

# ADVANCED TECHNOLOGY FOR THE CONVERSION OF WASTE INTO FUELS AND CHEMICALS

VOLUME 1 : **BIOLOGICAL PROCESSES**



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## Biological Processes

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### Volume 1

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# Contents

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<b>Contributors</b>	<b>xv</b>
<b>1. Waste to energy: an overview by global perspective</b>	<b>1</b>
Pranta Barua and Nazia Hossain	
1.1 Introduction	1
1.2 Potential waste biomass	6
1.2.1 Agricultural and forest residue	6
1.2.2 Industrial waste biomass	8
1.2.3 Municipal waste biomass	9
1.2.4 Micro- and macroalgae waste biomass	11
1.3 Biofuels from waste	13
1.3.1 Biodiesel	14
1.3.2 Bioethanol fermentation	17
1.3.3 Bio-oil and biochar	19
1.3.4 Biomethane and biohydrogen	24
1.3.5 Syngas and bioelectricity	28
1.4 Socioeconomic perspective	33
1.5 Environmental perspective	34
1.6 Integrated approaches of biofuel from waste	35
1.7 Conclusion	37
References	37
<b>2. Potential of advanced photocatalytic technology for biodiesel production from waste oil</b>	<b>49</b>
Muhammad Irfan Amiruddin, Salma Izati Sinar Mashuri, Aunie Afifah Abdul Mutalib, Nor Fadilah Chayed, Umer Rashid and Mohd Lokman Ibrahim	
2.1 Introduction	49
2.1.1 Biodiesel—strength and weakness	49
2.1.2 Biodiesel as an alternative fuel	50
2.1.3 WCO as a feedstock for biodiesel production	51
2.2 Reaction process to produce biodiesel	52
2.2.1 Microemulsion technique	52
2.2.2 Direct use and blending technique	52
2.2.3 Pyrolysis of oil	53
2.2.4 Transesterification process	53
2.2.5 Esterification process	54
2.3 Catalyst for biodiesel production	55

2.4 Photocatalyst	58
2.4.1 Mechanism of photocatalysis	58
2.4.2 Important circumstances influence photocatalyst performance	63
2.4.3 Synthesis of photocatalysts	64
2.5 Fundamental of photocatalyst in biodiesel production	64
2.5.1 $\text{TiO}_2$ as a photocatalyst in biodiesel production	65
2.5.2 Zinc oxide (ZnO) nanocatalyst as heterogeneous photocatalyst	67
2.6 Parameters affecting on photocatalytic esterification	67
2.6.1 Effect of alcohol to oil ratio	68
2.6.2 Effect of catalyst loading	68
2.6.3 Effect of stirring speed	69
2.6.4 Effect of UV irradiation time and lamp power	70
2.7 Conclusion	71
References	71
 3. Biofuel production from food waste biomass and application of machine learning for process management	 77
Hemal Chowdhury, Tamal Chowdhury, Pranta Barua, Md Salman Rahman, Nazia Hossain and Anish Khan	
3.1 Introduction	73
3.2 Growing concern for food loss waste (FLW)	78
3.3 Conversion techniques	81
3.3.1 Biochemical technology	81
3.4 Thermochemical technology	84
3.4.1 Gasification	85
3.4.2 Pyrolysis	85
3.4.3 Liquefaction	87
3.5 Sustainable management of FW with machine learning	88
3.5.1 Machine learning overview for FW and biofuel	90
3.6 Prediction of energy demand and biofuel production from FW	92
3.6.1 Life cycle of machine learning-based energy demand and biofuel production	93
3.7 Conclusion	94
References	94
 4. Biological conversion of lignocellulosic waste in the renewable energy	 99
Hosam M. Saleh and Amal I. Hassan	
4.1 Introduction	99
4.2 Lignocellulosic biomass and technical benefits	100
4.3 The role of bacteria in the decomposition of plant biomass and the production of RE	103
4.4 The future of RE and the challenges	107
4.5 Conclusion	110
References	111

5. The potential of sustainable biogas production from animal waste	115
Hosam M. Saleh and Amal I. Hassan	
5.1 Introduction	115
5.2 Biogas components	116
5.3 Factors affecting biogas production	119
5.4 Anaerobic fermentation	119
5.4.1 Bacteria	119
5.4.2 Temperature	119
5.4.3 pH	120
5.4.4 Carbon to nitrogen ratio	120
5.4.5 Concentration of the solid in the feeding solution	120
5.4.6 Feeding rates of organic matter (degree of loading)	120
5.4.7 Time of solution remaining in the fermenter	121
5.4.8 Toxic substances in nutrition	121
5.4.9 Use prefixes	122
5.4.10 Flipping inside the fermenter	122
5.5 Environmental and economic benefits from biogas generation	122
5.6 The properties of the different gases compared to the biogas	124
5.7 Prospects for the development of biogas production technology and current problems	126
5.8 Conclusion	128
References	129
6. Current and future trends in food waste valorization for the production of chemicals, materials, and fuels by advanced technology to convert food wastes into fuels and chemicals	135
M. Ramesh, S. Abinaya, Anish Khan and Abdullah M. Asiri	
6.1 Introduction	136
6.2 Food valorization to produce chemicals	137
6.2.1 Multitudinous valorization methods for chemical production	138
6.3 Transformation of food waste into bioenergy	140
6.3.1 Biogas formation	140
6.3.2 Biohydrogen production	141
6.3.3 Distinctive techniques for biofuel production	141
6.4 Conclusion	144
References	144
7. Biochemical conversion of lignocellulosic waste into renewable energy	147
Muhammad Bilal, Débora S. Vilar, Katlin Ivon Barrios Eguiluz, Luiz Fernando Romanholo Ferreira, Pankaj Bhatt and Hafiz M.N. Iqbal	
7.1 Introduction	147

7.2 Structural and functional attributes of LCMs	149
7.2.1 Socioeconomic aspects of LCMs	151
7.2.2 Biorefinery-based bioeconomy—considerations	152
7.2.3 Biotransformation of LCMs	153
7.2.4 Enzyme-based pretreatment of LCMs	154
7.2.5 Chemical-based pretreatment of LCMs	160
7.3 Biofuels generation	160
7.4 Conclusion and perspectives	163
References	163
 8. Recent trends on the food wastes valorization to value-added commodities	 171
Tahir Mehmood, Fareeha Nadeem, Muhammad Bilal and Hafiz M.N. Iqbal	
8.1 Introduction—food waste and its global scenario	171
8.2 FW hierarchy	173
8.3 FW-generating sectors	174
8.4 FW valorization to worth-added commodities	175
8.5 Biotransformation of FWs	178
8.6 Value-added components recovery	179
8.6.1 Recovery of organic acids	180
8.6.2 Nutraceuticals	181
8.6.3 Nanoparticles	182
8.6.4 Dietary fiber	183
8.7 Production of biomaterials and biofertilizer	183
8.7.1 Biopolymers	183
8.7.2 Single-cell protein (microbial biomass)	184
8.7.3 Bio-based colorants	185
8.7.4 Bioadsorbent	186
8.7.5 Biofertilizer	187
8.7.6 Bio-based high value-added products	188
8.7.7 Enzymes production from FW and their application	188
8.8 Conclusion and recommendations	189
References	190
 9. Thermochemical conversion methods of bio-derived lignocellulosic waste molecules into renewable fuels	 197
M. Ramesh, K. Adithya, C.M. Jagadesh Kumar, C.G. Mohan, Jayant Nalawade, R. Prakash	
9.1 Introduction	197
9.2 Lignocellulosic biomass	199
9.2.1 Sources of lignocellulosic biomass	199
9.2.2 Properties and composition of lignocellulosic biomass	199
9.3 Pretreatment techniques	201
9.3.1 Physical pretreatment techniquePhysical pretreatment technique	201
9.3.2 Chemical pretreatment technique	203

9.3.3 Physiochemical pretreatment technique	204
9.3.4 Biological pretreatment technique	205
9.3.5 Combination pretreatment technique	205
9.4 Thermochemical conversion of lignocellulosic biomass	205
9.4.1 Thermochemical lignocellulosic biorefineries	206
9.4.2 Biochemical refineries for the conversion of lignocellulosic biomass	209
9.4.3 Hybrid biorefineries	210
9.5 Conclusion	210
References	211

## 10. Biodiesel production from waste cooking oil using ionic liquids as catalyst 215

M. Ramesh, S. Praveen, N. Kuppuswamy, Anish Khan and Abdullah M. Asiri

10.1 Introduction	215
10.2 Recent trends	218
10.3 Waste cooking oil	219
10.4 Transesterification of WCO	220
10.5 Experimental analysis	220
10.5.1 Catalytic ethanolysis of waste cooking soybean oil using the IL [HMim][HSO <sub>4</sub> ]	220
10.5.2 Preparation of a supported acidic IL on silica-gel and its application to the synthesis of biodiesel from WCO	221
10.5.3 Improving biodiesel yields from WCO using ILs as catalysts with a microwave heating system	223
10.5.4 Biodiesel production from WCO by acidic IL as a catalyst	224
10.5.5 Biodiesel production process by using new functionalized ILs as catalysts	225
10.6 Conclusion	226
References	227

## 11. Valorization of waste cooking oil (WCO) into biodiesel using acoustic and hydrodynamic cavitation 231

Swapnil Sukhadeo Bargole, Rohidas Bhoi, Suja George and Virendra Kumar Saharan

11.1 Introduction	231
11.2 Biodiesel synthesis	235
11.2.1 Feedstock used for biodiesel synthesis	235
11.2.2 FFAs and their effect on biodiesel synthesis	236
11.2.3 Types of catalysts and its significance	238
11.3 Cavitation	241
11.3.1 Acoustic cavitation	242
11.3.2 HC and its mechanism	245
11.4 Review of current status of utilization of WCO for synthesis of biodiesel	252
11.4.1 Synthesis of biodiesel using AC	252
11.4.2 Synthesis of biodiesel using HC	256
11.5 Conclusion	265
References	266

12. Production of biochar from renewable resources	273
Chongqing Wang	
12.1 Biochar definition	273
12.2 Biochar applications	274
12.3 Biochar production	276
12.3.1 Pyrolysis	276
12.3.2 Gasification	276
12.3.3 Hydrothermal carbonization	277
12.3.4 Other processes	277
12.4 Factors affecting biochar production	278
12.4.1 Feedstocks of biochar	279
12.4.2 Thermochemical temperature	280
12.5 Mechanism of biochar production	281
12.6 Conclusions	284
References	285
13. Microbial fuel cell technology for bio-electrochemical conversion of waste to energy	287
Arunima Nayak and Brij Bhushan	
13.1 Introduction	287
13.2 MFC technology	289
13.2.1 Technological background, performance indicators, and operating parameters	289
13.3 Role of microbial species and mechanism of electron transport in MFC	291
13.3.1 Substrate composition in MFC	293
13.3.2 Electrode material	294
13.3.3 MFC design and architecture	295
13.4 Bioenergy production from MFC	295
13.4.1 Simple substrate molecules for electricity generation	295
13.4.2 Complex wastewater used for electricity generation	299
13.4.3 Pitfalls and future prospects	302
13.5 Conclusion	305
References	306
14. Case study of nonrefined mustard oil for possible biodiesel extraction: feasibility analysis	315
Thokchom Subhaschandra Singh, Tikendra Nath Verma, Langpoklakpam Denin Singh, Upendra Rajak, Prerana Nashine, Anish Khan and Abdullah M. Asiri	
14.1 Introduction	315
14.2 Materials and methods	321
14.2.1 Catalyst preparation	321
14.2.2 Collection of nonrefined mustard oil	321
14.2.3 Design of experiment using Taguchi	321

14.2.4 Transesterification	322
14.2.5 Characterization of catalyst	322
14.3 Results and discussion	322
14.3.1 Characterization of catalyst	322
14.3.2 ANOVA and RSM	326
14.3.3 Effect of operating parameters	329
14.4 Conclusion	333
References	333
 15. Waste oil to biodiesel	 337
Mohd Nurfidaus Bin Mohiddin, Jia Min Ting, Yie Hua Tan, Jibrail Kansedo, N.M. Mubarak, Yen San Chan and Mohammad Omar Abdullah	
15.1 Second-generation feedstock for biodiesel production	337
15.1.1 Used cooking oil	338
15.1.2 Grease	340
15.1.3 Animal fat	341
15.1.4 Soapstock	342
15.1.5 Nonedible oils	343
15.2 Conclusion	348
Acknowledgment	348
References	349
 16. Integrated conversion of cellulose to high-density aviation fuel	 355
Mamata S. Singhvi and Beom Soo Kim	
16.1 Introduction	355
16.2 LB sources	358
16.2.1 Biomass structure	358
16.2.2 LCB pretreatment	360
16.2.3 Enzymatic saccharification of cellulose	363
16.3 Conversion of LB into bioaviation fuel	363
16.3.1 Production of precursors from LB by metabolic engineering	365
16.3.2 Aviation fuel production using catalytic conversion	368
16.4 Future perspectives	372
16.5 Conclusion	374
References	375
 17. Conversion of food waste into biofuel and biocarbon	 383
Li Wenjing, Jin Chenxi, Zhang Junting, Xu Junqing, Yang Dianhai and Li Guangming	
17.1 Introduction	383
17.1.1 Production and trend of food waste	384
17.1.2 Characteristics of food waste and environmental problems	386
17.1.3 The food waste treatment	389



17.2 Conversion of food waste into biogas	393
17.2.1 Process technology of anaerobic digestion of food waste	394
17.2.2 Progress in research and development of biogas from anaerobic digestion of food waste	400
17.2.3 Analysis of biogas production from anaerobic digestion of food waste	404
17.2.4 Secondary pollution control of food waste anaerobic digestion	407
17.3 Conversion of waste cooking oil into biodiesel	408
17.3.1 WEO and waste cooking oil	409
17.3.2 Research progress of biodiesel production from WEOs	410
17.3.3 Process analysis of biodiesel production from WEOs	413
17.4 Conversion of food waste into biochar	417
17.4.1 Biochar Production from food waste	417
17.4.2 Hydrochar production from food waste by MAHTC	425
17.4.3 Characterization and application of biochar and hydrochar generated from food waste	432
17.5 Conclusions	436
Acknowledgment	438
References	438
 18. Wood bioadhesives for biocomposites by nonvolatile bioaldehydes generation by specific oxidation of different biomaterials	 449
Antonio Pizzi, Anish Khan and Abdullah M. Asiri	
18.1 Introduction	449
18.2 Applications	450
18.2.1 Oxidized cellulose composites	451
18.2.2 Tannin carbohydrates composite panels	452
18.2.3 Oxidized soy flour and soy protein adhesives for composite panels	455
18.2.4 Demethylated-specific oxidation lignin-based adhesives for wood panels	460
18.3 Conclusions	463
References	464
 19. Agricultural biomass as value chain developers in different sectors	 467
Kanchan Kumari, Anshika Singh, Deepak Marathe, Priya Pariyar	
19.1 Introduction	467
19.1.1 Concept of agriculture waste and biomass	468
19.1.2 Properties of agricultural biomass	468
19.1.3 Classification and importance of agricultural biomass	470
19.1.4 Environmental impacts of agricultural waste	472
19.1.5 Agricultural Biomass as a renewable source of energy	473
19.2 Methodology	473
19.3 Technologies for bioenergy conversion of agricultural biomass	474
19.3.1 Thermochemical conversion	475
19.3.2 Biochemical process	479

19.4 Current applications of agricultural biomass as value-added products	481
19.4.1 Industrial applications	482
19.4.2 Pharmaceuticals production	487
19.4.3 Potential biomass to bioenergy production	495
19.5 Agricultural biomass and sustainable economic development	498
19.6 Conclusion and future perspective	499
Acknowledgment	499
References	499
<b>Index</b>	<b>509</b>





# Advanced Technology for the Conversion of Waste into Fuels and Chemicals

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## 15 - Waste oil to biodiesel

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### ABSTRACT

The environment and ecosystem are currently encountering rising issues such as climate changes and global warming due to the continuous combustion of fossil fuel. This unremitting fuel and energy demand caused industries to turn toward biofuel for a more ecological and economic substitute. Biodiesel becomes a new trend for the industry to reduce greenhouse gases emission and dependency on the traditional petroleum-based diesel that is nonrenewable. Nevertheless, the production of biodiesel possesses several drawbacks such as wastewater production and limited cultivation area. Various types of alternative feedstock for biodiesel production known as the second-generation feedstock has been studied and recognized to have potential in overcoming the earlier generation of biodiesel feedstock. Therefore, this chapter is emphasizing on the conversion of the waste oil second-generation feedstock into biodiesel, which promotes a promising oil feedstock to encounter the limitations of the first-generation feedstock or edible vegetable oils in the biodiesel industry.

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