Chair for Integrated Systems
TUM Department of Electrical and Computer Engineering
Technical University of Munich

TUM

# Prof. Dr. sc.techn. Andreas Herkersdorf

## Ordinarius

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## CURRICULUM VITAE

Andreas Herkersdorf is a Full Professor and head of the Chair for Integrated Systems at Technical University of Munich. He teaches graduate courses in digital integrated circuit design, the application of System on Chip technology in networking and communications, and Hardware/Software-Codesign.

He joined the IBM Zurich Research Laboratory as a PhD student in 1988. In 1991, he became a Research Staff Member in the Communications Systems department of the IBM Zurich and in 2000 manager of the network processor hardware group.

Andreas Herkersdorf was born in 1961 in Oberstdorf, Germany. He received the Dipl.-Ing. degree from Munich University of Technology in 1987 and the Dr. techn. degree from the ETH Zurich (Swiss Federal Institute of Technology), Switzerland, in 1991, both in electrical engineering.

## RESEARCH INTERESTS

- Platform-based multi-processor System on Chip (MPSoC) architectures
- Design and prototype development of innovative Hardware IP (Intellectual Property) building blocks
- High-level SoC design space exploration and Autonomic Computing

## AWARDS

- 2001: IBM Outstanding Technical Achievement Award
- 1998: IBM Master Inventor
- Vier IBM Innovation Achievement Awards im Zeitraum zwischen 1996 und 2003

## PUBLICATIONS

Andreas Oeldemann, Thomas Wild, Andreas Herkersdorf

**Reducing Data Center Resource Over-Provisioning Through Dynamic Load Management for Virtualized Network Functions**

*International Conference on Architecture of Computing Systems,* Vienna, Austria, April 3-6, 2017

Lin Li, Philipp Wagner, Albrecht Mayer, Thomas Wild, Andreas Herkersdorf

**A Non-Intrusive Spinlock Profiler for Embedded Multicore Systems**

*DATE,* Lausanne, Switzerland, March 27-31, 2017

Philipp Wagner, Thomas Wild, Andreas Herkersdorf

**DiaSys: Improving SoC insight through on-chip diagnosis**

*Journal of Systems Architecture, Elsevier,* 2017

Santiago Pagani, Lars Bauer, Qingqing Chen, Elisabeth Glocker, Frank Hannig, Andreas Herkersdorf, Heba Khdr, Anuj Pathania, Ulf Schlichtmann, Doris Schmitt-Landsiedel, Mark Sagi, Éricles Sousa, Philipp Wagner, Volker Wenzel, Thomas Wild, Jörg Henkel

**Dark silicon management: an integrated and coordinated cross-layer approach**

*it - Information Technology, De Gruyter,* 2016

Shiva Shankar Subramanian, Pinxing Lin, Andreas Herkersdorf, Thomas Wild

**Hardware Acceleration of Signature Matching through Multi Layer Transition Bit Masking**

*ITNAC 2016, International Telecommunication Networks and Applications Conference,* Dunedin, New Zealand, December 7-9, 2016, pp. 226-233

Jagath Weerasinghe, Francois Abel, Christoph Hagleitner, Andreas Herkersdorf

**Disaggregated FPGAs: Network Performance Comparison against Bare-Metal Servers, Virtual Machines and Linux Containers**

*8th IEEE International Conference on Cloud Computing Technology and Science, IEEE,* Luxembourg, 2016

Philipp Wagner, Lin Li, Thomas Wild, Albrecht Mayer, Andreas Herkersdorf

**What happens on an MPSoC stays on an MPSoC - unfortunately!**

*2016 International Symposium on Integrated Circuits (ISIC),* Singapore, December 12-14, 2016

Andre Richter, Christian Herber, Thomas Wild, Andreas Herkersdorf

**Resolving Performance Interference in SR-IOV Setups with PCIe Quality-of-Service Extensions**

*2016 Euromicro Conference on Digital System Design (DSD),* Limassol, Cyprus, August 31 - September 2, 2016

Hou Zhao Qi Rex, Jong Ching Chuen, Andreas Herkersdorf

**ANN Predicted Apps-Usage Aware Linux Scheduler for Asymmetrical Multi Cluster SoC**

*Journal of Software,* 2016

Ravi Kumar Pujari, Thomas Wild, Andreas Herkersdorf

**TCU: A Multi-Objective Hardware Thread Mapping Unit for HPC Clusters**

*International Supercomputing Conference High Performance -- ISC 2016,* Frankfurt, 19 - 22 June, 2016

Zhaoqi Hou, Ching Chuen Jong, Andreas Herkersdorf

**Linux Apps-Usage-Driven Power Dissipation-Aware Scheduler**

*ISCAS - International Symposium on Circuits and Systems,* Montreal, Canada, 2016

Lin Li, Philipp Wagner, Ramesh Ramaswamy, Albrecht Mayer, Thomas Wild, Andreas Herkersdorf

**A Rule-based Methodology for Hardware Configuration Validation in Embedded Systems**

*19th International Workshop on Software and Compilers for Embedded Systems (SCOPES 2016),* Sankt Goar, Germany, May 23-25, 2016

Michael Vonbun, Thomas Wild, Andreas Herkersdorf

**Estimation of End-to-End Packet Error Rates for NoC Multicasts**

*Architecture of Computing Systems -- ARCS 2016, Springer International Publishing,* Nuremberg, April 5-7, 2016, pp. 402

Philipp Wagner, Thomas Wild, Andreas Herkersdorf

**DiaSys: On-Chip Trace Analysis for Multi-processor System-on-Chip**

*Architecture of Computing Systems -- ARCS 2016, Springer International Publishing,* Nuremberg, Germany, April 4-7, 2016

Stefan Rösch, Holm Rauchfuss, Stefan Wallentowitz, Thomas Wild, Andreas Herkersdorf

**MPSoC application resilience by hardware-assisted communication virtualization**

*Microelectronics Reliability, Elsevier,* 2016

Ravi Kumar Pujari, Thomas Wild, Andreas Herkersdorf

**A Hardware-based Multi-objective Thread Mapper for Tiled Manycore Architectures**

*33rd IEEE International Conference on Computer Design (ICCD),* New York, October 18-21, 2015, pp. 459 - 462

Jagath Weerasinghe, Francois Abel, Christoph Hagleitner, Andreas Herkersdorf

**Enabling FPGAs in Hyperscale Data Centers**

*IEEE International Conference on Cloud and Big Data Computing (CBDCom),* Beijing, China, 2015

Daniel Münch, Michael Paulitsch, Andreas Herkersdorf

**IOMPU: Spatial Separation for Hardware-Based I/O Virtualization for Mixed-Criticality Embedded Real-Time Systems Using Non-Transparent Bridges**

*International Conference on Embedded Software and Systems (ICESS2015),* New York, USA, 2015

Daniel Münch, Michael Paulitsch, Andreas Herkersdorf

**IOMPU: Spatial Separation for Hardware-Based I/O Virtualization for Mixed-Criticality Embedded Real-Time Systems Using Non-Transparent Bridges**

*International Conference on Embedded Software and Systems (ICESS2015),* New York, USA, 2015

Michael Vonbun, Stefan Wallentowitz, Andreas Oeldemann, Andreas Herkersdorf

**An Analytic Approach on End-to-end Packet Error Rate Estimation for Network-on-Chip**

*Euromicro Conference on Digital System Design (DSD),* Funchal, August 26-28, 2015, pp. 8

Christian Herber, Ammar Saeed, Andreas Herkersdorf

**Design and Evaluation of a Low-Latency AVB Ethernet Endpoint based on ARM SoC**

*The 12th IEEE International Conference on Embedded Software and Systems,* New York, USA, August 24-26, 2015

Andre Richter, Christian Herber, Thomas Wild, Andreas Herkersdorf

**Denial-of-Service attacks on PCI passthrough devices: Demonstrating the impact on network- and storage-I/O performance**

*Journal of Systems Architecture,* 2015

Daniel Münch, Michael Paulitsch, Andreas Herkersdorf

**Monitoring of I/O for Safety-Critical Systems Using PCI Express Advanced Error Reporting**

*SIES'2015: 10th IEEE International Symposium on Industrial Embedded Systems,* Siegen, Germany, 2015

Lars Bauer, Jörg Henkel, Andreas Herkersdorf, Michael A. Kochte, Johannes M. Kühn, Wolfgang Rosenstiel, Thomas Schweitzer, Stefan Wallentowitz, Volker Wenzel, Thomas Wild, Hans-Joachim Wunderlich, Hongyan Zhang

**Adaptive multi-layer techniques for increased system dependability**

*it - Information Technology, De Gruyter Oldenbourg,* 2015

Gregor Walla, Dirk Gabriel, Alexander Reichert, Hans-Ulrich Michel, Walter Stechele, Andreas Herkersdorf

**A Modular Design and Optimization Framework for Energy Efficient E/E Architectures**

*4th International Conference on Energy Efficient Vehicles (ICEEV 2015),* Dresden, June 16-17, 2015

Christian Herber, Dominik Reinhardt, Andre Richter, Andreas Herkersdorf

**HW/SW Trade-Offs in I/O Virtualization for Controller Area Network**

*52nd ACM/EDAC/IEEE Design Automation Conference (DAC),* San Francisco, USA, June 7-11, 2015

Andre Richter, Christian Herber, Stefan Wallentowitz, Thomas Wild, Andreas Herkersdorf

**A Hardware/Software Approach for Mitigating Performance Interference Effects in Virtualized Environments Using SR-IOV**

*Cloud Computing (CLOUD), 2015 IEEE 8th International Conference on,* New York, USA, June 27 - July 2, 2015, pp. 950-957

Philipp Wagner, Lin Li, Thomas Wild, Albrecht Mayer, Andreas Herkersdorf

**Knowledge-Based On-Chip Diagnosis for Multi-Core Systems-on-Chip**

*edaWorkshop 15,* Dresden, Germany, May 19-21, 2015

Preethi Parayil Mana Damodaran, Aurang Zaib, Thomas Wild, Stefan Wallentowitz, Andreas Herkersdorf

**Sharer Status-based Caching in tiled Multiprocessor Systems-on-Chip**

*HPC 2015,* Alexandria, VA, USA, April 12-15, 2015

Andreas Weichslgartner, Jan Heisswolf, Aurang Zaib, Thomas Wild, Andreas Herkersdorf, Jürgen Becker and Jürgen Teich

**Position Paper: Towards Hardware-Assisted Decentralized Mapping of Applications for Heterogeneous NoC Architectures**

*Second International Workshop on Multi-objective Many-core design (MOMAC),* Porto Portugal, March 24-27, 2015

Daniel Münch, Michael Paulitsch, Oliver Hanka, Andreas Herkersdorf

**MPIOV: Scaling Hardware-Based I/O Virtualization for Mixed-Criticality Embedded Real-Time Systems Using Non Transparent Bridges to (Multi-Core) Multi-Processor Systems**

*Design, Automation and Test in Europe Conference & Exhibition (DATE),* Dresden, Germany, 2015

Daniel Münch, Michael Paulitsch, Oliver Hanka, Andreas Herkersdorf

**SgInt: Safeguarding Interrupts for Hardware-Based I/O Virtualization for Mixed-Criticality Embedded Real-Time Systems Using Non Transparent Bridges**

*International Conference on Architecture of Computing Systems (ARCS),* Porto, Portugal, 2015

Aurang Zaib, Jan Heisswolf, Andreas Weichslgartner, Thomas Wild, Jürgen Teich, Jürgen Becker, Andreas Herkersdorf

**Network Interface with Task Spawning Support for NoC-Based DSM Architectures**

*Architecture of Computing Systems--ARCS 2015,* Porto Portugal, March 24-27, 2015

Christian Herber, Andre Richter, Thomas Wild, Andreas Herkersdorf

**Real-Time Capable CAN to AVB Ethernet Gateway Using Frame Aggregation and Scheduling**

*Design, Automation & Test in Europe Conference & Exhibition (DATE),* Grenoble, France, March 9-13, 2015, pp. 61-66

Hou Zhao Qi, Jong Ching Chuen Andreas Herkersdorf

**Apps-Usage Driven Energy Management for Multicore Mobile Computing Systems**

*International Symposium on Integrated Circuits (ISIC),* Singapore, 2014

Stefan Wallentowitz, Volker Wenzel, Stefan Rösch, Thomas Wild, Andreas Herkersdorf, Jörg Henkel

**Dependable Task and Communication Migration in Tiled Manycore System-on-Chip**

*Forum on Specification & Design Languages (FDL),* Munich, Germany, October 14-16, 2014

Daniel Münch, Michael Paulitsch, Michael Honold, Wolfgang Schlecker, Andreas Herkersdorf

**Iterative FPGA Implementation Easing Safety Certification for Mixed-Criticality Embedded Real-Time Systems**

*Euromicro Conference on Digital Systems Design (DSD),* Verona, Italy, 2014

Christian Herber, Andre Richter, Thomas Wild, Andreas Herkersdorf

**Deadline-Aware Interrupt Coalescing in Controller Area Network (CAN)**

*The 11th IEEE International Conference on Embedded Software and Systems,* Paris, France, August 20-22, 2014, pp. 701-708

Gregor Walla, Andre Enger, Andreas Barthels, Hans-Ulrich Michel, Andreas Herkersdorf

**An Automotive Specific MILP Model Targeting Power-Aware Function Partitioning**

*International Conference on Embedded Computer Systems: Architectures, Modeling, and Simulation (SAMOS XIV),* 2014

Gregor Walla, Andreas Barthels, Dirk Gabriel, Florian Ruf, Michael Winter, Hans-Ulrich Michel, Andreas Herkersdorf

**Hardware Test Bench for the Evaluation of E/E-Architectures with Respect to Partitioning of Vehicle Functions and Energy Efficiency**

*3rd International Conference on Energy Efficient Vehicles (ICEEV),* Dresden, Germany, 2014

Jan Heisswolf, Aurang Zaib, Andreas Zwinkau, Sebastian Kobbe, Andreas Weichslgartner, Jürgen Teich, Jörg Henkel, Gregor Snelting, Andreas Herkersdorf, Jürgen Becker

**CAP: Communication Aware Programming**

*Design Automation Conference (DAC), 51th ACM / EDAC / IEEE,* San Francisco, CA, USA, June 1-5, 2014

Gregor Walla, Dirk Gabriel, Andreas Barthels, Florian Ruf, Michael Winter, Hans-Ulrich Michel, Andreas Herkersdorf

**Automotive E/E Architecture Evaluation by High-level Simulation and Hardware Prototyping**

*DAC Workshop on System to Silicon Performance Modeling and Analysis,* San Francisco, USA, 2014

Andreas Herkersdorf, Hananeh Aliee, Michael Engel, Michael Glaß, Christina Gimmler-Dumont, Jörg Henkel, Veit Kleeberger, Michael Kochte, Johannes Maximilian Kühn, Daniel Müller-Gritschneder, Sani Nassif, Holm Rauchfuss, Wolfgang Rosenstiel, Ulf Schlichtmann, Muhammad Shafique, Mehdi Baradaran Tahoori, Jürgen Teich, Norbert Wehn, Christian Weis, Hans-Joachim Wunderlich

**Resilience Articulation Point (RAP): Cross-layer ependability modeling for nanometer system-on-chip resilience**

*Microelectronics Reliability,* 2014

Aurang Zaib, Prashanth Raju, Thomas Wild, Andreas Herkersdorf

**A Layered Modeling and Simulation Approach to investigate Resource-aware Computing in MPSoCs**

*Resource awareness and adaptivity in multi-core computing, RACING, First Workshop,* Paderborn, Germany, May 29-30, 2014

Stefan Wallentowitz, Michael Tempelmeier, Thomas Wild, Andreas Herkersdorf

**Network-on-Chip Protection Switching Techniques for Dependable Task Migration on an Open Source MPSoC Platform**

*edaWorkshop,* Hannover, Germany, May 13-14, 2014

Christian Herber, Andre Richter, Thomas Wild, Andreas Herkersdorf

**A Network Virtualization Approach for Performance Isolation in Controller Area Network (CAN)**

*The 20th IEEE Real-Time and Embedded Technology and Applications Symposium (RTAS),* Berlin, Germany, April 15-17, 2014, pp. 215-224

Preethi Parayil Mana Damodaran, Stefan Wallentowitz, Andreas Herkersdorf

**Distributed Cooperative Shared Last-Level Caching in Tiled Multiprocessor System on Chip**

*DATE,* Dresden, Germany, 2014

Oliver Sander, Timo Sandmann, Viet Vu Duy, Steffen Bähr, Falco Bapp, Jürgen Becker, Hans-Ulrich Michel, Dirk Kaule, Daniel Adam, Enno Lübbers, Jürgen Hairbucher, Andre Richter, Christian Herber, Andreas Herkersdorf

**Hardware Virtualization Support for Shared Resources in Mixed-Criticality Multicore Systems**

*Design, Automation & Test in Europe Conference & Exhibition (DATE),* Dresden, Germany, 2014

Felix Miller, Vladimir Todorov, Thomas Wild, Daniel Müller-Gritschneder, Andreas Herkersdorf, Ulf Schlichtmann

**A TSV-Property-aware Synthesis Method for Application-Specific 3D-NoCs Design**

*Design Automation and Test in Europe (DATE), Friday Workshop on 3D Integration,* Dresden, Germany, March 28, 2014

Andy Heinig, Manfred Dietrich, Andreas Herkersdorf, Felix Miller, Thomas Wild, Kai Hahn, Armin Grünewald, Rainer Brück, Steffen Krohnert, Jochen Reisinger

**System Integration - The Bridge between More than Moore and More Moore Design**

*Design Automation and Test in Europe (DATE), Friday Workshop on 3D Integration,* Dresden, Germany, March 28, 2014

Daniel Münch, Michael Paulitsch, Andreas Herkersdorf

**Temporal Separation for Hardware-Based I/O Virtualization for Mixed-Criticality Embedded Real-Time Systems Using PCIe SR-IOV**

*10th Workshop on Dependability and Fault Tolerance (VERFE), in conjunction with International Conference on Architecture of Computing Systems (ARCS),* Lübeck, Germany, 2014

Jan Heisswolf, Aurang Zaib, Andreas Weichslgartner, Martin Karle, Maximilian Singh, Thomas Wild, Jürgen Teich, Andreas Herkersdorf, Jürgen Becker

**The Invasive Network on Chip - A Multi-Objective Many-Core Communication Infrastructure**

*Proceedings of the first International Workshop on Multi-Objective Many-Core Design (MOMAC) in conjunction with International Conference on Architecture of Computing Systems (ARCS),* Lübeck, Germany, February 25-28, 2014

Andre Richter, Christian Herber, Holm Rauchfuss, Thomas Wild, Andreas Herkersdorf

**Performance Isolation Exposure in Virtualized Platforms with PCI Passthrough I/O Sharing**

*ARCS - Architecture of Computing Systems,* Lübeck, Germany, February 25-28, 2014, pp. 171-182

Daniel Münch, Ole Isfort, Kevin Müller, Michael Paulitsch, Andreas Herkersdorf

**Hardware-Based I/O Virtualization for Mixed Criticality Real-Time Systems Using PCIe SR-IOV**

*The 10th IEEE International Conference on Embedded Software and Systems (ICESS),* Sydney, Australia, 2013

Felix Miller, Thomas Wild, Andreas Herkersdorf

**Virtualized and Fault-Tolerant Inter-Layer-Links for 3D-ICs**

*Microprocessors and Microsystems, Elsevier B.V.,* 2013

Andreas Herkersdorf, Johny Paul, Ravi Kumar Pujari, Walter Stechele, Stefan Wallentowitz, Thomas Wild, Aurang Zaib

**Potentials and Challenges for Multi-Core Processors in Robotic Applications**

*Workshop "Roboterkontrollarchitekturen" auf der Informatik 2013, 43. Jahrestagung der Gesellschaft für Informatik, GI-Edition "Lecture Notes in Informatics" (LNI),* Koblenz, Germany, September 16-20, 2013

Michael Vonbun, Stefan Wallentowitz, Michael Feilen, Walter Stechele, Andreas Herkersdorf
**Evaluation of Hop Count Advantages of Network-Coded 2D-Mesh NoCs**
*Workshop on Power and Timing Modeling, Optimization and Simulation (PATMOS),* 2013

Aurang Zaib, Jan Heisswolf, Andreas Weichslgartner, Thomas Wild, Jürgen Teich, Jürgen Becker, Andreas Herkersdorf
**AUTO-GS: Self-optimization of NoC Traffic Through Hardware Managed Virtual Connections**
*16th EUROMICRO Digital System Design (DSD) Conference,* Santander, Spain, September 4-6, 2013

Felix Miller, Thomas Wild, Andreas Herkersdorf
**Networks-On-Chips für 3D-ICs**
*7. ITG/GI/GMM-Fachtagung,* Dresden, Germany, September 24-26, 2013

Christian Herber, Andre Richter, Holm Rauchfuss, Andreas Herkersdorf
**Spatial and Temporal Isolation of Virtual CAN Controllers**
*Workshop on Virtualization for Real-Time Embedded Systems (VtRES),* Taipei, Taiwan, 2013

Veit Kleeberger, Christina Gimmler-Dumont, Christian Weis, Andreas Herkersdorf, Daniel Mueller-Gritschneder, Sani Nassif, Ulf Schlichtmann, Norbert Wehn
**A Cross-Layer Technology-Based Study of How Memory Errors Impact System Resilience**
*IEEE Micro,* 2013

J. Heisswolf, A. Zaib, A. Weichslgartner, R. König, T. Wild, A. Herkersdorf, J. Teich and J. Becker
**Virtual Networks - Distributed Communication Resource Management**
*Transactions on Reconfigurable Technology and Systems (TRETS), ACM,* 2013

Gregor Walla, Zaur Molotnikov, Andreas Barthels, Hans-Ulrich Michel, Walter Stechele, Andreas Herkersdorf
**A Design Space Exploration Framework for Automotive Embedded Systems and their Power Management**
*27th European Conference on Modelling and Simulation (ECMS),* Aalesund, Norway, 2013

Jan Heisswolf, Andreas Weichslgartner, Aurang Zaib, Ralf König, Thomas Wild, Andreas Herkersdorf, Jürgen Teich, Jürgen Becker
**Hardware Supported Adaptive Data Collection for Networks on Chip**
*IPDPS PhD Forum - 27th IEEE International Symposium on Parallel & Distributed Processing,* Boston, Massachusetts USA, May 20-24, 2013

Stefan Wallentowitz, Philipp Wagner, Michael Tempelmeier, Thomas Wild, Andreas Herkersdorf
**Open Tiled Manycore System-on-Chip**
2013

Andreas Herkersdorf, Michael Engel, Michael Glaß, Jörg Henkel, Veit Kleeberger, Michael Kochte, Johannes Maximilian Kühn, Sani Nassif, Holm Rauchfuss, Wolfgang Rosenstiel, Ulf Schlichtmann, Muhammad Shafique, Mehdi Baradaran Tahoori, Jürgen Teich, Norbert Wehn, Christian Weis, Hans-Joachim Wunderlich

**Cross- Layer Dependability Modeling and Abstraction in Systems on Chip**
*Workshop on Silicon Errors in Logic – System Effects (SELSE),* Stanford, USA, 2013

Stefan Wallentowitz, Thomas Wild, Andreas Herkersdorf
**HW-OSQM: Reducing the Impact of Event Signaling by Hardware-based Operating System Queue Manipulation**
*International Conference on Architecture of Computing Systems (ARCS), Springer,* Prague, Czech Republic, February 19-22, 2013

Christian Herber, Andre Richter, Holm Rauchfuss, Andreas Herkersdorf
**Self-Virtualized CAN Controller for Multi-Core Processors in Real-Time Applications**
*International Conference on Architecture of Computing Systems (ARCS), Springer,* Prague, Czech Republic, 2013, pp. 244-255

Andreas Herkersdorf, Michael Paulitsch
**Multicore Enablement for Embedded and Cyber Physical Systems**
*Report from Dagstuhl Seminar 13052, Dagstuhl Reports,* Dagstuhl, Germany, January 27 - February 1, 2013

Andreas Herkersdorf, Hans-Ulrich Michel, Holm Rauchfuss, Thomas Wild
**Multicore Enablement for Automotive Cyber Physical Systems**
*Special issue of journal "it - Information Technology",* 2012

Roman Plyaskin, Thomas Wild, Andreas Herkersdorf
**System-level Software Performance Simulation Considering Out-of-order Processor Execution**
*International Symposium on System-on-Chip,* Tampere, Finland, October 11-12, 2012

Gregor Walla, Dirk Gabriel, Andreas Barthels, Florian Ruf, Hans-Ulrich Michel, Andreas Herkersdorf
**ITE-Sim: A Simulator and Power Evaluation Framework for Electric/Electronic Architectures**
*The 8th IEEE Vehicle Power and Propulsion Conference, IEEE VPPC,* Seoul, Korea, 2012

Matthias Ihmig, Michael Feilen, Andreas Herkersdorf
**Analytical Design Space Exploration based on statistically Refined Runtime and Logic Estimation for Software Defined Radios**
*Euromicro Conferences SEAA & DSD,* Cesme, Izmir, Turkey,, 2012

Michael Gerndt, Frank Hannig, Andreas Herkersdorf, Andreas Hollmann, Marcel Meyer, Sascha Roloff, Josef Weidendorfer, Thomas Wild, Aurang Zaib
**An Integrated Simulation Framework for Invasive Computing**
*Forum on specification and Design Languages (FDL),* Vienna, Austria, September 18-20, 2012

Felix Miller, Thomas Wild, Andreas Herkersdorf
**TSV-Virtualization for Multi-Protocol-Interconnect in 3D-ICs**
*15th EUROMICRO Conference on Digital System Design (DSD),* Cesme, Izmir, Turkey , September 5-8, 2012

Stefan Wallentowitz, Andreas Lankes, Aurang Zaib, Thomas Wild, Andreas Herkersdorf
**A Framework for Open Tiled Manycore System-on-Chip**
*22nd International Conference on Field Programmable Logic and Applications (FPL),* Oslo, Norway, August 29-31, 2012

Gregor Walla, Andreas Barthels, Florian Ruf, Robert Dörfel, Hans-Ulrich Michel, Joachim Fröschl, Ottmar Sirch, Uwe Baumgarten, Hans-Georg Herzog, Walter Stechele, Andreas Herkersdorf

**Aspects of Function Partitioning in Respect to Power Management**

*2nd International Energy Efficient Vehicles Conference (EEVC),* Dresden, Germany, 2012

Andreas Lankes, Thomas Wild, Stefan Wallentowitz, Andreas Herkersdorf

**Benefits of Selective Packet Discard in Networks-on-Chip**

*Architecture and Code Optimization (TACO),* 2012

Jan Heisswolf, Aurang Zaib, Andreas Weichslgartner, Ralf Koenig, Thomas Wild, Jürgen Teich, Andreas Herkersdorf, Jürgen Becker

**Hardware-assisted Decentralized Resource Management for Networks on Chip with QoS**

*IEEE International Symposium on Parallel and Distributed Processing Workshops and PhD Forum (IPDPSW),* Shanghai, China, May 21-25, 2012

Gregor Walla, Andreas Barthels, Florian Ruf, Robert Dörfel, Hans-Ulrich Michel, Joachim Fröschl, Ottmar Sirch, Uwe Baumgarten, Hans-Georg Herzog, Andreas Herkersdorf

**Framework and Model for the Evaluation of Energy Efficiency of Partitioning Alternatives, Elektrik/Elektronik in Hybrid- und Elektrofahrzeugen und elektrisches Energiemanagement**

*Haus der Technik,* Miesbach, Germany, 2012

Abdelmajid Bouajila, Abdallah Lakhtel, Johannes Zeppenfeld, Walter Stechele, Andreas Herkersdorf

**A low-overhead Monitoring Ring Interconnect for MPSoC Parameter Optimization**

*15th IEEE Symposium on Design and Diagnostics of Electronic Circuits and Systems (DDECS), IEEE,* Tallinn, Estonia, 2012

Rainer Leupers, Frank Schirrmeister, Grant Martin, Tim Kogel, Roman Plyaskin, Andreas Herkersdorf, Martin Vaupel

**Virtual Platforms: Breaking New Grounds**

*Design, Automation and Test in Europe Conference (DATE),* Dresden, Germany, 2012

Carina Schmidt-Knorreck, Matthias Ihmig, Raymond Knopp, Andreas Herkersdorf

**Multi-Standard Processing using DAB and 802.11p on Software Defined Radio Platforms**

*7th Karlsruhe Workshop on Software Radios (WSR),* Karlsruhe, Germany, 2012

Matthias Ihmig, Michael Feilen, Andreas Herkersdorf

**On the Accuracy of sum-based Logic and Power Estimates in hardware-accelerated SDR systems**

*7th Karlsruhe Workshop on Software Radios (WSR),* Karlsruhe, Germany, 2012

Holm Rauchfuss, Thomas Wild, Andreas Herkersdorf

**Enhanced Reliability in Tiled Manycore Architectures through Transparent Task Relocation**

*7th Workshop Dependability and Fault Tolerance (VERFE), presented at ARCS,* Munich, Germany, February 28 - March 2, 2012

Sebastian Drössler, Michael Eichhorn, Stefan Holzknecht, Bernd Müller-Rathgeber, Holm Rauchfuss, Michael Zwick, Erwin Biebl, Klaus Diepold, Jörg Eberspächer, Andreas Herkersdorf, Walter Stechele, Eckehard Steinbach, Raymond Freymann, Karl-Ernst Steinberg, Hans-Ulrich Michel

**A Real-Time Capable Virtualized Information and Communication Technology Infrastructure for**

**Automotive Systems**

*Advances in Real-Time Systems, Springer , 2012*

Andreas Bernauer, Johannes Zeppenfeld, Oliver Bringmann, Andreas Herkersdorf, Wolfgang Rosenstiel

**Combining Software and Hardware LCS for Lightweight On-chip Learning**

*Autonomic Systems, 1, Volume 1, Organic Computing - A Paradigm Shift for Complex Systems, Part 3, Springer Verlag, 2012*

Abdelmajid Bouajila, Johannes Zeppenfeld, Walter Stechele, Andreas Bernauer, Oliver Bringmann, Wolfgang Rosenstiel, Andreas Herkersdorf

**Autonomic System on Chip Platform**

*Autonomic Systems, 1, Volume 1, Organic Computing - A Paradigm Shift for Complex Systems, Part 4, Springer Verlag, 2012*

Johannes Zeppenfeld, Abdelmajid Bouajila, Walter Stechele, Andreas Bernauer, Oliver Bringmann, Wolfgang Rosenstiel, Andreas Herkersdorf

**Applying ASoC to Multi-core Applications for Workload Management**

*Autonomic Systems, 1, Volume 1, Organic Computing - A Paradigm Shift for Complex Systems, Part 5, Springer Verlag, 2012*

Jörg Henkel, Andreas Herkersdorf, Lars Bauer, Thomas Wild, Michael Hübner, Ravi Kumar Pujari, Artjom Grudnitsky, Jan Heisswolf, Aurang Zaib, Benjamin Vogel, Vahid Lari, Sebastian Kobbe

**Invasive Manycore Architectures**

*Proceedings of the 17th Asia and South Pacific Design Automation Conference (ASP-DAC), Sydney, Australia, January 30 - February 2, 2012*

Ravi Kumar Pujari, Thomas Wild, Andreas Herkersdorf, Benjamin Vogel, Jörg Henkel

**Hardware Assisted Thread Assignment for RISC based MPSoCs in Invasive Computing**

*International Symposium on Integrated Circuits (ISIC), Singapore, December 12-14, 2011*

Roman Plyaskin, Andreas Herkersdorf

**Context-aware compiled simulation of out-of-order processor behavior based on atomic traces**

*19th IFIP/IEEE International Conference on Very Large Scale Integration (VLSI-SoC), Hong Kong, 2011*

Jörg Henkel, Lars Bauer, Jürgen Becker, Oliver Bringmann, Uwe Brinkschulte, Samarjit Chakraborty, Michael Engel, Rolf Ernst, Hermann Härtig, Lars Hedrich, Andreas Herkersdorf, Rüdiger Kapitza, Daniel Lohmann, Peter Marwedel, Marco Platzner, Wolfgang Rosenstiel, Ulf Schlichtmann, Olaf Spinczyk, Mehdi Baradaran Tahoori, Jürgen Teich, Norbert Wehn, Hans-Joachim Wunderlich

**Design and Architectures for Dependable Embedded Systems**

*CODES + ISSS, Taipei, Taiwan, 2011*

Robert Hartl, Andreas Rohatschek, Walter Stechele, Andreas Herkersdorf

**Improved Backwards Analysis for Architectural Vulnerability Factor Estimation**

*Semiconductor Conference Dresden (SCD), Dresden, Germany, 2011*

Thomas Ebi, Holm Rauchfuss, Jörg Henkel, Andreas Herkersdorf

**Agent-based Thermal Management using Real-Time I/O Communication Relocation for 3D Many-Cores**

*International Workshop on Power and Timing Modeling, Optimization and Simulation (PATMOS),* Madrid, Spain, 2011

Stefan Wallentowitz, Marcel Meyer, Thomas Wild, Andreas Herkersdorf

**Accelerating Collective Communication in Message Passing on Manycore System-on-Chip**

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