

3rd International Reinforcement Learning Bootcamp 2026

16 September 2026 - 18 September 2026

PLUS University Salzburg

Scientific Programme

3rd International Reinforcement Learning Bootcamp (RL Bootcamp 2026)

Dates: 16–18 September 2026

Venue: HS Agnes Muthspiel (Ground Floor), Unipark Nonntal, Erzabt-Klotz-Straße 1, 5020 Salzburg, Austria

Host: Paris Lodron University of Salzburg (PLUS), Department AIHI / IDA Lab

Lead Organizer: Simon Hirländer

Scope and Focus

The International Reinforcement Learning Bootcamp is a three-day intensive academic and practical programme bringing together world-leading researchers, practitioners, and students. The 2026 curriculum bridges fundamental Markov Decision Processes to state-of-the-art continuous control, model-based RL, satisficing sequential decision making, particle accelerator control, and agentic AI systems.

Tracks Overview

1. **Lectures (LEC):**
 2. **Lecture 1:** *Introduction to Reinforcement Learning: "No Math, No Panic"* (Olga Mironova & Simon Hirländer, PLUS / IDA Lab)
 3. **Lecture 2:** *Reinforcement Learning Fundamentals: "From Words to Equations"* (Simon Hirländer, PLUS / IDA Lab)
 4. **Lecture 3:** *Policy Gradients and Actor Critics* (Thomas Gallien, JOANNEUM RESEARCH / AI Austria)
 5. **Lecture 4:** *Agentic AI in the Context of Reinforcement Learning* (Marius-Constantin Dinu, ExtensityAI & Jonas Dauer, DLR)
 6. **Keynotes (KEY):**
 7. **Keynote 1:** *Designing for Intelligence: Particle Accelerators in the AI Era* (Dr. Verena Kain, CERN)
 8. **Keynote 2:** *What Should Models Model in Model-Based RL?* (Prof. Michael Bowling, University of Alberta / Amii)
 9. **Keynote 3:** *The Benefits of Satisficing in Reinforcement Learning* (Prof. Ronald Ortner, Montanuniversität Leoben)
 10. **Keynote 4:** *Learning Humanoid Robot Policies for Industrial Tasks* (Prof. Elmar Rückert, Montanuniversität Leoben)
 11. **Tutorials and Competition (TUT):**
 12. **Tutorial 1:** *Tabular RL & Discrete MDPs* (Léa Keller, Leander Grech & Tutors)
 13. **Tutorial 2:** *Air Traffic Control as an MDP (Intermediate)* (Leander Grech & Tutors)
 14. **Tutorial 3:** *The Flight Challenge: How to Compete (Advanced Tournament)* (Leander Grech & Tutors)
 15. **Wrap-Up & Expert Panel:** *Tournament Analysis & Cross-Disciplinary Panel* (Organizing Committee & Keynote Speakers)
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Event Schedule Highlights

- **Wednesday, 16 September 2026 (11:00–18:15 CEST):**
Foundations, intuition, Bellman updates, Colab tabular maze tutorial, and opening keynote on CERN particle accelerator control.
- **Thursday, 17 September 2026 (08:30–18:00 CEST):**
Continuous action spaces, actor-critic architectures, keynote marathon (world models,

satisficing decision making, humanoid robotics), group photograph, and the Air Traffic Control tournament kick-off.

- **Friday, 18 September 2026 (09:00-16:00 CEST):**

Flight Challenge tournament review, expert panel discussion, Agentic AI and DLR LUMEN rocket propulsion benchmark, championship awards ceremony, farewell lunch, and guided Salzburg cultural walking tour.

Useful Links and Materials

- **Setup Portal:** <https://sarl-plus.github.io/rl-bootcamp-setup/>
- **Live Website:** <https://sarl-plus.github.io/RL-Bootcamp2026/>
- **Event Master Repo:** https://github.com/SARL-PLUS/RL_bootcamp_2026
- **YouTube Channel:** <https://www.youtube.com/@ReinforcementLearning-SARL>

Lectures

Foundational and advanced lecture series covering core RL intuition, Markov Decision Processes, Bellman equations, Policy Gradients, and Agentic AI.

Keynotes

Distinguished keynote presentations on particle accelerator control, world models, satisficing sequential decision making, and humanoid robotics.

Tutorials & Competition

Hands-on coding tutorials in Google Colab (Tabular Maze) and the Air Traffic Control tournament in Flight4DEnv.