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Descrizione fisica	1 online resource (VIII, 69 p. 25 illus., 16 illus. in color.)
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Disciplina	621.31
Soggetti	Electric power production Mathematical models Chemical engineering Statistics Mechanical Power Engineering Mathematical Modeling and Industrial Mathematics Chemical Engineering Statistics in Engineering, Physics, Computer Science, Chemistry and Earth Sciences Chemical Process Engineering
Lingua di pubblicazione	Inglese
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Nota di contenuto	What is anaerobic digestion? -- Reactions and operative conditions -- Energetic scenario in the XXI century -- Biomass in anaerobic digestion -- Biomass types and differences -- Principal biomass properties -- Experimental procedures -- Analytical methodologies.
Sommario/riassunto	This book examines biomass mixture modeling and optimization. The book discusses anaerobic digestion and related fermentative processes and explains their compositional dynamics. Early chapter examine macromolecules, elemental fractions, and their direct influence on methane production. Supported by an extensive data bank of substrates obtained from research, the book points out correlations that enable the estimation of global methane production for diverse biomass mixtures. Furthermore, it provides valuable insights into discerning the optimal composition capable of yielding the utmost methane output. The book integrates cutting-edge machine learning

techniques and shows how the programming language Python and Julia can be used for analysis and to optimize processes. It has many graphs, figures, and visuals. .