

# Preface

Without doubt, one of the most important areas of modern science in mathematics is number theory. Consequently, on 18–22 February 2012, the “International Conference on Automorphic Forms and Number Theory” was held in Muscat, Oman; (see <http://www.mathoman.gutech.edu.om/index.html> for more information).

The conference took place at the German University of Technology in Oman for 3 days and for 2 days at the Sultan Qaboos University and had the main purpose of bringing together students, postdocs, and experts in the field of modern number theory to share their ideas and to establish new collaborations. Besides talks on number theory, presentations on e-learning were also shared.

The event was opened by welcome speeches by the Dean of Science of the Sultan Qaboos University, Prof. Dr. Saif bin Nasser Al-Bahri; the rector of the German University of Technology in Oman, Prof. Dr. Burkhard Rauhut; and the German Ambassador in Oman, H.E. Angelika Storz-Chakarji. The ceremony opened with a live Oud (a traditional Omani musical instrument) performance. For most participants, it was the first visit to an Arabic country. Special talks were included in the multifaceted program of the conference by students from the local universities who spoke on “science in the Orient” and “the beauty of Oman” to show the close relation of Oman to science. The participants were invited to visit the Grand Mosque, the Muttrah Souq, and the Corniche as well.

Recently, the Sultanate of Oman became a member of the International Mathematical Union. In view of this development, the conference provided a platform to encourage collaboration between scientists of different countries. A special feature of the conference was to open the doors for establishing close international exchanges between scientists and students in Germany, Oman, and Japan to help to develop and shape their scientific career. The workshop gave students and researchers in Oman the unique opportunity to attend high-quality scientific talks.

This volume presents a collection of carefully refereed papers that for the most part have been presented at the conference. This includes surveys, outlines of research projects, and research articles on the following topics:

- Borcherds products
- Congruences and codes
- Jacobi forms
- Siegel and Hermitian modular forms
- Special values of L-series

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