

ITERATIVE INTERPRETATIONS

PARAMETRIC BERLIN / BRATISLAVA

Iterative form making Summer school with Grasshopper and Anemone looping plug-in.

INTRO

The Summer school will explore parametric design augmented with iterative methods - mathematical models and systems such as cellular automata, l-systems, agent based modelling etc. Thanks to Anemone, we can recreate them easily in Grasshopper. On the Summer school we will focus on merging these complex systems with parametric design, explore emergent behaviors, chaos, fractals and many more inspiring concepts based on the principles of looping data as opposed to strictly left-to-right rule based systems that are typical in Grasshopper.

COURSE GOAL

To introduce and become proficient with the concepts of loop based algorithms, using the Anemone plug in for Grasshopper.

GENERAL TOPICS

- Looping
- Iteration
- Recursion
- Rewriting
- Cellular automata
- L-systems
- Fractals
- Agent based modelling
- Parametric modelling

BERLIN

Framework: 1 day Grasshopper for beginners Crash course + 4 days Main course

Date: 23th July _ 26th July 2014, 9:00-17:00

Place: Uferstudios GmbH, Uferstr. 8/23 (Tor 2, Post- und Lieferadresse), Badstr. 41a (Tor 1), 13357 Berlin

Tutors: Mike Pryor (USA), Matuesz Zwierzycki (PL)

Crash course tutor: Rojjar Soleimani_Iran

Organizer: 3D Dreaming, rese arch

Bratislava

Framework: 1 day Grasshopper for beginners Crash course + 5 days Main course

Date: 28th July _ 2nd August 2014, 9:00-17:00

Place: Faculty of Architecture, Slovak University of Technology, Bratislava, Slovakia

Tutors: Mike Pryor_USA, Matuesz Zwierzycki_Poland

Crash course tutor: Ján Pernecký_Slovakia

Organizer: 3D Dreaming, rese arch

PARAMETRIC BERLIN / BRATISLAVA

Thanks to Mateusz Zwierzycki's Anemone plugin, it is possible to bring advanced complex systems into the usual Grasshopper workflow. Anemone allows for looping, nested looping, auto-triggered iterative computation, which in the terms of design opens the entire new world of recursion, L-systems, cellular automata, multi-agent systems and most of all, emergent behaviors of complex systems. A large amount of simple and easily controlled agents interact with each other in time and change their own state along with a state of the entire system. This way it is possible to produce virtually infinite complexity of design while keeping the logic simple and well understandable.

The Summer school is intended for intermediate Grasshopper users who want to bring their skill to a whole new level of emergent design. For the Grasshopper/Rhino newcomers we are offering a quick crash course with Rojjar and Ján one day before the main course with Mike and Mateusz.

The Summer school will explore several design approaches on the examples prepared specifically for this purpose. At the end the participants will end up with a set of well-explained exercises and a final sketch project of their own.

All participants who will present their work at the end of the Summer school will receive a certificate signed by the tutors and the dean of the Faculty of Architecture, Slovak University of Technology. Many universities award their students with regular ECTS credits for such document.

THE CERTIFICATE

All eligible students who will participate and finish in the ITERATIVE INTERPRETATIONS Summer school will receive a certificate signed by the tutors and the dean of the Faculty of Architecture, STU stating exact content and scope of the teaching activity. The participants can use the certificate for applying for ECTS at their domestic institute. We expect it to be awarded 2 ECTS respective to the rules of the participant's domestic university.

ORGANIZING INSTITUTIONS

3D Dreaming

rese arch

Faculty of Architecture, Slovak University of Technology

SOFTWARE & SKILLS

No specific skills are required to participate in this Summer school although any programming knowledge, basic Rhinoceros skills and basic Grasshopper skills are welcome. We will have short overviews of Grasshopper logic but will mostly focus on looping logics via the Anemone plug-in. For those with no former Rhinoceros or Grasshopper experience an optional one-day crash course will take place one day before the main Summer school with 3D Dreaming own tutors - Ján Pernecký and Rojjar Soleimani.

The Summer school and all supplemental events will be held in English.

Participants should bring their own laptop with pre-installed software. The software package needed has no additional cost for the participant (Rhino can be downloaded as evaluation version, Grasshopper and sub-plugins are free). The only fully supported platform is proper MS Windows and the participants are strongly discouraged to use virtualization tools such as Parallels, VM Ware or VirtualBox. The recommended solution for Mac owners is a BootCamp Windows installation.

SOFTWARE

WINDOWS OPERATING SYSTEM REQUIRED There is no Grasshopper for Mac OS. If you are using a Mac you must have Windows installed using bootcamp, parallels, or some other virtual windows installation.

Rhinoceros 5 is required and should be installed prior to the Summer school. If you do not have Rhinoceros 5 an evaluation copy can be downloaded from www.rhino3d.com/download/rhino/5.0/latest for free.

Grasshopper 3d can be downloaded for free and should be installed prior to the Summer school. You can download Grasshopper from <http://www.Grasshopper3d.com/page/download-1>.

Anemone plug-in for Grasshopper will be used for looping. It can be downloaded for free and should be installed prior to the Summer school. You can download it from

<http://www.food4rhino.com/project/anemone>

Weaverbird plug-in for Grasshopper will be used for mesh smoothing. It can be downloaded for free and should be installed prior to the Summer school. You can download it from

<http://www.giuliopiacentino.com/weaverbird/>

Mesh edit plug-in for Grasshopper will be used for additional mesh utilities. It can be downloaded for free and should be installed prior to the Summer school. You can download it from

<http://www.food4rhino.com/project/meshedittools>

Mesh tools plug-in for Grasshopper will be used for additional mesh utilities. It can be downloaded for free and should be installed prior to the Summer school. You can download it from

<http://www.grasshopper3d.com/group/milkbox/forum/topics/mesh-pipe-and-sweep-mesh>

Starling plug-in for Grasshopper will be used for additional mesh utilities. It can be downloaded for free and should be installed prior to the Summer school. You can download it from

<http://www.food4rhino.com/project/starling>

Additional plug-ins for Grasshopper may be used. We will let you know as time gets closer or we may download and install them in the Summer school. Most plug ins can be found here.

<http://www.food4rhino.com/Grasshopper-addons/last-updated>

REGISTER

SUBSCRIPTION FEES

The prices are similar for both, Berlin and Bratislava. The participants will choose which Summer school they wish to attend.

early bird – 20th June to 13th July 2014

3D Dreamers*: 299 €

educational**: 329 €

professional: 359 €

regular – 13th July 2014 until the first day of the Summer school

educational**: 359 €

professional: 389 €

optional additional crash course

plus: 49 € on site

APPLICATION AND PAYMENT

The Spring School application and payment process is possible exclusively online at the following link:

[REGISTER HERE](#)

* participants of previous 3D Dreaming or rese arch workshops

** students, teachers, researchers & PhD (proof of status required)

Maximum 30 seats will be available for each Summer school. Neither respective Summer school will take place if less than 10 participants will apply and pay the fee before 13th July 2014. All applicants will be informed about the current state as soon as the minimum number of applicants is achieved.

The price covers the tuition during the entire duration of the Summer school. Small snacks and coffee will be provided. The travelling, accommodation and diet has to be organized by the participants themselves.

IMPORTANT NOTE

3D Dreaming and rese arch promote world class teaching for everybody and strive at finding the best people and offering the best prices for further education or post professional courses in the field of architecture and design. The organizer does not provide any refund in the case of a missed participation. In the case of activity cancellation the participants will get a full refund before the end of the scheduled activity or a respective sum in case a part of the activity will have been already conducted.

The participants will have to come to the activity with her/his own computer and a working latest version of Rhinoceros and Grasshopper with relative plug-ins. Eventual needed files will be given by the tutors via email or in person. A short troubleshooting session will be conducted at the beginning of the Summer school.

The organization team is not responsible for any issues linked to the participants or to software or hardware in general.

The data provided by the participants will not be shared with anybody.

TUTORS

Mateusz Zwierzycki

Architect and a long-time grasshopper user/coder/tutor. co-author of the projektowanieparametryczne.pl (the only polish site about parametric tools in architectural design). Phd candidate studying the generative tools and their uses in architecture - from Noam Chomsky's generative grammars to evolutionary principles in structural optimization, morphogenesis mechanisms, abm(agent-based modelling) and many more.author of the starling plugin for grasshopper and many more unassociated scripts scattered all over the gh community. Passionate about pure geometry (awesomeshapes.tumblr.com)

Michael Pryor

Architect involved in various major built or in construction works in New York and China. Currently working at OLI Architecture and [AY] Architecture. NYIT 5 year bachelors degree of architecture graduate, granted The New York Society of Architects Matthew W. Del Gaudio award for excellence in total design. Co-director of 3D-Dreaming.com with founder Fabio Palvelli. Founder of grasshopper blog [FORMul[a]RCH] and avid grasshopper3d.com forum aide. Tutor to multiple AA Paris workshops founded by Jorge Ayala specializing in experimental and computational design approaches to fashion architecture. Interested in computational approaches towards architecture, as a design tool rather than as a style of architecture.

ORGANIZERS

Ján Pernecký

Architect, researcher, curator, programmer. Founder of rese arch - a platform for theoretical, artistic and technological research and organizing of public talks, lectures, Summer schools. Curator of Asking Architecture, Slovak and Czech pavilion at the 13th Architecture Exhibition at La Biennale di Venezia

Fabio Palvelli

Architect, designer, researching and publishing architectural projects and organizing Summer schools, with Mike Pryor founder and co-director of 3D-Dreaming.com

Matej Hoppan

Half architect, half designer, selector and organizer. Studies and applies computational design strategies with focus on geometries. From 2014 executive designer at JaOnMi CreatureS.

Rojiar Soleimani

Architect and doctorate candidate at studio Hani Rashid, university of applied arts Vienna. Has worked in award winning firms in Vienna and developed an interest and expertise in crossing the disciplinary boundaries between Architecture and other design practices. Kaohsiung maritime museum and popular music center 2010, design strategies , UCLA 2012, CALifornia, USA.

SCHEDULE (approximate)

DAY1

MORNING

- Introductory lecture / Making sure everyone has all the required software. Lecture will cover basic concepts of parametric design and emergency in nature and computation.
- GH basics / Interface, workflow, data management, simple definitions.

AFTERNOON

- Grasshopper / Intermediate definitions
Attractors, advanced mesh edition, Weaverbird

DAY2

MORNING

- Anemone / Interface, workflow, simple definitions illustrating all the features.
- Anemone / Basic definitions

AFTERNOON

- Grasshopper / Data management concepts
- Anemone / Complex definitions

DAY3

MORNING

- Anemone + Kangaroo / Grasshopper automation workflow
- GH + Anemone / Form generation

AFTERNOON

- GH + Anemone / Extending the parametric design

DAY4

MORNING

- GH + Anemone / Extending the parametric design

AFTERNOON

- Collecting ideas / preparing the Summer school output

VENUE (BERLIN)

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Badstr. 41a (Tor 1)
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Telefon + 49 30 46060887
mail@uferstudios.com
www.uferstudios.com

click for MAP here
<http://www.uferstudios.com/uferstudios/kontakt/>

ARRIVAL

Berlin has developed a highly complex transportation infrastructure providing very diverse modes of urban mobility. German capital sits in the heart of Europe, it's an easy city to access – regardless of if you're coming from Wladiwostok or Wanne-Eickel. Whether you're taking a plane, train, vehicle, bus or boat, there's always a way to get to Berlin.

Berlin is the centre of a system of regional trains operated by [Deutsche Bahn](#). It is recommended to plan early to secure a discounted ticket from Europe or any other city in Germany. Comfortable, affordable and simple, these saver fare tickets start at 29 euros for 2nd class and 39 euros for 1st class when traveling from a city in Germany and from 39 euros for 2nd class and 69 euros for 1st class when traveling to and from other European cities. When booking, keep an eye out for the "Sparpreis" ticket, travel within Germany, or the "Europa-Spezial" for travel from up to 16 other European countries.

Berlin is served by two commercial airports. [Tegel Airport](#) (TXL) is the largest and located within Berlin, while smaller [Schönefeld Airport](#) (SXF) is situated just outside of Berlin. Berlin Schönefeld Airport is very well connected to Berlin city center and the surrounding area. In addition to S-Bahn trains and the Airport Express (regional train), numerous bus connections are available.

Schönefeld Airport is just a 30-minute ride from Central Station (Hauptbahnhof) on the Airport Express. The regional trains run three times per hour. Another regional train connection runs every hour between the airport and Brandenburg's capital Potsdam. Several bus services run to the airport. Some buses stop at Berlin Schönefeld Airport train station – right outside the terminal.

The [berlinlinienbus.de](#) (blb) coaches connect Berlin, Hamburg and many other German cities with more than 250 destinations in Germany and Europe. Additionally there are numerous promotional fares. You may immediately book tickets starting at 9 Euro from and to Berlin with destinations such as Munich, Dresden, Hamburg, Paris, London etc.

BERLIN

Berlin is Germany's political, cultural and historical center. It has once again become a top ten destination among world metropolises. Berlin will treat you to a living history, art treasures from all eras, trendy shopping and a wild club culture.

The public transportation is convenient, and well connected to Venue. From Alexanderplatz in Berlin Mitte you can simply jump in U8 metro line towards Boddinstr. (which runs every 5 minutes) and get off the train at Pankstrasse station.

VENUE (BRATISLAVA)

Faculty of Architecture
Slovak University of Technology
Room 069
Námestie Slobody 19
812 45 Bratislava
Slovak Republic

click for MAP here
<http://goo.gl/TcZPja>

ARRIVAL

Bratislava is well connected with Vienna – the trains or buses leave virtually every 30 minutes throughout the entire day and the journey takes 1 hour. The trains leave from Hauptbahnhof, Simmering, Stadlau and arrive to Bratislava Hlavna stanica or Bratislava Petralka. We recommend arrival to Hlavna stanica, which is in a walking distance from the venue. A single return ticket from Vienna to Bratislava and back costs 15Euro and includes free one day public transport pass in Bratislava. The weekly public transport ticket in Bratislava is available for 15Euro.

The shuttle buses leave from Vienna Suedtirollerplatz, Erdbergstrasse and Schwechat airport and the journey takes 1-1,5hr. A single ticket is 7-8Euro and the buses arrive to various destinations around the Bratislava city centre with a good public transportation connection.

There is also a ship on river Danube for the romantic souls.

Bratislava has an international airport but most of the flights arrive to Schwechat, which is half way between Bratislava and Vienna.

Driving from Vienna to Bratislava is convenient too. It takes 1hr from the centre to the center, but there is a serious parking problem in Bratislava. For those who will stay in Bratislava for the entire week it would be possible to leave the car in the outskirts or in the hotel parking garage. For the daily commuters the train is much more convenient.

Bratislava has also a good train connection to Brno (1,5hr), Budapest (3hrs) and Prague (4hrs).

BRATISLAVA

Bratislava is a very lively city. Despite of its small scale it has a metropolitan feel. Cultural events and night life are worth experiencing and we strongly recommend for the participants to stay in Bratislava rather than to commute from Vienna.

Bratislava is both safe and friendly. Most of the people can speak English or German. Slovakia is a member of the European Union, Schengen zone, with Euro as the national currency.

The public transportation is convenient, yet not very comfortable. For longer or group journeys we recommend one of many taxi services. It is much cheaper to call the dispatcher and order the taxi. Never take taxi on the street! You shouldn't pay more than 4-6Euro for a trip, however the foreigners are usual victims of unreasonably high prices when they take a taxi on the street. You can order a taxi on numbers like +421 2 16 321, +421 2 16 100, +421 2 16 302 etc. or +421 902 222 333+421 902 222 333, +421 918 555 555+421 918 555 555.

Slovakia leaves an impression of a very cheap country to the foreigners. The main reason is the cheap beer in the restaurants and bars. It is not rare to pay 1,5Euro for 0,5l! The food is not that much cheaper, but the price range is wider than for example in Austria.