

**INDIAN INSTITUTE OF TECHNOLOGY, KANPUR**  
**CENTRE FOR CONTINUING EDUCATION**  
Students-Undergraduate Research Graduate Excellence



# SURGE-2023

# Annual Report





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## Message from Head, Centre for Continuing Education

Dear Colleagues/students,

Greetings of the day!

I am delighted to present the Annual Report of SURGE-2023.

This year SURGE-2023 program has been conducted in offline mode, after a gap of three years, due to ongoing pandemic. SURGE-2023 has emerged more resilient and reinvigorated which is evident from the fact that this year a total of 296 participants had successfully completed this program. The success of this program is purely attributed to enthusiastic and excellent performance of the SURGE participants, dedicated faculty mentors of IIT Kanpur and the generous unwavering financial support provided by our eminent alumni together with the efficient coordination of CCE staff.

Further, I would like to congratulate successful participants of SURGE-2023 and their mentors who had guided them in yielding exceptional quality research work at IIT Kanpur, which subsequently helped in improving the effectiveness of this program.

It will not be out of place to mention here that, this year lectures series were also conducted under this program, wherein, vibrant speakers were invited for delivering lectures on intriguing topics which not only covered generic topics but also were very interesting and motivating, and which had been highly appreciated by participants.

I sincerely thank DoRA for financially supporting this program and I am sanguine that DoRA will continue its support in future also for the benefit of the undergraduate students at large in particular and the Program in general.

Last but not the least, I express my gratitude for the support extended by our Mentors, Evaluation Committee Members, and CCE Staff for making this program a great success.

Thank you!!!

**Prof. BV Rathish Kumar**

**Head, Centre for Continuing Education**

## SURGE PROGRAM – AN OVERVIEW

Students-Undergraduate Research Graduate Excellence (SURGE) program, is an approved internship Program of IIT Kanpur, which runs under the aegis of Centre for Continuing Education (CCE), IIT Kanpur. This program provides an opportunity to undergraduate and M.Sc first year students of IITK, Non-IITK and also to the students of SAARC countries, with an objective of giving in-hand experience of technical learning in their field of research.

It is worth mentioning here that this year a total of 1200 applications were received for SURGE-2023 internship from IITK, Non-IITK and students SAARC countries. Among these, 296 students (185 IITK students, 109 Non-IITK students, 2 SAARC students) had successfully completed their internship.

As you are aware that SURGE-2023 program also provides stipend to the participants selected under the Institute Funded category and Project Funded category. This year 59 participants were given stipend under the Institute Funded Category, 59 participants were given stipend by their mentors under the Project Funded Category and 2 students from Nepal were financially supported. This program has also a provision of awarding the participants who produce exceptional quality research work. They are given a cash award under different award categories along with a commendation certificate. However, all the successful participants of this program are given a participation certificate.





A poster Presentation was organised on 10.07.2023 and 11.07.2023 wherein the participants presented the posters of the work done by them during the internship. The posters were evaluated by the Evaluation Committee members.

On the last day of completion of SURGE-2023 internship, a farewell dinner was organized by CCE, which was held on 12.07.2023 at Type II Community Center, wherein the certificates were distributed to the eligible participants, followed by the dinner. The event was chaired by Prof. S. Ganesh (Deputy Director) followed by Prof. A. R. Harish (Dean of Research and Development) and Prof. Kantesh Balani (Dean of Resources and Alumni).

Mentors under whom the participants successfully completed their internship were also invited. Members of SURGE Evaluation Committee who evaluated the Posters and work done (report) by the participants were also invited to attend the felicitation ceremony.



## SURGE - 2023 Lecture Series

As a part of SURGE Internship Program this SURGE a series of lectures were conducted wherein faculty members of IIT Kanpur delivered talk on some interesting and generic topics.

### 1. Lecture 1 - Prof. Priyanka Bagade (CSE)

Topic: "IOT and Applications"



### 2. Lecture 2 - Prof. Amitabha Bandyopadhyay (BSBE)

Topic: "Entrepreneurship"



### 3. Lecture 3 - Prof. B. V. Rathish Kumar (MTH)

Topic: "Glimpses of Mathematics at the Frontiers of Science and Technology"





## Lecture 4 - Prof. C. S. Upadhyay (AE)

Topic: "Academics as career"



## SURGE - 2023 AWARDS

To encourage and appreciate the efforts and hard work of the participants, SURGE program provides the following awards to its participants;

- (i) **Dr. Elizabeth and Dr. Verkey Cherian Award:**
  - a) For producing exceptional quality research for overall Best Project, which carries a cash award of Rs. 5,000/- plus a commendation certificate.
  - b) For producing exceptionally Outstanding Poster, which carries a cash award of Rs. 5,000/- plus a commendation certificate.
- (ii) **Best Project Award for Engineering:**

For producing exceptional quality research in Engineering, which carries a cash award of Rs. 10,000/- plus a commendation certificate.
- (iii) **Best Project Award for Sciences:**

For producing exceptional quality research in sciences, which carries a cash award of Rs. 10,000/- plus a commendation certificate.

The awardees are selected, based on their overall performance, by a team of evaluators comprising eminent faculties from the various departments of our institute.

This year following participants were awarded the aforesaid awards under various categories;

### 1. Dr. Elizabeth and Dr. Verkey Cherian Award for Best Poster

Sno	Applicant Name	Institute Name	Department	Mentor Name	Project Title
1	Ms. Shivalika Sista	IIT Kanpur	CHM	Dr. Dharmaraja Allimuthu	Benzodiazepines as GABA-A receptor modulators
2	Mr. Jaskaran Singh Waila	Vellore Institute of Technology	CSE	Dr. Hamim Zafar	A solution to multi-omic data integration with Spatial Retention using a custom Graph Attention Autoencoder Architecture

### 2. Dr. Elizabeth and Dr. Verkey Cherian Award for Best Project

S.No	Applicant Name	Institute Name	Department	Mentor Name	Project Title
1	Mr. Soham Sen	IIT Kanpur	AE	Dr. Soumya Dutta	Visualizing Convolutional Neural Networks : Explainability and Interpretability
2	Mr. Kanav Gupta	IIT Indore	CSE	Dr. Arjun Ramakrishnan	Understanding brain-behavior dynamics underlying approach-avoidance conflict through computational lens
3	Mr. Partha Mishra	NIT Rourkela	Ceramic Engineering	Dr. Tanmoy Maiti	Investigating the Formation of High Entropy Perovskites for Thermoelectric Application

### 3. Best Project in Engineering

S.No	Applicant Name	Institute Name	Department	Mentor Name	Project Title
1	Mr. Soham Sen	IIT Kanpur	AE	Dr. Soumya Dutta	Visualizing Convolutional Neural Networks : Explainability and Interpretability
2	Ms. Aakriti	Harcourt Butler Technical University	Biochemical Engineering	Dr. Santosh Misra	Investigation of the Rhodamine-6G dye loaded liposomes interaction with simulated tear fluid

### 4. Best Project in Sciences



S.No	Applicant Name	Institute Name	Department	Mentor Name	Project Title
1	Ms. Rashmi Pant	IIT Kanpur	CHM	Dr. Mainak Sadhukhan	Dynamical signature of quantum choas
2	Ms. Aastha Razshree	IIT DELHI	CHM	Dr. Pratik Sen	Effect of hydrophobicity on synergistic solvation.

## SURGE-2023 EVALUATION COMMITTEE

S.No	Evaluation Committee Members	Department
1	Dr. Rajesh Ranjan	AE
2	Dr. Vishal Govind Rao	CHM
3	Dr. Priyanka Bagade	CSE
4	Dr. Debapriya Basu Roy	CSE
5	Dr. Amitangshu Pal	CSE
6	Dr. Urbi Chatterjee	CSE + CGS
7	Dr. Wasim Ahmed	ECO + HSS
8	Dr. Tushar Sandhan	EE
9	Dr. Ushasi Roy	ME
10	Dr. Arunabh Meshram	MSE
11	Dr. Prabodh Bajpai	SEE
12	Dr. Purna Gautam	IME
13	Dr. Deepak Dhingra	ES
14	Dr. Rituraj	EE
15	Dr. Piyush Kant	EE
16	Dr. Dootika Vats	MTH
17	Dr. Anusmita Sahoo	BSBE
18	Dr. Krishnacharya	PHY & PSE

19	Dr. Richa Ojha	CE
20	Dr. Ishan Bajaj	CHE

## SURGE FUNDING

### Institute Funded Category (Support from DORA):

Under this category, a maximum of 60 SURGE participants (IITK and Non-IITK) and a maximum of 04 participants of SAARC countries are financially supported by DORA, IIT Kanpur through donations received from Alumni.

This year 59 SURGE participants and 02 participant of SAARC country (*Nepal*) received a stipend for Rs. 12,500/- and their administrative charges were also reimbursed. The SAARC candidates were also reimbursed their travel expenses. The details of these participants are mentioned below;

S.No.	Name	Mentor	Department	Category
1	Mr. Arijit Dey	Dr. Arnab Hazra	MATHS	IITK
2	Mr. Ankit Khandelwal	Dr. Avinash Lahgere	EE	IITK
3	Mr. Kanav Gupta	Dr. Arjun Ramakrishnan	BSBE	Non-IITK
4	Mr. Anubhav Santra	Dr. Somnath Bhowmick	MSE	Non-IITK
5	Ms. Garima	Dr. Chunendra K Sahu	CE	Non-IITK
6	Mr. Gautam Karthik V	Dr. Dipak K Giri	AE	Non-IITK
7	Ms. Saswati Das Choudhury	Dr. J P Sahoo	CE	Non-IITK
8	Ms. Pratiti Pradhan	Dr. Kamal K Kar	ME	Non-IITK
9	Mr. Tatavarty Srikanth	Dr. K R Guruprasad	ME	Non-IITK
10	Mr. Vardhan Mittal	Dr. Ashoke De	AE	Non-IITK
11	Mr. Anuj Achintya Biswas	Dr. Santosh Misra	BSBE	Non-IITK
12	Mr. Deepanshu Choudhary	Dr. Rahul Sarkar	MSE	Non-IITK
13	Mr. Prasoon Ravi	Dr. Tufan K Guha	AE	Non-IITK
14	Mr. Shubhrajyoti Pal	Dr. Sachin Y Shinde	ME	Non-IITK
15	Mr. Adarsh Sharma	Dr. K Mondal	MSE	Non-IITK
16	Mr. Niranjana Dey	Dr. Subhra Sankar Dhar	MATHS	IITK
17	Ms. S Shevalini	Dr. Tanmoy Maiti	MSE	Non-IITK



18	Mr. Harshit Shakya	Dr. Tushar Sandhan	EE	IITK
19	Mr. Reesav Barik	Dr. Umesh Madanan	ME	Non-IITK
20	Mr. Ashish Patidar	Dr. Rohit Budhiraja	EE	IITK
21	Mr. Yogenraj Pravin Patil	Dr. Rajesh Ranjan	AE	Non-IITK
22	Mr. Sourish Kundu	Dr. Abhishek Gupta	EE	Non-IITK
23	Mr. Bornadhya Abir Rajbongshi	Dr. Sunil Simon	CSE	IITK
24	Mr. Ashutosh Jaiswal	Dr. Nilesh Badwe	MSE	Non-IITK
25	Ms. Priyanshi Singh	Dr. Krishanu Biswas	MSE	Non-IITK
26	Mr. Shiladitya Mondal	Dr. Supratik Banerjee	PHY	IITK
27	Mr. Priyanshu Raj Jindal	Dr. Twinkle Tripathy	EE	IITK
28	Ms. Deeksha Porwal	Dr. Rakesh Kumar Majhi	BSBE	Non-IITK
29	Mr. Pranav Wanare	Dr. Sivasurender Chandran	PHY	Non-IITK
30	Mr. Subhamoy Chattaraj	Dr. Manjesh K Singh	ME	Non-IITK
31	Ms. Aastha Razshree	Dr. Pratik Sen	CHM	Non-IITK
32	Mr. Naman Mehrotra	Dr. Kanwar S Nalwa	SEE	IITK
33	Mr. Ayush Srivastava	Dr. Abhas Singh	CE	Non-IITK
34	Mr. Anubhav Vashishtha	Dr. Bishakh Bhattacharya	ME	IITK
35	Mr. Himanshu Mittal	Dr. Abhishek	AE	IITK
36	Mr. Subhadeep Koley	Dr. Ketan Rajawat	EE	Non-IITK
37	Mr. Aman Khosla	Dr. Rohit Medwal	PHY	Non-IITK
38	Mr. Abhay Shukla	Dr. Salil Goel	CE	IITK
39	Ms. Anandita Kaushal	Dr. Balaji Devaraju	CE	Non-IITK
40	Mr. Chetanya Goenka	Dr. Subrahmanya Swamy Peruru	EE	IITK
41	Ms. Asmita Sood	Dr. BV Rathish Kumar	MATHS	Non-IITK
42	Mr. Maurya Aryan Swaminath	Dr. Indranil Saha	CSE	IITK
43	Mr. Akshat Shrivastava	Dr. Sarang Ingole	MSE	Non-IITK
44	Mr. Sonal S	Dr. S R Sahoo	EE	IITK
45	Ms. Aishi Srivastava	Dr. Santanu De	ME	Non-IITK
46	Mr. Narendra Singh	Dr. Soumya Dutta	CSE	IITK
47	Mr. Naga Venkata Siva Kumar Teja	Dr. Kanwar S Nalwa, Dr. Ashish Garg	SEE	Non-IITK
48	Mr. Sunando Mukherjee	Dr. P Sensarma	EE	Non-IITK
49	Mr. Harsh Kumar	Dr. P Sensarma	EE	Non-IITK

50	Mr. Yash Mittal	Dr. C S Upadhyay	AE	Non-IITK
51	Ms. Rashmi pant	Dr. Mainak Sadhukhan	CHM	IITK
52	Mr. Subrata Pal	Dr. Mainak Sadhukhan	CHM	IITK
53	Mr. Nandan Madhuj	Dr. Debopam Das	AE	IITK
54	Ms. Shruti Sharma	Dr. Anshu Gaur	MSE	Non-IITK
55	Mr. N Hari Bharadwaj	Dr. P K Panagrahi	ME	Non-IITK
56	Mr. Jaskaran Singh Walia	Dr. Hamim Zafar	CSE	Non-IITK
57	Mr. Shobhit Sharma	Dr. Rohit Budhiraja	EE	IITK
58	Mr. Navankur Shrotriya	Dr. Keval S Ramani	ME	IITK
59	Mr. Sahil Kenil Gala	Dr. Shyam Sunder Gopalakrishnan	ME	IITK

### Participant from SAARC countries (Nepal)

S.No.	Name	Mentor	Department	Category
1	Mr. Prashant Bastola	Dr. Ashutosh Modi	CSE	SAARC
2	Mr. Rajesh Chaudhary	Dr. BV Rathish Kumar	MATHS	SAARC

### Project Funded Category (Support from Mentors):

Under this category the participants get financial support from their mentors, based on their overall performance. This year 59 participants received stipend from their respective mentors. The details of these participants are mentioned below;

S.No.	Name	Mentor	Department	Category
1	Mr. Mridul Nambiar	Dr. Sanjay Mittal	AE	IITK
2	Mr. Raman Dhingra	Dr. Sanjay Mittal	AE	IITK
3	Mr. Sai Praneeth Donthu	Dr. Shankar Prawesh	IME	IITK
4	Mr. Saikat Saha	Dr. R. Vijaya	PHY	Non-IITK
5	Mr. Abhishek	Dr. R. Vijaya	PHY	Non-IITK
6	Mr. Prasoon Patel	Dr. Adhip Agarwala	PHY	IITK
7	Ms. Shruti Sharma	Dr. Anshu Gaur	MSE	Non-IITK
8	Mr. Agnish Bhattacharya	Dr. Hamim Zafar	CSE	Non-IITK
9	Ms. Sonali Singh Parihar	Dr. Yogesh Singh Parihar	EE	Non-IITK
10	Mr. Ashutosh Singh Sengar	Dr. Yogesh Singh Parihar	EE	Non-IITK



11	Mr. Shrujal Zala	Dr. Sameer Khandekar	ME	Non-IITK
12	Ms. Aashna Chopra	Dr. P.K. Panagrahi	ME	Non-IITK
13	Mr. N. Hari Bharadwaj	Dr. P.K. Panagrahi	ME	Non-IITK
14	Mr. Abhinava De	Dr. Adrish Banerjee	EE	Non-IITK
15	Ms. Niharika Tiwari	Dr. Ankush Sharma	EE	Non-IITK
16	Mr. Rudransh Goel	Dr. Ram Prasad Potluri	EE	IITK
17	Mr. Shivam Gupta	Dr. Ram Prasad Potluri	EE	IITK
18	Mr. Monkesh Singh	Dr. Ram Prasad Potluri	EE	IITK
19	Ms. Kritika Bansal	Dr. Saumyen Guha	CE	IITK
20	Mr. Samaiddha Majumdar	Dr. Nilesh Prakash Gurao	MSE	Non-IITK
21	Ms. Soundarya Pravin Kose	Dr. Nilesh Prakash Gurao	MSE	Non-IITK
22	Mr. Devansh Bhardwaj	Dr. Rituraj	EE	Non-IITK
23	Mr. Brid Ojas Chandrashekhar	Dr. Bishakh Bhattacharya	ME	IITK
24	Mr. Navankur Shrotriya	Dr. Keval S. Ramani	ME	IITK
25	Mr. Amaan Ahmed	Dr. Ushashi Roy	ME	Non-IITK
26	Mr. Somnath Ghosh	Dr. Ushashi Roy	ME	Non-IITK
27	Mr. Mokkapati Shanmukha Sree	Dr. Dipak Kumar Giri	AE	IITK
28	Ms. Anushree	Dr. Dipak Kumar Giri	AE	IITK
29	Mr. Suvarn Jaiswal	Dr. Debopam Das	AE	IITK
30	Mr. Suman Banerjee	Dr. Debopam Das	AE	IITK
31	Ms. Bidisha Mukherjee	Dr. Debopam Das	AE	Non-IITK
32	Mr. Vighnesh Alungal	Dr. Abhas Singh	CE	Non-IITK
33	Ms. Aditi Singh Sengar	Dr. Abhas Singh	CE	IITK
34	Mr. Anshu Saini	Dr. Abhas Singh	CE	IITK
35	Ms. Durgadevi N	Dr. Indranil Chowdhury	MTH	Non-IITK
36	Mr. Aritra Dasgupta	Dr. Indranil Chowdhury	MTH	Non-IITK
37	Ms. Vanshika Gupta	Dr. Mrinmay Biswas	MTH	IITK
38	Mr. Gourab Kundu	Dr. Tushar Sandhan	EE	Non-IITK
39	Mr. Chandravanshi Shubham Arun	Dr. Tushar Sandhan	EE	Non-IITK
40	Ms. Margi Pandya	Dr. Tushar Sandhan	EE	Non-IITK
41	Mr. Sayeedul Islam Sheikh	Dr. Vipul Arora	EE	IITK
42	Mr. Arnav Jain	Dr. Vipul Arora	EE	IITK

43	Ms. Yashna Nathwani	Dr. Vipul Arora	EE	Non-IITK
44	Mr. Rohan Batra	Dr. Vipul Arora	EE	IITK
45	Mr. Raghav Karan	Dr. Vipul Arora	EE	IITK
46	Mr. Mridul Pandey	Dr. Vipul Arora	EE	IITK
47	Mr. Ronak Lamba	Dr. Anoop Singh	IME	Non-IITK
48	Ms. Varanasi Radhika Shreya	Dr. Abhilash Patel & Dr. Bishakh Bhattacharya	ME	Non-IITK
49	Mr. Siddhartha Upadhyay	Dr. Abhilash Patel	ME	Non-IITK
50	Mr. Aditya Ravindra Nikam	Dr. Abhijit Kushari	AE	IITK
51	Ms. Aneesha	Dr. Naren Naik	EE	Non-IITK
52	Ms. Mahi Bhumirbhai Shah	Dr. Sathesh Mariappan	AE	Non-IITK
53	Ms. Purbasha Das	Dr. Arjun Ramakrishnan	BSBE	Non-IITK
54	Ms. Niliena Celine Biju	Dr. Arjun Ramakrishnan	BSBE	IITK
55	Ms. Priti Maurya	Dr. Arjun Ramakrishnan	BSBE	Non-IITK
56	Mr. Shiladitya Mondal	Dr. Supratik Bannerjee	PHY	IITK
57	Mr. Thejus R.Vinod	Dr. Naveen Tiwari	CHE	Non-IITK
58	Mr. Abhijit Das	Dr. Ashish Garg	MSE	Non-IITK
59	Ms. Suneha Chandani	Dr. Ashish Garg	MSE	Non-IITK

## SURGE-2023 IITK PARTICIPANTS

SNo.	Name	Mentor Name	Mentor Dept.	Abstract Tittle
1	Mr. Raghav Karan	Dr. Vipul Arora	EE	Automatic Speech Recognition (ASR) for Indic Languages
2	Mr. Shreyansh Kesharwani	Dr. Harshwardhan H. Katkar	CHE	Fluid film over a locally heated surface
3	Mr. Ridhav Arora	Dr. Kanwar S Nalwa	SEE	Fabrication and Analysis of Lithium Air Batteries with an Organic Electrolyte
4	Mr. Prasoon Patel	Dr. Adhip Agarwala	PHY	Topological Phases in a Long-range spin chain
5	Mr. Mukul Kumar Kansara	Dr. Abhishek	AE	3 RPS Parallel Link Manipulator
6	Mr. Vikash Meghwal	Dr. Pratik Sen	CHM	Elucidation of the Structure and Dynamics of Synergistic Mixed Solvent Systems
7	Mr. Sanyam Jain	Dr. Subrahmanya Swamy Peruru	EE	Application in Reinforcement Learning



8	Mr. Vijaya Anand VP	Dr. Angshuman Karmakar	CSE	Optimization of Solving Erroneous Inequalities
9	Mr. Navankur Shrotriya	Dr. Keval S. Ramani	ME	Optimal selection of parameters for Homogeneous Temperature Distribution in Metal Additive Manufacturing
10	Mr. Anubhav Bairoliya	Dr. Urbi Chatterjee	CSE	Ransomware Detection and Mitigation using Hardware Performance Counters and Machine Learning
11	Mr. Aravind Seshadri	Dr. Tushar Sandhan	EE	Object tracking from drone using ArUco marker
12	Mr. SAHIL KENIL GALA	Dr. Shyam Sunder Gopalakrishnan	ME	Viscous fingering in porous media
13	Mr. Sandipan Dutta	Dr. Chunendra K Sahu	CE	Numerical investigation of dense plumes in porous media
14	Mr. Kapu Nirmal Joshua	Dr. Tushar Sandhan	EE	Drones for Search and Rescue via CV
15	Mr. Priyanshu Raj Jindal	Dr. Twinkle Tripathy	EE	Guidance Laws using Reinforcement Learning for target defender missile scenarios
16	Ms. Ramyaa Singh	Dr. Pranav Joshi	ME	Particle Shadow Velocimetry
17	Mr. Harshit Shakya	Dr. Tushar Sandhan	EE	Fingerprint Antispoofing using Machine Learning.
18	Mr. Roy Shivam Ram Shreshth	Dr. Urbi Chatterjee	CSE	Hardware Accelerator for DNN algorithms
19	Ms. Monika Kumari	Dr. Tushar Sandhan	EE	Customer Segmentation
20	Mr. B P HITESH	Dr. R. S. Ashwin Kumar	EE	Designing Bandgap reference in skywater 130nm pdk
21	Mr. Ashutosh Agrawal	Dr. Subhajit Roy	CSE	Android Penetration Testing Framework
22	Ms. Aeligeti Meghana	Dr. Gururaj Mirle Vishwanath	EE	A Peer to Peer Energy Trading Framework with Data Monitoring and Optimization
23	Mr. Havi Bohra	Dr. Preeti Malakar	CSE	Communication-aware Performance Prediction of Parallel Jobs
24	Mr. Siddharth Kalra	Dr. Ashutosh Modi	CSE	Coreference resolution of Legal Documents
25	Mr. Shabadpreet Singh	Dr. Soumyarup Sadhukhan	MATHS	Comparison of different Matching Algorithm in Two-Sided Matching
26	Mr. Debarghya Jana	Dr. Arnab Hazra	MATHS	A Statistical Model For Cyclone Path Forecasting
27	Mr. Mohd Siraj	Dr. Mohammad Arshad Rahman	ECO	Effect of tourism on environmental sustainability in Ladakh.
28	Mr. Konchada Prajwal Subudhi	Dr. C. Chandraprakash	ME	Develop of soft robot for rescue of child stuck in a borewell
29	Mr. Abhiraj Singh	Dr. Balaji Devaraju	CE	Soil moisture estimation using SAR images for various land cover types
30	Mr. Ambuj Pyne	Dr. Abhishek	AE	Design of Precise Pitch Amplitude Change Mechanism for Variable Pitch Vertical Axis Wind Turbine
31	Mr. Shourya Trikha	Dr. Ashutosh Modi	CSE	Sentence Boundary Detection
32	Mr. Niranjana Dey	Dr. Subhra Sankar Dhar	MATHS	A study on a new measure of association.
33	Mr. Mukesh Nath	Dr. Keval S. Ramani	ME	Cable Driven Parallel Robots
34	Ms. Sneha Omer	Dr. Animangsu Ghatak	CHE	Ink Optimization for Tactile Reusable and Reprintable Paper A Comprehensive Study of

				Viscosity, Surface Adhesion, Cohesion, and Thermal Stability
35	Mr. Divyansh	Dr. Ashutosh Modi	CSE	Sentence Boundary Detection
36	Mr. Aditya Bangar	Dr. Tushar Sandhan	EE	Facial Expression Recognition
37	Mr. Raghav Shukla	Dr. Tushar Sandhan	EE	Facial Expression Recognition by Harnessing Semi-Supervised Learning
38	Mr. Maurya Aryan Swaminath	Dr. Indranil Saha	CSE	Ai yoga guide
39	Ms. Meenakshi Bethi	Dr. Saurabh Singh	MATHS	spectral theory and bilinear forms
40	Mr. KARTIK JAIN	Dr. Siddhartha Panda	CHE	Geometry Optimization of Electrochemical Glucose Sensor using COMSOL Multiphysics.
41	Ms. Anweshika Maji	Dr. Apparao Draksharapu	CHM	Anionic ligands for stabilizing high valent metal complexes
42	Mr. Bhargab Biswas	Dr. Apparao Draksharapu	CHM	Exploring the chemistry of high valent ruthenium complexes and application in catalysis
43	Mr. shishir	Dr. Salil Goel	CE	Automatic Registration of LiDAR Point Cloud
44	Mr. SONAL S	Dr. S R Sahoo	EE	Stewart platforms on moving vehicles for autonomous landing of UAVs
45	Ms. Anushree	Dr. Dipak K Giri	AE	Combined Attitude and orbit control for autonomous rendezvous and docking
46	Mr. Suman Banerjee	Dr. Debopam Das	AE	Bruit
47	Mr. Brid Ojas Chandrashekhar	Dr. Bishakh Bhattacharya	ME	Development of Social robot for Child Robot interaction
48	Mr. Anwesh Saha	Dr. Deepak Dhingra	ES	Understanding the Character of Radar Anomalous Impact Craters on the Moon and Their Volatile Association
49	Mr. Shrey Patel	Dr. C S Upadhyay	AE	Consistent averaged macro level models of Three dimensional composites
50	Mr. Rudransh Goel	Dr. Ramprasad Potluri	EE	MATLAB simulation and analysis of DOB based control of a tracked vehicle
51	Ms. Vrinda Sharma	Dr. Malay Banerjee	MATHS	Immune Epidemic Modelling
52	Mr. Praanshu Gautam	Dr. Twinkle Tripathy	EE	Localisation of Tutlebots
53	Mr. Amritansh tripathi	Dr. Dibyendu Kumar Das	BSBE	Optimising electroformation protocol for efficient GUV synthesis
54	Mr. Devansh Ojha	Dr. Tushar Sandhan	EE	Drone Assembly and Path Planning
55	Ms. Princy Chauhan	Dr. Ketan Rajawat	EE	A Comprehensive Study and Communication Optimization
56	Ms. Medha Srivastava	Dr. Shikhar Jha	MSE	Temperature distribution in ceramic and ceramic-metal structure during application of external electric field
57	Mr. Abhimanyu Jain	Dr. Gourabananda Pahar	CE	Granular media flow analysis using matlab and cameras
58	Ms. Eshika Yadav	Dr. Chinmoy Kolay	CE	Non-Contact Measurement of Strains using Digital Image Correlation
59	Mr. Karamveer Singh	Dr. Tushar Sandhan	EE	Gauging Cryptocurrency Markets over Sentiment Analysis
60	Mr. PRATYUSH AMRIT	Dr. S R Sahoo	EE	Design and Development of a 3-Axis Gimbal for Unmanned Aerial Vehicles

61	Ms. Siddhi Agrawal	Dr. Shikhar Jha	MSE	Analyze electrochemical performance of energy storage systems
62	Mr. Goural	Dr. Twinkle Tripathy	EE	Hardware Testbed design for implementing multi-robot coordination algorithms
63	Ms. Aditi Singh Sengar	Dr. Abhas Singh	CE	Determination of Dissolution Rate Constant of Rhodocrosite in ultrapure water
64	Mr. Arun Dwivedi	Dr. Twinkle Tripathy	EE	Opinion Dynamics
65	Mr. Samarth Agrawal	Dr. Rahul Mangal	CHE	Analysis of Coffee Ring Effect
66	Mr. Nandan Madhuj	Dr. Debopam Das	AE	Analytical Solutions for Stratified Multiphase flows with a given Volume flow rate Variation
67	Mr. SHOBHIT SHARMA	Dr. Rohit Budhiraja	EE	CSI Framework Enhancements Utilizing AI and ML Algorithms for 6G Systems
68	Mr. Sayeedul Islam Sheikh	Dr. Vipul Arora	EE	Acoustic Event Mining using Training Dynamics of Deep Neural Networks
69	Mr. SUVRAT PAL	Dr. Urbi Chatterjee	CSE	Implementation of Strong Physical Unclonable Function (PUF) Architectures on Field Programmable Gate Arrays (FPGA)
70	Mr. Vaibhav Agarwal	Dr. Salil Goel	CE	Unsupervised Clustering of LiDAR Data
71	Ms. Tanvi Sharma	Dr. Salil Goel	CE	GNSS Processing and Analysis in Python
72	Mr. Saicharan Booduguri	Dr. Joydeep Dutta	ECO	Real Data Analysis and Statistical Inference
73	Mr. Ashwin S	Dr. Sathesh Mariappan	AE	Solving Acoustic Equation using Physics Informed Neural Network
74	Mr. Aniket Suhas Borkar	Dr. Ashutosh Modi	CSE	Sentence Boundary Detection
75	Mr. Mannu Dev Sah	Dr. Subrahmanyam Saderla	AE	Performance analysis of a ducted fan embedded in wing
76	Mr. Sourav Sharma	Dr. Salil Goel	CE	Enhancing LiDAR Visualization and Clustering
77	Mr. Mridul Nambiar	Dr. Sanjay Mittal	AE	Flow Analysis of a Shuttlecock using CFD
78	Mr. Shubham Kumar	Dr. Twinkle Tripathy	EE	Localization System Design using ArUco Markers
79	Ms. Stuti Gupta	Dr. Sanjay Kumar	AE	Experiments on Landslides
80	Ms. RIYA SILOTIYA	Dr. Swathi Battula	EE	Battery Health Modelling: A Data-Driven Approach
81	Mr. Rohan Virmani	Dr. Rahul Mangal	CHE	Active Colloid : Self-Propelled particle motion
82	Mr. Sai Vedant	Dr. S R Sahoo	EE	Design of Control System for Underwater Gliders
83	Mr. Anubhav Vashishtha	Dr. Bishakh Bhattacharya	ME	Agro Tech Project Use of AI/ML in prediction of diseases in food crops
84	Mr. Rachit Gupta	Dr. Rahul Varman	IME	Analysis of the FinTech Sector in India: Market Analysis and Major Challenges
85	Mr. Parthapratim Chatterjee	Dr. Shikhar Jha	MSE	Synthetic microstructure data generation for Machine Learning composite architecture prediction
86	Ms. Aashi Shrivastava	Dr. Kantesh Balani	MSE	Investigation of Bacterial Adhesion on Enhanced Hydroxyapatite Surfaces
87	Ms. Palak Parashar	Dr. Shikhar Jha	MSE	Electrochemical analysis of a binary oxide electrode and Detection of microparticles using machine learning.

88	Mr. Milan Rastogi	Dr. Tushar Sandhan	EE	Price Forecasting using Time-Series Analysis on Cryptocurrency Data
89	Mr. Naman Mehrotra	Dr. Kanwar S Nalwa	SEE	Data-driven Prediction of Battery Cycle Life using Early-Stage Capacity Degradation and Electrochemical Impedance Spectroscopy
90	Mr. PRIYANSH SINGH	Dr. Tushar Sandhan	EE	EEG-Based Analysis of Cognitive States and Emotional Valence: Predictive Modelling, Brainwave Frequencies, and Dominant Brain Locations
91	Mr. Lakshay Gupta	Dr. Rahul Varman	IME	A study of three decades of growth of Telecom Industry in India
92	Ms. Niliena Celine Biju	Dr. Arjun Ramakrishnan	BSBE	Emergence of Clinical Heterogeneity from Generative Models of Psychiatric Disorders
93	Ms. Kritika Bansal	Dr. Saumyen Guha & Dr. Shivam Tripathi	CE	Automation of a Double Ring Infiltrometer
94	Mr. Himanshu	Dr. Rahul Varman	IME	Analysis of digital payments in india and disparities in its adoption
95	Mr. Shreyash Kumar	Dr. Twinkle Tripathy	EE	A Deep Reinforcement Learning Proposition for Computational Missile Guidance
96	Mr. Aditya Kumar	Dr. Manindra Agarwal	CSE	Secure Access Control for Files using CL Accumulator and Security analysis of Zerocoin
97	Mr. Sai Praneeth Donthu	Dr. Shankar Prawesh	IME	Infinitely Wide Neural Networks for Small Data Tasks.
98	Mr. HARSHIT CHAUDHARY	Dr. Tushar Sandhan	EE	Enabling Control and Autonomous Capabilities for Nano Drones Using Computer Vision and Machine Learning
99	Ms. Rashmi pant	Dr. Mainak Sadhukhan	CHM	Dynamical signature of quantum chaos
100	Mr. Tushar Kumar	Dr. Abhishek	AE	Building a cost-effective Stewart Platform for Shipboard Aircraft Stabilisation.
101	Mr. Ritwik Shankar	Dr. Abhishek	AE	Design & simulation of a Stewart Platform for Shipboard Aircraft Stabilisation.
102	Mr. Porav Rohilla	Dr. Tushar Sandhan	EE	Explainable AI
103	Mr. Devesh Sootail	Dr. Rohit Medwal	PHY	Nonlinearity of Spin Dynamics
104	Mr. Madhav Kumar	Dr. Nandini Gupta	EE	Damage detection in composite panels through ERT.
105	Ms. Chirumamilla Satya Keerthana	Dr. Tushar Sandhan	EE	Facial Emotion Recognition with Noisy Multi-task Annotations
106	Mr. ARYAN KUMAR	Dr. Tushar Sandhan	EE	Advanced Drone Inspection System: Design, Integration, and Odometry for Efficient Area Inspections
107	Mr. Rohan Batra	Dr. Vipul Arora	EE	Designing Corrective Feedback for music listeners based on their performance using AI/ML based Application
108	Ms. Shruti Sinha	Dr. Rajiv Sinha	ES	Prediction of Elemental Concentrations in Water using Hyperspectral Data
109	Mr. Karan Mundhra	Dr. Tushar Sandhan	EE	Leveraging Faster R-CNN with ResNet Backbone for Accurate Plant Disease Detection



110	Ms. Yerusu Dharini Reddy	Dr. Tushar Sandhan	EE	Microscopic Image Analysis
111	Ms. Isha Jain	Dr. Tushar Sandhan	EE	Microscopic Image Analysis
112	Ms. Vanshika Gupta	Dr. Mrinmay Biswas	MATHS	Stochastic Differential Equations and Applications
113	Mr. Mridul Pandey	Dr. Vipul Arora	EE	Automated Speech Recognition of Indian Languages
114	Ms. Shruthi Munnur	Dr. Kaustubh Kulkarni	MSE	Interdiffusion Analysis
115	Ms. Snehal Shridhar Kane	Dr. Kaustubh Kulkarni	MSE	Interdiffusion Analysis
116	Mr. Adarsh Sharma	Dr. Twinkle Tripathy	EE	Opinion Dynamics: Avoiding Polarization
117	Mr. Chetanya Goenka	Dr. Subrahmanya Swamy Peruru	EE	Applications of Probabilistic Graphical Models for Channel Bonding in Wireless LANs
118	Mr. Tanmay Purohit	Dr. Satya Prakash Singh	MATHS	Constrained Statistical inference
119	Mr. Dhruv	Dr. Tushar Sandhan	EE	Low light image enhancement
120	Mr. Dhruv Misra	Dr. R. S. Ashwin Kumar	EE	N path Filters with good Out of Band Rejection
121	Mr. Aman Khilani	Dr. Pranamesh Chakraborty	CE	LiDAR-Based Object Detection in Instrumented Vehicles: Implications for Driver Behaviour Analysis and Autonomous Systems
122	Mr. Pranjal Singh	Dr. Animangsu Ghatak	CHE	Ink Optimization for Tactile Reusable and Reprintable Paper: A Comprehensive Study of Viscosity, Surface Adhesion, Cohesion, and Thermal Stability
123	Mr. M R Rakshith	Dr. K R Guruprasad	ME	Multi UAV coverage for agricultural applications
124	Mr. Suvarn Jaiswal	Dr. Debopam Das	AE	Experimental setup for duct flows
125	Ms. Shivalika Sista	Dr. Dharmaraja Allimuthu	CHM	Benzodiazepines as GABA-A receptor modulators
126	Mr. Himanshu Mittal	Dr. Abhishek	AE	Developing a simulation of a feature based algorithm for a ship deck landing system
127	Mr. MOKKAPATI SHANMUKHA SREE	Dr. Dipak K Giri	AE	Aruco markers based navigation system for a 3 dof spacecraft close proximity operation testbed
128	Mr. Aman Khosla	Dr. Rohit Medwal	PHY	Field Free Spin Hall Nano Oscillator (SHNO)
129	Mr. Depanshu Sahu	Dr. Preeti Malakar	CSE	Data Visualization of HPC communications
130	Mr. Rajvardhan Verma	Dr. Tushar Sandhan	EE	Price Forecasting using Time Series Analysis on Cryptocurrency Data
131	Mr. Mihir Mittal	Dr. Amit Kuber	MATHS	Towards the computation of the Grothendieck ring for atomless boolean algebras
132	Ms. Akarsha	Dr. Salil Goel	CE	Unsupervised clustering of lidar point cloud
133	Mr. Rohan Kumar	Dr. Pankaj Jain	PHY	Radio Detection of Pev Cosmic Rays
134	Mr. Saugat Kannoja	Dr. Indranil Saha	CSE	An AI Driven Yoga Guide
135	Mr. Bornadhya Abir Rajbongshi	Dr. Sunil Simon	CSE	Planning With Temporal Objectives
136	Mr. ANKIT KHANDELWAL	Dr. Avinash Lahgere	EE	A Novel Gateless NPN Device for the ESD Protection

137	Mr. Enjoy	Dr. Dibyendu Kumar Das	BSBE	Interfacing piezo stage and photodetector for positioning at nanometer resolution in a microscope
138	Mr. ARIJIT DEY	Dr. Arnab Hazra	MATHS	A Principled Distance-based Prior for the Shape Parameter of the Semiparametric Bayesian Generalized Exponential Regression Model
139	Mr. Ashish Patidar	Dr. Rohit Budhiraja	EE	AI/ML-Enabled CSI Optimization for 5G/6G MIMO System Performance Enhancements
140	Mr. Parikh Dhruv Janakbhai	Dr. Sathesh Mariappan	AE	Image processing and 3D visualization of TSP and IR images
141	Mr. Aakarsh Mishra	Dr. Sathesh Mariappan	AE	Detection of transition from combustion noise to thermoacoustic instability in a partially premixed turbulent combustor
142	Mr. Shiladitya Mondal	Dr. Supratik Banerjee	PHY	Study of the solar wind at different heliospheric latitudes
143	Mr. JATIN RASTOGI	Dr. Bishakh Bhattacharya	ME	Developing Control Algorithms for Autonomous Navigation of AgroBot
144	Mr. Piyush Bhatia	Dr. Tushar Sandhan	EE	Classroom engagement
145	Mr. Yashveer Yadav	Dr. Twinkle Tripathy	EE	Formation Control Problems
146	Mr. chirayush mohanty	Dr. Tushar Sandhan	EE	Monocular depth estimation using Generative Adversarial Network(GAN) model
147	Mr. Abhay Shukla	Dr. Salil Goel	CE	LiDAR Camera Calibration
148	Mr. GOUTAM DAS	Dr. Ashutosh Modi	CSE	Coreference Resolution of Legal Documents
149	Mr. Aditya Ravindra Nikam	Dr. Abhijit Kushari	AE	IR modelling for jet engine
150	Ms. Macharla Madhuri	Dr. Tushar Sandhan	EE	A multi-task approach for Facial Emotion Recognition using deep learning
151	Mr. Anshu Saini	Dr. Abhas Singh	CE	Analysis of the efficiency of a passive sampler for continuous monitoring of water quality
152	Mr. Pradeep Kumar Bagri	Dr. Rahul Mangal	CHE	Characterization of self-propelled Droplets
153	Ms. Khushi Goel	Dr. Sushruth Ravish	HSS	Ethics of Autonomous vehicles
154	Mr. Soham Sen	Dr. Soumya Dutta	CSE	Visualizing Convolutional Neural Networks : Explainability and Interpretability
155	Mr. Vikas Yadav	Dr. Ashutosh Modi	CSE	Sentence Boundary detection
156	Mr. Mohammad Huzaif	Dr. Jonaki Sen	BSBE	Investigating the role of Myosin in invagination of forebrain roof plate
157	Mr. Dharmraj	Dr. Arghya Das	CE	Effects of Rolling Friction and Aspect Ratio on Angle of Repose of Granular Materials
158	Mr. Narendra Singh	Dr. Soumya Dutta	CSE	Visualizing Convolutional Neural Networks for Explainability and Interpretability
159	Mr. Jivnani Harshal Prakash	Dr. R. R. K. Sharma	IME	Emotional Intelligence and Management: An Investigation of the Relationship between Emotional Intelligence and Effective Leadership
160	Mr. Shivam Gupta	Dr. Ramprasad Potluri	EE	Mathematical Modelling, Parameter Estimation and Simulation of a Tracked Vehicle
161	Mr. Arnav Jain	Dr. Vipul Arora	EE	Spoken Term Detection

162	Mr. Abhishek Chaudhary	Dr. BV Rathish Kumar	MATHS	Revolutionizing Cardiac Image Segmentation with AI/ML Techniques
163	Ms. Minakshi	Dr. Sandeep Verma	CHM	Synthesis of bioactive peptides for neuronal delivery of hydrogen sulfide
164	Mr. Kartik Sharma	Dr. Pankaj Jain	PHY	Optimization of Radio Array for the GRAPES-3 Experiment
165	Mr. Harshit Sachdev	Dr. Shikhar Jha	MSE	ODE-PDE solver for portvein le chatlier band analysis
166	Ms. ANUSHKA GUPTA	Dr. Somnath Bhowmick	MSE	Characterizing Grain Boundaries in Materials through Molecular Dynamics Simulations and Energy calculations
167	Mr. Rishi Poonia	Dr. Tushar Sandhan	EE	Low Light Image Enhancement
168	Mr. SUBRATA PAL	Dr. Mainak Sadhukhan	CHM	Efficacies of different approximated kinetics energy density in orbital free density functional theory
169	Mr. Raman Dhingra	Dr. Sanjay Mittal	AE	Flow Analysis of a Shuttlecock
170	Mr. Bhavaj Singla	Dr. Ashutosh Modi	CSE	Coreference Resolution in Legal Documents
171	Mr. Amol Sanjiv Patil	Dr. Tushar Sandhan	EE	Plant disease detection
172	Mr. Deepak K R	Dr. S R Sahoo	EE	Obstacle Avoidance for Fully Actuated UAVs with 6 degree Freedom
173	Ms. Pratibha Bajaj	Dr. Bishakh Bhattacharya	ME	Control of omnidirectional Wheeled Mobile Robot
174	Ms. manasvi Kweera	Dr. Debajyoti Paul	ES	Effect of westerlies on Indian climate
175	Mr. Pradeep Chahal	Dr. Manindra Agarwal	CSE	Investigating some problems in number theory
176	Ms. M. Reethika	Dr. Sruti Srinivasa Ragavan	CSE	Exploring Culture Inclusive Ways to Learn Programming
177	Mr. Umang Sinha	Dr. Tushar Sandhan	EE	Dissecting Convolutional Neural Networks using Activation Maps ( Explainable - AI ) In Rice Images Classification
178	Ms. Paturi Bhavya	Dr. Somesh K. Mathur	ECO	General Equilibrium Impact of India Joining APTA: A Structural Gravity Analysis
179	Ms. Astha Tibrewal	Dr. Rahul Varman	IME	A decade of the smartphone manufacturing industry in India
180	Mr. Monkesh Singh	Dr. Ramprasad Potluri	EE	Mathematical Modelling, Parameter Estimation and Simulation of a Tracked Vehicle
181	Mr. Arpit Raj	Dr. Amar Nath R C	CE	Piezoelectric energy harvesting from vehicle motion-induced bridge vibrations by using bistable laminates: performance evaluation and optimization
182	Mr. Aditya Khandelwal	Dr. Tushar Sandhan	EE	Fingerprint Liveliness Detection
183	Mr. HIMANSHU PATIDAR	Dr. Tushar Sandhan	EE	Fingerprint Antispoofing
184	Mr. Gaurav Jha	Dr. Rituraj	EE	Scattering of light by two parallel dielectric cylinders
185	Mr. Arnav kumar	Dr. Rakesh Kumar Mathpal	AE	Modelling and simulation of two phase geyser in sub-surface channels of enceladu's south pole

## SURGE-2023 NON-IITK PARTICIPANTS

SNo.	Name	Mentor Name	Mentor Dept.	Abstract Title
1	Ms. CHANDA SHIVANI	Dr. Mohit Law	ME	2 Axis Ball Screw Drive Stage
2	Mr. SOURISH KUNDU	Dr. Abhishek Gupta	EE	Development of leader follower configuration in uav swarm and development of failsafe features.
3	Mr. ADARSH KUMAR MISHRA	Dr. Abhishek Sarkar	ME	Machine learning algorithms for predicting magnetic alignment of bonded magnets
4	Mr. Subhamoy Chattaraj	Dr. Manjesh K. Singh	ME	Analysis of Variation in Mechanical Properties of Graphene Sheet using Molecular Dynamics Simulation
5	Mr. Vibhav Chandra Srivastava	Dr. Suparno Mukhopadhyay	CE	Study of progressive collapse behavior of G+8 building under seismic and temperature induced load, and dynamic behavior of bridge under heavy moving train load
6	Ms. Aastha Razshree	Dr. Pratik Sen	CHM	Effect of hydrophobicity on synergistic solvation.
7	Mr. ARUPAM BISWAS	Dr. K.M. Sharika	CogSci	Unravelling the Dynamics of Social Interactions: Exploring Physiological Synchrony through Electrodermal Activity(EDA)
8	Mr. Yash Mittal	Dr. C S Upadhyay	AE	Analyzing Aeroelastic Instabilities in Aircraft Wings: A Study on Deformed Cantilever Beams and Symmetric Airfoil
9	Ms. KRATI SHARMA	Dr. Ketan Rajawat	EE	Enhancing UAV Swarm Performance through Integrated Clock Synchronization, Dynamic Mesh Network Connectivity plotting, Multimaster Synchronization, and LED status Indication using blinking Patterns
10	Mr. SOUMYADIP SINHA	Dr. Rakesh Kumar Majhi	BSBE	Design of RNA-based regulation to reduce cellular burden
11	Mr. Ravi Prakash Dhorajia	Dr. K. R Guruprasad	ME	Multi UAV coverage for search and rescue
12	Mr. RITIK CHATURVEDI	Dr. Raju Kumar Gupta	CHE	Development of Electro-Catalyst for green hydrogen production.
13	Mr. Amrendra Maurya	Dr. Samit Ray Chaudhuri	CE	Vibration-Based Structural Health Monitoring
14	Ms. Saswati Das Choudhury	Dr. J. P. Sahoo	CE	Stability Analysis of Tunnel in Weak Rock Mass
15	Ms. MAHI BHUMIRBHAI SHAH	Dr. Sathesh Mariappan	AE	Numerical Investigation of Combustion Dynamics for Annular Combustor pertaining to Gas Turbine Engines
16	Mr. Davidson Paul J	Dr. Ketan Rajawat	EE	Drone Swarm - Evaluating Feasibility of Mission Paths for Multi-UAV Control
17	Mr. Prasoon Ravi	Dr. Tufan K. Guha	AE	Control of Flow Separation over a Generic Wing Section using Trailing Edge Propellers



18	Mr. RUSHIKESH DEOTALE	Dr. Pradeep Moise	AE	Fluid Structure Interaction of Oscillating Elastic Plates
19	Ms. Saumya Chaturvedi	Dr. Ashwani Kumar Thakur	BSBE	Isolation and characterization of chickpea storage proteins for amyloidic structures
20	Mr. N Hari Bharadwaj	Dr. P K Panigrahi	ME	Imaging and Integration of DBD Plasma actuators in wind turbines for enhancement of performance
21	Mr. Aayush Gupta	Dr. Ketan Rajawat	EE	UAV SWARM Designing Lightweight and Robust Structures for SWARM Drones with Integrated Sensing and Communication Systems
22	Mr. Jitin Krishna Chekka	Dr. Ashutosh Modi	CSE	Coreference resolution for legal documents
23	Mr. Sunando Mukherjee	Dr. P. Sensarma	EE	Digital Signal Processing using TMS320F2812
24	Ms. Anvi Bakhsyan	Dr. Tanmoy Maiti	MSE	Transition metal perovskite chalcogenide
25	Ms. Ravleen Kaur	Dr. Nilesh Badwe	MSE	Electrodeposition of nanocrystalline Nickel Tungsten alloy
26	Mr. Yogenraj Pravin Patil	Dr. Rajesh Ranjan	AE	Computational Investigation of Conical Shock Wave Turbulent Boundary Layer Interactions
27	Mr. Subhadeep Koley	Dr. Ketan Rajawat	EE	Development of algorithms for decentralised drone swarms
28	Mr. Pranav Wanare	Dr. Sivasurender Chandran	PHY	Viscoelastic behavior of core-shell microgel particles
29	Mr. Vardhan Mittal	Dr. Ashoke De	AE	Two Phase 3D Jet Instability
30	Mr. Agnish Bhattacharya	Dr. Hamim Zafar	CSE	Spatial MultiOmics integration using Graph Variational Autoencoders
31	Ms. Deeksha Porwal	Dr. Rakesh Kumar Majhi	BSBE	Title: Investigation of bacterial therapy for cancer
32	Mr. Siddhartha Upadhyay	Dr. Abhilash Patel	EE	Comparative Study of SLAM Algorithms
33	Mr. Deepanshu Choudhary	Dr. Rahul Sarkar	MSE	External Desulphurization of Blast furnace hot metal
34	Mr. Govind Jayakumar	Dr. Pradeep Moise	AE	Separation-bubble instability in a transonic flow over symmetric airfoil
35	Ms. Bidisha Mukherjee	Dr. Debopam Das	AE	Biomimicking Design of a Dragonfly
36	Mr. Animesh Dutt Mishra	Dr. Shobit Omar	MSE	Developing Cold Sintering Process for Densification of Solid Electrolytes for Na-ion Batteries
37	Mr. Kanishk Raj Mishra	Dr. Aditya Saurabh	ME	Parallel Processing on a cluster for fluent mesh generation and simulations
38	Mr. Vishesh Kaul	Dr. Avinash K Agarwal	ME	Development of Computational Domain for Prediction of In-cylinder Phenomena for Spark Ignition Engine.
39	Ms. Anandita Kaushal	Dr. Balaji Devaraju	CE	Estimating the location of Virtual Stations for Satellite Radar Altimetry
40	Mr. GAUTAM KARTHIK V	Dr. Dipak K Giri	AE	Electrodynamic suspension system for a planar 3 dof spacecraft close proximity operations tested

41	Ms. Dipti Ulhas Rupwate	Dr. Devpriya Kumar	HSS	Facial Emotion Detection
42	Ms. Suneha Chandni Sharma	Dr. Ashish Garg	SEE	Steady State heat transfer analysis of Target plate of High concentration solar-like radiation source
43	Ms. Aashna Chopra	Dr. P K Panigrahi	ME	Implementation of Delta-Wing vortex generators on wind turbine blades
44	Mr. Saubhagya Pandita	Dr. Debopam Das	SEE	Vortex Energy Harvesting Device
45	Ms. Soumya Mishra	Dr. Raju Kumar Gupta	CHE	Development of polymeric membranes for desalination application.
46	Mr. DEVANSH BHARDWAJ	Dr. Rituraj	EE	Inverse design of dielectric scatterers for light manipulation in computational and optoelectronic applications
47	Ms. PRIYANKA CHAVAN	Dr. Mohammed Ibrahim. S	AE	Laser induced plasma, Nd: YAG laser, Optical spectroscopy.
48	Mr. Shraman Maiti	Dr. Pradeep Moise	AE	Large-Eddy Simulations of Transonic Buffet
49	Ms. Gorthi Lakshmi Sahitya	Dr. Preeti Malakar	CSE	Study of Variation in Performance under Different Traffic Patterns in CODES Simulator
50	Mr. Shrujal Zala	Dr. Sameer Khandekar	ME	Design and Development of an LED-Halogen Based Hybrid Solar Simulator for Long Term Testing of Solar Thermal Related Devices and Technologies
51	Mr. Ashutosh Jaiswal	Dr. Nilesh Badwe	MSE	Optimization of process parameters for electrodeposition of Nickel silica nanocomposite.
52	Mr. Samridha Majumdar	Dr. N P Gurao	MSE	Crystal Plasticity simulations of FCC single phase synthetic microstructures
53	Mr. Abhinava De	Dr. Adrish Banerjee	EE	Designing Run-Length Limited Codes for ISI Mitigation in a Diffusion-Based Molecular Communication System
54	Ms. PRATITI PRADHAN	Dr. Kamal K Kar	ME	Technological Advancements of Multifunctional Saptaparni Flowers Blooming in IIT Kanpur Campus
55	Mr. Harsh Kumar	Dr. P. Sensarma	EE	Half Bridge Circuit using GaN transistor
56	Mr. Ashutosh Singh Sengar	Dr. Yogesh Singh Chauhan	EE	Simulation of Analog Circuit using Micro-Cap
57	Ms. Suvani Rohatgi	Dr. Kantesh Balani	MSE	To Understand the Interaction of Zinc-Doped Hydroxyapatite (HAp) with Protein (SpA) Using Molecular Dynamics Simulations: NAMD and VMD
58	Mr. Chetan kumar jangir	Dr. Sudeep Bhattacharjee	PHY	Studies on atomically heterogeneous structured surfaces obtained by irradiation with low energy ions generated from microwave plasma
59	Mr. CHANDRAVANSHI SHUBHAM ARUN	Dr. Tushar Sandhan	EE	Palm Recognition using Few-Shot Learning
60	Ms. Aakriti	Dr. Santosh Misra	BSBE	Investigation of the Rhodamine-6G dye loaded liposomes interaction with simulated tear fluid
61	Ms. Janvi anand	Dr. Tufan K. Guha	AE	Development of mechanism for varying wing sweep in blended wing body configuration

62	Mr. ADITYA YADAV	Dr. Ashoke De	SEE	Best Airfoil for Darrieus Vertical Axis Wind Turbine
63	Mr. Gourab Kundu	Dr. Tushar Sandhan	EE	Non-invasive and multimodal sensing for obstacle detection and path planning for UAV
64	Mr. Anubhav Santra	Dr. Somnath Bhowmick	MSE	Accelerating phase-field modelling with machine learning using an Autoencoder and ConvLSTM
65	Ms. NIYA SHARMA	Dr. J RamKumar	ME	Mobile Primary Healthcare Units: Designing Essential Areas and Optimal Form
66	Ms. S SHEVALINI	Dr. Tanmoy Maiti	MSE	Synthesis and Characterization of Strontium and Barium based perovskites for thermoelectric applications
67	Mr. ABHIJIT DAS	Dr. Kanwar S. Nalwa, Dr. Ashish Garg	SEE	Fully Methylammonium-Free Chloride-based Additive For $\gamma$ -FAPbI <sub>3</sub> Stabilization
68	Mr. Reesav Barik	Dr. Umesh Madanan	ME	Enhancement of Natural Convection Heat Transfer Inside an Enclosure with Discrete Heating Sources
69	Ms. SONALI SINGH PARIHAR	Dr. Yogesh Singh Chauhan	EE	Analog Circuit Design and Simulation Using MOSFETs and BJTs
70	Mr. Amaan Ahmed	Dr. Ushasi Roy	ME	Design of a leakproof pressure vessel for studying the effect of hydrogen on linepipe steel
71	Ms. Durgadevi N	Dr. Indranil Chaudhury	MATHS	Theory of $L^p$ spaces and Fourier Transform
72	Ms. Niharika Tiwari	Dr. Ankush Sharma	EE	Studying real-time modelling, simulation & analysis of power systems using RTDS
73	Ms. Soundarya Pravin Kose	Dr. N P Gurao	MSE	ML framework for the prediction of change in mechanical property due to hydrogen embrittlement in steels
74	Mr. Utkarsh Sharma	Dr. Sachin Y. Shinde	ME	Effect of flexible flap length and motion parameters on a flapping foil at zero freestream velocity
75	Ms. Margi Pandya	Dr. Tushar Sandhan	EE	Evaluation of SOTA Models for Semantic Segmentation
76	Mr. Ayush Srivastava	Dr. Abhas Singh	CE	Surface Adsorption of Magnesium onto Fluorapatite
77	Mr. SOMNATH GHOSH	Dr. Ushasi Roy	ME	Designing of leakproof chamber for in-situ mechanical testing in hydrogen atmosphere
78	Mr. Vighnesh Alungal	Dr. Abhas Singh	CE	Remediation of chromium-contaminated agricultural soil through immobilization techniques.
79	Mr. Naga Venkata Siva Kumar Teja	Dr. Kanwar S. Nalwa, Dr. Ashish Garg	SEE	Insitu Chlorine passivation layer for Electron Transport Layer free thermally stable Perovskite Solar Cell
80	Mr. Saikat Saha	Dr. R.Vijaya	PHY	Lens array and its image analysis
81	Mr. Abhishek V	Dr. R. Vijaya	PSE	High reflection coatings and precise measurement of very high reflectance
82	Ms. Aishi Srivastava	Dr. Santanu De	ME	LES of turbulent wall bounded flows using different subgrid scale models

83	Mr. Tatavarty Srikanth	Dr. K. R Guruprasad	ME	Instinctive Behavior of Wearable Robotic Exoskeletons: A Mathematical Model with Impedance Control for Reducing Human Effort in Task Execution
84	Ms. PURBASHA DAS	Dr. Arjun Ramakrishnan	BSBE	Use of Event Related Potentials as an Objective Measure of Attention and Performance in Individuals with Trait Anxiety A Transcranial Direct Current Stimulation Study
85	Ms. Priti Maurya	Dr. Arjun Ramakrishnan	BSBE	Fabrication of paper-based Analytical Biosensor Chip Designed for Cortisol Detection in Human Saliva
86	Mr. Gokulraj M	Dr. Tufan K. Guha	AE	Integrated Camber and Twist morphing for enhanced aircraft performance
87	Ms. Asmita Sood	Dr. BV Rathish Kumar	MATHS	3D U Net Architecture with Attention Mechanism for Brain Tumor Segmentation Using Multimodal MRI Images
88	Mr. Partha Mishra	Dr. Tanmoy Maiti	MSE	Investigating the Formation of High Entropy Perovskites for Thermoelectric Application
89	Ms. Priyanshi Singh	Dr. Krishanu Biswas	MSE	Prediction of phases in Complex Concentrated Alloys using Machine Learning
90	Ms. Yashna Nathwani	Dr. Vipul Arora	EE	Archival Content Retrieval by audio and text query
91	Mr. Aritra Dasgupta	Dr. Indranil Chaudhury	MATHS	Theory and Applications of Convolutions
92	Ms. Pallavi Roy	Dr. Arijit Ganguly	MATHS	Analysis on Manifolds
93	Mr. Adarsh Sharma	Dr. K. Mondal	MSE	Corrosion Behaviour of Cu Containing Rebar in Concrete Pore Solution
94	Ms. Neha Tulshyan	Dr. Krishanu Biswas	MSE	Recovery of rare earth elements from e-waste (hard disk magnets) using EDTA-functionalized chitosan.
95	Ms. Varanasi Radhika Shreya	Dr. Abhilash Patel & Dr. Bishakh Bhattacharaya	EE	Simultaneous Localization and Mapping With Field Robots
96	Mr. Kanav gupta	Dr. Arjun Ramakrishnan	BSBE	Understanding brain-behavior dynamics underlying approach-avoidance conflict through computational lens
97	Mr. THEJUS R VINOD	Dr. Naveen Tiwari	CHE	Mathematical modeling of viscous thread drawing and colloidal thin films
98	Mr. Chouhan Rohit Ramesh	Dr. Ashoke De	AE	Hydrodynamic Stability Analysis Of Flow Over Flat Plate
99	Mr. Akshat Shrivastava	Dr. Sarang Ingole	MSE	Hematite, reduced Graphene oxide composite thin films for Lithium ion batteries
100	Ms. Shruti Sharma	Dr. Anshu Gaur	MSE	Optimization of parametres for the production of CVD-SWCNTs
101	Mr. Sunil Urmal	Dr. Sarang Ingole	MSE	Microfabrication of Silicon Nanowires (Si-NWs) using Metal-Assisted Chemical Etching (MACE)
102	Mr. Anuj Achintya Biswas	Dr. Santosh Misra	BSBE	Optimization of polymer carbon composite for 3D printing based fabrication of biomedical device



103	Mr. Jaskaran Singh Waila	Dr. Hamim Zafar	CSE	A solution to multi-omic data integration with Spatial Retention using a custom Graph Attention Autoencoder Architecture
104	Mr. Dev Juneja	Dr. Amey Karkare	CSE	Vulnerability Detection in Smart Contracts
105	Ms. Garima	Dr. Chunendra K Sahu	CE	Experimental investigation of the percolation behavior of fine particles through packed beds.
106	Mr. SHUBHRAJYOTI PAL	Dr. Sachin Y. Shinde	ME	Quiet cooling by flexible flapping fan
107	Mr. Ronak Lamba	Dr. Anoop Singh	IME	Development and Management of Regulatory Tool
108	Ms. Jyoti	Dr. Aditya Saurabh	ME	Enhancement of liquid jet atomization
109	Ms. Aneesha	Dr. Naren Naik	EE	Towards a photoacoustic simulator

## SURGE-2023 SAARC PARTICIPANT

SNo.	Name	Mentor Name	Mentor Dept.	Abstract Title
1	Mr. Prashant Bastola	Dr. Ashutosh Modi	CSE	Legal Coreference Resolution
2	Mr. Rajesh Chaudhary	Dr. BV Rathish Kumar	MATHS	SURGE project Evaluation System leveraging NLP ML Models and Evaluation Metrics

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## CCE Staff



## SURGE-2023 Participants



***WITH THANKS***

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