



**Jawaharlal Nehru Technological University, Kakinada**

**University College of Engineering Kakinada (A)**

**Department of Petroleum Engineering & Petrochemical Engineering**

**JNTUK FIPI Student Chapter- Annual Report  
(June 2019 to March 2021)**

The JNTUK – FIPI Student chapter provides a platform for several professional, social and cultural activities to enhance different skills among the students. The chapter activities include expert talks during knowledge sharing sessions, workshops, skill development and faculty development programmes. Most of them were conducted before pandemic situation due to COVID-19. Nevertheless, a few good training programmes took place online to impart practical knowledge and skills in spite of the challenging conditions. The events are chronicled as presented below:

- 1) On 3<sup>rd</sup> June 2019 the chapter conducted a Faculty development programme on **“DOWNSTREAM PROCESSING OF OIL AND GAS: PETROLEUM REFINING”**. Where the Inaugural function of this One Week Faculty Development Programme (3<sup>rd</sup> June – 8<sup>th</sup> June, 2019) was attended by **Dr. G.V.S.R. Deekshitulu** Director, FDC, JNTUK as the Chief Guest, **Prof. P. Subba Rao** Principal, UCEK (A), JNTUK and **Shri R. Rajamani** Former Managing Director, MRPL, Mangalore as the Guests of Honours.
- 2) On 19.07.2019, 3rd Foundation Day Celebrations of JNTUK FIPI Student Chapter were celebrated with active participation of the students with great enthusiasm. Many events like Elocution, Quiz, Essay Writing and games like badminton, cricket, throw-ball, running were conducted and the winners were awarded with certificates. The celebration started with University Song of JNTUK followed by the speeches of dignitaries. The annual report (2018-19) and future plan (2019-20) for the JNTUK FIPI Chapter had been presented. The chief guest of the celebrations **Shri Ajay J Meshram** Group General Manager (P), HPHT Asset, ONGC and Distinguished Guest **Shri T. K. Ramaiah** Head, Subsea Maintenance Reliance Industries Ltd. Petroleum Business (E & P) O & M, Kakinada & Secretary, SPE Kakinada Section spoke on the occasion.



Shri Ajay J Meshram



Group photo of the foundation Day

3) On 01-08-2019, A knowledge sharing session on “WEALTH OF ANDHRA PRADESH” was organised and a lecture was delivered by **Dr. KVSG MURALI KRISHNA**, Professor of Civil Engineering, UCEK, JNTUK and also the Founder Principal UCEN JNTUK. The lecture has been useful to students and faculty to enhance their domain & other technical knowledge to improve their understanding of societal and professional requirements, especially to bring awareness to develop environmentally friendly technologies, and the career prospects. The students have been inspired and motivated by the presence of Dr. KVSG MURALI KRISHNA.



Dr. KVSG MURALI KRISHNA



Memento Presentation

4) The FIPI Student chapter also organised a local field visit to **Coromandel international Ltd, Kakinada** on 3<sup>rd</sup> August 2019.



Visit to Coromandel international Ltd,  
Kakinada

5) On 08-08-2019, A knowledge sharing session on “Best Practices in Energy Conservation in Fertilizer Industry” was organised and a lecture was delivered by an industrial expert **Shri P. Chandramohan** General Manager (Technical Services) NFCL, Kakinada. It was held at Seminar Hall, Dept. of PE & PCE, UCEK(A).



**Shri P. Chandramohan**



**Memento Presentation**

6) On 17.09.2019, DECENTNIAL CELEBRATIONS of Department of PE & PCE were organized in a grand manner under the auspices of the FIPI along with SPE and IE(I) student chapters. Many events like Quiz, Essay Writing, Elocution and games like cricket, throw-ball, badminton, running were conducted and the winners were awarded with certificates. The celebrations started with University Song of JNTUK followed by the speeches of dignitaries. The chief guest of the celebrations, **Prof. V. V. Subba Rao** Registrar, JNTUK, Guests of Honour **Prof. M. H. M. K. Krishna Prasad** Vice-Principal & TEQIP Co-ordinator, UCEK (A), JNTUK, **Shri G. J. Raj Bob** General Manager (Rtd.), GP – W ONGC, EOA Kakinada, **Shri J. Ravi Srinivas** Vice-President, Sulphur Technologies Worley Parsons, Hyderabad graced the occasion.

7) On 18<sup>th</sup> September 2019, an invited lecture programme on “SOUR GAS HANDLING & SULFUR RECOVERY IN PETROLEUM REFINING” by **Mr. J RAVI SRINIVAS**, Vice-President, Sulphur Technologies, Worley Parsons, Hyderabad, was arranged. The details of the lectures are shown below:

09:30 am – 10:00 am	:	Inaugural Session
10:00 am – 11:30 am	:	<ul style="list-style-type: none"><li>• Overview of the Petroleum Refining.</li><li>• Polluting Emissions (Gas / Liquid / Solid) from Refinery Process Units.</li><li>• Emission Regulations in India / World.</li><li>• Fundamentals of Sour Gas / Sour Water Generation in Refinery &amp; Conceptualization of Handling these Streams.</li></ul>
11:30 am – 11:45 am	:	Tea Break
11:45 am – 01:00 pm	:	<ul style="list-style-type: none"><li>• Sour Gas Absorption and Regeneration &amp; Fundamentals.</li><li>• Amine Basics</li><li>• ARUs (Amine Regeneration Units) – Design &amp; Operation</li></ul>
01:00 pm – 02:00 pm	:	Lunch Break
02:00 pm – 03:30 pm	:	<ul style="list-style-type: none"><li>• Sour Water Handling &amp; Fundamentals</li><li>• Understanding of Sour Water Chemistry</li><li>• SWSUs (Sour Water: Stripping Units) – Design &amp; Operation</li></ul>
03:30 pm – 03:45 pm	:	Tea Break
03:45 pm – 05:15 pm	:	<ul style="list-style-type: none"><li>• AAG (Amine Acid Gas) &amp; SWAG (Sour Water Acid Gas) Chemistry &amp; Handling</li><li>• SRU (Sulphur Recovery Unit) Fundamentals</li></ul>

		<ul style="list-style-type: none"> <li>• SRU Design &amp; Operation</li> </ul>
05:15 pm – 05:30	:	Valedictory Session

8) On 28-09-2019, a workshop was held on the “**Reflections from 9<sup>th</sup> Convection of FIPI Chapters**” to apprise the FIPI members of the events that had taken place at the afore mentioned convention organized by the Pandit Deendayal Energy University, Gandhi Nagar.

9) JNTUK FIPI Chapter arranged industrial visits to various Industrial Units and a Research Centres located at different parts of India. It was a great privilege for the III-year petrochemical engineering students to visit and understand industrial environment and culture, process technologies, various types of equipment and safety practices. The tour was scheduled for two weeks (17-11-2019 to 01-12-2019). The list of industries visited are given below:

18-11-2019	HPCL (Mumbai refinery)
18-11-2019	Deepak Fertilisers and Petrochemicals corporation ltd, Mumbai
19-11-2019	BPCL (Mumbai refinery)
22-11-2019	Gujarat State Fertilizers & Chemicals Ltd, Baroda
28-11-2019	BPCL R&D, Noida



**HPCL, Mumbai**



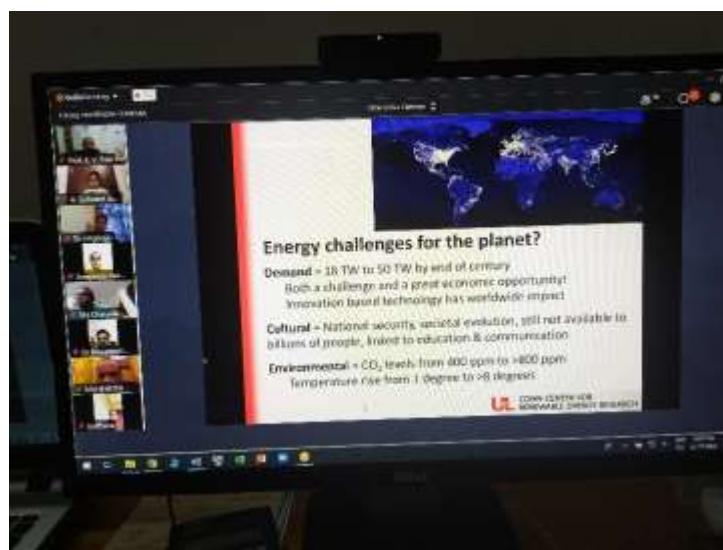
**Deepak Fertilisers and Petrochemicals corporation ltd**

10) From 07<sup>th</sup> Feb to 08<sup>th</sup> Feb 2020, A workshop on “**Industrial Safety & Hazard Management**” was conducted. **Dr. B. Balakrishna** Principal, UCEK (A), JNTUK graced the inaugural function as the Chief Guest. The inaugural lectures were given by the Guests of Honour, **Shri M. K. Rao** Former Executive Director, Indian Glycols Ltd. and **Prof. K. V. Rao** Faculty Advisor JNTUK – FIPI Student Chapter. The inaugural of workshop was presided by **Dr. D. Lingaraju** Head, Dept. of PE & PCE. The Schedule of is given in the table below:

Date	Time	Lecture	Topic / Subject	Resource Person
07.02.2020	10:00 - 01:00	Lecture – I	<ul style="list-style-type: none"> <li>• Overview of Safety,</li> <li>• How to enhance Safety Performance?</li> </ul>	<b>Shri M. K. Rao</b>
	02:00 - 05:00	Lecture – II	Occupational Safety and Health Administration: Human Exposures – Class of Toxicity – Harmful Concentrations of Chemicals – AGGIH & OSHA Exposure limits – Industrial	<b>Prof. K. V. Rao</b>

			Hygiene Identification, Evaluation & Control.	
08.02.2020	10:00 - 01:00	Lecture – III	Process Safety Management (PSM) – Part 1 <ul style="list-style-type: none"> <li>• Why Process Safety &amp; Process Safety Management (PSM)?</li> <li>• Elements of PSM</li> </ul>	Shri M. K. Rao
	02:00 - 05:00	Lecture – IV	Toxic Release & Dispersion Models – Case Studies and Release Mitigation. Fires and Explosions – Designs to Prevent Fires and Explosions.	Prof. K. V. Rao
09.02.2020	10:00 - 01:00	Lecture – V	Process Safety Management (PSM) – Part 2 <ul style="list-style-type: none"> <li>• More on key PSM elements               <ul style="list-style-type: none"> <li>➢ Process Safety Information (PSI)</li> <li>➢ Management of Change (MOC)</li> <li>➢ Process Hazard Analysis (PHA)</li> </ul> </li> <li>• Measuring Process Safety</li> </ul>	Shri M. K. Rao
	02:00 - 05:00	Lecture – VI	Hazard Identification: DOW & MOND Indices – Process Hazard Checklists – HAZOP and other Methods. Risk Assessment: Review of Probability Theory – Event & Fault Trees – QRA	Prof. K. V. Rao

11) A webinar on 22-07-2020 was conducted on the topic “Advanced Materials for Addressing Energy Challenges” with **Prof. Mahendra Sunkara, Director, Conn Center, University of Louisville, Kentucky, USA.**



Screen Shot of Webinar on 22-07-2020

12) An online Skill Development Program was conducted for 15 days from December 7, 2020 to December 23, 2020 in lieu of summer internship programme to provide the

students an opportunity to learn and interact with the experts from various refinery and petrochemical operations and processes. The Chief Guest of the Inaugural session had been **Padma-Vibhushan Prof. M. M. Sharma** Emeritus Professor of Eminence, ICT, Mumbai while the Distinguished Guest **Dr. B. Balakrishna Principal**, UCEK (A), JNTUK and Guests of Honour, **Dr. M.H.M. Krishna Prasad** Vice- Principal & Coordinator TEQIP – III UCEK (A), JNTUK and **Prof. K. V. Rao** Faculty Advisor, SPE & FIPI Student Chapters – JNTUK spoke on the need of training programs. About 35 lectures were held with various professionals and industrial experts around the country. The skill development program for petrochemical engineering consisted of the lectures related to various blocks in the refinery, the major petrochemicals that are ruling the petrochemical market, waste water treating units and the most important aspect of any industry that is the safety. The detailed schedule of the skill development programme which was on the online platform is displayed below:

<b>Programme schedule</b>	<b>Date &amp; Time</b>	<b>Resource Person / Speaker</b>
<b>Day – 1</b>	<b>07.12.2020</b>	
Overview of Petroleum Refining	11:15 – 1:15	<b>Shri B. Ramakrishna</b> Sr. Manager – Technical, HPCL
<b>Lunch Break</b>	-	
Introduction to Petroleum Refinery Operation and Petroleum Products	03:00 – 05:00	<b>Shri B. Ramakrishna</b> Sr. Manager – Technical, HPCL
<b>Day – 2</b>	<b>08.12.2020</b>	
Atmospheric Distillation of crude Oil	09:00 – 11:00	<b>Shri Sudhir Anamanamuri</b> Sr. Manager – Technical, HPCL
<b>Lunch Break</b>	-	
Vacuum Distillation Crude Oil	02:00 – 04:00	<b>Shri Sudhir Anamanamuri</b> Sr. Manager – Technical, HPCL
<b>Day – 3</b>	<b>09.12.2020</b>	
Visbreaking	09:00 – 11:00	<b>Shri Sudhir Anamanamuri</b> Sr. Manager – Technical, HPCL
<b>Lunch Break</b>	-	
FCC – I	02:00 – 04:00	<b>Shri Binoy Das</b> Sr. Manager – Technical, HPCL
<b>Day – 4</b>	<b>10.12.2020</b>	
Hydro-processing - I	09:00 – 11:00	<b>Ms. S. Sushma</b> Asst. Manager – Technical, HPCL
<b>Lunch Break</b>	-	
Hydrogen Production	02:00 – 04:00	<b>Ms. S. Sushma</b> Asst. Manager – Technical, HPCL

<b>Day – 5</b>	<b>11.12.2020</b>	
Hydrocracking	09:00 – 11:00	<b>Shri K. Prasanth</b> Ch. Manager – Projects Process, HPCL
<b>Lunch Break</b>	-	
Hydro-processing - II	02:00 – 04:00	<b>Shri J. Srinivasa Rao</b> Manager – Technical, HPCL
<b>Day – 6</b>	<b>12.12.2020</b>	
FCC - II	09:00 – 11:00	<b>Ms. M. Neha</b> Asst. Manager – Technical, HPCL
<b>Lunch Break</b>	-	
Catalytic Reforming	02:00 – 04:00	<b>Shri D. Appala Raju</b> Sr. Manager – Technical, HPCL
<b>Day – 7</b>	<b>14.12.2020</b>	
Processing of Bottom of the Barrel - Coking	09:00 – 11:00	<b>Shri K. Prasanth</b> Ch. Manager – Projects Process, HPCL
<b>Lunch Break</b>	-	
Merox Process and Hydro Desulphurization of Products	02:00 – 04:00	<b>Jeejo Francis Correya</b> Sr. Manager – Technical, HPCL
<b>Day – 8</b>	<b>15.12.2020</b>	
Sulfur Recovery	02:00 – 04:00	<b>Shri V. B. Aneesh</b> Sr. Manager – Technical, HPCL
<b>Day – 9</b>	<b>16.12.2020</b>	
Effluent Treatment	09:00 – 11:00	<b>Shri T. Hemant Desai</b> Sr. Manager – Technical, HPCL
<b>Break</b>	-	
Fire Heaters	11:15 – 01:15	<b>Jeejo Francis Correya</b> Sr. Manager – Technical, HPCL
<b>Lunch Break</b>	-	
Heat Exchanger	03:00 – 05:00	<b>Shri B. Sreekanth</b> Manager – Technical, HPCL
<b>Day – 10</b>	<b>17.12.2020</b>	
HSE in Refinery Operations	09:00 – 11:00	<b>Shri S.N.R. Suresh Reddy</b> Ch. Manager – Safety, HPCL
<b>Break</b>	-	
Overview of Petrochemical Industry in India	11:15 – 01:15	<b>Dr. R. V. Jasra,</b> Senior Vice-President, RIL

<b>Day – 11</b>	<b>18.12.2020</b>	
Naphtha Cracking	09:00 – 11:00	<b>Shri Vijaya Sai,</b> Expert in Naphtha Cracking, RIL
<b>Break</b>	-	
Gas Cracking	11:15 – 01:15	<b>Dara Vijay Kumar,</b> Expert in Gas Cracking, Kuwait
<b>Lunch Break</b>	-	
Deep Catalytic Cracking	03:00 – 05:00	<b>Shri J. Ravi Srinivas</b> Expert in Petroleum Processes, Abu Dhabi
<b>Day – 12</b>	<b>19.12.2020</b>	
Manufacture of Polyethylene & Polypropylene	09:00 – 11:00	<b>Shri Gunasekaran Sivalingam,</b> Senior Manager, Polymers, SABIC Research Center, Bangalore
<b>Break</b>	-	
Manufacture of Ethylene Oxide & Mono-Ethylene Glycol	11:15 – 01:15	<b>Shri Sushil Kumar</b> Expert in Petrochemical, Ex-RIL
<b>Lunch Break</b>	-	
Production of Ethyl Benzene & Styrene	03:00 – 05:00	<b>Dr. S. V. Praveen,</b> Director(Retd.), LG Polymers
<b>Day – 13</b>	<b>21.12.2020</b>	
Production of Polystyrene	09:00 – 11:00	<b>Shri S. V. Praveen,</b> Director(Retd.), LG Polymers
<b>Break</b>	-	
Manufacture of VCM and PVC	11:15 – 01:15	<b>Shri Vijay Kumar Menon,</b> Reliance Industries
<b>Lunch Break</b>	-	
Production of Aromatics	03:00 – 05:00	<b>Shri P. M. Rao,</b> Expert in Aromatics Technology, Kuwait
<b>Day – 14</b>	<b>22.12.2020</b>	
Manufacture of Phthalic Anhydride	09:00 – 11:00	<b>Shri KRR Kumar</b> Expert in the Manufacture of Fertilizers & Petrochemical
<b>Break</b>	-	
Natural Gas Reforming & Manufacture of Ammonia: Challenges	11:15 – 01:15	<b>Shri Ch. Sivarama Krishna,</b> AGM (Process Engg.), NFCL, Kakinada
<b>Lunch Break</b>	-	
Natural Gas Processing	03:00 – 05:00	<b>Shri J. Ravi Srinivas</b>

		Expert in Petroleum Processes, Abu Dhabi
<b>Day – 15</b>	<b>23.12.2020</b>	
Waste Water Treatment	09:00 – 11:00	<b>Shri D. Rama Raju,</b> Expert in Waste Water Treatment, Vizag Steel.
<b>Break</b>	-	
Process & Behavioral Safety	11:15 – 01:15	<b>Shri Cheluva Kumar</b> Expert in HSE, Prentac, Bangalore
<b>Lunch Break</b>	-	
<b>Valedictory Function</b>	03:00 – 03:30	-

13) Five Swachh Bharat Clean & Green India Programmes were conducted by members of FIPI Chapter to clean the class rooms besides the premises of the department of PE & PCE in academic year 2019-20. To enhance the greenery in front of the department, plantation programs were also organized.

- 2<sup>nd</sup> July,2019
- 7<sup>th</sup> August,2019
- 13<sup>th</sup> November,2019
- 4<sup>th</sup> December,2019
- 6<sup>th</sup> February,2020



**Tree plantation**

14) Two outreach programs of teaching to school children at Parivarthana Children Orphanage, Kakinada on 21-12-2019 and P. R. Govt. Boys School, Kakinada on 18-03-2020 with the motto of sustainable socio-economic development for children to bring awareness in career and inspiring them to achieve their goals.



