MHRD'S INNOVATION CELL (GOVERNMENT OF INDIA)

INSTITUTION'S INNOVATION COUNCIL (Ministry of HRD Initiative)

Report on " Webinar on Advancements and R&D Innovations in Laser-Based Manufacturing Systems"

Title of the Session: " Webinar on Advancements and R&D Innovations in Laser-Based Manufacturing Systems "

Organized By: Institution's Innovation Council (IIC), Swami Vivekananda University, Kolkata

Resource Person: Dr. Vikash Kumar, NIT Calicut
Mode of Delivery: Online
No. of Participants: 60
Date: 13th October 2025
Nationality: Indian
Duration: 6 Hours

Objectives:

- To provide participants with an understanding of recent advancements in laser-based manufacturing technologies.
- To create awareness about ongoing research and development activities in advanced manufacturing systems.
- To bridge the gap between academic learning and industrial applications of laser processing technologies.
- To encourage students and researchers to explore emerging trends in manufacturing innovation.
- To promote a research-oriented mindset among students and faculty members in the field of mechanical and manufacturing engineering.
- To facilitate interaction with experts from reputed institutions and gain insights into current technological developments.

Theme:

"Advancements and R&D Innovations in Laser-Based Manufacturing Systems"

The webinar focused on the latest developments, research trends, and industrial applications of laser-based manufacturing technologies. It highlighted the role of laser systems in improving precision, productivity, material processing capabilities, and innovation across modern manufacturing industries.

Outcome:

- Participants developed a deeper understanding of laser-based manufacturing technologies and their applications.
- Students became familiar with recent research trends and emerging opportunities in advanced manufacturing.

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- The webinar enhanced awareness of the role of laser technologies in improving efficiency, accuracy, and sustainability in industrial production.
- Participants gained knowledge about interdisciplinary research opportunities in manufacturing, materials engineering, and automation.
- The session inspired students to pursue innovation-driven projects and research activities in advanced manufacturing systems.
- Faculty members benefited from exposure to contemporary technological developments, which can support teaching and research initiatives.
- The event strengthened academic-industry-research connectivity by showcasing practical applications of scientific research.

Session Highlights:

- The webinar was jointly organized by the Department of Mechanical Engineering and the Institution's Innovation Council (IIC), Swami Vivekananda University.
- The session was conducted on 13th October 2025 at 2:30 PM.
- The keynote lecture was delivered by **Dr. Vikash Kumar, NIT Calicut**, an expert in advanced manufacturing and laser processing technologies.
- The speaker discussed the fundamentals and evolution of laser-based manufacturing systems.
- Participants gained insights into cutting-edge research and development activities in laser machining, laser welding, laser surface treatment, additive manufacturing, and micro-fabrication processes.
- Real-world industrial applications and case studies were presented to demonstrate the effectiveness of laser technologies in modern manufacturing.
- The session emphasized the importance of innovation, precision engineering, and automation in achieving manufacturing excellence.
- An interactive discussion and question-and-answer session enabled participants to engage directly with the expert and clarify their queries.
- Students and faculty members actively participated, making the webinar informative and engaging.

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Glimpse of the event:





General Participants Feedback:

Participants appreciated the expert presentation and the relevance of the topic to current manufacturing challenges.

Students found the session highly informative and beneficial for understanding advanced manufacturing technologies beyond the classroom curriculum.

Faculty members valued the research insights and industrial perspectives shared during the webinar.

Attendees appreciated the practical examples and case studies that illustrated real-world applications of laser-based systems.

The interactive question-and-answer segment received positive feedback for providing direct engagement with the resource person.

Participants expressed interest in attending more such expert lectures and technology-focused webinars in the future.

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Recommendations:

- Organize a series of advanced manufacturing webinars covering emerging technologies such as additive manufacturing, robotics, Industry 4.0, and smart manufacturing.
- Conduct hands-on workshops and laboratory demonstrations on laser processing techniques to complement theoretical learning.
- Encourage collaborative research projects between universities, research institutions, and industries in the field of advanced manufacturing.
- Invite experts from academia and industry to share practical experiences and technological innovations regularly.
- Promote student participation in research, innovation competitions, and technical projects related to manufacturing technologies.
- Establish industry-academia interactions to provide greater exposure to real-world manufacturing challenges and solutions.
- Facilitate internships and training opportunities in organizations working on laser-based manufacturing and advanced production systems.

Signature of the Convenor with University Seal

Institution's Innovation Council
Swami Vivekananda University

Convener:
Dr. Ranjan Kumar,
Convener, IIC Cell
Associate Professor & Head, Dept. of Mechanical Engineering,
Swami Vivekananda University, Kolkata-700121.

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Webinar on Advancements and R&D Innovations in Laser-Based Manufacturing Systems

Date: 13/10/2025

Sl. No.	Name	Department	Registration No. /Faculty ID	Signature
1	Mrityn Ghorai	MAcanical		Mrityn Ghorai
2	Santanu Roy	MECHANICAL		Santanu Roy
3	Rabindra Nath Manna	Mechanical		Rabindra Nath Manna
4	Suman Mukti	Mechanical		Suman Mukti
5	Dipak Kumar yadav.	Mechanical		Dipak kumar yadav.
6	Subhadeep Mudi	Mechanical		Subhadeep Mudi
7	Joy Bhattacharyay	mechanical		Joy Bhattacharyay
8	Arijit Gayen	Mechanical		Arijit Gayen.
9	Bikash Maity	Mechanical		Bikash Maity
10	Tofan Ghosh.	Mechanical		Tofan Ghosh.
11	SubhamBarman	Mechanical		SubhamBarman
12	Atanu Maji	Mechanical		Atanu Maji
13	Sayan Laya	Mechanical		Sayan Laya
14	Aditya Singh	Mechanical		Aditya Singh
15	Subhodip Gayen	Mechanical		Subhodip Gayen
16	PRAJAY SAHA	Mechanical		Prajay Saha
17	Samayan Halder	Mechanical		Samayan Halder
18	Soumitra Das	Mechanical		Soumitra Das
19	Pradip Bhuia	Mechanical		Pradip Bhuia
20	Sayantan Kamila	Mechanical		Sayantan Kamila
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22	Siddhartha Sankar Das	E.E.		S.S.Das
23	Sarthak Das	E.E		S.D
24	Ahuba Sen.	E.E		Ahuba Sen.
25	Debajyati Dutta	E.E		D. Dutta
26	Riju Das	E.E		R. Das
27	Pabitra Santra	E.E.		P. Santra
28	Sanja kanta Mahato	M.E		Sanja Kanta Mahato
29	Dipak Sarkar	M.E		D. Sarkar
30	Avay Jana	M.E		Avay Jana
31	Iman Bari	M.E		Iman Bari
32	Pritam Ghosh	M.E		Pritam Ghosh
33	Soumya Samanta	E.E		Soumya Samanta
34	Koushik Adhikary.	E.E		Koushik Adhikary.
35	Pritam Paul	M.E		Pritam Paul
36	Nilkamal Biswas	M.E		Nilkamal Biswas
37	Piyush Bhattacherjee	E.E		

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Sl. No.	Name	Department	Registration No.	Signature
38	Shuvosit Patra	M.E		Shuvositpatra.
39	Pritam Chatterjee	M.E		P.C
40	Disha Halder	M.E		Dhalder
41	Subhradeep Paik	M.E		
42	Animesh Mondal	M.E		Animesh Mondal
43	ARVP PAN Anagh	M.E		ARVP
44	Priyoshi Chakraborty	E.E		P.Chakraborty
45	Rimpa Patra	E.E		RPatra
46	Rohit Mehta	M.E		Rohit Mehta
47	Sagar Roy	E.E.		Sagar Roy
48	Soupan Bhattacharjee	M.E		Soupan Bhattacharjee
49	Debendra Hait	M.E		Debendra Hait
50	Soumik Kundu	E.E.		Soumik Kundu
51	Chayan Subhra Basu	E.E.		Chayan S. Basu
52	Anab Bera	M.E		Anab Bera
53	Subhajit Sahoo	M.E		S. Sahoo
54	Uday Mandal.	M.E		Uday Mandal.
55	Soumyajeet Roy	M.E		S. Roy
56	Dibankar Dari	M.E		D. Dari
57	ANIK BISWAS	M.E		A. BISWAS
58	Priyanshu Bonik	E.E		Bonik
59	Utkarsh Kumar Patra	E.E		A. K. Patra
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