

# **EXTRACTION OF GOLD FROM WASTE PRINTED CIRCUIT BOARDS USING BACTERIA**

**KSCST Project Report  
(Student Project Programme)**

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By

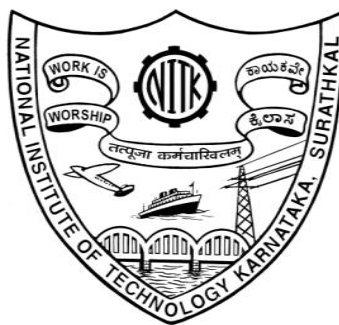
**ABHISHEK S. KASHINATH  
KARTHIK C. PADMASHALI**

*Under the guidance of*

**Dr. A. O. SURENDRANATHAN**

Professor

Department of Metallurgical and Materials Engineering  
NITK, Surathkal



**DEPARTMENT OF METALLURGICAL AND MATERIALS  
ENGINEERING  
NATIONAL INSTITUTE OF TECHNOLOGY KARNATAKA  
SURATHKAL, MANGALORE - 575 025**

## ABSTRACT

These days, electronic waste needs to be taken into consideration due to its materials content, but due to the heterogeneity of the metals present, reprocessing of electronic waste is quite limited. The bioleaching of metals from electronic waste was investigated by using cyanogenic bacterial strains (*Chromobacterium violaceum* and *Pseudomonas fluorescens*). A two-step bioleaching process was followed under cyanide-forming conditions for maximum metal mobilization. Both the bacteria were able to mobilize gold from electronic waste with different efficiencies. In all the flasks in which high gold mobilizations were observed, the consequent biomass productions were also high. *Chromobacterium violaceum* was capable of leaching more than 69% of Au at an electronic waste concentration of 1% w/v. Precious metals were mobilized through bioleaching which might be considered as an industrial application for recycling of electronic waste in the near future.