

List of Publications

Books(Chapters):

Cassandra L. Smith, Kai Huang. Epigenetics in Neurobehavioral Disease. In T. Tollefsbol (ed.), *Epigenetics in Human Disease*, Elsevier, 2012. (ISBN: 978-0-12-388415-2)(DOI: 10.1016/B978-0-12-388415-2.00007-X)

Kai Huang. Towards Many-Core Real-Time Embedded Systems: Software Design of Streaming Systems at System Level. *Ph.D. dissertation book*. Shaker Verlag, 2011 (ISBN: 978-3-8440-0013-9)

I. Bacivarov, W. Haid, K. Huang, and L. Thiele. Methods and Tools for Mapping Process Networks Onto Multi-Processor Systems. In Bhattacharyya, Shuvra S. and Deprettere, Ed F. and Leupers, Rainer and Takala, Jarmo, editors, *Handbook of Signal Processing Systems*. Springer, pages 1007—1040, Oct. 2010. (ISBN: 978-1-4419-6344-4)

Journals:

Gang Chen, Kai Huang, and Alois Knoll. Energy Optimization for Real-Time MPSoCs with Optimal DVFS and DPM Combination *ACM Transactions on Embedded Computing Systems (TECS)*, Vol. 13, No. 3s, Article 111, February 2014.

Jia Huang, Andreas Raabe, Kai Huang, Christian Buckl and Alois Knoll. A Framework for Reliability-Aware Design Exploration for MPSoC Based Systems. *Design Automation for Embedded Systems*, 16 (4), 189-220, 2012

J. J. Chen, K. Huang and L. Thiele. Dynamic Frequency Scaling Schemes for Heterogeneous Clusters under Quality of Service Requirements. *Journal of Information Science and Engineering*, pages 91–106, Vol.28 No.6, Nov. 2012

K. Huang, W. Haid, I. Bacivarov, M. Keller and L. Thiele. Embedding performance analysis into the design cycle of mpsoCs for real-time multimedia. In *ACM Transactions on Embedded Computing Systems (TECS)*, 11(1) 2012. (doi:10.1145/2146417.2146425)

K. Huang, L. Santinelli, J. J. Chen, L. Thiele, and G. C. Buttazzo. Applying Real-Time Interface and Calculus for Dynamic Power Management in Hard Real-Time Systems. In *Real-Time Systems Journal*, 47(2):163–193, 2011.

W. Haid, K. Huang, I. Bacivarov, and L. Thiele. Multiprocessor soc software design flows. *IEEE Signal Processing Magazine*, 26(6):64–71, 2009.

J. Liu, Z. h. Li, I. Bacivarov, and K. Huang. Scheduling mechanisms in high-level simulation framework. *Microelectronics & Computer*, 25(8):64–68, 2008.

Conferences/workshops:

Hardik Shah, Kai Huang, Alois Knoll and Andrew Coombes. Measurement based WCET Analysis for Multi-core Architectures *22nd International Conference on Real-Time Networks and Systems(RTNS)*, Versailles, France, October 8-10, 2014

Hardik Shah, Kai Huang, Andreas Raabe, and Alois Knoll. The Priority Division Arbiter for low WCET and high Resource Utilization in Multi-core Architectures *22nd International Conference on Real-Time Networks and Systems(RTNS)*, Versailles, France, October 8-10, 2014

Gang Chen, Kai Huang, and Alois Knoll. Adaptive Dynamic Power Management for Hard Real-time Pipelined Multiprocessor Systems *The 20th IEEE International Conference on Embedded and*

Real-Time Computing Systems and Applications (RTCSA), August, 2014

Hauke Staehle, Kai Huang, and Alois Knoll. Drive-by-wireless with the ecar demonstrator. In *Fourth Workshop on Design, Modeling and Evaluation of Cyber Physical Systems (CyPhy)*, Berlin, April 2014.

Hardik Shah, Kai Huang, Alois Knoll. Timing Anomalies in Multi-core Architectures due to the Interference on the Shared Resources Cyber-Physical/Embedded Systems. In *the 19th IEEE Conf. on Asia and South Pacific Design Automation Conference (ASP-DAC)* 2014.

Kai Huang, Hardik Shah, Karan Savant, Dexin Chen, Gang Chen, Sebastian Klose, Alois Knoll A LEGO/FPGA-Based Platform for the Education of Cyber-Physical/Embedded Systems. In *Workshop on Embedded and Cyber-Physical Systems Education*, October 2013.

Gang Chen, Kai Huang, and Alois Knoll. Energy optimization for real-time multiprocessor system-on-chip with optimal dvfs and dpm combination. In *11th IEEE Symposium on Embedded Systems for Real-time Multimedia (ESTIMedia)*, October 2013.

Gang Chen, Kai Huang, Jia Huang, Buckl Christian, and Alois Knoll. Effective Online Power Management with Adaptive Interplay of DVS and DPM for Embedded Real-Time System. In *16th Euromicro International Conference on Digital System Design (DSD)*, September 2013

Gang Chen, Kai Huang, Jia Huang, and Alois Knoll. Cache Partition and Scheduling for Energy Optimization of Real-Time MPSoC Systems, In *IEEE 24th International Conference on Application-specific Systems, Architectures and Processors (ASAP)*, June, 2013

Gang Chen, Kai Huang, Christian Buckl, and Alois Knoll. Energy Optimization with Worst-Case Deadline Guarantee for Pipelined Multiprocessor Systems, In *Design, Automation and Test in Europe (DATE)*, 2013

J. Huang, K. Huang, Andreas Raabe, Christian Buckl, and Alois Knoll. Towards Fault-Tolerant Embedded Systems with Imperfect Fault Detection. In *49th Design Automation Conference (DAC)*, pages: 188–196, CA. June 2012

K. Huang, Gang Chen, Christian Buckl, and Alois Knoll. Conforming the Runtime Inputs for Hard Real-Time Embedded Systems. In *49th Design Automation Conference (DAC)*, pages: 430–436, CA. June 2012

K. Lampka, K. Huang, and J. J. Chen. Dynamic Counters and the Efficient and Effective Online Power Management of Embedded Real-time Systems. *CODES+ISSS*, pages 267–276, Taipei, 2011

K. Huang, J. J. Chen, and L. Thiele. Energy-Efficient Scheduling Algorithms for Periodic Power Management for Real-Time Event Streams. *17th IEEE International Conference on Embedded and Real-Time Computing Systems and Applications (RTCSA)*, pages 83–92, Japan, 2011.

J. J. Chen, K. Huang and L. Thiele. Power Management Schemes for Heterogeneous Clusters under Quality of Service Requirements Streams In *ACM 26th Symposium On Applied Computing (SAC)*, pages 546–553, 2011

K. Huang, L. Santinelli, J. J. Chen, L. Thiele, and G. C. Buttazzo. Adaptive power management for real-time event streams. In *the 15th IEEE Conf. on Asia and South Pacific Design Automation Conference (ASP-DAC)*, pages 7–12, 2010.

K. Huang, L. Santinelli, J. J. Chen, L. Thiele, and G. C. Buttazzo. Adaptive dynamic power management for hard real-time systems. In *the 30th IEEE Real-Time Systems Symposium (RTSS)*, pages 23–32, Washington D.C. U.S., 2009.

K. Huang, L. Santinelli, J.-J. Chen, L. Thiele, and G. C. Buttazzo. Periodic power management schemes for real-time event streams. In *the 48th IEEE Conf. on Decision and Control (CDC)*, pages

6224–6231, China, 2009.

W. Haid, L. Schor, K. Huang, I. Bacivarov, and L. Thiele. Efficient execution of kahn process networks on multi-processor systems using protothreads and windowed fifos. In *Proc. IEEE Workshop on Embedded Systems for Real-Time Multimedia (ESTIMedia)*, pages 35–44, Grenoble, France, 2009.

K. Huang, I. Bacivarov, J. Liu, and W. Haid. A modular fast simulation framework for stream-oriented mpsoc. In *IEEE Symposium on Industrial Embedded Systems (SIES)*, pages 74–81, Ecole Polytechnique Fédérale de Lausanne, Switzerland, 2009.

W. Haid, M. Keller, K. Huang, I. Bacivarov, and L. Thiele. Generation and calibration of compositional performance analysis models for multi-processor systems. In *Proc. Intl Conference on Systems, Architectures, Modeling and Simulation (SAMOS)*, pages 92–99, Samos, Greece, 2009.

K. Huang, I. Bacivarov, F. Hugelshofer, and L. Thiele. Scalably distributed systemc simulation for embedded applications. In *IEEE Symposium on Industrial Embedded Systems (SIES)*, pages 271–274, 2008.

K. Huang, L. Thiele, T. Stefanov, and E. Deprettere. Performance analysis of multimedia applications using correlated streams. In *Design, Automation and Test in Europe (DATE)*, pages 912–917, Nice, France, 2007.

T. Sporer, A. Franck, I. Bacivarov, M. Beckinger, W. Haid, K. Huang, L. Thiele, P. Paolucci, P. Bazzana, P. Vicini, J. J. Ceng, S. Kraemer, and R. Leupers. Shapes - a scalable parallel hw/sw architecture applied to wave field synthesis. In *Proc. 32nd Intl Audio Engineering Society (AES) Conference*, pages 175–187, Hillerod, Denmark, 2007. Audio Engineering Society.

K. Huang, D. Gruenert, and L. Thiele. Windowed fifos for fpga-based multiprocessor systems. In *IEEE 18th International Conference on Application-specific Systems, Architectures and Processors (ASAP)*, pages 36–42, Montreal, Canada, 2007.

L. Thiele, I. Bacivarov, W. Haid, and K. Huang. Mapping Applications to Tiled Multiprocessor Embedded Systems. In *Proceedings of International Conference on Application of Concurrency to System Design (ACSD)*, pages 29–40, Bratislava, Slovak Republic, July 2007.

Posters:

Gang Chen, Biao Hu, Kai Huang, Alois Knoll, Kai Huang, and Di Liu. Shared l2 cache management in multicore real-time system. In *22nd Annual IEEE International Symposium on Field-Programmable Custom Computing Machines (FCCM)*, June 2014.

Kai Huang, Gang Chen, Nadine Keddis, Michael Geisinger, and Christian Buckl. Demo Abstract: An Inverted Pendulum Demonstrator for Timed ModelBased Design of Embedded Systems. *ACM/IEEE 3rd International Conference on Cyber-Physical Systems*, Beijing, 2012

Cassandra L. Smith and K. Huang. Complexity Analysis of Complex Disease: Schizophrenia. *the XIXth annual World Congress of Psychiatric Genetics*, Washington, DC, 2011

Technical Reports:

Hauke Staehle, Kai Huang, and Alois Knoll. Drive-by-wireless with the ecar demonstrator. Technical Report TUM-I1342, October 2013

Hardik Shah, K. Huang, Alois Knoll. Weighted Execution Time Analysis of Applications on COTS Multi-core Architectures. TUM-I1339, Technical University Munich, 2013.

K. Huang, W. Haid, I. Bacivarov, and L. Thiele. Coupling MPARM with DOL. Technical Report

314, D-ITET, TIK, ETH Zürich, Nov. 2009.

K. Huang, J. Gu, T. Stefanov, and E. Deprettere. Automatic Platform Synthesis and Application Mapping for Multiprocessor Systems On-Chip. Technical Report 05-30, LIACS, Leiden University, Aug. 2005.