DST-Amity Technology Enabling Centre Newsletter Volume 4, Issue 1

Dear Readers,

DST sponsored Technology Enabling Centre at Amity University Noida is efficiently functioning.

The centre is working towards the achieving its utmost goal of creating eco-system between university systems, researchers, technical institutions, students and industries in and around Delhi-NCR.

We are proud to share its achievements and look forward to receiving your thoughts and suggestions for the furtherance of its functioning.

Please give your valuable inputs for:

Topics for seminars/workshop/Training programs that you want us to organise for you and vice-versa.

Any **research problem(s)** in which we can be of any help to you.

We have **in-house IPR cell, our team can be useful to guide how to protect your innovations/innovative ideas.**

Let us know if you require **any specific instrument or device to achieve your results**.

A list is available at https://amity.edu/ditt/dsttec/services.asp.

We have brilliant students who can serve valuable assets for you. Refer us to **your placement division**.

Our MBA students can **serve you with their survey skills. Our science and technology students with excellent skills can help you in developing your product/device successfully.**

Email ID: tec@amity.edu
Website: https://amity.edu/ditt/dsttec/
Look forward to having your positive response and inputs.

--Technology Enabling Centre Team

IN THIS ISSUE

- Our step-by-step journey to build technology eco-system and how sponsors help us fulfil our mission. With strategic planning and constraints, how TEC assessed the technologies and enabled them.
- How various areas identified and technology
- Trainings and seminars organised to popularized TEC
- How competition at school level organised by TEC led to beginning of a start-up
- Technologies enabled & transferred
- Industry connects
- Technologies available for transfer

VARIOUS EFFORTS PUT IN / APPROACHES OF TEC

To foster an ecosystem to generate ideas across disciplines that can be transformed into successful innovative technologies, products and services and to encourage student and faculty to pursue innovation and entrepreneurship, TEC organized a competition where 100 innovations were presented by the students at Amity International School and were assessed thoroughly.

The 12 projects selected were then scrutinized by the committee members and 4 projects - **Ultraviolet Sensor Sanitizer Wand, Homemade Low-cost herbal mosquito larvicide, Using Firefly structure to improve light extraction efficiency in LED and Heritage Troopers** were selected for TEC grant.

The team also advised to protect the intellectual property rights and arranged to file the patents.

And this was not the end of the story. These 12 brilliant ideas were widely transmitted to industries and NGOs.

HOW SPONSORS HELP US FULFIL OUR MISSION

To develop an Eco-system for an early stage promising technologies from young entrepreneurial minds, Non-government Organisations were approached for the furtherance of know-how.

Indian Pollution Control Association (IPCA) sponsors Eco-Lution- IPCA is a Non-government Organisation established with the support of Indian Institute of Technology, Delhi and enlisted with CPCB. IPCA has sponsored our innovation 'Eco-Lution'.

'Eco-Lution cups' is a bright idea of the students at Amity International School. These cups are eco-friendly, biodegradable, non-toxic, and non-beverage polluting and fully decomposable and can fully replace single use plastic cups.

At the bottom of every cup there are dormant seeds which can become fully grown healthy plants, and thus, you get to contribute further to the environment. These are an alternative to the plastic/paper cups, carved to perfection through a distinct procedure made up of waste materials along with a material to bind. The production cost is very low.

Students want to do a start-up where they can make their actual prototype using machinery and give it a classy finish. And the seeds attached to the cups are a bonus surprise.

IPCA has accepted to show a way forward. Initially a small financial help has been given and will be helping throughout its growth.

ECO-LUTION PARTICIPATED IN PLASTIC VIKALP MELA AT THYAGARAJ STADIUM JULY 1-3, 2022

Inventors of Eco-Lution showcased their technology in **Plastic Vikalp Mela**, a three-day mega fair to promote alternatives of single-use plastic from July 1-3 at the Thyagaraj Stadium.

This is the responsibility of every citizen to join to develop an Eco-system for an early stage promising technologies from young entrepreneurial minds. It is a step towards helping young minds to lead towards an early start-up.

IPCA, a Delhi based NGO has sponsored the Students of Grade X who have innovated Eco-Lution cups which are hand-made, eco-friendly, biodegradable cups using waste hence converting into wealth and can replace single use plastic items. IPCA will be supporting throughout its product development.

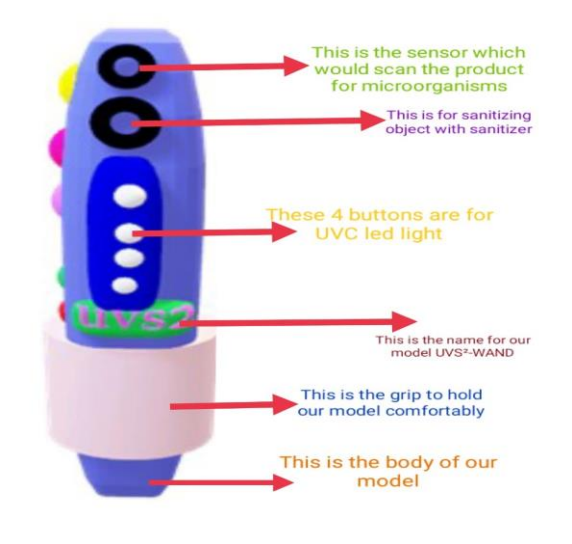
A Delhi based NGO sponsors Heritage Troopers – a non-profit charitable organisation and its role is to institutionalise the conservation of the unprotected architectural heritage all over India.

Heritage Troopers is an electronic device consisting of a colour sensor, gas sensor and a buzzer to detect graffiti and corrective actions can be taken.

The idea is liked by a Delhi based NGO and will be supporting in the live testing of the camera at two unprotected heritages.

TECHNOLOGIES ENABLED

- **UVS² WAND** (Ultraviolet Sensor Sanitizer)



- **Homemade Low-cost herbal mosquito larvicide**
- **Using Firefly structures to improve light Extraction efficiency in LED**

- **Heritage Troopers**- a device to monitor Graffiti to protect heritage.
- **Spice Tablet** – is used at the end of finished cooked gravies, most suitable for red colour gravies.
- **"Shelf stable" varieties of curry pastes** for vegetarian and non-vegetarian traditional cuisines.
- **Shelf stable biryani mix** both for vegetarian and non-vegetarian varieties, makes it quick to prepare.
- **Kabab Cutlet**- Ready to use type snack.
- **Development of Bullet Proof Nanostructure Helmet/Jacket by Severe Plastic Deformation Technique**
- **Biodegradable plastic**

- **Harvesting water from environment**

KNOW HOW TRANSFERRED

Variety of scrumptious methods of traditional pickles are available with Amity Institute of Food Technology.

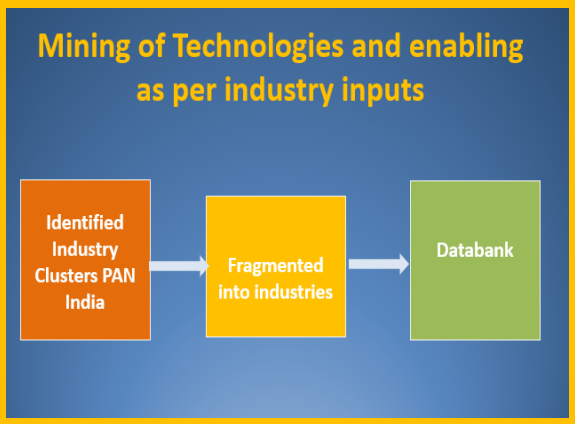
Know-how of such pickles transferred to a Pune based industry, Suhana Masala.

Trials of a **plant growth promoter**, an innovation of Amity Institute of Microbial Technology, on multiple crops showed an excellent result by increasing the agricultural output by 15%, and the know-how transferred to **M/S R.K. Enterprises.**

- Promotes plant growth and development
- Provides resistance against biotic stresses
- Enhances crop yield in diverse crops

INDUSTRY CONNECTS

For ease into industry approach, clusters are identified. These regional concentrations of related industries are fragmented into industry.



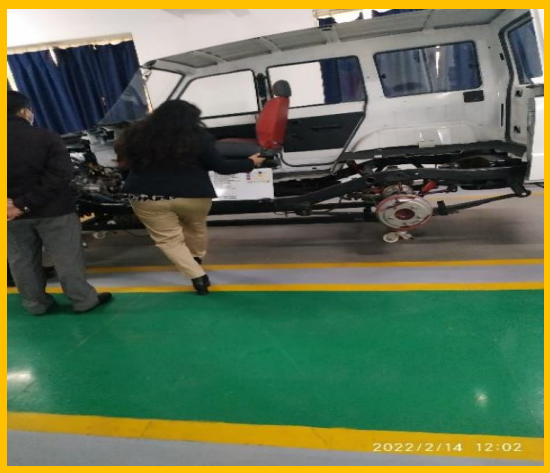
For instance, various databases made for food item manufacturers, as shown below.

These industries are invited to approach us for their specific research issues to be solved by rich pool of talent at Amity Universities.

Database based on the fragmented data is thus utilised for our technology showcasing. It also helps us to negotiate at an equal level and market budgeting.

M/S Karam Safety Ltd. was invited to visit the facilities of Amity University.

Facilities at CoE at Amity Noida in association with Tata Motors



Karam representative also visited **Amity Design Centre of Noida campus** and the functioning of various important devices were showcased.

A visit was also organised to Amity University Manesar to see the facilities at Mechanical department.

Visit of the students at Amity School of Engineering and Technology to the live demonstration of Safety Products of Karam Safety Products Ltd.

Presentation on the importance of the use of safety products organised by Karam and also a live assessment of the trainee by an expert was attended by Amity students.

Students got a glimpse of how rewarding studying safety can be, not just from career perspective but also for own well-being.

Insecticides India Limited invited us for a discussion to explore the possibilities of co-development of Micro algae/mycorrhiza/endophytic fungi.

TECHNOLOGIES MINED/TECHNOLOGIES AVAILABLE FOR KNOW HOW TRANSFER

-A Novel Composition of **Cleansing formulation** and method thereof

-Light Weight Nanostructured composite material for bullet proof Safety Helmet /Jacket

- System to prevent reduction in efficiency of Solar Panel in the hot weather using Agri-Voltaic

- **Eco-brick** and manufacturing method thereof

- A system for harvesting water from air.

To create a learning Eco-system where different parts, interact with each other aiming towards Hub and Spoke Model interactive Workshops, Seminars were organised on various topics.

With a focus on protecting the innovations, IPR based seminar **'Significance of Intellectual Property'**, for Entrepreneurship and Start-ups **'Developing online repository of Business Plan/Prototypes development and way forward plan', 'Academia & Innovation'**, 'Funding opportunities for early-stage entrepreneurships were organised.

Several other educational interactive workshops such as **'Advanced Microscopy for sustainable agriculture', 'Advancement in IoT', 'Future Mobility-electric Vehicles', emerging trends in Translational research, developing skills in cyber-crime investigation, digital forensic and cyber security** were organised.

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