

**Space Mission To The Moon With A Low Cost Moon Probe Nanosatellite:  
University Project Feasibility Analysis And Design Concepts**

One of the most fascinating prospects for the future is the possibility of exploring the moon with a small science mission. Ever since mankind has been to the moon since 1969, several missions by other countries have also been launched to the moon by countries such as China and India. However, the cost of such missions is unusually high and the global recession in the world has affected finance of countries in the EU as well as countries such as USA and Russia. As a result, many moon exploration programs have been put on hold or they have been downsized. Even today, the best space programs in the world are feeling the effects of this downsizing.

This paper discusses the possibility of launching a 10 kg nanosatellite moon probe with a joint university effort along with industrial partners for a low cost mission to the moon. It will use low cost propulsion techniques and orbital transfers to reach the moon and it will be equipped with some fundamental, but lightweight sensors for remote sensing observation. Furthermore, it will also allow for university-student-industry cooperation for some experimental setups to be included in this low cost moon probe. At the end of its mission, it will be crashed to the moon for relevant data retrieval. The paper will discuss the basic mission design as well as cost and feasibility analysis of this project which has been planned. Furthermore, the difficulties and challenges of this project will also be discussed and a sample mission parameters will be given for a possible future work. Several universities have shown interest to be part of this moon probe project as both research as well as learning opportunities is diverse.