

Symposium Machine Learning in Atomic and Molecular Physics (SYML)

jointly organised by
the Molecular Physics Division (MO) and
the Atomic Physics Division (A)

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Machine-learning tools are increasingly employed to assist challenging problems in natural sciences. In atomic and molecular physics this notably includes the solution of the electronic Schrödinger equation, efficient quantum state tomography, problems in quantum computing and quantum simulation, optimal control of atomic systems, and inverse problems in x-ray-diffraction imaging and spectroscopy. This symposium gathers experts from experiments and theory and aims to provide an overview of this rapidly growing topic.

Overview of Invited Talks and Sessions

(Lecture hall E415)

Invited Talks

SYML 1.1	Tue	11:00–11:30	E415	Imaging a complex molecular structure with laser-induced electron diffraction and machine learning — ●KATHARINA CHIRVI, XINYAO LIU, KASRA AMINI, AURELIEN SANCHEZ, BLANCA BELSA, TOBIAS STEINLE, JENS BIEGERT
SYML 1.2	Tue	11:30–12:00	E415	Physics-inspired learning algorithms for optimal shaping of atoms with light — ●MAXIMILIAN PRÜFER
SYML 1.3	Tue	12:00–12:30	E415	Machine-Learning assisted quantum computing and interferometry — ●LUDWIG MATHEY, LUKAS BROERS, NICOLAS HEIMANN
SYML 1.4	Tue	12:30–13:00	E415	Efficient quantum state tomography with convolutional neural networks — ●MORITZ REH, TOBIAS SCHMALE, MARTIN GÄRTTNER

Sessions

SYML 1.1–1.4	Tue	11:00–13:00	E415	Machine Learning in Atomic and Molecular Physics
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