# Preface

This is the proceedings of the conference "Higher Dimensional Algebraic Geometry in honour of Professor Yujiro Kawamata's sixtieth birthday" held at Graduate School of Mathematical Sciences, the University of Tokyo during January 7 – 11, 2013, celebrating a great mathematician, Professor Yujiro Kawamata's sixtieth birthday.

Needless to say, Professor Kawamata made a lot of monumental works, which are essential tools and motivations in modern birational geometry, as you may also find from articles in this volume. For instance, he established a generalization of Kodaira's vanishing theorem, now called Kawamata-Viehweg vanishing theorem, base point free theorem, rationality theorem and cone theorem for Kawamata log terminal (klt) pairs, named after his fundamental contribution, "flops connect minimal models", characterization of abelian varieties in terms of birational invariant, deep relations between Hodge theory, minimal model theory and additivity of Kodaira dimension, abundance theorem for minimal threefolds, minimal lc center and subadjunction, defomation and $T^1$-lifting property, and more recently, he also made a fundamental framework between derived algebraic geometry and birational geometry, "D-equivalence and K-equivalence", and continues to contribute more and more also in this new direction. All his results are fundamental, inspiring and have high impacts. For example, his paper "Introduction to the minimal model program" (KMM) with K. Matsuda and K. Matsuki, published from ASPM Volume 10, has been the bible in the minimal model theory for long years. KMM is not a survey article but a highly original research paper, in which the minimal model theory in log setting and relative setting has been fully developped, and is cited more than 300 times as a research paper since 1987. Recently, he also published an important book "Higher Dimensional Algebraic Varieties" from Iwanami Studies in Advanced Mathematics, which gives a comprehensive survey of the minimal model theory with full proof and ideas in these thirty years. Being somewhat different, it is also remarkable that his paper "Semistable minimal models of threefolds in positive and mixed characteristic" was one of important sources of the breakthrough paper of D. Maulik on the Tate conjecture for K3 surfaces, which has been now settled.