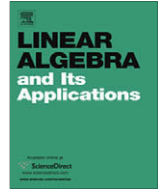




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Preface to the Proceedings of the 16th International Workshop on Matrices and Statistics, Windsor 2007

The 16th International Workshop on Matrices and Statistics (IWMS-2007) was held at the University of Windsor, Windsor, Ontario, Canada, June 1–3, 2007. This Workshop, which celebrated the (then) forthcoming 70th birthday of George P.H. Styan on September 10, 2007, was organized by the Department of Mathematics and Statistics of the University of Windsor and was a satellite meeting of the 35th Annual Meeting of the Statistical Society of Canada, St. John's, Newfoundland, June 10–13, 2007.

IWMS-2007 was co-sponsored by the Fields Institute for Research in Mathematical Sciences and Centre for Statistical Consulting, Research and Learning Services (Department of Mathematics and Statistics, University of Windsor) and, in part, by Maplesoft, and was endorsed by the International Linear Algebra Society (ILAS) and the Institute of Mathematical Statistics (IMS). The Workshop stimulated research, in an informal setting, and fostered the collaboration of researchers in the interface between matrix theory and statistics.

IWMS-2007 featured both invited and contributed talks, including some talks by graduate students. There were about 80 registered participants from 15 different countries, including 11 from Finland; the number of presentations was about 40. The keynote speakers were T.W. Anderson, Adi Ben-Israel and Peter D. Loly. The International Organizing Committee comprised George P.H. Styan, Chair (McGill), Simo Puntanen, Vice-chair (Finland), S. Ejaz Ahmed (Windsor), Jeffrey J. Hunter (New Zealand), Augustyn Markiewicz (Poland), Götz Trenkler (Germany), Dietrich von Rosen (Sweden), Hans Joachim Werner (Germany). The Local Organizing Committee was: S. Ejaz Ahmed (Chair), Lihua An, Shahid Bhatti, Myron Hlynka, Md. Shakhawat Hossein, Abdul Hussein, Sévérien Nkurunziza, Wai Ling Yee, Christine Young (Workshop Administrator). For a group photograph visit <http://www.uwindsor.ca/units/iwms/main.nsf>.

IWMS-2007 was the 16th in the ongoing series of Workshops:

1. Tampere, Finland: August 1990.
2. Auckland, New Zealand: December 1992.
3. Tartu, Estonia: May 1994.
4. Montréal (Québec), Canada: July 1995.
5. Shrewsbury, England: July 1996.
6. Istanbul, Turkey: August 1997.
7. Fort Lauderdale, Florida, USA: December 1998, in celebration of T.W. Anderson's 80th Birthday.
8. Tampere, Finland: August 1999.
9. Hyderabad, India: December 2000, in celebration of C.R. Rao's 80th Birthday.

10. Voorburg, The Netherlands, August 2001.
11. Lyngby, Denmark, August 2002, in celebration of George P.H. Styan's 65th Birthday.
12. Dortmund, Germany, August 2003.
13. Będlewo, Poland, August 2004, in celebration of Ingram Olkin's 80th Birthday.
14. Auckland, New Zealand: March/April 2005.
15. Uppsala, Sweden: June 2006.
16. Windsor, Ontario, Canada: June 2007, in celebration of George P.H. Styan's 70th Birthday.
17. Tomar, Portugal, July 2008, in celebration of T.W. Anderson's 90th Birthday.
18. Smolenice, Slovakia, June 2009.
19. Shanghai, China, June 2010.

“A short history of the International Workshop on Matrices and Statistics (IWMS)” by Simo Puntanen and George P.H. Styan is available online from http://mtl.uta.fi/iwms/IWMS-short_history.pdf at the University of Tampere; see also the website <http://mtl.uta.fi/iwms/>.

The Proceedings of the 13th International Workshop on Matrices and Statistics (IWMS-2004) held in Będlewo, Poland, August 2004, in celebration of Ingram Olkin's 80th Birthday, was published as Volume 417, Issue 1 of *Linear Algebra and its Applications*, 1 August 2006.

This Special Issue of *Linear Algebra and its Applications* contains selected papers presented at the 16th International Workshop on Matrices and Statistics (IWMS-2007). The papers are mainly devoted to applications of matrix analysis and methods of linear algebra in statistics, in particular: antieigenvalue techniques in statistics, contour approximation of data, coupling and mixing times in a Markov chain, decomposing elaborate hypotheses, E-optimal designs, estimation of distinct elements of a covariance matrix, estimation under a general linear model, factorial models, Frobenius condition, generalized inverses, Hotelling correlation, idempotent matrices over integral domains, Khatri-Rao product, Kronecker products, Löwner ordering, magic Markov chains, magic square spectra, Markov chains, maximum likelihood estimator, moment matrix inversion, multi-spectral distributed random matrices, multivariate process capability, operator trigonometry, orthogonal projectors, partially linear models, penalty estimators, Penrose twistor, positive shrinkage, reduced-rank regression model, simultaneous estimation, superstochastic matrices.

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