

Working Group on Physics, Modern IT and Artificial Intelligence Arbeitskreis Physik, moderne Informationstechnologie und Künstliche Intelligenz (AKPIK)

Arash Rahimi-Iman
I. Physikalisches Institut
Justus-Liebig-Universität Gießen
Heinrich-Buff-Ring 16
35392 Gießen
arash.rahimi-iman@exp1.physik.uni-giessen.de

Overview of Invited Talks and Sessions

(Lecture hall BEY/0127; Poster P5)

Invited Talks

AKPIK 3.4	Tue	11:45–12:15	BEY/0127	Model-free training of optical neural networks based on multimode semiconductor lasers — ●ANAS SKALLI, SATOSHI SUNADA, MIRKO GOLDMANN, MARCIN GEBSKI, NASIBEH HAGHIGHI, STEPHAN REITZENSTEIN, JAMES A. LOTT, TOMASZ CZYSZANOWSKI, DANIEL BRUNNER
AKPIK 3.5	Tue	12:15–12:45	BEY/0127	Virtual Reality Gamification for Photonics, AI and More — ●ARASH RAHIMI-IMAN
AKPIK 4.1	Tue	14:00–14:30	BEY/0127	Beyond the Hype: Can AI Truly Transform Photonics? — ●MEHDI K. HEDAYATI
AKPIK 4.2	Tue	14:30–15:00	BEY/0127	Machine-learning assisted design of metasurfaces — LUKAS MUELLER, ALEXANDER WOLFF, JANIS KRIEGER, STEFFEN KLINGEL, RALF STEMLER, ●MARCO RAHM

Invited Talks of the joint Symposium The Sustainability Challenge: A Decade of Transformation (SYSC)

See SYSC for the full program of the symposium.

SYSC 1.1	Mon	15:00–15:30	HSZ/AUDI	Open-Endedness and Community-Based Approaches to Sustainability Challenges — ●HIROKI SAYAMA
SYSC 1.2	Mon	15:30–16:00	HSZ/AUDI	Education as a Social Tipping Element: Evidence from Climate and Physics Education Research — ●THOMAS SCHUBATZKY
SYSC 1.3	Mon	16:00–16:30	HSZ/AUDI	Mechanistic and Material Perspectives on Enzymatic Hydrolysis of Semicrystalline Polyesters — ●BIRTE HÖCKER
SYSC 1.4	Mon	16:45–17:15	HSZ/AUDI	Decarbonization Options for Industry — ●UWE RIEDEL
SYSC 1.5	Mon	17:15–17:45	HSZ/AUDI	Impacts of Cosmic Dust and Space Debris in the Terrestrial Atmosphere — ●JOHN PLANE

Invited Talks of the joint Symposium AI and Data Challenges behind Emerging Self-Driving Laboratories (SYAI)

See SYAI for the full program of the symposium.

SYAI 1.1	Thu	9:30–10:00	HSZ/AUDI	Data and Experimental Foundations for Reliable Self-Driving Laboratories — ●DR. MARCUS TZE-KIAT NG
SYAI 1.2	Thu	10:00–10:30	HSZ/AUDI	Digital Catalysis - AI for Experiment Planning and Control — ●CHRISTOPH SCHEURER
SYAI 1.3	Thu	10:30–11:00	HSZ/AUDI	Autonomous, Data-Driven Workflows for Materials Acceleration Platforms with pyiron — ●JAN JANSSEN, JOERG NEUGEBAUER

SYAI 1.4	Thu	11:15–11:45	HSZ/AUDI	Machine Learning for Autonomous Optimization and Discovery of Materials — ●PASCAL FRIEDERICH
SYAI 1.5	Thu	11:45–12:15	HSZ/AUDI	Transforming Our View on Transformers in the Sciences — ●KEVIN MAIK JABLONKA

Sessions

AKPIK 1.1–1.4	Sun	16:00–18:15	HSZ/0003	Tutorial: Machine Learning Use Cases in Materials Science (joint session AKPIK/TUT)
AKPIK 2.1–2.5	Tue	9:30–10:45	BEY/0127	Machine Learning Prediction and Optimization Tasks
AKPIK 3.1–3.5	Tue	11:00–12:45	BEY/0127	Research with AI: Hardware, Software, Tools
AKPIK 4.1–4.4	Tue	14:00–15:30	BEY/0127	Focus: Deep Learning in Electromagnetics Research
AKPIK 5.1–5.15	Thu	15:00–16:30	P5	Poster
AKPIK 6.1–6.7	Thu	16:45–18:30	BEY/0127	AI Methods for Physics and Materials Science