

New Ideas for SIAM Conferences From Europe

By Ilse Ipsen

The summer of 2006 marked several firsts for the SIAM linear algebra community. The triennial SIAM Conference on Applied Linear Algebra was held for the first time in Europe—at the University of Düsseldorf, Germany, July 24–27—and it was organized for the first time with another society, GAMM (Gesellschaft für Angewandte Mathematik und Mechanik), the International Association of Applied Mathematics and Mechanics.

The Joint GAMM–SIAM Conference on Applied Linear Algebra even attracted the attention of a prominent local newspaper, *Die Rheinische Post*, which ran an article titled “How Mathematics Helps to Save Lives.” After reminding readers of the math phobia they may have experienced in school, the author went on to describe the work of Bernd Fischer (University of Lübeck, Germany), who got the conference started with a plenary talk on the use of image registration in medicine (see article “Mathematics Meets Medicine: An Alignment Story”). The journalist ended with an admission that mathematics may, possibly, have some practical use after all.

The conference was expertly organized by Marlis Hochbruck of the University of Düsseldorf and Andreas Frommer and Bruno Lang of the nearby University of Wuppertal. There were 280 attendees from 30 countries, 220 talks, and 12 ever-ready student helpers in distinctive T-shirts. SIAM staff provided marketing support, and GAMM and the organizers took care of all other tasks, including financial responsibilities.

The Conference on Applied Linear Algebra was the third major SIAM conference to be held abroad, after the 2005 optimization conference (Stockholm, Sweden) and the 2005 geosciences conference (Avignon, France). For the optimization conference, SIAM outsourced the local arrangements to the Stockholm Convention Bureau, an event-management company. The geosciences conference was co-sponsored by INRIA (Institut National de Recherche en Informatique et en Automatique), the French National Institute for Research in Computer Science and Control. SIAM staff maintained the conference Web site, managed abstract submissions, and produced a PDF version of the conference program; INRIA handled all other tasks and took financial responsibility for the conference. Each of these successful European conferences represents a different model for activity groups interested in planning SIAM conferences abroad. An important ingredient for the success of all three was the establishment of good working relations between SIAM staff and the conference organizers.

Highlights of the Düsseldorf conference included presentation of the SIAM Linear Algebra Prize to Inderjit Dhillon (University of Texas at Austin) and Beresford Parlett (University of California at Berkeley). Dhillon and Parlett were recognized for their 2004 paper “Orthogonal Eigenvectors and Relative Gaps” (*SIAM Journal on Matrix Analysis and Applications*), in which they show how all the eigenvectors of a large class of $n \times n$ real tridiagonal matrices can be accurately computed in $\mathcal{O}(n^2)$ operations. By representing the tridiagonal matrix as a product of bidiagonal matrices, they were able to avoid the time-consuming orthogonalization of eigenvectors that would produce an $\mathcal{O}(n^3)$ operation count.



Student helpers at the GAMM–SIAM Conference on Applied Linear Algebra. Photographs by Julia Schweitzer.



SIAM vice president for programs Ilse Ipsen with Inderjit Dhillon, recipient (with Beresford Parlett) of the SIAM Linear Algebra Prize.

Another highlight was the banquet speech, given by SIMAX editor-in-chief Henk van der Vorst (University of Utrecht, the Netherlands). In one of Old Town’s best restaurants, amidst good food and plenty of Düsseldorf Alt (the dark beer for which Düsseldorf is known), Henk talked about his professional life, in which “big progress goes with small steps.” Just the previous weekend, Henk had been made Ridder in de Orde van de Nederlandse Leeuw, Knight in the Order of the Dutch Lion, a royal distinction bestowed on those who make exceptional contributions to society (see article “Reflections on Sir Henk van der Vorst”).

We hope that this is only the beginning for SIAM, both in holding conferences in Europe and in seeking the collaboration of other societies in the planning and execution of SIAM conferences. The SIAM community can only benefit from the increasing involvement of its members in Europe and, indeed, elsewhere outside North America.

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