

## 1. PROBABILITY AT THE UNIVERSITY OF SHEFFIELD

Sheffield has a proud tradition of research and teaching in probability and statistics, dating back to the early 1950s under Geoffrey Jowett and Hilda Davies. In 1965 Professor Joe Gani was appointed as the first professor and head of the new Department of Probability and Statistics which separated from the Mathematics Departments. He established an MSc course and PhD programme which have now developed into three MSc courses and a large PhD group covering a wide range of areas including many joint projects with other university departments. The research group in probability has 4 academic staff (including 2 professors), and 2 postgraduate students. Together with statistics, the group has a seminar series with external invited speakers, and regular informal research meetings, led by members of the group.

Linked with the group are ‘The Applied Probability Trust’, which publishes two major international journals (*Journal of Applied Probability* and *Advances in Applied Probability*, both founded by Joe Gani) and which sponsors an annual lecture in Sheffield given by a leading international figure. This APT lecture takes place within the context of a Sheffield Probability day.

Research in probability includes:

- branching processes;
- random walk;
- large deviations;
- fractals and random graphs;
- Levy processes;
- probability on groups;
- stochastic analysis and
- inference for stochastic processes.

**Members.** The probability group consists of the following academic staff.

- Prof Dave Applebaum
- Prof John Biggins
- Dr Jonathan Jordan
- Dr Mathew Joseph

## 2. TYPESETTING PRACTICE

(1)  $x^2 + y^2$ ;  $x_i$ ;  $x_i^2 - y_i^2$ ;  $x_{i_m}$ ;  $x_i^m$ ;  $x^{2p}$ .

(2)  $\frac{1}{y}$ ;  $\frac{x^2}{x+y}$ ;

$$\frac{\frac{1}{x} + \frac{1}{y}}{\frac{1}{x+y}}$$

(3)  $\sqrt{x+y} + 7$ ;  $\sqrt[3]{7}$ ;  $\sqrt[n]{1 + \sqrt{1+x}}$ .

(4)

$$\int_0^\infty e^{-x^2} dx = 2\pi; \quad \sum_{i=1}^n i = \frac{1}{2}n(n+1).$$

(5)  $\sin^2 x + \cos^2 x = 1;$

$$\Gamma(x) \equiv \lim_{x \rightarrow 0} \prod_{v=0}^{n-1} \frac{n! n^{x-1}}{x+v}.$$

(6)  $(2^{2^{2^2}} - 1)^2; \{\alpha + (\sqrt{\beta} + \gamma^2)^2\}.$

(7)  $f: \mathbb{R} \setminus \{-\frac{d}{c}\} \rightarrow \mathbb{R}, x \mapsto \frac{ax+b}{cx+d}.$

(8)  $\sum_{i=1}^n i^2 = \frac{1}{6}n(n+1)(2n+1)$  for  $n = 1, 2, 3, \dots$