



08:30 Registration	<p style="text-align: center;">FPGAworld 2024 (Working)</p> <p style="text-align: center;">Sep 12th, DTU (SCION), Building 372, Diplomvej 2800 Lyngby</p> 
<p>Sponsors 2024</p> 	
09:00	<p>Conference opening</p> <p>Professor Lars Dittmann, Technical University of Denmark, and Lennart Lindh, FPGAworld</p>
09:15-10:00	<p>Title: Pervasive and Sustainable AI with Adaptive Computing</p> <p>Keynote speaker: Ole Højrup, XILINX/AMD, USA</p> <p>Abstract: In the context of AI, we face a plethora of challenges that extend beyond the widely discussed performance scalability required to meet the growing demands of compute and storage in the latest models. These challenges encompass sustainability, pervasiveness, agility, and diversity, all of which are needed to cater to a constantly evolving range of applications and algorithms from endpoint to edge and cloud. In this talk, we explore how adaptive devices and agile compiler stacks can provide solutions by delivering post-production hardware specialization and co-designed algorithms. This results in highly optimized AI systems which not only provide the necessary performance scalability but also bring a reduction in carbon footprint while addressing the needs of a broad range of diverse applications with the necessary agility.</p> <p>Session Chair: Professor Lars Dittmann, Technical University of Denmark</p> 
10:00-10:30	<p>Coffee Break & Exhibition</p>
10:30-12:00 4*20 min	<p>Session Chair:</p> <p>Title: Booked Achronix, USA Presenter:</p> <p>Title: Booked Lattice Semiconductor, USA Presenter:</p> <p>Title: Booked XJTAG, UK Presenter:</p> <p>Title: Presenter:</p>

12:00-13:00	Lunch Break & Exhibition		
13:00-14:20 4*20 min	<p>Session Chair:</p> <p>Title: OpenTRNG: an open-source initiative for ring-oscillator based TRNGs Presenter: Florian Pebay-Peyroula, CEA-Leti, France</p> <p>Title: Hog (HDL-on-git): handling HDL repositories on git Presenter: Davide Cieri, Company/school/university: Max-Planck-Institut für Physik, Germany</p> <p>Title: Presenter:</p>		
14:20-14:50	Coffee Break & Exhibition		
14:50-16:10 4*20 min	<p>Session Chair:</p> <p>Title: Presenter:</p> <p>Title: Presenter:</p> <p>Mini Keynote from Stockholm Title: Diversity of talent – Diversity of thought – hiring for effective teams Presenter: Stefani Eisele, EMEA Sales lead of the Altera - an Intel company, Munich</p>		
16:10 -	Go Home Drink in Exhibition Hal		
Sponsors, exhibitors and/or presenters Copenhagen and Stockholm	DTU, Technical University of Denmark AFRY, Sweden Aktuel Elektronik, Denmark AGSTU FPGA Education, Sweden Xilinx - AMD, USA Microchip, UK	ALTERA - Intel, USA XILINX/AMD, USA Achronix, USA Lattice Semiconductor, USA Synective Labs, Sweden Linköping University, Sweden	XJTAG, UK Emlogic, Norway Max-Planck-Institut für Physik, Germany CEA-Leti, France FPGAworld, Sweden
<p>Welcome to the FPGAworld Conference 2024</p> <p>10 September Stockholm, and 12 September in Copenhagen 2024</p>			
			

Keynote Speaker Copenhagen 2024

Keynote speaker: Ole Højrup, AMD Xilinx, USA

Title: Pervasive and Sustainable AI with Adaptive Computing

Abstract: In the context of AI, we face a plethora of challenges that extend beyond the widely discussed performance scalability required to meet the growing demands of compute and storage in the latest models. These challenges encompass sustainability, pervasiveness, agility, and diversity, all of which are needed to cater to a constantly evolving range of applications and algorithms from endpoint to edge and cloud. In this talk, we explore how adaptive devices and agile compiler stacks can provide solutions by delivering post-production hardware specialization and co-designed algorithms. This results in highly optimized AI systems which not only provide the necessary performance scalability but also bring a reduction in carbon footprint while addressing the needs of a broad range of diverse applications with the necessary agility.

CV: Ole Højrup is an experienced FPGA and SoC engineer with a Diploma degree from Engineering Academy Copenhagen in 1997 – today DTU Ballerup Campus. Ole has been working with FPGA's all his career, first with Lucent Technologies and the last 24 years with Xilinx /AMD. He has expertise in FPGA designs, Embedded designs with a microprocessor, high-speed communication, AI, debugging HW and VHDL/Verilog code. As Senior Application Engineer Ole is working with direct customers in Nordic, and has great experience in Industrial, Medical, Robots, Video, Deferens and Datacenter applications.



Mini keynotes from Stockholm

Title: Diversity of talent – Diversity of thought – hiring for effective teams

Mini keynote speaker: Stefani Eisele, EMEA Sales lead of the Altera - an Intel company, Munich.

Abstract: This presentation will explore the key areas that FPGA suppliers must consider to succeed: industry-leading supply chain management, product leadership, and an up-to-date developer experience need to be enhanced by agile thinking to face our current unprecedented challenges. FPGA technology has 40 years of history and is still leading edge as it comes to innovation, differentiating IP and secure architectures. To continue our successful path, we need to innovate the appearance of our market: Inclusion, openness to diversity and flexibility for novel approaches will allow us to be attractive for young talent and succeeding with agile strategy deployments.

CV: Stefani is leading since 2023 the Programmable Solutions Sales Team in EMEA. Since 1997, she has worked in the security, communications and embedded market in Sales, Product Management, Program management and leadership roles. Stefani graduated from the University of Munich in Mathematics and Physics. More information: <https://www.linkedin.com/in/stefanieisele/>

Title: The Intelligent Edge in the Post Quantum Era

Mini keynote speaker: Brian Colgan, Microchip Technology, UK

Abstract: In the Age of the Intelligent Edge, artificial intelligence and machine learning are thriving throughout the network and continue to accelerate: Gartner expects more than 75% of enterprise-generated data to be created and processed outside a centralized data center or cloud by 2025.

The demands and threats for systems at the edge are formidable. The freedom to tailor designs for specific edge conditions is nonnegotiable. The attention to securing and protecting the valuable data and intellectual property now sitting at network endpoints must be absolute.

This keynote will document how the freedom and flexibility of RISC-V – the first truly open computing architecture – is enabling products that could never exist before. From mixed-criticality designs that blend real-time determinism with safety, atop a Linux-based foundation, to creating systems burdened by space constraints and collapsing power budgets.

It will also detail the dangers of being outside the data center in a post-Quantum world. Every system is assessed and attacked at the edge – where there are no guns, guards, or gates to protect it. So, there can be no cybersecurity without physical security. And it gets worse: Quantum computing breaks asymmetric cryptography.

CV: Brian has many years' experience in the semiconductor industry, previously working in Xilinx's research lab; as sales representative for Cypress Semiconductor; and as an FPGA FAE at EPS Global. He is currently a Business Development Manager in the FPGA Business Unit at Microchip Technology where he supports customers throughout Europe. Brian has a Bachelor of Engineering (Honours) in Computer Engineering from the Dublin Institute of Technology (now TU Dublin).

Presentations with abstracts

Title: OpenTRNG: an open-source initiative for ring-oscillator based TRNGs

Presenter: Florian Pebay-Peyroula, CEA-Leti, France

Abstract:

OpenTRNG initiative introduces an open-source framework for True Random Number Generators (TRNG), focusing on ring-oscillator-based architectures. This project offers a comprehensive toolkit comprising reference designs, emulation tools, and analysis utilities aimed at facilitating the development and evaluation of hardware TRNG implementations. Key components include emulators capable of simulating noisy ring oscillators and digital noise sources, hardware descriptions for FPGA implementations, and analysis tools for assessing randomness metrics such as entropy and autocorrelation. By providing accessible resources and fostering collaboration within the community, OpenTRNG aims to accelerate the advancement of TRNG technologies and promote good design practices and reproducibility in the field of random number generation.

Title: Hog (HDL-on-git): handling HDL repositories on git

Presenter: Davide Cieri, Company/school/university: Max-Planck-Institut für Physik, Germany

Abstract:

Hog (HDL-on-git) is a tcl-based open-source management tool, created to simplify HDL project development and management within collaborations, exploiting git features.

Hog is compatible with major HDL IDEs, and guarantees synthesis and placing reproducibility and binary file

traceability, by linking each binary file to a specific git commit. It provides a Continuous Integration framework, validating any changes to the code, handling automatic versioning, and simulating and building the design.

Thank you Sponsors!

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