## Contents

Chapter 1. Introduction ..... 1
Chapter 2. Preliminaries ..... 5
2.1. Generalities ..... 5
2.2. $\quad \mathrm{C}^{*}$-correspondences and tensor algebras ..... 8
2.3. Crossed products of $\mathrm{C}^{*}$-algebras ..... 11
Chapter 3. Definitions and Fundamental Results ..... 13
Chapter 4. Maximal C*-covers, Iterated Crossed Products and Takai Duality ..... 31
Chapter 5. Crossed Products and the Dirichlet Property ..... 37
Chapter 6. Crossed Products and Semisimplicity ..... 45
6.1. Crossed products by discrete abelian groups ..... 46
6.2. Crossed products by compact abelian groups ..... 54
6.3. More examples of crossed product Dirichlet algebras ..... 55
6.4. Semicrossed products and semisimplicity ..... 56
Chapter 7. The Crossed Product as the Tensor Algebra of a C*- correspondence. ..... 63
7.1. Discrete groups ..... 63
7.2. The general case of a locally compact group. ..... 72
7.3. Hilbert C*-bimodules ..... 75
Chapter 8. Concluding Remarks and Open Problems ..... 77
Bibliography ..... 81

