UNIVERSITÉ PARIS-EST

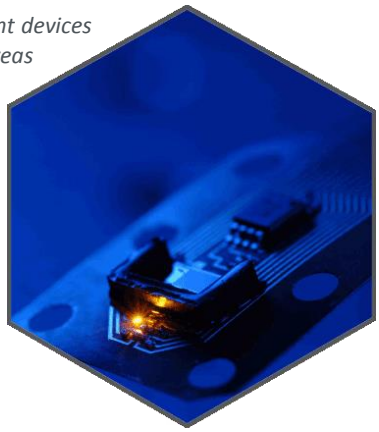
Enseignants-chercheurs et chercheurs invités par Université Paris-Est en 2016

Pr Hans ZAPPE – *IMTEK, University of Freiburg, Allemagne*

Sessions de cours :

Advanced Micro-optics for Medical and Environmental Monitoring

Optics plays a major role in many new types of sensor and diagnostic systems for medicine and environmental monitoring. The ultra-miniaturized systems attainable using micro-optics and MEMS have drastically increased the spectrum of possible applications.
This lecture series will provide an overview of micro-optics as it is used in complex, highly miniaturized systems and show how these are used in novel types of optical sensors. The course will focus on optical fundamentals, and further lectures will focus on optical instrumentation as well as currently highly relevant areas such as optical MEMS, tunable optics and optofluidics. The course will conclude with some examples of micro-optical sensor systems
Each lecture will address some of the fundamental optical physics; consider the most relevant devices and components; and then conclude with a discussion of the most important applications areas using industrially-relevant case studies. The more basic courses will make use of interactive optical simulations to allow students to better visualize the relevant phenomena.
The proposed course contents include:



- *Optical physics, materials and interfaces*
- *Reflective, refractive and diffractive optics*
- *Waveguide and fiber optics*
- *Lasers and active micro-optics*
- *Tunable optics and optofluidics*
- *Micro-optical sensor systems*

- Dates :
  - Mercredi 6 avril 2016, de 14h00 à 17h00
  - Jeudi 7 avril 2016, de 14h00 à 17h00
  - Mardi 12 avril 2016, de 14h00 à 17h00
  - Mercredi 13 avril 2016, de 14h00 à 17h00
  - Jeudi 14 avril 2016, de 14h00 à 17h00

- Lieu : **ESIEE Paris**, amphithéâtre 210
  Cité Descartes, 2 boulevard Blaise-Pascal 93162 Noisy-le-Grand

- Public : tout chercheur, doctorant, élève ingénieur, Master 2…

- Information : ed-mstic@univ-paris-est.fr

ÉCOLE DOCTORALE UNIVERSITÉ PARIS-EST
Mathématiques et STIC