Recent Advances in Optical Fiber-Based Supercontinuum Generation

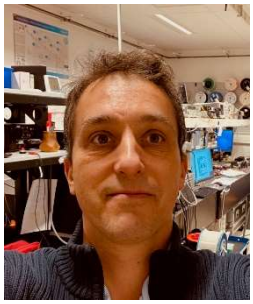
In this lecture, Thibaut Sylvestre will review a selection of recent advances in supercontinuum (SC) generation in a range of specialty optical fibers, including fluoride, chalcogenide, telluride, and silicon-core fibers for the MIR, UV-grade silica fibers and gas-filled hollow-core fibers for the UV range; and all-normal dispersion fibers for ultralow-noise coherent SC generation. He will summarize the significant developments that have been made in reaching target UV and MIR wavelength ranges, and ultra-low noise coherent SC sources. As the result, the fiber SC has matured considerably to become a truly disruptive technology able to meet a range of societal and industrial challenges.

Subject Matter Level: Intermediate - Assumes basic knowledge in fiber optics and nonlinear optics

What You Will Learn:

- Specialty optical fiber modeling and fabrication
- Supercontinuum physics and applications

Who Should Attend: Undergraduates, Master Students, PhDs and Postdocs, Engineers



Lecturer : Thibaut Sylvestre is a CNRS research director at the FEMTO-ST research institute of the University Bourgogne Franche-Comté (UBFC) in Besançon, France. He leads theoretical and experimental studies on nonlinear optical phenomena in optical fibers with the aim of potential applications to broadband supercontinuum sources, fiber lasers and sensors. He has been a member of OPTICA since 2001 and of the Société Française d'Optique (SFO), which in 2012 awarded him the Fabry-de-Gramont prize for his scientific achievements in the field of nonlinear fiber optics.