Preface

This volume contains lectures presented at the French-Japanese Winter School on Zeta and L-functions, held at the Hotel Maholova Minds Miura, Kanagawa Prefecture, Japan, during January 8 - 11, 2008. This Winter School was one of the activities of "Studies on multiple zeta-functions with applications", a French-Japanese joint research project sponsored by the CNRS and the JSPS for the period from April 2006 through March 2008. The total number of the participants was 48, including four French mathematicians and many young Japanese researchers.

Maholova Minds Miura is a seaside hotel in Miura peninsula and the friendly atmosphere of the hotel with beautiful surroundings helped mathematician freely exchange their ideas.

The main aim of the School was to study various aspects of zeta and L-functions with special emphasis on recent developments. A series of detailed lectures were given by experts in these fields. In addition some related short talks were presented by younger mathematicians.

Zeta and L-functions occur in many diverse areas of mathematics and physics and we have treated some examples in detail. Among these are height zeta-functions that occur in algebraic geometry, spherical functions and Igusa zeta-functions in p-adic theory, multiple zeta values and multiple zeta-functions, classes of Euler products of zeta-functions, L-functions associated with modular forms, etc.

The editors felt that it would be valuable to record the written version of the lectures. Fortunately our plan is now realized as a volume of the MSJ Memoirs Series. Most of the lecturers of the School submitted the written version of their lectures and all of them have been refereed carefully. We express our sincere gratitude to all the authors and referees for their effort, to Professor Yasushi Komori for helping with the computer setting, to the editorial board of MSJ Memoirs Series for their help, and to the CNRS and JSPS for financial support.

We hope this volume will be helpful to future generations in their study of the fascinating theory of zeta and L-functions.

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