IMAGE

The Bulletin of the International Linear Algebra Society
(formerly the International Matrix Group)

Serving The International Linear Algebra Community

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Free to **ILAS** members

News

Inaugural Meeting: International Linear Algebra Society (ILAS)
August 12-15, 1989
Brigham Young University, Provo, Utah USA

Report by H. Schneider and C.R. Johnson

The purpose of this first general meeting of ILAS (formerly IMG) is to provide an opportunity tor researchers everywhere with an interest in matrix theory to get together. The term "matrix theory" is broadly interpreted to include those parts of the many subjects that have stimulated research about matrices over the years.

In an effort to maximize the number of participants, the cost is being kept to a minimum. Centrally located Salt Lake City International Airport is nearby and is serviced by most major US carriers. A limited number of on-campus housing slots will be available at a very low cost, along with an inexpensive meal plan of good quality. Nearby motels offer very affordable alternative housing. There will be no registration fee as such, although a nominal and optional donation to the Society and for daily refreshments will be solicited.

Within easy driving distance from Provo lie a large fraction of the many spectacular attractions of the Rocky Mountain West. In addition to Yellowstone, the Grand Canyon, Bryce Canyon and Zion Parks there are a host of lesser known but also enjoyable parks. A tour on either side of the meeting would be rewarding.

A special concentration at the meeting on nonnegative matrices and related topics is to be modestly funded by the US NSA. Additional subsidy is being graciously provided by Brigham Young University and the time, effort and research funds of the organizers. We hope that you can help make this meeting a success with your attendance. Please contact Wayne Barrett by electronic mail or in writing about your interest in attending. We hope you will do this soon, as it will be helpful for planning the program.

A special issue of Linear Algebra and Its Applications will be devoted to this meeting. This issue will contain only papers that meet the publication standards of the journal and that are approved by the normal refereeing procedure. Special editors of this issue are Wayne Barrett, Danny Hershkowitz and Don Robinson.

The organizers are:

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Rocky Mountain Mathematical Consortium 1989 Summer Workshop: "Matrix Theory for Applications" July 17 -August 4, 1989, University of Wyoming, Laramie, Wyoming

Report by C.R. Johnson

Each summer the Rocky Mountain Mathematical Consortium sponsors a three week series of lectures aimed at advanced graduate students and junior faculty nationwide. The 30 eighty-minute lectures (two per morning) and afternoon discussions are presented by one or more speakers on a single subject. There are usually 25-40 participants, persons who hope to add the subject to their expertise or develop a research program in the area. This year the Consortium hopes to expand the program to a broader range of faculty, via an NSF program that guides pedagogical innovations.

This summer the subject will be "Matrix Theory for Applications" and the talks will be given by Charles R. Johnson, together with Wayne Barrett, Roger Horn and Douglas Shier, assisted by Michael Lundquist and Peter Nylen. A program of support for interested graduate students is already in place and support for faculty is pending. For further information, contact A. Duane Porter, Dept. of Mathematics, University of Wyoming, Laramie WY 82071 USA. Charles R. Johnson could also be contacted about specific issues related to content (address in previous article).

Any individual seeking to augment or develop a research program in the subject may attend. It should be a worthwhile workshop in an enjoyable part of the US.

Introductory Survey Lectures on Matrix Theory and Applications: AMS Short Course, January 10-11, 1989, Phoenix, Arizona

The American Mathematical Society is presenting this two day short course in conjunction with its 95th annual meeting. The program is being organized by Charles R. Johnson and emphasizes concepts from matrix analysis that are important in areas of modern applied mathematics. Six 75 minute lectures are to be presented:

Richard A. Brualdi, Univ. of Wisconsin, *Combinatorial Matrix Theory*

C.R. Johnson, College of William and Mary, *Matrix Completion Problems: A Survey*

Persi Diaconis, Harvard Univ., *Eigen Analyses of Matrices with Symmetry Properties*

Arunava Mukherjea, Univ. of South Florida, *The Role of Nonnegative Idempotent Matrices in Certain Problems in Probability*

Roger A. Horn, Johns Hopkins Univ., *The Hadamard Product*

I. Gohberg, Tel Aviv Univ., *Interpolation Problems for Rational Matrix Functions*

Ingram Olkin, Stanford Univ., *Interplay Between Matrix Theory and Multivariate Statistics*

New Name for International Matrix Group: International Linear Algebra Society (ILAS)

Report by H. Schneider

IMG will soon be incorporated as a society under its new name ILAS (the International Linear Algebra Society). The purposes of the organization remain the same (see the first issue of IMAGE, January 1988).

The Executive Board is: Hans Schneider, President; Danny Hershkowitz, Secretary; R.C. Thompson, Vice Chairman.

Feature Article

The Development of Linear Algebra in Portugal

by G.N. de Oliveira, University of Coimbra

I was honoured when I received a letter from Professor R.C. Thompson inviting me to write the story of the development of Linear Algebra in Portugal. Of course I cannot enter into too many details and thus will describe the points that seem more interesting from my point of view.

Due mainly to political reasons many Portugese mathematicians had to leave the University, and even the country, in the thirties and forties. When I was a student between 1957 and 1961 there were, as a consequence, very few active mathematicians and the environment for research was far from ideal. When I graduated I felt very interested in research but did not know how to start. I thought I should go to the library and read as many books as possible. One of my teachers, Professor Luis de Albuquerque, played a decisive role in bringing me to Linear Algebra. He had written a monograph on nonnegative matrices which, at the end, described a problem of Suleimanova (find a necessary and sufficient condition for n numbers to be the eigenvalues of an nxn stochastic matrix). One day I was talking to Professor Albuquerque and asked him why had he not solved the problem. He said it was very difficult and added "why don't you try it?" I tried and as far as I can remember this was my first research problem in Linear Algebra.

In 1962 I was summoned for military service, which I finished by the end of 1966. During this time I did not forget the problem and in 1969 received my doctorate with a thesis on stochastic and doubly stochastic matrices which included several partial results on Suleimanova's problem.

I am often credited with founding the Portugese school of Linear Algebra. It is true that I made some efforts to get younger people interested in this subject but I feel that the real founder was in fact Professor L. de Albuquerque inasmuch as without him there would have been no school of Linear Algebra in Portugal. When Albuquerque was starting his career, the conditions for research in Mathematics were even worse than when I was a student. Partly because of this situation, Professor Albuquerque started to do research in History, mainly concerned with the Portugese navigators. When I first met him, I was a freshman at Coimbra, and although he was teaching Mathematics, his main research interest was already in History. Nevertheless I still consider that he was my real thesis advisor.

Another Portugese mathematician that influenced me was Professor J.J. Dionísio. He is a few years younger than Albuquerque and had moved to Lisbon a couple of years