## Contents

Preface ix

Schedule of talks xi

Results of Cohen–Lenstra type for quadratic function fields
   Jeffrey D. Achter 1

The hardness of computing an eigenform
   Eric Bach and Denis Charles 9

Constructing elliptic curves of prime order
   Reinier Bröker and Peter Stevenhagen 17

Space-time codes and non-associative division algebras arising from elliptic curves
   Abdulaziz Deajim and David Grant 29

Points of low height on \( \mathbb{P}^1 \) over number fields and bounds for torsion in class groups
   Jordan S. Ellenberg 45

Supersingular genus-2 curves over fields of characteristic 3
   Everett W. Howe 49

Search techniques for root-unitary polynomials
   Kiran S. Kedlaya 71

Yet more elements in the Shafarevich–Tate group of the jacobian of a Fermat Curve
   Benjamin Levitt and William McCallum 83

Stable reduction of \( X_0(81) \)
   Ken McMurdy 91

Isomorphism types of commutative algebras of finite rank over an algebraically closed field
   Bjorn Poonen 111

A short guide to \( p \)-torsion of abelian varieties in characteristic \( p \)
   Rachel Pries 121