



Department of Electrical and Electronics Engineering

TEDx Talk

How are microchips made?

SPEAKER

George Zaidan
Sajan Saini

 **15 October 2025**
 **3:00 PM - 4:00 PM**
 **B-203**
 **V Sem**

Faculty Coordinator

Ms. Kavitha C H
Senior Assistant Professor - EEE

Dr. Sujitha S
Professor & Head - EEE

TEDx Talk Report

Event Title: How are microchips made?

Organized by: Department of Electrical and Electronics Engineering

Institution: New Horizon College of Engineering

Date: 15 October 2025

Time: 3:00 PM – 4:00 PM

Venue: B-203

Semester: V Semester

Speakers: George Zaidan and Sajan Saini

Faculty Coordinator: Ms. Kavitha C. H (Senior Assistant Professor – EEE)

Head of Department: Dr. Sujitha S (Professor & Head – EEE)

1. Introduction

The Department of Electrical and Electronics Engineering organized an insightful TEDx Talk titled “How are microchips made?” on 15 October 2025. The event was part of the department’s initiative to provide students with exposure to emerging technologies and practical insights into semiconductor manufacturing processes. The session was held at Room B-203 and saw enthusiastic participation from students of the fifth semester. The session aimed to demystify the complex process of microchip fabrication and highlight its significance in the modern world, where microchips power everything from smartphones to automobiles and advanced AI systems.

2. Speaker Profiles

George Zaidan and Sajan Saini, renowned for their expertise in science communication and semiconductor technology, were the guest speakers for the event. Their engaging presentation style and ability to simplify complex concepts made the talk highly impactful for students.

3. Session Highlights

- The session began with a brief history of microchips, tracing their evolution from basic integrated circuits to today’s advanced nanometer-scale processors.
- Speakers explained the semiconductor fabrication process, including: Silicon wafer preparation, Photolithography and etching, Doping and layering, Packaging and testing.
- Real-world applications of microchips in industries such as electronics, medical devices, automotive systems, and space technology were discussed.
- The importance of cleanroom environments and precision equipment in fabrication was emphasized.

- Speakers also touched on current trends such as Moore's Law, nanotechnology, and the shift toward advanced node manufacturing.

4. Student Engagement

Students actively participated through questions on fabrication techniques, job opportunities in semiconductor industries, and the role of microchip technology in renewable energy and AI. The speakers encouraged students to explore internships and higher studies in VLSI and semiconductor engineering.

5. Key Takeaways

1. Microchips are the backbone of modern electronics and play a critical role in everyday technology.
2. Fabrication is a multi-step, precision-driven process involving silicon wafer processing, lithography, doping, and packaging.
3. Cleanroom technology and nanometer-scale engineering are essential for chip manufacturing.
4. The semiconductor industry is a rapidly growing field with vast career opportunities.
5. Interdisciplinary knowledge in electronics, material science, and computer engineering enhances employability in this sector.
6. Continuous innovation in microchip design is crucial to meet the rising demand for faster, smaller, and more efficient devices.

6. Conclusion

The TEDx Talk was an enlightening experience for students, bridging the gap between classroom concepts and real-world applications. It inspired participants to deepen their understanding of semiconductor technology and consider careers in this cutting-edge field. The Department of Electrical and Electronics Engineering successfully created a platform for knowledge exchange and industry awareness, aligning with the institution's commitment to holistic engineering education.



Department of Electrical & Electronics Engineering
 TEDx Talk -Report 2025-26

Sem/Sec	Room Number Faculty Coordinator	Date	Time	Topic	Link
V/A&B	B-203 Prof.Kavitha.C H	15.10.2025	3.00pm- 4.00pm	How are microchips made? - George Zaidan and Sajjan Saini	https://www.youtube.com/watch?v=IkRXpFI RUI4

NAME: <u>D.S. Nitkin</u>
USN: <u>1N423E2066</u>
SEMESTER/SECTION: <u>II/B</u>
SIGNATURE OF STUDENT: <u>Nitkin</u>

TEDx Talk Report

A fascinating glimpse into how microchips the core of all modern electronics are made through hundreds of precise steps on silicon wafers. The speaker explained how materials are deposited, patterned using photolithography, and etched to form microscopic transistors that power devices.



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V/A&B	B-203 Prof.Kavitha.C H	15.10.2025	3.00pm- 4.00pm	How are microchips made? - George Zaidan and Sajan Saini	https://www.youtube.com/watch?v=IkRXpFI RU14

NAME: Pradeep H.P
USN : NH13EE073
SEMESTER/SECTION : 5 / B
SIGNATURE OF STUDENT : <i>Pradeep H.P</i>

TEDx Talk Report

The talk clearly explains the fascinating process behind microchip manufacturing - from sand to silicon wafers & intricate circuit design. The complex nano technology concepts were easy to grasp. It was really impressive how it highlights precision, cleanliness & innovation in the Semiconductor industry.



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NAME: <u>Pradeep A</u>
USN: <u>INH23EE072</u>
SEMESTER/SECTION: <u>Vth sem 'B' section</u>
SIGNATURE OF STUDENT: <u>Pradeep A</u>

TEDx Talk Report

Microchips are complex, tiny "computing cities" that can hold over 50 billion transistors, the foundational switches of digital traffic. They are mass-produced (over a trillion ~~are~~ annually globally) in fabrication plants (fabs) using a technology called photolithography, which constructs all devices on a chip simultaneously.



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TEDx Talk -Report 2025-26

Sem/Sec	Room Number Faculty Coordinator	Date	Time	Topic	Link
VII/A&B	B-205 Prof.Kavitha.C H	15.10.2025	4.00pm- 5.00pm	What If Engineers Are Copycats? Kiran Christopher TEDxMACE	https://www.youtube.com/watch?v=YTSLpi mJbFg

NAME: <u>Surukha / Priyanka / Renuka</u>
USN : <u>INH23EE107</u>
SEMESTER/SECTION : <u>Vth / B</u>
SIGNATURE OF STUDENT : <u>[Signature]</u>

TEDx Talk Report

TEDx is an independent branch of the global TED organization, which stands for Technology, Entertainment & Design. It provides a platform for speakers from around the world to share "ideas worth spreading". One of the most informative TED-Ed talks under the TEDx format was delivered by George Zaidan & Sajjan Saini, titled "How are Microchips Made?". The talk focuses on the science, technology, & precision behind the microchips that power modern electronic devices.