

PREFACE

2014 marked the sixth edition of the Hang Lung Mathematics Awards (HLMA). Since its inaugural competition ten years ago, this unique and highly regarded mathematics research competition for secondary school students in Hong Kong has been blessed with unwavering support from the mathematics community. Some 1,700 students have capably risen to the challenge and displayed extraordinary ingenuity in their research works.

Many of our past winners have pursued a wide variety of challenging and rewarding academic and professional careers, from mathematics and actuarial science to biomedical engineering and physics. We are heartened by our alumni's many achievements. It is our hope that HLMA will continue to motivate youngsters to discover the world through mathematics.

This book gathers the research papers of the winners of the 2014 HLMA which have reached the highest level of academic standards in terms of scholarship, execution and methodology. It is exciting to witness students tackling a wide variety of challenging mathematical problems with great skills and imagination.

We hope to continue to inspire students to embark on a journey of intellectual discovery through the HLMA and that they will benefit from the publications of these winning papers. We are confident that our winners will achieve greater heights and continue to make positive contributions to the society and humankind at large.

Professor Shing-Tung Yau
Director, The Institute of Mathematical Sciences
The Chinese University of Hong Kong

Mr. Ronnie C. Chan
Chairman
Hang Lung Properties