National Institute of Technology Rourkela

Registration Seminar

Seminar Title	: Design, Development and Analysis of Unmanned Underwater Vehicle for Path Planning and Control Navigation using Intelligent Methodology
Speaker	: Priyabrata Barik (Rollno : 522me6014)
Supervisor	: Prof. Dayal Ramakrushna Parhi
Venue	: ME 001
Date and Time	: 29 Apr 2024 (3PM)

Abstract : The research work presents a comprehensive analysis and overview of the state-of-the-art in the field of underwater robotic agents deploying numerous AI methodologies. The techniques reviewed and validated are Fuzzy Logic, Neural Network, Genetic Algorithm, PSO, AI, IoT, Ant Colony, ASO, AAA, ESA and WWO. Several researchers have given their opinion, analysis and findings regarding navigation control, path planning, stability, fault detection and marine resources exploration. The necessity for the applications of unmanned underwater robotic agents have grown as oceanography receives significant attention for environmental challenges, resources, and scientific and military missions. A lot of work has been put forth into creating unmanned underwater vehicles (AUVs & ROVs) and other robotic agents to solve complex engineering and scientific issues brought on by the hazardous and unstructured dynamic marine environment. With the advancement of novel materials, cutting-edge sensors and computer technology, and breakthroughs in artificial algorithms, the unmanned maritime vehicle (UMVs) community has intensified R&D activity. In this paper various AI techniques are analysed and reviewed and these findings can be utilized in the scientific world for a better understanding of the robot control and navigation.