

## The lung redefined – fractal geometry of the airways

1. Iteration
2. Classical Greek geometry
  - a. Euclidean geometry
  - b. Familiar shapes
3. Fractal geometry
  - a. Mandelbrot
  - b. New language
    - i. Chaos theory
    - ii. Dynamical systems
    - iii. Strange attractors
    - iv. Non-linearity
    - v. Complex behaviors
    - vi. Self-similarity
    - vii. Scaling and repetition
    - viii. Intermittencies
4. Fibonacci sequence
5. Helical rotation
  - a. Fire tornado
  - b. Rifling
6. Brownian motion
  - a. Scaled
  - b. Unscaled
7. Imagine we are the butterfly
8. Be an advocate for the lung
9. Studies