

हंसराज महाविद्यालय

दिल्ली विश्वविद्यालय
महात्मा हंसराज मार्ग,
मलकागंज, दिल्ली - 110007
दूरभाष : 011-27667458, 27667747
ई-मेल : principal_hrc@yahoo.com
वेबसाइट : www.hansrajcollege.ac.in



HANSRAJ COLLEGE

UNIVERSITY OF DELHI
Mahatma Hansraj Marg
Malkaganj, Delhi – 110007
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NAAC ACCREDITED 'A++' GRADE COLLEGE

2022-2023

Name of the Department/Society: Rasayanatva- Chemical Society

Name of the Event: Function Specific Self-Assembled Nano Materials!

Date of the Event: 11th February 2022

75 DEPARTMENT OF CHEMISTRY
Hansraj College, University of Delhi
(NAAC A+ credited, CGPA 3.62)
Invites you to a webinar
on
**FUNCTION SPECIFIC
SELF ASSEMBLED NANO-MATERIALS**
Organized by
Chemical Society (Rasayanatva)
associated with IQAC
Dr. Shilpi Kushwaha
Scientist and Assistant Professor
Central Salt & Marine Chemicals
Research Institute, Gujarat
11 February 2023
From 1:00 pm To 3:00 pm
Registration Form: <https://forms.gle/9AZw1jRQGdDSRsWBA>
Webinar Link: <https://meet.google.com/zrt-gxzz-hrv>

| | | | | |
|--|--|--|--|-------------------------------|
| Dr. Manoj Kumar Program Convener | Dr. Sonu Kumar Program Coordinator | Dr. Anjali Saxena Society Convener | Dr. Mona Bhatnagar Director IQAC | Prof. (Dr.) Rama Principal |
|--|--|--|--|-------------------------------|

The Department of Chemistry has organized a webinar “Function Specific Self Assembled Nano materials” on 11/Feb/2023 (Saturday) between 01:00 PM to 02:00 PM, through the Google meet platform. The lecture in this webinar was given by Dr. Shilpi Kushwaha – Scientist and Assistant Professor, Central Salt and Marine Chemicals Research Institute.

Dr. Manoj Kumar, Head of Department of Chemistry chaired the session and delivered welcome address. Dr. Sonu Kumar Assistant Professor introduced the resource person **Dr. Shilpi Kushwaha**.

The session was very interactive with the presence of all the respected teachers of chemistry department. We received good response from the audience. They also gave very good feedback. Various research opportunities, designing and functioning of nano materials were discussed in detail. Illustrations regarding self-assembled pseudo-rotaxanes for sensing of polycyclic aromatics were shown and explained. Career options to pursue after Masters in science were also discussed. The resource person thanked the organizers for arranging the live webinar.

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Attendance

1. Aashish Tomar
2. Akrisht Tripathi
3. Aman Dharmnath Roy
4. Anamika Saini
5. Anjali Saxena
6. Anju Soni
7. Ankit Kumar
8. Anuj Kumar
9. Arvind
10. Deepak Gupta
11. Ekta Pandey
12. Gehna Ratra
13. Harshit Upadhyay
14. Himanshu Kumar
15. Karan Kumar
16. Khushi Biswas
17. Khushi Gupta
18. Laghima Singh
19. Lucky Panwar
20. Manoj Kumar
21. Megha
22. Mohammad Shadab
23. Mohit Nagar
24. Naseeb Yadav
25. Nehanth Yenneti
26. Prateek Chaurasia
27. Prince Kumar Sharma
28. Prince Malik
29. Rahul Arya
30. Rishiraj Rankawat
31. Ritik Chahar
32. Ritika Yadav
33. Rohan Joshi
34. Sahil Khan
35. Sanchita Gupta
36. Shivam
37. Shrishty Sharma
38. Sneha Soni
39. Sonu Kumar
40. Sukhmanpreet Kaur
41. Tanya
42. Ujjwal
43. Vaibhav Belwal
44. Vashi Dhama
45. Vishal Pratap Singh
46. Vishal Shakya
47. Yashpreet Kaur

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AcSIR: Academy of Scientific & Innovative Research

Established in 2011 as an 'Institution of National Importance'

Motiv: Create & train some of the best of tomorrow's Science & Technology leaders through a combination of innovative and novel curricula, pedagogy & evaluation

Focus: Exemplary research areas that are not routinely taught in regular academic universities in India

ACSIR, ranked 1st in the Nature Ranking Index 2020 based on total research output.

Major share for this ranking comes from Chemistry community.

ACSIR Institute contributed a major share towards the Chemistry ranking of CSIR.

5333, New Chandrawal Rd, Jawahar Nagar, Kamla Nagar, Delhi, 110007, India

11 Feb 2023 01:14 pm

CSIR-Central Salt and Marine Chemicals Research Institute

Central Salt Research Institute (now known as Central Salt & Marine Chemicals Research Institute) was inaugurated by Late Pandit Jawaharlal Nehru, the First Prime Minister of India on 10th April, 1954.

Aim: To be the leader in salt production among the salt producing countries of the world.

Primary objective was to improve salt quality and recovery of by-products

5333, New Chandrawal Rd, Jawahar Nagar, Kamla Nagar, Delhi, 110007, India

11 Feb 2023 01:15 pm

Function Specific Self-Assembled Nano-materials

Analytical and Environmental Science Division
Centralized Instrumentation Facility
Academy of Scientific & Innovative Research
Central Salt and Marine Chemicals Research Institute

Collaborators

Students

Several participants joined the meeting

Council of Scientific and Industrial Research (CSIR)

- CSIR was established by the Government of India in 1942.
- Founder: Shanti Swarup Bhatnagar and A Ramaswamy Mudaliar
- World's largest publicly funded R&D organization.
- 38 national laboratories, 39 outreach centres, 3 Innovation Complexes and 5 units.
- 4600 active scientists supported by about 8000 scientific and technical personnel.
- Pioneer of India's intellectual property movement.

"Solution to environment, health, drinking water, food, housing, energy, farm, non-farm sectors through Science"

Shilpi

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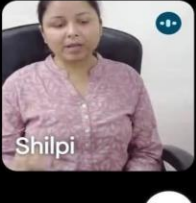
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Centralized Instrumentation Facility @ Analytical and Environmental Sciences Division

| S.No | Instrument Name / Facility | S.No | Instrument Name / Facility |
|------|---|-------|---------------------------------------|
| 1 | FT-NMR | 17 | AFM - Scanning Probe Microscope (SPM) |
| 2 | FT-IR | 18 | GC |
| 3 | FT-Raman | 19 | GC-MS |
| 4 | Elemental analysis CHN | 20 | LC-MS |
| 5 | Total organic carbon (TOC) | 21 | HPLC analysis |
| 6 | Elemental Analysis by Inductively Coupled Plasma Spectrometer (ICP) | 22 | GPC |
| 7 | MALDI-TOF | 23 | Ion Chromatography (IC) |
| 8 | Single Crystal X-ray analysis | 24 | UV-Vis/NIR spectrophotometer |
| 9 | Powder X-ray Diffraction | 25 | Emission spectroscopy (Luminescence) |
| 10 | Thermal Gravimetric Analysis (TGA, DTG) Analysis | 26 | CD Spectroscopy |
| 11 | DSC analysis | 27 | Moisture Analysis by Karlfisher |
| 12 | DMA analysis | 28 | Rheometer |
| 13 | Surface area & Porosity Measurement (BET) | 29 | Electrochemical analysis |
| 14 | Particle size analysis | 30 | Biodiesel Reactor |
| 15 | FE-SEM (Field Emission Scanning Electron Microscope) | @ EPR | |
| 16 | Transmission Electron Microscope (TEM) | 32 | DNA SEQUENCING |




CSIR-Central Salt and Marine Chemicals Research Institute..... a lab located in Bhavnagar


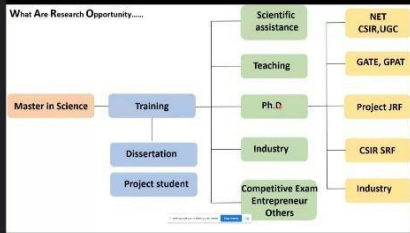


- Analytical and Environmental Science Division and Centralized Instrument facility
- Applied Physiology & Biotechnology Division
- Process Design and Engineering Division
- CSMCR MARS Mandapam Camp
- Inorganic Materials and Catalysis Division
- Membrane Science and Engineering Division
- Natural Products & Green Chemistry Division
- Salt and Marine Chemicals
- Plant Omics Division

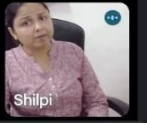

"Take up one idea, make that one idea of your life, Dream on it and live on that idea"



What Are Research Opportunity.....

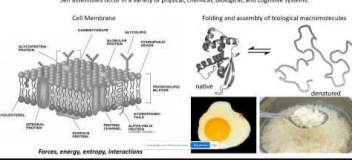


Fourier Transform Infrared Spectrometer




What is a self-assembly? Why Self-assembly happens?

Self Assembly: Self-organization of smaller building block in an ordered pattern without any additional energy. Self-assembly occur in a variety of physical, chemical, biological, and cognitive systems.



Forces, energy, enthalpy, interactions



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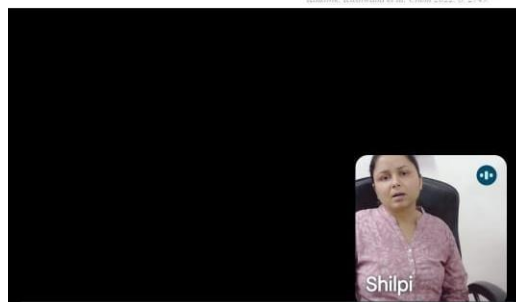
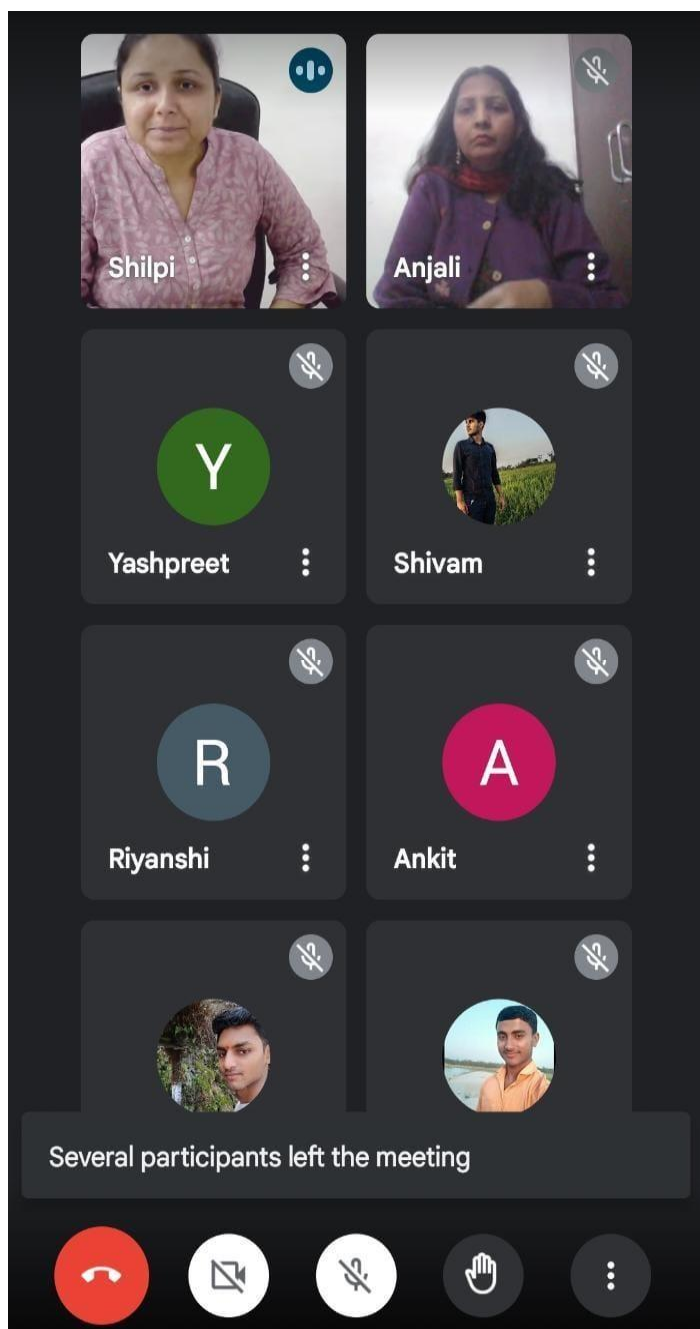
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Designing Hydrogen Bonded Organic Framework for UES

