



AN ARDUINO UNO BASED BIOSENSOR FOR WATER POLLUTION MONITORING USING IMMOBILISED ALGAE CHLORELLA VULGARIS

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*Abstract- This paper presents a simple biosensor for observing the dissolved oxygen (DO) production in water. The measuring process is implemented using the biochips G connected with a biosensor module and electronic circuit to detect the changes of dissolved oxygen in real time measurement. Initial test was completed to observe the biochip response to the different oxygenated water solution. A light and dark experiment with ON/OFF phase of 20 minutes illumination period was realized to stimulate the green algae *Chlorella vulgaris* photosynthesis process to DO rate. The results show Biochip G using algae *Chlorella vulgaris* response to environmental changing conditions in the form of relationship between output voltage and DO rate the solution.*

Index terms: Biosensor, Algae *Chlorella vulgaris*, Dissolved Oxygen, Real Time Detection, Biochip G.