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Students Journal Publications

Department of
Mechanical
Engineering

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Department of
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DEVELOPMENT OF WELDING WINDOW FOR UNDERWATER AL – STEEL EXPLOSIVE CLADDING

*Sakthi Bhuvaneshwaran S, Akash R, Punithraj S, Pugazhanthi K, Saravanan S

Department of Mechanical Engineering, Annamalai University, Annamalai Nagar, Tamil Nadu-608002, India

Abstract

This study attempted analytical estimation of the welding domain for underwater explosive cladding of aluminium (Al 5052) - stainless steel (SS304). A welding window, an analytical estimation, can ascertain whether the interface is wavy-like or otherwise. The welding window's lower, upper, left, and right boundaries were constructed using empirical relations suggested by peer researchers. The soundness of the dissimilar clads relates to their closeness to the lower boundary. The interface microstructure is in concurrence with the analytical outcomes.

Keywords: Explosive Cladding, Dissimilar metals, Welding window, Microstructure.

Fabrication and Testing of a Pyramid-Shaped Solar Still with Fins

R S Harisivasankaran¹, M Abirchas², Bebin Siju³,
V Guru Prasath⁴ and S Saravanan⁵

About 40% of the world's population suffer from lack of potable water. The paper attempts to fabricate and test a pyramid-shaped solar still having fins. The conventional solar still serves as the baseline, while the finned design incorporates enhanced heat transfer surfaces to improve productivity. Experiments were conducted during three days in the month of March, and the average results are presented. The higher absorber plate, glass plate and water temperatures were recorded between 12 noon and 1 p.m. in the pyramid solar still having fins. The pyramid-shaped solar still model embraces 3 liters of potable water during the day superior to the conventional still.

Keywords: Solar still, Fins, Thermal performance, Water collection

Special Lectures



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Annamalai University
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Faculty of Engineering and Technology

Department of Mechanical Engineering
BE Degree Program Accredited by NBA

Special Lecture on
Industry Expecting Engineers

Dr. S.KARTHIKEYAN
Professor
Department of Mechanical Engg.
Arunai Engg. College
Thenmathur, Tiruvannamalai

ORGANIZED BY
Institution of Engineers (India)- Students Chapter

Department of Mechanical Engineering

MONDAY
15 JUL 2024

9.45 AM

MEC HALL

Welcome

Dr. S. Karthikeyan, Professor, Department of Mechanical Engineering, Arunai Engg. College, delivered an “Industry Expecting Engineers” for 2nd-year students. The event, held on 15.07.2024, drew 63 participants at MEC Hall, FEAT, Annamalai University.

Dr. N. Alagumurthi, Professor and Former Head, Department of Mechanical Engineering, PTU - Pondicherry, delivered an “Learn and Earn” for 3rd-year students. The event, held on 19.07.2024, drew 71 participants at MEC Hall, FEAT, Annamalai University.



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Motivational Talk on
LEARN AND EARN

Dr. N. Alagumurthi
Professor and Former Head
Department of Mechanical Engg.
Puducherry Technological University
Pondicherry

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Department of Mechanical Engineering

FRIDAY
19 JUL 2024

11.15 AM

MEC HALL

Welcome

Dr. K. Ramesh, Professor and Head, Department of Mechanical Engineering, GCT - Coimbatore, delivered an “Fuel Cell” for 3rd-year students. The event, held on 26.07.2024, drew 68 participants at MEC Hall, FEAT, Annamalai University.



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Special Lecture on
Fuel Cell

Dr. K. Ramesh
Prof and Head
Dept of Mech Engg
Government College Of Technology
Coimbatore

ORGANIZED BY
Institution of Engineers (India)- Students Chapter

Department of Mechanical Engineering

FRIDAY
26 JUL 2024

11.15 AM

MEC HALL

Welcome

Faculty Highlights



As part of the ongoing Faculty Exchange Program under the MoU between our institution and Kumamoto University, Japan, Dr. S. Saravanan, Professor of Mechanical Engineering Department visited Kumamoto University as a Visiting Faculty Member.

National Workshop

Mr. J. Jagan, Chairman, Vector Solutions, delivered a lecture in Three Days National Workshop on “Digital Fabrication, Planning & Designing of Industrial Sheet Metal” for the students. The event, held on 27 to 29.08.2024 at MEC Hall, FEAT, Annamalai University.

The poster is for a workshop organized by the Department of Mechanical Engineering at Annamalai University. It features the university's logo and accreditation by NAAC and NBA. The speaker is Mr. J. Jagan, Chairman of Vector Solutions. The workshop is held from August 27-29, 2024, at the MEC Hall. The poster also includes a list of objectives for the workshop, such as preparing graduates for global challenges, providing a solid base of theoretical knowledge, and creating a conducive environment for learning.

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Three Days National Workshop on
Digital Fabrication, Planning & Designing of Industrial Sheet Metal

27-29 -AUG -2024 MEC HALL

Speaker
Mr.J.JAGAN
Chairman
Vector Solutions

Objectives:
The Mechanical Engineering Department endeavors to be recognized globally for its outstanding education and research leading to well-qualified engineers, who are innovative, entrepreneurial and successful in advanced fields of Mechanical Engineering to cater to the ever changing industrial demands and social needs.

Workshop Objectives:
M1. Prepare the graduates to pursue life-long learning, meet the profession and meet intellectual, ethical and career challenges.
M2. Provide a solid base of theoretical knowledge to the students and faculty with opportunities to create, interpret, apply and disseminate knowledge.
M3. Create the conducive environment with value knowledge in the emerging fields of Mechanical Engineering.
M4. Provide set of skills, knowledge and attitude that will permit the graduates to succeed and deliver to customers and society.
M5. Create a conducive and supportive environment for the overall growth of the students, faculty, staff and staff.

Organized by
Dr.S.Vaidyanathan
Head of the Department
Department of Mechanical Engineering
Faculty of Engineering and Technology
Annamalai University

PhD Viva-Voce

Congratulations on successfully defending theses! The dedication and hard work displayed have led to this achievement, marking an important milestone in their academic journeys.

Ph.D., No.	Date	Name of the scholar	Title	Name of the supervisor
138	15.07.2024	Mr. Venkatesaperumal R	Heat Transfer Investigations on Modified Tube Absorbers of a Solar Parabolic Trough Collector	Dr.K.Syed Jafar
139	19.07.2024	Mr. Yellapragada Naga Venkata Sairam	Experimental Investigation and Characterization of Lanthanum Hexa-Aluminate Reinforced AZ91E Magnesium Alloy Composites	Dr.J.Prabakaran
140	26.07.2024	Mr. Panchamoorthy R	Materials Assessment of Performance and Emission Characteristics using Biodiesel in an Additive Fuelled LHR Engine	Dr.R.Velappan
141	13.09.2024	Mr. Pari N	Performance Investigation on Solar Still Using Phase Change Materials	Dr.R.Karthikeyan
142	27.09.2024	Mr. Premdasu Nalluri	Production Of Oil By Catalytic Pyrolysis Of Waste Polythene Covers And Study Of This Oil Use In Diesel Engine	Dr.P.Premkumar
143	14.10.2024	Mr. Sunil Kumar Reddy	Preparation of Hybrid Aluminium Metal Matrix Composites and Investigation of their Mechanical, Thermal and Tribological Characteristics	Dr.M.Kannan
144	28.10.2024	Mr. Madhan Kumar S	Fabrication and Experimental Investigation to Study The Mechanical Properties and Machining Quality of Glass Fibre Reinforced Aluminium Sandwich Composites	Dr.K.Sivakumar
145	20.12.2024	Mr.Arumugam G	Development and Characterization of Al4032-Bimodal SiC/B4C Composites by Powder Metallurgy Technique	Dr.S.Saravanan(SSV)

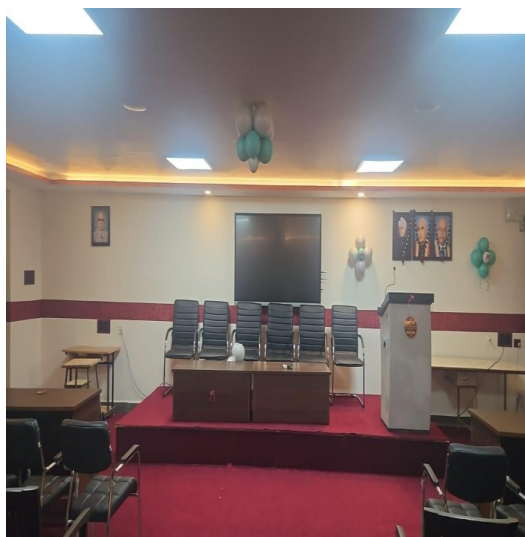
SWAYAM Participations

The following student enrolled and cleared a technical paper in the SWAYAM - NPTEL.

S. No.	Name of the Student	Title	Year	Institute
1	AKASH S	Social Innovation in industry 4.0	III Year	IIT Kanpur
2	ANBARASU S			
3	AVINASH B			
4	MANIMARAN A			
5	MUGESH S			
6	PRIYADHARASHAN A			
7	SANTHOSHKUMAR R			
8	SIVALINGAM J			
9	SIVARAMAN C			
10	SUBRAMANIAN S			
11	SUGANTHAN N			
12	THIRUMALAIRAJAN M			

Alumni Contributions

We gratefully acknowledge the generous contributions made by our alumni towards the development of **VRM Hall**. Their continued support plays a vital role in enhancing our department's infrastructure and fostering a stronger connection between past and present members of our academic community.



ANNAMALAI UNIVERSITY
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ANNAMALAINAGAR-608002

FACULTY OF ENGINEERING AND TECHNOLOGY
DEPARTMENT OF MECHANICAL ENGINEERING
(DST-FIST SPONSORED)

Cordially invites you for the
Opening Ceremony
of

**Prof. VR.MUTHUVEERAPPAN MEMORIAL
SMART CLASS ROOM**

On 18th November 2024, Monday at 12.05 p.m. in the
Ground floor of Diamond Jubilee-Annex building, FEAT

Col. Dr. Prof. RM. KATHIRESAN Ph.D., D.Sc.,
Vice-Chancellor, Annamalai University

has consented to declare open the hall
in the august presence of

Prof. M.PRAKASH, M.Sc. (Agri.), Ph.D.,
Registrar i/c, Annamalai University

ALL ARE CORDIALLY INVITED

Prof. C.KARTHIKEYAN M.Tech., Ph.D.,
Dean, Faculty of Engineering & Technology

Prof.S.VAIDYANATHAN M.E., Ph.D) HOD,
Staff & Students
Department of Mechanical Engg.

Department of Mechanical Engineering

Faculty of Engineering and
Technology,
Annamalai University,
Annamalainagar - 608 002.

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WE'RE ON THE WEB

[HTTPS://WWW.ANNAMALAIUNIVERSITY.AC.IN/E09_INFO.PHP?DC=E09](https://www.annamalaiuniversity.ac.in/E09_INFO.PHP?DC=E09)



VISION:

Mechanical Engineering Department aims for global recognition through world-class education and pioneering research, nurturing engineers adept in leveraging cutting-edge technology for innovative and sustainable solutions to make impactful contributions to society.

MISSION:

1. Prepare the graduates to pursue life-long learning, serve the profession and meet the intellectual, ethical and career challenges.
2. Extend a vital, state-of-the-art infrastructure to the students and faculty with opportunities to create, interpret, apply and disseminate knowledge.
3. Develop the student community with wider knowledge in the emerging fields of Mechanical Engineering.
4. Provide set of skills, knowledge and attitude that will permit the graduates to succeed and thrive as engineers and leaders.
5. Create a conducive and supportive environment for all round of growth of the students, faculty and staff.

PROGRAM EDUCATIONAL OBJECTIVES:

1. Prepare the graduates with a solid foundation in Engineering, Science and Technology for a successful career in Mechanical Engineering.
2. Train the students to solve problems in Mechanical Engineering and related areas by engineering analysis, computation and experimentation, including understanding basic mathematical and scientific principles.
3. Inculcate students with professional and ethical attitude, effective communication skills, team work skills and multidisciplinary approach.
4. Provide opportunity to the students to expand their horizon beyond mechanical engineering.
5. Develop the students to adapt to the rapidly changing environment in the areas of mechanical engineering and scale new heights in their profession through lifelong learning.

Guardians of the Waves: Life-Saving Boats N. Sivarajapandi Final Mech

Life-saving boats stand as indispensable bulwarks against the unforgiving might of the sea, serving as critical vessels in the preservation of human life. From the swift, agile rigid inflatable boats (RIBs) favored by coastguards for their speed and maneuverability in rough waters, to the robust, self-righting lifeboats designed to withstand capsizing and provide shelter for numerous survivors, each type is purpose-built for the challenging environments they operate in. These specialized craft are equipped with an array of vital tools: advanced navigation and communication systems, medical supplies for immediate aid, and often, sophisticated search and rescue equipment like thermal imaging cameras and sonar. The crews who operate these boats are highly trained professionals, possessing not only exceptional seamanship but also the composure and quick decision-making skills essential for confronting perilous situations. Their bravery and dedication ensure that when disaster strikes on the open water, a life-line is always within reach, transforming despair into hope and demonstrating humanity's commitment to protecting those in peril.

