

Contents

Preface	vii
Introduction	ix
1. Fractal Sets and Measures	1
<i>L. Olsen</i>	
Multifractal Geometry	3
<i>Yuval Peres, Wilhelm Schlag, and Boris Solomyak</i>	
Sixty Years of Bernoulli Convolutions	39
2. Iterated Function Systems	67
<i>Manuel Moran</i>	
Problems on Self-similar Geometry	69
<i>Yuval Peres and Boris Solomyak</i>	
Problems on Self-similar Sets and Self-affine Sets: An Update	95
3. Stochastic Processes, Random Fractals	107
<i>John E. Hutchinson and Ludger Rüschemdorf</i>	
Selfsimilar Fractals and Selfsimilar Random Fractals	109
<i>Jean-Pierre Kahane</i>	
Random Coverings and Multiplicative Processes	125
<i>Jacques Peyrière</i>	
Recent Results on Mandelbrot Multiplicative Cascades	147
<i>Vladas Pipiras and Murad S. Taqqu</i>	
The Weierstrass-Mandelbrot Process Provides a Series Approximation to the Harmonizable Fractional Stable Motion	161

4. Fractals and Dynamical Systems	181
<i>Gerhard Keller</i>	
An Ergodic Theoretic Approach to Mean Field Coupled Maps	183
<i>Yakov B. Pesin</i>	
Entropy and Dimension Families Associated with Equilibrium Measures for Hyperbolic Dynamical Systems	209
5. Harmonic Analysis on Fractals	225
<i>Masatoshi Fukushima</i>	
On Limit Theorems for Brownian Motions on Unbounded Fractal Sets	227
<i>B.M. Hambly</i>	
Heat Kernels and Spectral Asymptotics for some Random Sierpinski Gaskets	239
<i>Umberto Mosco</i>	
Lagrangian Metrics and Fractal Dynamics	269
List of Participants	285