

Optima +

Think, analyze, design, optimize, compete and *fabricate*

International workshop and competition, September 2014

Phase one: **Cairo** 01 – 05 September 2014

Phase two : **Barcelona** 27 – 31 October 2014

NOUMENA & ALGORITHM in partnership with **IAAC** , Institute for Advanced Architecture of Catalunya, organize an international competitive workshop that will take place in both Cairo- Egypt and Barcelona – Spain where you'll explore innovative design and fabrication strategies (Advanced Architecture, Parametric Design, NURBS Modeling , Optimization, and Fabrication).

THE COMPETITION will run between the workshop participants. it is divided into 2 main phases.

Travelling to Cairo

Phase 1: starts the 1st of September in Cairo (think, design, compete, and prototype)

- participants will get lectures and tutorial on parametric design, modeling
- participants will be divided into groups and start an internal competition.
- each group will propose their optimized parametric pavilions fabricated in

small scale

- a selected jury will choose the best two pavilions as primary winners

Travelling to Barcelona

Phase 2: starts the 14th of September in Barcelona (Adv. optimize, finalize, fabricate, and win)

- all participants will get advanced lectures and tutorial on algorithms and optimizations

- participants will get experiences on big scale fabrication
- the 2 pavilions will be fabricated in big scale by all participants
- final Jury will choose only one pavilion to win the competition.

LIMITED SEATS (only 25 SEAT). every participant must submit his CV, portfolio, and statement of interest to the organizers by

email: register@ealgorithm.com and info@noumenaarch.com. In case of acceptance we will contact the participant to continue registration.

Submission deadline is 15/8/2014. Participants' selections : 18/8/2014

Workshop and competition fees : 600 Euro

WORKSHOP AND COMPETITION SCHEDULE

Duration: The workshop, in total, will run for 80 hours / 10 days excluding breaks. 5 days at Algoritm in Cairo and 5 days at NOUMENA in Barcelona. It will be divided to two main phases include three topics, parametric design , optimization, fabrication.

(From 09:00 AM to 06:00 PM)

The competition will run parallel with the workshop

PHASE 1 SCHEDULE @ Cairo

day_01 – Introduction to NURBS modeling with Rhino 3d

- Group divisions and projects' assignments

day_02 – parametric modeling tutorials with grasshopper 3d

- lecture on algorithms and design inspirations
- groups will work on the project

day_03 – more on grasshopper 3d modeling

- _ parametric design thinking and algorithmic architecture
- introduction on fabrications
- Competitions work in progress

day_04

- Introduction on optimization with grasshopper (Galapagos and goat plugin)
- preparing projects to fabrication

Day_05

- _ finalize projects and group presentations
- _ primary jury will choose 2 projects as primary winners

PHASE 2 SCHEDULE @ Barcelona IAAC (Institute for Advanced Architecture of Catalunya)

day_06 – introduction to 2nd competition phase

- lectures and tutorials on Envelope pattern optimizations for lighting and environmental aspects
- lectures and tutorial on algorithms and optimizations

day_07 – preparing to fabrication

- _ big scale fabrication methods and techniques (tutorial and lecture)
- _ participants will get experiences on big scale fabrications

day_08 – Digital fabrication.

- Preparing particles fabricated parts, members and joints for physical models.

Day_09 – Finalizing fabrication.

- finalizing groups' Models and final presentation
- adding final features to the physical models

Day_10 – Discussion, final Jury, and Conclusion, and presenting competition winners

Instructors:



Italy

ARC. ALDO SOLLAZO

- Co-Founder of **Noumena Architecture**, Director of **Fab Lab Frosinone**, Curator of **Reshape-digital craft competition**



Egypt

ARC. MOSTAFA RABEA

- PhD, Lecturer at **Faculty of Engineering MSA University**, Co-Founder at **Algorithm**, and Co-Founder and Designer at **Epocal design studio**.

Assistants @ Algorithm



ARC. AHMED HASSAB

- Researcher at **Algorithm**, Teaching Assistant at **Université Française d'Égypte** and **MSC candidate at Cairo university**.



ARC. MOSTAFA MAGDY

- Tutor at **Algorithm** and architect at **epocal Design studio**.

Assistants @ Noumena



ARC. CHIRAG RANGHOLIA

- Researcher at **Noumena**, and Designer at **Noumena**.



ARC. JOSE STARSKY LARA

- Researcher at **Noumena**, and Designer at **Noumena**.