

Proceedings of the

CENTRE FOR MATHEMATICS AND ITS APPLICATIONS

Volume 36, 1999

National Symposium on
**Functional Analysis, Optimization and
Applications**

The University of Newcastle
9-19 March, Workshop
20-21 March, Miniconference

Edited by: John R. Giles (Mathematics) and
Brett Ninness (CIDAC/Electrical & Computer Eng.)
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Preface

This volume contains papers by participants in the National Symposium on *Functional Analysis, Optimization and Applications* held at the University of Newcastle in March 1998. The Symposium was a joint activity organised by the Department of Mathematics and the Centre for Integrated dynamics and Control (CIDAC), which is associated with the Department of Electrical and Computer Engineering, all at the University of Newcastle. Our special guest leading the symposium was Professor Jonathan Borwein from Simon Fraser University, British Columbia, Canada, whose visit was sponsored by CIDAC. From Monday 9th until Thursday 19th March we met in workshop sessions where two papers were read each morning (with discussion afterwards) and on Friday 20th and Saturday 21st March, we held a formal miniconference session where seven papers were presented each day.

We had participants from the Universities of Western Australia, Murdoch, Melbourne, Ballarat, Sydney, NSW, the Australian Catholic, and Newcastle. We also included visitors from the Universities of Toronto and Simon Fraser (Canada), Seville (Spain) and Harbin (China).

The aim of the symposium was to achieve some cross fertilisation of ideas between mathematicians working in functional analysis and engineers whose main concern is optimal control and estimation. In our opinion, much useful dialogue between workers in these fields was exchanged.

This volume contains the refereed papers of some of the participants. Although the papers themselves are generally identifiable as being from one of the two participating groups of mathematicians or engineers it is hoped that the publication of the papers in one volume will help promote more of the inter-field discussion that we enjoyed in our symposium.

We wish to thank the Centre for Mathematics and its Applications for including us in their National Symposium Program, supporting our Australian participants, and for publishing these proceedings. We are grateful for the secretarial support given by Mrs Jan Garnsey from the Department of Mathematics at the University of Newcastle, and Mrs Annette Hughes, Administrative Officer to CMA.

Of course we also thank all our colleagues who participated in the dialogue and contributed talks and papers to promote it.

John Giles
Brett Ninness
(organisers and editors)

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