Dispersal of plants and animals is one of the most fascinating subjects in ecology. It has long been recognized as an important factor affecting ecosystem dynamics. Dispersal is apparently a phenomenon of biological origin; however, because of its complexity, it cannot be studied comprehensively by biological methods alone. Deeper insights into dispersal properties and implications require interdisciplinary approaches involving biologists, ecologists and mathematicians. The purpose of this book is to provide a forum for researchers with different backgrounds and expertise and to ensure further advances in the study of dispersal and spatial ecology. This book is unique in its attempt to give an overview of dispersal studies across different spatial scales, such as the scale of individual movement, the population scale and the scale of communities and ecosystems. It is written by top-level experts in the field of dispersal modeling and covers a wide range of problems ranging from the identification of Levy walks in animal movement to the implications of dispersal on an evolutionary timescale.