. Design Autom. Electr. Syst. (TOADES), Vol. 15, No. 4, 2010.
* J. Henkel, S. Parameswaran, " CASES 2009 Guest Editorial", Design Automation for Embedded Systems (Springer), Vol. 14, No. 3, pp. 285-286, 2010.
* M. Shafique, L. Bauer, J. Henkel, "Optimizing the H.264/AVC Video Encoder Application Structure for Reconfigurable and Application-Specific Platforms", Journal of Signal Processing Systems (JSPS), Special Issue on Estimedia, Volume 60, Issue 2, pp. 183-210, August 2010.
* G. Frantz, J. Henkel, J. Rabaey, T. Schneider, M. Wolf, U. Batur, "Ultra-Low Power Signal Processing", IEEE Signal Processing Magazine, Volume 27, Issue 2, pp. 149-154, March 2010.
* L. Bauer, M. Shafique, J. Henkel, "Efficient Resource Utilization for an Extensible Processor through Dynamic Instruction Set Adaptation", IEEE Transactions on Very Large Scale Integration Systems (TVLSI), Special Section on Application-Specific Processors, Volume 16, Issue 10, pp. 1295-1308, Oct. 2008.
* T. Bonny, J. Henkel, "Efficient Code Compression for Embedded Processors", IEEE Transactions on Very Large Scale Integration Systems (TVLSI), Volume 16, Issue 12, pp. 1696-1707, December 2008.
* P. Kalla, X. S. Hu, J. Henkel, "A Flexible Framework for Communication Evaluation in SoC Design", International Journal of Parallel Programming, Volume 36, Number 5, pp. 457-477, October 2008.
* D. Serpanos, J. Henkel, "Dependability and Security Will Change Embedded Computing", IEEE Computer Magazine, pp. 82-84, Jan. 2008.
* Al Faruque, M.A., Henkel, J., „QoS-Supported On-chip Communication for Multi-Processors“, International Journal of Parallel Programming (IJPP '08), Volume 36, Number 1, pp. 114-139, February 2008.
* Kalla, P., Hu, X.S., Henkel, J., „Distance-based recent use (DRU): an enhancement to instruction cache replacement policies for transition energy reduction“, IEEE Transactions on Very Large Scale Integration (VLSI) Systems, Volume: 14, Issue: 1, pp. 69-80, 2006.
* Lekatsas, H., Henkel, J., Wolf, W., „Approximate arithmetic coding for bus transition reduction in low power designs“, IEEE Transactions on VLSI Systems, Volume: 13, Issue: 6, pp. 696–707, June 2005
* Bhattacharyya, S.S., Henkel, J., Hu, Xiaobo S., „Hardware/software codesign for DSP“, IEEE Signal Processing Magazine, Volume: 22, Issue: 3, pp. 11-12, May 2005.
* Parameswaran, S., Henkel, J., „Instruction Code Mapping for Performance Increase and Energy Reduction in Embedded Computer Systems“, IEEE Transactions on VLSI Systems, Volume: 13, Issue: 4, pp. 498-502, April 2005.
* Lv, T., Jiang Xu, Wolf, W., Ozer, I.B., Henkel, J., Chakradhar, S.T., „A Methodology for Architectural Design of Multimedia Multiprocessor SoCs“, IEEE Design & Test of Computers, Volume: 22, Issue: 1, pp. 18-26, Jan. 2005.
* Lekatsas, H., Henkel, J., Chakradhar, S., Jakkula, V., „Cypress: Compression and Encryption of Data and Code for Embedded Multimedia Systems“, IEEE Proceedings of the Design & Test of Computers, Volume: 21, Issue: 5, pp. 406 - 415, May 2004.
* F. Kordon, J. Henkel, “An Overview of Rapid System Prototyping Today”, Kluwer Journal on Design Automation for Embedded Systems (DAES), Volume 8, Issue 4, pp. 275-282, Dec. 2003.
* T. Lv, J. Henkel, H. Lekatsas, W. Wolf, “A dictionary-based en/decoding scheme for low-power data buses”, IEEE Transactions on Very Large Scale Integration (VLSI) Systems, Volume 11, Issue 5, pp. 943-951, Oct. 2003.
* J. Henkel, “Closing the SoC design gap”, IEEE Computer Magazine, Volume 36 , Issue 9, pp. 119-121, Sept. 2003.
* J. Henkel, X.S. Hu, S. Bhattacharyya, “Taking on the embedded system design challenge”, IEEE Computer Magazine ,Volume 36, Issue 4, pp. 35-37, April 2003.
* T. Givargis, F. Vahid, J. Henkel, “Instruction-based system-level power evaluation of system-on-a-chip peripheral cores”, IEEE Transactions on Very Large Scale Integration (VLSI) Systems, Volume 10, Issue 6, pp.856-863, Dec. 2002.
* J. Henkel, Y. Li, "Avalanche: An Environment for Design Space Exploration and Optimization of Low Power Embedded Systems”, IEEE Transactions on Very Large Scale Integration (VLSI) Systems, Vol. 10, No. 4, pp. 454-468, August 2002.
* T. Givargis, F. Vahid, J. Henkel, “System-Level Exploration for Pareto-Optimal Configurations in Parameterized System-on-a-Chip”, IEEE Transactions on Very Large Scale Integration (VLSI) Systems, Vol. 10, No. 4, pp. 216-222, August 2002.
* J. Henkel, R. Ernst, “An Approach to Automated Hardware/Software Partitioning using a flexible Granularity that is driven by High-Level Estimation Techniques”, IEEE Transactions on Very Large Scale Integration (VLSI) Systems, Vol. 9, No. 2, pp. 271-289, April 2001.
* T. Givargis, F. Vahid, J. Henkel, “Evaluating Power Consumption of Parameterized Cache and Bus Architectures in System-on-a-Chip Designs”, IEEE Transactions on Very Large Scale Integration (VLSI) Systems, Vol. 9, No. 4, pp. 500-508, Aug. 2001.
* J. Henkel, “Automatisierte Hardware/Software-Partitionierung im Entwurf integrierter Echtzeitsysteme”, PhD Dissertation at Technical University of Braunschweig, Braunschweig, Shaker Publishing House, 1996.
* R. Ernst, J. Henkel, Th. Benner, W. Ye, U. Holtmann, D. Herrmann, M. Trawny, “The COSYMA Environment for Hardware/Software Cosynthesis”, Elsevier, Microprocessors and Mircosystems, Vol. 20, No. 3, pp. 159-166, 1996.
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**Conferences/Symposia/Workshops**

* M.S. Srouji, T. Bonny, J. Henkel, „**High-speed Encoding/Decoding Technique for Reliable Data Transmission in Wireless Sensor Networks“,** IEEE 11th International Conference on Sensing, Communication, and Networking (SECON '14), Singapore, 30 June - 3 July, 2014, (accepted).
* M. Shafique, S. Garg, D. Marculescu, J. Henkel, „**The EDA Challenges in the Dark Silicon Era“,** IEEE/ACM Design Automation Conference (DAC'14), San Francisco, CA, USA, June 2014, (accepted).
* F. Hameed, L. Bauer, J. Henkel, „**Reducing Latency in an SRAM/DRAM Cache Hierarchy via a Novel Tag-Cache Architecture“,** IEEE/ACM Design Automation Conference (DAC'14), San Francisco, CA, USA, June 2014, (accepted).
* H. Zhang, M. Kochte, M. Imhof, L. Bauer, H.-J. Wunderlich, J. Henkel, „**GUARD: GUAranteed Reliability in Dynamically Reconfigurable Systems“,** IEEE/ACM Design Automation Conference (DAC'14), San Francisco, CA, USA, June 2014, (accepted).
* S. Rehman, F. Kriebel, D. Sun, M. Shafique, J. Henkel, „**dTune: Leveraging Reliable Code Generation for Adaptive Dependability Tuning under Process Variation and Aging-Induced Effects“,** IEEE/ACM Design Automation Conference (DAC'14), San Francisco, CA, USA, June 2014, (accepted).
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* J. Heisswolf, A. Zaib, A. Zwinkau, S. Kobbe, A. Weichslgartner, J. Teich, J. Henkel, G. Snelting, A. Herkersdorf, J. Becker, “**CAP: Communication Aware Programming“,** IEEE/ACM Design Automation Conference (DAC'14), San Francisco, CA, USA, June 2014, (accepted).
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* S. Rehman, F. Kriebel, M. Shafique, J. Henkel, „**Compiler-Driven Dynamic Reliability Management for On-Chip Systems under Variabilities“,** IEEE/ACM 17th Design Automation and Test in Europe Conference (DATE´14), Dresden, Germany, March 2014, (accepted IP).
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* Z.Wang, J. Henkel, „**Fast and accurate data cache modeling in source-level simulation of embedded software“,** IEEE/ACM 16th Design Automation and Test in Europe Conference (DATE´13), Grenoble, France, March 2013, pp. 587-592.
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* M. Shafique, B. Vogel, J. Henkel, „**Self-Adaptive Hybrid Dynamic Power Management for Many-Core Systems“,** IEEE/ACM 16th Design Automation and Test in Europe Conference (DATE´13), Grenoble, France, March 2013, pp. 51-56.
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