Employment

ICT Developer
Developer IT
Electronic Systems
Eindhoven University of Technology
Eindhoven, Netherlands
1 Jan 2015 → 30 Apr 2019

Education/Research Officer
Education/Research Officer
Electronic Systems
Eindhoven University of Technology
Eindhoven, Netherlands
1 Apr 2011 → 31 Dec 2014

ICT Developer
Developer IT
Electronic Systems
Eindhoven University of Technology
Eindhoven, Netherlands
1 May 2019 → 21 Jul 2020

Student, Electrical Engineering M
Electrical Engineering
Eindhoven University of Technology
1 Sept 2001 → 30 Apr 2011

Student, Electrical Engineering B
Electrical Engineering
Eindhoven University of Technology
1 Sept 2001 → 30 Apr 2011

ICT Developer
Developer IT
Electronic Systems
Eindhoven University of Technology
Eindhoven, Netherlands
1 Apr 2011 → present

ICT Developer
Developer IT
Eindhoven MedTech Innovation Center
Eindhoven University of Technology
Eindhoven, Netherlands
1 Apr 2011 → present

CompSOC Lab- Predictable & Composable Embedded Systems
Eindhoven University of Technology
1 Sept 2001 → present

Founder/R&D
Research outputs

State-based switching multi-rate controller for improving resource utilization on predictable and composable platforms
Haghi, M., Yu, S., Goswami, D., Goossens, K., Koedam, M. & Nelson, A., Jun 2022, In: Microprocessors and Microsystems. 91, 17 p., 104517.

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A Deployment Framework for Quality-Sensitive Applications in Resource-Constrained Dynamic Environments
Tabatabaee Nikkhah, S., Geilen, M. C. W., Goswami, D., Koedam, M. L. P. J., Nelson, A. T. & Goossens, K. G. W., 11 Oct 2021, 2021 24th Euromicro Conference on Digital System Design (DSD). Leporati, F., Vitabile, S. & Skavhaug, A. (eds.). Institute of Electrical and Electronics Engineers, p. 212-220 9 p. 9556434

Modeling, implementation, and analysis of XRCE-DDS applications in distributed multi-processor real-time embedded systems
Dehnavi, S., Goswami, D., Koedam, M., Nelson, A. & Goossens, K., 16 Jul 2021, 2021 Design, Automation & Test in Europe Conference & Exhibition (DATE). Institute of Electrical and Electronics Engineers, p. 1148-1151 4 p. 9474221

PR³: A system For radio-interferometry and radiation measurement on sounding rockets
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Model-based processor-in-the-loop framework for composable multi-core platforms
Haghi, M., Koedam, M., Goswami, Dl. & Goossens, K., Aug 2019, Proceedings - Euromicro Conference on Digital System Design, DSD 2019. Konofaos, N. & Kitsos, P. (eds.). Piscataway: Institute of Electrical and Electronics Engineers, p. 592-596 5 p. 8875214

NoC-based multiprocessor architecture for mixed-time-criticality applications
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Time synchronization for an emulated CAN device on a Multi-Processor System on Chip
Breaban, G., Koedam, M., Stuijk, S. & Goossens, K. G. W., 1 Jul 2017, In: Microprocessors and Microsystems. 52, p. 523-533 11 p.

A composable and predictable MPSoC design flow for multiple real-time applications
Attarzadeh-Niaki, S. H., Altimel, E., Koedam, M., Molnos, A., Sander, I. & Goossens, K. G. W., 1 Jan 2017, Model-Implementation Fidelity in Cyber Physical System Design. Molnos, A. & Fabre, C. (eds.). Cham: Springer, p. 157-174 18 p.

Virtualization and emulation of a CAN device on a multi-processor system on chip
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Cloud-based design and virtual prototyping environment for embedded systems
Werner, S., Lauber, A., Koedam, M. L. P. J., Becker, J., Sax, E. & Goossens, K. G. W., 1 Jan 2016, In: International Journal of Online Engineering. 12, 9, p. 52-60 9 p.

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Designing applications for heterogeneous many-core architectures with the FlexTiles Platform
Janßen, B., Schwiegelshohn, F., Koedam, M. L. P. J., Duhem, F., Masing, L., Werner, S., Huriaux, C., Courtay, A., Wheatley, E., Goossens, K. G. W., Lemonnier, F., Millet, P., Becker, J., Sentiys, O. & Hübner, M., 22 Dec 2015, Proceedings - 2015 International Conference on Embedded Computer Systems: Architectures, Modeling and Simulation, SAMOS 2015, 20-23 July 2015, Samos, Greece. Piscataway: Institute of Electrical and Electronics Engineers, p. 254-261 8 p. 7363683

Composable and predictable dynamic loading for time-critical partitioned systems on multiprocessor architectures
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Retention time measurements and modelling of bit error rates of WIDE I/O DRAM in MPSoCs
Weis, C., Jung, M., Ehses, P., Santos, C., Vivet, P., Goossens, S. L. M., Koedam, M. L. P. J. & Wehn, N., 2015, Design, Automation & Test in Europe Conference & Exhibition (DATE 2015, Grenoble, France, March 9-13, 2015). Piscataway: Institute of Electrical and Electronics Engineers, p. 495-500

CoMik : a predictable and cycle-accurately composable real-time microkernel
Nelson, A. T., Nejad, A. B., Molnos, A. M., Koedam, M. L. P. J. & Goossens, K. G. W., 2014, Proceedings of the Design, Automation and Test in Europe Conference and Exhibition (DATE 2014), 24-28 March 2014, Dresden, Germany. p. 1-4

Composable and predictable dynamic loading for time-critical partitioned systems
Sinha, S. S., Koedam, M. L. P. J., Wijk, R. G. H. V., Nelson, A. T., Nejad, A. B., Geilen, M. C. W. & Goossens, K., 2014, Proceedings of the 17th Euromicro Conference on Digital Systems Design (DSD 2014), 27-29 August 2014, Verona, Italy. Piscataway: Institute of Electrical and Electronics Engineers, p. 285-292

Exploiting expendable process-margins in DRAMs for run-time performance optimizations
Chandrasekar, K., Goossens, S. L. M., Weis, C., Koedam, M. L. P. J., Akesson, K. B., Wehn, N. & Goossens, K. G. W., 2014, Proceedings of the Design, Automation & Test in Europe Conference & Exhibition (DATE 2014), 24-28 March 2014, Dresden, Germany. Piscataway: Institute of Electrical and Electronics Engineers, p. 285-292

The CompSOC design flow for virtual execution platforms
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Hardware/software virtualization for the reconfigurable multicore platform
Ferger, M., Al Kadi, M., Hübner, M., Koedam, M. L. P. J., Sinha, S. S., Goossens, K. G. W., Marchesan Almeida, G., Rodrigo Azambuja, J. & Becker, J., 2012, Proceedings of the 2012 IEEE 15th International Conference on Computational Science and Engineering (CSE), 5-7 December 2012, Nicosia, Cyprus. Piscataway: Institute of Electrical and Electronics Engineers, p. 341-344

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Sinha, S. S., Koedam, M. L. P. J., Geilen, M. C. W. & Goossens, K. G. W., 2012.

Towards future adaptive multiprocessor systems-on-chip: an innovative approach for flexible architectures.
Lemonnier, F., Millet, P., Marchesan Almeida, G., Hübner, M., Becker, J., Pillement, S., Sentieys, O., Koedam, M. L. P. J., Sinha, S. S., Goossens, K., Piguet, C., Morgan, M-N. & Lemaire, R., 2012, Proceedings of the 11th International Conference on Embedded Computer Systems: Architectures, Modeling and Simulation (SAMOS), 18-21 July 2011, Samos, Greece. Piscataway: Institute of Electrical and Electronics Engineers, p. 228-235

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Goossens, K. G. W., Azevedo, A., Chandrasekar, K., Gomony, M. D., Goossens, S. L. M., Koedam, M. L. P. J., Li, Y., Mirzoyan, D., Molnos, A. M., Nejad, A. B., Nelson, A. & Sinha, S. S., 2012, Proceedings of the 5th Workshop on Compositional Theory and Technology for Real-Time Embedded Systems, 4 December 2012, San Juan, Puerto Rico. p. 23-30

Virtual execution platforms for mixed time-criticality applications: demonstrating the CompSoC platform and design flow
Akesson, K. B., Koedam, M. L. P. J., Molnos, A. M., Nejad, A. B., Nelson, A., Stuijk, S. & Goossens, K. G. W., 2012, RTSS@Work Demo Session, organized as a part of the 33rd IEEE Real-Time Systems Symposium (RTSS 2012), December 4-7 2012, San Juan, Puerto Rico.

Virtual platforms for mixed time-criticality applications: the CoMPSoC architecture and SDF3 design flow
Akesson, K. B., Stuijk, S., Molnos, A. M., Koedam, M. L. P. J., Stefan, R. A., Nelson, A., Nejad, A. B. & Goossens, K. G. W., 2012.

Exploiting Inter and Intra application dynamism to save energy
Koedam, M. L. P. J., Stuijk, S. & Corporaal, H., 2011, Proceedings of the 14th Euromicro Conference on Digital System Design (DSD), 31 August - 2 September 2011, Oulu, Finland. Kitsos, P. (ed.). Los Alamitos: IEEE Computer Society, p. 708-715

Projects
COMP4DRONES
Goossens, K. G. W., Dehnavi, S., Goswami, D., Sanchez, V., Koedam, M. L. P. J., Nasri, M., van der Hagen, D. & de Mol-Regels, M.
1/10/19 → 31/01/23

I-MECH
Goossens, K. G. W., Koedam, M. L. P. J., Goswami, D., Sanchez, V., Haghi, M., Balatsoukas Stimming, A., van der Hagen, D. & de Mol-Regels, M.
1/06/17 → 31/05/20

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Goossens, K. G. W., Goswami, D., Stuijk, S., Sanchez, V., Nelson, A. T., Koedam, M. L. P. J., Jugade, C., Jain, V., de Mol-Regels, M. & van der Hagen, D.
1/09/21 → 31/08/24

Model-Driven Design of Cyber-Physical Systems
Basten, A. A., Koedam, M. L. P. J., Goswami, D., De, S., Sanchez, V., Ibrahim, A. M. E., Mohamed, S., Corporaal, H., Huisken, J. A., van der Hagen, D. & de Mol-Regels, M.
1/11/15 → 31/10/19
Ontwikkeling van nieuwe functionaliteiten in de Rotalumis Simulator
Geilen, M. C. W., Koedam, M. L. P. J., van der Hagen, D. & de Mol-Regels, M.
1/01/14 → 30/06/22

TRANSACT
Voeten, J. P. M., Nasri, M., Geilen, M. C. W., Basten, A. A., Sanchez, V., Koedam, M. L. P. J., Samimi Dehkordi, N.,
Modaber, M., Hendriks, M., de Mol-Regels, M., van der Hagen, D. & Gohari Nazari, P.
1/06/21 → 31/05/24

Courses
Parallelization, compilers and platforms
1/09/15 → …

Student theses
Exploiting inter and intra application dynamism through system-scenarios to save energy
Author: Koedam, M., 30 Apr 2011
Supervisor: Stuijk, S. (Supervisor 1)