UNIVERSITÀ
DEGLI STUDI DI MILANO-BICOCCA

COURSE SYLLABUS

Neuromorphic Computing: materials and devices

2526-116R-M07

Title

Neuromorphic Computing: materials and devices

Teacher(s)

Sabina Spiga and Stefano Brivio (CNR, MDM-Agrate)

Language

English

Short description

Sabina Spiga - MODULO A - Introduction to Neuromorphic Computing and Role of Resistive Switching Memories

1: Introduction to Neuromorphic Computing: basics concepts and role of novel materials and devices
2: Resistive Switching Memories and Memristive Devices: materials, technologies and neuromorphic functions

Stefano Brivio - MODULO B - Resistive Switching Memories: Device physics and Applications for Neuromorphic Computing

3: Physics of Resistive Switching Memories: mixed electronic and ionic effects at the nanoscale
4: Computing with Resistive Switching Memories: in-memory computing, inference and learning, spiking neural networks

CFU / Hours

8 hours, 1 CFU

Teaching period

May 18-21, 2026

Sustainable Development Goals