



CHILDREN'S EDUCATION SOCIETY (Regd.)

THE OXFORD COLLEGE OF ENGINEERING

(Recognized by the Govt. of Karnataka, Affiliated to Visvesvaraya Technological University, Belagavi
Approved by A.I.C.T.E. New Delhi, Accredited by NAAC & NBA New Delhi and Recognized by UGC under section 2(f))
Bommanahalli, Hosur Road, Bengaluru –560068.

☎: 080 -30219601/602/604/736, Fax: 080 – 25730551/ 30219629 E-mail: engprincipal@theoxford.edu
Web: www.theoxford.edu

The Institution aims at promoting Research and Development in the institution by identifying thrust areas of research across the department and motivating all the faculty and students to pursue their career in research and innovation. The institute has fully functional research team headed by Dean R&D to cater the need of the researchers. the institute has brought out Research promotion policy to augment research culture.

In line with the Research policy and R&D committee following are the list of research work being carried out in the institution across the department which has the scope for promoting these for next level of Technology ready level (TRL). These innovations will be further developed for the prototype development, IPR filing, product development, Research publication. continuous mentoring will be provided for the faculty to continue their research.

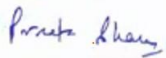
The Oxford College of Engineering is having ten approved research centres from various departments. There are 41 research scholars pursuing PhD and working towards the R&D innovations in the area of Biotechnology, Electronics Engineering, Computer Science, Civil and Mechanical Engineering. Few of the innovations which are developed in the R&D centres are listed below. Those innovations are already patented and in the stage of TRL level and also in the process of publication in reputed journals. Few innovations are listed below.

The Department of Biotechnology R&D Centre has developed the product PETROZAP - A Bioremediation formulation with financial Assistance from DRDO-NRB & BDT BIRAC, Govt of India. Other product by name AYUR AQUA has also developed. - A Unique Aqua blended with natural essential oil to enrich water and to offer health benefit. The department is also working on societal projects related to silk industry. This Project aimed to provide technology based solution to address the needs of the society by developing robotic arm in association with central silk board, Bommanahalli, Bangalore.


The Department of Electronics & Communication Engineering R&D Centre has developed the Rail wheel model, where four wheel, one bogie and 11 ft track is available for experimentation. This is funded by AICTE RPS scheme, New Delhi. This experimental setup is basically for providing passenger safety system. This work is patented and published. Under VGST/CISEE scheme the research scholar of Electronics & Communication Engineering is working on development of hand grip measuring device. This device will measure the grip strength. This device is also as called palm pressure device. Further interdisciplinary innovation on biting force measuring device has been developed which is in association with Mechanical engineering and Electronics & Communication Engineering. This device is made up of aluminum. The Ethical clearance has been taken by dental doctors and conducted 20 human trials. This project is funded by VGST (RGSF), Government of Karnataka.

The Department of Computer Science & Engineering R&D Centre has developed the innovation on cloud based automatic street lighting system for attibele rural and industrial areas. An automated street lighting system is designed to switch on the street lights automatically. This project is funded by VGST (RGSF), Government of Karnataka.

Dean Research



Principal



PRINCIPAL
The Oxford College of Engineering
Benmanahalli, Hosur Road
Bengaluru-560 068



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LIST OF POTENTIAL INNOVATIONS

Sl.No	Name of the innovation	Department	TRL Level	Recommendation
1	Petrozap	Biotechnology	7	Recommended for journal publication
2	Ayur Aqua	Biotechnology	7	Recommended for journal publication
3	Rail – Wheel Model	Electronics and Communication	4	Recommended for productization
4	Handgrip Pressure Measurement	Electronics and Communication	4	Recommended for journal publication
5	Human Biting Force Measurement Device	Electronics and Communication and Mechanical Engineering	4	Recommended for journal publication
6	Cloud based automatic street lighting system	Computer Science Engineering	4	Recommended for patent

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1st Phase JP Nagar, Bengaluru – 560 078

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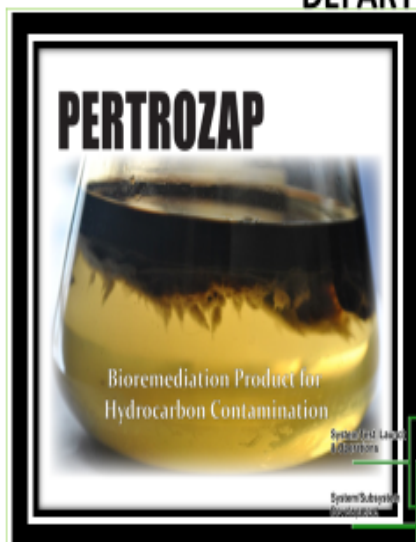
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DEPARTMENT OF BIOTECHNOLOGY

INNOVATION FOR SUSTAINABLE ENVIRONMENT



Product Name: **PERTROZAP**

Patent detail : **201741042005/412851/Validity-23/11/2017-23/11/2037**

Field of application: **Bioremediation**

End Users: **Oil Refineries, Petrochemical based Industries, Automobile industry etc.,**

Impact on environment: **Green Technology**

Financial Feasibility: **Cost effective**

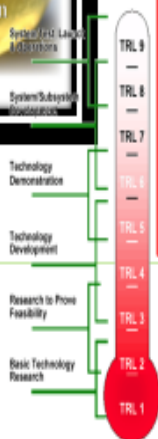
Marketability: **Only one product in Indian Market-OILZAPPER from TERI Mumbai**

Distinctiveness: **It is the only product with single organism Fungi based.**

Potent customers: **ONGC, HPL, Reliance Petrochemicals, Oil Refineries, Petrochemical based Industries, Automobile industry etc.,**

Status of the Product: **TRL-7**

Financial Support: **DRDO-NRB & DBT-BIRAC**



IMPACT OF EMR GRANT ON INNOVATION



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DEPARTMENT OF BIOTECHNOLOGY



Product Name: **Ayur Aqua**

Patent detail :

Field of application: **Herbal water**

Impact on environment: **Green Technology**

Financial Feasibility: **Cost effective**

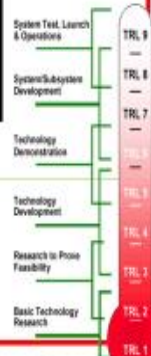
Marketability: **Only few product with high price**

Distinctiveness: **Flavored with herb having high antimicrobial and antioxidant nature with smooth pleasant flavor**

Potent customers: **All Hotels and General Public**

Status of the Product: **TRL-7**

Financial Support: **VGST-KFIST**



IMPACT OF EMR GRANT ON INNOVATION



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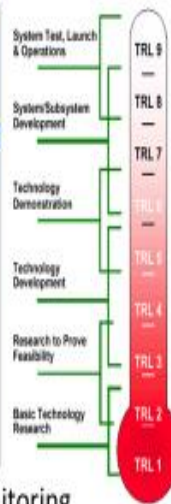
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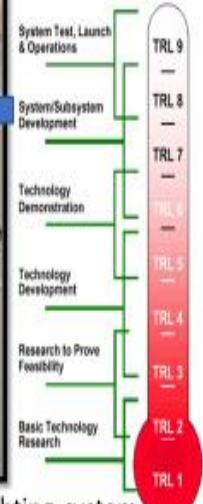
DEPARTMENT OF ECE



Name of the Product: Railway Health Monitoring System

Funded by : AICTE – RPS (2020-2023)

Details of the Product: This is a patented prototype funded by AICTE - RPS.



A Cloud based automatic street lighting system for Attibele rural areas and industrial areas

Funded by: VGST / RGS-F Scheme (2018-19)

Principal Investigator : Dr. E. Saravana Kumar



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DEPARTMENT OF ECE

IMPACT OF INFRASTRUCTURE DEVELOPED ON INTERDISCIPLINARY PROJECT-3D Printer a Case study

- ❖ 3D-Printing equipment was procured form ICMR grant in the Department of ECE.
- ❖ In collaboration with Dr. Laxmikanth, Head of the Orthodontic Department at Oxford Dental College, we devised a method to measure the biting force.
- ❖ A Primary Foot & Palm Pressure Monitoring System has been developed by The Oxford College of Engineering in collaboration with Dr. Vasantan, Principal of The Oxford College of Physiotherapy.



Collaboration with The Oxford College of Physiotherapy for Palm Pressure Measuring Devices



Collaboration with The Oxford Dental College for Bite Force Measuring Device



Collaboration with The Oxford College of Physiotherapy for Foot Pressure



Human Trial with Device



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DEPARTMENT OF BIOTECHNOLOGY

INNOVATION FOR SOCIETAL NEEDS



The Institution aims at providing technology based solution to address the needs of the society-Bengaluru rural districts main occupation is silk rearing where workers face difficulty in processing silk cocoons. To address this issue we developed a cost effective, reliable robotic arm in association with Central Silk Board, Bommanahalli, Bengaluru



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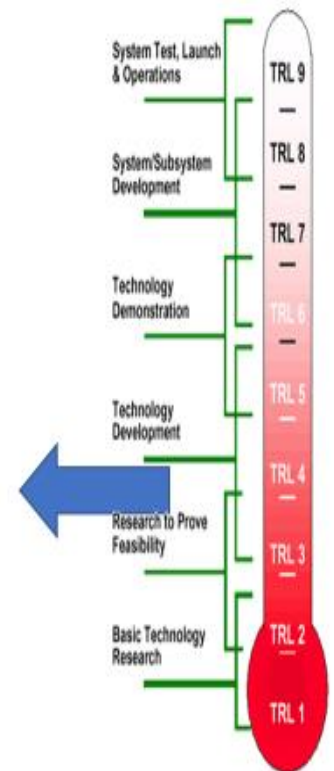
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**DEPARTMENT OF ECE
Glimpses of Potential Scalable Innovations**

		
Garbage Collector	Smart irrigation system	Intelligent Street Light Monitoring system
		
A Cloud based automatic street lighting system for Attibele rural areas and industrial areas	Light transmitting Concrete	3D printer-based Denture model
		
3D printed human tooth	Design and fabrication of carbon dioxide recovery system for domestic and automobile applications	3D printer-based Denture model





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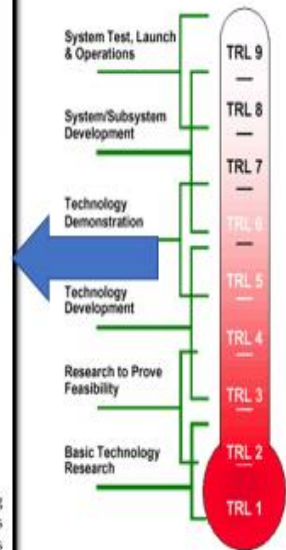
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DEPARTMENT OF ECE

Glimpses of Potential Scalable Innovations

<p>"Wireless mouse and keyboard for handicapped" Funded By ICMR, New Delhi – Dept of E&C Engineering</p>	<p>Handgrip Muscle strength Monitoring System" funded by VGST – Dept of E&C Engineering</p>	<p>3D printed Bionic Hand funded by VGST- Dept of E&C Engineering</p>
<p>"Railway Health Monitoring System " funded by AICTE RPS – Dept of E&C Engineering</p>	<p>A Cloud based automatic street lighting system for Attibele rural areas and industrial areas funded by VGST / RG5-F Scheme – Dept of CSE</p>	<p>Real time pressure monitoring system using FBG sensor for sports and rehabilitation applications funded by VGST – Dept of E&C Engineering</p>





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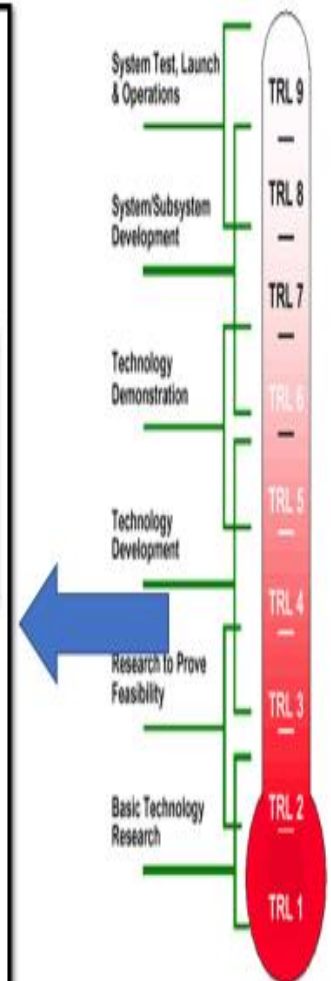
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DEPARTMENT OF ISE

Glimpses of Potential Scalable Innovations

 <p>Design and development of 3d printed bite force monitoring device for dental applications</p>	 <p>Real Time assistive shoe for visually impaired people</p>	 <p>Design and fabrication of voice-controlled chair using Theo Jansen mechanism</p>
 <p>A Gesture Based Model To Assist Handicap In Search of Jobs</p>	 <p>A Novel Traffic Management System Using Canny Edge Detection Algorithm</p>	 <p>Intelligent Robot Robot for College and Department to assist Guest</p>
 <p>Smart Robotic Garbage Management System</p>	 <p>An Automated Foodways Track Restaurant</p>	 <p>Intelligence Surveillance Patrolling DRONE</p>



Dean Research

Pranab Kumar

Principal

Principal
The Oxford College of Engineering
Bommanahalli, Hosur Road
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