From Solver Fundamentals to ML-Enhanced Circuit Simulation: An InfineonSpice (TITAN) Workshop

10 March 2026, 09:00 am - 04:00 pm CET
University of Sarajevo, Faculty of Electrical Engineering, Room 3-46, Bit Alliance Lab

Topics:

- Analog circuit simulation
- Hands-on lab with InfineonSpice
- Innovation of analog simulation methods
- Networking session

Curious how Infineon advances analog circuit simulation?

Join us for a one-day program with lectures on analog circuit simulation and a hands-on workshop using the InfineonSpice (TITAN) simulator. We will cover core simulation principles and present innovative student project proposals that apply ML/AI to circuit simulation.

We will move from foundational theory to practice: starting with Modified Nodal Analysis (MNA) as a base, we will show how high-performance solvers are built and used, run InfineonSpice (TITAN) on representative analog circuits, interpret resulting waveforms, analyze convergence behavior, and address real-world trade-offs.

We will also illustrate where machine-learning-based methods provide tangible benefits, such as neural network-based warm starts for faster Newton–Raphson or Reinforcement-Learning-guided improvements in sparse linear algebra.

At the end of the day, you can engage with mentors from academia and industry, get answers to your questions, and explore pathways toward thesis work and future collaborations on circuit simulation.

Agenda:

09:00 - 10:30 am	**Introduction to Analog Circuit Simulation** *Dr. Emira Dautbegović*
10:45 am - 12:30 pm	**InfineonSpice hands-on workshop** (please bring your laptops with you) *Dr. Christoph Kowitz*
12:30 - 01:30 pm	**Lunch**
01:30 - 03:00 pm	**AI tools and methods in circuit simulation** incl. student project proposals *Dr. Marko Milošević*
03:00- 04:00 pm	**Q&A session and networking**

Interested?
Then register right here!

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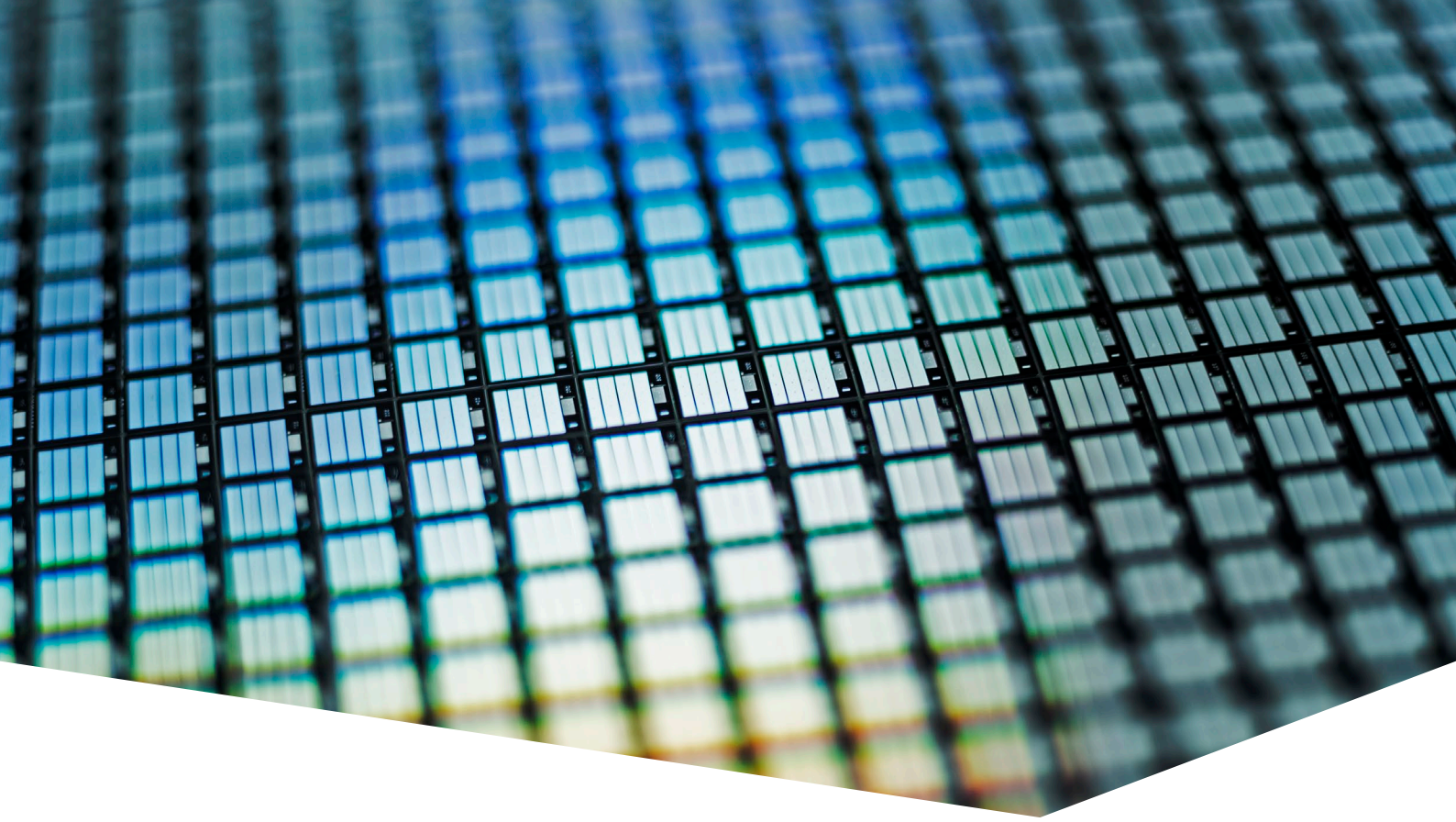

Get to know the speakers:

Dr. Emira Dautbegović

is an analog circuit simulation expert, the Chief Product Owner of in-house simulator TITAN / InfineonSpice and Senior Director Analog Verification at Infineon Technologies AG.

She joined Infineon in 2005, after obtaining PhD in Electronics Engineering at Dublin City University (Ireland) and Dipl.Ing. in Automation and Electronics Engineering at University of Sarajevo-ETF (BiH). Emira's professional interests include analog circuit simulation, RF analyses, electronic circuit design and verification, HPC software development, applied numerical mathematics, agile leadership and project management.

Dr. Christoph Kowitz

is a computer scientist and line manager specializing in analog circuit simulation and scientific computing. He earned a master's in Computational Science and Engineering (TUM, 2010) and a PhD in Computer Science focused on Scientific Computing (TUM, 2016).

At Infineon Technologies, he developed the in-house analog circuit simulator and, for the past four years, has led the team behind it.

His interests include numerical methods and HPC; he builds accurate, scalable tools that speed-up product development.

Dr. Marko Milošević

is an electrical engineer, computer scientist, and line manager at Infineon Technologies, specializing in analog mixed-signal methodology and applying AI to improve related methods and tools.

He received his Dipl.-Ing. in Electrical Engineering and Computer Science from the University of Niš (Serbia) and earned a PhD in Computer Science at TUM (Germany), researching graph algorithms for Electronic Design Automation.

In industry, he built deep AMS expertise through roles at Intel and Infineon, spanning methodology, flows, and tool-driven enablement

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