

TABLE OF CONTENTS

Martin T. BARLOW : "DIFFUSIONS ON FRACTALS"	1
1 Introduction	2
2 The Sierpinski Gasket	7
3 Fractional Diffusions	27
4 Dirichlet Forms, Markov Processes and Electrical Networks	46
5 Geometry of Regular Finitely Ramified Fractals	59
6 Renormalization on Finitely Ramified Fractals	79
7 Diffusions on p.c.f.s.s. sets	94
8 Transition Density Estimates	106
References	114
David NUALART : "ANALYSIS ON WIENER SPACE AND ANTICIPATING STOCHASTIC CALCULUS"	123
Introduction	125
1 Derivative and divergence operators on a Gaussian space	126
1.1 Derivative operator	126
1.2 Divergence operator	130
1.3 Local properties	131
1.4 Wiener chaos expansions	133
1.5 The white noise case	135
1.6 Stochastic integral representation of random variables	139
2 Ornstein-Uhlenbeck semigroup and equivalence of norms	141
2.1 Mehler's formula	141
2.2 Hypercontractivity	142
2.3 Generator of the Ornstein-Uhlenbeck semigroup	145
2.4 Meyer's inequalities	146

3	Application of Malliavin calculus to study probability laws	155
3.1	Computation of probability densities	155
3.2	Regularity of densities and composition of tempered distributions with elements of $\mathbb{D}^{-\infty}$	160
3.3	The case of diffusion processes	163
3.4	L^p estimates of the density and applications	164
4	Support theorems	174
4.1	Properties of the support	174
4.2	Strict positivity of the density and skeleton	177
4.3	Skeleton and support for diffusion processes	182
4.4	Varadhan estimates	183
5	Anticipating stochastic calculus	188
5.1	Skorohod integral processes	188
5.2	Extended Stratonovich integral	197
5.3	Substitution formulas	201
6	Anticipating stochastic differential equations	210
6.1	Stochastic differential equations in the Stratonovich sense	210
6.2	Stochastic differential equations with boundary conditions	215
6.3	Stochastic differential equations in the Skorohod sense	217
	Bibliography	221