



université  
PARIS-SACLAY



LIDYL

LABORATOIRE INTERACTIONS, DYNAMIQUES ET LASERS

LIDYL-UMR 9222

CEA, CNRS, Université Paris-Saclay

# SEMINAIRE LIDYL

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ATTENTION JOUR INHABITUEL

**Le Mardi 13 Décembre 2016 à 10h30**  
**- Bâtiment 522 - Salle 138**

**"Tomographic diffractive microscopy: towards high-speed and high-resolution quantitative imaging of unlabelled samples"**

Fluorescence microscopy has become the reference technique in cellular imaging, thanks to the specificity of fluorescence labelling, its high resolution and the ability to image living specimens. However, the use of fluorophores can induce side effects, marking can be difficult, and speed of acquisition is often limited, especially for three-dimensional imaging.

So, techniques for observing specimens without the need for additional marking recently experienced a resurgence of interest, such as light microscopy in transmission. In recent years, many articles have been published, describing new imaging techniques to acquire the optogeometric specimens characteristics without preparation, by combining new acquisition systems with a digital reconstruction of the images of observed samples, based on diffraction theory. Such techniques are known under various names: phase microscopy, digital holographic microscopy, synthetic aperture microscopy, tomographic phase microscopy, tomographic diffractive microscopy. They offer improved accuracy, and/or a higher resolution than conventional microscopes, and/or for measuring quantitative information about the optical properties of the observed specimen. Also, by not being limited by low light emission, these techniques allow ultrafast imaging (one 3D image in one second or less).

Formalités d'entrée :

Visiteur U.E. : Se faire connaître au moins 48 heures à l'avance pour l'établissement de votre autorisation d'entrée sur le Centre de Saclay.

Visiteur hors U.E. : Se faire connaître au moins 4 jours à l'avance pour les formalités d'entrée et se faire accompagner par un agent CEA.

Sans autorisation, vous ne pourrez entrer sur le Centre de Saclay. Tél. : 33.1.69.08.74.09- Fax : 33.1.69.08.76.39 - email : [caroline.lebe@cea.fr](mailto:caroline.lebe@cea.fr) ou [veronique.gereczy@cea.fr](mailto:veronique.gereczy@cea.fr)  
Dans TOUS LES CAS, se munir d'une pièce d'identité (passeport et carte d'identité - pas de permis de conduire)