



# SGT UNIVERSITY

SHREE GURU GOBIND SINGH TRICENTENARY UNIVERSITY

(UGC Approved University)

GURGAON, Delhi-NCR

**Faculty of Engineering & Technology**

## **“IMPACT OF NANOMATERIALS ON THE TRIBOLOGICAL PROPERTIES OF LUBRICATING OIL”**

**Type of event: GUEST LECTURE**

**Date: 26/03/2021**

**Time: 2:30 P.M.-3:30 P.M.**

**Venue: Google Meet, Online mode**

**Organizer:** Department of Mechanical Engineering, FEAT-SGT University.

**Objective :** The main objective of the webinar “ Impact of nano materials on the tribological properties of lubricating oil” is to upgrade the knowledge of students towards the tribological characteristics of nano particles which helps to promote research-oriented projects in this field.

**About the Speaker/Guest:** **Dr. Sumit Chaudhary, Assistant Professor, Department of Mechanical Engineering,** Thapar Institute of Engineering & Technology, Patiala., having 8+ Years of teaching and research experience. He has a great research profile in this field and a number of research papers in SCI Journals.

**Audience:** 42 students and faculty members from FEAT-SGT University.

### **Brief Report:**

At SGT University, Faculty of Engineering and Technology, we organized a webinar on “Impact of nano materials on the tribological properties of lubricating oil”. An expert talk was delivered on the tribological properties of lubricating oil, nano particles and its formation, blending techniques, importance of nano particles, Rheological behavior of nano particles especially in IC engines by **Dr. Sumit Chaudhary** (Assistant Professor, Department of Mechanical Engineering) Thapar Institute of Engineering & Technology, Patiala on 26-03-2021 .

In the lecture the following points were discussed:

- Lubricating Oils

- Need of Nano particles.
  - Preparation and characterization of Nanolubricant
  - Nano Fluid preparation
  - Tribological Investigation of nano particles.
  - Rheological study.
- 
- Friction losses in IC engine.
  - Future Challenges for India as in research area of Nano technology.
  - About the Stribeck curve.
  - New targets for India in field of Nano Technology.
  - Discussed about ball disk Tribometer.
  - Importance of extreme pressure analysis.

Besides this, the magnetic stirrers, ultra sonicator, were also discussed. The instruments used for preparation of nano particles. These are used in coatings as filler materials, opacifiers and semiconductors. With relevance to the coating industries, nano particles have shown significant potential for much stronger, tougher and durable coatings. The various methods used in measuring the stability of nano fluid are also been discussed.



**SGT UNIVERSITY**  
SHRI GURU GOBIND SINGH TECHNOLOGICAL UNIVERSITY  
(UGC & AICTE Approved) Gurugram, Delhi-NCR

Department of Mechanical Engineering  
Faculty of Engineering and Technology  
Organises

**A GUEST LECTURE ON**  
**"IMPACT OF NANOMATERIALS  
ON THE TRIBOLOGICAL PROPERTIES  
OF LUBRICATING OIL"**

**Guest Speaker**  
**Dr. Sumit Chaudhary**  
Assistant Professor  
Thapar Institute of Engineering &  
Technology, Patiala.

**Organisers**

**Ms. Shubhangi Chourasia**  
Mechanical Engineering  
Department, FEAT

**Mr. Ankit Tyagi**  
Mechanical Engineering  
Department, FEAT

**Dr. Ajay**  
HOD  
Mechanical Engineering  
Department, FEAT

**26 March 2021 | 2:30-3:30 PM**

“ Webinar conducted on Impact of nanomaterials on the tribological properties of lubricating oil:”

**Learning Outcome:** It was very informative journey towards from fundamental to descriptive knowledge of nano particles & tribological properties of lubricating oil. After attending this webinar, we understood the about the nano particles, its behavior, its importance in research and the importance of the production of nanoparticles with specific properties.

**Shortcomings:** (i) Internet Connectivity

**Webinar on** “ Impact of nano materials on the tribological properties of lubricating oil”

**DATE 26/03/2021**

**Attendance Data:Attached**

**Timings 2:30 P.M – 3:30 P.M.**

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REC SUMIT CHAUDHARY is presenting

WEBINAR ON NANO MATERIALS

People (42) Chat

- Revision Insane
- Ritik Gupta
- Rohan Sangwan
- Shirazi
- Shivendra Singh
- Sneekesh Asok Nair
- SUMIT CHAUDHARY
- SUMIT CHAUDHARY Presentation
- Tanuj Satti
- THEVERIFIEDHUMAN

39 Tribological and Extreme Pressure investigation on Four Ball Tester Tribometer

- The analysis was carried out on Four ball Tester for:
  - Wear calculation ASTM- D4172
  - Extreme pressure performance ASTM- DIN 51350
- The output parameters were
  - Coefficient of Friction
  - Wear Scar Diameter
  - Weld load

Abhay Anand

WEBINAR ON NANO MATERIALS

Type here to search

15:12 26-03-2021

Attendance of students (2<sup>nd</sup> Year)

1	HARSH SAINI	191303001
2	SREEKESH ASOK NAIR	191303002
3	HARSH CHHIKARA	191303004
4	RAHUL KUMAR	191303005
5	CHIRAG YADAV	191303006
6	KUNAL	191303007
7	ASHISH	191303008
8	ANKIT YADAV	191303009
9	KARAN	191303010
10	SHARAN VERMA	191303011
11	KUNAL SINGH	191303012
12	ABHAY ANAND	191303013
13	ROHAN SANGWAN	191303014
14	NITIN MAAN	191303017
15	ADITYA SOLANKI	191303018
16	VIDIT DAGAR	191303020
17	RITIK GUPTA	191303021
18	ABHISHEK KUMAR	191303025

	SHARMA	
19	INDERJEET KUMAR	191303026

Attendance of students (3<sup>rd</sup> Year)

S. No.	Registration No.	Name of the Student
1	181303001	Ankur Lamba
2	181303003	Vishesh
3	181303004	Himanshu
4	181303005	Arun
5	181303006	Gaurav
6	181303009	Neeraj Kumar
7	181303014	Manav Nishal
8	181303015	Abhishek
9	181303016	Tanuj Satti
10	181303017	Rakesh
11	181303019	Himanshu Solanki
12	181303023	Aman Kumar
13	181303024	Marut Kumar Mishra
14	191303016	Rufat Singh Gulati
15	191303019	Kuldeep Raghav
16	191303024	Anurag Sharma

### **Faculty Attendance**

S.no	Name of Faculty Member Joined
1	DR.Ajay
2	DR.Amit
3	DR.Atul
4	Mr.Dinesh Deshwal
5	Mr.Monika Deshwal
6	Ms.Shubhangi Chourasia
7	Mr.Aman thapak
8	Mr.Ankit Tyagi
9	Mr.Asad Habeeb
10	Mr.Shivendra Singh

A handwritten signature in black ink, appearing to read 'Reenu', with a long horizontal stroke underneath it.

