

## **Licensing and Technology Transfer Opportunity: Manipal University**

**Title of Technology Available:** A finger mounted illumination device

**Brief Description of Invention:** It is an illumination device that is worn on the finger to enable a dental operator to achieve illumination in the absence of a traditional light source. It is made for dental operators and dentists who have poor access to facilities such as dental chairs, especially in rural areas. A Ring like apparatus that has the LEDs placed on the top of the fingernail is the source of illumination. This LED placement is such that it prevents tactile interference and enables adequate illumination of the working area when used with an instrument.

**Brief Background of Invention:** Various organizations carry out outreach camps to provide Oral Healthcare at remote locations. The device addresses the issue of poor illumination facilities in rural areas, a lack of adequate lighting in a clinical set-up and high cost of instruments with lights built in.

**Describe the final product:** It is an LED based, battery powered finger mounted illumination device for use in the field of Oral healthcare. The device is designed to provide adequate lighting of the working area in a dark environment. It fits closely to the distal half of the finger while minimally interfering with the finger pad so as to provide sufficient tactile sensation. This allows for use with instruments for diagnosis and basic procedures. A switch is placed in an ergonomic position allowing the operator to turn the device on/off with ease. It is to be worn under medical-grade gloves so as to maintain infection control. The device can be powered for approximately 12-16 hours by the in-built cells. It is to be recycled or disposed of once the cells are exhausted. The economical nature of this devices fabrication allows for manufacturing as well as clinical use on a large scale.

**Technological Domain (Keywords):** Illumination, Economical, Alternative Illumination, Finger-mounted Illumination , Public Health

**Proof of Concept:** A prototype of this concept titled "Lumos" was selected as one of the top innovations at the Oral Health Innovation Conference 2019 conducted by AIIMS, Delhi. It also was among the winning innovations at Hacking Dentistry: Making it Affordable, on March 28-31, 2019 conducted by Innovation Center, MAHE and MCODES, Manipal

**Stage of Development:**

Prototype

Provide Information on Competitors who manufacture and/or sell similar products: Bien, NSK, Waldent (Traditional lighting solutions such as dental chair light and equipment that comes with in-built light)

**What are the unique advantages your innovation has compared to the competition:** It is easier to use and transport in comparison to traditional Dental chair light setups and is very economic compared to Instruments with inbuilt lights.

Improved access and reach for dentists due to directed lighting.

can be used to Public Health programs such and mass screenings and surveys.

A few potential companies who might be interested in this technology: Bien, NSK, Waldent, Kavo, Denext

Intellectual Property Status: Indian Patent application with number 201941041206 filed in 2019