 DOI 10.1515/nanoph-2013-0052 — Nanophotonics 2013; 2(5-6): 309

Editorial

Near the beginning of 2013, we were asked by Federico Capasso and Dennis Couwenberg to strategize as to what would make for an interesting and compelling Special Issue on Fiber Optic Technology, especially within the framework of the Journal on Nanophotonics. Specifically, we considered how novel fibers with small feature sizes are playing an increasing role in enabling technological advances and potential applications that were not considered viable just a few years ago.

Today, submicron/nanometer features are being explored in optical fibers by laboratories around the world. Such fibers have allowed the unique tailoring of optical properties that hold promising applications. By combining fiber optics with near field optics, nonlinear optics, plasmonics and quantum optics at the micro/nanoscale, there are exciting developments for both fundamental research and technological applications. Small feature sizes in optical fibers open the way to a host of new optical devices for communications, computing, sensing, biology, and chemistry. To highlight these new developments, we have organized this special issue.

As guest editors, we are pleased to present the Nanophotonics's Special Issue on Fiber Optic Technology. The special issue consists of 10 invited papers by pioneers from around the world and an opinionated essay written by the guest editors.

The invited papers cover exciting recent advances, including: highly bendable nano- and micro-engineered fibers, multicore fibers, photonic crystal fibers for high-power ultrafast lasers, hollow-core photonic bandgap fibers, highly nonlinear photonic crystal fibers, photonic crystal fibers for sensors, photonic lanterns, micro and nano fiber wires, and nanoscale imaging with structured light from optical fibers.

We greatly appreciate the keen insight, professionalism, hard work and good cheer of Dennis Couwenberg, the Editor of Nanophotonics. Additionally, we deeply appreciate Federico Capasso for his vision in creating the idea of this special issue and inviting us to be guest editors. Of course, we are indebted to the many outstanding authors and reviewers who ensured high-quality papers.

We hope that this special issue will provide useful insight into the present status of submicron fiber technology and its applications, as well as encourage future creative research work in this area.

Sincerely,

Ming-Jun Li
David J. DiGiovanni
Alan E. Willner