

HeiChips Summer School 2026
Heidelberg University, August 3rd to 7th



HeiChips 2026

Summer School on Open-Source Chip Design

August 3 – 7, 2026 · Heidelberg, Germany



**UNIVERSITÄT
HEIDELBERG**
ZUKUNFT
SEIT 1386



Our Venue

European Institute for Neuromorphic Computing (EINC) research building



**Electrons —
Spiking
Neuromorphic Hardware**



**Photons —
Highly-integrated
Neuromorphic Optics**



**Atoms —
Ultracold Quantum
Simulators**

- Building tours will be available during HeiChips
- There are no scheduled alarms → leave on alarm

Our Sponsors



**UNIVERSITÄT
HEIDELBERG**
ZUKUNFT
SEIT 1386

With funding from the:



Federal Ministry
of Research, Technology
and Space



**CHIP
DESIGN
GERMANY**

Funding program „Design Instruments for Sovereign Chip Development with Open Source (DE:Sign)“

Program Management Agency VDI/VDE-IT for BMBF/Ref. 512
Electronics and Autonomous Driving; Supercomputing

GERMAN MICROELECTRONICS DESIGN INITIATIVE

- BMBF program for Chip Design Resources in Germany
- Start in 2022

Components of the Initiative (so far):

- Network „Chipdesign Germany“
- DE:Sign – Funding for OpenSource Chip Design
 - 15 projects, running May 2024 to April 2027
 - BMBF Total Grant: 29.6 Mio. EUR
- Funded collaborations between Germany and Taiwan
 - 6 current projects, new call out now!



© Alexander Limbach - AdobeStock

DE:SIGN | R&D PROJECTS OPEN SOURCE EDA TOOLS

Talents: Student contest „Open Source Chip Design Challenge“ (**OCDCpro**)

Analog design

- ✓Text based design (**ORDeC**)
- ✓High frequency chips (**DEMICO**)

Hardware security

- ✓HW architecture (**ExViPaS**)
- ✓HW security module (**SIGN-HEP**)

Digital design

- ✓eFPGAs (**OWAS**)
- ✓FPGAs (**FEntWumS**)
- ✓RISC-V (**GATE-V**)
- ✓Verification (**OSVISE**)
- ✓DRAM (**DERAMSys**)
- ✓AI Hardware (**EDAI**)

Novel technologies

- ✓RFETs (**ReDesign**)
- ✓MEMS/ASIC (**Meta-X**)
- ✓Packages/SiP (**PASSIONATE**)
- ✓Radiation resistant HW (**Flowspace**)

CONTACT



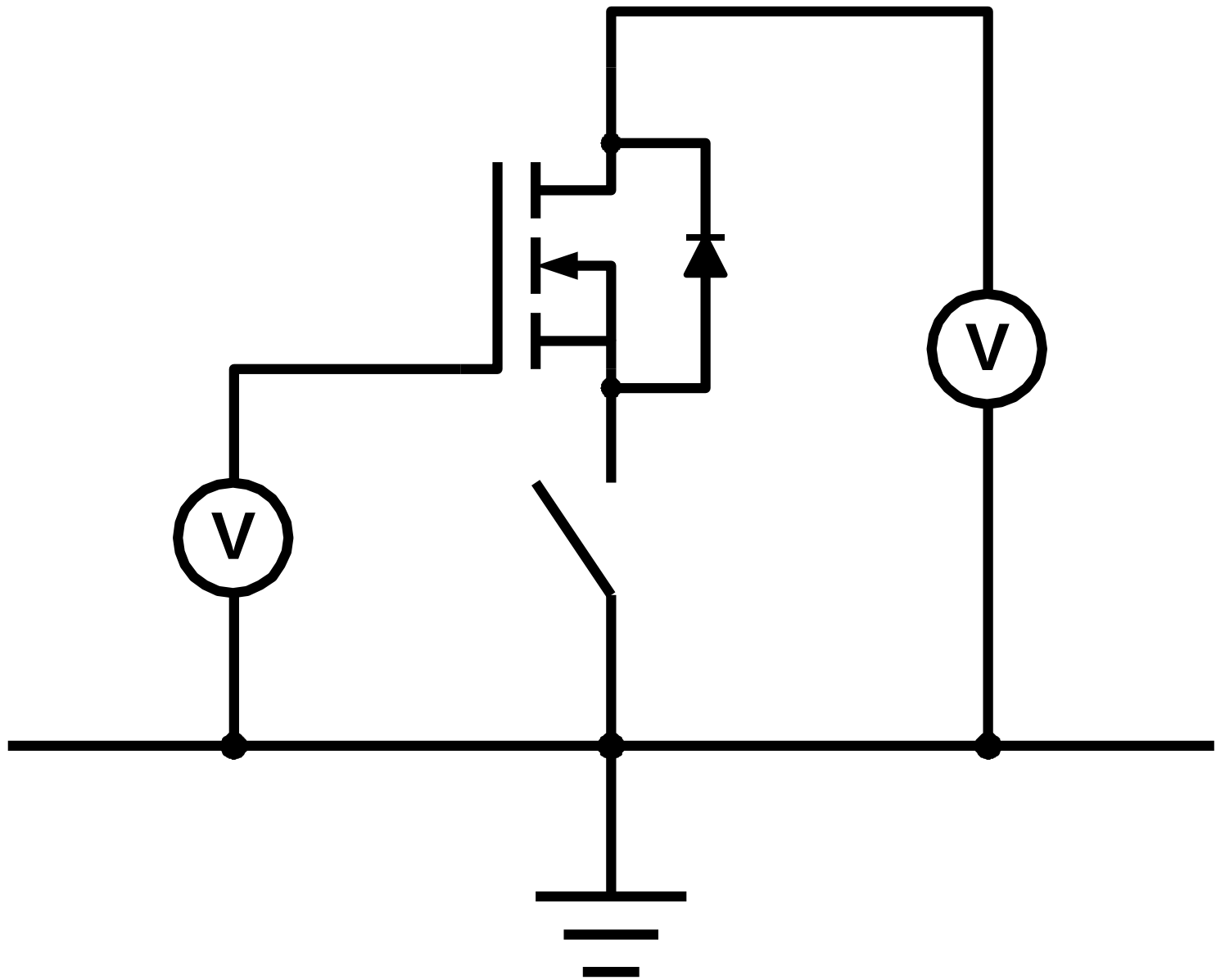
Dr. Tina Tauchnitz



Dr. Korbinian Schreiber

Program Management Agency on behalf of
Federal Ministry of Education and Research Germany:
VDI/VDE Innovation + Technik GmbH
email: designinitiative-me@vdivde-it.de
phone: +49 (0) 30 310078-3584

Virtually everything that we use and build is or will be...



Monday

09:30	Reception & Refreshments
10:00 – 10:30	HeiChips Opening & Program Introduction
10:30 – 11:30	Poster Pitches
11:30 – 12:00	Posters & Networking Coffee
12:00 – 12:45	Hackathon Introduction (Leo)
12:45 – 14:00	Lunch (<i>Zentralmensa / Canteen</i>)
14:00 – 15:00	Legal Aspects Open-Source Players Should Know About (Caren Kresse)
15:00 – 15:30	Coffee Break
15:30 – 16:30	Introduction into Agentic AI for Hardware Design and Verification (Riadh Ben Abdelhamid)
17:00	Small Hike over Philosphenweg
19:00	Dinner at the Heidelberger Schnitzelhaus





Tuesday

08:30

Reception & Refreshments

09:00 – 10:45

LibreLane Intro & Workshop (Leo)

10:45 – 11:00

Coffee Break

11:00 – 12:30

Why KLayout Exists and What Is Under the Hood
(Matthias Köfferlein)

12:30 – 13:30

Lunch *Zentralmensa / Canteen*

13:30 – 15:00

Introduction into the KLayout Python API (Matthias)

15:00 – 15:30

Coffee Break

15:30 – 17:00

Designing Your Own PCell with the KLayout Python API

17:00

Tour Through the **Heidelberg Botanic Garden**

18:00

Walk to Heidelberg Downtown

19:00

Dinner at Triplex-Mensa

20:00

Walk to Heidelberg Castle

HEICHIPS SUMMER SCHOOL 2026

HEIDELBERG UNIVERSITY, AUGUST 3RD TO 7TH



Wednesday

08:30	Reception & Refreshments
09:00 – 09:15	Open-Source Analog Mixed-Signal — Overview *
09:15 – 10:30	Open-Source Analog Mixed-Signal — Schematic*
10:30 – 11:00	Coffee Break
11:00 – 12:30	Open-Source Analog Mixed-Signal — Layout*
12:30 – 13:15	Lunch
13:15 – 14:45	Open-Source Analog Mixed-Signal — Exercises*
14:45 – 15:00	Coffee Break
15:00 – 17:00	Hands-on: Python for Hardware Design (Georg Gläser)
17:30	HeiChips BBQ

***Simon Dorrer**



Thursday

- 8:30 Reception & Refreshments
- 9:00 **Hackathon Kickoff** (Simon and Leo)
- 9:30 **Hackathon**
- 12:30 Lunch
- 13:30 **Hackathon**
- 17:30 **Curry**



Friday

- 8:30 Reception & Refreshments
- 9:00 **Hackathon**
- 12:30 Lunch (Pizza)
- 13:30 **Hackathon**
- 16:30 **Best Project Award** & Wrap-up



bAG O' Life

We iChips

bASIC Game Of Life
(with a bonus HDMI output)

Zielasko, Graeme Bragg, Alice Ziuziakowska,
Hossam Omar, Pascal Gesell



Thursday

- 8:30 Reception & Refreshments
- 9:00 **Hackathon Kickoff** (Simon and Leo)
- 9:30 **Hackathon**
- 12:30 Lunch
- 13:30 **Hackathon**
- 17:30 **Curry & Nightshift**

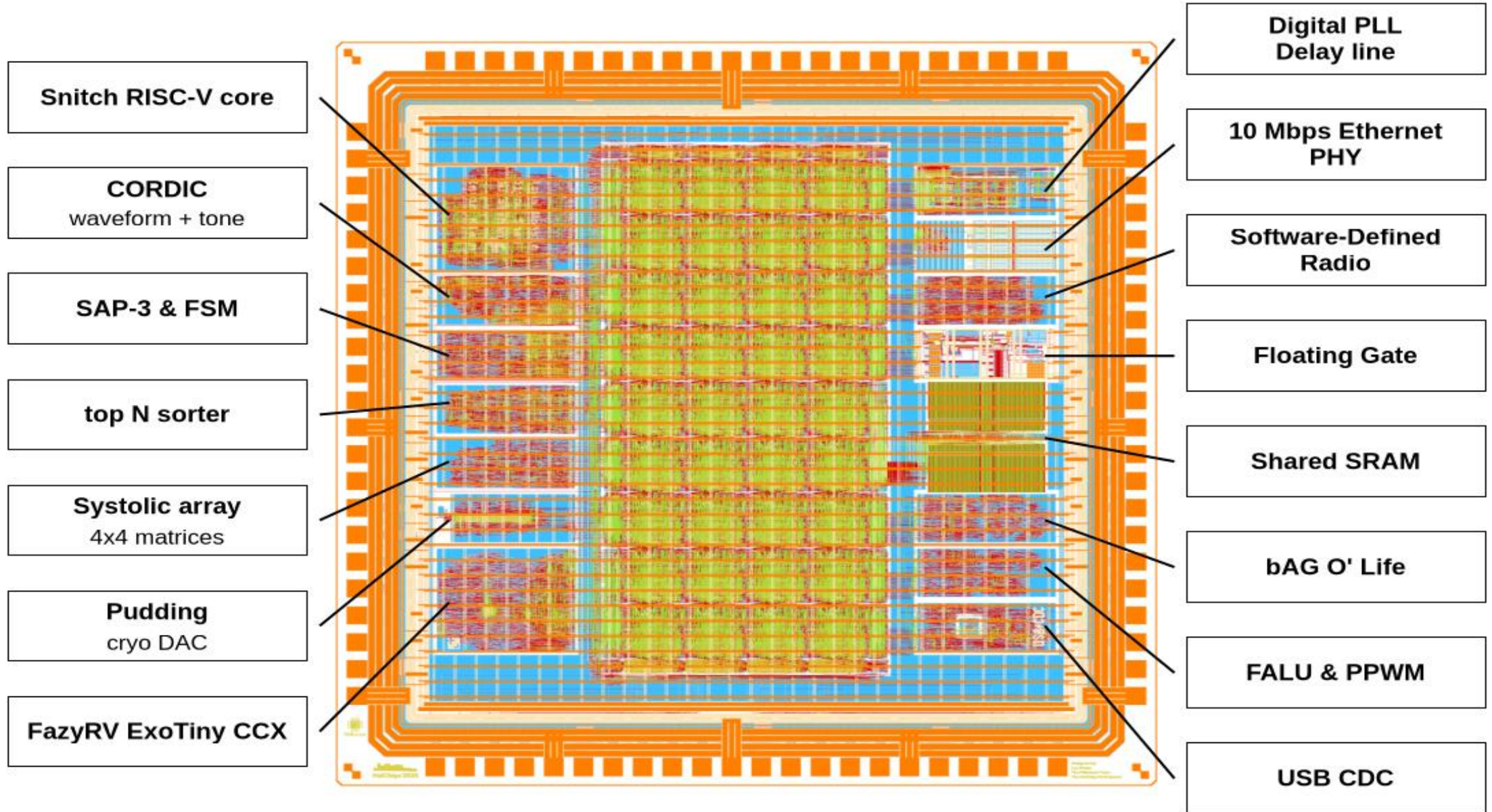


Friday

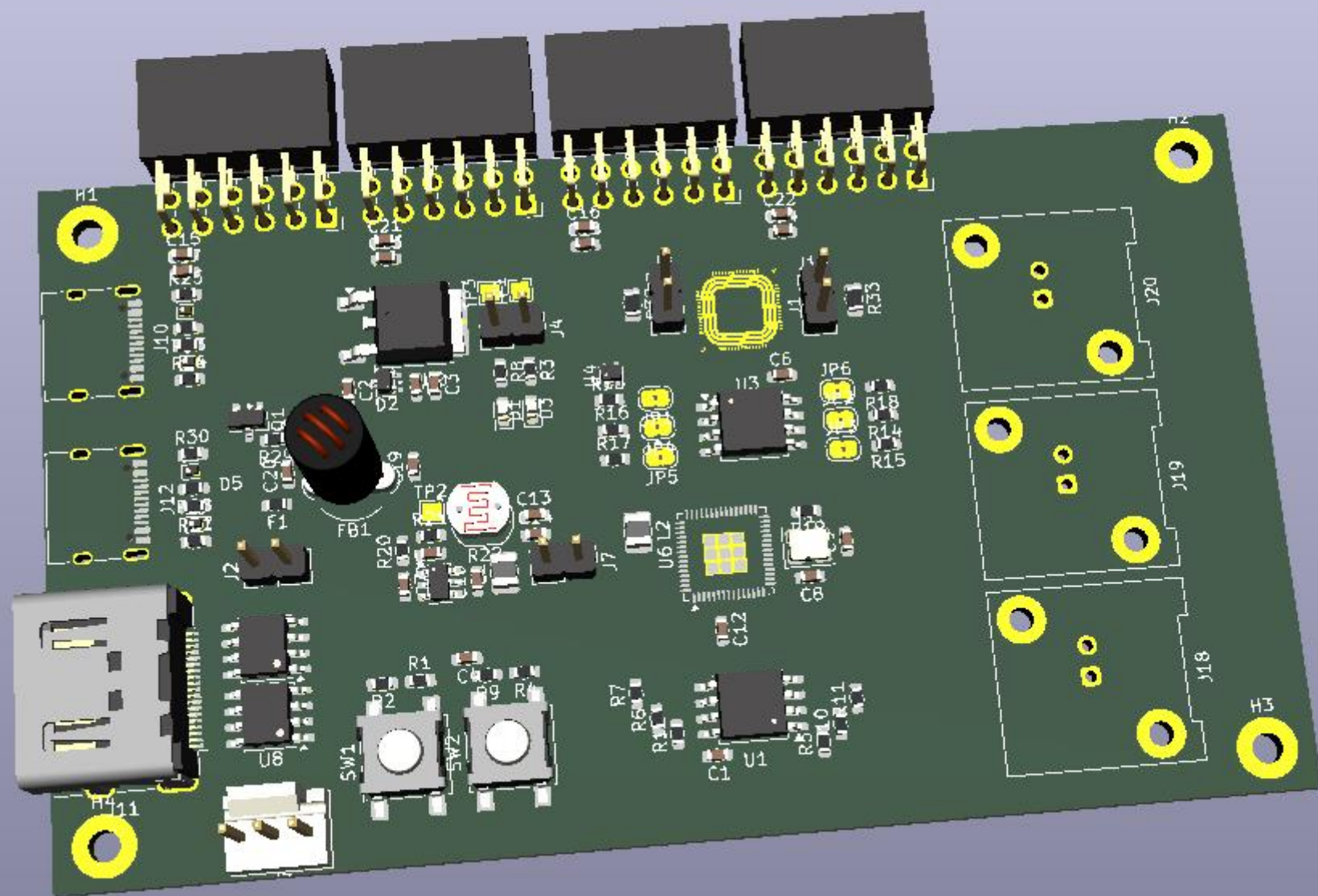
- 8:30 Reception & Refreshments
- 9:00 **Hackathon**
- 12:30 Lunch (Pizza)
- 13:30 **Hackathon**
- 16:30 **Best Project Award** & Wrap-up



The HeiChips 2025 Tapeout



<https://github.com/HeiChips/heichips25-tapeout>



HeiChips Summer School 2026
HEIDELBERG UNIVERSITY, AUGUST 3RD TO 7TH



HeiChips 2026

Summer School on Open-Source Chip Design

August 3 – 7, 2026 · Heidelberg, Germany