



## PREFACE

The workshop *Directions in Combinatorial Matrix Theory* was held May 7–8, 2004 at the Banff International Research Station (BIRS) in Banff, Alberta, Canada. Supported by BIRS and the International Linear Algebra Society (ILAS), the workshop provided researchers working in combinatorial matrix theory with an opportunity to present accounts of their current research, to identify challenges for the discipline to undertake, and to suggest new approaches to explore.

The workshop's organizing committee consisted of Shaun Fallat (University of Regina), Hadi Kharaghani (University of Lethbridge), Steve Kirkland (University of Regina), Bryan Shader (University of Wyoming), Michael Tsatsomeros (Washington State University), and Pauline van den Driessche (University of Victoria). The intent of the organizers was that the meeting would serve to establish connections between both individual researchers and between research areas, and would promote collaboration and new research.

*Directions in Combinatorial Matrix Theory* attracted 29 faculty (10 from Canada, 15 from the U.S., and 4 from abroad), 2 post-doctoral fellows, and 6 graduate students. The workshop included 15 talks and two open problem sessions, and a lecture by Miroslav Fiedler (Czech Academy of Sciences), who was the distinguished ILAS speaker. The presentations focused on current developments in the following emerging themes in Combinatorial Matrix Theory: Spectral properties of families of matrices associated with graphs; Matrix theory and graph theory in the service of Euclidean geometry; Algebraic tools for combinatorial problems; and Spectral properties of classes of matrices. See

<http://www.pims.math.ca/birs/workshops/2004/04w2525/>

for more details of the objectives, titles and abstracts for talks and open problems presented.

Each of the papers in this volume of *The Electronic Journal of Linear Algebra* is related to a talk given at the workshop, and has been refereed according to the journal's usual high standards. It is our hope that this volume will serve not only as a lasting document of the workshop itself, but also as a tool for motivating future research in combinatorial matrix theory.

Steve Kirkland, Bryan L. Shader and Pauline van den Driessche  
Special Issue Editors