Museum of Biology

Architectonic

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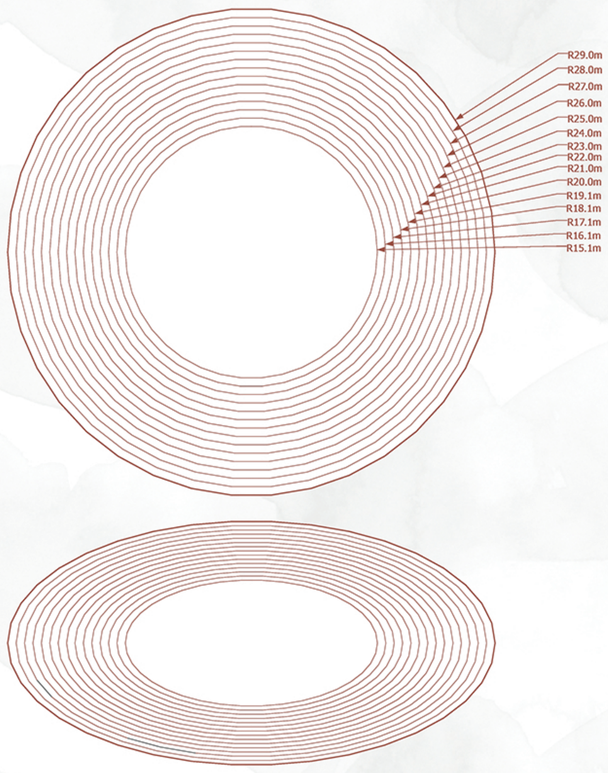
Architecture - Blacksburg - USA

$$x = \frac{n + \sqrt{4 + n^2}}{2}$$

n	x
1	1.6
2	2.4
3	3.3
4	4.2
5	5.2
6	6.2
7	7.1
8	8.1
9	9.1
10	10.1
11	11.1
12	12.1
13	13.1
14	14.1
15	15.1
16	16.1
17	17.1
18	18.1
19	19.1
20	20.0
21	21.0
22	22.0
23	23.0
24	24.0
25	25.0
26	26.0
27	27.0
28	28.0
29	29.0



1.6° clockwise rotation

2.4° counter clockwise rotation

3.3° clockwise rotation

4.2° counter clockwise rotation

5.2° clockwise rotation

6.2° counter clockwise rotation

7.1° clockwise rotation

8.1° counter clockwise rotation

9.1° clockwise rotation

10.1° counter clockwise rotation

11.1° clockwise rotation

12.1° counter clockwise rotation

13.1° clockwise rotation

14.1° counter clockwise rotation

Often, at times, complex designs can be the result of simple harmonious orders. The idea behind this project was to create a walkthrough biology museum that reflects upon the latter. Inspired by the complex geometry of the human rib cage, the design is based upon simple mathematics. The design was generated using two parameters; disc radius and disc rotation, both parameters use the metallic mean values obtained from the formula found above (rounded to the nearest tenth). The n values used to determine rotation are the positive successive natural numbers from 1 to 14 whilst the n values used to determine radii are the positive successive natural numbers from 15 to 29.

The generated disks were later flattened into oval forms. Afterwards, each disk was rotated in accordance to the values of the metallic means, alternating between a clockwise and counterclockwise rotation. In a way, the components ensemble establishes a gestalt and dynamic sense of geometry.

Minor radius= 15.1m

Minor radius= 16.1m

Minor radius= 17.1m

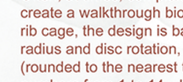
Minor radius= 18.1m

Minor radius= 19.1m

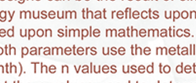
Minor radius= 20m

Minor radius= 21m

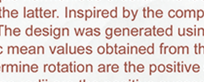
Minor radius= 22m



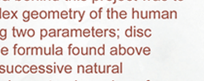
Minor radius= 23m



Minor radius= 24m



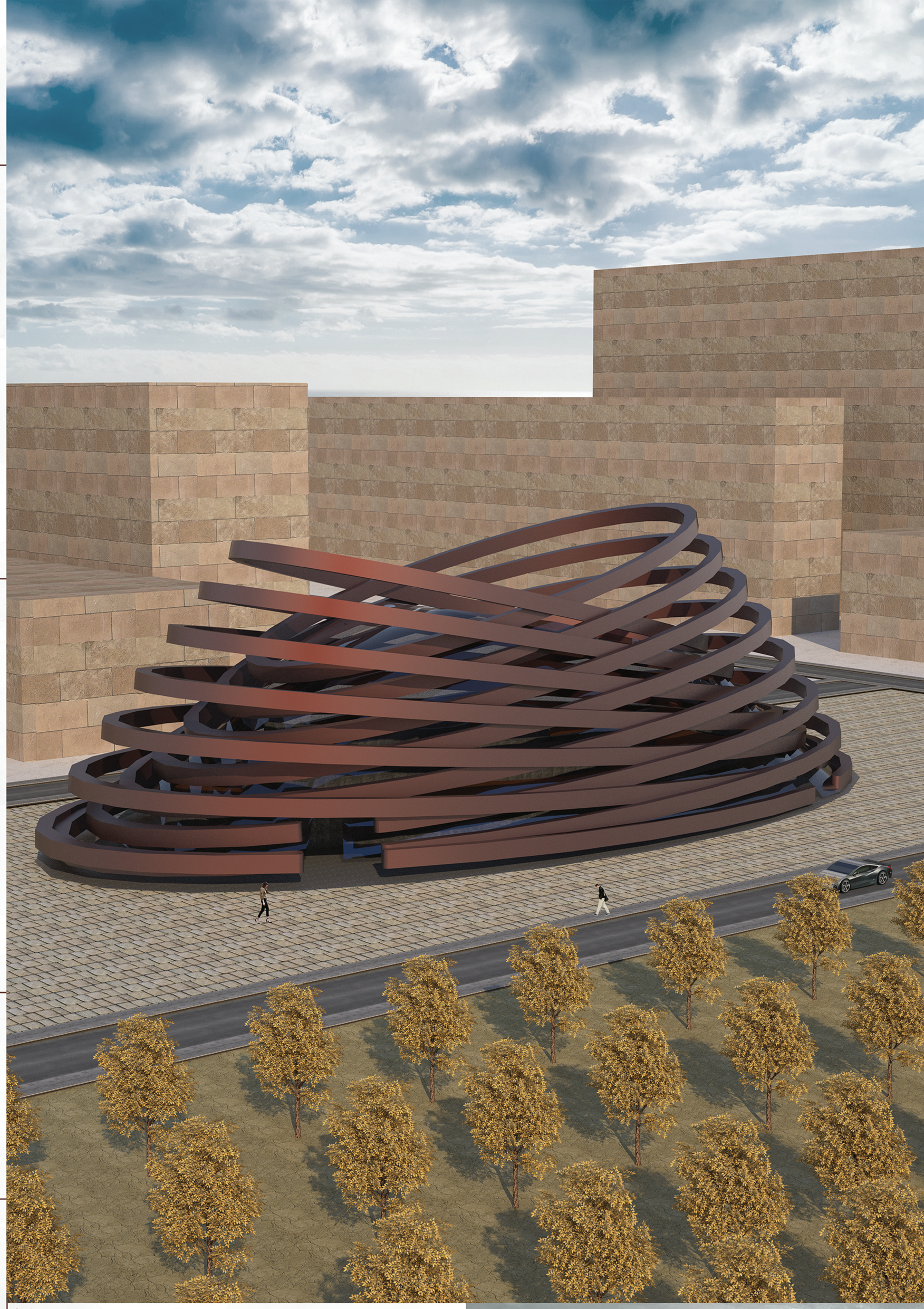
Minor radius= 25m



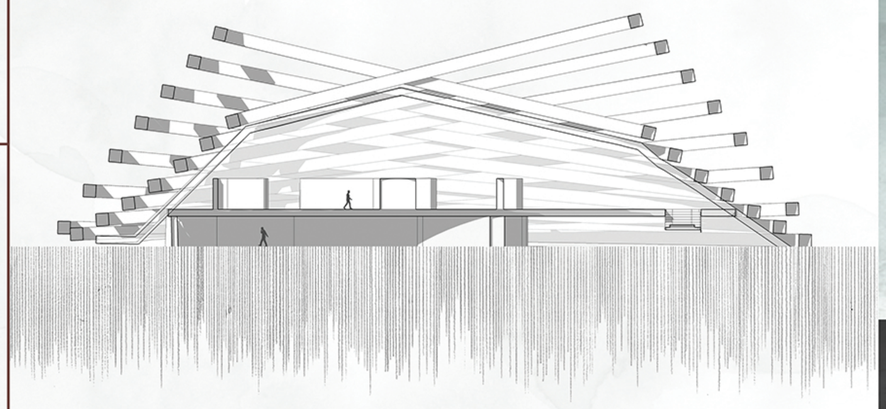
Minor radius= 26m

Minor radius= 27m

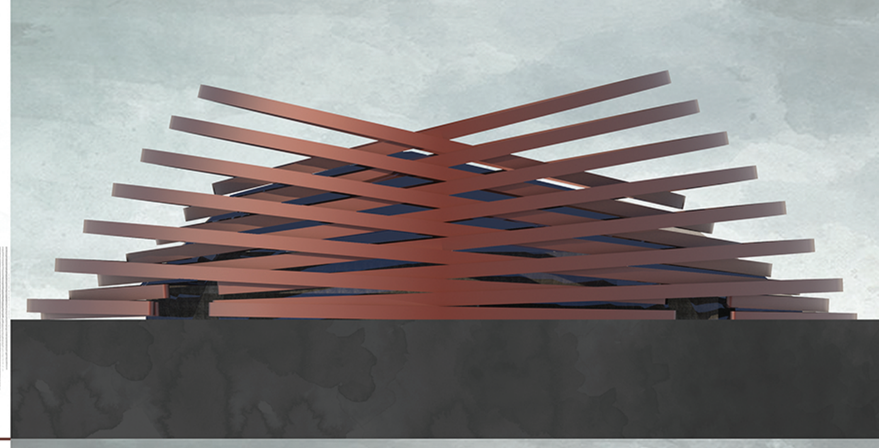
Minor radius= 28m



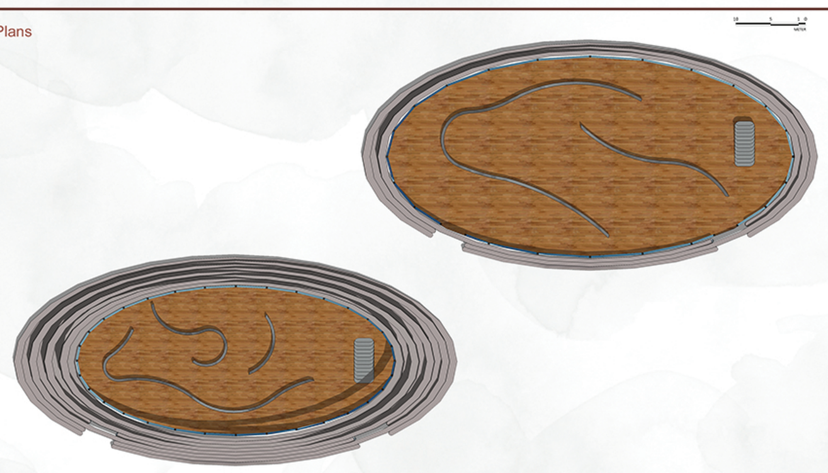
Section



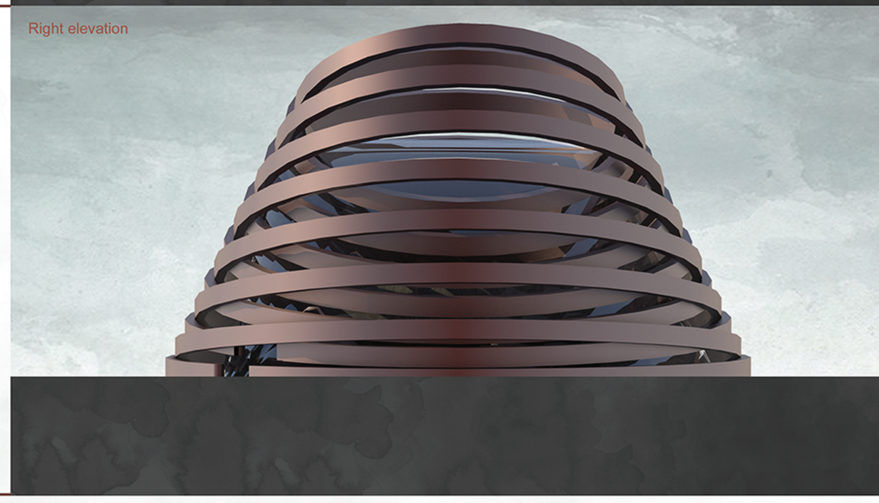
Front elevation



Plans



Right elevation



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