Title: Nonlinear optics in gas-filled hollow-core fibres

Abstract: The recent access to broadband soliton dynamics in gas-filled hollow-core fibres has opened up routes for realising new, flexible, and remarkably efficient laser sources of ultrashort and even attosecond pulses from the ultraviolet to the infrared. Here, we will discuss different types of hollow-core fibres and their properties, introduce soliton dynamics, and conclude by discussing the current state of the art.

Biography

Francesco Tani is a CNRS Junior Chair Professor at the PhLAM Laboratory in Lille, France. He received his master's degree in physics from the University of Rome La Sapienza in 2010 and completed his PhD at Erlangen-Nuremberg University in 2014. Throughout his career, he has investigated the properties of photonic crystal fibers, especially hollow-core waveguides, explored a wide range of nonlinear dynamics in these platforms, and combined fiber optics with high-field laser science. He has authored 47 scientific articles and over 60 conference contributions.