

Einladung zum 295. Institutskolloquium

Thema: **The Automation of Intelligence:
What EDA Built and What Comes Next**

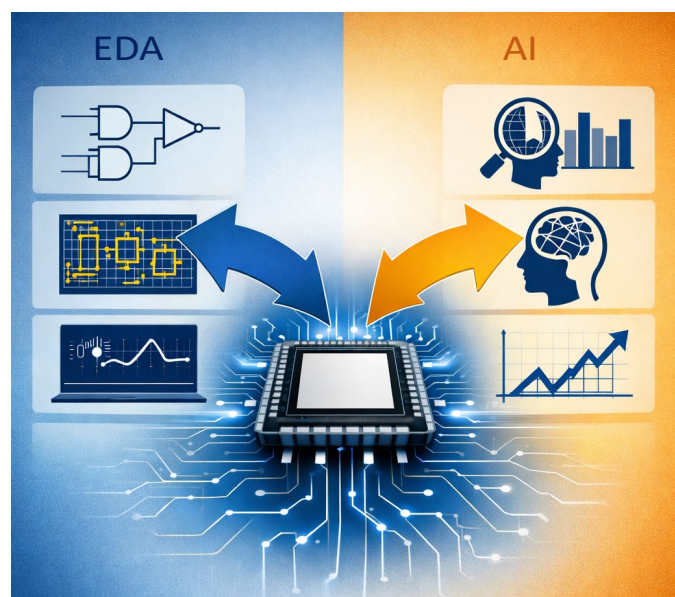
Vortragender: **Patrick Groeneveld, Ph.D., Stanford University and
Senior Fellow AMD Inc., San Jose, CA, USA**

Leitung: **Prof. Dr.-Ing. habil. Jens Lienig**

Zeit / Ort: **02. Oktober 2026, 14 Uhr, BAR II/26 und [Zoom-Meeting](#)**

Sixty years of transistor scaling have crossed a symbolic threshold: a single chip now integrates more transistors than the human brain has neurons. The machines built from these devices are beginning to rival human intelligence across domains once considered exclusively cognitive. That shift forces a return to the question posed at the very first Design Automation Conference in 1964: how does automation reshape work and society? The answer has never been more consequential, nor more technically grounded.

Trillion-transistor systems did not emerge from nowhere. They are the product of decades of EDA research, from logic synthesis to physical implementation, solving simultaneous optimization across cost, performance, power, and reliability at a scale that constitutes one of the most demanding combinatorial engineering achievements ever attempted. This talk examines where that trajectory leads, what it demands of the engineers and tools that will carry it forward, and what it means for a society increasingly shaped by AI systems that EDA made possible.



Dr. Patrick Groeneveld's career spans the full arc of modern EDA. He served as Chief Technologist at Magma Design Automation, where he contributed to one of the first commercial RTL-to-GDSII flows, and held senior roles at both Cadence and Synopsys. He has worked with AI hardware startups at the frontier of accelerator design and held a Full Professorship in Electrical Engineering at Eindhoven University of Technology. He currently lectures in Stanford's EE department and serves as Finance Chair on the DAC Executive Committee. He holds MSc and PhD degrees from Delft University of Technology.