

# Chapter 1 - Introduction and overview

## Introduction

Thorsten Knoll



- 1 Welcome
- 2 Course overview
- 3 Course components
- 4 The Training sessions
- 5 Open-source EDA for digital designs
- 6 AMA (Ask me anything)



## Section 1

Welcome



# Trainer profile

Me:

Name, Company / Uni

Why i'm here. My motivation.

What i've done before.

What interests me most.



# Participants backgrounds and motivations

You:

Name, Company / Uni

Why i'm here. My motivation.

What i've done before.

What interests me most.



## Section 2

### Course overview



# Chapter names

- 01 Introduction
- 02 Workflow
- 03 Design and example pick
- 04 OpenROAD first run
- 05 PDK Examination
- 06 Data in OpenROAD
- 07 LVS and DRC
- 08 Simulation and PPA
- 09 Scripting
- 10 GDS and Tapeout



# Chapter names

- 01 Introduction
- 02 Workflow
- 03 Design and example pick
- 04 OpenROAD first run
- 05 PDK Examination

Day 1 - 2




- 06 Data in OpenROAD
- 07 LVS and DRC
- 08 Simulation and PPA
- 09 Scripting
- 10 GDS and Tapeout

Day 3 - 5





# Schedule for the course

	Mon	Tue	Wed	Thu	Fri
Morning	<b>L1:</b> Intro and Overview  <b>L2:</b> Workflow RTL-to-GDS	<b>Q1, Q2, Q3:</b> Recap  <b>L4:</b> OpenROAD First run  <b>T4:</b> Training	<b>Q4, Q5:</b> Recap  <b>L6:</b> The data in OpenROAD	<b>Q6, Q7:</b> Recap  <b>L8:</b> Simulation and PPA  <b>T8:</b> Training	<b>L10:</b> GDS and Tapeout  <b>Q8, Q9, Q10:</b> Recap
Lunchbreak					
Afternoon	<b>L3:</b> Dig. Design and examples  <b>T3:</b> Training	<b>T4:</b> Training  <b>L5:</b> PDK Examination  <b>T5:</b> Training	<b>L6:</b> The data in OpenROAD  <b>T6:</b> Training  <b>L7:</b> LVS/DRC reading	<b>L9:</b> Scripting in OpenROAD	Spare time and Wrap-Up

L : Lectures

T : Training and Hands-On

Q : Questions

## Section 3

### Course components



# Lectures



# Trainings



# Cheat Sheets



Some things are really hard to remember:

- Abbreviations
- Complex relations and graphics
- Mathematics (joking, we're not doing math here)
- ...

- That is why we have Cheat Sheets.
- They're made for cheating the hard parts.
- Cheatsheets work best when printed as handouts.
- You should have them nearby the computer during the course.



# Questions



- The questions are for re-visiting and remembering a previous chapter.
- They guide an interactive session between the trainer and the room:
  - Trainer: Asks the questions.
  - Room: Answers the questions.
    - Skipping a question is fine.
    - Not knowing the answer is fine.
    - This is not a test nor a challenge.
    - Think of this as a helpfull recap of yesterdays content.
  - If no answer is found, the trainer helps with the answer.



## Section 4

### The Training sessions



# Login at IHP

- Onboarding for everyone to the computers





# Levels

- Success points inbetween lectures
- This is too fast
- This is too slow



# Availablity GitHub PDF Downloads

- Follow in your own tempo. Get all the data here:
- Link / QR to the course materials

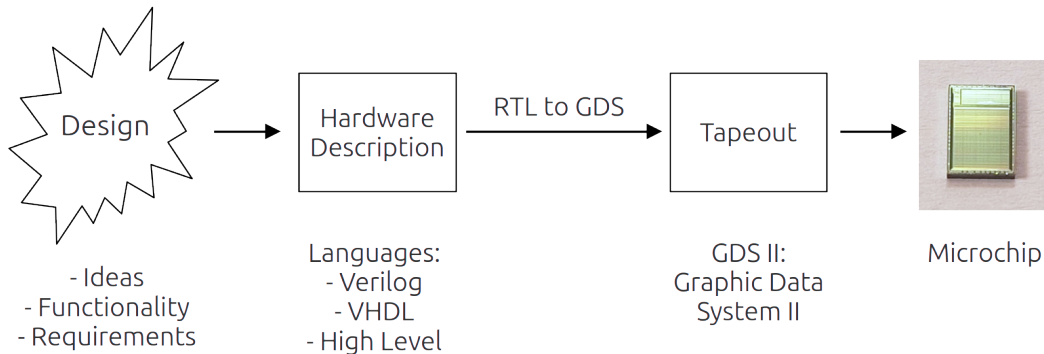


## Section 5

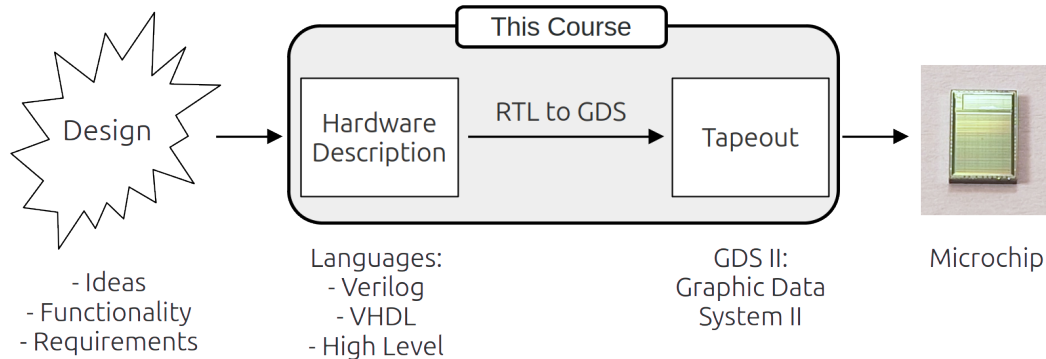
# Open-source EDA for digital designs



# From Design to Microchip



# RTL to GDS - Workflow



# The cheatsheet

First usage of the cheatsheet:

- EDA
- RTL
- GDS II
- ....



# Further topics

- What is the new thing with this course?
- Advantages of open-source in EDA
- The actual state of open-source EDA
- Goals of this course.
- How to participate and interact with this course.
- Producing chips at IHP with the open PDK



## Section 6

AMA (Ask me anything)





# AMA (Ask me anything)

- Opportunity to ask questions about everything (chapter 1 ?).

