References

Abou-Shanab, R. A., Ji, M. K., Kim, H. C., Paeng, K. J., & Jeon, B. H., (2013), "Microalgal species growing on piggery wastewater as a valuable candidate for nutrient removal and biodiesel production", *Journal of Environmental Management*, Vol.115, pp.257-264.

Abreu, I. N., Aksmann, A., Bajhaiya, A. K., Benlloch, R., Giordano, M., Pokora, W., ... & Moritz, T., (2020), "Changes in lipid and carotenoid metabolism in *Chlamydomonas reinhardtii* during induction of CO_2-concentrating mechanism: Cellular response to low CO_2 stress", *Algal Research*, Vol.*52*, pp.102099.

Aelterman, P., Rabaey, K., Pham, H. T., Boon, N., & Verstraete, W., (2006), "Continuous electricity generation at high voltages and currents using stacked microbial fuel cells", *Environmental Science & Technology*, Vol.40, No.10, pp.3388-3394.

Ahirwar, A., Das, S., Das, S., Yang, Y. H., Bhatia, S. K., Vinayak, V., & Ghangrekar, M. M., (2023), "Photosynthetic microbial fuel cell for bioenergy and valuable production: A review of circular bio-economy approach", *Algal Research*, Vol.70, pp.102973.

Ahmad, I., Sharma, A. K., Daniell, H., & Kumar, S., (2015), "Altered lipid composition and enhanced lipid production in green microalga by introduction of brassica diacylglycerol acyltransferase 2", *Plant Biotechnology Journal*, Vol.13, No.4, pp.540-550.

Alhakmani, F., Kumar, S., Khan, & S.A., (2013), "Estimation of total phenolic content, in-vitro antioxidant and anti-inflammatory activity of flowers of *Moringa oleifera*", *Asian Pacific Journal of Tropical Biomedicine*, Vol.3, No.8, pp.623–627.

Ali, J., Wang, L., Waseem, H., Song, B., Djellabi, R., & Pan, G., (2020), "Turning harmful algal biomass to electricity by microbial fuel cell: A sustainable approach for waste management", *Environmental Pollution*, Vol.266, No.2, pp.115373.

Al-Mamun, A., Lefebvre, O., Baawain, M. S., & Ng, H. Y., (2016), "A sandwiched denitrifying biocathode in a microbial fuel cell for electricity generation and waste minimization", *International Journal of Environmental Science & Technology*, Vol.13, pp.1055-1064.

Amendola, S., Kneip, J. S., Meyer, F., Perozeni, F., Cazzaniga, S., Lauersen, K. J., ... & Baier, T., (2023), "Metabolic engineering for efficient ketocarotenoid accumulation in the green microalga *Chlamydomonas reinhardtii*", *ACS Synthetic Biology*, Vol.12, No.3, pp.820-831.

APHA, (1926) "Standard methods for the examination of water and wastewater", American Public Health Association, Vol.6.

Angioni, S., Millia, L., Mustarelli, P., Doria, E., Temporiti, M. E., Mannucci, B., ... & Quartarone, E., (2018), "Photosynthetic microbial fuel cell with polybenzimidazole membrane: synergy between bacteria and algae for wastewater removal and biorefinery", *Heliyon*, Vol.4, No.3, pp.e00560.

Annamalai, J., Shanmugam, J., & Nallamuthu, T., (2016), "Salt stress enhancing the production of Phytochemicals in *Chlorella vulgaris* and *Chlamydomonas reinhardtii*", *Journal of Algal Biomass Utilization*, Vol.7, No.1, pp.37-44.

Apollon, W., Luna-Maldonado, A. I., Kamaraj, S. K., Vidales-Contreras, J. A., Rodríguez-Fuentes, H., Gómez-Leyva, J. F., & Aranda-Ruíz, J., (2021), "Progress and recent trends in photosynthetic assisted microbial fuel cells: A review", *Biomass and Bioenergy*, Vol.148, pp.106028.

Arends, J. B., & Verstraete, W., (2012), "100 years of microbial electricity production: three concepts for the future", *Microbial Biotechnology*, Vol.5, No.3, pp.333-346.

Baek, K., Yu, J., Jeong, J., Sim, S. J., Bae, S., & Jin, E., (2018), "Photoautotrophic production of macular pigment in a *Chlamydomonas reinhardtii* strain generated by using DNA-free CRISPR-Cas9 RNP-mediated mutagenesis", *Biotechnology and Bioengineering*, Vol.115, No.3, pp.719-728.

Banerjee, S., Ray, A., & Das, D., (2021), "Optimization of *Chlamydomonas reinhardtii* cultivation with simultaneous CO_2 sequestration and biofuels production in a biorefinery framework", *Science of The Total Environment*, Vol.762, pp.143080.

Banu, J. R., Kannah, R. Y., Kumar, M. D., Gunasekaran, M., Sivagurunathan, P., Park, J. H., & Kumar, G., (2018), "Recent advances on biogranules formation in dark hydrogen fermentation system: mechanism of formation and microbial characteristics", *Bioresource Technology*, Vol.268, pp.787-796.

Bard, A. J., & Faulkner, L. R., (2001), "Electrochemical methods: fundamentals and applications", (2nd ed.). New Jersey: Wiley.

Belinda, N.S., Swaleh, S., Mwonjoria, K.J., & Wilson, M.N., (2019), "Antioxidant activity, total phenolic and flavonoid content of selected Kenyan medicinal plants, sea algae and medicinal wild mushrooms", *African Journal of Pure and Applied Chemistry*, Vol.13, No.3, pp.43–48.

Bermejo, E., Ruiz-Domínguez, M. C., Cuaresma, M., Vaquero, I., Ramos-Merchante, A., Vega, J. M., ... & Garbayo, I., (2018), "Production of lutein, and polyunsaturated fatty acids by the acidophilic eukaryotic microalga *Coccomyxa onubensis* under abiotic stress by salt or ultraviolet light", *Journal of Bioscience and Bioengineering*, Vol.125, No.6, pp.669-67.

Blanken, W., Cuaresma, M., Wijffels, R. H., & Janssen, M., (2013), "Cultivation of microalgae on artificial light comes at a cost", *Algal Research*, Vol.2, No.4, pp.333-340.

Bond, D. R., Holmes, D. E., Tender, L. M., & Lovley, D. R., (2002), "Electrode-reducing microorganisms that harvest energy from marine sediments", *Science*, Vol.295, No.5554, pp.483-485.

Cai, T., Park, S. Y., & Li, Y., (2013), "Nutrient recovery from wastewater streams by microalgae: status and prospects", *Renewable and Sustainable Energy Reviews*, Vol.19, pp.360-369.

Cao, K., Cui, Y., Sun, F., Zhang, H., Fan, J., Ge, B., ... & Gao, Z., (2023), "Metabolic engineering and synthetic biology strategies for producing high-value natural pigments in Microalgae", *Biotechnology Advances*, Vol.68, pp.108236.

Chakraborty, B., Gayen, K., & Bhowmick, T. K., (2023), "Transition from synthetic to alternative media for microalgae cultivation: A critical review", *Science of The Total Environment*, Vol.897, pp.165412.

Chandrashekharaiah, P. S., Paul, V., Kodgire, S., Chawada, H., Thorat, R., Kushwaha, S., ... & Dasgupta, S., (2021), "Photoautotrophic cultivation of *Chlamydomonas reinhardtii* in open ponds of greenhouse", *Archives of Microbiology*, Vol.203, pp.1439-1450.

Chaturvedi, A., & Kundu, P. P., (2021), "Recent advances and perspectives in platinum-free cathode catalysts in microbial fuel cells", *Journal of Environmental Chemical Engineering*, Vol.9, No.4, pp.105662.

Chaudhuri, S. K., & Lovley, D. R., (2003), "Electricity generation by direct oxidation of glucose in mediatorless microbial fuel cells", *Nature Biotechnology*, Vol.21, No.10, pp.1229-1232.

Chen, Y., Du, H., Liang, H., Hong, T., & Li, T., (2023), "Enhanced carotenoid production in *Chlamydomonas reinhardtii* by overexpression of endogenous and exogenous beta-carotene ketolase (BKT) genes", *International Journal of Molecular Sciences*, Vol.24, No.14, pp.11382.

Chen, J. H., Nagarajan, D., Huang, Y., Zhu, X., Liao, Q., & Chang, J. S., (2022), "A novel and effective two-stage cultivation strategy for enhanced lutein production with *Chlorella sorokiniana*", *Biochemical Engineering Journal*, Vol.188, pp.108688.

Chen, G., Wang, B., Han, D., Sommerfeld, M., Lu, Y., Chen, F., & Hu, Q., (2015), "Molecular mechanisms of the coordination between astaxanthin and fatty acid biosynthesis in *Haematococcus pluvialis* (Chlorophyceae)", *The Plant Journal*, Vol.81, No.1, pp.95-107.

Chi, N. T. L., Mathimani, T., Manigandan, S., Shanmugam, S., Ha, N. T., Nhung, T. C., ... & Whangchai, K., (2022), "Small scale photobioreactor, outdoor open pond cultivation of *Chlorella* sp. and harvesting at log and stationary growth phase towards lipids and methyl ester production", *Fuel*, Vol.319, pp.123813.

Chioccioli, M., Hankamer, B., & Ross, I. L., (2014), "Flow cytometry pulse width data enables rapid and sensitive estimation of biomass dry weight in the microalgae *Chlamydomonas reinhardtii* and *Chlorella vulgaris*", *PLoS One*, Vol.9, No.5, pp.e97269.

Chisti, Y., (2007), "Biodiesel from microalgae", *Biotechnology Advances*, Vol.25, No.3, pp.294-306.

Choi, H. I., Hwang, S. W., Kim, J., Park, B., Jin, E., Choi, I. G., & Sim, S. J., (2021), "Augmented CO_2 tolerance by expressing a single H^+-pump enables microalgal valorization of industrial flue gas", *Nature Communications*, Vol.12, No.1, pp.6049.

Choi, S. P., Nguyen, M. T., & Sim, S. J., (2010), "Enzymatic pretreatment of *Chlamydomonas reinhardtii* biomass for ethanol production", *Bioresource Technology*, Vol.101, No.14, pp.5330-5336.

Chow, T. J., Su, H. Y., Tsai, T. Y., Chou, H. H., Lee, T. M., & Chang, J. S., (2015), "Using recombinant cyanobacterium (*Synechococcus elongatus*) with increased carbohydrate productivity as feedstock for bioethanol production via separate hydrolysis and fermentation process", *Bioresource Technology*, Vol.184, pp.33-41.

Chowdhury, H., & Loganathan, B., (2019), "Third-generation biofuels from microalgae: a review", *Current Opinion in Green and Sustainable Chemistry*, Vol.20, pp.39-44.

Christwardana, M., & Kwon, Y., (2017), "Yeast and carbon nanotube based biocatalyst developed by synergetic effects of covalent bonding and hydrophobic interaction for performance enhancement of membraneless microbial fuel cell", *Bioresource Technology*, Vol.225, pp.175–182.

Colombo, A., Marzorati, S., Lucchini, G., Cristiani, P., Pant, D., & Schievano, A., (2017), "Assisting cultivation of photosynthetic microorganisms by microbial fuel cells to enhance nutrients recovery from wastewater", *Bioresource Technology*, Vol.237, pp.240-248.

Commault, A. S., Laczka, O., Siboni, N., Tamburic, B., Crosswell, J. R., Seymour, J. R., & Ralph, P. J., (2017), "Electricity and biomass production in a bacteria-*Chlorella* based microbial fuel cell treating wastewater", *Journal of Power Sources*, Vol.356, pp.299-309.

Cordero, B. F., Couso, I., León, R., Rodríguez, H., & Vargas, M. Á., (2011), "Enhancement of carotenoids biosynthesis in *Chlamydomonas reinhardtii* by nuclear transformation using a phytoene synthase gene isolated from *Chlorella zofingiensis*", *Applied Microbiology and Biotechnology*, Vol.91, pp.341-351.

Couso, I., Vila, M., Rodriguez, H., Vargas, M. A., & León, R., (2011), "Overexpression of an exogenous phytoene synthase gene in the unicellular alga *Chlamydomonas reinhardtii* leads to an increase in the content of carotenoids", *Biotechnology Progress*, Vol.27, No.1, pp.54-60.

Crozet, P., Navarro, F. J., Willmund, F., Mehrshahi, P., Bakowski, K., Lauersen, K. J., ... & Lemaire, S. D., (2018), "Birth of a photosynthetic chassis: a MoClo toolkit enabling synthetic biology in the microalga *Chlamydomonas reinhardtii*", *ACS Synthetic Biology*, Vol.7, No.9, pp.2074-2086.

Cuaresma, M., Casal, C., Forján, E., & Vílchez, C., (2011), "Productivity and selective accumulation of carotenoids of the novel extremophile microalga *Chlamydomonas acidophila* grown with different carbon sources in batch systems", *Journal of Industrial Microbiology and Biotechnology*, Vol.38, No.1, pp.167-177.

Cui, H., Zhao, C., Xu, W., Zhang, H., Hang, W., Zhu, X., ... & Li, R., (2021), "Characterization of type-2 diacylglycerol acyltransferases in *Haematococcus lacustris* reveals their functions and engineering potential in triacylglycerol biosynthesis", *BMC Plant Biology*, Vol.21, No.1, pp.1-17.

Cui, H., Meng, F., Li, F., Wang, Y., Duan, W., & Lin, Y., (2017), "Two-stage mixotrophic cultivation for enhancing the biomass and lipid productivity of *Chlorella vulgaris*", *AMB Express*, Vol.7, No.1, pp.1-11.

Cui, Y., Rashid, N., Hu, N., Rehman, M.S.U., & Han, J.I., (2014), "Electricity generation and microalgae cultivation in microbial fuel cell using microalgae-enriched anode and bio-cathode", *Energy Conversion and Management*, Vol.79, pp.674–680.

Daneshvar, E., Wicker, R. J., Show, P. L., & Bhatnagar, A., (2022), "Biologically-mediated carbon capture and utilization by microalgae towards sustainable CO_2 biofixation and biomass valorization–A review", *Chemical Engineering Journal*, Vol.427, pp.130884.

Darwish, R., Gedi, M. A., Akepach, P., Assaye, H., Zaky, A. S., & Gray, D. A., (2020), "*Chlamydomonas reinhardtii* is a potential food supplement with the capacity to outperform *Chlorella* and *Spirulina*", *Applied Sciences*, Vol.10, No.19, pp.6736.

Das, S., Raj, R., Das, S., & Ghangrekar, M. M., (2023), "Evaluating application of photosynthetic microbial fuel cell to exhibit efficient carbon sequestration with concomitant value-added product recovery from wastewater: A review", *Environmental Science and Pollution Research*, Vol.30, No.44, pp.98995-99012.

Del Campo, A. G., Perez, J. F., Cañizares, P., Rodrigo, M. A., Fernandez, F. J., & Lobato, J., (2015), "Characterization of light/dark cycle and long-term performance test in a photosynthetic microbial fuel cell", *Fuel*, Vol.140, pp.209-216.

Del Campo, A. G., Cañizares, P., Rodrigo, M.A., Fernández, F.J. & Lobato, J., (2013), "Microbial fuel cell with an algae-assisted cathode: A preliminary assessment", *Journal of Power Sources,* Vol.242, pp.638–645.

Demets, R., Gheysen, L., Van Loey, A., & Foubert, I., (2023), "Antioxidative capacity of microalgal carotenoids for stabilizing n-3 LC-PUFA rich oil: Initial quantity is key", *Food Chemistry*, Vol.406, pp. 135044.

Devadasu, E., & Subramanyam, R., (2021), "Enhanced lipid production in *Chlamydomonas reinhardtii* caused by severe iron deficiency", *Frontiers in Plant Science*, Vol.12, pp.615577.

Do, M. H., Ngo, H. H., Guo, W., Chang, S. W., Nguyen, D. D., Liu, Y., ... & Kumar, M., (2020), "Microbial fuel cell-based biosensor for online monitoring wastewater quality: a critical review", *Science of The Total Environment*, Vol.712, pp.135612.

Do, M. H., Ngo, H. H., Guo, W. S., Liu, Y., Chang, S. W., Nguyen, D. D., ... & Ni, B. J., (2018), "Challenges in the application of microbial fuel cells to wastewater treatment and energy production: a mini review",*Science of the Total Environment*, Vol.639, pp.910-920.

Doyle, J. J., & Doyle, J. L., (1987), "A rapid DNA isolation procedure for small quantities of fresh leaf tissue", *Phytochemical Bulletin*, Vol.19, No.1, pp.11-15

Du, Z., Li, H., & Gu, T., (2007), "A state of the art review on microbial fuel cells: a promising technology for wastewater treatment and bioenergy", *Biotechnology Advances*, Vol.25, No.5, pp.464-482.

Elmekawy, A., Srikanth, S., Vanbroekhoven, K., de Wever, H. & Pant, D., (2014), "Bioelectro-catalytic valorization of dark fermentation effluents by acetate oxidizing bacteria in bioelectrochemical system (BES)", *Journal of Power Sources,* Vol.262, pp.183–191.

El-Mekkawi, S. A., Hussein, H. S., El-Enin, S. A., & El-Ibiari, N. N., (2019), "Assessment of stress conditions for carotenoids accumulation in *Chlamydomonas reinhardtii* as added-value algal products", *Bulletin of the National Research Centre*, Vol.43, pp.1-9.

El Shafay, S. M., Ali, S. S., & El-Sheekh, M. M., (2016), "Antimicrobial activity of some seaweeds species from Red sea, against multidrug resistant bacteria", *The Egyptian Journal of Aquatic Research*, Vol.42, No.1, pp.65-74.

Escudero, A., Hunter, C., Roberts, J., Helwig, K., & Pahl, O., (2020), "Pharmaceuticals removal and nutrient recovery from wastewaters by *Chlamydomonas acidophila*", *Biochemical Engineering Journal*, Vol.156, pp.107517.

Fakhimi, N., Torres, M. J., Fernandez, E., Galvan, A., Dubini, A., & Gonzalez-Ballester, D., (2024), "*Chlamydomonas reinhardtii* and *Microbacterium fakhimi* sp. nov., a mutualistic association that favor sustainable hydrogen production", *Science of The Total Environment*, Vol.913, pp.169559.
Falaise, C., François, C., Travers, M. A., Morga, B., Haure, J., Tremblay, R., ... & Mouget, J. L., (2016), "Antimicrobial compounds from eukaryotic microalgae against human pathogens and diseases in aquaculture", *Marine Drugs*, Vol.14, No.9, pp.159.
Fan, Y., Hu, H., & Liu, H., (2007), "Enhanced Coulombic efficiency and power density of air-cathode microbial fuel cells with an improved cell configuration", *Journal of Power Sources*, Vol.171, No.2, pp.348-354.
Fayyaz, M., Chew, K. W., Show, P. L., Ling, T. C., Ng, I. S., & Chang, J. S., (2020), "Genetic engineering of microalgae for enhanced biorefinery capabilities", *Biotechnology Advances*, Vol.43, pp.107554.
Fetzer, S., Bak, F., & Conrad, R., (1993), "Sensitivity of methanogenic bacteria from paddy soil to oxygen and desiccation", *FEMS Microbiology Ecology*, Vol.12, No.2, pp.107-115.
Fields, F. J., Lejzerowicz, F., Schroeder, D., Ngoi, S. M., Tran, M., McDonald, D., ... & Mayfield, S., (2020), "Effects of the microalgae *Chlamydomonas* on gastrointestinal health", *Journal of Functional Foods*, Vol.65, pp.103738.
Fuentes, J. L., Huss, V. A., Montero, Z., Torronteras, R., Cuaresma, M., Garbayo, I., & Vílchez, C., (2016), "Phylogenetic characterization and morphological and physiological aspects of a novel acidotolerant and halotolerant microalga *Coccomyxa onubensis* sp. nov.(Chlorophyta, Trebouxiophyceae)", *Journal of Applied Phycology*, Vol.28, pp.3269-3279.
Ganesan, A., Nawkarkar, P., Ali, S., Kajlaand, S., & Kumar, S., (2022), "Genetic Engineering of Microalgae for Enhanced Photosynthetic Efficiency, CO_2 Fixation, and Fuel-based Products. In Microalgae for Sustainable Products: The Green Synthetic Biology Platform", *The Royal Society of Chemistry*, Ch.7, pp.134-154.
Gao, S., Edmundson, S., & Huesemann, M., (2022), "Oxygen stress mitigation for microalgal biomass productivity improvement in outdoor raceway ponds", *Algal Research*, Vol.68, pp.102901
Gao, Z., Meng, C., Chen, Y. C., Ahmed, F., Mangott, A., Schenk, P. M., & Li, Y., (2015), "Comparison of astaxanthin accumulation and biosynthesis gene expression of three *Haematococcus pluvialis* strains upon salinity stress", *Journal of Applied Phycology*, Vol.27, pp.1853-1860.
Gerloff-Elias, A., Barua, D., Mölich, A., & Spijkerman, E., (2006), "Temperature-and pH-dependent accumulation of heat-shock proteins in the acidophilic green alga *Chlamydomonas acidophila*", *FEMS Microbiology Ecology*, Vol.56, No.3, pp.345-354.
Ghasemi, M., Daud, W. R. W., Ismail, A. F., Jafari, Y., Ismail, M., Mayahi, A., & Othman, J., (2013), "Simultaneous wastewater treatment and electricity generation by microbial fuel cell: performance comparison and cost investigation of using Nafion 117 and SPEEK as separators", *Desalination*, Vol.325, pp.1-6.
Gong, M., & Bassi, A., (2016), "Carotenoids from microalgae: A review of recent developments", *Biotechnology Advances*, Vol.34, No.8, pp.1396-1412.
Gopal, N. S., & Sudhakar, K., (2016), "Ultraviolet modification of *Chlamydomonas reinhardtii* for carbon capture", *Research and Reports in Biology*, Vol.7, pp.41-46.
Goria, K., Singh, H. M., Singh, A., Kothari, R., & Tyagi, V. V., (2023), "Insights into biohydrogen production from algal biomass: Challenges, recent advancements and future directions", *International Journal of Hydrogen Energy*, Vol.52, pp.127-151.
Gouveia, L., Neves, C., Sebastião, D., Nobre, B. P., & Matos, C. T., (2014), "Effect of light on the production of bioelectricity and added-value microalgae biomass in a photosynthetic alga microbial fuel cell", *Bioresource Technology*, Vol.154, pp.171-177.
Greenman, J., Mendis, A., You, J., Gajda, I., Horsfield, I., & Ieropoulos, I., (2021), "Microbial fuel cell based thermosensor for robotic applications", *Frontiers in Robotics and AI*, Vol.8, pp.558953.
Gressel, J., van der Vlugt, C. J., & Bergmans, H. E., (2013), "Environmental risks of large scale cultivation of microalgae: mitigation of spills", *Algal Research*, Vol.2, No.3, pp.286-298.
Hamidian, N., & Zamani, H., (2022), "Biomass production and nutritional properties of *Chlorella sorokiniana* grown on dairy wastewater", *Journal of Water Process Engineering*, Vol.47, pp.102760.
Hang, L. T., Mori, K., Tanaka, Y., Morikawa, M., & Toyama, T., (2020), "Enhanced lipid productivity of *Chlamydomonas reinhardtii* with combination of NaCl and $CaCl_2$ stresses", *Bioprocess and Biosystems Engineering*, Vol.43, pp.971-980.
Harris, E. H., (1998), "Introduction to *Chlamydomonas*. In *The molecular biology of chloroplasts and mitochondria in Chlamydomonas*", Dordrecht: Springer Netherlands. Vol.7, pp.1-11.
Mann, D., & Jahns, H. M., (1995), "Algae: an introduction to phycology", Cambridge university press.
Hou, Q., Cheng, J., Nie, C., Pei, H., Jiang, L., Zhang, L., & Yang, Z., (2017), "Features of *Golenkinia* sp. and microbial fuel cells used for the treatment of anaerobically digested effluent from kitchen waste at different dilutions", *Bioresource Technology*, Vol.240, pp.130-136.

Hou, Q., Pei, H., Hu, W., Jiang, L., & Yu, Z., (2016), "Mutual facilitations of food waste treatment, microbial fuel cell bioelectricity generation and *Chlorella vulgaris* lipid production", *Bioresource Technology*, Vol.203, pp.50-55.
Hu, X., Zhou, J., & Liu, B., (2016), "Effect of algal species and light intensity on the performance of an air-lift-type microbial carbon capture cell with an algae-assisted cathode", *RSC Advances*, Vol.6, No.30, pp.25094-25100.
Huang, D., Liu, C., Su, M., Zeng, Z., Wang, C., Hu, Z., ... & Li, H., (2023), "Enhancement of β-carotene content in *Chlamydomonas reinhardtii* by expressing bacterium-driven lycopene β-cyclase", *Biotechnology for Biofuels and Bioproducts*, Vol.16, No.1, pp.1-8.
Huang, K., Su, Z., He, M., Wu, Y., & Wang, M., (2022), "Simultaneous accumulation of astaxanthin and β-carotene in *Chlamydomonas reinhardtii* by the introduction of foreign β-carotene hydroxylase gene in response to high light stress", *Biotechnology Letters*, Vol.44, No.2, pp.321-331.
Huang, L. F., Lin, J. Y., Pan, K. Y., Huang, C. K., & Chu, Y. K., (2015), "Overexpressing ferredoxins in *Chlamydomonas reinhardtii* increase starch and oil yields and enhance electric power production in a photo microbial fuel cell", *International Journal of Molecular Sciences*, Vol.16, No.8, pp.19308-19325.
Huarachi-Olivera, R., Dueñas-Gonza, A., Yapo-Pari, U., Vega, P., Romero-Ugarte, M., Tapia, J., ... & Esparza, M., (2018), "Bioelectrogenesis with microbial fuel cells (MFCs) using the microalga *Chlorella vulgaris* and bacterial communities", *Electronic Journal of Biotechnology*, Vol.31, pp.34-43.
Hurkman, W. J., & Tanaka, C. K., (1986), "Solubilization of plant membrane proteins for analysis by two-dimensional gel electrophoresis", *Plant Physiology*, Vol.81, No.3, pp.802-806.
James, G. O., Hocart, C. H., Hillier, W., Price, G. D., & Djordjevic, M. A., (2013), "Temperature modulation of fatty acid profiles for biofuel production in nitrogen deprived *Chlamydomonas reinhardtii*", *Bioresource Technology*, Vol.127, pp.441-447.
Jayshree, A., Jayashree, S., & Thangaraju, N., (2016), "*Chlorella vulgaris* and *Chlamydomonas reinhardtii*: effective antioxidant, antibacterial and anticancer mediators", *Indian Journal of Pharmaceutical Sciences*, Vol.78, No.5, pp.575-581.
Jeanneret, R., Contino, M., & Polin, M., (2016), "A brief introduction to the model microswimmer *Chlamydomonas reinhardtii*", *The European Physical Journal Special Topics*, Vol.225, pp.2141-2156.
Jeong, B. R., Jang, J., & Jin, E., (2023), "Genome engineering via gene editing technologies in microalgae", *Bioresource Technology*, Vol.373, pp.128701.
Jia, B., Yin, J., Li, X., Li, Y., Yang, X., Lan, C., & Huang, Y., (2022), "Increased Lipids in *Chlamydomonas reinhardtii* by Multiple Regulations of DOF, LACS2, and CIS1", *International Journal of Molecular Sciences*, Vol.23, No.17, pp.10176.
Kao, P. H., & Ng, I. S., (2017), "CRISPRi mediated phosphoenolpyruvate carboxylase regulation to enhance the production of lipid in *Chlamydomonas reinhardtii*", *Bioresource Technology*, Vol.245, pp.1527-1537.
Kakarla, R., & Min, B., (2019), "Sustainable electricity generation and ammonium removal by microbial fuel cell with a microalgae assisted cathode at various environmental conditions", *Bioresource Technology*, Vol.284, pp.161-167.
Kakarla, R., Kim, J. R., Jeon, B. H., & Min, B., (2015), "Enhanced performance of an air–cathode microbial fuel cell with oxygen supply from an externally connected algal bioreactor", *Bioresource Technology*, Vol.195, pp.210-216.
Kakarla, R., & Min, B., (2014), "Photoautotrophic microalgae *Scenedesmus obliquus* attached on a cathode as producers for microbial fuel cell (MFC) operation", *International Journal of Hydrogen Energy*, Vol.39, No.19, pp.10275-10283.
Kaloudas, D., Pavlova, N., & Penchovsky, R., (2021), "Phycoremediation of wastewater by microalgae: a review", *Environmental Chemistry Letters*, Vol.19, pp.2905-2920.
Kang, N. K., Baek, K., Koh, H. G., Atkinson, C. A., Ort, D. R., & Jin, Y. S., (2022), "Microalgal metabolic engineering strategies for the production of fuels and chemicals", *Bioresource Technology*, Vol.345, pp.126529.
Kannan, N., & Donnellan, P., (2021), "Algae-assisted microbial fuel cells: a practical overview", *Bioresource Technology Reports*, Vol.15, pp.100747.
KARLİKANOVAİTE-BALIKÇI, A., & ÖZGÜN, Ö. K., (2019), "Generation of electricity and sludge reduction in a microbial fuel cell", *Journal of International Environmental Application and Science*, Vol.15, No.3, pp.141-151.
Kazbar, A., Cogne, G., Urbain, B., Marec, H., Le-Gouic, B., Tallec, J., ... & Pruvost, J., (2019), "Effect of dissolved oxygen concentration on microalgal culture in photobioreactors", *Algal Research*, Vol.39, pp.101432.
Khan, S. S., Amjad, M., Shareef, H., & Larkin, S., (2024), "Review of microbial fuel cell from a techno-economic perspective", *Energy Exploration and Exploitation*, Vol.42, No.1, pp.373-398.

Khandelwal, A., Chhabra, M., & Lens, P. N., (2023), "Integration of third generation biofuels with bio-electrochemical systems: Current status and future perspective", *Frontiers in Plant Science*, Vol.14, pp.1081108.

Khandelwal, A., Dhindhoria, K., Dixit, A., & Chhabra, M., (2021), "Superiority of activated graphite/CuO composite electrode over Platinum based electrodes as cathode in algae assisted microbial fuel cell", *Environmental Technology and Innovation*, Vol.24, pp.101891.

Khandelwal, A., Chhabra, M., & Yadav, P., (2020), "Performance evaluation of algae assisted microbial fuel cell under outdoor conditions", *Bioresource Technology*, Vol.310, pp.123418.

Khandelwal, A., Vijay, A., Dixit, A., Chhabra & M., (2018), "Microbial fuel cell powered by lipid extracted algae: A promising system for algal lipids and power generation", *Bioresource Technology,* Vol.247, pp.520–527.

Khona, D. K., Shirolikar, S. M., Gawde, K. K., Hom, E., Deodhar, M. A., & D'Souza, J. S., (2016), "Characterization of salt stress-induced palmelloids in the green alga, *Chlamydomonas reinhardtii*", *Algal Research*, Vol.16, pp.434-448.

Kiener, A., & Leisinger, T., (1983), "Oxygen sensitivity of methanogenic bacteria. *Systematic and Applied Microbiology*, Vol.4, No.3, pp.305-312.

Kim, E. J., Kim, S., Choi, H. G., & Han, S. J., (2020), "Co-production of biodiesel and bioethanol using psychrophilic microalga *Chlamydomonas* sp. KNM0029C isolated from Arctic sea ice", *Biotechnology for Biofuels*, Vol.13, No.1, pp.1-13.

Kim, U., Cho, D. H., Heo, J., Yun, J. H., Choi, D. Y., Cho, K., & Kim, H. S., (2020), "Two-stage cultivation strategy for the improvement of pigment productivity from high-density heterotrophic algal cultures", *Bioresource Technology*, Vol.302, pp.122840.

Kim, J., Kwak, H. S., Sim, S. J., & Jin, E., (2019), "Overexpression of malic enzyme isoform 2 in *Chlamydomonas reinhardtii* PTS42 increases lipid production", *Bioresource Technology Reports*, Vol.7, pp.100239.

Kim, I. S., Chae, K. J., Choi, M. J., & Verstraete, W., (2008), "Microbial fuel cells: recent advances, bacterial communities and application beyond electricity generation", *Environmental Engineering Research*, Vol.13, No.2, pp.51-65.

Kim, J.R., Min, B. & Logan, B.E., (2005), "Evaluation of procedures to acclimate a microbial fuel cell for electricity production", *Applied Microbiology and Biotechnology*, Vol.68, pp.23–30.

Kim, B. H., Kim, H. J., Hyun, M. S., & Park, D. H., (1999), "Direct electrode reaction of Fe (III)-reducing bacterium, *Shewanella putrefaciens*", *Journal of Microbiology and Biotechnology*, Vol.9, No.2, pp.127-131.

Kindle, K. L., (1990), "High-frequency nuclear transformation of *Chlamydomonas reinhardtii*", *Proceedings of the National Academy of Sciences*, Vol.87, No.3, pp.1228-1232.

Kishi, M., Nagatsuka, K., & Toda, T., (2020), "Effect of membrane hydrophobicity and thickness on energy-efficient dissolved oxygen removal from algal culture", *Frontiers in Bioengineering and Biotechnology*, Vol.8, pp.978.

Klassen, V., Blifernez-Klassen, O., Bax, J., & Kruse, O., (2020), "Wastewater-borne microalga *Chlamydomonas* sp.: A robust chassis for efficient biomass and biomethane production applying low-N cultivation strategy", *Bioresource Technology*, Vol.315, pp.123825.

Kong, F., Li, M., Liu, K., Ge, Y., Yamasaki, T., Beyly-Adriano, A., ... & Li-Beisson, Y., (2023), "Efficient approaches for nuclear transgene stacking in the unicellular green microalga *Chlamydomonas reinhardtii*", *Algal Research*, Vol.71, pp.103048.

Kong, W. B., Yang, H., Cao, Y. T., Song, H., Hua, S. F., & Xia, C. G., (2013), "Effect of glycerol and glucose on the enhancement of biomass, lipid and soluble carbohydrate production by *Chlorella vulgaris* in mixotrophic culture", *Food Technology and Biotechnology*, Vol.51, No.1, pp.62.

Kong, Q. X., Li, L., Martinez, B., Chen, P., & Ruan, R., (2010), "Culture of microalgae *Chlamydomonas reinhardtii* in wastewater for biomass feedstock production", *Applied biochemistry and Biotechnology*, Vol.160, pp.9-18.

Kothari, R., Pandey, A., Ahmad, S., Kumar, A., Pathak, V. V., & Tyagi, V. V., (2017), "Microalgal cultivation for value-added products: a critical enviro-economical assessment", *3 Biotech*, Vol.7, pp.1-15.

Kumar, T., & Jujjavarapu, S. E., (2023), "Carbon dioxide sequestration and wastewater treatment via an innovative self-sustaining algal microbial fuel cell", *Journal of Cleaner Production*, Vol.415, pp.137836.

Kumar, G., Shekh, A., Jakhu, S., Sharma, Y., Kapoor, R., & Sharma, T. R., (2020), "Bioengineering of microalgae: recent advances, perspectives, and regulatory challenges for industrial application", *Frontiers in Bioengineering and Biotechnology*, Vol.8, pp.914.

Kumar, S., (2015), "GM algae for biofuel production: biosafety and risk assessment". *Collection of Biosafety Reviews*, Vol.9, pp.52-75.

Lakshmidevi, R., Gandhi, N. N., & Muthukumar, K., (2020), "Carbon neutral electricity production from municipal solid waste landfill leachate using algal-assisted microbial fuel cell", *Applied Biochemistry and Biotechnology*, Vol.191, pp.852-866.

Lan, J. C. W., Raman, K., Huang, C. M., & Chang, C. M., (2013), "The impact of monochromatic blue and red LED light upon performance of photo microbial fuel cells (PMFCs) using *Chlamydomonas reinhardtii* transformation F5 as biocatalyst", *Biochemical Engineering Journal*, Vol.78, pp.39-43.
Larminie, J., & Dicks, A., (2003), "Fuel Cell Systems Explained", Wiley, New York.
León, R., Couso, I., & Fernández, E., (2007), "Metabolic engineering of ketocarotenoids biosynthesis in the unicelullar microalga *Chlamydomonas reinhardtii*", *Journal of Biotechnology*, Vol.130, No.2, pp.143-152.
Leong, J. X., Daud, W. R. W., Ghasemi, M., Liew, K. B., & Ismail, M., (2013), "Ion exchange membranes as separators in microbial fuel cells for bioenergy conversion: a comprehensive review", *Renewable and Sustainable Energy Reviews*, Vol.28, pp.575-587.
Levring, T., (1969), "Classification of the algae", *Marine algae: A survey of research and utilization*, Vol.1, pp.47-125.
Li, J., Xu, M., Wang, J., Lan, C., & Lai, J., (2023), "Effects of nutrient limitation on cell growth, exopolysaccharide secretion and TEP production of *Phaeocystis globosa*", *Marine Environmental Research*, Vol.183, pp.105801.
Li, Q., You, J., Qiao, T., Zhong, D. B., & Yu, X., (2022), "Sodium chloride stimulates the biomass and astaxanthin production by *Haematococcus pluvialis* via a two-stage cultivation strategy", *Bioresource Technology*, Vol.344, pp.126214.
Li, M., Zhou, M., Luo, J., Tan, C., Tian, X., Su, P., & Gu, T., (2019), "Carbon dioxide sequestration accompanied by bioenergy generation using a bubbling-type photosynthetic algae microbial fuel cell", *Bioresource Technology*, Vol.280, pp.95-103.
Li, W. W., Sheng, G. P., Liu, X. W., & Yu, H. Q., (2011), "Recent advances in the separators for microbial fuel cells", *Bioresource Technology*, Vol.102, No.1, pp.244-252.
Liakh, I., Harshkova, D., Hrouzek, P., Bišová, K., Aksmann, A., & Wielgomas, B., (2023), "Green alga *Chlamydomonas reinhardtii* can effectively remove diclofenac from the water environment–A new perspective on biotransformation", *Journal of Hazardous Materials*, Vol.455, pp.131570.
Lichtenthaler, H. K., & Buschmann, C., (2001), "Chlorophylls and carotenoids: Measurement and characterization by UV-VIS spectroscopy", *Current Protocols in Food Analytical Chemistry*, Vol.1, No.1, pp.F4.3.1-F4.3.8.
Lin, W. R., Tan, S. I., Hsiang, C. C., Sung, P. K., & Ng, I. S., (2019a), "Challenges and opportunity of recent genome editing and multi-omics in cyanobacteria and microalgae for biorefinery", *Bioresource Technology*, Vol.291, pp.121932.
Lin, B., Cui, Y., Yan, M., Wang, Y., Gao, Z., Meng, C., & Qin, S., (2019b), "Construction of astaxanthin metabolic pathway in the green microalga *Dunaliella viridis*", *Algal Research*, Vol.44, pp.101697.
Little, S. M., Senhorinho, G. N., Saleh, M., Basiliko, N., & Scott, J. A., (2021), "Antibacterial compounds in green microalgae from extreme environments: a review", *Algae*, Vol.36, No.1, pp.61-72.
Liu, C., Guo, H., Zhao, X., Zou, B., Sun, T., Feng, J., ... & Li, H., (2023), "Overexpression of 18S rRNA methyltransferase CrBUD23 enhances biomass and lutein content in *Chlamydomonas reinhardtii*", *Frontiers in Bioengineering and Biotechnology*, Vol.11, pp.1102098.
Liu, Y., Guo, S., Wang, J., & Li, C., (2022), "Fundamental development and research of cathodic compartment in microbial fuel cells: A review", *Journal of Environmental Chemical Engineering*, Vol.10, No.3, pp.107918.
Liu, T., Rao, L., Yuan, Y., Zhuang, L., (2015), "Bioelectricity generation in a microbial fuel cell with a self-sustainable photocathode", *The Scientific World Journal,* Vol.2015.
Liu, X. W., Li, W. W., & Yu, H. Q., (2014), "Cathodic catalysts in bioelectrochemical systems for energy recovery from wastewater", *Chemical Society Reviews*, Vol.43, No.22, pp.7718-7745.
Liu, H., Cheng, S. & Logan, B.E., (2005), "Production of electricity from acetate or butyrate using a single-chamber microbial fuel cell", *Environmental Science & Technology,* Vol.39, pp.658–662.
Logan, B. E., Wallack, M. J., Kim, K. Y., He, W., Feng, Y., & Saikaly, P. E., (2015), "Assessment of microbial fuel cell configurations and power densities", *Environmental Science & Technology Letters*, Vol.2, No.8, pp.206-214.
Logan, B. E., (2012), "Essential data and techniques for conducting microbial fuel cell and other types of bioelectrochemical system experiments", *ChemSusChem*, Vol.5, No.6, pp.988-994.
Logan, B. E., (2009), "Exoelectrogenic bacteria that power microbial fuel cells", *Nature Reviews Microbiology*, Vol.7, No.5, pp.375-381.
Logan, B. E., (2008), "Microbial fuel cells", John Wiley & Sons.
Logan, B. E., Hamelers, B., Rozendal, R., Schröder, U., Keller, J., Freguia, S., ... & Rabaey, K., (2006), "Microbial fuel cells: methodology and technology", *Environmental Science & Technology*, Vol.40, No.17, pp.5181-5192.
López Zavala, M. Á., Gonzalez Pena, O. I., Cabral Ruelas, H., Delgado Mena, C., & Guizani, M., (2019), "Use of cyclic voltammetry to describe the electrochemical behavior of a dual-chamber microbial fuel cell", *Energies*, Vol.12, No.18, pp.3532.

Ma, Y., Hou, Y., Wang, W., Cui, M., Guo, Z., Han, T., ... & Zhao, L., (2023), "Insights into Carbon Utilization Under Mixotrophic Conditions in *Chlamydomonas*", *Bioresource Technology*, Vol.374, pp.128788

Ma, R., Zhao, X., Xie, Y., Ho, S. H., & Chen, J., (2019), "Enhancing lutein productivity of *Chlamydomonas* sp. via high-intensity light exposure with corresponding carotenogenic genes expression profiles", *Bioresource Technology*, Vol.275, pp.416-420.

Maity, D., Guha Ray, P., Buchmann, P., Mansouri, M., & Fussenegger, M., (2023), "Blood-glucose-powered metabolic fuel cell for self-sufficient bioelectronics", *Advanced Materials*, Vol.35, No.21, pp.2300890.

Malla, A., Rosales-Mendoza, S., Phoolcharoen, W., & Vimolmangkang, S., (2021), Efficient transient expression of recombinant proteins using DNA viral vectors in freshwater microalgal species", *Frontiers in Plant Science*, Vol.12, pp.650820.

Maltsev, Y., Maltseva, K., Kulikovskiy, M., & Maltseva, S., (2021), "Influence of light conditions on microalgae growth and content of lipids, carotenoids, and fatty acid composition", *Biology*, Vol.10, No.10, pp.1060.

Mao, L., & Verwoerd, W. S., (2014), "Computational comparison of mediated current generation capacity of *Chlamydomonas reinhardtii* in photosynthetic and respiratory growth modes", *Journal of Bioscience and Bioengineering*, Vol.118, No.5, pp.565-574.

Masi, A., Leonelli, F., Scognamiglio, V., Gasperuzzo, G., Antonacci, A., & Terzidis, M. A., (2023), "*Chlamydomonas reinhardtii*: a factory of nutraceutical and food supplements for human health", *Molecules*, Vol.28, No.3, pp.1185.

Mata, T. M., Martins, A. A., & Caetano, N. S., (2010), "Microalgae for biodiesel production and other applications: a review", *Renewable and Sustainable Energy Reviews*, Vol.14, No.1, pp.217-232.

Meylani, V., Surahman, E., Fudholi, A., Almalki, W. H., Ilyas, N., & Sayyed, R. Z., (2023), "Biodiversity in microbial fuel cells: Review of a promising technology for wastewater treatment", *Journal of Environmental Chemical Engineering*, Vol.11, No.2, pp.109503.

Milano, J., Ong, H. C., Masjuki, H. H., Chong, W. T., Lam, M. K., Loh, P. K., & Vellayan, V., (2016), "Microalgae biofuels as an alternative to fossil fuel for power generation", *Renewable and Sustainable Energy Reviews*, Vol.58, pp.180-197.

Min, B., Cheng, S., Logan, B.E., (2005a), "Electricity generation using membrane and salt bridge microbial fuel cells", *Water Research,* Vol.39, pp.1675–1686.

Min, B., Kim, J., Oh, S., Regan, J. M., & Logan, B. E., (2005b), "Electricity generation from swine wastewater using microbial fuel cells", *Water Research*, Vol.39, No.20, pp.4961-4968.

Mink, J. E., Qaisi, R. M., Logan, B. E., & Hussain, M. M., (2014), "Energy harvesting from organic liquids in micro-sized microbial fuel cells", *Npg Asia Materials*, Vol.6, No.3, pp.e89-e89.

Mishra, K., Siwal, S. S., Saini, A. K., & Thakur, V. K., (2023), "Recent update on gasification and pyrolysis processes of lignocellulosic and algal biomass for hydrogen production", *Fuel*, Vol.332, pp.126169.

Mishra, A., & Chhabra, M., (2022), "Performance of photo-microbial fuel cell with *Dunaliella salina* at the saline cathode", *Bioresource Technology Reports*, Vol.19, pp.101199.

Mitra, M., Nguyen, K. M. A. K., Box, T. W., Berry, T. L., & Fujita, M., (2021), "Isolation and characterization of a heavy metal-and antibiotic-tolerant novel bacterial strain from a contaminated culture plate of *Chlamydomonas reinhardtii*, a green micro-alga", *F1000Research*, Vol.10, pp.533.

Moreira, J. B., Santos, T. D., Duarte, J. H., Bezerra, P. Q. M., de Morais, M. G., & Costa, J. A. V., (2023), "Role of microalgae in circular bioeconomy: from waste treatment to biofuel production", *Clean Technologies and Environmental Policy*, Vol.25, No.2, pp.427-437.

Morikawa, T., Uraguchi, Y., Sanda, S., Nakagawa, S., & Sawayama, S., (2018), "Overexpression of DnaJ-like chaperone enhances carotenoid synthesis in *Chlamydomonas reinhardtii*", *Applied Biochemistry and Biotechnology*, Vol.184, pp.80-91.

Morowvat, M. H., Rasoul-Amini, S., & Ghasemi, Y., (2010), "*Chlamydomonas* as a "new" organism for biodiesel production", *Bioresource Technology*, Vol.101, No.6, pp.2059-2062.

Mosey, M., Douchi, D., Knoshaug, E. P., & Laurens, L. M., (2021), "Methodological review of genetic engineering approaches for non-model algae", *Algal Research*, Vol.54, pp.102221.

Mukherjee, A., Patel, V., Shah, M. T., Jadhav, D. A., Munshi, N. S., Chendake, A. D., & Pant, D., (2022), "Effective power management system in stacked microbial fuel cells for onsite applications", *Journal of Power Sources*, Vol.517, pp.230684.

Nadzri, N. A. A., Yasin, N. H. M., Bakar, M. H. A., Thanakodi, S., Salehmin, M. N. I., Takriff, M. S., ... & Maeda, T., (2023), "Photosynthetic microbial desalination cell (PhMDC) using *Chlamydomonas* sp. (UKM6) and *Scenedesmus* sp. (UKM9) as biocatalysts for electricity production and water treatment", *International Journal of Hydrogen Energy*, Vol.48, No.31, pp.11860-11873.

Naina Mohamed, S., Ajit Hiraman, P., Muthukumar, K., & Jayabalan, T., (2020), "Bioelectricity production from kitchen wastewater using microbial fuel cell with photosynthetic algal cathode", *Bioresource Technology*, Vol.295, pp.122226.

Narala, R. R., Garg, S., Sharma, K. K., Thomas-Hall, S. R., Deme, M., Li, Y., & Schenk, P. M., (2016), "Comparison of microalgae cultivation in photobioreactor, open raceway pond, and a two-stage hybrid system", *Frontiers in Energy Research*, Vol.4, pp.29.

Nawkarkar, P., Kapase, V. U., Chaudhary, S., Kajla, S., & Kumar, S., (2023), "Heterogeneous diacylglycerol acyltransferase expression enhances lipids and PUFA in *Chlorella* species", *GCB Bioenergy*, Vol.15, No.10, pp.1240-1254.

Ndayisenga, F., Yu, Z., Yu, Y., Lay, C.H., & Zhou, D., (2018), "Bioelectricity generation using microalgal biomass as electron donor in a bio-anode microbial fuel cell", *Bioresource Technology*, Vol.270, pp.286–293.

Neethu, B., & Ghangrekar, M. M., (2017), "Electricity generation through a photo sediment microbial fuel cell using algae at the cathode", *Water Science and Technology*, Vol.76, No.12, pp.3269-3277.

Nguyen, H. T., Kakarla, R., & Min, B., (2017), "Algae cathode microbial fuel cells for electricity generation and nutrient removal from landfill leachate wastewater", *International Journal of Hydrogen Energy*, Vol.42, No.49, pp.29433-29442.

Nguyen, M. T., Choi, S. P., Lee, J., Lee, J. H., & Sim, S. J., (2009), "Hydrothermal acid pretreatment of *Chlamydomonas reinhardtii* biomass for ethanol production", *Journal of Microbiology and Biotechnology*, Vol.19, No.2, pp.161-166.

Nishio, K., Hashimoto, K., & Watanabe, K., (2013), "Light/electricity conversion by defined cocultures of *Chlamydomonas* and *Geobacter*", *Journal of Bioscience and Bioengineering,* Vol.115, pp.412–417.

Oh, S., Min, B. & Logan, B.E., (2004), "Cathode performance as a factor in electricity generation in microbial fuel cells", *Environmental Science & Technology*, Vol.38, pp.4900–4904.

Okamoto, A., Hashimoto, K. & Nakamura, R., (2012), "Long-range electron conduction of *Shewanella* biofilms mediated by outer membrane C-type cytochromes", *Bioelectrochemistry,* Vol.85, pp.61–65.

Okeke, E. S., Ejeromedoghene, O., Okoye, C. O., Ezeorba, T. P. C., Nyaruaba, R., Ikechukwu, C. K., ... & Orege, J. I., (2022), "Microalgae biorefinery: An integrated route for the sustainable production of high-value-added products", *Energy Conversion and Management: X*, Vol.16, pp.100323.

Pascoal, P. V., Ribeiro, D. M., Cereijo, C. R., Santana, H., Nascimento, R. C., Steindorf, A. S., ... & Brasil, B. S., (2021), "Biochemical and phylogenetic characterization of the wastewater tolerant *Chlamydomonas biconvexa Embrapa*| LBA40 strain cultivated in palm oil mill effluent", *PloS one*, Vol.16, No.4, pp.e0249089.

Pathak, J., Rajneesh, Maurya, P. K., Singh, S. P., Haeder, D. P., & Sinha, R. P., (2018), "Cyanobacterial farming for environment friendly sustainable agriculture practices: innovations and perspectives", *Frontiers in Environmental Science*, Vol.6, No.7, pp.1-13.

Paul, S., Bera, S., Dasgupta, R., Mondal, S., & Roy, S., (2021), "Review on the recent structural advances in open and closed systems for carbon capture through algae", *Energy Nexus*, Vol.4, pp.100032.

Pei, H., Yang, Z., Nie, C., Hou, Q., Zhang, L., Wang, Y., & Zhang, S., (2018), "Using a tubular photosynthetic microbial fuel cell to treat anaerobically digested effluent from kitchen waste: Mechanisms of organics and ammonium removal", *Bioresource Technology*, Vol.256, pp.11-16.

Perozeni, F., & Baier, T., (2023), "Current Nuclear Engineering Strategies in the Green Microalga *Chlamydomonas reinhardtii*", *Life*, Vol.13, No.7, pp.1566.

Perozeni, F., Cazzaniga, S., Baier, T., Zanoni, F., Zoccatelli, G., Lauersen, K. J., ... & Ballottari, M., (2020), "Turning a green alga red: engineering astaxanthin biosynthesis by intragenic pseudogene revival in *Chlamydomonas reinhardtii*", *Plant Biotechnology Journal*, Vol.18, No.10, pp.2053-2067.

Popat, S.C., Ki, D., Rittmann, B.E., & Torres, C.I., (2012), "Importance of OH^- transport from cathodes in microbial fuel cells", *ChemSusChem,* Vol.5, pp.1071–1079.

Potijun, S., Yaisamlee, C., & Sirikhachornkit, A., (2021), "Pigment production under cold stress in the green microalga *Chlamydomonas reinhardtii*", *Agriculture*, Vol.11, No.6, pp.564.

Qu, W., Show, P. L., Hasunuma, T., & Ho, S. H., (2020), "Optimizing real swine wastewater treatment efficiency and carbohydrate productivity of newly microalga *Chlamydomonas* sp. QWY37 used for cell-displayed bioethanol production", *Bioresource Technology*, Vol.305, pp.123072.

Rabaey, K., Lissens, G., Siciliano, S. D., & Verstraete, W., (2003), "A microbial fuel cell capable of converting glucose to electricity at high rate and efficiency", *Biotechnology Letters*, Vol.25, pp.1531-1535.

Radhakrishnan, R., Banerjee, S., Banerjee, S., Singh, V., & Das, D., (2021), "Sustainable approach for the treatment of poultry manure and starchy wastewater by integrating dark fermentation and microalgal cultivation", *Journal of Material Cycles and Waste Management*, Vol.23, pp.790-803.

Ramos, J. L., Pakuts, B., Godoy, P., García-Franco, A., & Duque, E., (2022), "Addressing the energy crisis: using microbes to make biofuels", *Microbial Biotechnology*, Vol.15, No.4, pp.1026-1030.

Rao, A. S., Reddy, S. G., Babu, P. P., & Reddy, A. R., (2010), "The antioxidant and antiproliferative activities of methanolic extracts from Njavara rice bran", *BMC Complementary and Alternative Medicine*, Vol.10, No.1, pp.1-9.

Rathod, J. P., Vira, C., Lali, A. M., & Prakash, G., (2020), "Metabolic engineering of *Chlamydomonas reinhardtii* for enhanced β-carotene and lutein production", *Applied Biochemistry and Biotechnology*, Vol.190, pp.1457-1469.
Reddy, C. N., Nguyen, H. T., Noori, M. T., & Min, B., (2019), "Potential applications of algae in the cathode of microbial fuel cells for enhanced electricity generation with simultaneous nutrient removal and algae biorefinery: Current status and future perspectives", *Bioresource Technology*, Vol.292, pp.122010.
Reguera, G., McCarthy, K. D., Mehta, T., Nicoll, J. S., Tuominen, M. T., & Lovley, D. R., (2005), "Extracellular electron transfer via microbial nanowires", *Nature*, Vol.435, No.7045, pp.1098-1101.
Ren, Y., Sun, H., Deng, J., Huang, J., & Chen, F., (2021), "Carotenoid production from microalgae: biosynthesis, salinity responses and novel biotechnologies", *Marine Drugs*, Vol.19, No.12, pp.713.
Rhoads, A., Beyenal, H., & Lewandowski, Z., (2005), "Microbial fuel cell using anaerobic respiration as an anodic reaction and biomineralized manganese as a cathodic reactant", *Environmental Science & Technology*, Vol.39, No.12, pp.4666-4671.
Rosenbaum, M., He, Z., & Angenent, L. T., (2010), "Light energy to bioelectricity: photosynthetic microbial fuel cells", *Current Opinion in Biotechnology*, Vol.21, No.3, pp.259-264.
Rosenbaum, M., Schröder, U., & Scholz, F., (2005), "Utilizing the green alga *Chlamydomonas reinhardtii* for microbial electricity generation: a living solar cell", *Applied Microbiology and Biotechnology*, Vol.68, pp.753-756.
Ruiz, J., Wijffels, R. H., Dominguez, M., & Barbosa, M. J., (2022), "Heterotrophic vs autotrophic production of microalgae: Bringing some light into the everlasting cost controversy", *Algal Research*, Vol.64, pp.102698.
Sánchez, C., Dessì, P., Duffy, M., & Lens, P. N., (2020), "Microbial electrochemical technologies: Electronic circuitry and characterization tools", *Biosensors and Bioelectronics*, Vol.150, pp.111884.
Santhakumaran, P., Ayyappan, S. M., & Ray, J. G., (2020), "Nutraceutical applications of twenty-five species of rapid-growing green-microalgae as indicated by their antibacterial, antioxidant and mineral content", *Algal Research*, Vol.47, pp.101878.
Santoro, C., Arbizzani, C., Erable, B., & Ieropoulos, I., (2017), "Microbial fuel cells: From fundamentals to applications. A review", *Journal of Power Sources*, Vol.356, pp.225-244.
Schad, A., Wagner, H., & Wilhelm, C., (2023), "Optimising biotechnological glycolate production in *Chlamydomonas reinhardtii* by improving carbon allocation towards the product", *Chemical Engineering Journal*, Vol.459, pp.141432.
Schröder, U., (2007), "Anodic electron transfer mechanisms in microbial fuel cells and their energy efficiency", *Physical Chemistry Chemical Physics*, Vol.9, No.21, pp.2619-2629.
Sebesta, J., Xiong, W., Guarnieri, M. T., & Yu, J., (2022), "Biocontainment of genetically engineered algae", *Frontiers in Plant Science*, Vol.13, pp.839446.
Sekar, N., & Ramasamy, R. P., (2013), "Electrochemical impedance spectroscopy for microbial fuel cell characterization", *Journal of Microbial & Biochemical Technology*, Vol.S6, No.2, pp.1-14.
Shannon, E., & Abu-Ghannam, N., (2016), "Antibacterial derivatives of marine algae: An overview of pharmacological mechanisms and applications", *Marine Drugs*, Vol.14, No.4, pp.81.
Shantaram, A., Beyenal, H., Veluchamy, R. R. A., & Lewandowski, Z., (2005), "Wireless sensors powered by microbial fuel cells", *Environmental Science & Technology*, Vol.39, No.13, pp.5037-5042.
Sharma, A., Nawkarkar, P., Kapase, V. U., Chhabra, M., & Kumar, S., (2024a), "Engineering of ketocarotenoid biosynthetic pathway in *Chlamydomonas reinhardtii* through exogenous gene expression", *Systems Microbiology and Biomanufacturing*, Vol.4, pp.983-995.
Sharma, A., Chhabra, M., & Kumar, S., (2024b), "Performance evaluation of genetically modified microalgae in photosynthetic microbial fuel cells for carotenoids and power generation. *Journal of Environmental Chemical Engineering*, Vol.12, No.3, pp.112751.
Sharma, A., Sarkar, P., Chhabra, M., Kumar, A., Kumar, A., Kothadia, H., & Mallick, A., (2023), "Carbon capture from petrol-engine flue gas: Reviving algae-based sequestration with integrated microbial fuel cells", *Chemical Engineering Journal*, Vol.476, pp.146578.
Sharma, A., & Chhabra, M., (2023), "The versatility of microbial fuel cells as tools for organic matter monitoring", *Bioresource Technology*, Vol.377, pp.128949.
Sharma, A., Gajbhiye, S., Chauhan, S., & Chhabra, M., (2021), "Effect of cathodic culture on wastewater treatment and power generation in a photosynthetic sediment microbial fuel cell (SMFC): *Canna indica* v/s *Chlorella vulgaris*", *Bioresource Technology*, Vol.340, pp.125645.
Sharma, A., & Chhabra, M., (2021), "Performance evaluation of a photosynthetic microbial fuel cell (PMFC) using *Chlamydomonas reinhardtii* at cathode", *Bioresource Technology*, Vol.338, pp.125499.
Shin, Y. S., Jeong, J., Nguyen, T. H. T., Kim, J. Y. H., Jin, E., & Sim, S. J., (2019), "Targeted knockout of phospholipase A2 to increase lipid productivity in *Chlamydomonas reinhardtii* for biodiesel production", *Bioresource Technology*, Vol.271, pp.368-374.

Shizas, I., & Bagley, D. M., (2004), "Experimental determination of energy content of unknown organics in municipal wastewater streams", *Journal of Energy Engineering*, Vol.130, No.2, pp.45-53.
Shukla, M., & Kumar, S., (2018), "Algal growth in photosynthetic algal microbial fuel cell and its subsequent utilization for biofuels", *Renewable and Sustainable Energy Reviews*, Vol.82, pp.402-414.
Singh, S. P., & Singh, P., (2015), "Effect of temperature and light on the growth of algae species: A review", *Renewable and Sustainable Energy Reviews*, Vol.50, pp.431-444.
Slate, A. J., Whitehead, K. A., Brownson, D. A., & Banks, C. E., (2019), "Microbial fuel cells: An overview of current technology", *Renewable and Sustainable Energy Reviews*, Vol.101, pp.60-81.
Sonawane, A. V., Rikame, S., Sonawane, S. H., Gaikwad, M., Bhanvase, B., Sonawane, S. S., ... & Gaikwad, R., (2024), "A review of microbial fuel cell and its diversification in the development of green energy technology, *Chemosphere*, Vol.350, pp.141127.
Song, I., Kim, S., Kim, J., Oh, H., Jang, J., Jeong, S. J., ... & Jin, E., (2022), "Macular pigment-enriched oil production from genome-edited microalgae", *Microbial Cell Factories*, Vol.21, No.1, pp.27.
Song, I., Kim, J., Baek, K., Choi, Y., Shin, B., & Jin, E., (2020), "The generation of metabolic changes for the production of high-purity zeaxanthin mediated by CRISPR-Cas9 in *Chlamydomonas reinhardtii*", *Microbial Cell Factories*, Vol.19, pp.1-9.
Sproles, A. E., Fields, F. J., Smalley, T. N., Le, C. H., Badary, A., & Mayfield, S. P., (2021), "Recent advancements in the genetic engineering of microalgae", *Algal Research*, Vol.53, pp.102158.
Sravan, J. S., Tharak, A., Modestra, J. A., Chang, I. S., & Mohan, S. V., (2021), "Emerging trends in microbial fuel cell diversification-Critical analysis", *Bioresource Technology*, Vol.326, pp.124676.
Sreenikethanam, A., Raj, S., Gugulothu, P., & Bajhaiya, A. K., (2022), "Genetic engineering of microalgae for secondary metabolite production: Recent developments, challenges, and future prospects", *Frontiers in Bioengineering and Biotechnology*, Vol.10, pp.836056.
Sun, J. P., Wei, X. H., Cong, X. M., Zhang, W. H., Qiu, L. X., & Zang, X. N., (2023), "Expression of fatty acid related gene promotes astaxanthin heterologous production in *Chlamydomonas reinhardtii*", *Frontiers in Nutrition*, Vol.10, pp.1130065.
Sun, X. M., Ren, L. J., Zhao, Q. Y., Ji, X. J., & Huang, H., (2018), "Microalgae for the production of lipid and carotenoids: a review with focus on stress regulation and adaptation", *Biotechnology for Biofuels*, Vol.11, pp.1-16.
Tan, J. S., Lee, S. Y., Chew, K. W., Lam, M. K., Lim, J. W., Ho, S. H., & Show, P. L., (2020), "A review on microalgae cultivation and harvesting, and their biomass extraction processing using ionic liquids", *Bioengineered*, Vol.11, No.1, pp.116-129.
Tan, C. P., Zhao, F. Q., Su, Z. L., Liang, C. W., & Qin, S., (2007), "Expression of β-carotene hydroxylase gene (crtR-B) from the green alga *Haematococcus pluvialis* in chloroplasts of *Chlamydomonas reinhardtii*", *Journal of Applied Phycology*, Vol.19, pp.347-355.
Thauer, R. K., Jungermann, K., & Decker, K., (1977), "Energy conservation in chemotrophic anaerobic bacteria", *Bacteriological Reviews*, Vol.41, No.1, pp.100-180.
Tokunaga, S., Morimoto, D., Koyama, T., Kubo, Y., Shiroi, M., Ohara, K., ... & Sawayama, S., (2021), "Enhanced lutein production in *Chlamydomonas reinhardtii* by overexpression of the lycopene epsilon cyclase gene", *Applied Biochemistry and Biotechnology*, Vol.193, pp.1967-1978.
Tong, K. T. X., Tan, I. S., Foo, H. C. Y., Show, P. L., Lam, M. K., & Wong, M. K., (2023), "Sustainable circular biorefinery approach for novel building blocks and bioenergy production from algae using microbial fuel cell", *Bioengineered*, Vol.14, No.1, pp.246-289.
Toyama, T., Kasuya, M., Hanaoka, T., Kobayashi, N., Tanaka, Y., Inoue, D., ... & Mori, K., (2018), "Growth promotion of three microalgae, *Chlamydomonas reinhardtii*, *Chlorella vulgaris* and *Euglena gracilis*, by in situ indigenous bacteria in wastewater effluent", *Biotechnology for Biofuels*, Vol.11, No.1, pp.1-12.
Tran, N. T., & Kaldenhoff, R., (2020), "Metabolic engineering of ketocarotenoids biosynthetic pathway in *Chlamydomonas reinhardtii* strain CC-4102", *Scientific Reports*, Vol.10, No.1, pp.1-11.
Tran, Q. G., Cho, K., Kim, U., Yun, J. H., Cho, D. H., Heo, J., ... & Kim, H. S., (2019), "Enhancement of β-carotene production by regulating the autophagy-carotenoid biosynthesis seesaw in *Chlamydomonas reinhardtii*", *Bioresource Technology*, Vol.292, pp.121937.
Tsai, T. H., Lin, J. Y., & Ng, I. S., (2022), "Cooperation of phytoene synthase, pyridoxal kinase and carbonic anhydrase for enhancing carotenoids biosynthesis in genetic *Chlamydomonas reinhardtii*", *Journal of the Taiwan Institute of Chemical Engineers*, Vol.137, pp.104184.
Udayan, A., Sirohi, R., Sreekumar, N., Sang, B. I., & Sim, S. J., (2022), "Mass cultivation and harvesting of microalgal biomass: Current trends and future perspectives", *Bioresource Technology*, Vol.344, pp.126406.
Velmurugan, A., & Muthukaliannan, G. K., (2022), "Genetic manipulation for carotenoid production in microalgae an overview", *Current Research in Biotechnology*, Vol.4, pp.221-228.
Vijay, A., Sonawane, J. M., & Chhabra, M., (2022), "Denitrification process in microbial fuel cell: A comprehensive review", *Bioresource Technology Reports*, Vol.17, pp.100991.

Vijay, A., Chhabra, M., & Vincent, T., (2019), "Microbial community modulates electrochemical performance and denitrification rate in a biocathodic autotrophic and heterotrophic denitrifying microbial fuel cell", *Bioresource Technology*, Vol.272, pp.217-225.

Vijay, A., Vaishnava, M., & Chhabra, M., (2016), "Microbial fuel cell assisted nitrate nitrogen removal using cow manure and soil", *Environmental Science and Pollution Research*, Vol.23, pp.7744-7756.

Vila, M., Galván, A., Fernández, E., & León, R., (2012), "Ketocarotenoid biosynthesis in microalgae expressing a foreign β-C-4-carotene oxygenase gene", *Microbial Carotenoids from Bacteria and Microalgae: Methods and Protocols*, Vol.892, pp.283-295.

Vinayak, V., Khan, M. J., Varjani, S., Saratale, G. D., Saratale, R. G., & Bhatia, S. K., (2021), "Microbial fuel cells for remediation of environmental pollutants and value addition: special focus on coupling diatom microbial fuel cells with photocatalytic and photoelectric fuel cells", *Journal of Biotechnology*, Vol.338, pp.5-19.

Virtanen, O., Khorobrykh, S., & Tyystjärvi, E., (2021), "Acclimation of *Chlamydomonas reinhardtii* to extremely strong light", *Photosynthesis Research*, Vol.147, No.1, pp.91-106.

Vishwakarma, J., & Vavilala, S. L., (2019), "Evaluating the antibacterial and antibiofilm potential of sulphated polysaccharides extracted from green algae *Chlamydomonas reinhardtii*", *Journal of Applied Microbiology*, Vol.127, No.4, pp.1004-1017.

Vyas, S., & Chhabra, M., (2019), "Assessing oil accumulation in the oleaginous yeast *Cystobasidium oligophagum* JRC1 using dairy waste cheese whey as a substrate", *3 Biotech*, Vol.9, pp.1-13.

Wagner N., Schnarnburger N., Mueller B., and Lang M., (1998) "Electrochemical impedance spectra of solid-oxide fuel cells and polymer membrane fuel cells", *Electrochimica Acta*, Vol.43, No.24, pp.3785 – 3790.

Wang, X., Hong, Y., & Zhang, Y., (2023), "Photosynthetic Algal Microbial Fuel Cell (PAMFC) for Wastewater Removal and Energy Recovery: A Review", *Current Pollution Reports*, Vol.9, pp.359-373.

Wang, C., & Lan, C. Q., (2018), "Effects of shear stress on microalgae–A review", *Biotechnology Advances*, Vol.36, No.4, pp.986-1002.

Wang, X., Ruan, Z., Sheridan, P., Boileau, D., Liu, Y., & Liao, W., (2015), "Two-stage photoautotrophic cultivation to improve carbohydrate production in *Chlamydomonas reinhardtii*", *Biomass and Bioenergy*, Vol.74, pp.280-287.

Wei, J., Liang, P., & Huang, X., (2011), "Recent progress in electrodes for microbial fuel cells", *Bioresource Technology*, Vol.102, No.20, pp.9335-9344.

Wiatrowski, M., Klein, B. C., Davis, R. W., Quiroz-Arita, C., Tan, E. C., Hunt, R. W., & Davis, R. E., (2022), "Techno-economic assessment for the production of algal fuels and value-added products: opportunities for high-protein microalgae conversion", *Biotechnology for Biofuels and Bioproducts*, Vol.15, No.1, pp.1-14.

Wood, N. J., Baker, A., Quinnell, R. J., & Camargo-Valero, M. A., (2020), "A simple and non-destructive method for chlorophyll quantification of *Chlamydomonas* cultures using digital image analysis", *Frontiers in Bioengineering and Biotechnology*, Vol.8, pp.746.

Wu, Y. cheng, Wang, Z. jie, Zheng, Y., Xiao, Y., Yang, Z. hui & Zhao, F., (2014), "Light intensity affects the performance of photo microbial fuel cells with *Desmodesmus* sp. A8 as cathodic microorganism", *Applied Energy*, Vol.116, pp.86–90.

Wu, L. F., Chen, P. C., Huang, A. P., & Lee, C. M., (2012), "The feasibility of biodiesel production by microalgae using industrial wastewater", *Bioresource Technology*, Vol.113, pp.14-18.

Xu, C., Poon, K., Choi, M. M., & Wang, R., (2015), "Using live algae at the anode of a microbial fuel cell to generate electricity", *Environmental Science and Pollution Research*, Vol.22, pp.15621-15635.

Yadav, K., Vasistha, S., Nawkarkar, P., Kumar, S., & Rai, M. P., (2022), "Algal biorefinery culminating multiple value-added products: recent advances, emerging trends, opportunities, and challenges", *3 Biotech*, Vol.12, No.10, pp.244.

Yadav, G., Shanmugam, S., Sivaramakrishnan, R., Kumar, D., Mathimani, T., Brindhadevi, K., ... & Rajendran, K., (2021), "Mechanism and challenges behind algae as a wastewater treatment choice for bioenergy production and beyond", *Fuel*, Vol.285, pp.119093.

Yadav, G., Sharma, I., Ghangrekar, M., & Sen, R., (2020), "A live bio-cathode to enhance power output steered by bacteria-microalgae synergistic metabolism in microbial fuel cell", *Journal of Power Sources*, Vol.449, pp.227560.

Yahya, R. Z., Wellman, G. B., Overmans, S., & Lauersen, K. J., (2023), "Engineered production of isoprene from the model green microalga *Chlamydomonas reinhardtii*", *Metabolic Engineering Communications*, Vol.16, pp.e00221.

Zachleder, V., Ivanov, I., Vítová, M., & Bišová, K., (2019), "Cell cycle arrest by supraoptimal temperature in the alga *Chlamydomonas reinhardtii*", *Cells*, Vol.*8*, No.10, pp.1237.

Zhang, H., Yan, Q., An, Z., & Wen, Z., (2022), "A revolving algae biofilm based photosynthetic microbial fuel cell for simultaneous energy recovery, pollutants removal, and algae production", *Frontiers in Microbiology*, Vol.13, pp.990807.

Zhang, Y., Zhao, Y., & Zhou, M., (2019), "A photosynthetic algal microbial fuel cell for treating swine wastewater", *Environmental Science and Pollution Research*, Vol.26, pp.6182-6190.

Zhang, Y., He, Q., Xia, L., Li, Y., & Song, S., (2018), "Algae cathode microbial fuel cells for cadmium removal with simultaneous electricity production using nickel foam/graphene electrode", *Biochemical Engineering Journal*, Vol.138, pp.179-187.

Zhao, F., Slade, R. C., & Varcoe, J. R., (2009), "Techniques for the study and development of microbial fuel cells: an electrochemical perspective", *Chemical Society Reviews*, Vol.38, No.7, pp.1926-1939.

Zheng, T., Li, J., Ji, Y., Zhang, W., Fang, Y., Xin, F., ... & Jiang, M., (2020), "Progress and prospects of bioelectrochemical systems: electron transfer and its applications in the microbial metabolism", *Frontiers in Bioengineering and Biotechnology*, Vol.8, pp.10.

Zheng, K., Wang, C., Xiao, M., Chen, J., Li, J., & Hu, Z., (2014), "Expression of *bkt* and *bch* genes from *Haematococcus pluvialis* in *Chlamydomonas*", *Science China Life Sciences*, Vol.57, pp.1028-1033.

Zhi, W., Ge, Z., He, Z., & Zhang, H., (2014), "Methods for understanding microbial community structures and functions in microbial fuel cells: a review", *Bioresource Technology*, Vol.171, pp.461-468.

Zhou, Y., He, Y., Zhou, Z., Xiao, X., Wang, M., & Chen, B., (2022), "A newly isolated microalga *Chlamydomonas* sp. YC to efficiently remove ammonium nitrogen of rare earth elements wastewater", *Journal of Environmental Management*, Vol.316, pp.115284.

Zhou, M., Chi, M., Luo, J., He, H., & Jin, T., (2011), "An overview of electrode materials in microbial fuel cells", *Journal of Power Sources*, Vol.196, No.10, pp.4427-4435.

Zittelli, G. C., Lauceri, R., Faraloni, C., Silva Benavides, A. M., & Torzillo, G., (2023), "Valuable pigments from microalgae: phycobiliproteins, primary carotenoids, and fucoxanthin", *Photochemical & Photobiological Sciences*, Vol.22, pp.1733-1789.

Zohir, W. F., Kapase, V. U., & Kumar, S., (2022), "Identification and characterization of a new microalga *Dysmorphococcus globosus*-HI from the himalayan region as a potential Source of natural astaxanthin", *Biology*, Vol.11, No.6, pp.884.

List of Publications

Peer Reviewed International Journals from Thesis Work (Published)

1. **Sharma, A.**, Chhabra, M., & Kumar, S., (2024), "Performance evaluation of genetically modified microalgae in photosynthetic microbial fuel cells for carotenoids and power generation", *Journal of Environmental Chemical Engineering*, Vol.12, No.3, pp.112751.
2. **Sharma, A.**, Nawkarkar, P., Kapase, V. U., Chhabra, M., & Kumar, S., (2024), "Engineering of ketocarotenoid biosynthetic pathway in *Chlamydomonas reinhardtii* through exogenous gene expression", *Systems Microbiology and Biomanufacturing*, Vol.4, pp.983-995.
3. **Sharma, A.**, & Chhabra, M., (2021), "Performance evaluation of a photosynthetic microbial fuel cell (PMFC) using *Chlamydomonas reinhardtii* at cathode", *Bioresource Technology*, Vol.338, pp.125499.

Under review or preparation

1. **Sharma, A.**, Chhabra, M., "Photosynthetic microbial fuel cells as bio-factory for high-value microalgal product generation". (To be submitted)

Peer Reviewed International Journals/Books Not Part of Thesis (Published)

1. **Sharma, A.**, Sarkar, P., Chhabra, M., Kumar, A., Kumar, A., Kothadia, H., & Mallick, A., (2023), "Carbon capture from petrol-engine flue gas: Reviving algae-based sequestration with integrated microbial fuel cells", *Chemical Engineering Journal*, Vol.476, pp.146578.
2. **Sharma, A.**, & Chhabra, M., (2023), "The versatility of microbial fuel cells as tools for organic matter monitoring", *Bioresource Technology*, Vol.377, pp.128949.
3. **Sharma, A.**, Gajbhiye, S., Chauhan, S., & Chhabra, M., (2021), "Effect of cathodic culture on wastewater treatment and power generation in a photosynthetic sediment microbial fuel cell (SMFC): *Canna indica* v/s *Chlorella vulgaris*", *Bioresource Technology*, Vol.340, pp.125645.
4. **Sharma, A.**, & Chhabra, M, (2024), "Microbial fuel cells for hazardous wastewater treatment. In *Biodegradation of Toxic and Hazardous Chemicals*", CRC Press, pp. 171-183
5. **Sharma A.**, Mishra A., Chhabra M., (2024), "Rapid measurement of bacterial contamination in water: a catalase responsive-electrochemical monitoring system", Heliyon, Vol.10, pp.e26724.
6. Ahmad, M., Prakash, C., **Sharma, A.**, Dixit, A., Chhabra, M., & Plappally, A. K., (2024), "Development and performance evaluation of a portable ceramic water filter with exfoliated graphite and sawdust as an additive", *Water Conservation Science and Engineering*,Vol.9, No.2, pp.1-17.
7. Ahmad, M., **Sharma, A.,** Mujtaba, Q. S., Yadav, S., Kulkarni, R., Satankar, R. K., ... Plappally, A., (2022), "Clean drinking water solution for rural India: Portable sip-up. In *IOP Conference Series: Earth and Environmental Science*", IOP Publishing ,Vol.1084, No.1, pp 012008.