

STAGE DE RECHERCHE - MASTER
Année universitaire 2016-2017

PROPOSITION DE STAGE

Titre	A digital framework for managing data in 3D Building Information Modelling processes based on open standards
Descriptif (précisez si le sujet peut déboucher sur une thèse)	<p>Building Information Modelling (BIM) is part of a digital transition within the construction industry. It can be defined as a set of processes and technologies that support multiple stakeholders to collaboratively design, construct and operate a facility within a digital environment. The Building Information Model is an object-based, data rich, 3D digital model generated by each project participant by using a BIM authoring platform. Each BIM authoring platform supports proprietary formats such as .rvt, .ndw and .pln; however, it is important to use interoperable and open standards, like Industry Foundation Classes (IFC) (ISO 16739), in order to facilitate the communication between different stakeholders in different phases of a building life cycle. When using open standards, the process is usually called “Open BIM”.</p> <p>The internship focuses on the implementation of IFC-based processes for managing the early design phases of briefing and concept design, aiming at providing a bi-directional link and reducing the gap between design requirements and design solutions, correlating them within integrated building information data models. Following the example of ongoing research projects at international level, the internship aims at proposing and applying an extension to the IFC data schema for formalizing the way design requirements are modeled by means of code languages (e.g., Java, Python) and also for implementing rules for iteratively checking data embedded in design solutions against the previously defined information requirements.</p>
Compétences requises	<ul style="list-style-type: none"> - Programming language : C#, Java, C++ or Python - 3D modelling, BIM
Maître de stage (nom, adresse, téléphone et email)	<p>Omar Doukari : odoukari@estp-paris.eu Silvia Mastrolembo Ventura : silvia.mastrolembo@polimi.it</p>
Laboratoire /entreprise d'accueil	ESTP Paris
Durée	4 - 6 mois
Gratifications	ESTP Paris