

Contents

Introduction	.....	vii
1 Idempotents in Group Algebras	.....	1
2 The Baum-Connes Conjecture	.....	7
2.1 A quick description	.....	7
2.2 Status of the Baum-Connes conjecture	.....	9
2.3 The Baum-Connes conjecture with coefficients	.....	11
2.4 Stability results on the conjecture	.....	13
2.5 Open questions	.....	13
3 K-theory for (Group) C*-algebras	.....	15
3.1 The K_0 functor	.....	15
3.2 The K_1 functor	.....	18
3.3 Exact sequences	.....	20
4 Classifying Spaces and K-homology	.....	27
4.1 Classifying spaces for proper actions	.....	27
4.2 Equivariant K -homology	.....	31
5 Equivariant KK-theory	.....	41
6 The Analytical Assembly Map	.....	47
6.1 à la Baum-Connes-Higson	.....	47
6.2 à la Kasparov	.....	53
6.3 How to deduce the Kaplansky-Kadison conjecture	.....	55
7 Some Examples of the Assembly Map	.....	57
8 Property (RD)	.....	63
9 The Dirac-dual Dirac Method	.....	73

10 Lafforgue's KK^{Ban} Theory	79
G. Mislin: On the Classifying Space for Proper Actions	87
A.1 The topologist's model	87
A.2 The analyst's model	89
A.3 On G -CW-complexes	90
A.4 Spectra	92
Bibliography	95
Index	103