Welcome to Hamburg and DESY

Reinforcement Learning for Autonomous Accelerators

RL4AA

PETRA III

European XFEL

DESY II

PIA

LINAC II

FLASH2

FLASH1

https://rl4aa.github.io/

Organizers

Annika Eichler
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CERN

https://rl4aa.github.io/

Last Workshops

RL4AA'23

In Karlsruhe

~30 participants

~ 4 countries

RL4AA'24

In Salzburg

~50 participants

~10 countries

Keynotes:

- Antonin Raffin (DLR)

- Felix Berkenkamp (Bosch Center for AI)

RL4AA Collaboration

RL4AA Collaboration workshops

- Connect RL researcher and users in the particle accelerator community

- Teach fundamentals and advanced RL concepts

- Show practical applications

- Discuss current challenges

RL4AA'23

RL4AA'24

https://rl4aa.github.io/

What to expect

Thanks to

AKADEMIE DER WISSENSCHAFTEN IN HAMBURG

GO-2-PROF:IN

DASHH.

CSSB
Centre for Structural Systems Biology

Hamburg — Behörde für Wissenschaft, Forschung, Gleichstellung und Bezirke

GEFÖRDERT VOM
Bundesministerium für Bildung und Forschung

RL challenge
Get your hands dirty with RL in small teams, write some code, and possibly win a prize.

Contributed talks
Enjoy targeted and specialised talks on different RL applications and methods.

Posters
Discuss your work and find out what others are working on in a poster session.

Introduction to RL
Get a beginner-friendly introduction to foundational RL concepts and advanced topics.

Today 02.04.25

Morning

Registration: Arrival of participants	
CSSB Building 15 - Foyer, DESY	08:30 - 09:00

09:00

Welcome session: 1	
CSSB Building 15 - Lecture Hall, DESY	09:00 - 09:30

Course: Introduction to RL	*Dr Andrea Santamaria Garcia*

10:00

CSSB Building 15 - Lecture Hall, DESY	09:30 - 10:30

Break	
CSSB Building 15 - Foyer, DESY	10:30 - 11:00

11:00

RL challenge: Introduction and group assignment	
CSSB Building 15 - Social Spaces All Floors, DESY	11:00 - 12:00

12:00

Lunch break	

13:00

Building 09 - DESY Canteen, DESY	12:00 - 13:30

Afternoon

RL challenge: Hands on	

14:00

15:00

CSSB Building 15 - Social Spaces All Floors, DESY	
13:30 - 15:30	

Break	
CSSB Building 15 - Foyer, DESY	15:00 - 15:30

Lab tour	

16:00

17:00

CSSB Building 15 - Lecture Hall, DESY	15:30 - 18:00

18:00

Social event: Dinner	

19:00

Where to find what

Important places

- **CSSB**: workshop venue

- **Canteen**: for lunch
  (self-payed)

- **FLASH Seminar room
  (upstairs)**: Dinner today
  (included)

https://rl4aa.github.io/
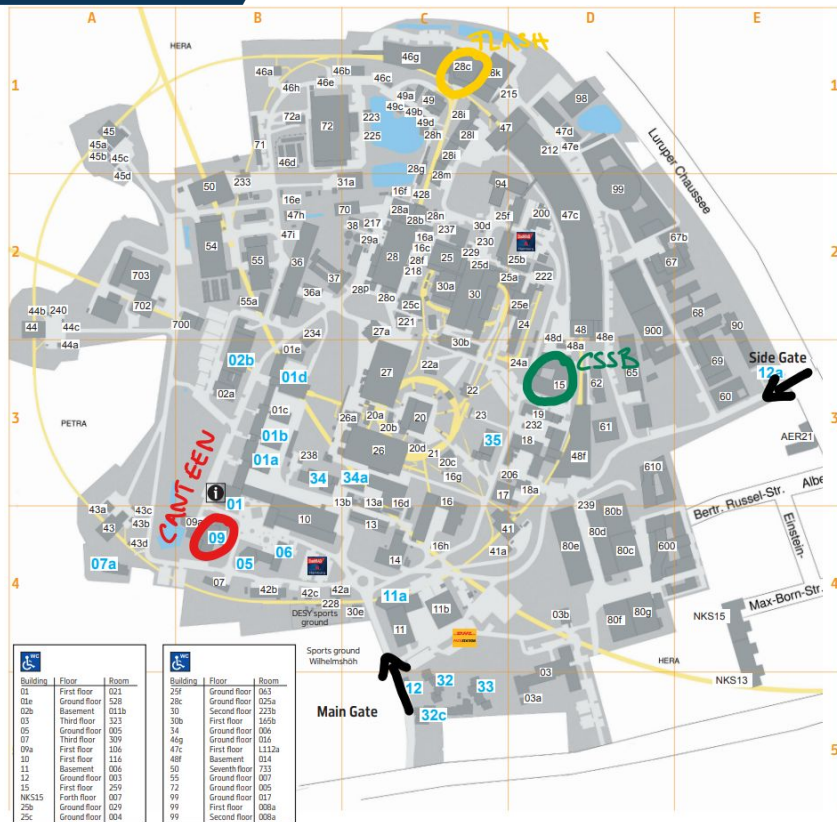
What it is about

- Example of R&D facility at DESY

- Introduction later

- Solve problem with RL, optimisation or control

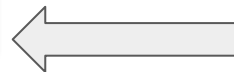- There is a prize
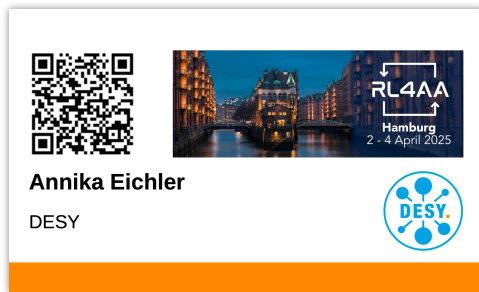
- More information to come!

Important info for now

- Safety briefing in the lecture hall

- There is some walking

- We will enter controlled area, no access for people

  - below the age of 18 years

  - pregnant or breastfeeding

  - with pacemaker

General information

- For questions: ask the organisers

- WiFi Access

  - Eduroam

  - Science Hotspot

- Signatures **everyday**!

- Upload talks and posters to indico

- https://desy.zoom.us/j/65167491249
  ?pwd=bEqnVFUcHG39QYbmlizUFLC
  NkhoGNl.1

Annika Eichler

DESY

RL4AA
Hamburg
2 - 4 April 2025

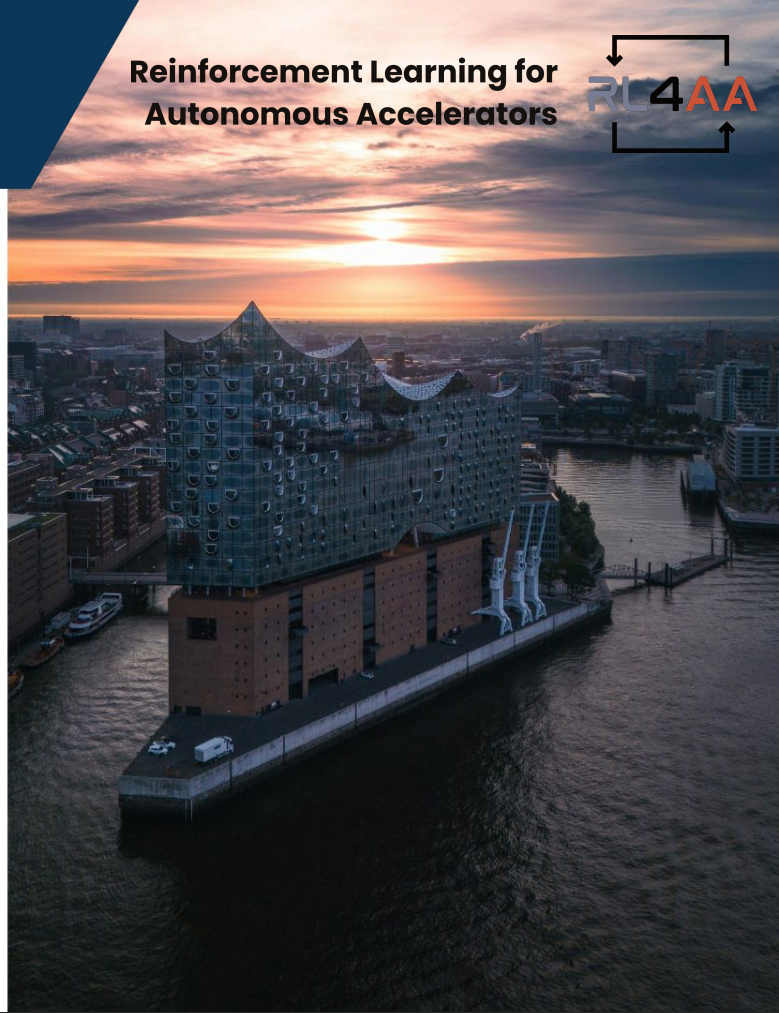# For tomorrow: Hamburg tour

Schedule

- Ferry tour to Hamburg harbour

  (HVV Ticket or Deutschland ticket)

- Visit of the Elbphilarmonie plaza

  IMPORTANT: Buy a ticket

- Dinner at Hofbräuhaus

Let's get started

RL4AA23

ARES Cockpit

SINBAD LLRF Main Operation

https://rl4aa.github.io/