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# Alternative fuels : Biofuels

*September 21-26, 2020*



ORGANISED BY

Department of Mechanical Engineering

# Faculty of Engineering & Technology

Gurukul Kangri Vishwavidyalaya, Haridwar INDIA



**About Institute:**

Gurukul Kangri Vishwavidyalaya established in 1902 is a deemed to be university fully funded by the UGC/Govt. of India. It has three Campuses—Main Campus (Haridwar), Kanya Gurukula Campus (Haridwar) and Kanya Gurukula Campus (Dehradun) with eight faculties--Oriental Studies, Humanities, Science, Life Science, Management Studies ,Technology, Engineering & Technology and Medical Science & Health. It was the first Non-British University to be established in India in 1902 by Swami Shraddhanandji after the establishment of Presidency Universities (Calcutta, Madras, Bombay) and Punjab University Lahore. It was established to impart education through the traditional Indian Gurukula System with synthesis between timeless ancient Indian thought and modern science. The distinguished services of this institution to the nation were recognized and University Grants Commission gave it.

In 2015, it was re-accredited by National Accreditation and Assessment Council (NAAC) with A grade.

In 2000, Faculty of Engineering & Technology was established with a view to provide technical education in surroundings of spiritual and Gurukula system of education. Gurukula Kangri Vishwavidyalaya, Haridwar is known in India and abroad for the process of character building of the students through their moral and physical development. Keeping the same ideals in mind, management of the Vishwavidyalaya felt the need of technocrats with strong moral character, superior knowledge, who can serve the nation during this era of transition from materialism to a balance of materialism and spiritualism. At present, it is running B.Tech. in Computer Science & Engineering , Electronics & Communication Engineering ,Electrical Engineering and Mechanical Engineering

**About Department:**

Mechanical Engineering plays a major role in structuring the real world, the systems we use, the means by which we commute and the energy that powers these to deliver the basic necessities of life. Mechanical engineers design, manufacture and maintain machinery used by all disciplines of engineering. This discipline has attracted outstanding individuals and helped in addressing the crucial technical challenges in the contemporary world. The career path of a mechanical engineer is largely determined by individual choice – a unique advantage in an ever-changing competitive world. The Department of Mechanical Engineering came into being in the year 2009 and the first batch of Mechanical Engineers graduated in the year 2013. At present, it offers undergraduate course in various facets of Mechanical Engineering. The department has laboratory and workshop facilities with sophisticated equipment To carry out experiment in all basic areas related to Mechanical and Production & Industrial Engineering.

**Abstract:**

Biofuels are regarded as energy sources with the potential to solve a series of problems related to the climate and sustainability. Expectations are that pursuing policies supporting biofuels will be beneficial for welfare and sustainability in societies. It is convenient to divide the effects of such policies into four categories: Climate effects, other environmental effects, energy security effects, and net economic effects. Reviewing the literature to date reveals that the effects of converting from fossil fuels to biofuels do not necessarily have positive net welfare effects, and the argument to substitute biofuels for fossil fuels is not as obvious as it initially appears to be. Short-run stringent climate policy objectives are proposed to counteract global warming, and increasing the use of biofuels is promoted as an adequate strategy. One important conclusion drawn from recent studies is that biofuels are not entirely carbon neutral, as is commonly assumed. Therefore, the use of biofuels as an instrument in climate policy must be carefully scrutinized before set into play on a global scale.

**Target Audience:**

The training program targets teachers of Uttarakhand and nearby engineering colleges who wish to discover new technologies with hands on experience. We would also connect with remote colleges of Uttarakhand digitally by Google Hangouts etc.

**Expected Outcome:**

- Demonstrate general knowledge and understanding of some of the basic facts, language, concepts and principles relating to Biofuels, in particular the composition and properties and the different ways in which biofuels products have been utilised by humans.
- Demonstrate an understanding of the contribution that science can make to informed debate on issues arising from the use of Biofuels.
- Environmentally friendly techniques for processing and synthesis.
- New techniques for biofuels production.

**Contents:**

- Biofuels
- Types of Biofuels
- Biodiesel
- Bioethanol
- Biogas
- Generation of biodiesels
- Processes for the production.

## Speakers:



Prof. Rintu Banerjee  
IIT Kharagpur



Prof. Jeevan Vachan Tirkey,  
IIT, BHU



Dr. Varun Pratap Singh  
COER Roorkee



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Prof. Pankaj Madan is a multidisciplinary academician with degrees in Production Engineering, Management, Web Technology and Quality Management. Presently, he is Dean, Faculty of Engineering at Gurukul Kangri Vishwavidyalaya, Haridwar. In the past Dr. Madan had taught at University of Southern Queensland in Dubai and has been Visiting Professor to Shaoxing University, China; and the other famous B-school in Southern America, CENTRUM Catolica, University of Peru and also University of Tartu in Estonia, Europe. He is also listed as Premium Educator with Harvard Business School Publishing, Boston. He is an award winner of 'B School Excellence Award' in 'Best Teacher of Operations Management Category' and has been honoured by Chief Ministers of Uttarakhand and Haryana for his literary and social contributions. Prof. Madan has already authored 12 books, supervised 15 Ph.D. scholars. He has conducted more than 500 workshops. He is associated with 15 universities nationally and internationally and other dignified state institutions like public service commission. Dr. Madan is proud member of AIMA, CSI and AOM and is professionally linked with many corporate bodies.



Prof. K.K.S. Mer  
IT Gopeshwar



Prof. R.P. Saini  
IIT Roorkee



Prof. M.R. Ravi,  
IIT Delhi



Prof. Anil Kumar,  
Delhi Technological University,  
Delhi



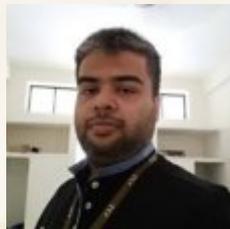
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Dr. Gaurav Dwivedi,  
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### Co-ordinator Details:

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