

My Report

Last Modified: 10/28/2015

1. How many years have you been in the architectural practice? Include studies and professional experience.

Text Response
11
20
13
13
24
8
7
46
6
20
18
8
11
7
13
15
6
8
10
2 years
8 years
6
6
2

6
3
8
12
5
18
19
18
11
4
5
8
10
8
3
3
8
0
3
6,5
6
0
9 years
18
3
15
8
10
8
3
4
9
9
7
23
7
5
9
7
4.5
2
5
0
9
7
9
6
6
6
6
8
3
8
5
10

14
8
4
12
5
11
8
14
5
16
7
7
15
16
12
9
20 years
2
16
3
4

This table has more than 100 rows. [Click here to view all responses](#)

Statistic	Value
Total Responses	161

2. In which country is the school, university, company or organization you are mostly associated with based? Give the name of the country.



Text Response
Switzerland
Greece
UK
University of Florence
germany
Serbia
TU München
Iran
Jnfau
Slovakia
national technical university of athens
Italy
National University of Colombia
Syria_Al baath university
laaC
dfAGSHR
victoria wellington New Zealand
JKJ
Neopictonic b/w Colombia and NYC
Architektura Parametryczna
Poland
brazil
Bologna University
germany
University of Liverpool
Brazil, Federal University of São Carlos
Poland, Mexico, UK
Malta
greece
Ital
Colombia
TU Delft
n.i.t hamirpur,india
France
the Netherlands
Poland
bartlet
Poland
Gdansk unuversity of Technology
Poland
UAEM architecture university
ITESM CVA
Politechnika Białostocka
Akurat
PWR
United Kingdom
AUTH Greece
politechnika slaska
Politechnika Wroclawska
tu graz
Rybnik Poland

Austria
Poland
germany
Poland
Mexico
barcelona
Germany
Poland
Poland
politechnika śląska, polska
VUW
mexico
Cracow University of Technology
...
Poland
Italy
Cracow University of Technology
FH-Münster
PW
ITESM CCM
University of Applied Arts
Cracow University of technology
KU Leuven, Belgium
UNSAAC
Warsaw University of Technology
PoliMi
Thailand
Politechnika Wroclawska
auth
Warsaw university of technology Poland
Colombia
Poland, wseiz in warsaw
University of Seville
Poland Technical University of Lodz
Bratislava
Austria
Italy
Italy
Polytechnic of Turin
Poland
University of Stuttgart
FTN, Novi Sad
iran
Germany
TU DArmstadt
Poland
Technion
poland, WSIEIZ
UK

This table has more than 100 rows. [Click here to view all responses](#)

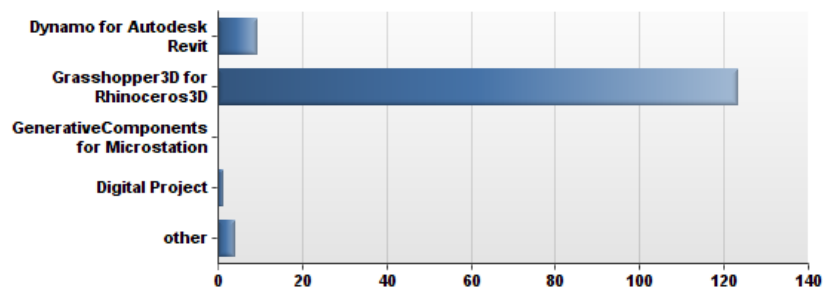
Statistic	Value
Total Responses	158

3. Do you use any parametric design software packages in your practice? e.g. Grasshopper3D, Dynamo for Autodesk Revit, GenerativeComponents

#	Answer	Bar	Response	%
1	Yes		137	84%
2	No		27	16%
	Total		164	

Statistic	Value
Min Value	1
Max Value	2
Mean	1.16
Variance	0.14
Standard Deviation	0.37
Total Responses	164

4. Please select the software that you use most often.

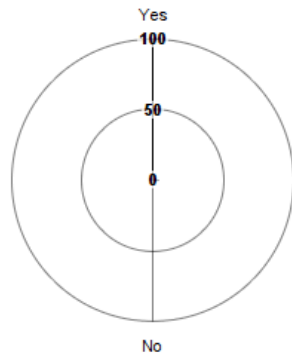


#	Answer	Bar	Response	%
1	Dynamo for Autodesk Revit		9	7%
2	Grasshopper3D for Rhinoceros3D		123	90%
3	GenerativeComponents for Microstation		0	0%
4	Digital Project		1	1%
5	other		4	3%
Total			137	

other
REVIT
Blender+Tissue
MatterMachine
Rhino for Mac

Statistic	Value
Min Value	1
Max Value	5
Mean	2.04
Variance	0.36
Standard Deviation	0.60
Total Responses	137









5. Do you use any scripting tools in your design practice?



#	Answer	Bar	Response	%
1	Yes	<div style="width: 58%; background-color: blue;"></div>	95	58%
2	No	<div style="width: 42%; background-color: blue;"></div>	69	42%
	Total		164	

Statistic	Value
Min Value	1
Max Value	2
Mean	1.42
Variance	0.25
Standard Deviation	0.50
Total Responses	164

6. Please select the scripting or programming languages and tools that you use.

#	Answer	Bar	Response	%
1	Processing		33	45%
2	RhinoScript in Rhinoceros3D		17	23%
3	C# in Grasshopper3D		16	22%
4	Visual Basic in Grasshopper3D		14	19%
5	Python in Grasshopper3D		36	49%
6	Python Script in Blender		1	1%
7	MEL in Autodesk Maya		4	5%
8	other		5	7%

other
RailClone 3dsMax
scripting for rhino...
Python in Revit, Dynamo
R
VB.NET








Statistic	Value
Min Value	1
Max Value	8
Total Responses	74

7. Would you like to optimize your designs without the need to produce scripts?

#	Answer	Bar	Response	%
1	Yes		112	88%
2	No		16	13%
	Total		128	

Statistic	Value
Min Value	1
Max Value	2
Mean	1.13
Variance	0.11
Standard Deviation	0.33
Total Responses	128

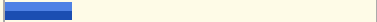


8. Which aspects of your design would you like to optimize?

#	Answer	Bar	Response	%
1	daylight availability		78	61%
2	circulation		50	39%
3	layouts		49	38%
4	structure		84	66%
5	views		43	34%
6	general shape for building code/regulations		75	59%
7	others		21	16%

others
thermal behavior and performance
energy consumption
generation capacity
Energy need
construction ease, cost, aesthetics
solar access, solar radiation, sunlight hours
envelope optimization
movement Simulation inside the project
cant say, none of this is really used in universities and firms
form / shape
beauty:)
well, this is complitely project dependend.
HVAC, ventilation
energy consumption
Energy Consumption
Topography, site context /GIS
roof
building performance

Statistic	Value
Min Value	1
Max Value	7
Total Responses	128

9. In the optimization process would you prefer to:

#	Answer	Bar	Response	%
1	run it with default settings and do not spend much time on tuning the settings		23	18%
2	spend some time to tune a few settings provided I understand how they influence the accuracy and time of the optimization process		46	37%
3	have the possibility of changing every parameter in the optimizer in order to have full control over the process		81	65%



Statistic	Value
Min Value	1
Max Value	3
Total Responses	125

10. Would you like to influence outcomes by choosing promising designs during this optimization process?

#	Answer	Bar	Response	%
1	Yes		117	91%
2	No		11	9%
	Total		128	

Statistic	Value
Min Value	1
Max Value	2
Mean	1.09
Variance	0.08
Standard Deviation	0.28
Total Responses	128

11. Would you commonly optimize one feature of your design or many features at once?

#	Answer	Bar	Response	%
1	one feature (single objective optimization)		28	22%
2	many features (multi-objective optimization)		100	78%
	Total		128	

Statistic	Value
Min Value	1
Max Value	2
Mean	1.78
Variance	0.17
Standard Deviation	0.42
Total Responses	128

12. How many solutions would you like to compare? Give a number.

Text Response
100
3
Many
5
3
3
999
3-5
3
10
5
3
3
5
5
3
3
3
10
3
3-5
4
5
5
10
42
3-6
3
5
6
10+
3
3
3
9
3
10
3
7
30
3
3-5
2
5
3
5
10
10
5
5
5
3

10
x
10
4
3
5
3
5
3
10
8
5
3
10
10
4
?!
7
3
2
5
3
5
3
5
3
5
5
7
2
3
20
10
2-5
3
5
3
5
10
5
3
5
3
3
3
3
50
3
2,5

This table has more than 100 rows. [Click here to view all responses](#)

Statistic	Value
Total Responses	101

13. In the early design stage, how long could you wait for the solution/catalogue of solutions from the optimization process?

#	Answer	Bar	Response	%
1	up to 5 minutes		37	30%
2	up to 1 hour		45	36%
3	up to 1 day		38	31%
4	up to 1 week		4	3%
	Total		124	



Statistic	Value
Min Value	1
Max Value	4
Mean	2.07
Variance	0.73
Standard Deviation	0.86
Total Responses	124

14. Would you like to understand why an optimizer selected the presented solution(s) over other alternatives?

#	Answer	Bar	Response	%
1	Yes, I would like to know more about the optimization process		115	93%
2	No, I am not interested in the optimizer's workflow		9	7%
	Total		124	

Statistic	Value
Min Value	1
Max Value	2
Mean	1.07
Variance	0.07
Standard Deviation	0.26
Total Responses	124

15. As an optimization outcome would you prefer to get:

#	Answer	Bar	Response	%
1	one best design solution		22	17%
2	a few high-quality solutions		106	83%
	Total		128	

Statistic	Value
Min Value	1
Max Value	2
Mean	1.83
Variance	0.14
Standard Deviation	0.38
Total Responses	128

16. Could you describe any architectural design problem you have ever come across, that you wanted to solve/optimize with computational optimization tools? Describe the aim that you wanted to achieve, the constraints of the problem and how you solved the problem.

Text Response
Design bioclimatic prosthesis for progressive refurbishment
Thermal Comfort and Energy
aim optimise occupancy, energy and generation capacity for thermal and electrical capacity design with building form. We did this through iterative design inputs that in hindsight could be automated
material aging
Find the optimum between solar protection and daylight uniformity within educational spaces
construction of bio-inspired shading devices. Best mechanism and form in a specific climatic zone. not solved yet
housing
Planarization problems
materials
Predict the future
No
I wanted to find the shape that could fit 2 constrictions, frequency and smoothness of the path my wire frame structure had to follow. I solved with a python script to calculate the average distance and projecting points to fit a threshold
no
generating voxels based on a mesh
Space truss structure type and sections
unrepetitive patern based on few different modules
finde biggest ractangle in quadrangle.- we worote a scrpt.
2d patterns, building structure-beam positioning, fassade structure and organisation, topology ground...
Optimizing the shape of steel profiles to be composed only of arcs.
thermal analysis, machine learning
optimal structural elements, placed partially acording to the standard dimensions, but partially generated by desired parametric patern. I did some of work in grasshopper and than manually corected placement of the posts
Optimal ducting layout
Distribution of flats of different sizes within constrained volume. Solved using scripted genetic algorithm in Processing, with population size ~2000 and few hundreds iterations. Later the script was developed to allow for evolving separate smaller populations (for different local minima) with a crossbreeding option.
Fabrication of pieces of a complex designed surfaces.
room placement/correlation graph - optimal room placement in a building regarding the user friendliness. Had an idea but no actual optimization happened.
Panelisation
Designing a structure (construction, fasade etc.) with multiple factors that determine its form
topology optimization for shape determination, daylight/structure multiperformance optimization
Geometrical problem, rationalization of elements for production.
!
3
Facade geometry - identical elements
optimal structural solution (support)
Structural problems - maximum spans with different arrangements of support in relation to views and layout arrangement
Unusually, we were asked to evaluate glass artwork that would hang under a skylight and create an interesting shadow pattern. After setting the shape of individual glass pieces, we used a random reduce function in grasshopper and used ladybug to analyze the daylight levels underneath the glass and maximized the standard deviation of the daylight distribution.
structure + daylight in multifalimy houses
making 3dprinted joints with the right tolerance and material
rationalization of the roof panelling system
Optimizing facade shading (louvers) to generate most efficient shading system (minimize heat gains) that uses resources reasonably (material usage, total area and manufacturing process constraints / available budget). Rhino + Grasshopper + Honeybee (Daysim) + custom Python scripting.
sun optimalsiation
digital fabrication
Structure, Facade & MEP systems
Programming block & stack based on user defined adjacencies - and during that into skin/concepts
sunlight/natural ventilation, guessed but would like to have some basic data to back up to decision
Max out GFA while considering FAR and find optimum layout for apartments within the massing scheme
money

Creation of a membrane shading device in respect to its material behaviour and in order to optimize material use, solar radiation and daylighting

Statistic	Value
Total Responses	47