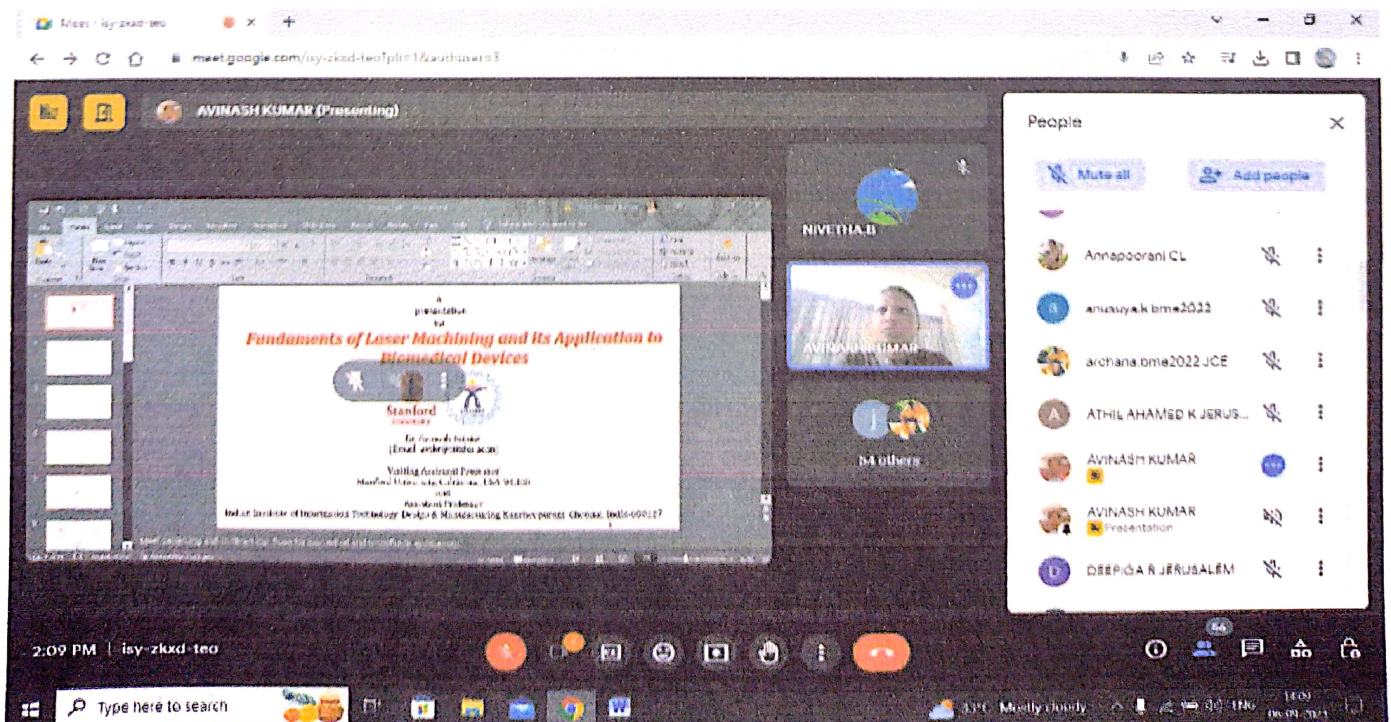
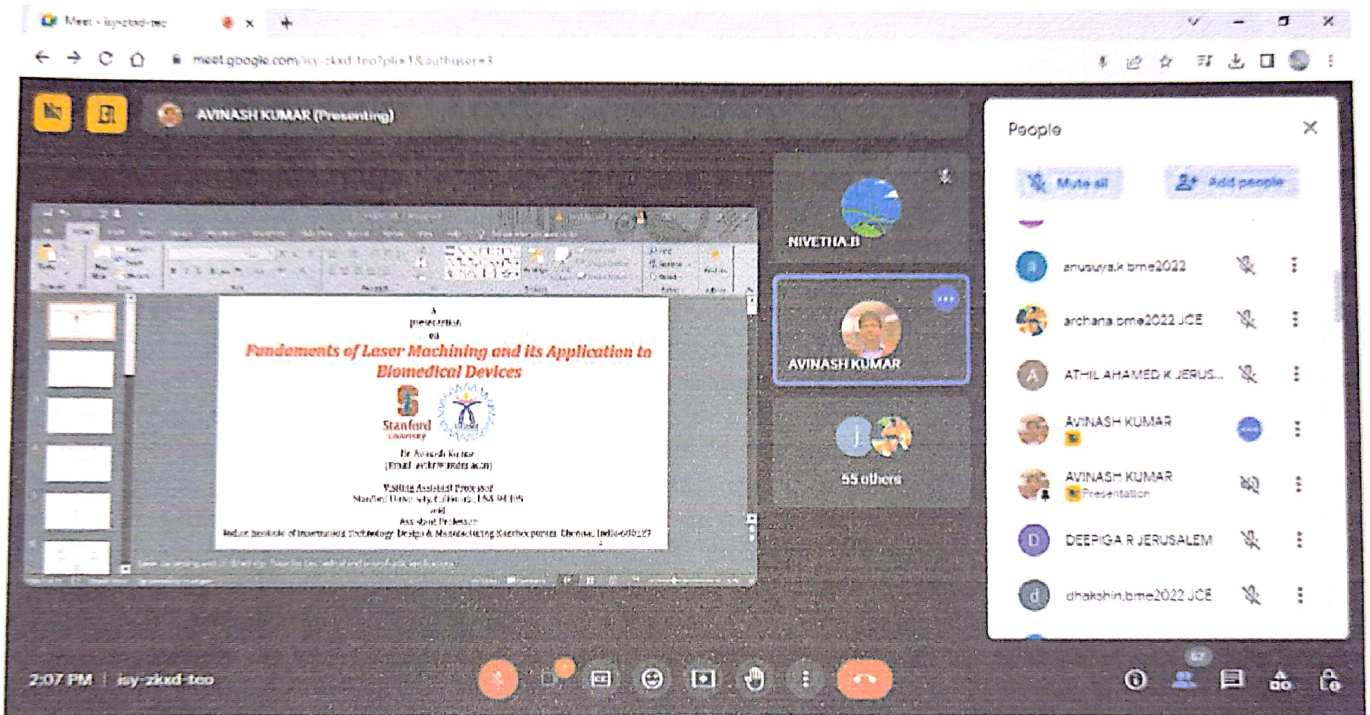
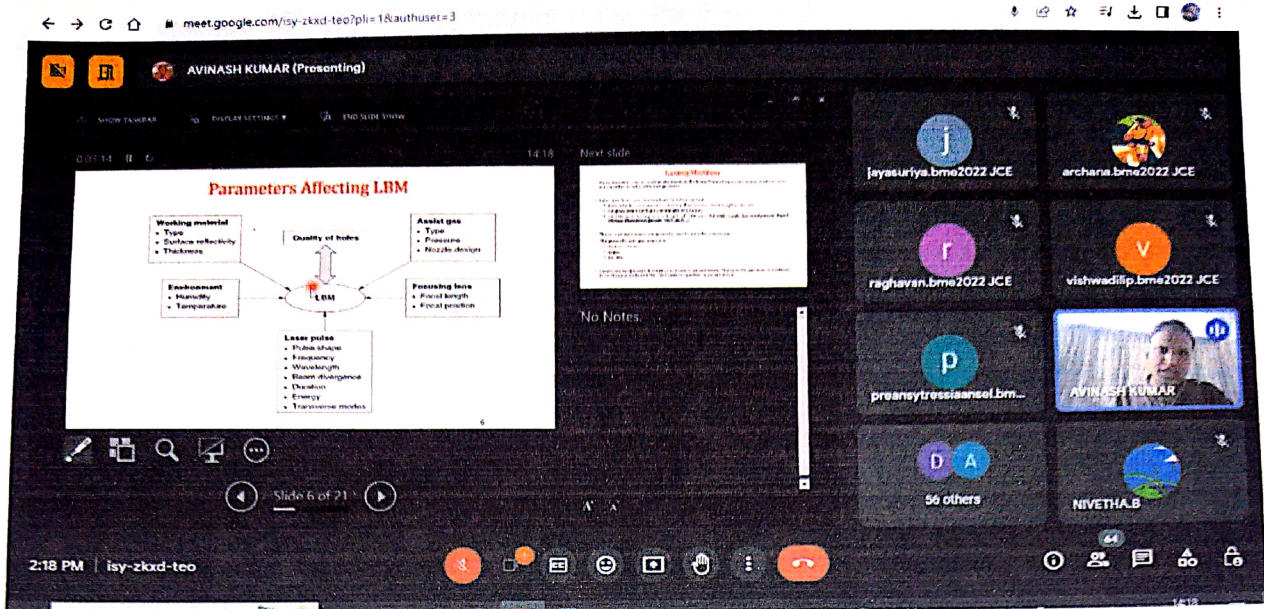


BRIEF REPORT:

Department of Biomedical Engineering has organized an Online Seminar through Gmeet on 06.09.23(Wednesday) from 2pm to 3pm on the topic *“Current trend and future aspects of Laser machining in Biomedical Devices”*.The resource person was **Dr. Avinash Kumar**,Assistant Professor,Department of Mechanical Engineering,Stanford University-California,USA.The photos of the seminar are attached.

PHOTOGRAPHS:





This Seminar have mapped out the complete process for bringing your laser welded application from concept to reality.

TOPICS COVERED:

- Introduction
- What is Laser Plastic Welding Process?
- 1 vs 2 Micron Lasers - What is right for my application?
- Material & Color Considerations
- Design & Part Geometry Considerations
- Molding Considerations
- Production Considerations and Pitfalls

This seminar also showed application examples and machining solutions for the production of consumables and components for medical devices. It covered laser processes and machine solutions that can be used for both – R&D and production purposes of next generation medical devices. No matter if we need to drill, cut or structure glass, polymers or metal – from micrometer scale to roll-to-roll-mass production – with laser technology everything becomes possible. Besides basic knowledge on the advantages of applying laser in health technology and the production of next generation medical devices, this seminar included case studies on the following laser micromachining applications:

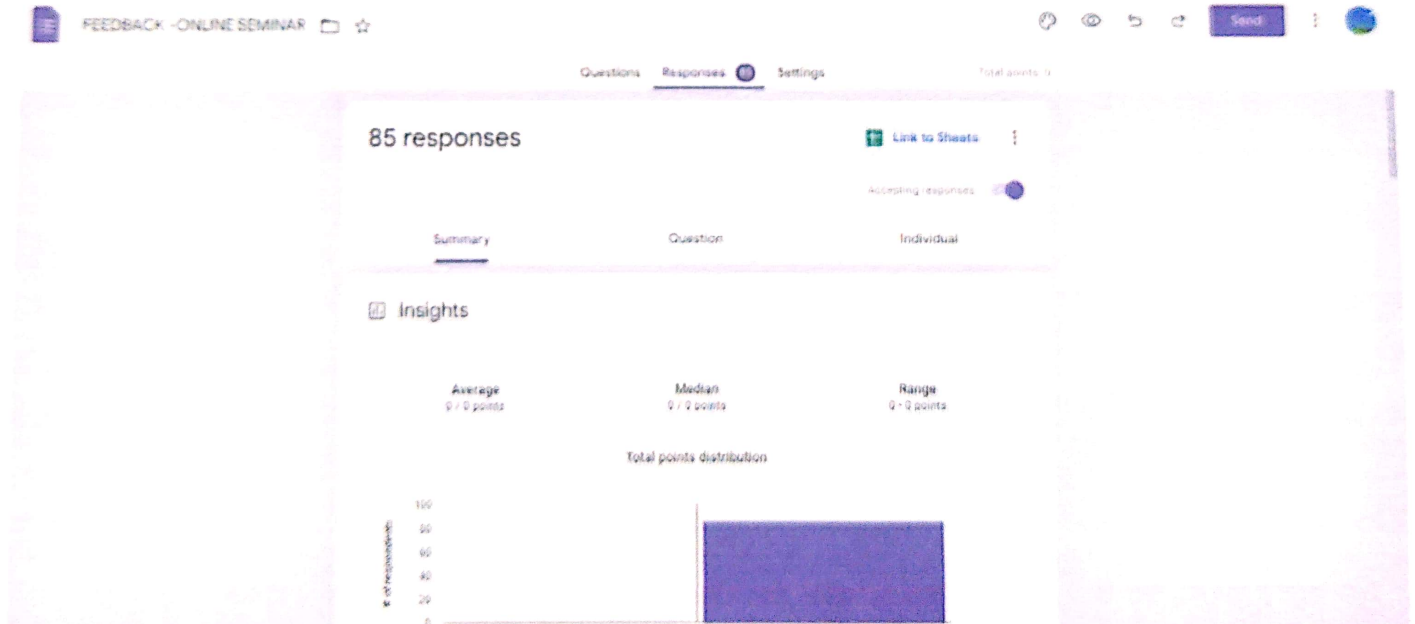
- Glass slides for diagnostics, microscopy, NGS flow cells
- Nebulizers for drug delivery

- **Sensor component manufacturing on flexible or rigid carrier substrates**

Recent advances in biomaterials are helping to enhance the safety, biocompatibility and performance of implantable medical devices across a range of application areas, and also accelerate speed to market. The manufacturing of most medical devices, components, and disposables requires some type of cutting process. Laser cutting is widely used because it can be applied to any material and it delivers unmatched edge quality. Here we look at three important trends in MDM cutting with lasers. These are

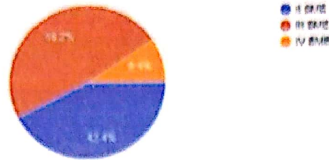
- The rapid growth in femtosecond laser processing
- The increasing demand for integrated solutions rather than home-built machines
- The growing use of specialty metals.

Thanks to rapid technology advancements in recent years, Raman spectroscopy has become a routine, cost-efficient, and much appreciated analytical tool with applications in materials science, optoelectronics, graphene and other 2D materials, biophysics, catalysis and semiconductors.



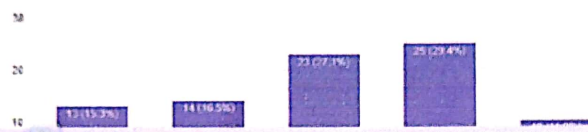
YEAR

83 responses



How would you rate the overall Seminar experience?

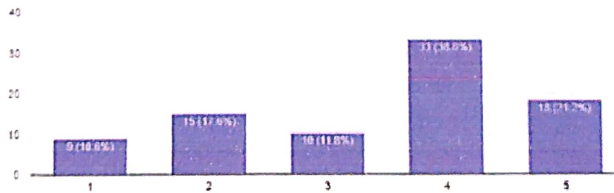
83 responses



GOOD EXPLANATION

How would you rate the content of the Seminar?

85 responses



Coordinator

HoD-BME



JERUSALEM COLLEGE OF ENGINEERING

(An AUTONOMOUS INSTITUTION)

Narayanapuram, Pallikaranai, Chennai - 600100



Department of Biomedical Engineering

Organizes
An Online Seminar on

"Current trend and future aspects of Laser machining in Biomedical Devices"

Dr. Avinash Kumar

Assistant Professor

Department of Mechanical Engineering
Stanford University-California,USA



06 Sep 2023



2:00pm to 3:00pm



G-Meet Online



II,III &IV BME
Students

Ms B Nivetha
Asst.Professor
Coordinator

Dr J Sofia Bobby
HOD,BME
Convener

Dr Ramesh S
Principal

Dr M Mala
Chairperson