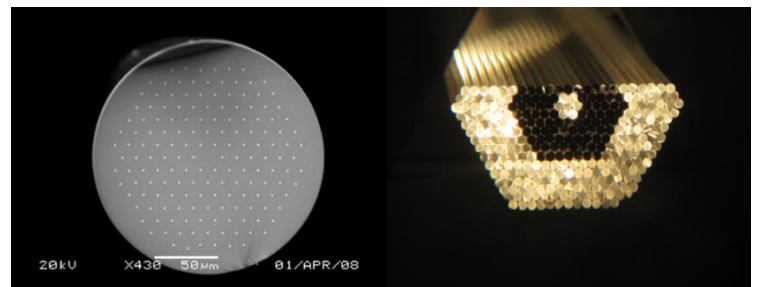


## All Solid Large Core Photonic Bandgap Fibers for use in Optical Fiber Lasers

### Description:

Commercial usage of the fiber laser has significantly grown over the past decade with applicability in diverse sectors such as industrial, medical, sensing and defense markets due to its robustness, high efficiency and compactness. However, there are still limitations and areas of improvement for the fiber laser. Scaling of fiber lasers is limited by the fiber nonlinearities. Nonlinear optical effects are scattering which happen within the fiber that limit the core diameter and ultimately reduce efficiency and power in a fiber laser.

This novel technology features an all solid photonic bandgap fiber design. These fibers far exceed any known fiber designs in higher order suppression at large core diameters which allows for higher power lasers. This is due to the unique guidance properties of these fibers. Fibers with strong higher order mode suppression are critical for further power scaling of single mode fiber lasers to beyond kW levels.



### Applications:

- Industrial machining
- Electronics manufacturing
- Material processing
- Medical imaging and surgery guide
- Sensors
- Defense

### Benefits:

- Increased power
- Application flexibility

**Inventors:** Liang Dong, *et al*  
**Protection Status:** Patent application filed  
**Licensing Status:** Available for licensing  
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