

## **Hibiscus flower extract as a natural dye sensitiser for a dye-sensitised solar cell**

### **ABSTRACT**

The conversion of solar light into electricity was successfully accomplished by using hibiscus as a dye sensitiser. A solar energy conversion efficiency of  $\eta = 0.11\%$  was obtained with a short circuit current of up to  $J_{sc} = 0.96 \text{ mA cm}^{-2}$ , an open circuit voltage of  $V_{oc} = 0.268 \text{ V}$  and a fill factor of 0.43. This paper presents an interesting preliminary study for alternative energy development using the rich biodiversity of Malaysia to promote sustainable energy sources. In this paper, the methodology and its limitations are reported and discussed with the roles of the different  $\text{TiO}_2$  structures.