



Uni(We)Lab

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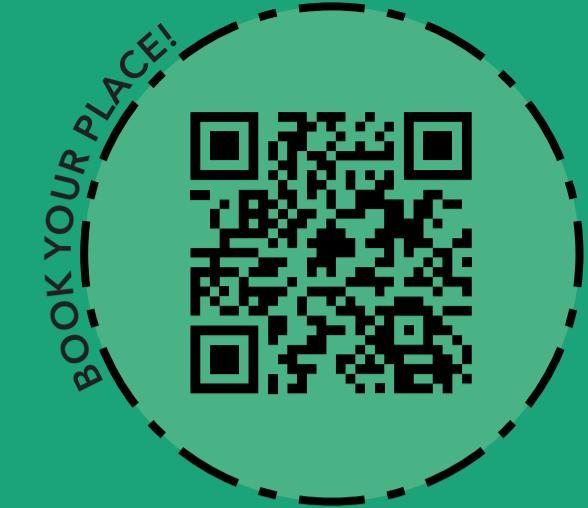
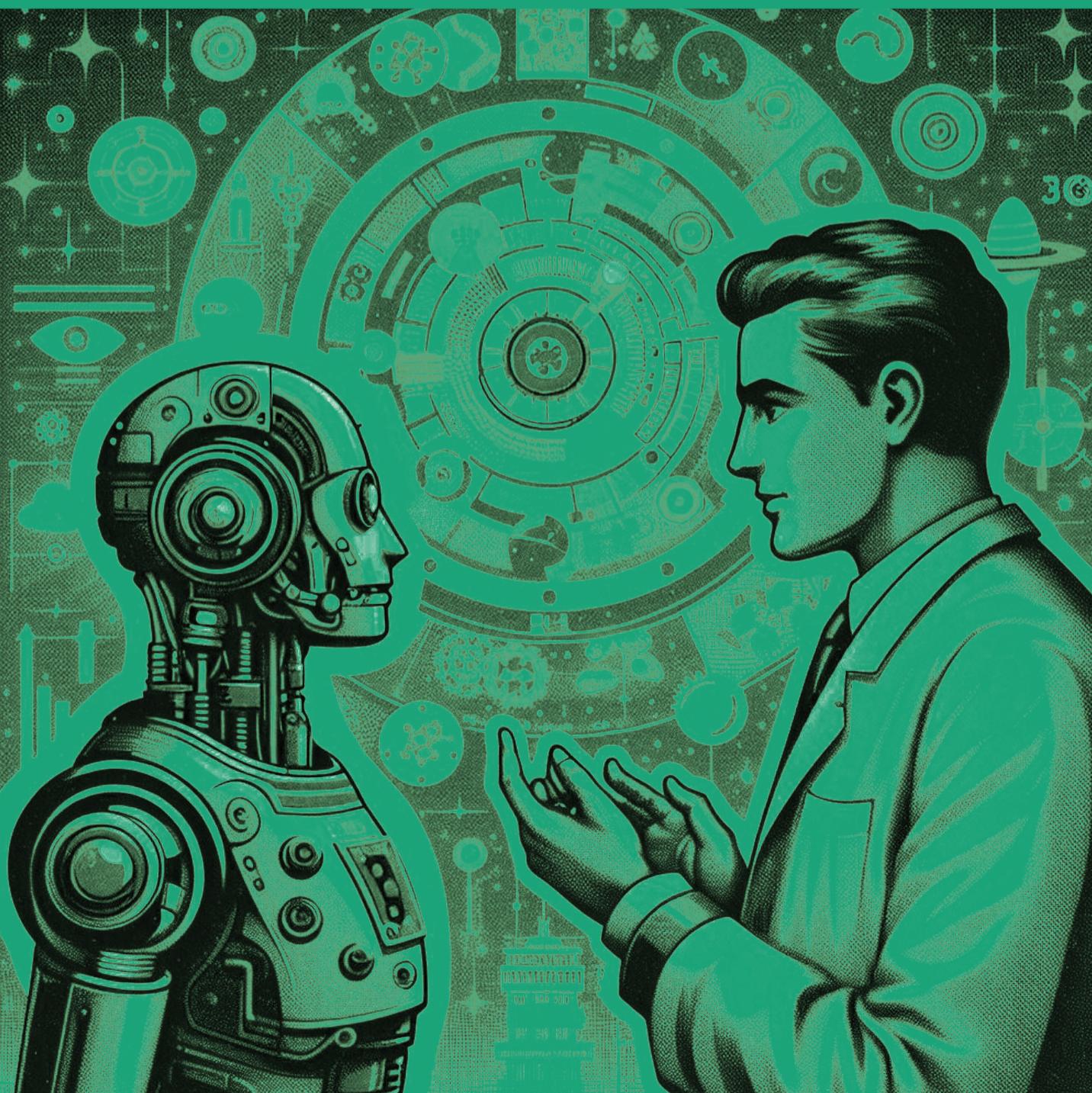
**KIT**  
Karlsruher Institut für Technologie

# Natural-Artificial Intelligent Brain for Robot?

**20 // DECEMBER // 2022**

Understanding, modelling and translating biological neural principles for robot control systems. Compared to conventional computing, the brain is superior in terms of energy efficiency, robustness and adaptability. Therefore, modelling the biological processes that enable the brain to perform sensorimotor calculations can be implemented in the form of biomimetic hardware. The focus is on brain-like sensorimotor control principles that are data-driven, as opposed to model-driven artificial intelligence algorithms. Spiking neural networks have the potential to replicate real neurons, representing part of their biological characteristics. The brain-inspired computational approach can be extended to navigation and mapping based on SNNs, forming episodic spatial neural memories with multi-scale learning capabilities?

**THE LECTURE WILL START AT 10.00 AM  
IN AULA MAGNA, VIA MONTALLEGRO 1, GENOA**



**h/10.00**

**OPENING**  
Welcome Coffee

**h/11.00**

**INTRODUCTION**  
Fulvio Mastrogiovanni - University of Genoa

Institutional greetings by the pro-rector for internationalisation: Fulvio Mastrogiovanni. Ilaria Delponte moderates the Lecture.

**h/11.15**

**INTRODUCTION**

Fulvio Mastrogiovanni, Ilaria Delponte - University of Genoa

Institutional greetings by the pro-rector for internationalisation: Fulvio Mastrogiovanni. Ilaria Delponte moderates the Lecture.

**h/11.30**

**LECTURE**  
Rüdiger Dillmann - KIT

Professor Rüdiger Dillmann presents a lecture on the comparison between artificial intelligence and human neural structure. Can these two realities change each other? Rüdiger Dillmann founded the Institute of Anthropomatics and Robotics at the Karlsruhe Institute of Technology. He was Coordinator of the German Collaborative Research Center "Humanoid Robots" and several large scale European IPs. He is Editor in Chief of the book series COSMOS, Springer. Since 2018 He is Professor emeritus.

**h/13.30**

**CLOSING**  
Christmas greetings