

## The Case for Timetronics

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### Abstract—

Nikolay I. Zheludev FRS NAE is Professor of Physics and Deputy Director of the Optoelectronics Research Centre at the University of Southampton, UK. He is a Hagler Fellow at the Hagler Institute for Advanced Study, Texas A&M University, USA, and a Distinguished Fellow of the Institute of Advanced Studies at Nanyang Technological University, Singapore. He is a Fellow of the Institute of Physics UK, American Physical Society, European Physical Society, and Optica. He was elected Fellow of the Royal Society in 2018 and a Member of the US National Academy of Engineering in 2019.

Zheludev is a founding contributor to the closely interconnected fields of metamaterials and nanophotonics, which emerged at the intersection of optics and nanotechnology in the early 21st century.

His research spans photonic and microwave metamaterials, plasmonics, toroidal electrodynamics, optical superoscillations, time crystals and optical metrology.

His honours include the European Physical Society Quantum Electronics Prize (2025), the Institute of Physics Singapore President's Gold Medal (2023), the Michael Faraday Medal and Prize (2022), the President of Singapore Science and Technology Award (2020), and the Thomas Young Medal and Prize (2015). He has also received the Leverhulme Trust Senior Research Fellowship (2000), an EPSRC Senior Research Professorship (2002), and the Royal Society Wolfson Research Merit Award (2009).

