

# A smart fiber optic sensor system for quantitative tissue optical spectroscopy

Smart fiber optic sensors, systems, and methods for performing quantitative optical spectroscopy are disclosed. In one embodiment, smart fiber optic sensor can include a sensing channel, a calibration channel, and a pressure sensing channel. External force or pressure can be calculated at pressure sensing channel for monitoring and controlling pressure at a sensor-specimen interface thereby ensuring more accurate specimen spectral data is collected. Contact pressure can be adjusted to remain within a specified range. A calibration light of the calibration channel and an illumination light of the sensing channel can be generated simultaneously from a shared light source. Pressure sensing channel can transmit light from a second light source and collect pressure spectral data.

## Patents

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Title: SMART FIBER OPTIC SENSORS SYSTEMS AND METHODS FOR QUANTITATIVE OPTICAL SPECTROSCOPY

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 **Inventor(s)**

- Yu, Bing
- Ramanujam, Nimmi

 **College**

Pratt School of Engineering

**For more information  
please contact**

Ferguson, Christy  
919-681-7581

[christy.ferguson@duke.edu](mailto:christy.ferguson@duke.edu)