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ABDELFATAH ABOMOHRA

CURRICULUM VITAE

Dr. Abdelfatah Abomohra

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I. Biographical Data

A. Full Name

Abdelfatah Ibrahim Abdelfatah Abomohra

B. Date of birth

6th February 1980

C. Education

- **16 October 2013 – 8 April 2014:** Postdoctoral studentship at Hamburg University, Hamburg, **Germany.**
- **7 February 2010 – 15 October 2012**: Exchange doctoral student funded by DAAD at Hamburg University, Hamburg, **Germany** (*Host: Prof. Dr. Dieter Hanelt)*
- **15 October 2008 – 23 October 2012**: PhD in Botany (Phycology) "Biomass and Biofuel Production from Microalgae" from Tanta University, Tanta, **Egypt** (*Supervisors: Prof. Dr. Mostafa El-Sheekh & Prof. Dr. Dieter Hanelt)*
- **15 September 2003 – 30 October 2007**: MSc Botany (Phycology) "Effect of Ultraviolet Radiation on Growth, Photosynthesis and Some Metabolic Processes of Some Algal Species" from Tanta University, Tanta, **Egypt** (*Supervisor: Prof. Dr. Mostafa El-Sheekh)*
- **15 September 2001 – 15 June 2002**: Postgraduate Diploma in Phycology, Faculty of Science, Tanta University, Tanta, **Egypt**.
- **15 September 1997 – 15 June 2001**: BSc degree in Microbiology, Tanta University, Tanta, **Egypt**.

D. Positions held

Professor (5 December 2019 – Now)

Employer: **Chengdu University, Chengdu, China** (High-end Talent)

Professor (25 February 2018 – 4 November 2019)

Employer: **Jiangsu University, Zhenjiang, China**

Associate Professor (25 February 2017– 24 February 2018)

Employer: **Jiangsu University, Zhenjiang, China**

Postdoctoral fellow (15 March 2015 – 14 March 2017)

Employer: **Harbin Institute of Technology, Shenzhen, China**

Lecturer (26 November 2012 – 28 November 2018)

Employer: **Tanta University, Tanta, Egypt**

Assistant Lecturer (31 December 2007 – 25 November 2012)

Employer: **Tanta University, Tanta, Egypt**

Teaching assistant (6 December 2001 – 30 December 2007)

Employer: **Tanta University, Tanta, Egypt**

E. Special honors and awards

1. Personal awards

- April 2022: *Provincial award* of 2021 Sichuan Provincial Basic Education Teaching Achievement Award, Sichuan Province, China
- March 2022: *Young Scientist Medal* from International Association of Advanced Materials (IAAM) for contribution to Green Fossil Energy, Biomass, and Future fuels, Sweden.
- January 2021: The award of "*Advanced Individual in Scientific Research*" at School of Architecture and Civil Engineering, Chengdu University, China.
- December 2020: Honor of "*Green Pepper Program*" for Outstanding Young Teachers in 2020. Chengdu University, China
- December 2020: The award of "*Advanced Individual in Scientific Research*" at School of Architecture and Civil Engineering, Chengdu University, China.
- October 2020: *Best Senior Scientist Award* by 2nd International Academic and Research Excellence, IARE, GISR Foundation, India.
- August 2020: *SAS Best Publication Award* 2020, Scholar Academic & Scientific Society, India.
- October 2018: *Excellence in Science* from Supreme Council of Universities, Ministry of Higher Education and Scientific Research, Egypt.
- April 2009: *German academic Exchange Service (DAAD)* award to study at Hamburg University, Germany.

2. Supervised Students awards (ZhiXue Team)

- An innovative device for fully automatic zero-waste air purification based on microalgae-plant system. The 17th Challenge Cup (Black technology special project of Chengdu University), 2021.07, Second prize (University Level)
- Co-hydrothermal liquefaction of microalgae and waste masks is used to enhance the quality of bio-oil Zero Carbon. Technology of Chengdu University, 2021.08, Second prize (University Level)
- A fully automatic air purification device using microalgae-plant dual function system. Zero Carbon Technology of Chengdu University,22021.08, First prize (University Level)
- Use waste to create wealth and live a healthy and environmentally friendly life. The 7th Internet + Student Innovation and Entrepreneurship Competition of Chengdu University, 2021.08, First prize (University Level)
- An integrated approach to energy recovery using discarded masks and microalgae biomass. The 7th Sichuan International "Internet +" College Students Innovation and Entrepreneurship Competition, 2021.09, Bronze Prize (Provincial Level)
- A method for increasing crude oil production by co-hydrothermal liquefaction based on microalgae and waste masks. Innovation and entrepreneurship incubation project of Chengdu University, 2021.05, Under processing
- National College Students Energy Conservation and Emission Reduction Social Practice and Science and Technology Competition. National College Students Energy Conservation and Emission Reduction Social Practice and Science and Technology Competition Committee, 2021.08, Third Prize (National Level)
- Sichuan Provincial College Students Biological and Environmental Science and Technology Innovation Competition. Sichuan Provincial College Students Biology and Environmental Science and Technology Innovation Competition Organizing Committee, 2021.10, Second Prize (National Level)

F. Membership of academic and professional societies/associations

- Member, COST Association
- Expert, UNESCO Inclusive Policy Lab
- International Phycological Society (IPC)
- Member, The Egyptian Botanical Society (EBS)
- Member, The Egyptian Society for Experimental Biology (ESEB)

- Member, International Water Association (IWA)
- Member, Biochemical Society
- SAS Eminent Fellow Member, Scholars Academic and Scientific Society (SAS)
- ASI fellow, African Scientific Institute (ASI)

II. Teaching experience

1. Courses Taught at Tanta University

Course	Category	Av. No. of students	Av. Grade
General Botany	Required	700	N/A
Plant Anatomy	Required	500	N/A
Economic Uses of Algae	Required	50	N/A
Physiology of Algae	Required	50	N/A
General Microbiology	Required	70	N/A
Phycology	Required	50	N/A

2. Courses Taught at Jiangsu University

Course	Category	Av. No. of students	Av. Grade
Renewable Energy[N]	Required	20	4.0

[N] The course was opened at the university by the applicant

3. Courses Taught at Chengdu University

Course	Category	Av. No. of students	Av. Grade
Scientific writing 02480020[N]	Elective	36	3.5

[N] The course was opened at the university by the applicant

III. Research

A. SCOPUS Profile

Author ID: 24070002000; **Total number citation**: 3189 total citations; **h-index**: 34

B. Publications

1. Books

1. **Abomohra A***, Wang Q, Huang J (2022) Waste-to-Energy: Recent developments and future perspectives towards circular economy. ISBN: 978-3-030-91569-8, SpringerNature,

Singapore, 651 p.

2. **Abomohra A**, Salama ES (2022) Biogas-Basics, Integrated Approaches, and Case Studies. ISBN: 978-1-80355-109-8, IntechOpen, UK, 142 p.
3. El-Sheekh M*, **Abomohra A*** (2021) Handbook of Algal Biofuels: Aspects of Cultivation, Conversion and Biorefinery. ISBN: 978-0-12-823764-9, Elsevier, Netherlands, 682 p.
4. **Abomohra A***, Elsayed M, Qin Z, Ji H, Liu Z (2021) Biogas: Recent Advances and Integrated Approaches. ISBN: 978-1-83962-669-2, IntechOpen, UK, 408 p.
5. **Abomohra A*** (2019) Biomass for Bioenergy: Recent Trends and Future Challenges. ISBN: 978-1-78923-988-1, IntechOpen, UK, 791 p.
6. Wang S*, Feng Y, **Abomohra A** (2017) Renewable Energy. Jiangsu University Press, China ISBN 978-7-5684-0716-8, 242 p.

2. Book Chapters

1. Elsayed M, Tawfik A, **Abomohra A** (2022) Energy Recovery from Fat, Oil and Grease (FOG). *In*: Abomohra A, Wang Q, Huang J (edts.) Waste-to-Energy: Recent Developments and Future Perspectives towards Circular Economy. SpringerNature, Singapore, pp. 309-327.
2. Esakkimuthu S, Wang S, **Abomohra A** (2022) CO_2-Mediated Energy Conversion and Recycling. *In*: Abomohra A, Wang Q, Huang J (edts.) Waste-to-Energy: Recent Developments and Future Perspectives towards Circular Economy. SpringerNature, Singapore, pp. 379-409.
3. Salama ES, **Abomohra A** (2022) Introductory Chapter: From Biogas Lab-Scale towards Industrialization. *In*: Abomohra A, Salama ES (edts.) Biogas-Basics, Integrated Approaches, and Case Studies. ISBN: 978-1-80355-109-8, IntechOpen, UK.
4. Elsayed M, **Abomohra A** (2022) Sequential algal biofuel production through whole biomass conversion. *In*: El-Sheekh M, Abomohra A (edts.) Handbook of Algal Biofuels: Aspects of Cultivation, Conversion and Biorefinery. Elsevier, pp. 385-404.
5. **Abomohra A***, Elshobary M (2019) Biodiesel, Bioethanol, and Biobutanol Production from Microalgae. *In*: Microalgae Biotechnology for Development of Biofuel and Wastewater Treatment (Alam M, Wang Z, Eds). SpringerNature, Singapore Doi: 10.1007/978-981-13-2264-8
6. Eladel H*, Esakkimuthu S, **Abomohra A** (2019) Dual Role of Microalgae in Wastewater Treatment and Biodiesel Production. *In*: S. K. Gupta, F. Bux (eds.), Application of Microalgae in Wastewater Treatment. SpringerNature, Singapore Doi: 10.1007/978-3-030-13909-4_5

3. Articles in Refereed International Journals

1. **Abomohra** A, Faisal S, Ebaid R, Huang J, Wang Q, Elsayed M (2022) Recent advances in anaerobic digestion of lipid-rich waste: Challenges and potential of seaweeds to mitigate the inhibitory effect. Chemical Engineering Journal (*Accepted*)
2. **Abomohra A***, Eladel H, Mohammed S (2022) Dual use of a local Protosiphon isolate BENHA2020 for biodiesel production and antioxidant activity of lipid-free biomass: A novel biorefinery approach for biomass valorization. Renewable Energy 184:1104-11.
3. Elsayed M, Li W, Abdalla N, Ai P, Zhang Y, **Abomohra A*** (2022) Innovative approach for rapeseed straw recycling using black solider fly larvae: Towards enhanced energy recovery. Renewable Energy 188:211-222
4. Tang J, Pu Y, Zeng T, Hu Y, Huang J, Pan S, Wang XC, Li Y, **Abomohra A*** (2022) Enhanced methane production coupled with livestock wastewater treatment using anaerobic membrane bioreactor: Performance and membrane filtration properties. Bioresource Technology 345:126470.
5. Li M, Alotaibi MK, Li L, **Abomohra A*** (2022) Enhanced waste glycerol recycling by yeast for efficient biodiesel production: Towards waste biorefinery. Biomass and Bioenergy 159:106410.
6. Wang S, Mukhambet Y, Esakkimuthu S., **Abomohra A*** (2022) Integrated microalgal biorefinery – Routes, energy, economic and environmental perspectives. Journal of Cleaner Production 348:131245.
7. Wang S, Mukhambet Y, Esakkimuthu S*, **Abomohra A*** (2022) Integrated microalgal biorefinery–Routes, energy, economic and environmental perspectives. Journal of Cleaner Production 131245.
8. Li L, Huang J*, Chen L, Faisal S*, **Abomohra A** (2022) Evaluation of crude bio-oil production from green tea waste (GTW) through pyrolysis over clamshell waste as a natural catalyst. Sustainable Energy Technologies and Assessments 53:102453.
9. Kabir SB, Khalekuzzaman M, Hossain N, Jamal M, Alam MA, **Abomohra A** (2022) Progress in biohythane production from microalgae-wastewater sludge co-digestion: An integrated biorefinery approach. Biotechnology Advances 57:107933.
10. Madadi M, Bakr MM, Song G, Sun C, Sun F, Hao Z, **Abomohra A** (2022) Co-production of levulinic acid and lignin adsorbent from aspen wood with combination of liquid hot water and green-liquor pretreatments. Journal of Cleaner Production 132817.
11. Shao Y, Fu Y, Chen Y, **Abomohra A**, He Q, Jin W, Liu J, Tan Z, Li X (2022) Enhancement of black and odorous water treatment coupled with accelerated lipid production by microalgae exposed to 12C6+ heavy-ion beam irradiation. Chemosphere 135452.
12. El-Hefnawy ME*, Alhayyani S, El-Sherbiny M, **Abomohra A**, Al-Harbi M (2022) Endogenous

bioethanol production by solid-state prefermentation for enhanced crude bio-oil recovery through integrated hydrothermal liquefaction of seaweeds. Journal of Cleaner Production 355:131811.

13. Barati B, Zafar FF, Qian L, Wang S*, **Abomohra A** (2022) Bioenergy characteristics of microalgae under elevated carbon dioxide. Fuel 321:123958.
14. Madadi M, Bakr MM, Abdulkhani A, Asadollahi MA, Sun C, Sun F*, **Abomohra A** (2022) Alleviating lignin repolymerization by carbocation scavenger for effective production of fermentable sugars from combined liquid hot water and green-liquor pretreated softwood biomass. Energy Conversion and Management 251: 114956.
15. Barati B, Fazeli Zafar F, Hao C, Qian L, Wang S*, **Abomohra A** (2022) Microalgae as a natural CO_2 sequester: a study on effect of tobacco smoke on two microalgae biochemical responses. Frontiers in Energy Research 10:881758.
16. Madadi M, Song G, Karimi K, Zhu D, Elsayed M, Sun F, **Abomohra A** (2022) One-step lignocellulose fractionation using acid/pentanol pretreatment for enhanced fermentable sugar and reactive lignin production with efficient pentanol retrievability. Bioresource Technology. 2022 Jun 18:127503.
17. Jiang D, Li H, Cheng X, Wang S, **Abomohra A**, Cao B (2022) Activation of Nitrogen-Doped Carbon Materials on the C–N Bond and C–O Bond: Modeling Study Toward Enhanced Pyrolysis Products. ACS Sustainable Chemistry & Engineering 23:7473-7484.
18. Yuan C, Liu Q, Wei M, Zhao S, Yang X, Cao B, Wang S, **Abomohra A**, Liu X, Hu Y (2022) Selective oxidation of 5-hydroxymethylfurfural to furan-2, 5-dicarbaldehyde using chitosan-based biochar composite cadmium sulfide quantum dots. Fuel 320:123994.
19. Yang Q, Zhang M, Alwathnani HA, Usman M, Mohamed BA, **Abomohra A**, Salama ES (2022) Cultivation of Freshwater Microalgae in Wastewater Under High Salinity for Biomass, Nutrients Removal, and Fatty Acids/Biodiesel Production. Waste and Biomass Valorization DOI: 10.1007/s12649-022-01712-1.
20. Hu Y, Bai R, Dou S, Wu Z, Abdulkhani A, Asadollahi MA, **Abomohra A**, Sun F (2022) Constitutive expression of codon optimized Trichoderma reesei TrCel5A in Pichia pastoris using GAP promoter. Systems Microbiology and Biomanufacturing DOI: 10.1007/s43393-021-00071-7.
21. **Abomohra A***, Sheikh HM, El-Naggar AH, Wang Q (2021) Microwave vacuum co-pyrolysis of waste plastic and seaweeds for enhanced crude bio-oil recovery: Experimental and feasibility study towards industrialization. Renewable and Sustainable Energy Reviews,149: 111335.
22. **Abomohra A***, Zheng X, Wang Q, Huang J, Ebaid R (2021) Enhancement of biodiesel yield and characteristics through in-situ solvo-thermal co-transesterification of wet microalgae

with spent coffee grounds. Bioresource Technology 323: 124640. Highly Cited Paper

23. Barati B, Zeng K, Baeyens J, Wang S*, Addy M, Gan SY, **Abomohra A** (2021) Recent progress in genetically modified microalgae for enhanced carbon dioxide sequestration. Biomass and Bioenergy 145: 105927. Highly Cited Paper
24. Almutairi AW, Al-Hasawi ZM, **Abomohra A*** (2021) Valorization of lipidic food waste for enhanced biodiesel recovery through two-step conversion: A novel microalgae-integrated approach. Bioresource Technology 342:125966.
25. Li L, Huang J, Almutairi AW, Lan X, Zheng L, Lin Y, Chen L, Fu N, Lin Z, **Abomohra A*** (2021) Integrated approach for enhanced bio-oil recovery from disposed face masks through co-hydrothermal liquefaction with *Spirulina platensis* grown in wastewater. Biomass Conversion and Biorefinery DOI: 10.1007/s13399-021-01891-2
26. Deepanraj B, Sivashankar R, Saravanan AM, Abdul Salam P, Abomohra A (2021) Technologies for Water Quality and Wastewater Management in Developing Countries. Water Science and Technology 84(10-11):v.
27. **Abomohra A**, El-Hefnawy ME, Wang Q, Huang J*, Li L, Tang J, Mohammed S (2021) Sequential bioethanol and biogas production coupled with heavy metal removal using dry seaweeds: Towards enhanced economic feasibility. Journal of Cleaner Production 316: 128341
28. Alprol AE, Heneash AM, Ashour M*, Abualnaja KM, Alhashmialameer D, Mansour AT, Sharawy ZZ, Abu-Saied MA, **Abomohra A** (2021) Potential Applications of *Arthrospira platensis* Lipid-Free Biomass in Bioremediation of Organic Dye from Industrial Textile Effluents and Its Influence on Marine Rotifer (*Brachionus plicatilis*). Materials 14(16): 4446.
29. Uzoejinwa BB, Cao B, Wang S*, Hu X, Hu Y, Pan C, Li B, Anyadike CC, Asoiro FU, Oji NA, **Abomohra A** (2021) Catalytic co-pyrolysis of macroalgal components with lignocellulosic biomass for enhanced biofuels and high-valued chemicals. International Journal of Energy Research DOI: 10.1002/er.7338
30. Wang S, Liu Q, Lu Z, Xu L, Liu X, Hu Y, Qian L, Xu S, **Abomohra A** (2021). Visible light-driven conversion of carboxylic acids into esters for enhanced algal bio-crude oil catalyzed by cadmium sulfide quantum dots (CdS-QDs). Fuel Processing Technology, 216: 106778
31. Yuan C, **Abomohra A**, Wang S*, Liu Q, Zhao S, Cao B, Hu X*, Marrakchi F, He Z, Hu Y (2021) High-grade biofuel production from catalytic pyrolysis of waste clay oil using modified activated seaweed carbon-based catalyst. Journal of Cleaner Production 313: 127928
32. Alalawy A, Guo Z, Almutairi F, El Rabey H, Al-Duais M, Mohammed G, Almasoudi F,

Alotaibi, M, Salama E*, **Abomohra A**, Sakran M (2021). Explication of structural variations in the bacterial and archaeal community of anaerobic digestion sludges: An insight through metagenomics. Journal of Environmental Chemical Engineering 9:105910.

33. Tadda M, Li C, Gouda M, **Abomohra A**, Shitu A, Ahsan A, Zhu S, Liu D* (2021) Enhancement of nitrite/ammonia removal from saline recirculating aquaculture wastewater system using moving bed bioreactor. Journal of Environmental Chemical Engineering, p.105947.
34. Wang Q, Sha C, Wang H, Ma K, Wiegle J, **Abomohra A***, Shao W* (2021) A novel bifunctional aldehyde/alcohol dehydrogenase catalyzing reduction of acetyl-CoA to ethanol at temperatures up to 95° C. Scientific Reports 11: 1-9.
35. **Abomohra A***, Elsayed M, Esakkimuthu S, El-Sheekh M, Hanelt D (2020) Potential of fat, oil and grease (FOG) for biodiesel production: A critical review on the recent progress and future perspectives. Progress in Energy and Combustion Science 81: 100868. Highly Cited Paper
36. Wang S, Zhao S, Uzoejinwa BB, Zheng A, Wang Q, Huang J, **Abomohra A*** (2020) A state-of-the-art review on dual purpose seaweeds utilization for wastewater treatment and crude bio-oil production. Energy Conversion and Management 222: 113253. Highly Cited Paper
37. Ai P, Chen M, Ran Y, Jin K, Peng J, **Abomohra A*** (2020) Digestate recirculation through co-digestion with rice straw: Towards high biogas production and efficient waste recycling. Journal of Cleaner Production 263: 121441.
38. **Abomohra A**, El-Naggar AH, Alaswad SO, Elsayed M, Li M*, Li W (2020) Enhancement of biodiesel yield from a halophilic green microalga isolated under extreme hypersaline conditions through stepwise salinity adaptation strategy. Bioresource Technology 310: 123462.
39. **Abomohra A***, Wang Q, Huang J, Saad-Allah KM (2021) A sustainable approach for bioconversion of food and lignocellulosic wastes into liquid biofuel using a new *Metschnikowia pulcherrima* isolate. International Journal of Energy Research DOI: 10.1002/er.6028.
40. **Abomohra A***, Almutairi AW (2020) A close-loop integrated approach for microalgae cultivation and efficient utilization of agar-free seaweed residues for enhanced biofuel recovery. Bioresource Technology 17: 124027.
41. Almarashi J, El-Zohary S, Ellabban M, **Abomohra A*** (2020) Enhancement of lipid production and energy recovery from the green microalga Chlorella vulgaris by inoculum pretreatment with low-dose cold atmospheric pressure plasma (CAPP). Energy Conversion

and Management 204: 112314.

42. Lakshmikandan M, Murugesan A, Wang S*, **Abomohra A***, Jovita P, Kiruthiga S (2020) Sustainable biomass production under CO2 conditions and effective wet microalgae lipid extraction for biodiesel production. Journal of Cleaner Production 247: 119398. Highly Cited Paper
43. Esakkimuthu S, Krishnamurthy V, Wang S*, Hu X, Swaminathan K, **Abomohra A*** (2020) Application of p-coumaric acid for extraordinary lipid production in *Tetradesmus obliquus*: A sustainable approach towards enhanced biodiesel production. Renewable Energy 157: 368-376.
44. Elshobary ME, El-Shenody RA, **Abomohra A*** (2020) Sequential biofuel production from seaweeds enhances the energy recovery: A case study for biodiesel and bioethanol production. International Journal of Energy Research DOI: 10.1002/er.6181.
45. Lakshmikandan M, Murugesan AG, Wang S*, **Abomohra A** (2020) Optimization of acid hydrolysis on the green seaweed Valoniopsis pachynema and approach towards mixotrophic microalgal biomass and lipid production. Renewable Energy 164: 1052-1061.
46. Elsayed M, Ran Y, Ai P, Azab M, Mansour A, Jin K, Zhang Y*, **Abomohra A** (2020) Innovative integrated approach of biofuel production from agricultural wastes by anaerobic digestion and black soldier fly larvae. Journal of Cleaner Production 263: 121495.
47. Wang S, Hu S, Shang H, Barati B, Gong X, Hu X*, **Abomohra A** (2020) Study on the co-operative effect of kitchen wastewater for harvest and enhanced pyrolysis of microalgae. Bioresource Technology 9: 123983.
48. El Zawawy N, El Shafay S, **Abomohra A*** (2020) Macroalgal activity against fungal urinary tract infections: in vitro screening and evaluation study. Rendiconti Lincei. Scienze Fisiche e Naturali 31(1): 165-75.
49. Feng P, Ye Z, Han H, Ling Z, Zhou T, Zhao S, Virk AK, Kakade A, **Abomohra A**, El-Dalatony MM, Salama ES, Liu P*, Li X* (2020) Tibet plateau probiotic mitigates chromate toxicity in mice by alleviating oxidative stress in gut microbiota. Communications Biology 3: 1–12.
50. Gaballah ES, **Abomohra A**, Xu C, Elsayed M, Abdelkader TK, Lin J, Yuan Q* (2020) Enhancement of biogas production from rape straw using different co-pretreatment techniques and anaerobic co-digestion with cattle manure. Bioresource Technology 309: 123311.
51. Hu S, Barati B, Odey EA, Wang S*, Hu X*, **Abomohra A**, Lakshmikandan M, Yerkebulan M, Esakkimuthu S, Shang H (2020) Experimental study and economic feasibility analysis on

the production of bio-oil by catalytic cracking of three kinds of microalgae. Journal of Analytical and Applied Pyrolysis 149: 104835.

52. Hu Y, Wang H, Lakshmikandan M, Wang S*, Wang Q*, He Z, **Abomohra A** (2020) Catalytic co-pyrolysis of seaweeds and cellulose using mixed ZSM-5 and MCM-41 for enhanced crude bio-oil production. Journal of Thermal Analysis and Calorimetry Doi: 10.1007/s10973-020-09291-w.
53. Osman MEH, Abo-Shady AM, Elshobary ME, Abd El-Ghafar MO, **Abomohra A*** (2020) Screening of seaweeds for sustainable biofuel recovery through sequential biodiesel and bioethanol production. Environmental Science and Pollution Research. Doi: 10.1007/s11356-020-09534-1.
54. Usman M*, Zha L*, **Abomohra A**, Li X, Zhang C, Salama ES (2020) Evaluation of animal- and plant-based lipidic waste in anaerobic digestion: kinetics of long-chain fatty acids degradation. Critical Reviews in Biotechnology Doi: 10.1080/07388551.2020.1756215.
55. Liu M, Feng P, Kakade A, Yang L, Chen G, Yan X, Ni H, Liu P, Kulshreshtha S, **Abomohra A**, Li X* (2020) Reducing residual antibiotic levels in animal feces using intestinal Escherichia coli with surface-displayed erythromycin esterase. Journal of Hazardous Materials 388: 122032.
56. Gaballah ES, Abdelkader TK, Luo S, Yuan Q*, **Abomohra A** (2020) Enhancement of biogas production by integrated solar heating system: A pilot study using tubular digester. Energy 193: 116758.
57. Ha GS, El-Dalatony MM, Kim DH, Salama ES, Kurade MB, Roh HS, **Abomohra A**, Jeon BH* (2020) Biocomponent-based microalgal transformations into biofuels during the pretreatment and fermentation process. Bioresource Technology 302: 122809.
58. Elshobary M, Abo-Shady A, Khairy H, Essa D, Zabed H, Qi X*, **Abomohra A** (2020) Influence of nutrient supplementation and starvation conditions on the biomass and lipid productivities of Micractinium reisseri grown in wastewater for biodiesel production. Journal of Environmental Management 250: 109529.
59. Uzoejinwa B, He X, Wang S*, **Abomohra A**, Hu Y, He Z, Wang Q (2020) Co-pyrolysis of seaweeds with waste plastics: modeling and simulation of effects of co-pyrolysis parameters on yields, and optimization studies for maximum yield of enhanced biofuels. Energy Sources, Part A: Recovery, Utilization, and Environmental Effects 42: 954-978.
60. El-Sheekh M*, **Abomohra A** (2020) The Therapeutic Potential of Spirulina to Combat COVID-19 Infection. Egyptian Journal of Botany 60: 605-609.
61. Wang S, Shang H, **Abomohra A***, Wang Q (2019) One-step conversion of microalgae to

alcohols and esters through co-pyrolysis with biodiesel-derived glycerol. Energy Conversion and Management 195: 447–456.

62. Xu S, Elsayed M, Ismail GA, Li C, Wang S*, **Abomohra A*** (2019) Evaluation of bioethanol and biodiesel production from Scenedesmus obliquus grown in biodiesel waste glycerol: A sequential integrated route for enhanced energy recovery. Energy Conversion and Management 197: 111907.
63. **Abomohra A**, Shang H, El-Sheekh M, Eladel H, Ebaid R, Wang S*, Wang Q (2019) Night illumination using monochromatic light-emitting diodes for enhanced microalgal growth and biodiesel production. Bioresource Technology 288: 121514.
64. Wang S, Yerkebulan M, **Abomohra A***, El-Khodary S, Wang Q (2019) Microalgae harvest influences the energy recovery: A case study on chemical flocculation of Scenedesmus obliquus for biodiesel and crude bio-oil production. Bioresource Technology 286: 121371.
65. Ebaid R, Wang H, Sha C, **Abomohra A***, Shao W* (2019) Recent trends in hyperthermophilic enzymes production and future perspectives for biofuel industry: A critical review. Journal of Cleaner Production 238: 117925.
66. Elsayed M[1], **Abomohra A[1]**, Ai P, Jin K, Fan Q, Zhang Y (2019) Acetogenesis and methanogenesis liquid digestates for pretreatment of rice straw: A holistic approach for efficient biomethane production and nutrient recycling. Energy Conversion and Management 195: 447–456.
67. El-Khodary S[1], **Abomohra A[1]**, El-Enany G, Aboalhassan A, Ng D, Wang S*, Lian J* (2019) Sonochemical assisted fabrication of 3D hierarchical porous carbon for high-performance symmetric supercapacitor. Ultrasonics Sonochemistry Doi: 10.1016/j.ultsonch.2019.104617.
68. Peng J, **Abomohra A**, Elsayed M, Zhang X*, Fan Q*, Ai P (2019) Compositional changes of rice straw fibers after pretreatment with diluted acetic acid: Towards enhanced biomethane production. Journal of Cleaner Production Doi: 10.1016/j.jclepro.2019.05.155.
69. Yuan C, Wang S*, Cao B, Hu Y, **Abomohra A***, Wang Q, Qian L, Liu L, Liu X, He Z, Feng Y, Zhang B (2019) Optimization of hydrothermal co-liquefaction of seaweeds with lignocellulosic biomass: Merging 2nd and 3rd generation feedstocks for enhanced bio-oil production. Energy DOI: 10.1016/j.energy.2019.02.091.
70. Cao B, Wang S*, Hu Y, **Abomohra A***, Qian L, He Z, Wang Q, Uzoejinwa B, Esakkimuthu S (2019) Effect of washing with diluted acids on Enteromorpha clathrata pyrolysis products: Towards enhanced bio-oil from seaweeds. Renewable Energy 138, 29-38.
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production and aquaculture feed. Biomass and Bioenergy 120: 439–447.

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radiation on antioxidant enzymes and protein electrophoretic pattern of the green alga *Chlorocuccum* sp. Annals of Microbiology 58(2): 195-201.

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4. Patents

1. **Abomohra A**, Yuling L, Nanjie F, Liudong C, Zongren L, Yangming O, Jin H (2021) Automatic air purification device based on microalgae-plant system. CHINA (Patent number CN 202120718890.5) (*Authorized*)
2. **Abomohra A**, Shang H, Wang S, Wang Q, He Z, Feng Y, Ai H, Han D (2020) A method for preparing microalgae culture medium using waste recovery technology. CHINA (Patent number CN 108192828 B) (*Authorized*)
3. Sun Y, Wang S, Zhao X, Huang S, Shang H, **Abomohra A**, Wang Q, Yu L (2019) Ring-shaped photobioreactor for microalgae cultivation. CHINA (Patent number CN 209456466 U) (*Authorized*)
4. Zheng L, Shao F, Lin Z, Chen L, Fu N, Huang J, **Abomohra** A (2021) A kind of magnetic stirring device of constant temperature water bath for simulating anaerobic digestion of miscellaneous grain wastewater. (Patent number CN202122103232.8) (*Authorized*)
5. Tang J, Pu Y, **Abomohra** A, Li Luming (2021) A batch anaerobic-aerobic biofilm composite denitrification reactor. (Patent number CN202120805054.0) (*Authorized*)
6. **Abomohra** A, Li M, Tang J, Li L (2022) A method for harvesting microalgae using fungal floating bio mat. (Submission number CN202210083194.0) (*Under review*)
7. Huang J, Yang Z, **Abomohra** A, Yang B, Zeng L, Wang H, Zheng X (2022) Microbial capsule for valuable metal recovery and preparation method and application (Submission number CN202210017262.3) *(Under review)*
8. Huang J, Lan X, Lin Y, Zheng L, Li L, **Abomohra** A (2021) A new freshwater oil-producing microalgal species: Cultivation methods and applications. CHINA (Submission number CN202111505359.0) *(Under review)*
9. Wang S, Shang H, **Abomohra A**, Cao B, Hu Y, Qian L (2019) A method for cultivating microalgae using kitchen waste wastewater coupled with crude bio-oil production. CHINA (Submission number CN 110591919 A) (*Under review*)
10. Shang H, Wang S, **Abomohra A**, Jiang D, Hu Y, Qian L (2019) A method for improving alcohol and ester production from microalgal biomass using biodiesel by-products. CHINA

(Submission number 110747065 A) (*Under review*)

C. Research grants and sponsored projects

1- 12/2019 – 12/2022: Waste recycling for enhanced cleaner energy production. Start-up fund for High-end talents of Chengdu University, No. 2081920048, PI (1,000,000 RMB, CHINA)
2- 01/2021 – 12/2022: Innovative integrated system of microalgae combined with constructed wetlands for wastewater treatment and biofuel production. Foreign Experts Projects of Chengdu City 2020, No. QN20200237001, PI (450,000 RMB, CHINA).
3- 01/2020 – 12/2020: Basic research studies on biofuel production from microalgae harvested by innovative technique of floating bio-mat formation. National Natural Science Foundation of China, No. 52050410328, PI (200,000 RMB, CHINA)
4- 05/2020 – 05/2021: Catalytic (co-)pyrolysis of microalgae and seaweeds for enhanced bio-oil generation coupled with seawater desalination: Screening and evaluation study at Jeddah Red Sea coastal area. King Abdulaziz University, No. IFPRC-089-L25-2020, Chinese-PI (350,000 SR, Saudi Arabia).
5- 04/2019 – 10/2020: Coupling of microalgal biomass and advanced wastewater treatment for renewable energy production. Najran University, No. PCSED-008-18, Co-PI (350,000 SR, Saudi Arabia)
6- 19/2015 – 03/2017: Studies on Bacteria/Algae Symbiotic Systems in Microalgae Cultivated in Municipal Wastewater. Shenzhen Science and Technology Innovation Committee, No. JCYJ20150529114024234, Member (70,000 RMB, CHINA).
7- 03/2015 – 09/2016: Screening and Optimization of High-Lipid Microalgae for Municipal Wastewater Reuse. Shenzhen Science and Technology Innovation Committee, No. JCYJ20140417172417125, Member (50,000 RMB, CHINA).
8- 04/2013 – 03/2015: Biodiesel from Microalgae as Sustainable and Renewable Energy Source. Egyptian Science and Technology Development Fund (STDF), No. 4399, Member (1,000,000 EP, EGYPT).

D. Selected Invited Lectures and Keynote Speaker

1. Nov. 26-28: Keynote Speaker at 12th International Conference on Environmental Pollution and Public Health (EPPH 2021), Online
2. May 29-30, 2021: Keynote Speaker at 2021 International Conference on Environmental Engineering, Agricultural Pollution and Hydraulical Studies, Wuhan, China
3. December 4-5, 2021: Technical Committee Member at 2021 International Conference on

Energy Science and Environmental Chemistry (ICESEC 2021), Wuhan, China

4. October 15-18, 2021: International Scientific Committee and Session Chair at 5th International Conference on Alternative Fuels, Energy & Environment (ICAFEE 2021): Future & Challenges, Online
5. Nov. 19-21: Keynote Speaker at 7th International Conference on Advances in Energy Resources and Environment Engineering (ICAESEE 2021), Online
6. "The Seventh International Conference on Biological Sciences". Faculty of Science- Tanta University, Tanta-Egypt (5-6 December 2012).
7. "The 6th International Conference on Technology and Sustainable Development in the Third millennium". Alexandria, Egypt (22-24 December 2012).
8. "The 1st Conference for Postgraduate Students of Science (PSS)" Tanta University, Tanta, Egypt (30 April 2013).
9. "11th International Conference on Future Horizon of Environmental Sustainable Development in Arab Countries and Facing the Challenges". Sonesta Hotel at Hurghada (20-23 December 2014)
10. The "4th International Conference on Envirotech, Cleantech and Greentech (ECG)". Kuala Lumpur, Malaysia (21-22 July 2016).
11. "2nd Annual International Conference on Environmental Science and Engineering". Xiamen, China (14- 16 July 2017).
12. The international conference "The Belt and Road: Bio-health Agriculture". Yangling, China (22 - 24 July 2017).
13. The international conference "Silk Road International Symposium for Distinguished Young Scholars (SRIS, XJTU, 2017)". Xi'an, China (15 – 20 November 2017).
14. The "Ninth National Symposium on Engineering Postgraduate Education". Zhenjiang, China (3 - 4 November 2017).
15. The international conference "The 3rd South Lake Innovation Forum for International Young Talents". Wuhan, China (11-13 May 2018).
16. The workshop "How to Write a TEMPUS Project". Faculty of Medicine, Tanta University, Tanta, Egypt (10.12.2012)
17. A trainer for the workshop "Introduction to Biogas". Faculty of Science, Tanta University, Egypt (20-31 March 2014).
18. A trainer for the workshop "Bioreactor Design". Faculty of Science, Tanta University, Egypt (10-11 September 2014).
19. A trainer for the workshop "Microalgae for Integrated Bio-Food and Bio-Energy Production".

College of Life Sciences, Northwest Agriculture and Forest University, Yangling, China (27 - 28 July 2017).

20. A trainer for the workshop "Experimental Evaluation of microalgae Application for bio-Health". College of Life Sciences, Northwest Agriculture and Forest University, Yangling, China (20 – 22 November 2017).

E. Research in progress

My major is interdisciplinary of microbiology and environmental engineering. We have published 127 SCI papers (per SCOPUS), most of them are in Q1 journals, with 6 papers as "Highly Cited Paper" per Web of Science May 2022, in addition to 5 Chinese authorized patents. Recently in 2020, we published a very valuable review article in one of the top energy journals "Progress in Energy and Combustion Science" (CiteScore 56.4 and Impact Factor 29.4, click here) to be one of the top 100 influencing papers in China for 2021. In 2020, I was one of the World's Top 2% of Scientists List published by Stanford University. In addition, we edited a valuable book entitled "Waste-to-Energy: Recent Developments and Future Perspectives towards Circular Economy" published by Springer Nature in 2022. Me and my team got in total 19 awards for our research achievements.

Currently, I'm the founder and head of the New Energy and Environmental Laboratory (NEEL) at School of Architecture and Civil Engineering, Chengdu University. My research group is primarily working on waste management and biotechnologies for biofuel and valuable compounds production. Our lab focuses on finding proper solutions to the environmental issues in China as well as all over the world, with high quality publications. My overall research goal is to develop sustainable processes that produce specific products from wastes in order to achieve circular economy and participate in the implementation of breakthrough technologies by bringing new solutions to academic and industry all over the world. Specific research in our lab include;

1- Algal Biotechnology for integrated waste recycling.
2- CO_2 sequestration by photosynthetic organisms
3- Waste recycling for circular bio-economy
4- Biofuel production (including biodiesel, bioethanol, biogas, and crude bio-oil) from waste resources
5- Microbial omics (including genomics, transcriptomics, proteomics, and metabolomics).
6- Advanced wastewater treatment techniques.
7- Downstream processing to achieve zero-waste routes.

IV. Service/Outreach

A. Editorial activities

1. Biomass Conversion and Biorefinery (Editor)
2. Green Energy and Environmental Technology (Editor)
3. Applied Energy (Guest Editor)
4. Frontiers in Bioengineering and Biotechnology (Guest Editor)
5. Fermentation (Guest Editor)
6. Frontiers in Marine Science (Guest Editor)
7. Sustainability (Guest Editor)
8. Sustainable Energy Technologies and Assessments (Guest Editor)
9. Environment, Development and Sustainability (Guest Editor)
10. Water Science and Technology (Guest Editor)
11. Journal of Energy Resources and Conversion (Editor)
12. Journal of Energy Conservation (Editor)
13. SCIREA Journal of Energy (Editor)
14. Journal of Membrane Science & Technology (Editor)
15. American Journal of Current & Applied Research in Microbiology (Editor)
16. Journal of Biomedical Research & Environmental Sciences (Editor)

B. Reviewer activities

I have served as a reviewer for 344 reviewed papers for reputed publishers such as Elsevier (221 papers) and Springer Nature (62 papers). Some of the journals are as follows (in the last 10 years);

No.	Journals	Reviews
1.	Renewable Energy	39
2.	Bioresource Technology	29
3.	Biomass & Bioenergy	20
4.	Science of the Total Environment	19
5.	Renewable & Sustainable Energy Reviews	16
6.	Fuel	15
7.	Energy Conversion and Management	12
8.	Chemical Engineering Journal	9
9.	Energy	8

CERTIFICATION: *I, the undersigned, certify that, to the best of my knowledge and belief, this biodata correctly describe myself, my qualifications and my experience. I understand*

that any willful misstatement described herein may lead to my disqualification.

Abdelfatah Abomohra

China, June 2022