



## SEMINAIRE

(de 13 h à 14 h, salle Belledonne, IMEP-LaHC, MINATEC,  
ouvert à tous : enseignants, étudiants, chercheurs, administratifs, techniciens)

**Primarily scheduled on thursday 4 june 2015  
will be held on thursday 18 june**

**“High speed mmW/THz wireless communications  
based on photonic solution”**

**by Tong SHAO**

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**Abstract:** Data rates in wireless communications have been increasing exponentially over recent decades. However the spectral resources are extremely limited because of the heavy use of today's conventional frequency. High-speed millimeter wave (mmW) or terahertz (THz) wireless communications have attracted great interest for short distance ultrahigh data rate wireless applications. A photonic solution is a promising technique for high-frequency RF signal generation and transmission, as it enables the distribution of high-frequency RF signals over long distance through optical fiber, and makes the system compact and light.

In this presentation, new photonic solutions for mmW/THz wireless communications using novel optical frequency comb which is based on gain-switched laser will be introduced. 100 Gbps short range wireless communication system can be potentially achieved with the proposed photonic/RF solution.

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*Dr. Shao has published 25 technical articles in the international peer-reviewed journals and conference proceedings in the past 5 years. In 2015, he was awarded Marie-Curie Fellowship and Ulysses Program. He is a reviewer of Optics Letters, Optics Express, Photonic Technology Letters, Optics Communications, and Journal of Communications and Networks and serves as a technical program committee member of 20<sup>th</sup> European Conference on Network and Optical Communications (NOC2015).*

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