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Inter-universal Teichmüller Theory Summit 2016

edited by Yuichiro Hoshi and Shinichi Mochizuki

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Research Institute for Mathematical Sciences

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PREFACE

The present volume consists of three papers that represent a substantial portion of the content of a two-week long workshop held at RIMS, Kyoto University, during the period July 18 - 27, 2016.

The workshop began with a talk by Koichiro Sawada that surveyed a classical theorem of Uchida that gives an anabelian reconstruction for one-dimensional function fields over finite fields. The relationship between this anabelian reconstruction due to Uchida and the Frobenius morphism may be regarded as the prototype of the notions of “étale-like” and “Frobenius-like”, which play a fundamental role in inter-universal Teichmüller theory. The first paper of the present volume may be regarded as a detailed version of Sawada’s talk.

The remainder of the talks of the first week of the workshop constituted a detailed exposition of inter-universal Teichmüller theory. These talks were given by various speakers (namely, Kazumi Higashiyama, Arata Minamide, Ippei Nagamachi, Weronika Czierniawska, Seidai Yasuda, Shinichi Mochizuki, Fucheng Tan, Emmanuel Lepage, and Yuichiro Hoshi). A total of eight of these talks were given by Shinichi Mochizuki. The content of these talks of the first week of the workshop is exposed in substantial detail in the second paper (by Shinichi Mochizuki) of the present volume.

The talks of the second week of the workshop consisted of a broad assortment of topics related to inter-universal Teichmüller theory by various speakers (namely, Yuki Wada, Vesselin Dimitrov, Kobi Kremnitzer, Ivan Fesenko, Boris Zilber, Go Yamashita, Adam Topaz, Dinesh Thakur, and Paul Vojta). The third paper of the present volume is based on the talk of Yuki Wada.

The co-editors of the present volume (Hoshi and Mochizuki) would like to express their deep appreciation to the numerous participants in the workshop for their devotion to making the workshop a success, as well as to RIMS for the generous financial and infrastructural support that made the workshop possible in the first place.

Yuichiro Hoshi
Shinichi Mochizuki
December 2020

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