

# Masterclass Fractal Geometry (MFG)

## Content

1. Julius Ruis Set
  - Starting with Julia Sets and Mandelbrot Set
  - Between zero and infinity
  - With orbits (Julius Set) and without orbits (Julius Ruis Set)
  - Core competence (one core / dual cores)
  - Attractors / strange attractors
  - Edge of Chaos
2. Mathematical formulas
  - Polynomials
  - Transcendental functions
  - Inverted functions
3. BBM8.exe
  - Written in Power Basic
  - Some phenomena still to be searched (e.g.. disappearing of orbits)
  - Relation with Awareness Governance Model (in Dutch: Bewustzijns Besturings Model, BBM)
  - Questionnaires BBM and model of Dynamic Transfer
  - Integrated Images of Basic, Business and Global Awareness
4. Fractal Imaginator (Fi)
  - Source code in possession of Terry Gintz
  - Fi is for sale on internet
  - Trial version can be downloaded for free
  - File-extension is .fim data-file, together with the filing of fractal images as .bmp and .jpg files
  - 3D fractal images as .obj and .stl files
  - Viewing with 3D explorer
5. Fractal Science and Art Gallery
  - Several images on internet with .fim files
6. Patent Application
  - Using Fractal Geometry for design and manufacturing of Artificial Human Organs (e.g. Blood Vessels)
  - Rapid Prototyping (biodegradable scaffolds)
  - Tissue Engineering (direct writing of cells)
  - 3D examples (Amitek en TNO)
  - 186 persons consulted (without success)
7. Fractalary: Fractals from Planet to Atoms
  - Fractal Design Cycle
8. Fractal Human Organs
  - Comparising of real images with fractal images
9. Fractal DNA, RNA and Proteins

- Fractal Approach of the Genome (Andras Pellionisz)
  - International PostGenetics Society (IPGS)
  - Article of Pellionisz with reference to Julius Ruis Set
  - Function on membranes (Fractal Evolution)
10. Self-assembly of Atoms and Molecules
- Scientific publications
11. Particles and Unparticles
- Elements as Particle and Wave (quantum mechanics)
  - Scale-invariance of Unparticles
12. Bio-nano-robotics
- High Tech Systems
13. Complex Adaptive and Emergent Systems
- Book of Van Zanten
  - Strength of TU/e and region Benelux Middengebied
  - Article of Jules Ruis about Fractal Systems
  - ViC CAES (in Dutch): [www](http://www.vic-caes.nl).
  - Partnerships (IHGS, ICMS, VP, MAD)
14. Fractal Earth
- Food on Demand
  - Sustainable Development
15. Fractal Space
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16. Fractal Time
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17. Fractal Relationship/Connectivity
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18. Universal Fractal Awareness
- In Dutch: [www.fractal.org/Fractaal-bewustzijn.pdf](http://www.fractal.org/Fractaal-bewustzijn.pdf)

## Appendices

- A. Publications
- B. Internet links
- C. Search Engine

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