



SUSTAINABLE MATERIALS AND INNOVATIONS IN CONSTRUCTION ENGINEERING

EDITOR

Benyahia AMAR

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PREFACE

This book presents a multidisciplinary exploration of natural and engineered materials, each chapter offering practical insights into optimizing resources for industrial and infrastructural advancement. From plant biochemistry to geotechnical innovation, the topics reflect a shared commitment to sustainability and performance enhancement.

The first half focuses on biological and material sciences: optimizing plant secondary metabolites for industrial use, and improving concrete mix designs using river sand to meet modern construction demands. These chapters highlight how thoughtful design and scientific precision can elevate everyday materials into high-value solutions.

The latter chapters shift to ceramic and geotechnical applications, examining the role of clay in sanitary ware production and the use of moorum overlays to strengthen cohesive subgrades. Together, these studies underscore the power of local materials and smart engineering to drive cost-effective, durable outcomes across industries.

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