

# Zvonko Vugreshek

Architect, MA & Computational Designer

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Skopje

Croatian (EU), Macedonian

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Sculpting imagination through code and digital design



## Experience

2017-09 - 2018-03

### Intern Architect

*3XN A/S, Copenhagen, Denmark*

Providing computational design, automation and optimisation services. Making scripts and enhanced global office productivity by 50%.

2017-07

### Computational design team member

*DesignMorphine*

In charge of form-finding and digital fabrication for building a 1:1 pavilion exploring kinetic motion on FabFest 2017 in London, UK. Won 3rd place.

2017-01

### Organiser & Assistant tutor

*DesignMorphine*

Intensive course "Parametric Furniture design with Rhino & Grasshopper v1.0" in Skopje, Macedonia.

2016-12

### Assistant tutor

*University ss. "Cyril & Methodius" Skopje, Faculty of Architecture*

Parametric design & Digital Fabrication workshop "(Re)nest". 1:1 whose outcomes were Waffle structure nests with motion sensor lights.

2016-09

### Computational design team member

*University of Applied Arts, Vienna, Austria*

Spatial installation "Robotic Contouring" in the university atrium

2016-07

### Computational design team member

*DesignMorphine*

Proposal exhibition stand for ETEM & Elval Colour for the BAU 2017 in Munich. Won second place.



## Education

2012 - 2017

### Ss. Cyril and Methodius University Skopje - Master of Architecture

Pioneer in introducing computational design and digital fabrication in depth to his colleagues and teachers.



## Languages

Macedonian & Ex-Yugoslav Languages

●●●●●  
Native

English

●●●●●  
Fluent

German

●●●●●  
Very good



## Skills

- Architectural & Urban Design using CAD & BIM
- 3D modelling and Visualisation
- Computational / Parametric Design and optimisation
- 3D printing / Digital Fabrication / Prototyping



## Software

- AutoCAD
- Revit (+ Dynamo)
- Rhino (+ Grasshopper)
- Adobe Suite (Ps + Ai + ID)
- 3DS Max (+ Vray)
- Archicad
- Python scripting



Enhancing the Gh/Dynamo workflow



## Publications

- 2018 Vugreshek, Z., 2018. The Use of Parametric and Computational Design in creating a sustainable city. Skopje: UKIM - Faculty of Architecture
- 2016 Vugreshek, Z., Petrovski, D., Ovezovski, B. & Bogeska, K., 2016. Kumanovo, city of culture and sustainability. In: Visions for Kumanovo. Skopje: UKIM Skopje, Faculty of Architecture.



## Workshops/Projects/Lectures

- 2015-07 Parametric & Generative Workshop - Generative Morphologies v.2 - Sofia, Bulgaria
- 2016-02 Computation & Digital Fabrication Workshop - Computation Matters v.1 - Sofia, Bulgaria
- 2016-07 Computation & Digital Fabrication Workshop - Intelligent Tectonics v.1 - Sofia, Bulgaria
- 2016-09 Die Angewandte Architecture Challenge - Robotic Contouring - Vienna, Austria
- 2017-02 Parametric Detailing Workshop - Correlated intricacies v.1 - Sofia, Bulgaria
- 2017-07 Parametric BIM Workshop - Informative Archetypes v.1 - Sofia, Bulgaria
- 2018-02 Human in the Time of Digital - Lecture with Lidia Ratoi - Copenhagen, Denmark
- 2018-04 Through computational design to intelligent solutions - Lecture at UKIM Skopje - Faculty of Architecture



## Computational Skills

- Grasshopper 3D:
  - Looping and swarming (anemone, boids library)
  - Generative design (Fox, wasp)
  - Physics simulation (Kangaroo)
  - Optimisation (Single/Multi Objective, Structural)
  - Environmental design/analysis (Ladybug/honeybee, gismo, CFD)
  - Behaviour Analysis/Simulation
  - Computational urban planning
  - Python workflows for GH
- Dynamo:
  - Revit automation and Rhino/Revit interoperability