CourseNo: ARCHA4525_001_2013_3

Meeting Location: AVERY HALL 114

Meeting Time: R 06:00P-08:00P

Instructor Information: Jose Isaias Sanchez

The workshop will focus on generation of visual constructs dealing with the notion of simulation and representation. We will undertake simulation as the origin of a reality, not as a representation of a formal construct, which can deal with the generation of behavioral models and abstract events without a tactile origin, hence avoiding representing an environment or event. The simulation gives origin to sequential representation of an unknown event that progressively yields to the generation of a tangible visual fabric.

In architecture, form abstraction is not always accomplished from a geometry derivative. The concept of abstraction from other disciplines can be investigated and used as a substrate for the generation of tangible form. Abstract visualization no longer precedes geometrical systems as it can be translated into geometrical structures.

We'll start by looking at Maya's Fluid Dynamics as a form/space generator, along with its traditional use of generating dynamics-based special effects for games and films. This will be followed by an in depth understanding of Mental Ray advanced rendering features, including Image Based Lighting (HDR), Global Illumination, Final Gathering, Caustics, Importons, Irradiance Particles and Ambient Occlusion. The advanced Mental Ray lecture will also cover the Mia_Material_X advanced shader, which was developed for architectural and industrial design use. Other technologies covered in this workshop are Image-Based Modeling with Maya's Paint Effects and Advanced Displacement, Advanced Particles Systems and Mathematical Expressions, Forward and Inverse Kinematics, Motion Capture and Maya's Hair System, which we will use as another alternative to generate real material behavior from a mesh. Finally, we'll learn how to use Maya's Inverse Kinematics along with Muscles, Bones and Capsule as surface control systems.