विज्ञान एवं प्रौद्योगिकी विभाग
DEPARTMENT OF
SCIENCE & TECHNOLOGY
सत्यमेव जयते

PDEU TEC
DST - PDEU
TECHNOLOGY ENABLING CENTRE

PDEU PANDIT DEENDAYAL ENERGY UNIVERSITY
Formerly Pandit Deendayal Petroleum University (PDPU)
UGC RECOGNIZED

2023

DST - TECHNOLOGY ENABLING CENTRE

VOLUME :1

Dear Readers,

Welcome to DST-PDEU@ TECHNOLOGY ENABLING CENTRE (TEC). We are cherishing our first bulletin with an aim to conceptualise, built, transfer and finally commercialise the technologies developed in and around different Universities, national laboratories and Institutes through the platform of technology enabling centre, an initiative by DST at PDEU. The approach would be to upbring, nourish and fertliise the roots of technologies in the broad areas of Energy, Health and Water to flourish them contribute in global economy.

PROF (DR). ANIRBID SIRCAR

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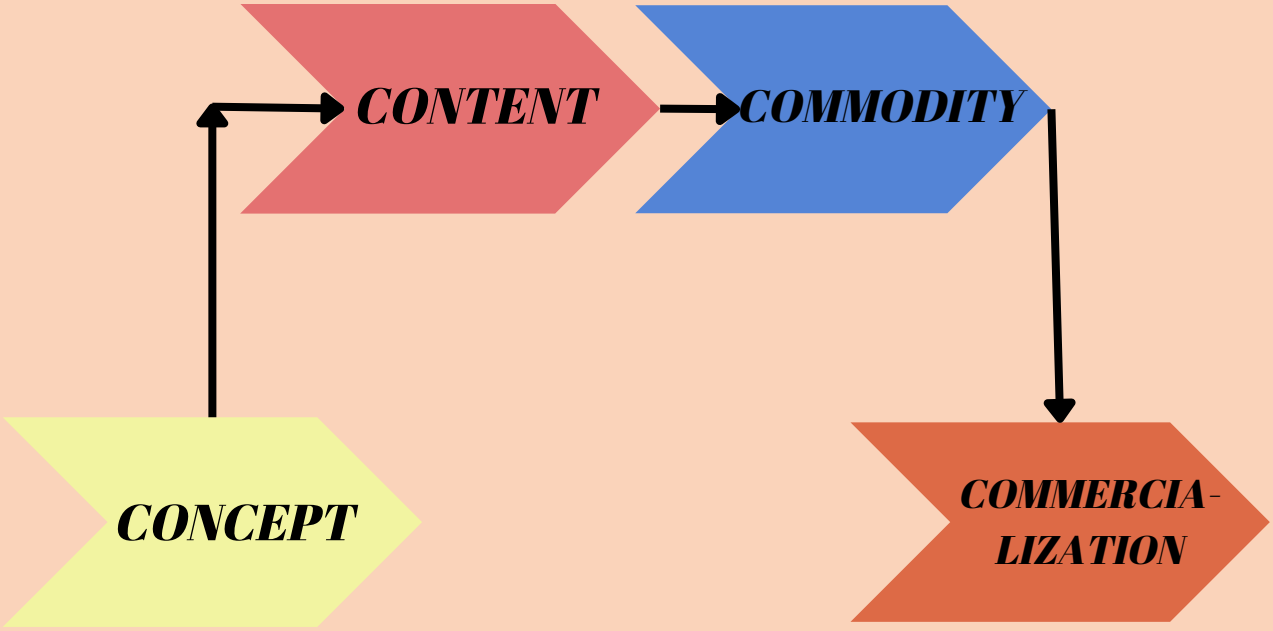
OUR VISION

We visualise ourself to emerge as an empowered Academicia with biggest entrepreneurship that would represent a capitalised research icon for an Academicia industry collaboration and mobilise us to developed economy.

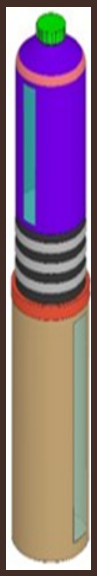
OUR MISSION

We aim to nurture an ideology into a content that can be visualised in the form of a commodity and finally globalised to commercial sector imparting financial and economic growth to our country.



Technologies Ready for Transfer @ PDEU

HANDY WATER BOTTLE WITH FLUORIDE FILTER (Design Patent Application No- 342145-001)



Water purification has become a major concern to the people around the globe. Filtration process has become a necessary solution for water treatment which can make water suitable for human consumption or domestic use, because of the steady decline of water quality caused by environmental pollution and industrial processes.

•In this design a new type of potable handy bottle filter is presented, aimed for people to be used while travelling.

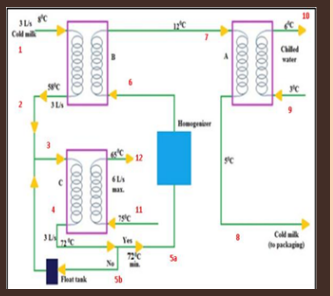
•These bottle filters are low cost comprised of a (tested) nano particle which can remove 97.5 % fluoride removal efficiency.

•The apparatus may be configured such that water is first passed through a top storage container designed to receive water. Then the water is followed by nano filtration membrane, activated carbon, micro filter ceramic, trimetals nano particles, micro filter ceramic, activated carbon and nano filtration.

NANO OLEUM - AN HYBRID SECONDARY DRESSING PAD (Patent Application No 202221072465)

- The present invention relate to a bilayered secondary dressing pad comprising an ultrafine fibrous framework administered or ladened with a combination of polymers, polysaccharides, fatty acids, glycoproteins and glycolipids.
- The dressing pad scaffolds produced from thecurrent technologies of electrospinning and phase separation are either lack of 3D oriented fibrousstructureor too compacttobepenetratedbycells.

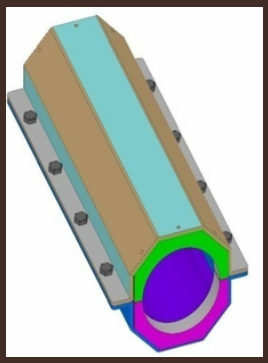
MILK PASTEURIZATION USING LOW ENTHALPY GEOTHERMAL WATER (Patent Application No 202221029659)



- The titled invention “Milk Pasteurization using low enthalpy geothermal water” discloses the process of using geothermal energy to pasteurize the milk. Geothermal energy is one of the cleanest source of renewable energy. In recent times geothermal industries are more focused towards the other utilizations of geothermal energy rather than the electricity generation.
- This invention talks about stages of milk processing and the main categories of heat treatment utilized in dairy processing. It will describe about a milk pasteurization system which utilizes the residual discharge of geothermal water (75-80oC). The water gets discharged from a Space Heating and Cooling plant which is used for combined heating and cooling purpose using low enthalpy geothermal water.
- The inlet temperature of milk will be around 8oC which will be pasteurized by geothermal water of 75-80oC and will be packed at 5oC after the homogenization and cooling.

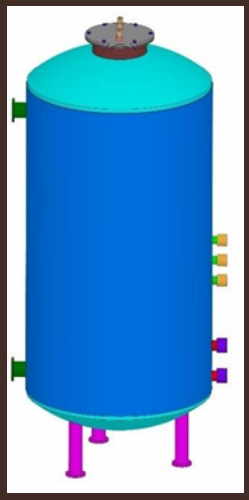
NANO-TECHNOLOGY BASED WATER DE-SCALING EQUIPMENT (Design Patent Application No- 338360-004)

- BRK systems de scaler is an eco-friendly water treatment system that protects piping system and appliances against scale deposits and rust. The central hub is designed with round hollow structure while the outer ring surface is designed with split octagonal shape with the insulated foam.
- The split type outer hub is fastened with the pipeline and the de scaling process is done inside the pipeline. The Descaler Technology is based on the principle of physical water treatment. Special Device change the crystallization process of the liquid calcium. This way the hard scale loses its adhesive power. This changes in the molecular structure of the water by converting High sized, Low Energy Molecules to Low sized, High Energy Molecules.



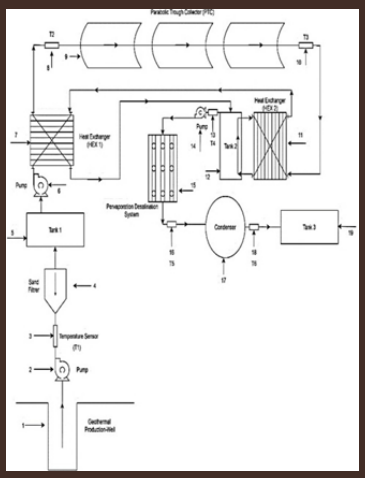
THERMAL INSULATED HOT WATER STORAGE TANK (Design Patent Application No -337090-002)

- In industrial water storage system hot water is required for cleaning or processing with chemicals.
- The water storage tank is designed to heat up the water up to the required temperature and to maintain it automatically.
- The thermally insulated lining inside the cylinder prevents the heat loss from the stored hot water.
- Maintains the heat of the water up to 24 hours.
- Hence power consumption is very less.
- The hot water storage tank has the inlet ,outlet and drain facility to utilize the water for industrial use.



SOLAR GEOTHERMAL PERVAPORATION DESALINATION SYSTEM (Patent Application No 202221072471)

The present invention showcases the desalination of geothermal water by hybridizing solar thermal and pervaporation systems. The system comprises a sand filter to separate unwanted particles, where tank1 and tank2 are utilized for storing geothermal fluid for the remaining application process. Heat Exchangers (HEX 1 and HEX 2) are used toexchange heat between thermic fluid and geofluid. Temperature sensors display input and output temperature of the solar collector, pervaporation desalination system, condenser,and tank 3. Solar thermal collectors such as parabolic trough and evacuated tube collectors are determined for temperature elevation, and the pervaporation process is carried out in desalinating geofluid. Lastly, the desalinated water is condensed and transferred to tank 3 for drinking purposes



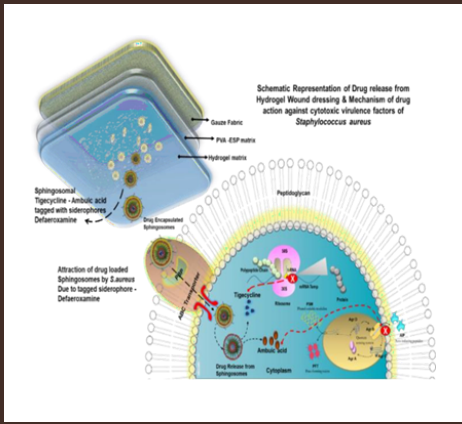
TEMPORARY SPEED BREAKER WITH UNDER CABLE TUNNEL (Patent Application No 202121053582)

The titled “Speed breaker bump with power cable transfer tunnel “designed to be installed on the important junction of the road as temporary speed breaker is used to regulate the speed of the moving vehicle while the cavity provided under the bumping blocks is used to pass the electric power cable from one side of the road to the another side of the road. The passing of under way electric cable is used to transfer the electric current from the available side to another side for utilizing the electric load used for construction or other maintenance works.

The dual purpose of the bumping blocks of serving as speed breaker as well as the under cavity cable transfer is compactly designed

TIGECYCLINE - NALIDIXIC ACID ENCAPSULATED NANOSCAFFOLD TO COMBAT STAPHYLOCOCCUS AUREUS PATHOGEN (Patent Application No 202221029660)

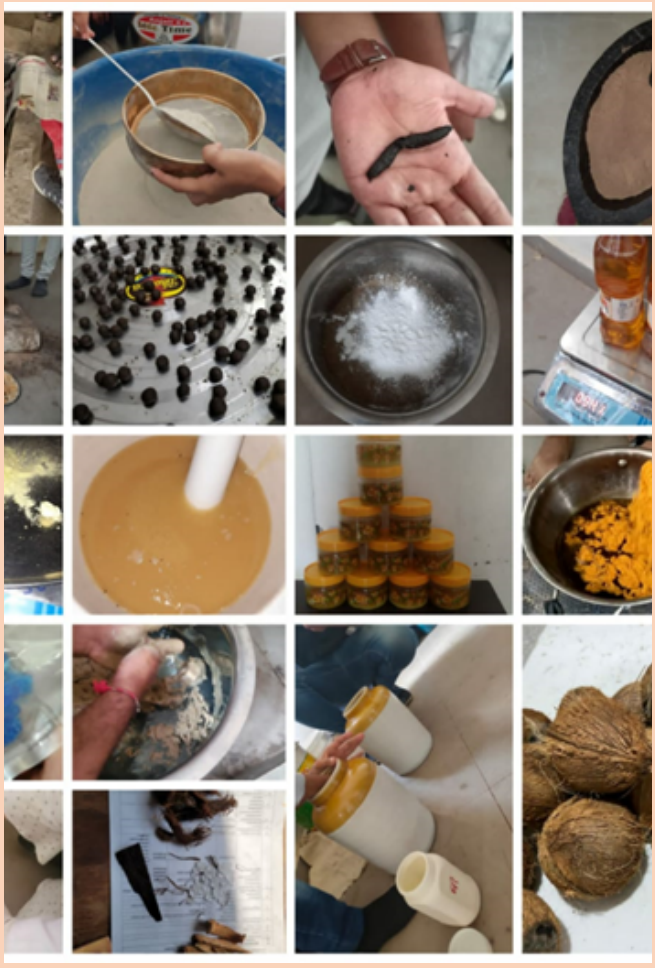
Embodiments of the present invention relate to an optimized elution scaffold with controlled release behavior comprising an ultrafine fibrous framework administered or ladened with a combination of polymers and antibiotics. Other embodiments and advantages are also disclosed.



Technologies in Partner Universities

Arihant Ayurvedic Medical College and Research Institute
Swarrnim Institute of Health Sciences, Swarrnim Startup and Innovation University, Gandhinagar

Ayurvedic Medicines



Panchakarma treatment

Panchakarma treatment

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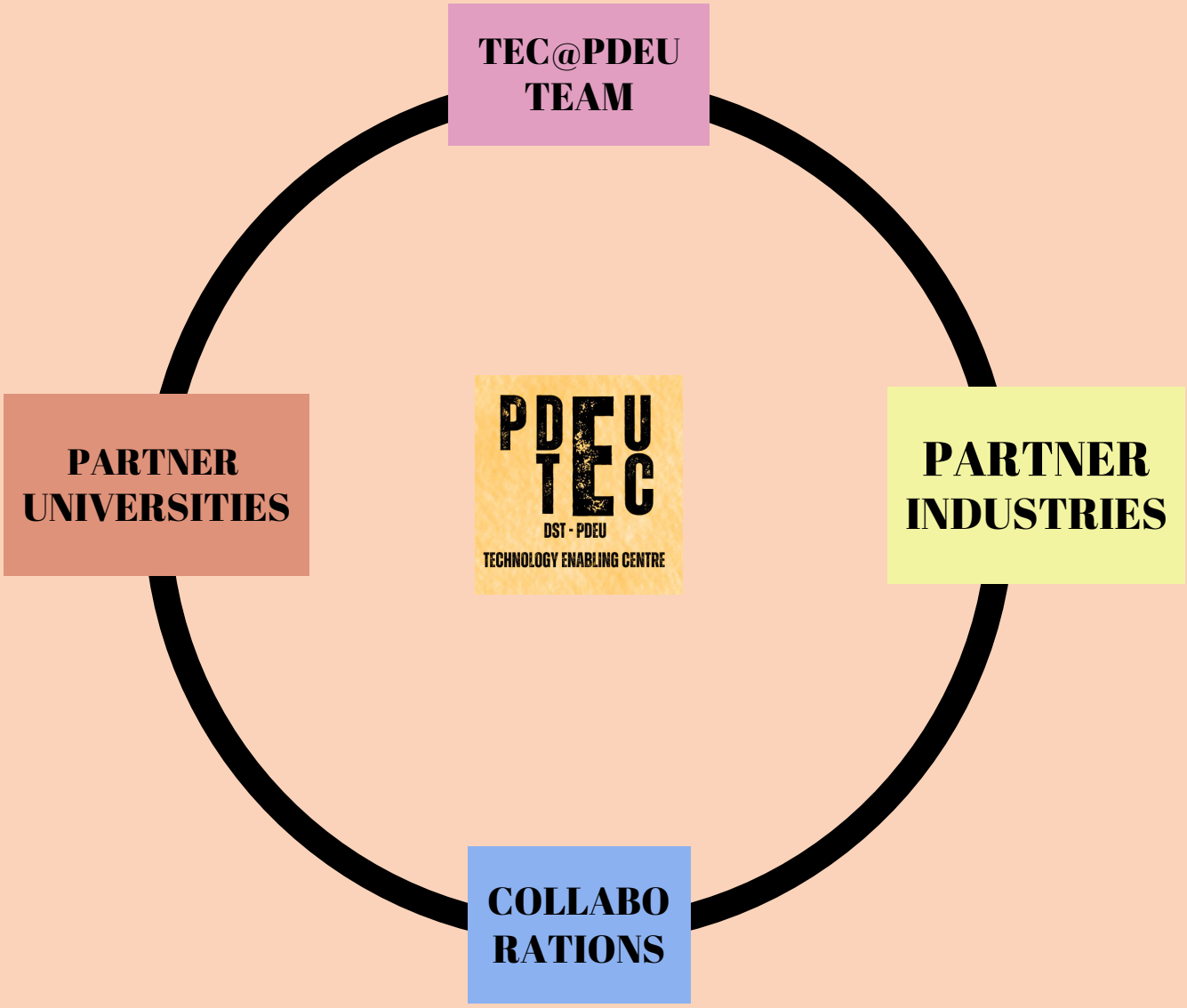
Broad Spectrum of TEC@PDEU



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Upcoming Events

Expert Talk on "Transfer of Technology"

By

Prof. Jaya Kumar

On

23rd JUNE 2023

SEARCHING FOR TECHNOLOGY DEPLOYMENT, FIELD TRIALS, COMMERCIALISATION

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