

Preface

The First KAIST International Symposium on Enhancing University Mathematics Teaching was held in the Creative Learning Building on the Daejeon campus of the Korea Advanced Institute of Science and Technology from May 12 through May 16, 2005. There were 80 registered participants, including 20 international guests. The academic program consisted of eighteen invited presentations of 30–40 minutes, four 20-minute contributed papers, and three 90-minute workshops. The symposium speakers came from the countries of Korea, United States, Austria, Germany, Bulgaria, Turkey, Australia, Russia, and Japan. These proceedings contain 23 papers, representing all but two of the presentations. Video recordings of the presentations will help KAIST graduate students in developing their teaching abilities. In addition to the talks, Professor Erich Neuwirth of the University of Vienna gave an evening musical presentation, Tuning Musical Instruments with Mathematical Principles, as the 3rd KAIST Open Lecture on Sharing Mathematical Experiences. Other social activities included dinners, a reception on Friday, and a day at the Korean Folk Village in Suwon for the principal international speakers. Several speakers also gave presentations in other Korean universities after the symposium. We hope that the symposium will help in the development of new collaborative efforts among Korean and international universities in teaching mathematics.

University mathematicians have two primary professional foci. One is the creation of new mathematics through research and the dissemination of their discoveries through publications in research journals. A second, and equally important, focus lies in teaching a wide range of students in the classrooms. This symposium was directed toward the second focus, presenting a broad range of ways in which both new and experienced faculty can enhance and diversify their approaches to teaching. The symposium focused primarily on undergraduate teaching. While there were strong components on service teaching and the use of technology in teaching, the presentations covered a broad range of ideas. We were fortunate to have many speakers who not only excel in mathematical research, but also have devoted years to developing effective ways to enhance the teaching and presentation of mathematics. Most of the speakers have won national recognition for teaching in their home nations. This symposium was designed to be of value not only for current university mathematics educators, but also for the graduate students who will be tomorrow's university teachers. We were happy to have a significant number of graduate students participating.

As one of Korea's internationally recognized mathematics departments, the Department of Mathematics at KAIST strives to provide excellence in its teaching to complement its highly regarded research program. This symposium was a part of its effort to fulfill this commitment to teaching. Thanks to the devotion of its faculty

and staff as well as its chair, the department was happy to host this symposium. We were supported substantially by the active and gracious participation of many graduate students who were essential in helping the event to run smoothly. The valuable support of the staff of the Creative Learning Building was also much appreciated. Finally, strong financial support from the KAIST Office of Public and International Relations and the KAIST Information Center for Mathematical Sciences made the event possible. The KAIST Department of Mathematics wishes to express its deep gratitude to everyone who contributed to making the symposium a successful and enjoyable experience. The editors express their deep appreciation to the Conference Board of the Mathematical Sciences for making this volume widely available to the mathematical community.

June 7, 2007
Ki Hyung Ko
Deane Arganbright