

2016 Nerenberg Lecture

Thursday, April 7, 2016

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Seeing Things by Walking on Numbers
Middlesex College, Room 110

at 2:30 p.m.

Abstract:

Motivated by the growing desire to visualize large mathematical data sets, and our desire especially in number theory, we offer and illustrate various “visual” tools for representing floating point numbers as planar (or three dimensional) walks and for quantitatively measuring their “randomness.”

What to expect: some interesting ideas, many beautiful pictures (including a 108-gigapixel picture of π), and some easy-to-understand maths.

What you won't get: too many equations, difficult proofs, or any “real walking”.

The lecture with all animations embedded is at:

<http://www.carma.newcastle.edu.au/jon/walking.pdf>

and at <http://www.carma.newcastle.edu.au/jon/walking-sm.pdf> in lower resolution.

A companion paper is F. Aragon, D. H. Bailey, J.M. Borwein and P.B. Borwein, “Walking on real numbers,” *Mathematical Intelligencer*, 35(1) (2013 35(1) (2013), 42-60. DOI10.1007/s00283-012-9340-x. This and much more information is available at the *Walking on Numbers* web page <http://walks.carma.newcastle.edu.au/>.