

**3.2.2 Number of books and chapters in edited volumes/books published and papers published in national/ international conference proceedings per teacher during the year**

Sr. No.	Name of the Teacher	Title of the book/chapters published	Title of the paper	Title of the proceedings of the conference	Name of the conference	National / International	Year of publication	ISBN/ISSN number of the proceeding	Affiliating Institute at the time of publication	Name of the publisher
1	Prof. Rupali Gaikwad	Spectrum: Blending Disciplines for Innovative Breakthroughs	Development of Fish-Like Propulsion System	Spectrum: Blending Disciplines for Innovative Breakthroughs	Eudoxia research University, USA	International	2024	979-83-21775-81-3	USA and Eudoxia Research Center, India	Eudoxia Research University
2	Dr. Rajendran D.R. & Prof. Pravin Thorat	Advanced Material & Environment	Experimental Studies of Tabular Solar Stills with and without parabolic Trough Reflector Integration		International Institute of Water	International	2024		International Institute of Water, Jodhpur India	
3	Prof. Rupali Gaikwad & Prof. Sonali Patil	2nd International Conference on Innovative Trends in Engineering and Technology	Design and Analysis of Bi-Metallic Fins	2nd International Conference on Innovative Trends in Engineering and Technology	ICITET 2024	International	2024	978-93-91535-73-5	K J College of Engineering and Management Research, Pune	



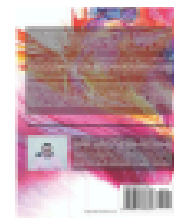
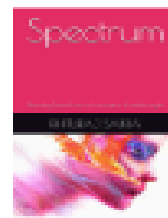
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# **Spectrum: Blending Disciplines for Innovative Breakthroughs Volume 5**

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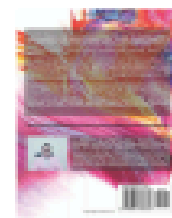
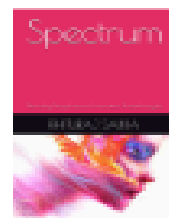
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## 23. Development of Fish-Like Propulsion System.

**Prof. Rupali S. Gaikwad<sup>1</sup>, Mr. Kishor N. Lande<sup>1</sup>, Prof. Sachin V. Mate<sup>2</sup> and Mr. Meghraj J. Sase<sup>1</sup>**

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**Abstract:** This paper presents new fish like propulsion system for ship. Today in the world of globalization, trade relations in between various countries are building up. For all these transportation of goods plays a major role. This type of propulsion system saves time and money. A fish-like propulsion system seems to be an efficient alternative to propellers in small underwater vehicles. So this type of system can stand beneficial for shipping industry. Paper work consist of two prototype scale down model are having conventional propulsion with and other having fish like propulsion with by keeping all other parameters same. The construction of both the types is carried out and is put to testing and comparison and thus results are drawn.

**Keywords:** component; formatting; style; styling; insert



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# Experimental Studies on Tubular Solar Stills with and Without Parabolic Trough Reflector Integration

D.R. Rajendran<sup>1\*</sup>, A. Muthu Manokar<sup>2</sup>, G. Rajesh<sup>3</sup>, Shyam Kumar Chaudhary<sup>4</sup>, Pravin Madhukarrao Thorat<sup>5</sup>

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## Abstract

Freshwater is an indispensable resource, the problem of freshwater shortage is constantly exacerbated by the environmental pollution, global warming and rapid population increase. The recent research and development in the solar stills are one of the solutions to this problem, but they are disadvantaged by their low productivity. In recent years, the emphasis has been placed on various developments in the design of various solar stills to overcome the problem of the low yield traditional solar stills. Tubular solar still (TSS) is one of the results of continuous development in the design techniques of solar stills. A parabolic trough reflector integration in tubular solar still (PTSS) in an attempt to enhance the solar direct normal irradiations on to the tubular still. It is a type of solar thermal collector commonly used in concentrated solar power systems, which has parabolic-shaped reflector that focuses sunlight onto a receiver tube located at the focal line of the parabola. The reflector track the movement of the sun throughout the day, ensuring that sunlight is always concentrated onto the receiver tube (tubular solar still). The experimental set up of with and without parabolic trough reflector were designed, fabricated and tested to study their performances. By analysing the data collected, it is determined that the PTSS model exhibits higher thermal efficiency compared to the existing TSS model, and also the PTSS model is more efficient in converting heat energy into useful work, resulting in improved productivity. The water yield in TSS system is achieved at 1.80 kg/m<sup>2</sup>/day while for MTSS model, it is achieved as 2.70 kg/m<sup>2</sup>/day. The PTSS model has attained 50 % higher yield than that of the TSS model.

**Keywords:** Solar Energy; Tubular solar still; parabolic trough reflector; water yield,

## References

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**Abstract**— Engine is one of the most important components of the automobile, which undergoes various thermal stresses and temperature variables. When fuel is burned in an engine, heat is produced. Additional heat is also generated by friction between the moving parts. Only approximately 30% of the energy released is converted into useful work while remaining 70% must be removed from the engine to prevent the parts from melting. In air cooled engines fins are provided in order to increase the rate of heat transfer and promote rapid cooling. Fin is an extended surface which is used to increase the rate of heat transfer which promotes faster cooling. When fins are used the life and efficiency of the system increases as it prevents from overheating. Even if the base temperature is same the heat transfer rate of different fins configurations is different. By performing thermal analysis we can determine the heat dissipation rate from cylinder to surroundings. The rate of heat dissipation can also be increased by increasing the surface area of the fins but would be inconvenient and difficult to design and fabricate such engine cylinders.

**Keywords**— FEA analysis, Cooling Fins

## 1. INTRODUCTION

In this Paper the internal combustion engine is an engine in which the combustion of a fuel (normally a fossil fuel) occurs with an oxidizer (usually air) in a combustion chamber. In an internal combustion engine, the expansion of the high-temperature and -pressure gases produced by combustion applies direct force to some component of the engine, such as pistons, turbine blades, or a nozzle. This force moves the component over a distance, generating useful mechanical energy.

### 1.1 Brief Idea:

This paper is intended to test and compare various parameters of conventional propeller boats and fish like propulsion boats. For the purpose two scale down models of a boat name as 'CATI89' by Island Design. Only length and weight, these two parameters were used to build the body of the boat. After construction of the body adequate size of the propeller and fish like propulsion units were fitted on the prototype models. The speed of both with 2V DC motor for both



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