1. Record Nr. UNINA9910554492703321

Titolo	Photosynthesis : biotechnological applications with micro-algae / / edited by Matthias Rogner
Pubbl/distr/stampa	Berlin ; ; Boston : , : De Gruyter, , [2021] ©2021
ISBN	3-11-071697-6
Descrizione fisica	1 online resource (316 pages)
Collana	De Gruyter STEM
Disciplina	581.13342
Soggetti	Photosynthesis Microalgae - Biotechnology Photosynthetic reaction centers
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Includes index.
Nota di contenuto	Frontmatter -- Preface -- Contents -- List of authors -- 1 Parameters of photosynthesis relevant for a biotechnological application -- Part 1: Cell design/metabolic engineering -- 2 Engineering cyanobacteria for photosynthetic butanol production -- 3 Cyanobacteria as catalysts for light-driven biotransformations -- 4 O2 escape strategies for hydrogenases in application -- 5 Synthetic enzymes and pathways for improved carbon capture and conversion -- Part 2: Environment and photobioreactor design -- 6 Rate-limiting steps in algal energy conversion from sunlight to products – the role of photosynthesis -- 7 Optimization of photosynthesis by reactor design -- 8 State-of-the-art cultivation process development for microalgae -- 9 Photosynthetic conversion of CO2 into bioenergy and materials using microalgae -- Part 3: Emerging technologies -- 10 Photosynthetic microorganisms as biocatalysts -- 11 Biocatalytic production of white hydrogen from water using cyanobacteria -- Index
Sommario/riassunto	This book assembles state-of-the-art approaches for harnessing light energy as a model to develop natural systems such as biofuels. After the basics and potential of photosynthesis of microalgae it discusses topics from engineering micro-algae towards increased photosynthetic efficiency till the optimization of photobioreactor techniques for

enhanced biotechnological applications such as cyanobacteria.