

# Report on the Leslie Fox Prize Competition

**T**he 2007 Leslie Fox Prize Competition was held at the Oxford University Computing Laboratory on Friday, 22 June.

Over a period of twenty-two years, Leslie Fox Prize meetings have developed a set, familiar pattern. To remind readers, this biennial prize was established in 1985 to honour Leslie Fox, a pioneer of modern numerical analysis, upon his retirement from the chair of numerical analysis at Oxford University. It is open to young numerical analysts worldwide. Candidates, who should be under 31 years of age, submit essays for the consideration of a committee of three Adjudicators appointed by the IMA Journal of Numerical Analysis Board. The shortlisted candidates are invited to present a 40-minute presentation at the meeting. The Adjudicators choose first and second prize winners on the basis of the lectures, rewarding mathematical and algorithmic brilliance in tandem with presentational skills.

The Adjudicators were pleased by the response: 29 submissions were received by the deadline, 31 January 2007.

The geographical spread of the submissions was the following:

- Austria: 1 (Austrian Academy of Science)
- Canada: 1 (University of British Columbia)
- China: 1 (Wuhan University)
- Czech Republic: 1 (Czech Academy of Science)
- France: 1 (Paris VI)
- India: 1 (Panjab University)
- Italy: 2 (University of Pavia (two submissions))
- Norway: 2 (University of Bergen, Simula Norway)
- Spain: 1 (University of Valladolid)
- Sweden: 1 (Umea University)
- UK: 5 (University of Bath, University of Cambridge, University of Leicester, University of Manchester, RAL)
- USA: 11 (Caltech (three submissions), MIT, NYU, Penn State University, Stanford University, UC Irvine, UC San Diego, University of Colorado at Denver, University of Washington)
- The Netherlands: 1 (University of Twente).

The spread of subject areas was broad, covering most of the main branches of numerical analysis. The standard of the submissions was high overall. After two rounds of shortlistings conducted via email the following seven speakers and talks were selected for the final event:

**Timo Betcke** (University of Manchester):

A GSVD formulation of a domain decomposition method for planar eigenvalue problems

**Laurent Demanet** (Stanford University):

Wave atoms and time upscaling of wave equations

**Ioana Dumitriu** (University of Washington):

Toward accurate polynomial evaluation in rounded arithmetic

**Daniel Kressner** (Umea University):

The effect of aggressive early deflation on the convergence of the QR algorithm

**Emre Mengi** (UC San Diego):

On the estimation of the distance to uncontrollability for higher order systems

**Yoichiro Mori** (University of British Columbia):

Convergence proof of a Stokes flow immersed boundary method

**Sheehan Olver** (University of Cambridge):

Numerical approximation of highly oscillatory integrals.

The main event was preceded, on Thursday 21 June, by a garden party in honour of the Fox Prize Finalists, organized by Professor Nick Trefethen. The party was attended by current and old members of the Oxford Numerical Analysis Group including Bill Morton, David Mayers and David Handscomb, doctoral students and postdoctoral researchers, visitors, friends and family members. We were particularly pleased that Leslie Fox's widow, Clemency, was able to join us. The Adjudicators are grateful to Nick Trefethen for organising this successful event.

The standard of the talks on 22 June was very high, and the Adjudicators had a difficult time to select the winners of a First Prize. Ultimately, after careful consideration, taking into account the quality of the submissions and of the oral presentations, the Adjudicators awarded

#### First Prizes to:

Ioana Dumitriu (University of Washington)

Yoichiro Mori (University of British Columbia);

#### Second Prizes to:

Timo Betcke (University of Manchester)

Laurent Demanet (Stanford University)

Daniel Kressner (Umea University)

Emre Mengi (UC San Diego)

Sheehan Olver (University of Cambridge).

Book vouchers, with a total value of £1000, generously donated by Cambridge University Press, Oxford University Press, Princeton University Press, SIAM and Springer-Verlag London, were distributed to the Finalists. In addition, the Finalists received a monetary prize from the Leslie Fox Prize Fund and a certificate, signed by the Chair of Adjudicators. We are grateful to Terry Edwards from the IMA for arranging the payments and the certificates.

The competition was followed by the Fox Prize Dinner at the Al Shami Lebanese Restaurant. We wish to express our gratitude to Lotti Ekert, Secretary of the Oxford Numerical Analysis Group, for organizing the dinner, and to academic staff of the Oxford Numerical Analysis Group for arranging college accommodation for the Finalists.

Following established practice, the present Chair of Adjudicators will step down, and IMAJNA's Editorial Board is asked to appoint a new Adjudicator, to join Professors Stuart and Higham.

Andrew Stuart will become Chair of Adjudicators for the 2009 Leslie Fox Prize Competition. □

**E. SÜLI (CHAIR)**

**N.J. HIGHAM**

**A.M. STUART**