

**Hyderabad Innovation Summit 2019- Chemical Department has participated/ presented their working models at Hyderabad on 18<sup>th</sup> December 2019.**

#### About The Summit

Telangana, the youngest state of India, is making great strides across all sectors while fostering innovation-driven-economy. The five years old State has emerged as a trendsetter in innovation and growth inspiring other states in India through its excellent initiatives and policies.

It has been ranked as No.1 state in Ease-of -Doing Business while holding the top national position in Investment Expenditure and Revenue Growth. While laying great emphasis on promoting and supporting the start-up eco-system, it also made its mark as the Start-Up capital of India. First of its kind initiatives by the State Government like T-Hub, We-Hub among others are setting milestones in the history of Start Up Mission of India.

In order to grow as a ‘Land of Innovators’, the state is driving towards common goal of imbibing an innovative eco-system across multiple sectors.

To explore and showcase the culture of Innovation, Growth and Entrepreneurship, Elets Technomedia in collaboration with Govt of Telangana is organizing the ‘Innovation Summit, Telangana’ on December 18, 2019.

Be part of this Knowledge Exchange Summit to receive insights and follow best practices and innovation across Governance, Information Technology, Health, Education, Agriculture, Industry, Urban Development transport, etc to name of few.

B151941	Neeli Phanindra	Chemical Engineering	DESALINATION OF SEA WATER USING VACCUM DISTILLATION
B151316	Miskeen	Chemical Engineering	
B151556	Matam Sandeep Chandra	Chemical Engineering	
B151624	Yamana.Tejasvi	Chemical Engineering	CO2 CAPTURE BY ABSORPTION
B151473	Mudumba Kamala	Chemical Engineering	
B151479	Sukanth Charugundla	Chemical Engineering	

## DESALINATION OF SEA WATER USING VACCUM DISTILLATION

Vacuum desalination is a process by which water is vaporized at a lower temperature when subjected to vacuum pressure. The heat energy requirement for desalination using a distillation process can be brought down by reducing the boiling temperature. The boiling temperature of seawater can be lowered to as low as 400°C by the creation of a vacuum. A pilot study was conducted in the laboratory to investigate the feasibility of using a vacuum desalination process for water supply. The treatment system is designed to minimize the heat requirement. Initially, the seawater is converted to a wet steam in a saturated vapour heater. This vapour heater receives heat from the superheated steam which is due for condensation. The dry component of the wet steam is heated to superheated condition by a superheated vapour heater. This superheated vapour heater receives heat from the waste heat from a steam turbine. Superheated vapour is used to convert incoming seawater to wet steam and then be condensed as the product of the system for potable use.

## CO<sub>2</sub> CAPTURE BY ABSORPTION

**Absorption** processes work by contacting the gas to be captured, for example CO<sub>2</sub>, with a chemical in an **absorption** column. This can be advanced chemical mixtures or pure solutions where CO<sub>2</sub> is dissolved physically.

