



Andreas Norrman

**Associate Professor
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 **Photonics Joensuu**



Andreas Norrman is an associate professor at the Department of Physics and Mathematics at the University of Eastern Finland and the theoretical quantum photonics research group leader. His research area covers fundamental questions in quantum physics and quantum photonics, where he uses mathematical models to understand and utilise natural phenomena.

Norrman studied theoretical physics at the University of Helsinki, where he completed his Master's degree. He continued his doctoral studies at the University of Eastern Finland and earned his PhD in 2016. After that, Norrman worked as a postdoctoral researcher in Germany at the Max Planck Institute from 2017 to 2019, and in Switzerland at ETH Zurich from 2020 to 2021, before returning to Eastern Finland in 2022.

Andreas Norrman's current research focuses on the quantum indeterminacy of light, the interaction of photons with temporally varying materials, and the polarisation of light in the context of nanostructures. His work provides new insights into the quantum nature of light and electromagnetic phenomena at the intersection of quantum optics and nanophysics, opening new perspectives on quantum communication and quantum metrology.

Norrman has participated in the PREIN photonics flagship project in Finland, which supports quantum technology research, as well as the QDOC doctoral training pilot, which trains doctoral researchers in quantum technology. Additionally, Norrman represented the University of Eastern Finland in the working group that developed Finland's quantum agenda, which includes experts in quantum science and technology from various Finnish universities, research institutes, and companies. The agenda defines key areas and messages to ensure the long-term development of Finnish quantum science and technology. Norrman is an active conference speaker and has met several Nobel Prize laureates in physics, which has enriched his career development.

Andreas Norrman's expertise helps build bridges between academic research and industry and inspires new generations of researchers in quantum physics. Norrman's goal is not only to advance research but also to make it understandable and interesting to a wider audience.

Areas of expertise:

- Quantum physics and quantum photonics
- Quantum technology and nanotechnology
- Quantum light and nanostructures
- Quantum optical interactions
- Quantum physics research and innovations