

## MOCOSHECA

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Recently, the use of agricultural waste materials has gained attention among researchers in the study of the effectiveness of adsorbent media in



the treatment. Authors and her team members had invented an adsorbent known as MOCOSHECA or Modified Coconut Shell Carbon to remove copper (Cu) from the industrial wastewater. Batch adsorption study was conducted to determine the effect of different contact time and pH. The result showed that 98% of Cu was removed at 90 minutes of contact hour with 250 rpm agitation speed and an optimum pH of 5. This indicates that MOCOSHECA has potential in reducing Cu concentration in industrial wastewater and could lead to the reduction of the concentration below drinking water standard provided by the Department of Environment (DOE). MOCOSHECA also provided cost-effective, green and eco-friendly adsorbent in treating industrial wastewater. Thus, it is recommended as an alternative adsorbent to be commercialised. This study has won a silver medal in the 8th International Innovation, Invention & Design Competition (INDES 2019) located at Casuarina Hotel, Ipoh Perak.

*Carbon fibre reinforced polymer (CFRP) is a lightweight and durable material that is commonly used as strengthening material. It is one of the preferable material for structural strengthening confinement.* However, current practice with CFRP full confinement has several drawbacks such as costly, fragile and hard to repair. Besides that, air entrapment during the installation process and sudden failure due to unseen cracks underneath the full confinement could occur as well. Therefore, this issue can be overcome by partial CFRP confinement. Furthermore, being a non-biodegradable