

Preface

This volume consists of peer-reviewed original articles submitted by speakers at the 11th Mathematical Society of Japan, Seasonal Institute (MSJ-SI) “The Role of Metrics in the Theory of Partial Differential Equations”, held for the period of July 2–13, 2018 in Hokkaido University, Sapporo. The seasonal institute was supported by the Mathematical Society of Japan and the Department of Mathematics, Hokkaido University. During the period, various kinds of approaches to the analysis of partial differential equations (PDEs) were presented by 6 course lecturers and 46 invited lecturers. These lectures cover a huge variety of fields including PDEs, numerical analysis, harmonic analysis and geometric analysis. The organizing committee members are Y. Giga, H. Kubo, and T. Ozawa.

Sapporo is known to be one of the centers of nonlinear PDEs. The seasonal institute was just held in the year of 150 years anniversary since Hokkaido was founded. The organizing committee organized public lectures in this occasion, in order to involve non-specialists living near Sapporo to the seasonal institute. The aim of these public lectures is to show that mathematics plays an essential role in our real life. There are three lectures by mathematicians working in industry. The lecturers are Dr. Claus Dohmen, Dr. Takashi Takemoto, and Dr. Kouta Usui. In all, we had over 200 participants and fruitful interactions among participants through these lectures. In this way, we successfully concluded the seasonal institute.

The organizing committee is profoundly grateful to financial support of Sapporo International Communication Plaza Foundation. The organizing committee would also like to express their sincere gratitude to all the colleagues and students who cooperate to manage this seasonal institute running smoothly. Especially, the organizing committee thanks Professors S.-I. Ei, M.-H. Giga, S. Katayama, M. Ohta, H. Takamura, Y. Tonegawa, S. Yamada and Ms. Kuroda, Ms. Ogawa, Ms. Ohno, Ms. Suzuki for their big effort. Without their help, the seasonal institute could be different. Finally, the editorial committee is genuinely grateful to all the contributors for their submission of original manuscripts and to all the referees for their efficient work.

Sapporo, August 2019
Editorial Committee

*All papers in this volume have been refereed and are in final form.
No version of any of them will be submitted for publication elsewhere.*