



Department of Mathematics
University of Delhi
in collaboration with
Indian Women and Mathematics (IWM)

INVITED TALK

Fearless Iteration: Totally Unexpected Fractal Constructions



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Abstract

The word "fractal" is derived from the Latin word "fractus" = "broken", and is used as an adjective to mathematical objects that have fine structure at all levels of magnification. They arise naturally from iteration, for example, of dynamical systems, or of forces of nature. Perhaps due to the prevalence of fractal constructions in healthy nature, humans tend to view fractal objects as beautiful.

In this talk, I aim to demonstrate what the power of iteration can do for us as humans and as mathematicians, including turning a needle without wasting space. The talk will be as hands-on and formula-free as possible, but will include some recent research developments in fractal geometry, including some Fields medal-winning work. Time permitting, I will even present a result of my own that is my old personal favourite (joint with Michal Rams).

About the Speaker

Dr. Henna Koivusalo received her doctorate from the University of Oulu, Finland in 2013, and is currently an Associate Professor at the School of Mathematics, University of Bristol, UK. Her research interests are in dynamical systems, fractal geometry, Diophantine approximation and mathematics of quasicrystals. She is an editor at the Houston Journal of Mathematics. She received the Anne Bennett Prize 2025 from the London Mathematical Society for her research work and her dedication to the advancement of women in mathematics. She is awarded London Mathematical Society's Emmy Noether Fellow in Mathematics for the time period Aug 2026 - Jul 2027.



September 21, 2026



10:00 A.M.



R5, Satyakam Bhawan