Introduction to Parametric Design

Basics of Parametric design with Rhino and Grasshopper with a focus on BIM (ARCHICAD)

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Parametric design, computer-generated geometries are a big buzzword in today's architectural world. This technology is an important tool even today but it has an increasing importance in the future of effective architecture and design. This is the description of the "Introduction to Parametric Design" workshop.

**Keywords:** Rhinoceros, Grasshopper, Parametric, design

It is recommended to apply to this workshop joined with the “Parametric BIM models in ARCHICAD” workshop.

**WORKSHOP TOPIC**

Learn the basics of Parametric Design with the industry leading tools, Rhinoceros and Grasshopper with a focus on BIM. The goal of the training is to familiarize the participants with the basic concepts of architectural visual coding. Even though the workshop is mostly about Rhinoceros and Grasshopper, it will partly focus on generating BIM models in ARCHICAD.

The language of the workshop is English!

**BACKGROUND**

There is no prerequisite for this workshop because it will cover Rhinoceros and Grasshopper from the very basics (User interface, navigation, basic element types, etc.), however, a logical, mathematics oriented mindset is an advantage to easily understand the concepts of visual programming.
SOFTWARE TO INSTALL
Rhinoceros and Grasshopper are the industry-leading tools in Parametric and algorithmic design and were developed especially for architects and designers. Rhinoceros is a generic 3D modeller software and it functions as the framework for Grasshopper (visual programming interface)

The following software have to be installed in order to take part in the workshop (Trial and Evaluation version are accepted): Rhinoceros 5 or 6, Grasshopper (download links and instructions will be shared with the participants)

WORKSHOP SCHEDULE

- 9:00-9:30 - Introduction to Parametric Design
- 9:30-10:00 - Rhinoceros introduction - user interface, basic creating and editing
- 10:00-10:30 - Grasshopper introduction (user interface, visual programming basic concept)
- 10:30 - 10:45 - Coffee break
- 10:45-11:45 - Grasshopper exercises
- 11:45-12:00 - Q&A, Wrap-up

EXPECTED OUTCOMES
Participants will understand the benefits of Freeform modelling and parametric design via visual programming with Rhinoceros and Grasshopper. They will learn how they can benefit by automating certain tedious, repetitive tasks and creating a large amount of accurate geometrically complex elements by not modelling geometry directly but creating a logic, an algorithm behind the geometry in university projects or in real life scenarios.

REFERENCES
[1] https://www.rhino3d.com/