



Program on

PERSPECTIVES OF MACHINING PRESENT AND FUTURE

June 2-7, 2019

by

International Faculty

Dr KNUT SØRBY

Professor

Department of Production and Quality Engineering
Norwegian University of Science and Technology (NTNU),
Trondheim, Norway

Course Coordinators

Dr Vishal Santosh Sharma

Professor, Dept of Industrial and Production Engineering
&

Dr Anish Kumar Sachdeva

Professor, Dept of Industrial and Production Engineering



Organized by

DEPARTMENT OF INDUSTRIAL AND PRODUCTION ENGINEERING

**Dr B R Ambedkar National Institute of Technology Jalandhar- 144011
Punjab, INDIA**

Institute Website: www.nitj.ac.in

OVERVIEW OF THE PROGRAM

In this course present & most recent advances in the fields of machining and advanced manufacturing technology shall be discussed. It will be of especial valuable to production and research engineers, research students and academics.

COURSE CONTENTS

Basic topics of machining

Cutting tool geometry, Mechanism of chip formation, Mechanics of metal cutting, Theoretical determination of cutting forces, Theory of tool wear/Failures of cutting tools, cutting tools/Cutting fluids, Condition monitoring of cutting tools.

Additional topics

- High-accuracy postprocessor for multi-axis machines.
- Reliability of Machine Tool Systems in Aircraft Industry.
- Estimation of Cutting Tool Failure Costs. Estimation of Cutting Tool Failure Costs.
- Inverse kinematics of five-axis machines near singular configurations.
- High-pressure cooling of face-grooving operations in Ti6Al4V.
- Improving high speed flank milling operations in multi-axis machines.
- Minimum Quantity Lubrication

TEACHING FACULTY:



Dr KNUT SØRBY

Professor

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Prof Knut SØRBY completed PhD and Post-doc fellowship from NTNU, Norway. He is also Research adviser at Sandvik Teeness

Prof KNUT SØRBY is having keen interest in Machining processes, He has worked on preparation of control programs for multi-axis machines. Kinematics for multi-axis machines. Efficient processing of complex shaped products. Tool life modelling, machining cost models, optimization of machining efficiency. Milling and turning of nickel based alloys with ceramic cutting tools. He has developed vibration absorbers for cutting tools: Design and optimization of damping systems for machining processes. Modeling and design of damping systems for multiple modes of vibration in boring bars. Theoretical and experimental modal analysis, numerical methods for simulation of time response. Instrumentation and vibration monitoring. Systems for active vibration suppression. He is having membership in academic and professional

committees: - Board member of the Norwegian association for machining technology
- Technical expert for Norwegian Accreditation in laboratory accreditation. He is also Research adviser at Sandvik Teeness

COURSE COORDINATORS:

Dr VISHAL SANTOSH SHARMA

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WHO CAN ATTEND

- Executives, engineers and researchers from industry, services, government organizations, research organizations
- Students (BTech/MTech /MSc/PhD) and Faculty of any branch from academic institutions

REGISTRATION FEES

Participants from abroad: US \$500
Industry/ Research Organizations: Rs. 10,000/-
Academic Institutions: Rs. 2,000/-
Students: Rs. 1,000

DIRECTOR OF THE INSTITUTE

Prof Lalit Kumar Awasthi

HEAD OF DEPARTMENTS

DR AJAY GUPTA

Department of Industrial and Production Engineering

LOCAL GIAN Coordinator

DR S. BAJPAI

Department of Chemical Engineering

Dr B R Ambedkar National Institute of Technology Jalandhar 144011, India
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ABOUT NIT, JALANDHAR

Dr B R Ambedkar National Institute of Technology was established in the year 1987 as Regional Engineering College and was given the status of National Institute of Technology (Deemed University) by the Government of India on October 17, 2002 under the aegis of Ministry of Human Resource Development, New Delhi. The Government of India has declared the Institute as an "Institute of National Importance" under an act of Parliament in 2007. A large number of reputed industrial houses in the country visit the Institute and select the final year students as Engineers/ Management Trainees. As one of the National Institutes of Technology (NIT), the Institute has the responsibility of providing high quality education in Engineering, Technology and Sciences to produce competent technical and scientific manpower for the country. The Institute offers B Tech, M Tech, M Sc, MBA and PhD programs in several disciplines of Engineering, Technology and Sciences.

How to reach us: The Institute is located on the G.T. Road Amritsar bye-pass at a distance of 15 km from the Jalandhar Bus Stand, 12 km from Jalandhar City Railway Station, and 18 km from Jalandhar Cantt Railway Station.

ABOUT DEPARTMENT OF INDUSTRIAL & PRODUCTION ENGINEERING

The Department of Industrial & Production Engineering, Dr. B R Ambedkar NIT Jalandhar has been offering B. Tech in Industrial Engineering since 1989, B. Tech in Industrial and Production Engineering with effect from the batch admitted in 2008, Post- graduate Programme in Industrial Engineering and Manufacturing Technology from year 2001 and 2006 respectively, and Ph. D programme. The research areas of the IPE department are Supply Chain Management, Reliability and Maintenance, Ergonomics, Simulation and Modelling, Quality Management, Energy Management, Renewable Energy, Fracture Mechanics, Non-Traditional Machining, Tools and Metal Cutting, CAD/CAM, Industrial Automation & Robotics.

HOW TO REGISTER

Stage – 1: One time Web (Portal) Registration: Visit GIAN Website at the link: <http://www.gian.iitkgp.ac.in/GREGN/index> and create login User ID and Password. Fill up the blank registration form and do web registration by paying Rs. 500/- online through Net Banking/Debit/Credit card. This provides him/her with life time registration to enroll in any number of the GIAN courses offered.

Stage – 2: Course Registration (Through GIAN Portal): Log in to the GIAN portal with the user ID and Password created. Click on "Course Registration" option given at the top of the registration form. Select the Course titled " PERSPECTIVES OF MACHINING: PRESENT AND FUTURE " from the list and click on "Save" option. Confirm your registration by Clicking on "Confirm Course".

Dr B R Ambedkar National Institute of Technology Jalandhar 144011, Punjab

**REGISTRATION FORM COURSE ON PERSPECTIVES OF MACHINING
PRESENT AND FUTURE
June 2-7, 2019**

Name:
Mr./Ms/Dr. _____
(In capital letters)

Designation/Department/Organization: _____

Address for
Correspondence: _____

E-mail
ID: _____

Field of Specialization: _____

Experience : _____ (in years)

Details of fees _____ Cash/DD/NEFT _____

Signature _____ Date _____

RECOMMENDATION OF THE SPONSORING AUTHORITY:

The applicant is hereby sponsored and will be permitted to attend the GIAN Program, if selected.

Date: _____ Signature and Seal of Sponsoring Authority
Application Form along with requisite fees should be sent to the course
[coordinators :sharmavs@nitj.ac.in,+91-9463010259](mailto:sharmavs@nitj.ac.in)

For more information on other GIAN courses, contact Dr S. Bajpai, Local GIAN
Coordinator, email: bajpais@nitj.ac.in.