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Sarvajani University

Sarvajani College of Engineering & Technology

Shree Dhansukhlal Thakordas

Department of Chemical Engineering



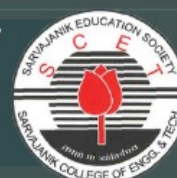
Report on Expert Talk under R & D Lecture Series

Next Generation Digital Twin in Chemical Engineering by leveraging Process Simulation Software's



Sarvajani College of Engineering and Technology

Department of Chemical Engineering
Expert talk under R&D Talk series



"Next Generation Digital Twin in Chemical Engineering by leveraging Process Simulation Software's"



Mr. Sunil Patil

**Director,
Solution Consulting
APJ, Aspen Technology**

Topics of the talk

- Next Generation Process simulation and Optimization Software's such as Aspen plus and Hysys.
- Role of AI/ML in simulation.
- Vision of Chemical Engineering for self-optimizing plant.
- Opportunities for Chemical Engineers
- Process Industries trends on digitization.

Date: September 04 2021

Time: 11.00 AM IST

Scan to Register



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As the current need of the Industries to develop the process without harming the world, environment and limited resources, there is a very keen need to deal with the process simulation prior to commercialize and even for improvement in plant efficiency. To deal with upcoming field of innovations & for the next generation process simulation & optimization software's such as Aspen Plus, HYSYS and role of AI/ML in simulation and Chemical Industries are really challenging aspects. And as a vision of chemical engineering for self-optimizing plant, opportunities for Chemicals engineers, Process Industry trends on digitization and what's coming in future can be the most urgent requirements by the traditional process developers.

Resource Person	Mr. Sunil Patil Director, Solution consulting, APJ (Asia Pacific Japan) Aspen Technology
Topic	Next Generation Digital Twin in Chemical Engineering by leveraging Process Simulation Software's
Date and Time	4/09/2021 at 11:00 AM to 1:00 PM.
Venue	Virtual on Google meet
Coordinator	Dr.Vaishali Umrigar
Target Audience	Students, Faculty, HODs and Principals from Engineering & Technical institution
Total Registration	152 + UG students (50-offline)

The session of an expert lecture on “Next Generation Digital Twin in Chemical Engineering by leveraging Process Simulation Software's” was organized by Department of Chemical Engineering, SCET under R & D lecture series.

Prior to the talk, there was an official meet with dean R & D and the expert and the R& D committee member and HOD, Chemical Engineering. Prof.Chirag Paunwala, dean R & D had put forward the requirement of the need of the Institute for having collaboration with the expert organization for R & D and internship of the students. Mr.Sunil Patil had shown very positive approach for having certain things in collaborative ways for our students.

Then expert has joined the talk session as arranged above. Department R &D coordinator Prof.Srujal rana invited the event coordinator Dr.Vaishali Umrigar for the introduction of the speaker. Dr.Vaishali has introduced the speaker to audience with his brief CV and then invited Mr.Sunil to deliver the talk.

The expert has started the talk at 11:05 am by welcoming all the participants. There are 152+ registrations for the event having 80+ online and around 50+ students joined offline. For offline screen and audio-video arrangement was done at Department of Chemical Engineering.

The session started with how the interaction started for the arrangement of talk and why there is a need of the process simulation. To connect with all, Mr.Sunil as well introduced himself as a director, Aspen Tech, Asia Pacific Japan region. Aspen has the roots with MIT, Boston and Mr.Sunil has more than 20+ years having the exposure to handle Chemical & petrochemical sectors in and around 30 countries.

Mr.Sunil Specialties are Digital Transformation & Sustainability, AI/ML, IIoT, Solution Consulting, Business Consulting, Process Modeling & Simulation, Process Engineering, Pre-Sales, Business Development, Sales & Marketing, Key Account Management.

Highlights from the Talk

- ✓ Next generation process simulation & optimization software's such as Aspen Plus, HYSYS,
- ✓ Role of AI/ML in simulation,
- ✓ Vision of chemical engineering for self-optimizing plant
- ✓ Opportunities for Chemicals engineers
- ✓ Process Industry trends on digitization

Session started and as per the topics highlighted for each point, Mr.Sunil managed to deal with each topic with the sufficient time to explain each and every aspect to the students, faculties and external participants. He had explained all points with histories, customers and products with examples and real applications of simulation software Aspen. And then at the end he has shown the research perspectives for Chemical Engineering in AI/ML & process industry trends on digitization.

Q & A session have highlighted various scopes of softwares in Chemical Engineering.

Finally the session was concluded by Prof.Srujal Rana and Dr.Vaishali Umrigar by delivering a vote of thanks to the guest and all participants.

We would like to thank Dr. Hiren Patel, Principal, SCET, for providing an opportunity to schedule such informative talk. We profusely thank Dr. Chirag Paunwala, Dean R & D for providing a conducive environment and his continuous support. We would also like to acknowledge our Managing trustees and office bearers of the Sarvajani University for their continuous support.

Online presence of the participants:

First name	Last name	First name	Last name	First name	Last name
34 Dharmik Patel	Patel	Mritunjay	pandey	Vishwas	Shah
47 Nirav Patel	Patel	Khushvendra	Pankaj	BRIJESH	SHAH
76 Aarjav Gujarati	Gujarati	29 Deep	Parmar	56 Sabir	Shaikh
Ketan	Patel	Ashish	Parmar	swati	sharma
Krunal odd	odd	Ayush	Parmar	48 Chhavi	Sharma
Nikhil	Patel	81 krupal	Parsana	Shantanu	Sharma
Abhishek	Akhani	46 jeel	patel	Vyas	Shashvat
Yohan	Avari 2.0	09 Avinash	Patel	62 Harsh	Shekhada
88 Ronit	Bardoliya	27 Trunal	Patel	19 Dev	Sojitra
02 Kushal	Bhadukiya	31 Akshat	Patel	Chetan	Solanki
03 Vandan	Bhanderi	37 Dhruvit	Patel	05 Pratham	Tailor
Rudri	Bhatt	38 Fenil	Patel	67 Ruchit	Tejani
04 Kirtan	Bhikadiya	39 Himanshu	Patel	Pinal	Thakkar
Mobin	Bhojani	44 Manankumar	Patel	Dr. Vaishali	Umrigar
Parth	Chaudhari	45 Mihir	Patel	Anand	Upadhyay

Nisha	Chauhan	49 Rohan	Patel	Jayveersinh	Vaghela
HOD,	Chemical Engineering	50 Saransh	Patel	69 Hitesh	Vanzara
09 Harsh	Chunawala	51 Shivam	Patel	85 Tej	Vekariya
mayank	dalal	52 Shreyansh	Patel	Rupareliya	Vivek
Vishad	Desai	53 Shruti	Patel	87	Prince Patel
D2D04	Dev Sakhiya	54 shubh	Patel	chirag	purohit
77 Dharmik	Dhaduk	Darshan	Patel	YASH	RAJYAGURU
scet	emeet	Krina	Patel	srujal	rana
Sahaj	Gajjar	Kush	Patel	50	RAUT ROSHAN
Khyati	Gor	Meetkumar	Patel	Hitesh	Ribadiya
Akash	Goti	Rashmita	Patel	D C	S
15 Dhruv	Hirpara	Sahil	Patel	59 Smit	Sachani
18 Dhruv	Jariwala	Setu	Patel	Sumedh	Sadavarte
Harsh	Jariwala	Vivaksha	Patel	60 Sahil	Sanandiya
Mahesh	Jethva	mulesh	pathak	Dhruv	Sapariya
Mahesh	Kabutarwala	Sunil	Patil	21 Ajaykumar	Savaliya
Shyam	Kabutarwala	SACHIN KUMAR	PRAJAPAT	Meet	Shah
shreyas	kadu	12 Raj	Prajapati	84 Yash	Prajapati
Pravin	Kale	55 Jaykumar	Prajapati	58 Aayush	Presswala
SANDIP	KAR	18 Milind	Manoj	shilpa	modi
19 Anas	Khatik	23 Harsh	Maurya	Greeshma	Nair
22 Vikash	Maheshwari	Yash	Mehata	52 Himanshu	Nandola
35 Mohit	Maniya	22 Vedant	Mehta	Neel	Nandola
SAJID	NASIRWALA	25 Krunal	Odd	sukrut	ogale

The screenshot shows a Google Meet interface. The main window displays a presentation slide titled "Next Generation Digital Twin in Chemical Engineering by leveraging Process Simulation Software's" by Sunil Patil, Director – Solution Consulting at Aspen Technology, Inc. The slide includes the Sarvajani College of Engineering and Technology logo and a QR code for registration. A video feed of Sunil Patil is visible in the bottom right corner. The Windows taskbar at the bottom shows the time as 13:59 on 15-09-2021.

Q & A session Chat Box discussion for the talk :

Rashmita Patel: Sir, how to motivate students to also carry out experiments along with using simulation software

00:59:15.886,00:59:18.886

22 Vikash Maheshwari: Sir , In real life positioning the equipments (for example vertically or horizontally) have different effects in terms of process as well as cost..... Does simulation software consider this and comes up with the solution?

01:09:17.852,01:09:20.852

Rashmita Patel: Online short term certificate course by Aspen Plus

01:36:33.748,01:36:36.748

Dr. Vaishali Umrigar: How to interlink Artificial Intelligence with very elevated operating condition ? Such as hydrocracking or hydrogenation?

01:58:18.008,01:58:21.008

59_Smit Sachani: Sir, in our UG course we are learning the subjects only based on core chemical engineering, and nowadays in era of AI technology we have to correlate the fundamentals with AI based methods like ANN and fuzzy logic.. then how we can overcome that problem?

02:01:24.027,02:01:27.027

Sumedh Sadavarte: How to select property method ASPEN & what will be the basis for selection...??

02:01:44.735,02:01:47.735

Nikhil: Sir, i am freshly graduate from pune university, and started a job in Honeywell, i want to ask what skills i want acquire to become an asset to company?

02:04:53.554,02:04:56.554

59_Smit Sachani: Thank you sir

02:07:01.523,02:07:04.523

Dr. Vaishali Umrigar: Sir we have license of Aspen plus since 2010 and we are using it for our lab in simulation subjects. but optimization part we are not able to explore that so can we plan for interested faculties some hands on with the software

02:07:10.041,02:07:13.041

Sumedh Sadavarte: Thank you Sunil Sir

02:08:21.424,02:08:24.424

Nikhil: Thank you sir

02:09:10.879,02:09:13.879

Dr. Vaishali Umrigar: ok , I will look into it. Sure we shall take benefit of them.

02:09:45.878,02:09:48.878

Rashmita Patel: Thank you sir for the informative session

02:11:16.027,02:11:19.027

Dr. Vaishali Umrigar: Really motivating for Chemical Engg. students for their selection of the field of expertise for the present Era of AI/ML ,IIoT booming around

02:12:40.209,02:12:43.209

Sunil Patil: Thank you all

02:14:02.266,02:14:05.266

Sunil Patil: please feel free to reach me for any further questions at my email

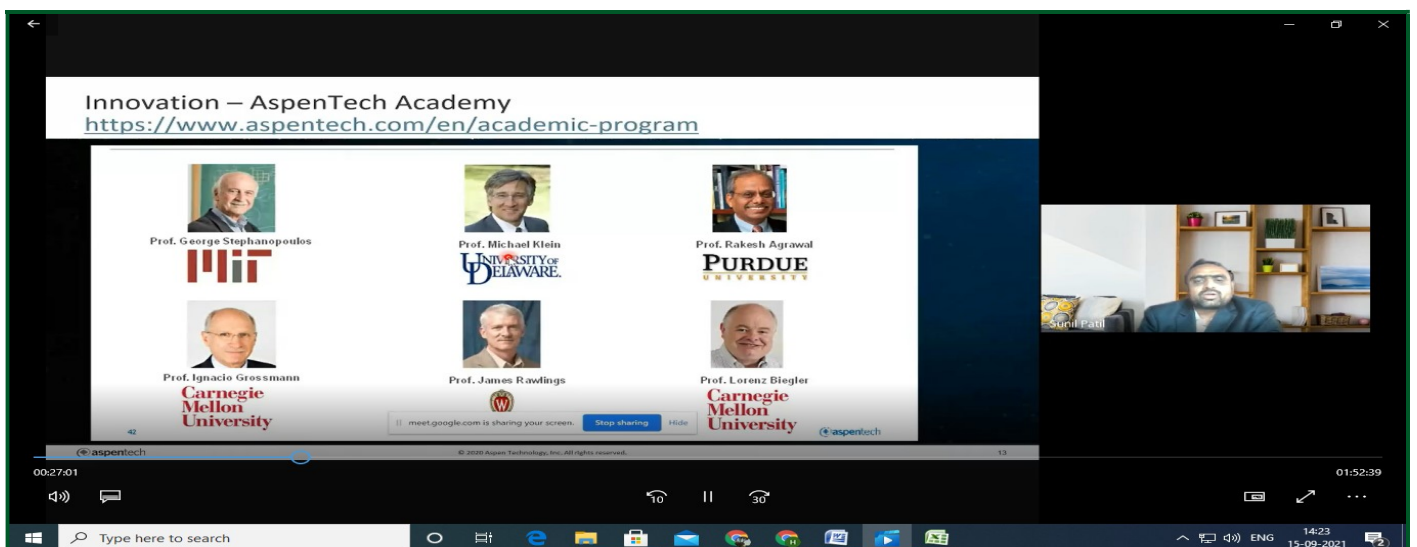
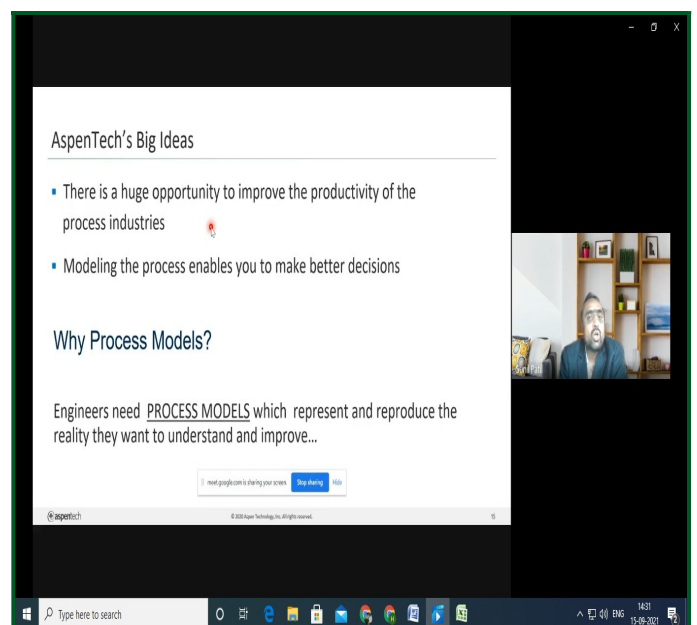
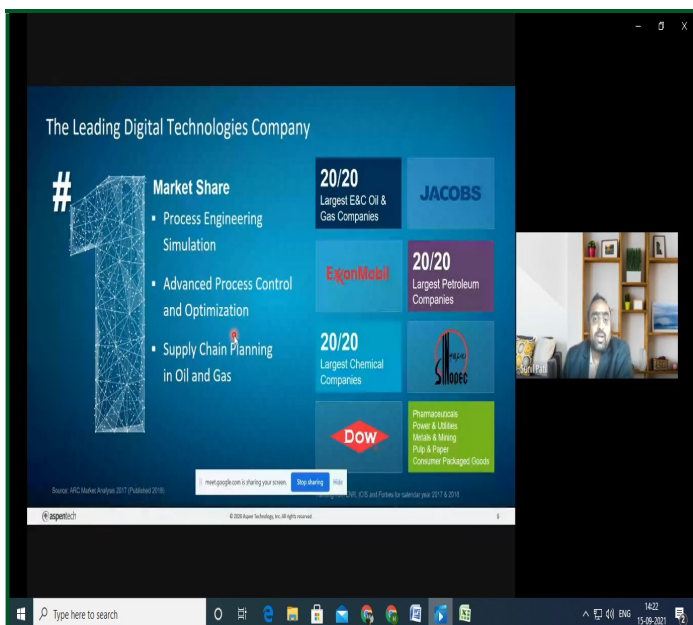
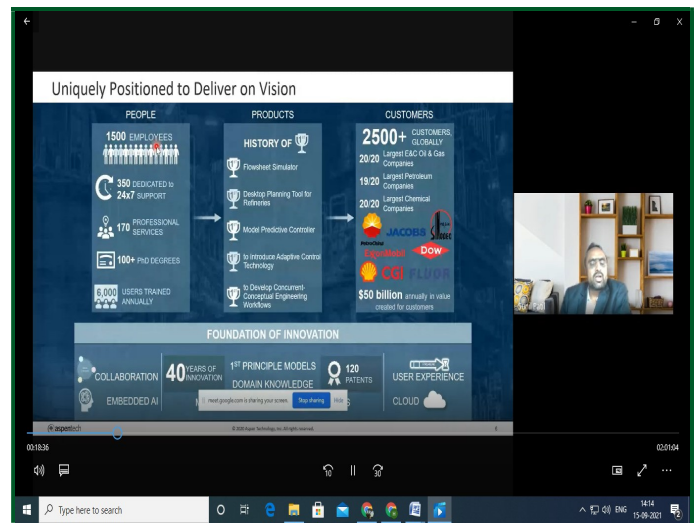
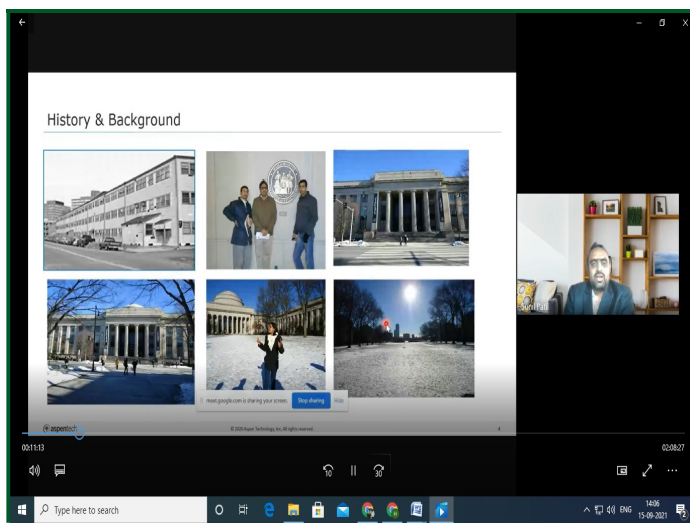
02:14:10.606,02:14:13.606

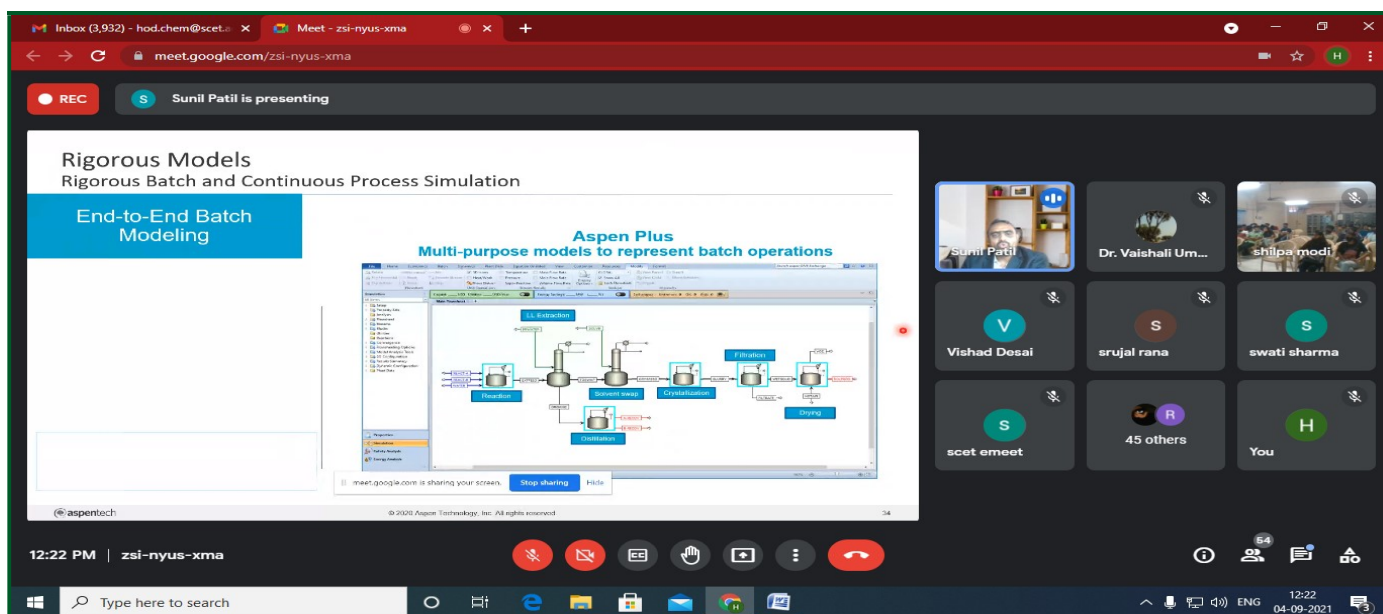
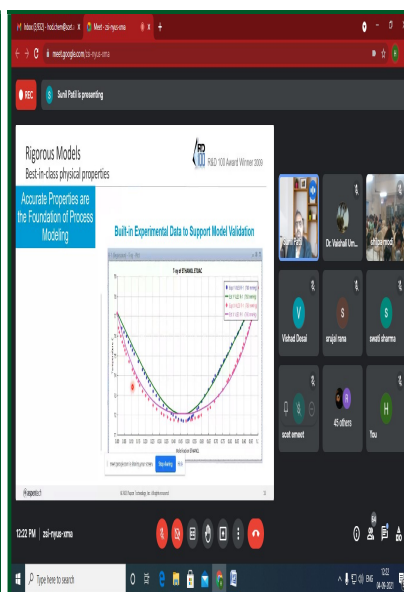
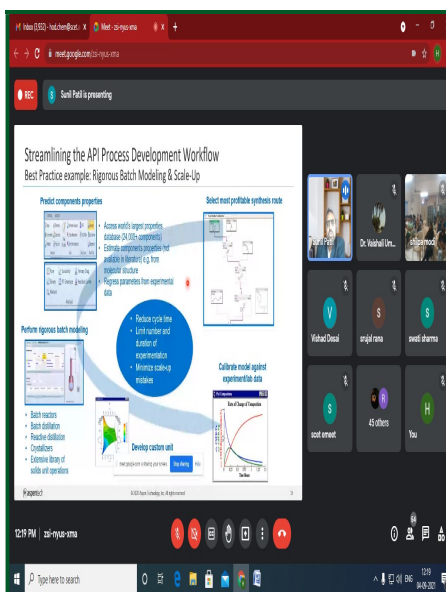
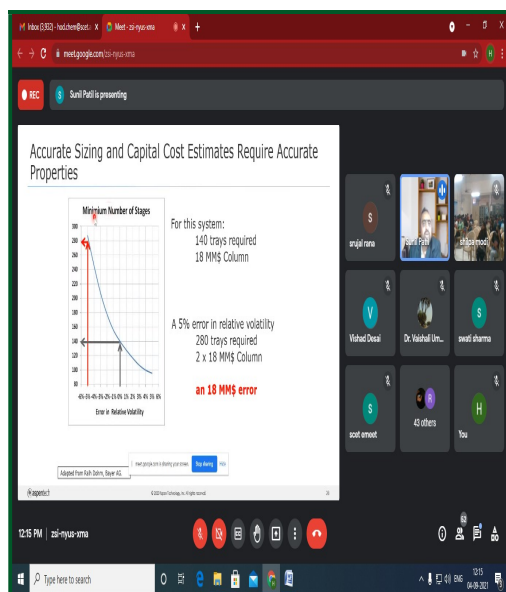
Sunil Patil: Sunil.Patil@aspentech.com

02:17:45.667,02:17:48.667

Anand Upadhyay: Thank you so much Sir for such an informative session!

GLIMPSES OF THE EVENT :





Compiled by:

Dr. Vaishali Umrigar
Assistant Professor,
Chemical Engg. Department, SCET.