



**UNIVERSITÉ
DE GENÈVE**

FACULTÉ DES SCIENCES
Département de physique appliquée

SEMINAIRE DU GAP BIOPHOTONICS

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Maison de Pinchat, salle de séminaire

"Quantitative studies of filament interaction with matter for spectroscopic applications"

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Résumé:

Laser filamentation has enabled the perspective for high laser power delivery at distance for spectroscopy. The community has shown the use of filaments for molecular spectroscopy (LIDAR, fluorescence, rotational spectroscopy) as well as atomic spectroscopy with Laser-Induced Breakdown Spectroscopy (LIBS). The mass ablated was sufficient for the application of laser filamentation as a sampling tool for plasma based spectroscopy techniques, but quantitative information relies on a fundamental understanding of the filament ablation of the solid targets, the plasma formation and its spectral emission. This seminar will show the results obtained in the Townes Laser Institute of quantitative filament interaction as well as their application for sensing under the Multidisciplinary University Research Initiative "Ultrafast Laser Interaction Processes for LIBS and Other Sensing Technologies" (ARO contract #) and the Multidisciplinary Research Initiative "Fundamentals of Filament Interaction" (HEL-JTO)

