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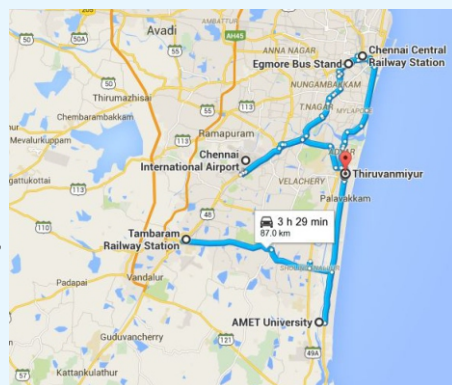
AMET Deemed to be University
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CO-COORDINATOR

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Senior Scientist

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AMET
ACADEMY OF MARITIME EDUCATION AND TRAINING
DEEMED TO BE UNIVERSITY
(Under Section 3 of UGC Act 1956)



TWO DAY NATIONAL WORKSHOP

ON

MARINE CYBER PHYSICAL SYSTEM

April 22-23, 2019

Sponsored by



INTERDISCIPLINARY CYBER PHYSICAL SYSTEM DIVISION

DEPARTMENT OF SCIENCE & TECHNOLOGY

GOVERNMENT OF INDIA, NEW DELHI

VENUE

**SARASWATHI HALL,
THIRD FLOOR, RABINDRANATH TAGORE BLOCK,
AMET DEEMED TO BE UNIVERSITY, CHENNAI**

■ ABOUT AMET DEEMED TO BE UNIVERSITY, CHENNAI

AMET Deemed to be University is India's First Maritime State - of - the Art University devoted to imparting Marine Knowledge and Training to Cadets and Students. It offers a wide range of Maritime and Marine related Under Graduate, Post Graduate and Doctoral programs in Engineering and Technology, Management Studies, Science and Humanities. The various departments of the University covering Marine Engineering, Nautical Science, Electrical and Electronics Engineering, Mechanical Engineering, Harbour and Ocean Engineering, Petroleum Engineering, Naval Architecture and Offshore Engineering, Management Studies, Life Sciences, Physical Sciences etc. are actively pursuing research that are funded by various Government of India and private organizations. In order to promote world class teaching and research, AMET University is having collaborations with reputed National and International Universities and Research Institutions.

■ ABOUT INTERDISCIPLINARY CYBER PHYSICAL SYSTEMS, DEPARTMENT OF SCIENCE & TECHNOLOGY (DST), GOVT. OF INDIA, NEW DELHI

INTERDISCIPLINARY CYBER PHYSICAL SYSTEM (ICPS), DST, Govt. of India, New Delhi is dedicated to the overall Research strategy of promoting and fostering research initiatives and Applications in the country, in developing core generic technologies, tools and algorithms for wider and holistic solution to Underwater and Marine Exploration activities through huge Data Acquisition doctrine and disseminating the voluminous data. ICPS desires that underwater exploration and marine data acquisition should be carried out using state of the art equipment including Remotely Operated Vehicles (ROVs), Sensor Network technologies, communication devices and sensors. ICPS also focuses on developing software applications, core genetic technologies, Web portals of latest trends, algorithm development for handling of collected data with prescribed data formats for sharing across Government and other agencies thus ensuring skill set development for next decade and reaching national and international levels of competence.

■ ABOUT THE WORKSHOP

Marine Cyber Physical System (Marine CPS) is an emerging field and this field refers to Cyber Physical System concept applied to Marine based control and communication systems and is a key technology to enable the development of highly automated and autonomous maritime systems. A Cyber Physical System (CPS) is a mechanism that is controlled or monitored by computer-based algorithms, tightly integrated with the Internet and its users. In Cyber Physical System, physical and software components are deeply intertwined, each operating on different spatial and temporal scales exhibiting multiple and distinct behavioral modalities and interacting with each other in many ways that change with context. Examples of CPS include smart grid, autonomous automobile systems, medical monitoring, process control systems, robotics systems and automatic pilot avionics.

Sea Going Professionals (SGP), Sea Going Correspondence Group (SGCG), Navigators, ship masters, ship cadets, shore side operating personnel, ship board personnel and naval officers require an effective means of communicating with vessels to facilitate safety, security and environmental protection and to provide operational information.

This workshop will focus on the best method of using the various equipment and advanced technologies in different situations through e-navigation mode, collision avoidance mode, and promotion of standards for safe mode and use of automatic indicators.

This Workshop will also address psychological issues in man-machine interface, Marine CPS , Blue economy, Marine CPS-Policy, Legal and regulatory Issues.

■ OBJECTIVES OF THE WORKSHOP

- ◆ To introduce the concept of Cyber Physical System and Marine CPS.
- ◆ To familiarize with the existing maritime and ship based systems and innovative technology.
- ◆ To enlighten the impact of e-navigation as a global resource for improved safety and better navigational capability.
- ◆ To elaborate the aspects of Blue Economy and Maritime Policy.
- ◆ To widen the current Marine CPS – Policy, Legal and Regulatory issues.
- ◆ To develop and introduce the marine systems as Marine CPS model and its efficacy for good decision making in maritime navigation and communication.
- ◆ To discuss on reducing marine emissions, leading to climate change at large.
- ◆ To express the future directions in this field of Marine CPS.

■ AREAS TO BE COVERED

Two Day Marine CPS, Workshop will predominantly cover various perspectives of Marine CPS, Maritime technologies, Impact of e-navigation as a global resource for improved safety, Blue Economy, Maritime Policy, Emission reduction technology, aspects of Policy, Legal and Regulatory Issues related to Marine CPS.

■ WHO SHOULD ATTEND

The target groups of participants are from Merchant Navy, Maritime Departments, Maritime Law Departments, Universities, Maritime R & D organizations and various ports.

■ RESOURCE PERSONS

Resource persons are from

- ◆ Department of Science and Technology (DST)
- ◆ Ministry of Shipping
- ◆ Indian Maritime University (IMU)
- ◆ Chennai Port Trust
- ◆ DRDO Labs viz. NPOL, NSTL etc.
- ◆ National Institute of Ocean Technology (NIOT), Chennai.
- ◆ National Institute of Oceanography (NIO), Goa.
- ◆ Academic Institutions – IIT, Chennai, Anna University, AMET Deemed to be University and other Universities/Engineering Colleges.
- ◆ MNCs and software companies viz TCS, IBM etc.
- ◆ Shipping Corporation of India (SCI)
- ◆ Shipping Companies.