



Reinforcement Learning for
Autonomous Accelerators



Welcome to the **RL4AA'25**
COLLABORATION
WORKSHOP

What to expect

Reinforcement Learning for Autonomous Accelerators



Thanks to



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.



Morning

09:00	Welcome session: 2 <i>CSSB Building 15 - Lecture Hall, DESY</i> 09:00 - 09:30
	Keynote: Inductive Biases for Robot Reinforcement Learning <i>Jan Peters</i>
10:00	<i>CSSB Building 15 - Lecture Hall, DESY</i> 09:30 - 10:30
	Break <i>CSSB Building 15 - Foyer, DESY</i> 10:30 - 11:00
11:00	Keynote: Plasma integrated control and trajectory optimization via reinforcement learning: applications in magnetic confinement fusion <i>Alessandro Pau</i>
	<i>CSSB Building 15 - Lecture Hall, DESY</i> 11:00 - 12:00
12:00	Break: Group Photo <i>CSSB Building 15 - Foyer, DESY</i> 12:00 - 12:15

Noon and afternoon

13:00	Lunch break: Poster session special  Data Science in Hamburg HELMHOLTZ Graduate School for the Structure of Matter
	<i>CSSB Building 15 - Foyer, DESY</i> 12:15 - 14:00
14:00	Talks: RL for particle accelerators I
	<i>CSSB Building 15 - Lecture Hall, DESY</i> 14:00 - 15:00
15:00	Break <i>CSSB Building 15 - Foyer, DESY</i> 15:00 - 15:30
	Talks: RL for particle accelerators II
16:00	<i>CSSB Building 15 - Lecture Hall, DESY</i> 15:30 - 16:10

Hamburg tour



Schedule

- Ferry tour to Hamburg harbour
(**HVV Ticket or Deutschland ticket**)
- Visit of the Elbphilharmonie plaza
- **IMPORTANT: Buy a ticket**
- Dinner at BLOCKBRÄU

We will start here together after the talks



Welcome by

Reinforcement Learning for
Autonomous Accelerators



Holger Schlarb: Head of machine control group (DESY)

Philipp Neumann: Head of IT (DESY)

Heike Hufnagel Martinez: DASHH office



Diese Veranstaltung wird in Bild und Ton aufgenommen, gespeichert und veröffentlicht.

This performance will be audio-visually recorded, stored and published.



Jan Peters

Professor for Intelligent
Autonomous Systems

TU Darmstadt

Inductive Biases for Robot Reinforcement Learning





Alessandro Pau

Research Scientist

Swiss Plasma Center, EPFL

**Plasma integrated control and
trajectory optimization via
reinforcement learning:
applications in magnetic
confinement fusion**

