

**AN INVESTIGATION OF STRUCTURAL AND OPTICAL PROPERTIES  
OF VARIOUS OXIDE-OXIDE AND SULFIDE-SULFIDE CORE-SHELL  
NANOCOMPOSITES TO GAUGE POTENTIAL APPLICATIONS IN  
PHOTOCATALYSIS AND PHOTOVOLTAICS**

**A thesis submitted  
in partial fulfillment of the requirements for the degree of  
*Doctor of Philosophy***

**By**

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