

**Proceedings of the**  
**CENTRE FOR MATHEMATICS**  
**AND ITS APPLICATIONS**  
**AUSTRALIAN NATIONAL UNIVERSITY**

**Volume 37, 1999**

**Joint Australian-Taiwanese**  
**Workshop on Analysis and Applications**  
**(Brisbane, March, 1997)**

Edited by  
**Tim Cranny and Bevan Thompson**



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First published in Australia 1999

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School of Mathematical Sciences  
Australian National University  
CANBERRA ACT 0200  
AUSTRALIA

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Joint Australian-Taiwanese Workshop on Analysis and Applications

Includes index.  
ISBN 0 7315 5201 6

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## **PREFACE**

This volume contains the proceedings of the joint Australian-Taiwanese "Workshop on Analysis and Applications" held at The University of Queensland from March 31 to April 04, 1997. The Workshop brought together researchers from Australia and Taiwan working in harmonic analysis, nonlinear partial differential equations, dynamical systems and control theory, geometric and physical applications, and computational mathematics and its applications. Many of the participants established new research collaborations through this opportunity to interact with colleagues from these related although different areas. We hope this workshop will be the first of many, strengthening the mathematics communities in each country and deepening the bonds of friendship between them.

The Workshop was supported by the National Science Council of Taiwan and the Australian Department of Industry, Science and Technology's Bilateral Science and Technology Collaboration program.

Contributions for the proceedings were sought from all Workshop delegates and all papers received were carefully refereed. One can see from the contributions the enormous range and depth of mathematical research currently being carried out in Australia and Taiwan.

The Workshop was organised by Fon-Che Liu of Academia Sinica, Neil Trudinger of the Australian National University, Hung-Ju Kuo of Chung-Hsing University and Bevan Thompson of The University of Queensland. A "Conference on Analysis and Applications" was held at The University of Queensland during the same period. Both the Workshop and the Conference were a great success with first rate Scientific Programs, great weather, and many friendly, outstanding, enthusiastic colleagues contributing to a stimulating research environment. The organisers would like to thank all participants for their role in the success of the venture. Particular thanks are due to the Treasurer, Jan Chabrowski, the Web Master, Elliot Tonkes, and the Secretary, Tim Cranny, for their extensive help in the smooth running of the Workshop and the Conference.

Tim Cranny and Bevan Thompson

## WORKSHOP DELEGATES

### From Taiwan:

Fon-Che Liu, Academia Sinica;  
Hung-Ju Kuo, Chung-Hsing University;  
I-Liang Chern, National Taiwan University;  
Sze-Bi Hsu, Tsing-Hua University;  
Jenn-Fang Hwang, Academia Sinica;  
Chang-Shou Lin, National Chung-Chen University;  
Song-Sun Lin, National Chiao University;  
Fon-Che Liu, Academia Sinica;  
Fang-Bo Yeh, Tunghai University.

### From Australia:

Robert Bartnik, University of New England;  
Kevin Burrage, University of Queensland;  
Alan Carey, University of Adelaide;  
Norm Dancer, University of Sydney;  
Phil Diamond, University of Queensland;  
Klaus Ecker, Monash University;  
Graham Goodwin, University of Newcastle;  
Roger Hosking, James Cook University;  
Alan McIntosh, Macquarie University;  
Ian Sloan, University of New South Wales;  
Bevan Thompson, The University of Queensland;  
Neil Trudinger, Australian National University.