

# Nanolid: Covering Infection, Spreading Light

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Nanolid is then used to light small sized lamps enough to light a room and help and encourage the children study.

**Abstract-** This idea is about producing electrical energy though at small level from the waste, screwed and just cooked food contents like food scraps, useless parts, rotten and dried and any waste food material which are compulsorily available in even huts. The mentioned materials and just cooked food items radiate thermal energy which would be absorbed by the special lid developed from nano-materials called "Nanolid". This small electrical power absorbed in Nanolid covering the food items (waste as well as useful) would be made to light small lamps. In this way the user -the villager, will get a clean view of interrelation between education and health consciousness and will encourage them for the same as a futuristic scope on the present scenario. The caring of food from infection, the usage of waste food items and the lightening of their lamps as a result of education and awareness in front of their eyes will surely encourage them towards education, hence the topic "NANOLID : COVERING INFECTION, SPREADING LIGHT".

## I. INTRODUCTION

The [2] idea would add a bit to the solution of the problem of illiteracy, health consciousness and their encouragement to the rural areas of India to as much extent. The encouragement of education, its scope and health consciousness, to both the villagers and their children is important. The idea of "Nanolid" would present a visual working output of education and health consciousness to them within their houses. They may not have fans but the absence of proper light keep them apart from education. The Nanolid would provide a small scale electrical energy to light small lamps via proper use of their waste and just cooked food materials.

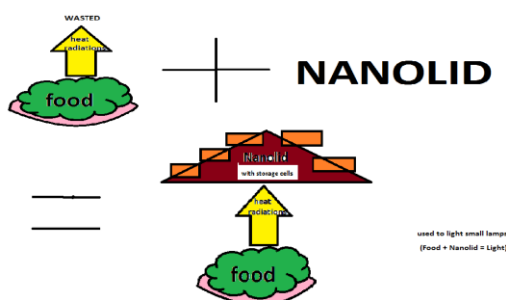


Fig 1: Basic Scheme of Nanolid.

## II. DESCRIPTION

The idea is to develop a Lid made up of special material called hybrid nano-material (Single walled carbon nanotubes + Copper sulphide nanoparticles) which can absorb thermal energy being radiated out of the waste, useless, junk and just cooked food in the form of electrical energy. This so called

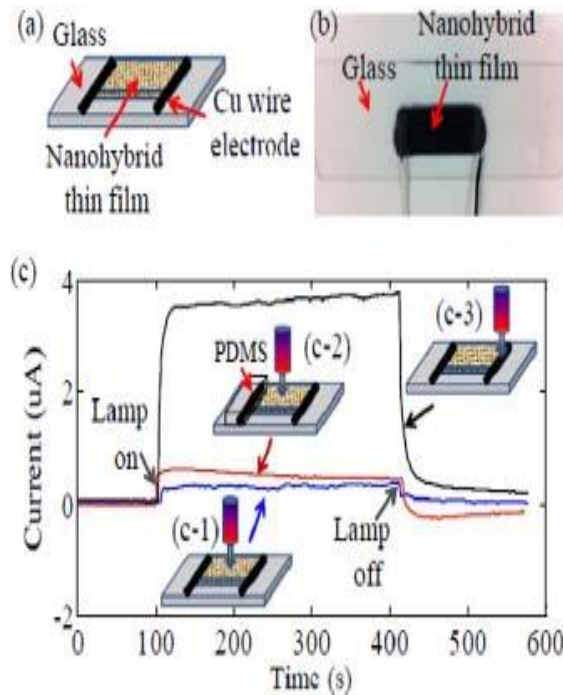


Fig 2: Internal Scheme of the material of Nanolid.

The normal Single walled carbon nanotubes are capable of absorbing thermal energy but the addition of copper sulphide nanoparticles to it has been proved to show better results [1]. The material of which the "lid" is to be made is called CNT-CuS NPs (carbon nanotubes - copper sulphide nanoparticles) on which latest researches have been done and proved their capacity to convert small thermal energies (and light also) into electricity hence called thermo-electric nano-generators, and some researches are being under process worldwide. So it can absorb heat from the radiation of waste, junk and just cooked food to convert electricity though at small scale. The CNT-CuS NPs made Lid called "Nanolid" will be presented with the essential requirements like connecting cords, small lamp and Thermal Photovoltaic cell. The lid will cover the food material and will absorb the thermal radiation and convert it into small DC voltage in a cell connected to it. The cell will light the lamp for sure. To construct a desired design of the Nanolid is out of the scope as well as concern or need as the nanomaterials needed are pre-designed. After the project has been completed, we would present the same in front of the Government in light of the past success, need of hour, impact on root, effective results and the most important the improvement of the seekers in a well

designed manuscript. Nanomaterials are becoming an attractive proposition for realizing the hopes of future thermoelectric devices, which would derive power just from differences in temperature. And, of course, the future of photovoltaics is increasingly dependent on developments in nanomaterials. What nanomaterials haven't been used for yet is to combine thermoelectric with photovoltaic's. But now in joint research between Louisiana Tech University and the University of Texas at Arlington that combination has been achieved. The joint research team developed a new hybrid nanomaterial that combines single-walled carbon nanotubes (SWNTs) with copper sulfide (CuS) nanoparticles and is capable of converting both light energy and thermal radiation into electricity. The research, that was published in the UK's Institute of Physics' Journal *Nanotechnology* ("Optical thermal response of single-walled carbon nanotube-copper sulphide nanoparticle hybrid nanomaterials"), builds on previous work demonstrated that SWNTs are excellent materials for absorbing both light and thermal energy. Louisiana Tech University Assistant Professor Long Que along with UT Arlington Associate physics Professor Wei Chen took that knowledge one step further by combining the SWNTs with CuS nanoparticles and getting an about 80 percent increase in the amount of light being absorbed with the hybrid material versus the pure SWNTs. In devices that the researchers made from the hybrid material, they measured a clear optical and thermal switching effect. The researchers further discovered that this switching effect could be enhanced by a factor of 10 by using asymmetric illumination in which a polydimethylsiloxane (PDMS) slab covers one of the electrodes so the light source illuminates one of the electrode regions and the other is covered. The difference in temperature between the illuminated electrode and the one which is in the PDMS shadow creates a thermoelectric effect that increases the electricity generated by the light. The research team was able to use the material to create a thermoelectric generator that they believe will be able to generate mill watts of power. If these nanogenerators could be used in chips it could lead to even a range of self-powered devices, according to the researchers. "If we can convert both light and heat into electricity, the potential is huge for energy production," Chen says in a press release. "By increasing the number of the micro-devices on a chip, this technology might offer a new and efficient platform to complement or even replace current solar cell technology."

### III. CONCLUSION

The idea is different from any other as it, even on its failure to the extreme level of highly technological ideas, would implement a scheme in the houses of villagers of India, a great consciousness for health & hygiene and education in their minds putting in them the trust of education as a future security and a betterness of their children. The idea is as it is intended to improve the social structure of those who need the

improvement schemes the most. The major need of society is the connection of rural areas with the main stream. They are apart mainly due to lack of education and this is due to lack of consciousness as well as conscience. A technology that can encourage both in them will change or at least set a platform for this. This idea of developing electricity from waste and just cooked food with the help of nanolid would put their minds on the better track as far as their children are concerned to belief on the importance of health and education.

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Paper(s) Published/Seminar(s)/Conference(s) Attended :

- "Histopathological and Histochemical changes in the midgut of *Cybister confusus* Sharp (Dytiscidae : Coleoptera)" in Journal of Experimental Zoology India, Vol 14, No 1, pp 253-257, ISSN 0972-0030, yr 2011.
- Presented Paper on "Recent Advances in Fish & Fisheries" in the UGC Sponsored National Seminar in University Dept of Zoology BRABU, Muz, March-2007.
- Participated in National Seminar on "Cultural Heritage of Swami Vivekananda" organized by Nidhi Institute of Human Development & Social Change (N.G.O.), Muzaffarpur, Bihar, Sponsored by Dept. of Culture, Ministry of H.R.D., Govt. of India, May-2003.
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- "Nanotechnology in relation to Medical Science" by Syed Abrarul Yaquin Najati & Haziqul Yaquin in International Journal of Advances in Management, Technology & Engineering Sciences (IJSMTES-Jan 2015 Edition). ISSN: 2249-7455. pp : 01-04

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- One Refresher Course in Zoology organized by BRABU Muzaffarpur, Bihar.
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- “Short Term/In-house Training” on Role of Polytechnic for Rural Development through different Scheme organized by National Institute of Technical Teachers’ Training and Research (NITTTR) Kolkata-700106 (Estd. by MHRD , Govt. of India) in December-2013.
- “One Day Online Teacher’s Training” in Scilab Workshop organized by Talk To A Teacher Project under Spoken Tutorial Project of IIT Bombay (MHRD, Govt. of India) on 28<sup>th</sup> June-2014.
- “Short Term/In-house Training” on Rural Disaster Management and Role of PRI organized by National Institute of Technical Teachers’ Training and Research (NITTTR) Kolkata-700106 (Estd. by MHRD, Govt. of India) in November-2014
- “Stage 2 Innovator”, Scientific Competition, Season two 2014/15, Shell Ideas360, Australia. (www.shellideas360.com)