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## 2D perovskites for spin-orbit photonics and topological polaritons

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In the last decade, perovskites materials have experienced a growing interest among the materials science community thanks to their outstanding and easily tunable electrooptical properties. At the same time, the research on control of light propagation and spatial distribution through the photon spin (spin-orbit photonics) has culminated in the field of topological photonics.

In this talk, we show that, combining the exciton features and the optical response of a 2D perovskite in the exciton-photon strong-coupling regime, we can engineer the particles dispersion and its spin texture, getting full control on the system Hamiltonian. This platform allows for the generation of artificial gauge fields towards on-chip spin-orbit photonics and topological polaritonics.

**Short Bio:** Giovanni Lerario graduated in Physics Engineering- with a Master degree in Nano-Optics and Photonics- at the Politecnico di Milano (2011), and obtained a PhD in Physics at Univeristà del Salento (2015). Since then, he has been Post-Doc Fellow at CNR-NANOTEC Lecce first, and Laboratoire Kastler Brossel-UPMC Paris later on. He is currently working as PostDoc at the CNR-NANOTEC Lecce in the Advanced Photonics Lab. During his career he worked on light-matter interaction phenomena, specializing in polaritonic systems based on organic materials and perovskites.

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