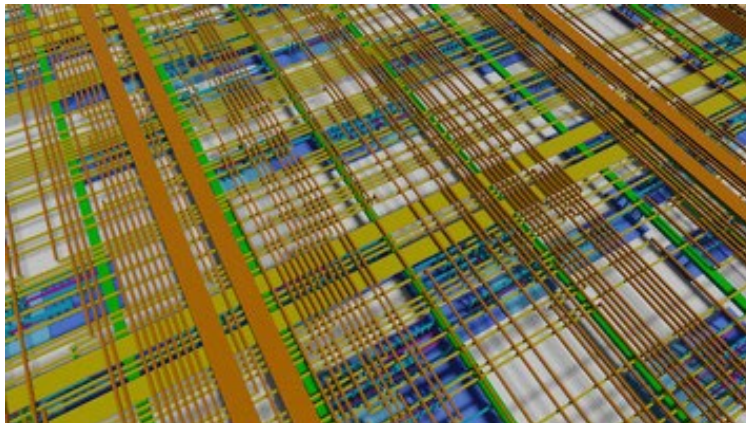


Einladung zum 268. Institutskolloquium

Thema: **Open-Source Silicon Chips: Vision, Challenges and Opportunities**
Vortragender: **Dr. Luca Alloatti, Präsident der Free Silicon Foundation**
Leitung: **Prof. Dr.-Ing. habil. Jens Lienig**
Zeit / Ort: **1. März 2024, 2024, 14 Uhr, BAR II/26**

Learning, working and innovating in the field of Integrated Circuits (ICs) is today challenged by outrageously expensive licence fees, lock-in threats, and legal and geopolitical barriers. Using an IC as wished, studying its design, modifying it and sharing it is today largely impossible. Following the success story of open-source software, silicon chips are on their way to become open-source as well.

An open-source silicon chip is a chip which is open in its entirety: from the high-level hardware description all the way down to the layout. An open silicon chip, however, is not compatible with the “terms and conditions” of mainstream Electronic Design Automation (EDA) vendors implying, in practice, that open silicon relies on open-source EDA tools. Open silicon further requires open-source Process Design Kits (PDKs) for not violating the Non Disclosure Agreements (NDAs) usually requested by the silicon foundries.



In this 40-minutes talk it will be argued how open silicon can impact security, innovation and education. It will follow an overview of available tools and open-source PDKs such as the 130nm PDK by IHP GmbH. The talk will then mention the role that Europe had in the field, possible paths to revive it, and how students and researchers can get involved. Finally, a short overview of open-source licences, their legal basis, and their applicability to silicon is given.