



# European NEUROMORPHIC Research Day

Emerging neuromorphic research and technology future in Europe  
15<sup>th</sup> May 2024

Event location: INL - International Iberian Nanotechnology Laboratory, Braga, Portugal

<https://www.events.inl.int/eu-neuromorphic-research-day>

<b>8.20</b>	<b>Arrival and Registration</b>
<b>8.50</b>	Welcome and Introduction to INL
<b>9.00</b>	<b><u>EIC Programme on Sustainable Semiconductors</u>. EIC Programme on Sustainable Semiconductors. Opportunities through Pathfinder Challenge Nanoelectronics for energy-efficient smart edge devices</b> <i>Speaker: Isabel Obieta</i> , Programme Manager for Sustainable Semiconductors
<b>9.20</b>	<b><u>RESPITE</u> Reconfigurable superconducting and photonic technologies of the future</b> <i>Speaker: Eitan Oksenberg</i> (Research Coordinator), Delft, The Netherlands
<b>9.40</b>	<b><u>ArCTIC</u> Ferroelectric Devices for Cryogenic In-Memory Computing</b> <i>Speaker: Sayani Majumdar</i> (Research Coordinator), Tampere University, Finland
<b>10.00</b>	<b><u>TOPOCOM</u> Topological Solitons in Ferroics for Unconventional Computing</b> <i>Speaker: Mathias Kläui</i> (Research Coordinator), Johannes Gutenberg University Mainz
<b>10.20</b>	<b><u>PoIArt</u> Neuromorphic Polariton Accelerator</b> <i>Speakers: Daniele Sanvitto</i> and <i>Dario Ballarini</i> (Research Participants), CNR NANOTEC Lecce, Italy
<b>10.40</b>	<b>Coffee break 1 + poster session</b>
<b>11.10</b>	<b><u>SPIKEPro</u> Spiking photonic-electronic IC for quick and efficient processing</b> <i>Speaker: Weiming Yao</i> (Research Participant), Eindhoven University of Technology, The Netherlands
<b>11.30</b>	<b><u>HYBRAIN</u> Hybrid electronic-photonic architectures for brain-inspired computing</b> <i>Speaker: Wilfred van der Wiel</i> (Research Coordinator), University of Twente, The Netherlands
<b>12:00</b>	<b><u>NIMFEIA</u> Nonlinear Magnons for Reservoir Computing in Reciprocal Space</b> <i>Speaker: Katrin Schultheiss</i> (Research Coordinator), Helmholtz-Zentrum Dresden-Rossendorf, Dresden, Germany

12:30

**SpinAge Weighted Spintronic-Nano-Oscillator-based Neuromorphic Computing System Assisted by laser for Cognitive Computing**

Speaker: **Farshad Moradi** (Research Coordinator), Aarhus University, Denmark

13.00 *Lunch*

14.30

**InsectNeuroNano Insect-Brain inspired Neuromorphic Nanophotonics**

Speaker: **Anders Mikkelsen** (Research Coordinator), NanoLund, Lund University, Sweden

15.00

**NEUROPIC Nano electro-optomechanical programmable integrated circuits**

Speaker: **Pedro David Garcia** (Research Coordinator), CSIC, Instituto de Ciencia de Materiales de Madrid, Spain

15.30

**METASPIN Metaplastic Spintronics Synapses**

Speaker: **Liza Herrera Diez** (Research Coordinator) - NanoElectronics, C2N, Université Paris Saclay, France

16.00 *Coffee break 2 + poster session*

16.30

**Hewlett Packard Enterprise - Integrated neuromorphic photonics and optical computing accelerators: prospects & challenges**

Speaker: **Matej Hejda**, Architecture & System Design Research Scientist, Large Scale Integrated Photonics Group, Hewlett Packard Labs, Belgium

17.00

**Radiospin Deep Oscillatory Neural Networks Computing and Learning through the Dynamics of RF Neurons Interconnected by RF Spintronic Synapses**

Speaker: **Frank Mizrahi** (Research Participant), CNRS/Thales, France

17.30

**NimbleAI Ultra-energy efficient and secure neuromorphic sensing and processing at the endpoint**

Speakers: **Xabier Iturbe** (research coordinator), IKERLAN, Arrasate, Spain, and **Bernabé Linares-Barranco** (research participant), IMSE-CNM, CSIC and University of Seville, Spain

18.00 *Finger-food (buffet) cocktail event + poster session*

20.00 *End*

*Organizing committee:*

Alex Jenkins (INL, Portugal)  
Anders Mikkelsen (Lund University, Sweden)  
Bruno Romeira (INL, Portugal)  
Ricardo Ferreira (INL, Portugal)  
Salvatore Spinello (EISMEA, Brussels, Belgium)  
Tim Boehnert (INL, Portugal)

*Local organizing committee:*

Alex Jenkins (INL, Portugal)  
Bruno Romeira (INL, Portugal)  
Carlos Rosário (INL, Portugal)  
Ricardo Ferreira (INL, Portugal)  
Tim Boehnert (INL, Portugal)

*Sponsors:*

