



AICTE Training and Learning (ATAL)  
Academy sponsored  
One Week  
Online Faculty Development Program  
(FDP)  
on  
“Green Technology and Sustainability  
Engineering”

8<sup>th</sup> -12<sup>th</sup> December 2020

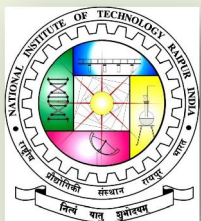
Organized by

AICTE Training and Learning (ATAL)  
Academy



&

Department of Mechanical Engineering  
National Institute of Technology Raipur  
Raipur, 492010, Chhattisgarh



### Chief Patron

Dr. A. M. Rawani, Director, NIT Raipur

### Patron

Dr. (Mrs.) Shubhrata Gupta, Dean (R&C),  
NIT Raipur

### Chairperson

Dr. R. Salhotra  
(HOD Mechanical Engineering)

### Coordinators

Dr. Nisha Netam  
Dr. Vivek Kumar Gaba

### Address for Correspondence

Dr. Nisha Netam  
Assistant Professor  
Department of Mechanical Engineering,  
NIT Raipur, 492010, Chhattisgarh, India.  
Email: nishane.me@nitrr.ac.in  
Mob: +91 9479018172

Dr. Vivek Kumar Gaba  
Assistant Professor  
Department of Mechanical Engineering,  
NIT Raipur, 492010, Chhattisgarh, India.  
Email: vgaba.mech@nitrr.ac.in  
Mob: +91 9406173242

### Invited Speakers

- **Dr. K. S. Reddy**, Professor  
Department of Mechanical Engineering,  
IIT Madras.  
Honorary Professor, Clean Technologies,  
University of Exeter, Penryn, Cornwall, UK
- **Dr. Ashish Shukla**, Asst. Professor  
School of energy Construction and  
Environment Coventry University, UK
- **Dr. Deepak Waikar**, Managing Partner  
Energy Systems, EduEnergy Consultant,  
Singapore.
- **Dr. Udayraj**, Assistant Professor  
Department of Mechanical Engineering,  
IIT Bhilai
- **Dr. Manoj Kumar Gaur**, Professor  
MITS Gwalior
- **Er. Deepak Gadhia**, Chairman  
Sunrise CSP India Pvt. Ltd. Vadodara Gujarat
- **Ms Akanksha Naik**  
Art of living National Teacher  
Certified Yoga trainer
- **Dr. Dharm Pal**, Assistant Professor  
Department of Chemical Engineering, NIT  
Raipur
- **Dr. Ajay Vikram Ahirwar**, Assistant Professor  
Department of Civil Engineering, NIT Raipur

## About the Institute:

**National Institute of Technology Raipur** situated in the capital city of Chhattisgarh, has proven to be 'avant-grade' in the field of science and technology over past few decades in this region. With sweet memory of foundation ceremony by our president Hon'ble Dr. Rajendra Prasad on 14th September 1956. The institute started with two departments namely Metallurgical and Mining Engineering. Later the inauguration of the Institute building was done by our Prime Minister Hon'ble Pt. Jawaharlal Lal Nehru on 14th March 1963. From 1<sup>st</sup> December 2005, the institute has become the National Institute of Technology. It is well connected with Mumbai, Delhi and all metro cities by regular flights and is on the main Howrah-Mumbai railway route. The institute is 5 km from the Raipur railways station and 18 km from airport on NH-6, the Great Eastern Road.

## About Department:

Mechanical Engineering department offers one undergraduate program (**B.Tech.**) in Mechanical Engineering and three Post-graduate programs(**M.Tech.**) in *Thermal Engineering, Machine design and Industrial Engineering & Management*. It is one of the largest departments of the institute with intake of **106** students for undergraduate course and **47** students for post graduate courses. The department also offers **Ph.D.** program in all the relevant specializations of the department.

## Objectives:

The objective of this course is to undertake collaborative educational activities:

- ✓ To develop basic understanding of Energy Scenario.
- ✓ To identify renewable energy sources and their utilization.
- ✓ To understand the basic concepts of solar energy and analyse the working of solar PV and thermal systems.
- ✓ To understand the physics of building and techniques to improve the thermal comfort.

## Experts/Resource Persons

Resource Persons for FDP are from IITs, NITs, Foreign Universities, Industries and other reputed organizations.

## Theme/Scope:

The short-term training program aims to include the following topics:

- Energy scenario.
- Use of natural resources for energy efficiency.
- Sustainable clean and green energy technology innovations.
- Practical application of solar energy: solar desalination, solar PV etc.
- Carbon emission & carbon Credits in global perspective.
- Elements of Green Building.
- Energy efficient materials & its applications
- Passive cooling of building.

## TargetParticipants:

- The faculty members of the AICTE approved institutions
- Research scholars, PG Scholars
- Participants from Government and Industry.
- Staff of NIT Raipur.

## Registration Fee:

There is no registration fee for participants.

## Online registration:

Signup and register using this link

<https://www.aicte-india.org/atal>

## Selection:

The seats are limited to 200 candidates. The preference will be on first-come-first-serve basis. The intimation regarding selection will be sent to the candidates by email as per the schedule.

## Note:

*A test shall be conducted by coordinators at the end of the program. The certificate shall be issued to those participants who have attended the program with 80% attendance and scored minimum 60% marks in the test.*



## Department of Mechanical Engineering National Institute of Technology Raipur

Tentative Schedule of AICTE Training and Learning (ATAL) Academy sponsored **Online** Faculty Development Program (FDP)  
on  
“Green Technology and Sustainability Engineering”

Day	10:00 AM – 10:20 AM		10:30 AM – 12:00 PM		12:15 PM – 01.45 PM		03.00 PM– 04.30 PM
08/12/2020 (Tuesday)	Inaugural Function	1 <sup>st</sup> Break	<b>Session-1</b> Sustainable clean and green energy Technology Innovations-I (Dr. Deepak Waikar)	2 <sup>nd</sup> Break	<b>Session-2</b> Passive Cooling of Building (Dr. V.K.Gaba)	3 <sup>rd</sup> Break (Lunch)	<b>Session-3</b> Sustainability in Engineering Choices or Life Style. (Dr Ashish Shukla)
09/12/2020 (Wednesday)			<b>Session-4</b> Sustainable clean and green energy Technology Innovations-II (Dr Deepak Waikar)		<b>Session-5</b> Heat and mass transfer analysis in solar distillation systems (Dr M.K. Gaur)		<b>Session-6</b> Life Management (Ms Akanksha Naik)
10/12/2020 (Thursday)			<b>Session-7</b> Evaluation of Solar Concentrator Technology in India – Potential and Future (Er Deepak Gadhia)		<b>Session-8</b> Recent advances in solar distillation systems (Dr M.K. Gaur)		<b>Session-9</b> Designing Active Living Envelopes for better Buildings. (Dr Ashish Shukla)
11/12/2020 (Friday)			<b>Session-10</b> Green Energy Technologies for Sustainable Development (Dr K.S. Rdeddy)		<b>Session-11</b> Physics of Building (Dr N.Netam)		<b>Session-12</b> Fuel Cell Technology (Dr Dharm Pal)
12/12/2020 (Saturday)			<b>Session-13</b> Thermal Comfort and Low Energy Cooling Techniques (Dr UdayRaj)		<b>Session-14</b> Environmental Pollution and climate change (Dr. A.V. Ahirwar)		Exam and Valedictory function

Coordinators: Dr. Nisha Netam, Dr. Vivek Kumar Gaba