



Education and Culture DG

ERASMUS MUNDUS



PHOTONICS - EUROPHOTONICS MASTER COURSE

MASTER THESIS PROPOSAL

Course 2014 –2015

**Laboratory: Nanomaterials Processing- UB
City, Country: Barcelona, Catalonia & San Diego, USA**

Title of the master thesis: Triboluminescent Materials for Damage Sensors

Name and affiliation of the tutor of the master thesis: Frank Güell, Department of Electronics, Universitat de Barcelona

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Summary of the subject (maximum 1 page):

Triboluminescent materials offer a viable route to real time structural damage sensing. The sensors can be externally attached to the surface of metals or composites, or embedded within composites. In situ monitoring of structural damage in composites is particularly relevant since severe internal damage can exist with little indication of this damage on the composite surface. The main issue related to embedding triboluminescent sensors within composites is how to access efficiently the optical signal generated upon structural damage and how to guide efficiently this optical damage signal to a remote detector.

Keywords: Triboluminescence, Nanomaterials, Photoluminescence.

Additional information :

- * Amount of the monthly allowance (if it is the case):
- * Required skills:
- * Miscellaneous: