# Improved hard real-time scheduling and transformations for embedded Streaming Applications

Spasic, J.

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# List of Publications

## Journal Articles

- **Jelena Spasic**, Di Liu, Emanuele Cannella, Todor Stefanov, "On the Improved Hard Real-Time Scheduling of Cyclo-Static Dataflow", *ACM Transactions on Embedded Computing Systems (TECS)*, vol. 15, Issue 4, Article 68, August 2016.

## Peer-Reviewed Conference Proceedings

- **Jelena Spasic**, Di Liu, Todor Stefanov, "Energy-Efficient Mapping of Real-Time Applications on Heterogeneous MPSoCs using Task Replication", *In Proceedings of the IEEE/ACM/IFIP International Conference on HW/SW Codesign and System Synthesis (CODES+ISSS'16)*, pp. 28:1–28:10, Pittsburgh, Pennsylvania, USA, October 2-7, 2016.
- **Jelena Spasic**, Di Liu, Todor Stefanov, "Exploiting Resource-constrained Parallelism in Hard Real-Time Streaming Applications", *In Proceedings of the International Conference on Design, Automation and Test in Europe (DATE'16)*, pp. 954–959, Dresden, Germany, March 14-18, 2016.
- **Jelena Spasic**, Di Liu, Emanuele Cannella, Todor Stefanov, "Improved Hard Real-Time Scheduling of CSDF-modeled Streaming Applications", *In Proceedings of the IEEE/ACM/IFIP International Conference on HW/SW Codesign and System Synthesis (CODES+ISSS'15)*, pp. 65–74, Amsterdam, The Netherlands, October 4-9, 2015. **<span style="color:red">Nominated for the 2015 CODES+ISSS Best Paper Award.</span>**
- **Jelena Spasic** and Todor Stefanov, "An Accurate Energy Model for Streaming Applications Mapped on MPSoC Platforms", *In Proceedings of the IEEE International Conference on Embedded Computer Systems: Architectures, MOdeling, and Simulation (IC-SAMOS'13)*, pp. 205–212, Samos, Greece, July 15-18, 2013.

- Di Liu, **Jelena Spasic**, Gang Chen, Nan Guan, Songran Liu, Todor Stefanov, Wang Yi, "EDF-VD Scheduling of Mixed-Criticality Systems with Degraded Quality Guarantees", *In Proceedings of the IEEE International Real-Time Systems Symposium (RTSS'16)*, pp. 35–46, Porto, Portugal, November 29-December 02, 2016.
- Di Liu, **Jelena Spasic**, Peng Wang, Todor Stefanov, "Energy-Efficient Scheduling of Real-Time Tasks on Heterogeneous Multicores Using Task Splitting", *In Proceedings of the 22nd IEEE International Conference on Embedded and Real-Time Computing Systems and Applications (RTCSA'16)*, pp. 149–158, Daegu, South Korea, August 17-19, 2016.
- Di Liu, **Jelena Spasic**, Gang Chen, Todor Stefanov, "Energy-Efficient Mapping of Real-Time Streaming Applications on Cluster Heterogeneous MPSoCs", *In Proceedings of the 13th Int. IEEE Symposium on Embedded Systems for Real-Time Multimedia (ESTIMedia'15)*, pp. 1–10, Amsterdam, The Netherlands, October 8-9, 2015.
- Di Liu, **Jelena Spasic**, Jiali Teddy Zhai, Todor Stefanov, Gang Chen, "Resource Optimization for CSDF-modeled Streaming Applications with Latency Constraints", *In Proceedings of the International Conference on Design, Automation and Test in Europe (DATE'14)*, pp. 188:1–188:6, Dresden, Germany, March 24-28, 2014.

# Curriculum Vitae

Jelena Spasić was born on January 27, 1984 in Trgovište, Serbia. She obtained her Dipl.Ing. (M.Sc.) degree in Electronics Engineering from University of Belgrade, Serbia in 2008. Her M.Sc. thesis was in the field of computer systems in control applications. After obtaining her M.Sc. degree, she worked for three years as an R&D engineer in embedded systems at the Institute Mihailo Pupin in Belgrade. There she worked on embedded systems design, design for electromagnetic compatibility and design of automated test systems. In August 2011, she joined the Leiden Embedded Research Center, part of the Leiden Institute of Advanced Computer Science (LIACS) at Leiden University, as a Ph.D. candidate. Her research work, which resulted in this thesis, was funded by the NWO project CREED. Besides her work as a researcher, she was involved as a teaching assistant in the Digital Technique, Computer Architecture, and Embedded Systems and Software courses. Since September 2016, she has been working at the European Organization for Nuclear Research (CERN) as an electronics engineer developing electronics for protection of magnet circuits in the Large Hadron Collider.

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I was very lucky to have a fellow Ph.D. student Di Liu from almost the beginning of my Ph.D. studies to their end. We shared not only an office during our Ph.D. journey, but all the Ph.D.-related problems, our fears and finally successes. It was an excellent opportunity that we could embark on a new research field for us at the same time, discuss our understandings of the field, findings and our ideas. I am very happy that, despite our numerous fears that it might not be even possible, we finally made it Di! Moreover, I am happy that I learned a lot about Chinese culture and cuisine from Di. Our outside office gatherings with Di's wife Yan Liu and little daughter Ruolai Liu were very joyful moments for me. I hope that we are going to maintain our

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