

LMS – NZMS AITKEN UK LECTURE TOUR 2013

The 2013 LMS Aitken Lecturer is Professor Robert McLachlan (Massey University).

The Forder-Aitken lectureship scheme is a collaboration between the London Mathematical Society and the New Zealand Mathematical Society in which each society invites an eminent mathematician from the other country to give lectures at different universities around the country.

Robert McLachlan is the second Aitken Lecturer to visit the UK and he will give talks on ***Successes and Prospects of Geometric Numerical Integration*** at:

Strathclyde

24 September at 4pm, LT908, Mathematics and Statistics

Organiser: Gabriel Barrenechea (gabriel.barrenechea@strath.ac.uk)

Warwick

27 September at 4pm, Mathematics Institute.

Organiser: Robert MacKay (R.S.MacKay@warwick.ac.uk)

Leeds

30 September at 3pm, MALL, School of Mathematics.

Organiser: Alison Parker (A.E.Parker@leeds.ac.uk).

Cambridge

3 October at 3 pm, MR5, Centre for Mathematical Sciences

Organiser: Arie Iserles (ai10@cam.ac.uk).

Bath

4 October at 3.15pm, Wolfson Lecture Theatre (4W1.7)

(part of the departmental colloquium "Landscapes in Mathematical Sciences")

Organisers: Chris Budd (mascjb@bath.ac.uk), Robert Scheichl (R.Scheichl@bath.ac.uk)

For further information on attending each lecture, please contact the local organisers.

Abstract: Geometric numerical integration emerged in the 1990s. Its roots lie in successful and widely used algorithms of computational physics, especially the symplectic leapfrog method, and in the numerical analysis of classical families of numerical integrators such as Runge-Kutta. Combining these two strands has led to better algorithms for physical simulations and also to a better understanding of the process of numerical integration. Today the behaviour of integration algorithms is studied with respect to a range of geometric properties, including preservation of invariant (symplectic and volume) forms and invariant sets, including those that emerge in an asymptotic limit. The seminar will serve as an introduction to geometric numerical integration, its practical and theoretical successes, and its open questions.

Biography: Robert McLachlan FRSNZ studied at the University of Canterbury and Caltech; since 2002 he has been Professor of Applied Mathematics at Massey University. In 2007 he was awarded the SIAM Dahlquist Prize for his research in geometric numerical integration.

For general enquiries about the Aitken Lectures, please contact Elizabeth Fisher (lmsmeetings@lms.ac.uk).