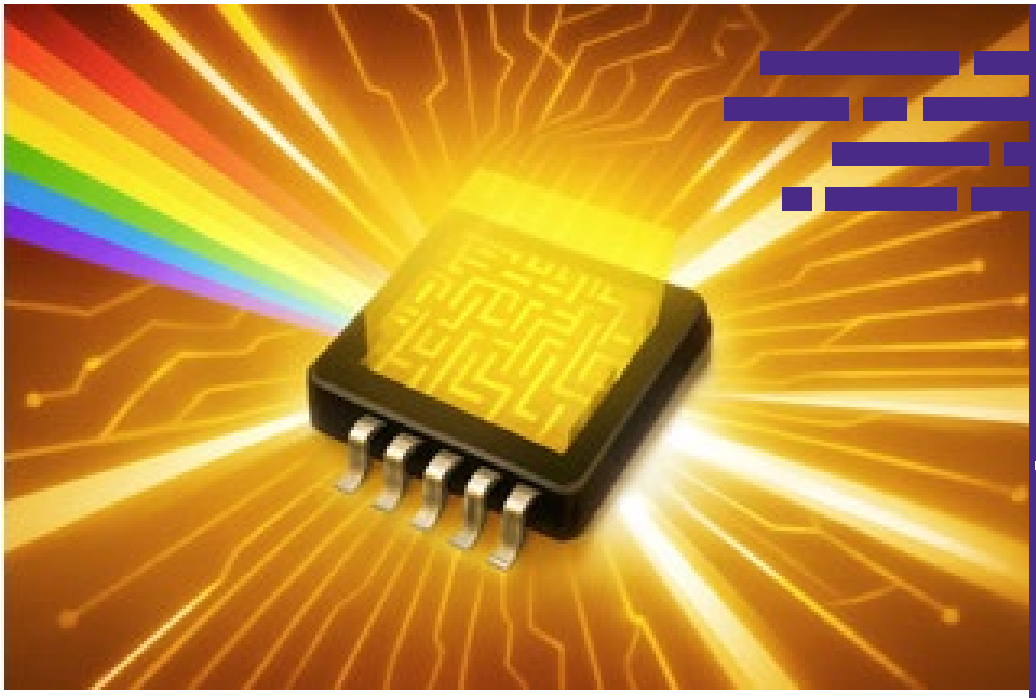
LECTURES

PHOTONICS AND NEUROMORPHIC COMPUTING

Prof. Bhavin Shastri, visiting professor from Queen's University, Canada at the Department of Phyics

JUNE – JULY 2025 | HÖNGGERBERG CAMPUS, ETH ZURICH

REGISTER ON THE COURSE CATALOGUE (402-0468-80L, 2 ECTS)



JUNE 16 - JUNE 20

Monday
Wednesday
Friday
HIL D 60.1
2 hours
1:30 - 3:30 pm

JUNE 30 - JULY 04

Monday
Wednesday
Friday
HCI D 2
2 hours

1:30 - 3:30 pm

JULY 07 - JULY 11

Monday
Wednesday
Friday
HIL D 60.1
2 hours

1:30 - 3:30 pm

Topics of the lectures

Lecture 1 Overview of photonics, AI, and neuromorphic computing (2 hours)

Lecture 2 Enabling photonic technologies (2 hours)

Lecture 3 In-memory computing (2 hours)

Lecture 4 Photonic Ising machines (2 hours)

Lecture 5 Photonic tensor cores and GPUs (2 hours)

Lecture 6 Quantum photonic neural networks (2 hours)

Lecture 7 Quantum photonic machine learning and tomography (2 hours)

Lecture 8 + 9 Student in-class presentations

ETH zürich