Issue – 08

UPL UNIVERSITY OF SUSTAINABLE TECHNOLOGY

CHEMICAL ENGINEERING DEPARTMENT

Chemezine

Jul 2021 – Dec 2021

CHEMICAL ENGINEERING MAGAZINE

CHEMICAL ENGINEERING STUDENTS (BATCH 2018-22) DURING UPL PLACEMENT INTERVIEW

NBA accredited Chemical Engineering Department

NAAC accredited Shroff S. R. Rotary Institute of Chemical Technology

Creating Competent Chemical Engineers for the world of tomorrow

DEPARTMENT OF CHEMICAL ENGINEERING, SRICT

To achieve excellence in Chemical Engineering and allied fields by providing excellent teaching learning experience enabling students to become competent professionals to tackle global issues.

MISSION

- To provide excellent technical education to students with basics of chemical engineering.
- To provide theoretical and practical education so that students vigorously apply knowledge in solving chemical engineering problems for sustained development.
- To inculcate professional ethics among students by exposing them to state of the art technologies in the field.
- To inspire students for lifelong learning and to develop leadership qualities in their career.

Program Educational Outcomes (PEOs) of Department

- To impart the fundamentals of chemical engineering and enable them to have a successful career in wide range of core industries.
- To deliver quality technical education thereby developing sustainable technology in addressing global issues.
- To prepare graduates who are capable of solving complex chemical engineering problems.
- To provide practical aspects of chemical engineering to the students by ways of industrial visits, expert lectures and increased industry-institute interaction thereby making students industry ready.
- To prepare graduates who can effectively communicate, demonstrate leadership qualities with creative thinking and professional ethics.

Message from Head of Department..

Greeting!!

Since the pandemic, the approach to running academic institutions has totally transformed. We have well adopted a new way to conduct classes, interact with students, and evaluation of their performance. Now when things are gradually becoming normal and students are physically coming for classes, we have created small batches for students to make our teaching-learning process more effective ensuring all the precautions against the spread of the CORONA virus. In the last six months, we operated most of our activities in hybrid mode to ensure the safety and comfort of our students.

Meanwhile, we also welcomed the fresh batch of diploma, bachelor, and master's students in the Winter-2021 session. We understand the student's state of mind, while they have gone through the transition of offline-to-online and then online-to-offline. We had multiple levels of the orientation of newly admitted students to ensure that students were comfortable with the surroundings and also, understand the importance of teaching-learning while adopting the new normal. The prime motive of our department is to provide quality education to our students.

The department has thrived covering a variety of verticles including academic performance of students, summer internship, placement, collaborative research. Academic institutions thrive when it is buzzing with students and their activities. So, now we hope and look forward to a normal routine where students will be back with enthusiasm and zeal to campus for academics, sports, cultural, and other co-curricular activities like before in the next academic term i.e. Summer 2022. We wish all students the best of luck for the ongoing and upcoming university exams.

Dr. Alok Gautam
Head, Chemical Engineering

INDUSTRIAL VISITS

Adm. Batch	Sem	Date	Name of Industry
2018	VII	07-Aug 2021	Lupin
		25-Aug 2021	GNFC
		11-Oct 2021	Chevron Ltd
2019	V	06-Jul 2021	GRP Ltd.
		24-Jul 2021	Tata Steel Ltd.
		11-Aug 2021	Gujarat Fluorochemicals Ltd
2020	III	13-Aug 2021	Aarti Industries Ltd
		09-Sept 2021	RIL, Dahej
		09-Dec 2021	Jayshree Aromatics
2021	I	11-Dec 2021	BEIL, Ankleshwar

Semester-III students visit at Jayshree Aromatics, Ankleshwar

Semester-I students visit at BEIL, Ankleshwar

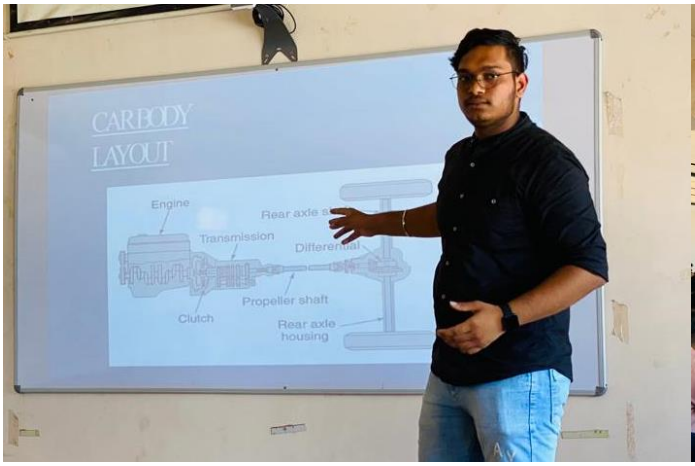
EXPERT LECTURES

Date	Expert	Designation	Topic
10-07-21	Dr. Ajay Kumar Pani,	Professor, BITS, Rajasthan	Importance and Applications of Process Control in Chemical Engineering
07-08-21	Mr. Gokul Viswanath Mahajan	Technical Team Lead, Gexcon, Mumbai	Introduction to Chemical Hazards and Toxicity
14-08-21	Mr. Rilesh Mehta	Process Engineer, Solvay Panoli	Process Modeling and Simulation
20-08-21	Dr. Cagri Emer,	Metallurgy and Milling Superintendent at First Quantum Minerals Ltd.'s (FQML) Cayeli Operation, Turkey	Pushing the Boundaries of Flotation
16-09-21	Mr. Sushil Kumar	Retired President, RIL Dahej	Steam Generation
17-09-21	Dr. Deoyani Sarkhot	Head Soil Organic Carbon, Nature Farm	Biochar
05-10-21	Mr. Rajesh Parikh,	Consultant, BEIL	Process Equipment Design
03-10-21	Dr. Siddharth	Senior Scientist R & D, RIL	Introduction to Rheology
30-11-21	Mr. Amol Lakare,	Manager, Process Safety	Introduction-Mechanical Integrity
30-11-21	Mr. Snehal Tralsawala	CEO, Prism Consultant	Safety- An Attitude

PEER LEARNING INITIATIVE

Name of student	Sem	Course Name	PLI Delivered in semester
Shubham Gupta	VII	MTO-1	V
Het Prajapati	VII	MO	V
Het Prajapati	VII	ET	V
Narielwala Aditya	V	FFO	III
Harish Verma	VII	IC	III
Monika Jadiya	V	MEBC	III
Monika Jadiya	V	CET 1	III
Himanshu Desai	PG	CRE-II	VII
Bhavesh Padhiyar	PG	PAU	VII

Name of student	Sem	Course Name	PLI in Semester
Vaijapurkar Kaushik	V	FFO	III
Shah Smitkumar	V	FFO	III
Patel Rahulkumar	V	FFO	III
Kher Jayrajsinh	VII	ET	V
Pawaday Juily	Alumini	CRE-II	VII
Vaijapurkar Kaushik	V	AC	III
Divyajeet Raj	VII	MO	V
Vaijapurkar Kaushik	V	MEBC	III
Subham Gupta	VII	ET	V



Name of student	Sem	Course Name	PLI Delivered in Semester
Smit Shah	V	CET-I	III
Sanjog Deore	PG-III	IPC	V
Pushpak Patil	PG-III	TP	VII
Shubham Gupta	VII	IPC	V
Harish Verma	VII	AC	III
Nikunj Patel	VII	AC	III
Sanjog Deore	PG-III	MO	V
Pushpak Patil	PG-III	IPC	V
Pawaday Juily	Alumini	CET-1	III

Name of student	Sem	Course Name	PLI Delivered in Semester
Nirali Sanjaysinh K	BE III	Physics	1
Mansuri Naeem	BE III	Physics	1
Dewansh Mishra	BE III	BME	1
Mansuri Naeem R	BE III	BEE	1

UNIVERSITY EXAM RESULTS B.E. Semester-VIII & M.E. Semester-IV and II Summer-2021

CHEMICAL ENGINEERING BRANCH				
Semester	PASS	Result	Branch Rank	10-pointers
BE-VIII	75/75	100%	1	21
ME-IV	05/05	100%	1	1
ME-II	09/09	100%	1	0

Branch wise Toppers in University (as per CPI) Semester-VIII, Summer 2021

BHAVSAR KRUTIKABEN
2nd Rank Chemical Engg., GTU
CPI: 9.66
CGPA: 9.85
SPI: 10.00

PATIL DEEPRAJ
4th Rank Chemical Engg., GTU
CPI: 9.62
CGPA: 9.88
SPI: 10.00

JADHAV VIDYA
5th Rank Chemical Engg., GTU
CPI: 9.61
CGPA: 9.53
SPI: 10.00

KARNANI TARUN
6th Rank Chemical Engg., GTU
CPI: 9.56
CGPA: 9.88
SPI: 10.00

DAVE ANANYA
7th Rank Chemical Engg., GTU
CPI: 9.54
CGPA: 9.72
SPI: 10.00

05 SRICT Students in the list of Branch wise TOP 10 in the University as per CPI

Toppers in University *(as per CPI) Summer-2021*

PRATHYUSHA G NAIR
Chemical Engineering
***01st** Rank in Overall GTU (as per CPI)*
CPI: 9.79/10
SPI: 9.13/10

JUILY PAWADAY
Chemical Engineering
***02nd** Rank in Overall GTU (as per CPI)*
CPI: 9.74
SPI: 10/10

M.E. Semester-2 (Summer 2021) Chemical Engineering

Name of Student	CPI	SPI	Position
PADHIYAR BHAVESHKUMAR JA	9.89	9.78	4th Rank in University - CPI and SPI wise, 01st Rank in Chemical Engineering Branch-CPI wise
MANJRAWALA CHINMAY Y	9.89	9.78	5th Rank in University - CPI and SPI wise, 2nd Rank in Chemical Engineering Branch-CPI wise
DESAI HIMANSHU SURESHBHAI	9.44	9.33	04th Rank in Chemical Engineering Branch-CPI wise
DEORE SANJOG VISHWAS	8.67	9.22	09th Rank in Chemical Engineering Branch-CPI wise
PATIL JAYDEEP VITHAL	8.89	9.11	10th Rank in Chemical Engineering Branch-CPI wise

UNIVERSITY EXAM RESULTS B.E. Semester-VI, IV & II Summer-2021

CHEMICAL ENGINEERING BRANCH				
Semester	PASS	Result	Branch Rank	10-pointers
BE-VI	70/70	100%	1	20
BE-IV	83/83	100%	1	10
BE-II	62/62	100%	1	09

Chemical Engineering Branch wise Toppers in University *(as per CPI) Semester-VI, Summer-2021*

THAKER YASHKUMAR
Chemical Engineering
06th Rank in Overall GTU (as per CPI)
CPI: 9.50
CGPA: 9.70
SPI: 10.0

SAKSHEE JAIN
Chemical Technology
08th Rank in Overall GTU (as per CPI)
CPI: 9.50
CGPA: 9.76
SPI: 9.83

Chemical Engineering Toppers Semester-IV, Summer-2021			
Name	CPI	SPI	Rank
SHAH DEEP YOGESH	9.88	10	2nd - Branch wise, 6th - CPI wise
VAIJAPURKAR KAUSHIK SANDEEP	9.75	10	3rd - Branch wise
PATEL DHARABEN KALPESHBHAI	9.56	10	7th - Branch wise
HAJARIWALA KRISIL VIJAYKUMAR	9.56	9.83	8th - Branch wise

Chemical Engineering Toppers Semester-II, Summer-2021			
Name	CPI	SPI	Rank
SHAH DEEP YOGESH	9.88	10	2nd - Branch wise, 6th - CPI wise

Industrial Training

Admission batch 2018-22

100 % Students have undergone minimum 2 weeks of Industrial Training

Tagros
ETL
BEIL
JB Chemicals
BGP Healthcare
Godrej
GIL
Sun Pharma
Kanoria
SS Chemicals
Zentiva
KLJ
GB Agro
Unity Chemicals
UPL
GFL
Extreme Engineering
Pragna Chemical
Sajjan India

Orientation program of the Admission batch 2021

Welcome B.E. Chemical Engineering Students (Admission batch 2021)

Welcome M.E. Chemical Engineering Students (Admission batch 2021)

PLACEMENT OF BATCH 2017-21

STUDENT NAME	PLACED INDUSTRY NAME
CHINTAN M ACHARYA	ZENTIVA
AHIR YAGNESHKUMAR D	TOYO INK
DIXIT AMIPARA	SAJJAN INDIA
BHAVSAR KRUTIKA C	BEIL
JAYENDRASINH Y BODANA	MEGHMANI PANOLI
CHADDARWALA PARTH D	GFL, DAHEJ
CHAUHAN RUTVIJ M	BECTOCHEM
CHAUHAN TEJASSINH G	NOCIL
DEVADHARA JASHRAJSINH P	ZENTIVA
DHARVIYA KISHAN L	ZENTIVA
S. FRANCIS L FERNANDO	HEUBACH
AJAYSINH M GOHIL	NITREX
JADHAV VIDYA D	SAJJAN INDIA
SHIVANG D KAPADIA	CONVERGENCE
TARUN B KARNANI	HEUBACH
VEDANT D KAYASTH	NITREX
SHIVAM S KESHRUWALA	NITREX
MAKWANA DAKSHKUMAR A	NITREX
MANN R MAKWANA	NITREX
MODI NISARG M	KANORIA CHEMICALS
NIRAL K NAIK	MFL, DAHEJ
RAHULKUMAR R PADHIYAR	BEIL
AASHUTOSH P PATEL	NOCIL
BADAL UMESHBHAI PATEL	SAJJAN INDIA

STUDENT NAME	PLACED INDUSTRY NAME
PATEL CHIRAGKUMAR S	DECCAN
DHRUV A PATEL	SAJJAN INDIA
JAYDEEP KUMAR	SAJJAN INDIA
PATEL JAYKUMAR H	SAJJAN INDIA
PATEL PRATIK Y	BEIL
PATEL PRIT H.	NOCIL
VARUNKUMAR K PATEL	CONVERGENCE
DEEPRAJ PATIL	UPL
DARSHAN M RABADIYA	KANORIA CHEMICALS
DHRUVKUMAR R RABADIYA	STAR OXOCHEM
DIVYANGSINH RANA	NOCIL
SAHODIYA ROHAN A	BECTOCHEM
SHAH AAYUSH P	BECTOCHEM
SONI DHRUV J	ZENTIVA
DAXKUMAR R TAILOR	NOCIL
JAYVEERSINH VANSIYA	MEGHMANI PANOLI
CHETNA VERMA	BECTOCHEM
GOHIL RAHULKUMAR R	SAJJAN INDIA
JAGUWALA BINOY D	BEIL
PARTH JITESHKUMAR MODI	KLJ, JHAGADIA
JAYMIN K TRALSAWALA	KLJ, JHAGADIA
VAGHANI HARSH V	ELANTAS
VAGHASIYA ISHAN A	SUNPHARMA, PANOLI
KALARIYA SURAJ N	MANMOHAN MINERALS

RECENT PLACEMENT OF Chemical Engineering, Semester-VII BATCH 2018-22

Reliance Industries Limited

With package
7.51 LPA

DEVANG Patel

DHRUV Patel

PARAJ Patel

HARISH Verma

MEET Patel

JILL Bhadania

MAYUR Suryavanshi

SAKSHEE Jain

JAIRAJ Kher

SHASHANK Khetani

TUSHAR Mistry

KISHAN Panchal

VISMAY Patel

SNEHA Sajjan

HARDEEP Rana

ABHISHEK Gandhi

UPL OpenAg

With package
5.25 LPA

TCS TATA CONSULTANCY SERVICES

With package
3.37 LPA

NIKUNJ Patel

SHUBHAM Gupta

Student Speaks

The teaching-learning process became challenging during the Covid Pandemic but the UPL University of Sustainable Technology and Department of chemical engineering made it facile and smooth for the students. Pandemic had negative impacts on the educational activities, as the social distance was crucial at that stage. But it was somehow compensated by providing good online learning.

Our college tried to give us a greater amount of motivation and self-discipline during online education. In the beginning, it was arduous for the students including me, as we had to face many problems during online classes but the department always succored us by providing the alternative solution to it.

Online learning also assisted me in setting my own goals, tracking progress, and meeting deadlines. It also helped me keep the recording of the classes, materials, discussion, documents, etc which means whenever I wanted to clarify anything, I was able to access these fast and by saving valuable time. Also, our classes had a fixed schedule because of which gave me the power to focus on other goals along with my academics. This all would have not been possible without the support of our department, and the management team of the college.

I wholeheartedly thank them all for their support.

- Sneha Sajjan, 4th Year Chemical Engineering student

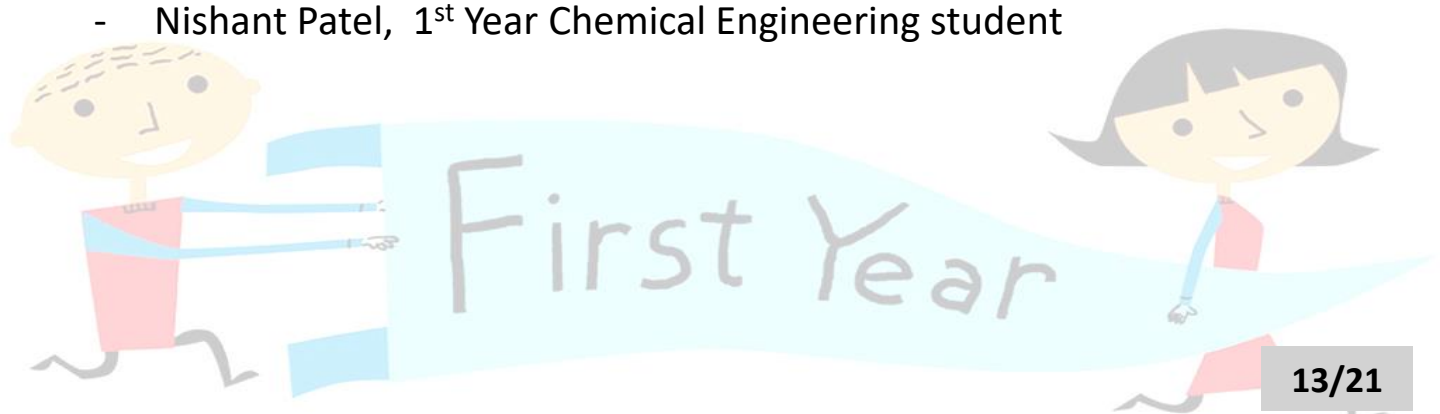
Student Speaks

Education has changed dramatically, with the distinctive rise of e-learning after the entry of CORONA. I personally feel online classes were difficult. I felt like I was on a roller coaster that throws me left and right sides every movement. Our board (GSHEB) declared the canceled and we got mass promotion during our crucial academic year. I can say that I am very lucky for getting selected Chemical engineering branch of UPL UNIVERSITY OF SUSTAINABLE TECHNOLOGY.

I commute daily from Bharuch to college via Bus facility of our college. While traveling on daily basis, we get ample time for ourselves and also meet friends from across various branches, with enjoyable movements with our friends. Since joining, we have witnessed all the efforts and precautions against the CORONA virus. Daily, our body temperature is checked while entering campus, and students not feeling well as strictly asked to take rest until assured to be fit.

During the initial days, we all got nervous and had some anxiety, but the student-friendly positive atmosphere made us all comfortable. During the induction program, we took a round of college including various sections. Taking about the important thing: understanding the engineering concepts after almost two years of online studies was going to be difficult. But with the support of our kind faculty members, it was a fun drive for all of us. In college, in a short span of two months, I have experienced so many things. Industrial visits (IV), Expert lectures(EL), aegis mentoring system, and peer learning have been among few interesting activities that have attracted me. I am happy and waiting to be a part of many interesting activities that we are yet to witness.

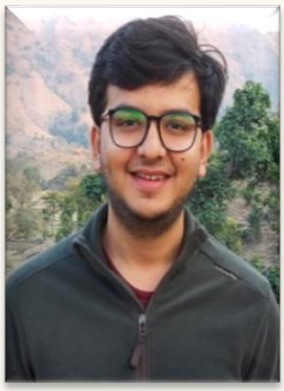
- Nishant Patel, 1st Year Chemical Engineering student



Student Speaks

PARADIGM SHIFT

"There is nothing permanent except change" – Heraclitus



DHIMANT DAVE
FINAL YEAR
CHEMICAL ENGG. STUDENT

We are always afraid of change but change drives the very essence of life. We think it has nothing to do with a person but this one atomic (small) change drives something on an atomic (huge) scale. It was a sunny day and I remember it clearly because it was my first day at SRICT. It was exciting because I get to make friends which I will be seeing every day for the next 4 years and I hope maybe my whole life. As I said everyone is afraid of change and so was I, but it worked out well so far.

1st Year

The first year welcomed new perspectives and ideas without any inclination towards your academics or qualifications. Once you are inside this atmosphere you are free to pursue your ideas your way. Another great thing was the social activities, I joined the Rotaract club of SRICT Ankleshwar. It taught me teamwork and helped me to conquer my fear about socializing and meeting new people. Learning life skills was the first on my list.

2nd Year

As we fast-forward to the next year, I was not a freshman. I can remember my year filled with lots of activities because now I knew everyone from my class, faculty, and seniors. The event that we attended now was our team's project. This was very exciting because now I had time to polish my management skills and oratory skills. A lot of work was to be done and this opened a gate to creativity and ideas for the tech-fest.

3rd Year

This part here is all about living in an unprecedented time -COVID-19. This period taught me how important are our family and loved ones. We were fortunate to have our education moved continued online. A whole new concept of doing work from home and over the internet came to light. Our events were mostly virtual and this gave us a lot of time to focus on the global situation where now everyone was contributing to fight the covid, we decided to spread awareness about sanitation in households and public places.

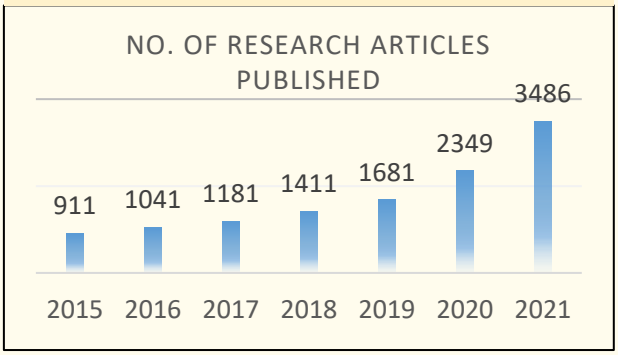
CHEMICAL ENGINEERING MAGAZINE ARTICLES

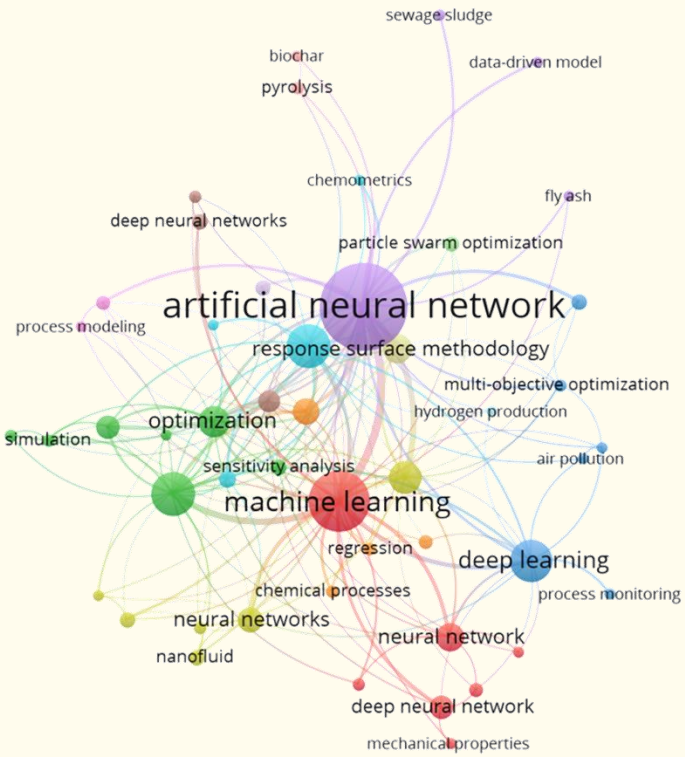
AI in Chemical Engineering

By Krunal J. Suthar, Asst. Professor, Chemical Engineering

Solving highly non-linear complex problems in chemical engineering using traditional strategies is often difficult. Today, black box modeling is gaining interest. The upcoming generation is inclined towards IoT, machine learning-based computational technologies. Artificial intelligence (AI) techniques are amongst machine learning black box modeling approach. AI is becoming useful due to simple implementation, easy designing, generality, and robustness. The increasing interesting of AI in Chemical engineering can be justified by the increase in the number of articles published every year, as seen in the figure (source: www.sciencedirect.com).

An artificial neuron network (ANN) is a computational model that mimics the way nerve cells work in the human brain. Deep learning ANNs play an important role in machine learning (ML) and support the broader field of artificial intelligence (AI) technology.





A bibliographic network was created to understand the wide variety of AI applications in the field of Chemical engineering. TO create the network, the research articles published in 2021 were used (source: www.vosviewer.com). The searched key words in the web of science included “Artificial neural network” and “Chemical Engineering”. The applications of ANN in Chemical engineering includes modeling, optimization, process control, classification, properties prediction, bio-processes, and many more.

Looking at the scope of AI in Chemical engineering, higher semester students interested in computational modeling can pick us wide variety of chemical engineering topics to apply AI.

Biomass - "Renewable source of Energy, Fuel and Chemicals"

By Hemant Balsora, Asst. Professor, Chemical Engineering

The focus on biomass as an alternative to fossil energy has increased tremendously in recent times because of global warming problems due to fossil fuel combustion. Biomass is the term used to describe biologically produced matter and it includes the category of living things in earth. It is a general term specified for material derived from growing plants or from animal manure.

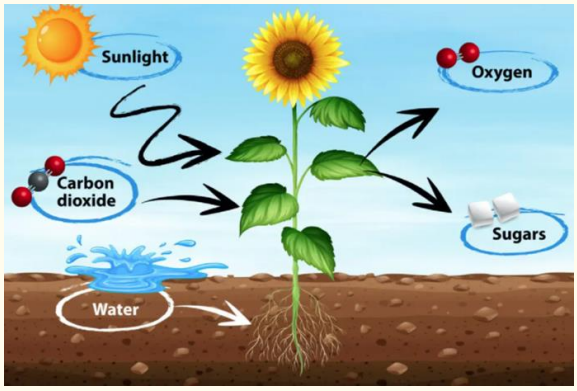


Figure 1. Synthesis process in biomass
source https://www.worldatlas.com

$$CO_2 + 2H_2O \rightarrow CH_2O + H_2O + O_2$$

During the process of photosynthesis (Figure 1) plants take in carbon dioxide and water from their surroundings and sunlight's as a source of heat to produce sugars, starches, cellulose, lignin etc., which make up vegetable matter, loosely termed carbohydrates (CH_2O). Oxygen is produced in this process is emitted back into atmosphere.

The energy stored in biomass is released during combustion which releases carbon dioxide that circulates through the biosphere, which is reabsorbed in equivalent amounts in plants through photosynthesis. Energy obtained from biomass is a form of renewable energy and it does not add carbon dioxide to the environment in contrast to the fossil fuels. Chemically, biomass in general is a lingo-cellulosic material containing varying proportions of cellulose, hemicellulose and lignin[1]. Biomass resources cover a wide range of materials such as forest residues, energy crops, organic wastes, agricultural residues, etc. In addition to the energy production, the biomass also has huge potential to produced variety of chemicals which can be obtained through the suitable conversion processes like pyrolysis, gasification, hydrothermal liquefaction and anaerobic digestion. A gist of these energy conversion technologies are briefly explained here.

1. Pyrolysis

Pyrolysis is a thermochemical conversion process in which biomass is heated in the absence of oxygen, where macro molecular structure of biomass is broken down in to its smaller molecules to produce intermediate liquid product tar with Calorific Value (CV) of about in the rage of 10–28 MJ/kg) , non-condensable gases (CV 29–33 MJ/kg) and bio-char (CV 19–22 MJ/kg)[2]. Tar can be refined to drop-in hydrocarbon biofuels, oxygenated fuel additives and petrochemical replacements. The non-condensable fraction has huge potential to be used as a fuel and it can also be used in many process of chemical synthesis. The bio char is a rich source of nutrients that stimulates plant growth, enhances water retention and reduce the amount of fertilizer by preventing the leaching of nutrients out of the soil, thereby reducing methane and nitrous oxide emissions from soil, further reducing GHGs emissions. Due its heating values it can be utilized in many applications as a replacement for other energy systems.

2. Gasification

Gasification is a process for converting solid carbonaceous materials to a combustible gas (e.g., a mixture of H_2, CO, CH_4 and CO_2). The overall objective is to convert these gases into fuels that can be easily integrated into current energy technologies. In general, gasification involves the reaction of a solid fuel with co-reactants (like air, oxygen, steam CO_2) at temperatures in the range of 550–1000°C. Co-reactants are introduced in sub- stoichiometric quantities in order to partially oxidize the fuel to CO and H_2 rather than completely oxidize it to CO_2 and H_2O.

3. Hydrothermal liquefaction

Hydrothermal liquefaction (HTL) of biomass is the thermochemical conversion of biomass into liquid fuels by processing in a hot, pressurized water environment. During the HTL process the macromolecules making up the biomass are hydrolyzed or degraded by means of water at average temperatures and high pressures. This process is usually carried out in temperature ranges between 280°C and 370°C and pressures that are in the range from 10 to 25 MPa.

4. Anaerobic Digestion

Anaerobic digestion is a process through which bacteria break down organic matter such as animal manure, wastewater biosolids, and food wastes in the absence of oxygen to produce biogas. The biogas has several applications such as cooking fuel, vehicle fuel etc.

Reference

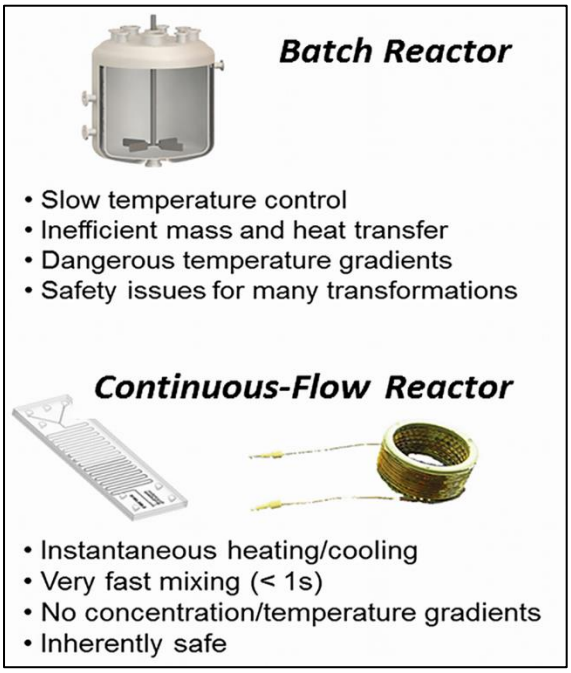
1. B.V. Babu, Biomass pyrolysis: a state-of-the-art review, Biofuels, Bioproducts and Biorefining. 2 (2008) 393–414. https://doi.org/10.1002/bbb.92.
2. K. Raveendran, A. Ganesh, Heating value of biomass and biomass pyrolysis products, Fuel. 75 (1996) 1715–1720. https://doi.org/10.1016/S0016-2361(96)00158-5.

CHEMICAL ENGINEERING MAGAZINE ARTICLES

A perspective on pharma product development using a Plug Flow Reactor

- Pravin Jejurkar, Master of Engineering, Semester-3

Continuous flow manufacture is an innovative technology platform, which is gaining momentum within the pharmaceutical industry. The key advantages of continuous flow include faster and safer reactions, which can be more environmentally friendly, smaller footprint, better quality product, and critically, the ability to perform chemistry that is difficult or impossible to do in batch mode. Globally, significant efforts have been made to develop the manufacturing flexibility and robustness of processes used to produce chemicals in a continuous way, yet despite these scientific developments, a major challenge for the industry is the established application of flow technology to commercially relevant examples.



The identification of opportunities to apply flow solutions to current processes is also critical to the success of this new technology for pharmaceutical and fine chemical companies. The figure highlights the features of batch and continuous-flow reactors.

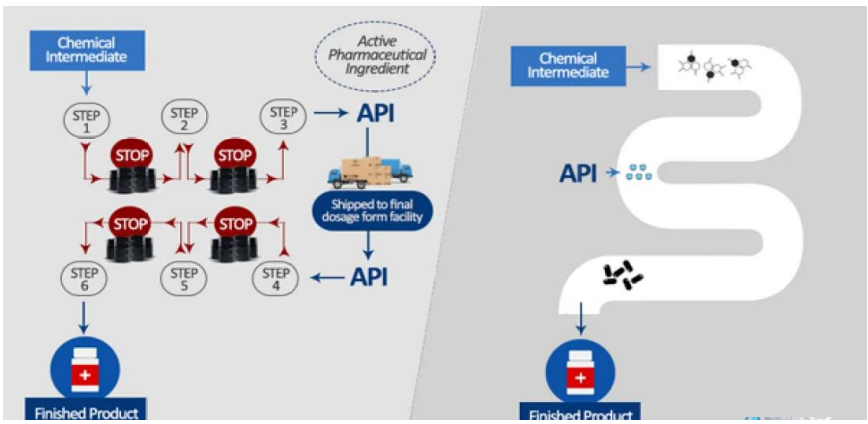


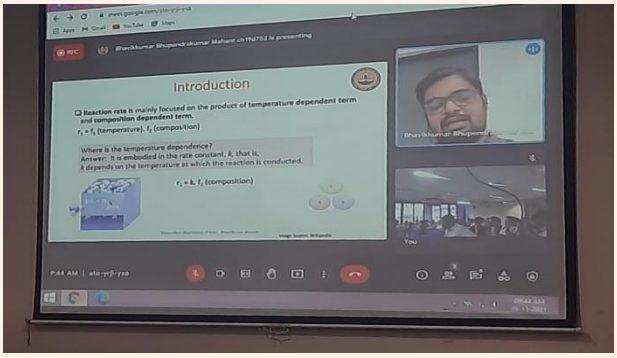
Figure: Batch vs. Continuous process in Pharma Industry (Source: Making The Switch: Continuous Manufacturing vs. Batch Processing of Pharmaceuticals, Life science blogs, Sarah Massey, May 2016)

The following are the problem statement:

- Process Feasibility assessment of the existing process to Plug Flow reactor and suitability assessment of the downstream equipment for the manufacturing.
- Reaction selection assessment based on route of synthesis feasible to PFR.
- Challenges for process in PFR- Heterogeneous reaction, Consistent quality

ALUMNI Column

Bhavik Mahant from Chemical Engineering, admission batch 2013, delivered a lecture to his peers (students of Semester-VI). It was a very informative and interactive session where students discussed reaction engineering, temperature dependency from Arrhenius Equation, Significance of Activation Energy, Transition State Theory, Collision Theory, and its Effects. Bhavik has received the prestigious Prime Minister's Research Fellowship for his Ph.D. work at IIT Madras.



Congratulations !
Abhishek Singh

Abhishek Singh from Chemical Engineering, admission batch 2016, with his brilliant GATE score (AIR 73) is selected and he has joined IOCL, Panipat as GET

Congratulations !
Nishant Patel

Nishant Patel from Chemical Engineering, admission batch 2014, with his hard work and firm determination is selected and joined OPAL, Dahej as Executive operations – polymer

Ujval Patel from Chemical Engineering, admission batch 2016 has joined L&T Technology Services.

Congratulations !
Ujval Patel

CROSSWORDS CHALLENGE

The challenge is open for all. First three participants to send correct answers will be declared as winners. Send your answers on *chemizine@gmail.com*

ACROSS

2 substance that alters the rate of a reaction

4 Author of one of the mass transfer book

6 Name of physical chemistry equation used for the temperature dependence of reaction rates.

7 Diatomic gas currently constitutes 20.95% of the Earth's atmosphere

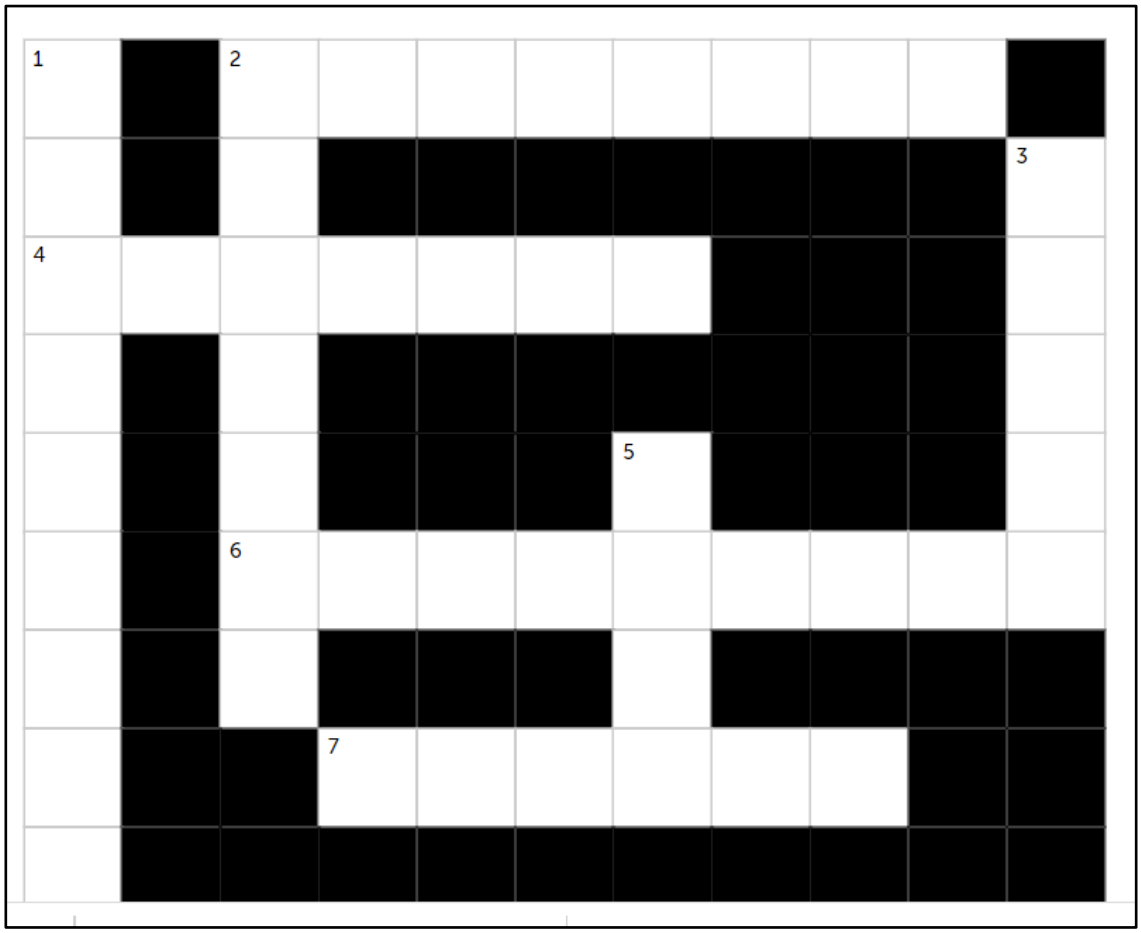
DOWN

1 Device that measures the volumetric flow rate of fluid

2 Software available in our Process Simulation Lab

3 Father of chemical engineering

5 _____-Robinson is an equation of state.



FROM THE DESK OF EDITOR..

The 7th issue of CHEMEZINE (Chemical Engineering Magazine) presents the activities conducted throughout the semester. Also, technical and non-technical articles written by students and staff members are presented. Hopefully, we will be able to conduct all the activities entirely in offline mode and the same will reflect in our bi-yearly magazine. The next (9th) issue of magazine will be released in June 2022. We invite participation from more stake holders of our department. We invite unpublished interesting articles from students and staff members of chemical engineering department.

Heartfelt thanks to all staff members for providing timely data for magazine. We also extend thanks to our reader for providing valuable feedback.

HAPPY READING AND DO WRITE US BACK.

Merry Christmas and Happy 2022!

- Editors

Upcoming Events:

- Debate competition for Sem-I: Jan22
- IIChE event: Jan22
- Parents Teacher Meeting: 08th Jan22

REMEMBERING THE LEGEND

John H. Perry

Perry's is the go to handbook for chemical engineers. However, this book would have been possible without John H. Perry for whom the book is named – as he edited its first edition – published in 1934.

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