

Spécialité de Master « Optique, Matière, Plasmas »

Stage de recherche (4 mois minimum, à partir de début mars 2011)

Proposition de stage pour l'année 2010-2011 (ne pas dépasser 1 page)

Date de la proposition :

Responsable du stage / internship supervisor:			
Nom / name:	PITA	Prénom/ first name :	Kantisara
Tél :		Fax :	
Courriel / mail:	ekpita@ntu.edu.sg		
Nom du Laboratoire / laboratory name: CINTRA			
Code d'identification :	UMI 3288	Organisme :	CNRS/Nayang Technological University /Thalès
Site Internet / web site:	http://cintra.ntu.edu.sg		
Lieu du stage / internship place:	Singapour		

Titre du stage / internship title: Silicon nanocrystals based light sources for the photonic and electronic integration on Silicon platform
Résumé / summary It is now widely accepted that conventional Cu interconnects will have severe limitation to accommodate future demand for high data rate transmission in silicon CMOS chip. Being an electrical conductor, long Cu interconnects suffers from long signal latency and high power consumption. The demand for data bandwidth can potentially be addressed if transmission is achieved using photons (instead of electrons) to overcome the above challenges. Silicon photonics, especially on the chip level, provides such capability and ease of integration with matured silicon CMOS. A number of components such as light source, modulator/demodulator, waveguide and detector are needed for ultimate integration on Si platform. In this project, we will focus on the development Silicon based light source for the integration on Si platform. The student will work on the development Silicon nanocrystals and Erbium ions embedded in SiO ₂ matrix to give emission at communication wavelength (1.53 μm) by the energy transfer from Silicon nanocrystals to Erbium ions. Minimum duration of internship: 5 months Candidates are kindly advised to send by email to dbaillargeat@ntu.edu.sg , with mail subject "CINTRA_2011_Internship" followed by the candidate's full name, the following documents (in English) - CV (including education & professional history) - Letter of Motivation including your possible contribution to the project
Toutes les rubriques ci-dessous doivent obligatoirement être remplies

Ce stage pourra-t-il se prolonger en thèse ? Possibility of a PhD ? : oui			
Si oui, financement de thèse envisagé/ financial support for the PhD:			
Lasers et matière	X	Lumière, Matière : Mesures Extrêmes	X
Optique de la science à la technologie	X	Physique des plasmas	

Fiche à transmettre (fichier pdf **obligatoirement**) sur le site <http://stages.master-omp.fr>