

Candidate for Vice Chair

Elizabeth Mansfield
University of Kent, Canterbury, United Kingdom

BIOGRAPHY

Academic Background:

Ph.D., University of Sydney, 1992, Mathematics.

Professional Experience:

Professor of Mathematics, University of Kent, Canterbury, UK, 2005 – Present;
Reader of Mathematics, University of Kent, Canterbury, UK, 2002 – 2005;
Senior Lecturer in Mathematics, University of Kent, Canterbury, UK, 1998 – 2002.

Professional Interest:

Symbolic invariant calculus; Moving frames; Discrete variational methods; Symmetries of differential equations; Differential Groebner bases.

Membership and Offices in Related Organizations:

Board member, Foundations of Computational Mathematics, 2005 – Present;
Mathematics Strategic Advisory Team member, Engineering and Physical Sciences Research Council, UK, 2007 – Present;
Member, London Mathematical Society, 1993 – Present.

STATEMENT

My interests have always revolved around symbolic computation for analysis, particularly differential equations, and more recently to discrete equations and numerical methods. I co-organized the Symbolic Analysis workshop at three successive Foundations of Computational Mathematics conferences, which are held every three years, and have given Plenary Lectures both for FOCM '05 and at ISSAC '08. I have four graduate students and speak at a variety of conferences. I have written two major MAPLE packages to support my research. The first, `diffgrob2`, concerned differential Grobner Bases. The second, `Indiff`, supports my current research in symbolic invariant calculus. The applications include solving Lie group invariant differential equations, particularly Euler Lagrange equations. My current major project is writing a book on this topic for Cambridge University Press.

I believe in supporting quality mathematics wherever it is, and have acted to raise awareness of how unwitting prejudice operates particularly against women. I have participated in mentoring schemes on both sides. Societies play an important role in making the culture of research as enjoyable and creative as it should and can be for everyone, and I am happy to play my part in that.