

Contents

List of contributors — IX

John Tsado Mathew, Abel Inobeme, Etsuyankpa Muhammad Bini,
Charles Oluwaseun Adetunji, Elijah Yanda Shaba, Musah Monday, Yakubu Azeh,
Mary Jummai Jiya, Tanko Ezekiel, Muhammad Aishetu Ibrahim, Amos Mamman
and Jemkur Maurice

Applications of Diatom for Treatment of Industrial Effluents: Waste to Wealth Approach — 1

John Tsado Mathew, Abel Inobeme, Musah Monday, Yakubu Azeh,
Etsuyankpa Muhammad Bini, Charles Oluwaseun Adetunji,
Badeggi Umar Muhammad, Elijah Yanda Shaba, Josiah James Gana,
Amos Mamman and Jemkur Maurice

Biochar Production from Marine Algae: A Potential Biosorbent for Wastewater Treatment — 21

John Tsado Mathew, Abel Inobeme, Musah Monday, Yakubu Azeh,
Etsuyankpa Muhammad Bini, Charles Oluwaseun Adetunji, Elijah Yanda Shaba,
Mary Jummai Jiya, Josiah James Gana, Tanko Ezekiel,
Muhammad Aishetu Ibrahim, Amos Mamman and Jemkur Maurice

Utilization of Marine Green Algae for Development of Bioplastics — 39

Prasann Kumar

Biochar Production from Marine Algae and Its Application in the Treatment of Industrial Effluent — 57

Prasann Kumar

Application of Marine Biomass for Carbon Neutrality, Sustainable Environment, and Economy — 95

Antara Ghosh, Yam Sim Khaw, Hui Teng Tan and Roksana Jahan

Unlocking High-Value Products from Diatoms via Biorefinery Processes for a Sustainable Biocircular Economy — 129

Seema Shrivastava and Deepali Marghade

Diatoms: A Sustainable Tool for Phycoremediation of Industrial Wastewater — 149

Aliya Firdaus, Shazia Qamar, Syed Khalida Izhar, Arshi Siddiqui, Mhd. Shahid and Uzma Afaq

Application of Marine Biomass in Biofertilizer Production: A Novel Approach for Environment Protection — 177

Liang Yuxin, Sunissa San Chat, Michelle Glory G. Jonik, Sazlina Salleh and Widad Fadhullah

Seagrass Ecosystems: Carbon Sequestration, Ecosystem Services, and Sustainable Bioeconomy — 201

Nurul Alia Syufina Abu Bakar, Shuganeswari Thanasakran, Debbie Dominic, Hadura Abu Hasan and Siti Baidurah

Marine Biorefinery: An Environmentally Sustainable Solution to Turn Marine Biomass and Processing Wastes into Value-Added Products — 223

Wan Maznah W. O. and Abdullahi Zulaihat Hamza

Potential of Marine Microalgae for the Production of Food and Feed Industry — 249

Nurhanim A. A., Putri Anis Syahira M. J., Nurfarahana M. N., Nurul Ashikin E. and Norli I.

Production of Biochar from Marine Algae and Its Use in the Treatment of Industrial Effluent — 279

Kushairi Mohd Salleh and Najah Fareeha Abd Rashid

Potential Seaweed-Derived Bioactive Compounds for Pharmaceutical Applications — 297

Kushairi Mohd Salleh and Najah Fareeha Abd Rashid

Application of Marine Biomass in Biofertilizer Production — 319

Sazlina Salleh, Mahadi Mohammad, Wee Cheah, Kishneth Palaniveloo, Widad Fadhullah, Vani Khare, Huang Zhongwei and Sairatul Dahlianis Ishak

The Biology of Diatom and Potential Usage for Value-Added Products — 341

Kalpana Katiyar

Marine Resources: Plethora of Opportunities for Sustainable Future — 367

Tripti Rathee, Kimi Sindhu, Shikha Kumari and Geeta Dhania

Applications of Biochar from Marine Algae for Treatment of Emerging Contaminants — 389

Index — 403