



**AICTE TRAINING AND LEARNING (ATAL)  
ACADEMY  
FACULTY DEVELOPMENT PROGRAMME (FDP)  
ON**

**“THE SYNERGY OF SUSTAINABLE  
MANUFACTURING AND INDUSTRY 4.0 TOWARDS  
SUSTAINABLE DEVELOPMENT”**

**FROM  
18TH – 23RD DECEMBER 2023**

**ORGANIZED BY**

**DEPARTMENT OF INDUSTRIAL & PRODUCTION  
ENGINEERING  
SCHOOL OF STUDIES IN ENGINEERING &  
TECHNOLOGY, GURU GHASIDAS VISHWAVIDYALAYA  
(A CENTRAL UNIVERSITY), BILASPUR, CHHATTISGARH  
495009**

Website : [www.new.ggu.ac.in](http://www.new.ggu.ac.in)

**CHIEF PATRON**



**PROF. ALOK KUMAR CHAKRAWAL**  
HONORABLE VICE CHANCELLOR,  
GGV BILASPUR

**PATRON**



**PROF. MANISH SRIVASTAVA**  
REGISTRAR, GGV, BILASPUR

**COORDINATOR**



**PROF. SHARAD CHANDRA SRIVASTAVA**  
DEAN & HEAD  
DEPARTMENT OF IP ENGINEERING  
SOS (E&T), GGV, BILASPUR

**CO-COORDINATOR**



**DR. GANESH PRASAD SHUKLA**  
ASSISTANT PROFESSOR  
DEPARTMENT OF IP ENGINEERING  
SOS (E&T), GGV, BILASPUR

**Registration Process**

- ✓ Registration has to be done only through <https://atalacademy.aicte-india.org/>
- ✓ last date of registration is 05th December 2023
- ✓ There is no Registration fee



**ABOUT GGV BILASPUR**

Guru Ghasidas Vishwavidyalaya is a Central University of India, located in Bilaspur C.G. State, established under Central Universities Act 2009, No. 25 of 2009. Formerly called Guru Ghasidas University (GGU), established by an Act of the State Legislative Assembly, was formally inaugurated on June 16, 1983.

GGV is approved by AICTE and is an active member of the Association of Indian Universities and Association of Commonwealth Universities. Situated in a socially and economically challenged area, the university is appropriately named to honour the great Satnami Saint Guru Ghasidas (born in the 17th century), who championed the cause of the downtrodden and waged a relentless struggle against all forms of social evils and injustice prevailing in the society. The University is a residential cum affiliating institution, having its jurisdiction spread over Bilaspur Revenue Division of the state of Chhattisgarh.



## ABOUT THE FDP

Amid pressing global challenges like climate change and resource depletion, industries worldwide seek sustainable development. The merging of sustainable manufacturing and Industry 4.0 presents a promising pathway. Sustainable manufacturing optimizes processes for eco-social well-being throughout the product lifecycle. Meanwhile, Industry 4.0's digitization and automation offer new levels of productivity and flexibility. This FDP examines their symbiotic relationship, transformative potential, and collaborative strategies for sustainable development. Embracing these paradigms can lead to a thriving and resilient global economy, shaping a greener future that safeguards natural resources while meeting the needs of the present and future generations.



## OBJECTIVES OF FDP

This course aims to provide participants with a comprehensive understanding of sustainable manufacturing, covering principles, eco-friendly materials, energy-efficient processes, and waste reduction techniques. It also explores Industry 4.0 technologies like IoT, Big Data, AI, and smart automation and their potential in driving sustainability. The course identifies intersections between sustainable practices and Industry 4.0, aiming to improve resource efficiency and environmental impact. Participants will learn to integrate sustainability into existing manufacturing processes, guided by Industry 4.0 technologies. The course also covers policy frameworks, encourages collaboration, helps develop action plans for implementation, emphasizes monitoring and assessment, and empowers participants to advocate sustainable development.



## CONTENT OF THE FDP



### THE COURSE CONTENT INCLUDES:

- Methodology For Developing Sustainable System
- Sustainable Supply Chains
  - Reverse Logistics Design
  - Challenges And Barriers In Industry 4.0
- Innovation And Design Thinking
- AI Applications In Manufacturing System
  - Industry 4.0 In Supply Chains
  - Sustainable Supply Chains
- Disruptive Technologies For Customized Manufacturing
- Industry 5.0 With Technology Commercialization
  - Renewable And Distributed Energy Systems
  - Project Planning And Sustainable Management

## WHO CAN PARTICIPATE

This FDP is on contemporary issues and Interdisciplinary, thus it provides an opportunity to faculty members such as Associate Professors, Assistant Professors, PhD Scholars, M. Tech/PG Students of various disciplines of Engineering and Technology

## SELECTION AND CERTIFICATION CRITERIA

Selection will be done based on first-cum first-serve basis and the confirmed candidate will be notified on receipt of registration form latest by 05 December 2023.

The certificates shall be issued to those participants who are registered on ATAL portal [www.aicte-india.org/atal](http://www.aicte-india.org/atal) and attend the program with minimum 80% attendance and marking will be done as per the ATAL guidelines

## ACCOMMODATION

Selected Participants will be provided accommodation in the Institute's Guest House on Self-Payment Basis

## ADVISORY COMMITTEE MEMBERS

- Prof. Mukesh Kumar Singh  
(Professor- Department of Industrial and Production Engineering)
- Mr. C.P. Dewangan  
(Associate Professor, Department of Industrial and Production Engineering)

## PROGRAM DATES



18th to 23rd December, 2023



Department of IP Engineering,  
Guru Ghasidas Vishwavidyalaya  
(A Central University), Bilaspur,  
Chhattisgarh



OFFLINE

## ORGANIZING COMMITTEE MEMBERS

- Mrs. Arpita Roychaudhary (Assistant Professor, Department of Industrial and Production Engineering)
- Dr. Nitin Kumar Sahu (Assistant Professor, Department of Industrial and Production Engineering)
- Mr. Anuraj Singh (Assistant Professor, Department of Industrial and Production Engineering)
- Mr. Somnath Singroual (Assistant Professor, Department of Industrial and Production Engineering)
- Dr. Anu Lal Mahto (Workshop Superintendence)
- Mrs. Disha Dewangan (Assistant Professor, Department of Industrial and Production Engineering)
- Mr. Kailash Borkar (Assistant Professor, Department of Industrial and Production Engineering)
- Dr. Atul Kumar Sahu (Assistant Professor, Department of Industrial and Production Engineering)
- Mr. Kawal Lal Kurrery (Assistant Professor, Department of Industrial and Production Engineering)
- Mr. Pranav Gupte (PhD Scholar, Department of Industrial and Production Engineering)
- Mr. Sanju Kumar Nishand (PhD Scholar, Department of Industrial and Production Engineering)

# ABOUT IPE DEPARTMENT

Department of Industrial & production Engineering was established in the year 1997. Department has well qualified faculty & trained staff. Department has well equipped laboratories for students. The industry training for the students of final year & third year students are arranged to impart practical exposure in the organization like SECL, BHEL, BALCO, JINDAL, CSEB power plants and in other public and private company. Department is also engaged in organizing other activities like seminars, guest lectures, aptitude test, quiz to provide and develop inter personal skills. Every year approximately ten students qualify the national level GATE exam. The passed out students are working in company like RELIANCE ENERGY LTD., BALCO, JINDAL, CSEB, DRDO, ISRO, HAL, and Indian Railways.

### University Initiatives

**GGV at a Glance**

91 Total Awards won	121 Total Projects
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**Swavalambi Chhattisgarh & Incubation Centre**

Total Students: 449	Total Recruiters: 17	Total Startups: 15	Total Awareness Events: 10
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**Progress**

2021-22	590
2020-21	720
2019-20	650
2018-19	550
2017-18	590

**Number of Patents by Year**

2024	3
2022	42
2020	1
2018	1
2016	1

**Number of Patents by Country**

Australian	39
Indian	21
South African	1
German	4

**Status of our Skill Development Cell**

2018-19	6
2019-20	10
2020-21	3
2021-22	6
2022-23	12

**Projects for Seed Money provided by University**

2017-18	0
2018-19	0
2019-20	0
2020-21	0
2021-22	121

**Status of our Skill Development Cell**

2018-19	6
2019-20	10
2020-21	3
2021-22	6
2022-23	12

**Total students by session**

2019-20	7676
2020-21	8779
2021-22	9624

**Passed boys and girls**

Year	Passed boys	Passed girls
2020-2021	1064	1168
2021-2022	1150	1283
2022-2023	1363	1621

**Average passing percentage by session**

2020-2021	73
2021-2022	75
2022-2023	96

**H-index and Citation**

2018	1382
2020	2809
2022	4571

**Awards won by teachers and student for Research & Innovation**

2021-22	91
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**Events Update-**

**MOU Data**

2020-21	5
2021-22	52
2019-20	3
2018-19	1

## ADDRESS FOR CORRESPONDENCE

Department of IP Engineering  
 School of Studies, Engineering & Technology  
 Guru Ghasidas Vishwavidyalaya  
 (A Central University)  
 Bilaspur, Chhattisgarh. Pin-495009

## CONTACT DETAILS

Prof. Sharad Chandra Srivastava  
 Coordinator  
 Dean & Head  
 Department of IP Engineering  
 SoS (E&T), GGV, Bilaspur Chhattisgarh  
 ☎ : 7250306654  
 ✉ : [sharad\\_scs@yahoo.com](mailto:sharad_scs@yahoo.com)

Dr. Ganesh Prasad Shukla  
 Co-Coordinator  
 Assistant Professor  
 Department of IP Engineering  
 SoS (E&T), GGV, Bilaspur Chhattisgarh  
 ☎ : 8889254445  
 ✉ : [ganeshshukla2006@gmail.com](mailto:ganeshshukla2006@gmail.com)



# Departments of Industrial and Production Engineering

Guru Ghasidas Vishwavidyalaya (A Central University),  
Bilaspur, C.G., India



**AICTE Training and Learning (ATAL) Academy**  
**Sponsored**  
**One Week Offline Faculty Development Program (FDP)**

**"THE SYNERGY OF SUSTAINABLE MANUFACTURING  
AND  
INDUSTRY 4.0 TOWARDS SUSTAINABLE DEVELOPMENT"**

## EMINENT SPEAKERS



**Prof. Alok Kumar Chakrawal**  
(Vice-Chancellor, GGV)



**Prof. Gajendra Kumar Adil**  
(IIT, Bombay)



**Prof. Sandeep Mondal**  
(IIT (ISM), Dhanbad)



**Mr. D. P. Singh**  
(Head, Environment Climate Change and  
Sustainability, JSPL, Raigarh)



**Prof. Manish Gupta**  
(MNNIT, Allahabad)



**Prof. Vikas Thakur**  
(IIT, Kharagpur)



**Prof. Om Ji Shukla**  
(NIT, Patna)



**Mr. Alok Kumar Tripathi**  
(GM, NTPC)



**Prof. Suraj Kumar Mukti**  
(NIT, Raipur)



**Prof. Shubham Tripathi**  
(NIT, Jamshedpur)



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FROM  
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## Course Schedule

Date	9:30-12:00	12:00-1:00	1:00-2:00	2:00-4:30	4:30-5:30	
DAY 1 18th Dec 2023 (Monday)	Prof. Alok Kumar Chakrawal (Vice-Chancellor, GGV) (National Education Policy NEP 2020: Implementation, Benefits & Challenges)	Article Discussion	<b>Lunch Break</b>	Prof. Vikas Thakur (IIT, Kharagpur) (Sustainable supply chains equipped with Industry 4.0)	[Hands-On Session] (Life Cycle Analysis) Coordinator	
DAY 2 19th Dec 2023 (Tuesday)	Prof. Suraj Kumar Mukti (NIT, Raipur) (Industry 5.0 with Technology Commercialization)	Article Discussion		Prof. Sandeep Mondal (IIT (ISM), Dhanbad) (Reverse Logistics Design for Remanufacturing)	[Hands-On Session] (Disruptive Technologies for Customized manufacturing) Co-Coordinator	
DAY 3 20th Dec 2023 (Wednesday)	Prof. Shubham Tripathi (NIT, Jamshedpur) (Role of Industry 4.0 paradigm in Supply chain sustainability development)	Article Discussion		Prof. Om Ji Shukla (NIT, Patna) (AI applications in Manufacturing system)	[Hands-On Session] (Renewable and Distributed Energy Systems with EV Integration) Coordinator	
DAY 4 21st Dec 2023 (Thursday)	Prof. Manish Gupta (MNNIT, Allahabad) (Maturity Models in Industry 4.0 / readiness assessment 4.0 / challenges and barriers in Industry 4.0)	Article Discussion		Mr. D. P. Singh (Head, Environment Climate Change and Sustainability, JSPL, Raigarh) (Environment, Climate Change and Sustainability, challenges and way forward)	[Hands-On Session] (Project Planning and Sustainable Management in reference to Industry 4.0) Co-Coordinator	
DAY 5 22nd Dec 2023 (Friday)	Industrial visit			Mr. Alok Kumar Tripathi (GM, NTPC) (Innovation and Design Thinking)		
DAY 6 23rd Dec 2023 (Saturday)	Prof. Gajendra Kumar Adil (IIT, Bombay) (Sustainable Manufacturing Strategies)	Reflection Journal		MCQs, Feedback, Interactions		Valedictory Session