

Contents

<i>L</i>-functions and Functoriality	1
<i>James W. Cogdell</i>	
I <i>L</i> -functions for $GL(n)$ and Converse Theorems	
1 Modular Forms and Automorphic Representations	3
2 <i>L</i> -functions for GL_n and Converse Theorems	8
II <i>L</i> -functions via Eisenstein Series	
3 The Origins: Langlands	15
4 The Method: Langlands-Shahidi	21
5 The Results: Shahidi	26
III Functoriality	
6 Langlands Conjectures and Functoriality	30
7 The Converse Theorem and Functoriality	36
8 Symmetric Powers and Applications	41
References	47
Twisted Hilbert Modular <i>L</i>-functions and Spectral Theory	49
<i>Gergely Harcos</i>	
1 Lecture One: Some Quadratic Forms	49
2 Lecture Two: More Quadratic Forms	53
3 Lecture Three: Preliminaries from Number Theory	56
4 Lecture Four: Subconvexity of Twisted <i>L</i> -functions	61
Acknowledgments	64
References	64
The Voronoi Formula for the Triple Divisor Function	69
<i>Xiaoqing Li</i>	
1 Introduction	69
2 Proof of the Main Theorem	71
Acknowledgments	89
References	89

Linnik's Ergodic Method and the Hasse Principle for Ternary Quadratic Forms	91
<i>Philippe Michel</i>	
1 Foreword	91
2 Integral Quadratic Forms	92
3 The Hasse Principle	93
4 Quadratic Forms over Lattices	96
5 Equidistribution on Adelic Quotient	101
6 Properties of the Adeles	106
7 The Hasse Integral Principle and Equidistribution of Adelic Orbits	114
8 The Ergodic Method	118
References	129
Automorphic Periods and Representation Theory	131
<i>Andre Reznikov</i>	
1 Automorphic Representations and Frobenius Reciprocity	131
2 Bounds on Periods and Representation Theory	143
Acknowledgments	147
References	147
Eisenstein Series, L-functions and Representation Theory	149
<i>Freydoon Shahidi</i>	
1 Preliminaries	150
2 L -Groups, L -Functions and Generic Representations	151
3 Eisenstein Series and Intertwining Operators; The Constant Term	154
4 Constant Term and Automorphic L -Functions	156
5 Examples	160
6 Local Coefficients, Nonconstant Term and the Crude Functional Equation	160
7 The Main Induction, Functional Equations and Multiplicativity	162
8 Twists by Highly Ramified Characters, Holomorphy and Boundedness	166
9 Examples of Functoriality with Applications	168

10 Applications to Representation Theory	171
References	173
Lecture Notes on Some Analytic Properties of Automorphic	
L-functions for $SL_2(\mathbb{Z})$	179
<i>Yangbo Ye</i>	
1 Introduction	179
2 An Integral Representation and Functional Equation	180
3 A Converse Theorem	188
4 The Phragmén-Lindelöf Principle and Convexity	193
5 The Rankin-Selberg Theory	197
References	202