# Special Issue

# The Many Paths of Light: Unraveling Multimode Optical Fibers

## Message from the Guest Editor

The capacity of optical transmission systems based on single-mode fiber (SMF) has grown by about three orders of magnitude in the last twenty years, reaching the so-called nonlinear Shannon limit. Further improvement in the capacity of an optical channel is offered by the increase in the optical bandwidth, the use of advanced modulation formats, the reduction in the fiber nonlinearity, and the adoption of space-division multiplexing (SDM), together with the more common multiplexing techniques of the wavelength (WDM) and of the polarization (PDM). The Special Issue, 'The Many Paths of Light: Unraveling Multimode Optical Fibers', aims to illustrate the most advanced techniques used to increase the capacity of an optical channel, covering the following topics:

- SDM techniques in multimode and multicore fibers;
- Specialty optical fibers;
- Long-haul multicore transmission systems;
- Nonlinear effects in multimode/multicore fibers;
- Quantum transmission multimode systems.

## Guest Editor

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