

**MEHRDAD GAROUSI** *Artwork: SIERPINSKI DREAM***Topic: 3D Fractal Animation****Authors:****Mehrdad Garousi**

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<http://mehrdadart.deviantart.com>**References:**

[1] Mandelbulb3D,  
<http://www.fractalforums.com/index.php?action=downloads>

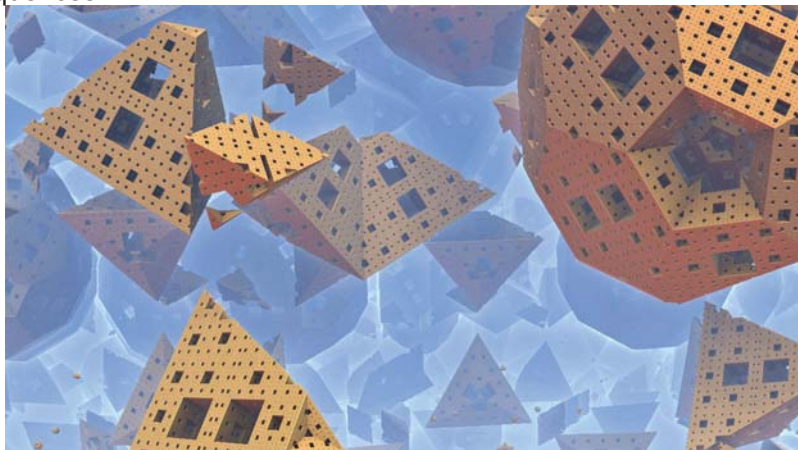
[2] FractMus 2000,  
[http://www.gustavodiazjerez.com/fractmus\\_overview.html](http://www.gustavodiazjerez.com/fractmus_overview.html)

**Abstract:**

This fractal animation is a journey through numbers and mathematical equations underlying the innermost and pure behaviors of our universe; a psychedelic journey that reminds of the most undisclosed initiatives lying in the subconsciousness of modern human. All the shapes and constructions which can be seen here are computer generated consequences of carrying out fractal geometric rules of nature in a 3D environment. In such animations fractal artist packing up their consciousness starts an unknown discovery toward nowhere and step by step defines key-frames to make a path to be able to chase it later as an entire animation. Experimenting different eventualities and playing around with numbers and parameters, they continuously go ahead until they give up and end it up somewhere deliberately or technical limitations necessitate them to stop.

In this certain fractal animation everything starts from an icosahedron on which faces Sierpinski triangular patterns are applied. The main mathematical property of this work is where after travelling through self-similar triangular paths, approximately in the middle of the animation, we suddenly encounter a completely different fractal pattern of cubes and squares that is Menger sponge. It is mentionable that our magnification rate at the latest frames, compared to the beginning point of the animation, is something about  $1.322 \times 10^{14}$ .

In this project among a handful of pieces of software that can make 3D fractals one of the most awesome pieces, Mandelbulb3D [1], has been used. The music of the animation is also a complex of 11 instruments set according to five mathematical sequences and maps including Wolfram One-Dimensional Cellular Automata, Lorenz algorithm,  $1/f$  Noise, Earthworm, and  $3n=1$  Numbers. It has been made in FractMus 2000 [2] software. This type of music contains dependent amounts of randomness and provides more mystically out of consciousness experiences with the ability of being played unlimitedly in circulative sequences.

*The 2540<sup>th</sup> frame of the animation***Contact:**

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**Keywords:**

Fractal art, 3D fractal, animation, Mandelbulb3D, Sierpinski