



## Photonic Integrated Circuits for Spectroscopic Sensing

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### Message from the Guest Editors

Dear Colleagues,

Photonic integrated circuits (PICs) fabricated with materials such as silicon, III-V semiconductors, silicon nitride, tantalum pentoxide, titanium dioxide, etc. are being investigated for spectroscopic sensing from visible to infrared wavelengths. These platforms are explored for applications ranging from Raman spectroscopy, fluorescence spectroscopy, and absorption spectroscopy to refractive index sensing via interferometric methods. The field has been progressing rapidly in recent years, and excellent performance compared to the traditional spectroscopic methods has been reported, along with the promise of very compact and low-cost solutions.

Recent developments in PIC technologies have also raised the prospect of complete PIC-based system implementations, where passive and active photonic components and peripheral electronic components are all integrated together, thereby reducing the size, complexity, and cost of the system, while enhancing the system's performance.

For more information, please visit [here](#).

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*Guest Editors*





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