



**INDIAN INSTITUTE OF TECHNOLOGY KANPUR**  
**Centre for Continuing Education**  
**SURGE Program**



Date: 07-08-2022

**CERTIFICATE**

This is to certify that the project entitled 'SOAP FILM TUNNEL',  
submitted by VIKAS VARSHNEY as a part of Students-  
Undergraduate Research Graduate Excellence 2022 in online mode offered by the Indian  
Institute of Technology, Kanpur, is a bonafide record of the work done by him/her under my  
guidance and supervision at the Indian Institute of Technology, Kanpur.

**Mentor's Name:** Dr. SACHIN Y. SHINDE

**Department:** Mechanical Engineering

**Indian Institute of Technology, Kanpur**

**Mentor's Signature**



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**SURGE 2022 Student Feedback Form**

Dear SURGE Student,

Now that you are at the end of the SURGE program, it is perhaps time to reflect on your research experience in online mode at IIT Kanpur. We request you to respond to this survey. We need to know your experiences (both the good and the bad), so please be candid! Although your responses will not be anonymous, they will be kept confidential. We would appreciate your responses by before you collect your certificates for the course.

Thank you for your time.

**Head, CCE**

**GENERAL**

1. How did you first learn about the **SURGE Program**?

*(Internet search, flyer to your Institute, research advisor at your school, ...)*

Flyer to my institute

2. Did you participate in any research prior to this summer? If yes, please specify.

NO

**RESEARCH**

*Circle one of the numbers as your response to each of Questions 3-12, 20:*

3. On an average, how many hours per week did you interact with your Mentor and/or Co-Mentor?

5 hours or more      1      ②      3      4      5      25 hours or less

4. Did you attend online research group meetings or participate in discussions with your research group members?

No      1      2      3      ④      5      Yes

5. Did you feel comfortable asking questions to your Mentors and Co-Mentors?

	<b>No</b>				<b>Yes</b>
Mentor	<b>1</b>	<b>2</b>	<b>3</b>	<b>④</b>	<b>5</b>
Co-Mentor	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>⑤</b>

6. What was the benefit you received from your summer research experience in terms of:

	<b>LOW</b>		<b>MEDIUM</b>		<b>HIGH</b>	
Clarification of career path	<b>1</b>	<b>2</b>	<b>③</b>	<b>4</b>	<b>5</b>	
Skill in interpretation of results	<b>1</b>	<b>2</b>	<b>3</b>	<b>④</b>	<b>5</b>	
Tolerance for obstacles faced in research process	<b>1</b>	<b>②</b>	<b>3</b>	<b>4</b>	<b>5</b>	
Readiness for more demanding research	<b>1</b>	<b>2</b>	<b>3</b>	<b>④</b>	<b>5</b>	
Understanding how knowledge is constructed	<b>1</b>	<b>2</b>	<b>3</b>	<b>④</b>	<b>5</b>	
Understanding of the research process in your field	<b>1</b>	<b>2</b>	<b>3</b>	<b>④</b>	<b>5</b>	
Ability to integrate theory and practice	<b>1</b>	<b>2</b>	<b>3</b>	<b>④</b>	<b>5</b>	
Learning ethical conduct in your field	<b>1</b>	<b>2</b>	<b>3</b>	<b>④</b>	<b>5</b>	
Learning laboratory techniques	<b>1</b>	<b>2</b>	<b>3</b>	<b>④</b>	<b>5</b>	
Skill in how to give an effective oral presentation	<b>1</b>	<b>2</b>	<b>3</b>	<b>④</b>	<b>5</b>	
Skill in science writing	<b>1</b>	<b>2</b>	<b>3</b>	<b>④</b>	<b>5</b>	
Self-confidence	<b>1</b>	<b>2</b>	<b>3</b>	<b>④</b>	<b>5</b>	
Learning to work independently	<b>1</b>	<b>2</b>	<b>3</b>	<b>④</b>	<b>5</b>	
Other (please state):	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	

7. How does your undergraduate research experience compare to the expectations you held before you began your project?

Well Below Expectations	<b>1</b>	<b>2</b>	<b>3</b>	<b>④</b>	<b>5</b>	Well Above Expectations
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8. Evaluate the overall performance of your Mentor or Co-Mentor.

***Mentor Name:***

Poor	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>⑤</b>	Excellent
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***Co-Mentor Name:***

Poor	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>⑤</b>	Excellent
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## **OVERVIEW**

9. Please comment on the effectiveness of the following:

	<b>LOW</b>	<b>MEDIUM</b>	<b>HIGH</b>
Writing the research proposal or project plan before coming to IIT Kanpur	<b>1</b>	<b>2</b>	<b>③</b>
Oral presentations	<b>1</b>	<b>2</b>	<b>③</b>
Writing your final technical paper	<b>1</b>	<b>2</b>	<b>③</b>

10. Evaluate your overall research experience in online mode.

(What were the best aspects of the summer research program, and the worst?)

My overall research experience was very nice. I learnt many things in my research project. I explored all the parameters of my project. So, It was very grateful for me to do such kind of research project.

11. Please comment about the 2022 SURGE Program in online mode.

SURGE PROGRAM 2022 in online mode was very nice. It was awesome. My mentor and co-mentor both were always available for me whenever I got stuck.

12. Were you satisfied with the assistance and administrative support provided by the SURGE Office?

YES

### **FUTURE**

13. What are your educational plans beyond your undergraduate degree? Are you considering IIT Kanpur for post-graduate studies?

I have not thought of this yet

14. Did your undergraduate research experience during 2022 SURGE Program influence your plan for postgraduate education?

Yes, due to SURGE Program I understood about If I choose post-graduate studies, then how much effort must be necessary.

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***Thank You!!***



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Date: 07-08-2022

**Student's Declaration**

I hereby declare that this project report titled “ SOAP FILM TUNNEL ”  
submitted towards the completion of online SURGE-2022 Program at IIT Kanpur is an authentic  
record of my work carried out under the guidance of Prof. SACHIN Y. SHINDE  
at IIT Kanpur.

I affirm that the entire report has been written by me and any material taken from other sources  
has been appropriately acknowledged.

**Student Name:** VIKAS VARSHNEY

**Department:** CIVIL ENGINEERING

**Institute Name:** IIT KANPUR

**Student's Signature**