

## ABOUT THE INSTITUTE

National Institute of Technology Puducherry (NITPY) situated in 258 acres near village Poovam in Thiruvettakudy, Karaikal, is one of the thirty-one National Institutes of Technology. NIT Puducherry was sanctioned by the Government of India in 2009, as part of the Eleventh Five-Year Plan (2007–2012). National Institute of Technology Puducherry (NITPY), nestled in the scenes of Karaikal, a coastal enclave in the basin of river Kaveri, is one among the ten new NITs in the Union Territory of Puducherry. NITPY is committed to produce effective and responsible technocrats who have the ability to serve the nation on its journey to growth and prosperity.. The institution is at a constant attempt of making endeavors to scale new heights by developing a synergy between studies, research, and consulting/training activities.

## ABOUT THE DEPARTMENT

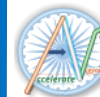
Department of Mechanical Engineering was established in July 2014 with an undergraduate (B.Tech) Program and currently offering PhD program . Dedicated faculty members with expertise in diverse domains of mechanical engineering such as Industry 4.0, Smart Manufacturing, Ergonomics, Design Automation, Energy Engineering, Thermal and Fluid Sciences, which contributes to the department knowledge hub. The department facilitates active industrial projects for students such as IGCAR Kalppakam, Pondicherry Power Corporation Limited Karaikal, etc. With this, the students are made aware of current technologies, innovations and the necessity of industrial collaborations as well as addressing the real world problems. The department also encourages students to participate in sports, cultural activities, co-curricular activities to improve their professional skills and groom them as a all-rounder personalities.

## REGISTRATION AND CERTIFICATION

- Maximum seats: 25 (Selection is based on merit and first come, first serve basis)
- **No registration fee**
- Online registration form link:  
<https://forms.gle/wTZeehQyTunxfy75A>
- Please fill out the above Google form with the requested details and upload the scanned copies Institute Identity Card by **05-04-2024**. Declaration form along with NOC (from the Project supervisor/HoD/Head of the Institution) need to submitted after the selection.
- The candidates will be selected on merit. The selection committee's decision will be final in the selection of candidates.
- The selected candidates will be informed by email before **10-04-2024**.
- The selected candidates will have to acknowledge their participation in the workshop through a return email (on or before **15-04-2024**), failing which the waitlisted candidates may be called to attend the workshop.
- Certificates will be provided to the participants after the successful completion of the workshop.
- Selected participants will be provided with suitable accommodation within the campus during the workshop.
- The participating students will be eligible for TA reimbursement for their journey to the host institute from their home institute, both ways, as per the institute norms.

## IMPORTANT DATES

Last date of Registration : **05-04-2024**  
Intimation to the Selected students : **10-04-2024**  
Acknowledgement of Participation : **15-04-2024**



ACCELERATE  
vigyan



**SERB Sponsored**



**One Week High-End Workshop (Karyashala)**

on

***Immersive Technologies And Wearable  
Devices For Industrial And Engineering  
Applications***

**13<sup>th</sup> to 19<sup>th</sup> May 2024 \***

**(Physical Mode)**

*Chief Patron*

**Dr. Usha Natesan**

Director (i/c)

National Institute of Technology Puducherry

*Patron*

**Dr. S. Sundaravarathan**

Registrar,

National Institute of Technology Puducherry

*Coordinators*

**Dr. J. Ronald Aseer &**

**Dr. M.V.A Raju Bahubalendruni**

Assistant Professor, Mechanical Engineering

National Institute of Technology Puducherry

Organized by

**Department of Mechanical Engineering**

**National Institute of Technology Puducherry**

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## Participants Eligibility Criteria

- Only regular UG(Final Year)/PG/PhD students are eligible to apply.
- Relevant areas of specialization include (but are not limited to): Industry 4.0, AR/VR application, Digital twins, etc.
- The applicants should produce a declaration form and a “No Objection Certificate (NOC)” from the Supervisor/Head of the Department/Institute, allowing their student to undergo training in the workshop if selected.

**Venue:** Department of Mechanical Engineering, NIT Puducherry

**Accommodation:** Suitable accommodation shall be provided within the institute Campus.

**Transport Allowance:** TA shall be reimbursed for the public transport upon submitting the original tickets as per the institute norms.

## About the Karyashala Scheme

KARYASHALA is a program offered by the Science and Engineering Research Board (SERB), Government of India, via Accelerate Vigyan scheme to boost Research & Development in the country by enabling and grooming potential PG level students (masters and Ph.D. students) by developing dedicated research skill in selected areas/disciplines through high-end workshops. This program aims to provide opportunities to acquire specialized research skill.

## About the Workshop

The industries in manufacturing domain are experiencing the substantial changes in the functionalities with the arrival of emerging technologies in Industry 4.0. In the current context, the industries are blooming to satisfy the customer demands in terms of high-quality products, customized products and mass production in minimum time. This has turned into a major challenge for all of the stakeholders to increase their level of perception, competency, and memory for quicker adoption throughout the full product life cycle management. In this context, the embracing of immersive technologies in the industrial environment enables the manufacturer to resolve the challenges with worker cognitive load.

Consequently, this workshop is focusing on explorations of immersive technologies and hands on practices with accessibility of wearable visualization devices for the industrial applications.

At the end of workshop, the participating scholars will be able to explore the potential of immersive technologies in engineering industrial applications.

## Further Details:

Contact:

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- Mr. Inkulu Anilkumar (+91 9494979931)
- Mr. Madhubalan P (+91 9787631697)
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## Objectives Of The Workshop

- a) Enabling the participants to explore the substantial of immersive technologies in the Engineering domain.
- b) Providing exposure to various tracking and registering techniques involved in visualizing the digital content.
- c) Enabling the participants to explore the substantial of Digital twins in the industrial context.
- d) Enabling the participants to explore the wearable visualization devices (i.e. Special head-mounted devices -HoloLens) for a better realistic experience.
- e) Enabling the participants to create AR/VR experience in Unity Game Development Engine through Hands-on training sessions.

## Course Contents

- Creation of VR experience to explore different product design in the virtual world.
- Creation of VR experience (animation) to insight the assembly/ disassembly task involved in the production context.
- Modelling of simple geometries in the unity and tracking in the real context using Vuforia SDK.
- Creation of AR text instruction, annotations and animations for execute the procedural task in the industrial context.
- Development of AR application to detect physical 3D object in the real environment.
- Hand on Experience on HoloLens Exploration

## Resource Persons

Subject Experts from Academic Institutions (like IITs, IISER, NITs, etc.), R&D organizations, and industries will deliver the workshop contents.