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Nota di contenuto	Title Page; Contents; Preface; Acknowledgments; Chapter 1. Jean Biarez: His Life and Work; 1.1. Early years and arrival in Grenoble; 1.2. From Grenoble to Paris; 1.3. The major research interests of Jean Biarez; 1.4. Research and teaching; 1.5. Conclusion; Chapter 2. From Particle to Material Behavior: the Paths Chartered by Jean Biarez; 2.1. Introduction; 2.2. The available tools, the variables analyzed and limits of the proposed analyses; 2.3. Analysis of geometric anisotropy; 2.4. Analysis of the distribution of contact forces in a granular material; 2.5. Analysis of local arrays 2.6. Particle breakage 2.7. Conclusion; 2.8. Bibliography; Chapter 3. Granular Materials in Civil Engineering: Recent Advances in the Physics of Their Mechanical Behavior and Applications to Enginee; 3.1. Behavior resulting from energy dissipation by friction; 3.1.1. Introduction; 3.1.2. Fundamentals; 3.1.3. Main practical consequences; 3.1.4. Conclusions; 3.2. Influence of grain breakage on the behavior of granular materials; 3.2.1. Introduction to the grain breakage phenomenon; 3.2.2. Scale effect in shear strength; 3.3. Practical applications to construction design 3.3.1. A new method for rational assessment of rockfill shear strength

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Sommario/riassunto

This book addresses the latest issues in multiscale geomechanics. Written by leading experts in the field as a tribute to Jean Biarez (1927-2006), it can be of great use and interest to researchers and engineers alike.A brief introduction describes how a major school of soil mechanics came into being through the exemplary teaching by one man. Biarez's life-long work consisted of explaining the elementary mechanisms governing soil constituents in order to enhance understanding of the underlying scientific laws which control the behavior of constructible sites and to incorporate these scient