

PREFACE

TAKAO KOMATSU^{1,2,*} , FLORIAN LUCA³ AND GUANGSHI LÜ⁴

The international conference titled “Diophantine Analysis and Related Topics 2025Z” was held from October 31 to November 4, 2025, at the Henan Academy of Sciences in Zhengzhou, China. This international conference was a continuation of a similarly titled conference held at Wuhan University in China from March 10 to 13, 2016, but there was a long gap between the two events.

Key topics included Diophantine equations, approximations by rational and algebraic numbers, Diophantine inequalities, the existence and number of solutions to Diophantine equations, and the study of integer points on elliptic curves and algebraic varieties. The conference aimed to report on recent progress and developments in Diophantine aspects of analytic number theory, with a particular focus on topics such as Diophantine approximations, Diophantine equations, Bernoulli numbers and related numbers, zeta functions, Fibonacci numbers, Stirling numbers, analytic combinatorics, and dynamical systems.

Although the title was “Diophantine Analysis,” the topics were not be limited to Diophantine problems, but covered a wide range of related subjects such as number theory, combinatorics, and special function theory. We enjoyed the participation and presentations of not only world-renowned experts, but also young people such as students and postdocs, and we hoped to have created a forum for interaction among people of various nationalities and backgrounds, as well as people from various research groups.

The number of speakers was limited but the participants in this conference were not only be able to attend and present, but also had the opportunity to submit their individual and collaborative research results as papers to the proceedings of the conference. This was also a distinctive feature of this conference. We would like to thank the publishers, especially Dr. Florence Anglezio and Professor Enrico Formenti, for providing us with this valuable publishing opportunity.

This time, we were almost entirely dependent on the funding of one organizer, and were therefore unable to provide additional support to many other potential speakers and participants. However, we hope to be able to hold similar international research conferences again in the near future with more support and more participants.

¹ Institute of Mathematics Henan Academy of Sciences Zhengzhou 450046, PR China.

² Department of Mathematics, Institute of Science Tokyo, 2-12-1 Ookayama, Meguro-ku, Tokyo 152-8551, Japan.

³ Mathematics Division Stellenbosch University Stellenbosch 7600, South Africa.

⁴ School of Mathematics Shandong University Jinan 250100, PR China.

* Corresponding author: komatsu.t.al@m.titech.ac.jp; komatsu@zstu.edu.cn