

## Course Contents

- General Overview of VR & AR technology - History, Types, Concepts
- Hardware and Software components
- Practical applications in different industries: Robotics, Gaming, Healthcare, Entertainment, Construction etc.
- Elements in VR & AR - Haptics, Tracking, Visual perception
- Theoretical Concepts - Geometry Transformations
- Theoretical Concepts - Lights, Optics, Audio
- Training on VR software
- Theoretical Concepts - Visual Perception and Rendering
- VR & AR developments in IPR
- Hand-on Demos and Training - VR & AR
- Role of Virtual and Augmented Reality in Robotics
- Computer vision and human computer interaction in AR and VR

## Scope and the Training Programme

Virtual Reality (VR) is an artificial, computer generated simulation or recreation of a real life environment or situation. It immerses the user by making them feel like they are experiencing the simulated reality first hand, primarily by stimulating their vision and hearing. Augmented Reality (AR) is a technology that layers computer generated enhancements atop an existing reality in order to make it more meaningful through the ability to interact with it. AR is developed into apps and used on mobile devices to blend computer components into the real world in such a way that they enhance one another, but can also be told apart easily. This workshop paves a path to understand both VR and AR

and apply the principles of both in a real-time scenario.

## Eligibility

The programme is open to the Faculty of AICTE approved Institutions, Research Scholars and PG Scholars interested in the field of Augmented Reality and Virtual Reality irrespective of discipline.

## Registration

Only online Registration for the Course through the below link:

<https://forms.gle/NegB6axrxJNSXC8i6>

## Certification

The Certificates shall be issued by AICTE Training and Learning (ATAL) academy to those participants who have attended the program without any absenteeism and scored minimum 60% marks in the test conducted at the end of the workshop.

## Important Dates

Last date (Online Registration): 12-02-2020

Selection list by E-mail: 14-02-2020

Duration: 17-02-2020 to 21-02-2020

## Convener

**Dr. Rosang Pongen**

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## AICTE Training and Learning (ATAL) Academy



**Five Days Workshop**

**On  
AUGMENTED REALITY & VIRTUAL  
REALITY**

**17<sup>th</sup>-21<sup>st</sup> February 2020**

**Patron**

**Dr. S. Venugopal**

Director, NIT Nagaland

**Convener**

**Dr. Rosang Pongen**

Assistant Professor

Mechanical Engineering, NIT Nagaland

**Coordinator**

**Dr. Thingjam Jackson Singh**

Assistant Professor

Mechanical Engineering, NIT Nagaland



**Organized by**

DEPARTMENT OF MECHANICAL ENGINEERING  
NATIONAL INSTITUTE OF TECHNOLOGY NAGALAND

Chumukedima, Dimapur, Nagaland-797103

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

### About the Institute

National Institute of Technology Nagaland (NIT Nagaland) is a higher education technology institute located at Dimapur in Nagaland and was set up by the Government of India in 2009, as part of the Eleventh Five-Year Plan (2007–2012) for imparting technical education in the state of Nagaland. NIT Nagaland is located at Chumukedima, about 14 kilometers from Dimapur, Nagaland. The campus is well connected through proper means of transport and communication. At present there are six undergraduate courses namely Electrical and Electronics Engineering, Electronics and Communication Engineering, Computer Science and Engineering, Civil Engineering, Mechanical Engineering & Electronics and Instrumentation Engineering and five postgraduate courses namely M.Tech in Power System Engineering, VLSI Systems, Computer Science and Engineering, Electronics and Communication Engineering & M.Sc. in Physics, inclusive of PhD studies.

### ATAL Academy

AICTE Training and Learning (ATAL) Academy is established with the vision “To empower faculty to achieve goals of Higher Education such as access, equity and quality”. AICTE is committed for development of quality technical education in the country by initiating various schemes launched by Govt. of India, Ministry of Human Resource Development. Council understand that there is a need of the day to train the young generation in skill sector and having faculty & technicians to be trained in their respective disciplines. Training is required for increasing the knowledge and skills of students to make them more employable to acquire global competencies.

### About the Department

The department of Mechanical Engineering of NIT Nagaland is focused in producing quality Engineers who will play vital roles in various aspects of our society. The Department is determined in imparting the best quality education to its students in obtaining theoretical as well as practical knowledge in its various subjects. Additionally, the student’s will be taught subjects for moulding their communication and aptitude skills. Lastly, the Department also aims in producing students who will extend their contribution in the fields of research. Currently, the department offers Under Graduate and PhD program.

### Resource Person

Resource Persons from Remote Handling and Robotics Technology Development (RHRTD) Division, Institute for Plasma Research (IPR), IIT Madras and NIT Nagaland will be giving the lectures.

1. Mr. Krishan Kumar Gotewal (IPR)
2. Dr. P.V. Manivannan (IIT Madras)
3. Dr. J. Arul Valan (NIT Nagaland)
4. Mr. Pramit Dutta (IPR)
5. Mr. Naveen Rastogi (IPR)

### Organizing Committee

Dr. Amit Kumar Singh, Assistant Professor, ME, NIT Nagaland  
Mr. Kamal Kumar Basumatary, Lecturer, ME, NIT Nagaland

### Instruction

- There is **No Registration Fee**.
- No TA/DA will be paid to any participant.

- Participants will have to make their own stay arrangement during the five days.
- Only tea and lunch will be provided to the participants during sessions.
- For Faculty, the application (hard copy) must be forwarded through the Head of the Institution/Department to the Coordinator.
- Participant will be selected on first come first basis.
- Total number of participants for the course is 50.

### Note:

For Faculty participant, NOC from respective Department is required at the time of Registration.

### Contact us

For any clarifications, please contact:

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To download the Brochure and for latest updates, please visit our Institute Website  
[www.mitnagaland.ac.in](http://www.mitnagaland.ac.in)