Contents

Preface ix

The Barcelona conference  
JOAN-CARLES LARIO xi

My friend, Fumiyuki Momose  
V. KUMAR MURTY xiii

An overview of the mathematical work of Fumiyuki Momose  
TAKESHI SAITO 1

A note on algebraic points on Shimura curves  
KEISUKE ARAI 9

On quadratic points of classical modular curves  
FRANCESC BARS 17

p-adic point counting on singular superelliptic curves  
ROBERT M. BURKO 35

A refinement of a conjecture of Gross, Kohnen, and Zagier  
CARLOS CASTAÑO-BERNARD 53

A vanishing criterion for Dirichlet series with periodic coefficients  
TAPAS CHATTERJEE, M. RAM MURTY, and SIDDHI PATHAK 69

Rational families of 17-torsion points of elliptic curves over number fields  
MAARTEN DERICKX, BARRY MAZUR, and SHELDON KAMIENNY 81

An explicit integral representation of Siegel-Whittaker functions on $Sp(2, \mathbb{R})$ for the large discrete series representations  
YASURO GON and TAKAYUKI ODA 105

On implementation of GHS attack against elliptic curve cryptosystems over cubic extension fields of odd characteristic  
NAOKI HASHIZUME, FUMIYUKI MOMOSE, and JINHUI CHAO 125

The Sato-Tate conjecture for a Picard curve with complex multiplication (with an appendix by Francesc Fité)  
JOAN-CARLES LARIO and ANNA SOMOZA 151

Arithmetic twists and Abelian extensions  
V. KUMAR MURTY 167
Transcendental numbers and special values of Dirichlet series

M. Ram Murty

193