

## Physcale Workshop

# NURBS and High Order Finite Elements in Multiscale Computational Structural Mechanics :

## How to overcome mesh constraints?

Toulouse, France, January 7<sup>th</sup>, 2016

## Scope

The objective of this workshop is to gather academic and industrial members with interest in the field of high-order finite element and isogeometric analyses for mechanics of materials and structures. These promising numerical approaches still have a number of scientific challenges, including the adaptation and refinement of the mesh. The presentations will review newly developed methods to address this issue.

## Registration

There are no fees, but the registration is required to get access to the lunch and coffee breaks. To register, please send an email to Robin Bouclier (bouclier@insa-toulouse.fr) before december 11th, 2015.

## Organising committee

**Robin Bouclier** (IMT, INSA Toulouse) [bouclier@insa-toulouse.fr](mailto:bouclier@insa-toulouse.fr)  
**Jean-Charles Passieux** (ICA, INSA) Toulouse [passieux@insa-toulouse.fr](mailto:passieux@insa-toulouse.fr)  
**Pascal Noble** (IMT, INSA Toulouse) [pascal.noble@insa-toulouse.fr](mailto:pascal.noble@insa-toulouse.fr)

## Scientific Program

**09:15** Welcome & Coffee

**09:45** Philippe Cresta (Airbus Group Innovations) :  
**Industrial applications of NURBS : case of helicopter blade design.**

**10:30** Thomas Elguedj (LaMCoS, INSA de Lyon) :  
**Isogeometric Analysis suitable trivariate models from cuboid decomposition quadrangulation**

**11:15** Gregory Legrain (GeM, Centrales Nantes) :  
**High-order Finite Element method for image-based and structural analysis**

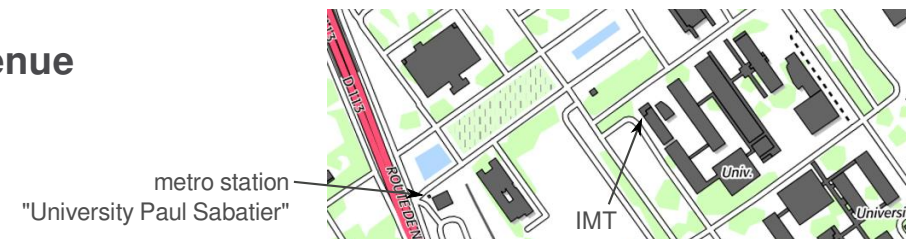
**12:00** Lunch

**14:00** Dominik Schilinger (University of Minnesota, USA) :  
**Seamless Geometry-through-Analysis Paradigms in Computational Mechanics**

**14:45** Robin Bouclier (IMT, INSA de Toulouse) :  
**Non-intrusive Coupling for the local enrichment of NURBS Patches**

**15:30** Discussions and Prospects

## Venue



The workshop will be held at the "Institut de Mathématiques de Toulouse" (IMT, building 1R3) at University of Toulouse 3. From city center, take Metro Line B up to "Université Paul Sabatier" station.