

## 253rd IBB Seminar

# Optical fiber sensor for non-invasive disease screening

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**Pathumwan, Bangkok, THAILAND**

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会場: 東京医科歯科大学 生体材料工学研究所  
第二会議室 22号館 (1階)

### Abstract:

Optical fiber sensors have gained significant attention in biomedical applications due to their exceptional sensitivity, non-invasive nature, and compatibility with biocompatible materials. An optical fiber sensor to detect volatile organic compound biomarkers (VOCs) for diabetes is proposed. Optical fiber with a single mode-multimode-single mode (SMS) structure offers higher sensitivity due to a larger volume of the evanescent field at the sensor and sensing medium interface. Molecular imprinted polymer (MIP) provides a selective measurement towards the target material through molecular recognition. A MIP-coated SMS optical fiber sensor suggests the potential for a non-invasive and real-time measurement in disease screening.

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メディシナルケミストリー分野

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