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## **Tri-Hybrid Electricity Generation Method by** using Microbial Fuel Cell, Solar and Wind Energy

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**Abstract:** This paper reviews Microbial Fuel cell. First objective is to discuss microbial fuel cell. Second objective is to put forth various experiments done by me in generating electricity through microbial fuel cell. Till now majority of Microbial Fuel cell are using graphite as anode and cathode separated by Proton exchange membrane. I have used Graphite and Magnesium as electrodes for generating electricity in single chamber without any membrane. This MFC can be used for various applications. Also a new concept of generating electricity with solar panels and using the area beneath it for generating energy with MFCs, while at the same time a small wind turbine while be used as a third hybrid electricity generating partner. This technology can revolutionize the current energy production method. Also the reason behind bringing this technology into light is to show that it is green, free, hazard free, flexible, compact and unending availability. One can generate electricity at home for own consumption. Microbial cell is a very easy and simple method to get energy from soil. This battery generates voltage of 1.5 to 1.8 volts. It is totally green and renewable. This energy can be used to turn on led lights, buzzers, calculators, digital watches etc. Tomorrow we may see this energy being used in many Gadgets (as energy requirement for electronics devices getting reduced day by day). This paper is a result of 5 years of research and development, trial and error and infinite ideas..

Keywords: Microbial fuel cell, Renewable energy, Free energy, perpetual energy, non-conventional energy.

## REFERENCES

- Innovative cell generating electricity from soil (Revision 1 from year 2016) Pawandeepsingh Dhingra, S. M. More, S. S. Patil Guru Gobindsingh Polytechnic College, Nashik422009
- [2]. And in Year 2017 I had submitted Paper "Generating electricity with Microbial Fuel Cell (MFC)" in Indian Science congress (105<sup>th</sup>). And it was selected for poster presentation
- [3]. Microbial Fuel Cells: Electricity Generation from Organic Wastes by Microbes Kun Guoa, Daniel J. Hassettb, and Tingyue Guc a National Key Laboratory of Biochemical Engineering, Institute of Process Engineering, Chinese Academy of Sciences, Beijing 100190, People's Republic of China
- [4]. Department of Molecular Genetics, Biochemistry and Microbiology, University of Cincinnati College of Medicine, Cincinnati, OH 45267, USA Department of Chemical and Biomolecular Engineering, Ohio University, Athens, Ohio 45701, USA. Corresponding author. Email: gu@ohio.edu
- [5]. An experimental study of Microbial Fuel cells for Electricity generating : Performance characterization & capacity improvement Jessica Li Kent Place School New JerseyUSA.
- [6]. Bruno, Mariano & Viva, Federico. (2014). Carbon Materials for Fuel Cells. Direct Alcohol Fuel Cells. 231-270. 10.1007/978-94-007-7708-8\_7.
- [7]. https://www.tesla.com/powerwall

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