



McMaster University



University of Toronto



University of Waterloo

## THE FIELDS INSTITUTE FOR RESEARCH IN MATHEMATICAL SCIENCES

### GENERAL SEMINAR SERIES IN DYNAMICAL SYSTEMS

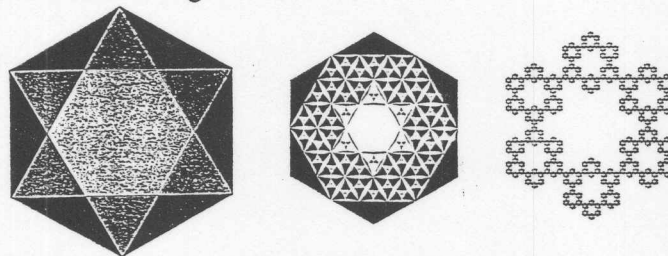
#### SPEAKER:

<p><b>JOHN HOLBROOK</b>          University of Guelph          and The Fields Institute</p>
---

On the Topic:

#### "Dynamics, Fractals, and Statistical Sampling"

The simplest version of our problem is to devise a mass distribution on the regular hexagon that projects to the uniform distribution on each of the three 'diameters' of the hexagon that are perpendicular to a pair of edges. Even this, lowest dimensional, version of the problem leads to a bewildering variety of solutions. E.g.:



The problem grows more mysterious as the dimension increases.

We shall explain how these problems are suggested by the requirements of certain statistical designs, and show how they seem to entail a surprising range of mathematical areas, including dynamics (iterated function systems), fractal geometry, geometric measure theory, and tomography.

**Thursday, February 18, 1993**

**1:30 pm, room 3018**

at

**The Fields Institute**

185 Columbia Street West, Waterloo, Ontario N2L 5Z5 Telephone: (519) 725-0096 Fax: (519) 725-0704

Supported by the Ministry of Colleges and Universities of Ontario and the Natural Sciences and Engineering Research Council of Canada