



FAB

FORMATIONS

ALGORITHMS AND PARAMETRIC
FABRICATION IN DESIGN

SAT-SUNDAY //
JULY 06-07

IMAGE CREDITS :
SERPENTINE WALL
BY BIG ARCHITECTS

v5.01

Are you interested in gaining Parametric competency to push your design skills to the next level?

Are you ready to learn a very exciting and powerful tool that will take your ideas and concepts to a whole new realm?

**COURSE DESCRIPTION \ **

The two-day introductory workshop to parametric design with digital fabrication in the field of Design, integrated within the algorithmic modelling. It will allow to investigate new formal solutions optimized for the architecture and design. It will also include a lecture and presentations on the subject of complexity in our design methodology and how to incorporate it as a design tool. The recent development of sophisticated computational design tools has instigated new ways of integrating computation in the design process; both within architecture and engineering disciplines. The new set of digital tools has infiltrated a bottom up system to open the design space towards a high level of complexity. The integration of these tools allowed the architect to generate and control complex information derived from a manifold of sources. Consequently, a more complex architectural order emerged as a reflection of sophisticated adaptive structures. The workshop will explore algorithmic strategies and the main techniques of form finding using the basic and intermediate level tools in Rhinoceros. The techniques will be applied at different scales, from architecture (surface modelling) to product level design. The model will further explore the fabrication methodologies in architecture and design.

**STRUCTURE \ **

Program has been structured to teach participants the use of Rhino and associated plugins that help in achieving parametric fabrications, with a real design exercise. Participants will learn how to build and manage parametric data structures (from basic simple lists to complex data Structures) and to develop data driven geometry and envelops. This will help them in understanding and taking the data visualization to next level. The workshop technical tutorials will include:

DAY 1 SATURDAY (7 HOURS)

1. USER INTERFACE
2. COMPONENTS OF RHINOCEROS
3. NURBS AND POLYGON MESHES, POLYGONAL MODELLING IN RHINOCEROS
4. BASIC EXERCISE OF SURFACE CREATION, SUBDIVISION AND MODELLING TECHNIQUES.
5. GEOMETRY TESSELATION
6. VRAY BASICS

DAY 2 SUNDAY (7 HOURS)

1. SUBDIVISION USING PANELLING TOOLS.
2. MORPHING
3. APPLICATION OF THE LEARNED TECHNIQUES IN A PARAMETRIC DESIGN EXERCISE.
4. VRAY SCENE RENDERING
5. BASICS OF LASER CUTTING.
6. FABRICATION TOOLS AND PLUGINS TO REALIZE YOUR PARAMETRIC DESIGNS USING THE LASER CUTTING MACHINE.

**TAKE AWAYS \ **

- Basic understanding of the Rhino interface
- How to navigate around your scene and select objects
- Distinguishing the different Rhino objects and their use
- How to create and edit 2D and 3D geometric objects
- How to transform your objects
- How to organize your model efficiently
- Helpful tips and tricks to work fast and efficient
- How to render and prepare presentations using V-RAY Plugin for Rhino.

**REQUIREMENTS \ **

- There are no prerequisites, anyone from the design background or an enthusiast in the field of design are invited for this workshop.
- Participants should bring their own computer with above mentioned software installed. Further details will be sent to the registered participants.

TOOLS \ \

All the participants should have following tools installed on their workstations:

1. **Rhinoceros 5** SR12 or Higher ([30 day Trial version can be downloaded from https://www.rhino3d.com/download](https://www.rhino3d.com/download))
2. **PanellingTools** for Rhino (<https://wiki.mcneel.com/labs/panelingtools>)
3. **T Splines** for Rhino (<http://www.tsplines.com/latest-version>)
4. **Vray for Rhino** (<https://www.chaosgroup.com/vray/rhino>)
5. **AutoCAD**



REGISTRATION \ \

A total of **15 seats** are available for the workshop per workshop coordinator. Registration will close 3 days prior to the workshop or till the seats last.

Please follow the link to complete the registration:

1 PASS permits 1 PARTICIPANT in 1 WORKSHOP

[Refer to the eduPass Section to learn more about the Professional/Student/Group/Multiple registration.](#)

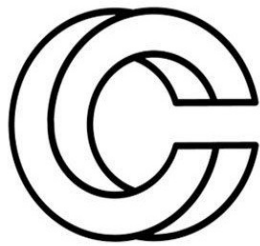
CALENDER \ \

The workshop will be held on:

JULY 6 : 11:00 AM - 6:30 PM (SATURDAY)
JULY 7 : 11:00 AM - 6:30 PM (SUNDAY)

VENUE: Third Floor, 145/1, Shahpur Jat, New Delhi





CLASSROOM COMPETITIONS

Classroom competitions are a part of this series of workshops and is meant for all the designers who want to explore their way with hands on experience to gain skills and create real world projects. Under this series you participate in workshops at one of these Micro-studio and get awarded a trophy.

In association with **UNI**, we are now expanding our vision of creating these micro-studios globally with a fusion of online design community and offline classrooms.

This fusion will help us in combining different ideologies and diverse methodologies, to create a continuum which links ideas such as exploration, debate and collaboration at a global level to understand and create '**Architecture of Everything**'





EDUPASS

EDUpass is a pass which can be used to participate in any workshop in this series (registration to be done 3 days prior the commencement of the workshop). Multiple EDUpasses can be purchased and used in a group to attend a single workshop or a single participant can register for multiple workshops.

For example, If you had purchased 6 passes, you can register to 6 different workshops or bring along 5 other friends/colleague with you to attend a single workshop of your choice.



HOW DOES IT WORK?

A Participant can purchase as many passes as he/she wants and 1 PASS permits entry to any 1 workshop and classroom competition of his/her choice.



SPARRO

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