**Energy Harvesting from the Tribological properties of human hair**

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**ABSTRACT**

Energy in different forms play a key role in sustaining day today activities which leads to an overdependence on the different potential sources of energy. The excessive reliance on non-renewable sources pose a significant drawback due to their limited availability. This can be compensated by employing effective energy harvesting technique which can generate energy from what would otherwise have gone waste. The work focuses on fabrication of low cost feasible device that can generate energy to significant quantity. This work mainly aims at fabrication of sandwiched composite structures using human hair as an intermediate material. The utilization of human hair is due to its enhanced tribological properties along with the fact that disposal of hair forms an alarming issue as it cannot be effectively treated and decomposed. Thus in order to exploit the potential energy harvesting capacity of hair- sandwich structures of human hair and carbon fibers are fabricated. Bidirectional carbon fibers are deployed in the work as electrodes with hair incorporated with it. The device is portable and hence can be extended to different fields of application. Moreover, the energy can be generated and used when required. The output is quantified using oscilloscope under different conditions and alignment. We were able to generate a voltage of 50V which is comparable to the present literature.

*Keywords: energy harvesting; hair; carbon fibers*