



National Education Society (R)

**JAWAHARLAL NEHRU
NATIONAL COLLEGE OF ENGINEERING, SHIMOGA**

MECHANICAL ENGINEERING

Research Laboratories:

The department has got the following research laboratories, where research activities are continuously carried out.

2. Composite and Wear Testing Laboratory

Visvesvaraya Technological University (VTU), Belagavi has sponsored Rs.5 Lakhs (Five lakhs only) under **VTU research grant scheme** for the execution of the proposed research work entitled “**Investigations on strength, wear and machining characteristics of bio-fiber based polymer matrix composites**” in the Department of Mechanical Engineering, Jawaharlal Nehru National College of Engineering, Shivamogga during the year 2009-2012.

The research work is focused on the development and characterization of ceramic particles filled bio fiber (jute) based composites. Investigations are carried out to determine the significant influence of ceramic particles such as Silica, Alumina on the mechanical performance of bio fiber based composite laminates. The results of the investigation revealed that, mechanical properties of jute/epoxy composites can be drastically enhanced by the addition of alumina (Al_2O_3) ceramic fillers, making them suitable for tribological applications.

Outcome of the research work:

Published Research papers in Peer Reviewed International Journals

1. Dr. K. Sabeel Ahmed, Dr. S. J. Amith Kumar. Effect of ceramic fillers on mechanical properties of woven jute fabric reinforced epoxy composites. *Journal of Reinforced Plastics and Composites* 08/2011; 30(15):1315-1326.
<https://doi.org/10.1177/0731684411420606>, **Impact factor : 1.086**
2. Dr. K. Sabeel Ahmed, Dr. S. J. Amith Kumar. Dry sliding wear behavior of SiC/ Al_2O_3 filled jute/epoxy composites. *Materials and Design* 2012, vol. 36, pp. 306–315.
[DOI: 10.1016/j.matdes.2011.11.010](https://doi.org/10.1016/j.matdes.2011.11.010), **Impact factor: 4.364**

Additional facility Created:

Composite and wear testing laboratory has been established from the research grants received under VTU research grant scheme, in the Department of Mechanical Engineering, JNNCE-Shimoga.

Following machines/equipments were purchased from VTU research grants.

1. Computer interfaced Pin-on-disc wear testing machine, Model TR20E
2. F-Drill tool Dynamometer capacity 500 kg, 20 kg-m, with DAQ
3. Electronic weighing machine, model PA603, Make OHAUS, 0.1mg accuracy, 120 g capacity.

Research laboratory facility is made available to all the research scholars of JNNCE and various other colleges/institutions of VTU and other University