

Distinguished Researcher



- **Name:** Luigi
- **Surname:** Lugiato
- **Nationality:** Italian
- **University:** Millan, Italy
- **Project Title:** Quantum Imaging

Abstract

Prof. Lugiato, is the Full Professor of Quantum Electronics at Millan University and full Professor of Atomic Physics at Turine Ploy-Technic. He has had many achievements to mention a few receiving the award of Quantum Electronics of the European physics Society in 2003, being the editorial board member of 12 international journals such as European Physics Journal(D), and having 294 articles in the most significant international journals of the world.

He contributed in a substantial way to the birth of the field of Quantum Imaging, which exploits the quantum nature of light and the intrinsic parallelism of optical signals to develop novel techniques to perform imaging and parallel information processing at the quantum level. He predicted and characterized the phenomenon of spatial entanglement, which paves the way to the possibility of realizing the entangled imaging technique with macroscopic beams, with a substantial increase of speed in image retrieval and of the available spatial bandwidth. In the future he intends to push these results in the direction of applications, both for the imaging and image processing of standard macroscopic objects and for the performance of high precision measurements to detect faint objects. He believes that he can explore also the possibility of realizing novel quantum chryptographic schemes which exploit the massive parallel transmission offered by images. Quantum imaging has become a focus of attention in the quantum optical community and he intends to develop his ideas both in connection with imaging and with Quantum Information general.