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Type: **Oral (Graduate Student) / Orale (Étudiant(e) du 2e ou 3e cycle)**

Optical fiber nanoprobe for the detection of chemicals (G)

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Surface Enhanced Raman Spectroscopy (SERS) is a powerful tool for detecting chemicals, including rhodamine 6G (R6G), at the molecular level. The authors have developed a plasmonic structure by depositing gold nanorods (GNRs, aspect ratio: 6.4) on a tapered optical fiber via optical tweezing. A 1064 nm laser was coupled to the un-tapered end of the tapered fiber for tweezing. The tweezing process was repeated with several other laser wavelengths such as He-Ne 632 nm. In order to show the efficiency of the plasmonic structure the authors will present the SERS spectra of R6G. Authors will also describe techniques (Transmission, and reflection modes) which can be used in conjunction with the nano-probe in order to collect scattered light from the sample.

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