Summary for Workshop on:

Large Scale Nonlinear and Semidefinite Programming[1]

Workshop in memory of Jos Sturm

May 12-15, 2004, University of Waterloo

Organizers: Etienne de Klerk (University of Waterloo), Franz Rendl (Universität Klagenfurt), Tamas Terlaky (McMaster University), Levent Tuncel (University of Waterloo), Tony Vannelli (University of Waterloo), Henry Wolkowicz (University of Waterloo).

During the last fifteen years, Semidefinite Programming (SDP), has been (arguably) the hottest area of research in optimization. The elegant theory and multiple application areas has combined with strong algorithmic interior-point methods. However, solving large scale problems is still a major difficulty for SDP.

In April 2003 we (the committee) began the organization for the workshop. Our aim was to bring together researchers from SDP with those from more classical areas of Linear/Nonlinear Programming, where large scale problems have been tackled. We expected a total of forty participants.

Our first task was to choose ten plenary speakers involved in both theoretical and numerical work. A first choice made was Jos Sturm, from Tilburg University, The Netherlands. Our plans were successful and by September we had most of the program planned out and scheduled. But in early October we heard the terrible news that Jos had suffered a haemorrage in the brain while cycling to work. After a difficult two months, he passed away on Dec. 6, 2003.

The workshop was now declared to be in memory of Jos Sturm. There was an immediate outpouring of grief and desire to attend this workshop. From forty participants our numbers soon increased. (One hundred twenty attended the meeting.) In addition, donations were collected to help Jos' family attend the workshop and also the special session in his honor.

The workshop was preceeded by short courses on Theory and Algorithms for Cone Programming. Buoyed by the additional attendance, the scientific content for this workshop was excellent beyond all expectations. There were no parallel talks. But, there were poster sessions held. Breakfast and lunch was provided and allowed for more interaction and concentration on the excellent poster sessions. Two poster prizes were awarded: Miguel Anjos, University of Southampton (general prize) and Angelika Wiegele, Universität Klagenfurt (student prize). Only time will tell, but this workshop appears to have been one of the most important meetings in Optimization held during the last few years.

A Special Issue on "Large Scale Nonlinear and Semidefinite Programming" will be published in Mathematical Programming Series B.

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[1] http://orion.math.uwaterloo.ca/ hwolkowi/w04workshop.d/readme.html