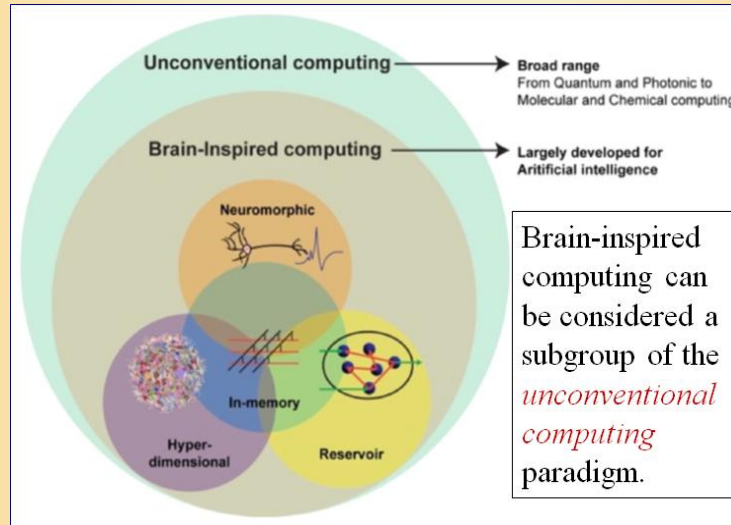


Quarta-feira, 21 de Abril de 2026, às 15h
Anfiteatro de Física, Escola de Ciências, Campus de
Gualtar

Material-related problems of neuromorphic technologies

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Abstract: Machine learning tends, in the limit, to consume all the power produced in the world, and this development model is costly, inefficient and unsustainable. Neuromorphic computing presents a promising alternative by enabling real-time, low-power processing. Advancements in materials science have been instrumental in the progression of neuromorphic technologies. However, existing neuromorphic hardware often relies on rigid and energy-intensive fabrication processes.. Crucial for its development are materials able to implement bio-inspired functions. There is an urgent need for innovative materials and device architectures that can bridge the gap while ensuring scalability and eco-friendliness.

About the Speaker: Nikolai Sobolev is an expert in the fields of optoelectronic and magnetic materials, currently a *Professor Jubilado* at the Department of Physics in the University of Aveiro, where he is in charge of a recently approved European Project “ZnO Tetrapod Network Platform for Neuromorphic Computing” (HORIZON-TMA-MSCA-SE).