



**Centurion
UNIVERSITY**
Shaping Lives...
Empowering Communities...



IFAC Sponsored Three-day Workshop on

Wonders of Control Engineering via Drone Flying and Electric Vehicles

Date: 24-26 October 2024

It is a three-day program designed for the senior high school (pre-undergraduate) students to introduce them the basics of control systems and its wonderful applications. Gram Tarang Inclusive Development Services (GTIDS) is the social entrepreneurial outreach initiative of CUTM. It owns the East India's first and only DGCA Certified Remote Pilot Training Organization (RPTO). Through interactive sessions and hands-on activities, participants will gain an understanding on the theory and practical applications of control engineering, taking drone and electric vehicle operations as a platform to learn.

About Workshop:

The workshop "Wonders of Control Engineering via Drone Flying and Electric Vehicles" is to be conducted at the Centurion University of Technology and Management (CUTM) at Bhubaneswar in collaboration with GTIDS, IISc Bangalore and IIIT Bangalore.

About CUTM:

Centurion University is a leader in "Skill Integrated Higher Education" has recognition as Grade A+ University by NAAC. This university is duly recognized as a pioneer in 'Skill Integrated Higher Education'. Centurion University has both built and participated in building eco-systems that include and integrate the community around its campuses and beyond, industry, entrepreneurs and other education institutions. Centurion aims to be a premier human resource development hub, offering industry-relevant education, skill development, entrepreneurship, and technology. Its education and training delivery approach is:

- Skill Integrated and Employability Linked Teaching/Learning Process
- Focuses/Leverages Industry and Community Partnerships
- Create/co-creates Enterprises

About ACODS:

ACODS is a biennial flagship conference of the Automatic Control and Dynamical Optimization Society (ACDOS*), which is an Indian NMO of IFAC. ACODS 2024 aims to bring together the international community of researchers and practitioners from academia, industry, and research laboratories to disseminate new developments and advances in the control and optimization of dynamical systems. The theme of the conference is broad enough to encompass both theory and applications.

About IFAC:

The International Federation of Automatic Control was founded in September 1957. Our multinational federation is concerned with automatic control and its representation in the fields of engineering, science and the impact of control technology on society. Join us in challenging the new era in electronic communication, publication and exchange of ideas.

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Organizers:

Prof. Sudhansu Kumar Samal, **Asso. Professor, EEE**

Prof. R C Mohanty, **Professor, Dept. of Mechanical**

Prof. Sujata Chakravarty, **Professor, Dept. of CSE**



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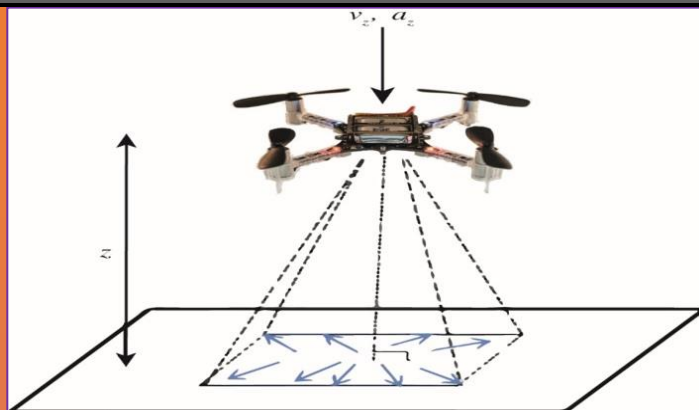
Venue: Auditorium, CUTM Bhubaneswar Campus.

Technical Program

Date: 24-26 October 2024

**Mode of Workshop: Physical
Program Schedule**

Day-1		
09:30 AM - 10:00 AM	Inauguration	
10:00 AM - 11:00 AM	Motivation for Control Systems: Forcing bad systems to behave good	Speaker: Prof. Radhakant Padhi, IISc Bangalore
11:00 AM - 11:30 AM	Break	
11:30 AM - 11:45 PM	Practical Applications of Drones	Speaker: Mr. Bodhisattwa Sanghapriya, IG DRONES, Bhubaneswar, Odisha
11:45 PM - 12:30 PM	Basics of Electric Vehicles	Speaker: Dr. Sudhansu Kumar samal, CUTM Odisha
12:30 PM - 01:00 PM	Understanding different components of a drone (hardware and software level)	Mr. P S V S Sai Kumar and Mr. Yokes K, IISc Bangalore
01:00 PM - 02:00 PM	Lunch Break	
02:00 PM - 04:00 PM	Hands-on Activities: Assembly and setup of drones (in groups)	Mr. P S V S Sai Kumar, Mr. Yokes K and CUTM Drone Pilots and Simulation Team
04:00 PM - 04:30 PM	Tea Break	
04:30 PM - 05:30 PM	<ul style="list-style-type: none"> Introduction to software in the loop (SITL) simulations Demonstration of an example problem: Waypoint flying 	Mr. P S V S Sai Kumar and Mr. Yokes K, IISc Bangalore
Day-2		
09:30 AM - 11:00 AM	Control Systems for Autonomous Vehicles: Drones and Mobile Robots	Speaker: Dr. Sachit Rao, IIIT Bangalore
11:00 AM - 11:30 AM	Control Systems in E-Vehicles	Speaker: Dr. Sudhansu Kumar samal, CUTM Odisha
11:30 AM - 12:00 PM	Tea Break	
12:00 PM - 01:00 PM	Hands-on Activities: Drone Simulations	CUTM Drone Pilots and Simulation Team
01:00 PM - 02:00 PM	Lunch Break	
02:00 PM - 04:30 PM	Drone Flying Experience in separate groups:	
	<ul style="list-style-type: none"> Manual flying of Drones by Experienced Drone Pilots Autonomous Flying of Drones 	CUTM Drone Pilot and Simulation Team. Mr. P S V S Sai Kumar, Mr. Yokes K
04:30 PM - 05:00 PM	Break	
05:00 PM - 05:30 PM	Essentials of Drone Pilot Program	CUTM Drone Pilots and Simulation Team
Day-3		
09:30 AM - 11:00 AM	Mission Autonomy in Aerospace: Role of Advanced Control	Speaker: Prof. Radhakant Padhi, IISc Bangalore
11:00 AM - 11:30 AM	Break	
11:30 AM - 12:30 PM	E-Vehicle Assembly Experience	Speaker: Dr. Sudhansu Kumar Samal and Team, CUTM Odisha
12:30 PM - 01:00 PM	E-Vehicle Driving Experience	Speaker: Dr. Sudhansu Kumar Samal and Team, CUTM Odisha
01:00 PM - 02:00 PM	Lunch Break	
02:00 PM - 03:00 PM	Valedictory Function	
03:00PM - 05:30 PM	ACDOS AGM	
05:30 PM - 07:00 PM	Webinar	



Approach to Venue

From BBSR airport ≈ 30 km

From Bhubaneswar Railway Station ≈ 32 km

From Khordha Road Railway Station ≈ 5 km

*Registration is Mandatory

Register Online
on/before

01-10-2024

Registration Fees

2000 INR

50% Discount for CUTM
Students

Registration Link

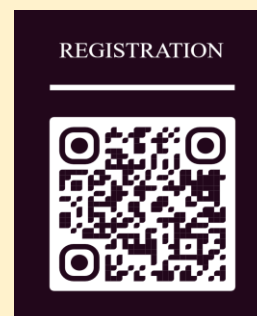
https://docs.google.com/forms/d/1gPS7UOiAfK7Ro7bKE1uqoKsJadV_EdsfJY0rEU4MUbs/edit

*Free Hostel facilities for outside participants

*No Transport Allowances to Participants

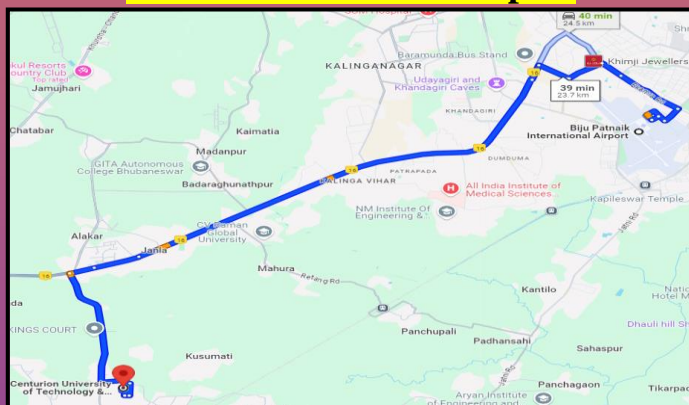
*The CUTM will provide Local Transportation Support
on a demand basis with prior information

*Registration Link/QR Code for Institutions/Colleges

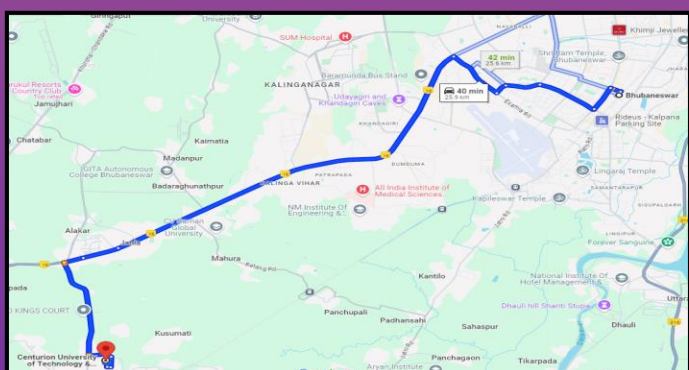


*All Registered Participants will get a Certificate

From Bhubaneswar Airport



From Bhubaneswar Railway Station

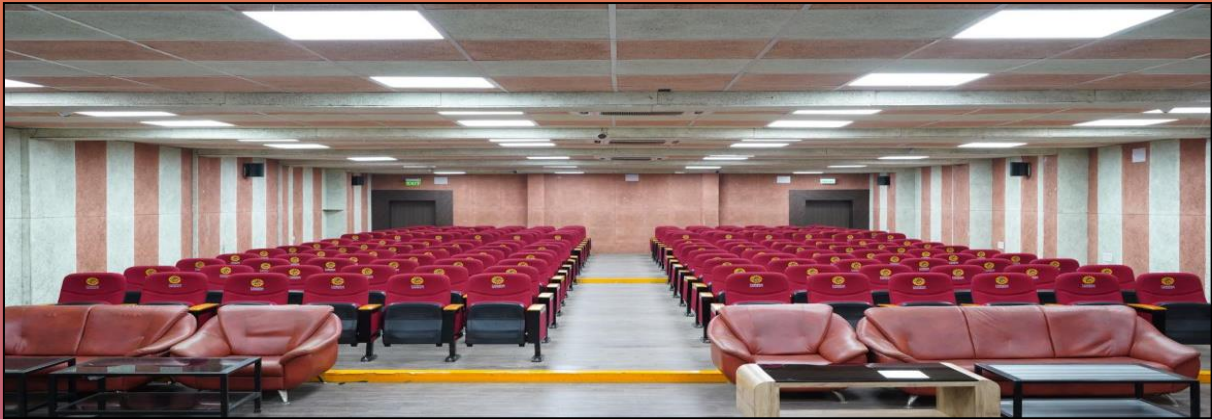


24*7 local transportation available from nearby Railway stations (Taxis and Buses)

Centurion University: Bhubaneswar campus



Auditorium



Drone flying ground



Simulation Lab

