

**Dr.D.MALA**

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**Department of Mechanical Engineering**  
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**RESEARCH AREA:**

**EXPERIMENTAL INVESTIGATIONS ON Al<sub>2</sub>O<sub>3</sub>/ WATER NANOFLUID IN HEAT EXCHANGER WITH DIFFERENT INSERTS**

**➤ EDUCATIONAL QUALIFICATIONS:**

<b>Qualification</b>	<b>Department</b>	<b>Year (From -To)</b>	<b>University</b>	<b>Class</b>
B.E	MECHANICAL ENGINEERING	1993-1997	Madras University	<b>I</b>
M.E	THERMAL ENGINEERING	2003-2005	Anna University	<b>I</b>
Ph.D	MECHANICAL ENGINEERING	2010-2017	Anna University	

**➤ EXPERIENCE:**

<b>Name of the Institution</b>	<b>Designation</b>	<b>From</b>	<b>To</b>	<b>Relived on</b>
UNIVERSITY COLLEGE OF ENGINEERING, PANRUTI	Assistant Professor	01/08/2014	Till Date	
BIT CAMPUS, TIRUCHIRAPALLI	Assistant Professor	15/09/2008	31/07/2014	31/07/2014
SURYA COLLEGE OF ENGINEERING AND TECHNOLOGY	Lecturer	24/07/2008	12/09/2008	12/09/2008
SRI MANAKULA VINAYAGAR ENGINEERING COLLEGE PONDY	Lecturer	05/07/2006	23/07/2008	23/07/2008

SRI VENKATACHALAPATHY POLYTECHNIC COLLEGE	Lecturer	19/08/2002	09/07/2003	09/07/2003
IFET COLLEGE OF ENGINEERING	Lecturer	03-07-1998	10-03-2000	10-03-2000

## ➤ PUBLICATIONS

### BOOK PUBLISHED

Title	Publisher	Year	Details
GREEN MATERIALS AND ADVANCED MANUFACTURING TECHNOLOGY	CRC PRESS,Taylor & Francis Group	2020	Chapter Title:ANFIS- Based Prediction of MRR and Surface Roughness in Electrical Discharge Machining of HAMMC

### PUBLISHED IN JOURNALS

Sl. No.	Title	Level National/International	Year	Details
1	Performance evaluation of a single cylinder diesel engine fuelled with rice bran oil as alternate fuel- INTERNATIONAL JOURNAL OF ENVIRONMENTAL POLLUTION CONTROL & MANAGEMENT	International	2009	vol. 1, no 2, pp. 69-81
2	FUSION WORKING OF HIGH STRENGTH AISI 602 IN SIMILAR AND DISSIMILAR COMBINATIONS - WRI journal	International	2014	pp14-20
3	CONTEMPLATION OF THERMAL CHARACTERISTICS BY FILLING RATIO OF Al2O3	International	2015	no. 57, pp. 533-538

	NANOFLUID IN WIRE MESH HEAT PIPE- International Journal of Applied Engineering Research,			
4	HEAT TRANSFER ANALYSIS OF Al <sub>2</sub> O <sub>3</sub> NANOFLUID IN CIRCULAR TUBE WITH TWO DIFFERENT TWIST INSERT- Journal of Chemical and Pharmaceutical Sciences	International	2015	no. 5,pp. 156-162,
5	HEAT TRANSFER CHARACTERISTICS OF Al <sub>2</sub> O <sub>3</sub> /WATER NANOFLUID IN LAMINAR FLOW CONDITIONS WITH CIRCULAR RING INSERT - Thermal Science	International	2016	vol 20, no 4, pp. S1159-S1168
6	EXPERIMENTAL INVESTIGATION ON HEAT TRANSFER ENHANCEMENT Of Al <sub>2</sub> O <sub>3</sub> /WATER NANOFLUID WITH COMBINATION OF CIRCULAR RING AND TWISTED TAPE INSERT- TRANSIST ONLINE	International	2016	vol. 1,no 4,pp 133-140
7	THERMAL PERFORMANCE OF Al <sub>2</sub> O <sub>3</sub> NANOFLUID WITH CIRCULAR RING INSERT IN PLAIN TUBE - Journal of the Balkan Tribological Association	International	2016	vol. 21, no 4A, pp. 1055-1071
8	INVESTIGATION OF MICROSTRUCTURE AND MECHANICAL PROPERTIES OF MAGNESIUM BASED COMPOSITE MATERIAL- TRANSIST ONLINE	International	2016	vol. 1,no 4,pp 45-50

9	PARAMETRIC OPTIMIZATION FOR HEAT TRANSFER CHARACTERISTICS OF Al2O3/WATER NANOFLUID WITH CIRCULAR RING INSERT BY USING TAGUCHI METHOD-Journal of the Balkan Tribological Association	International	2017	vol. 22, no 4, pp. 3044- 3056.
10	Experimental Assessment to Decrease Diesel NOx Emissions in CI Engine by using Urea Solution- TRANSIST ONLINE	International	2018	vol. 3,no 1,pp 10-12
11	An Experimental Investigation on a Low Heat Rejection Diesel Engine using Waste Plastic oil with different injection timing- Thermal Science	International	2019	ISSN : 0354-9836, pp. 359-359, DOI. ORG / 10.2298 / TSCI190414359P
12	Experimental Performance investigation of partial Stabilized Zirconia coated low heat rejection diesel engine with waste plastic oil as a fuel-Energy Sources, Part A: Recovery Utilization, and Environmental Effects	International	2019	ISSN:1556-7036, DOI.10.1080/15567036. 2019.1683647, pp. 1156-7230
13	PERFORMANCE ANALYSIS OF COMPLIANT POLYMER CENTRIFUGAL CLUTCH PERTAINING TO FRICTIONAL HEAT TRANSFER	International	2019	NO 3,PP 779-792
14	PERFORMANCE, EMISSION AND COMBUSTION CHARACTERISTICS OF LOW HEAT REJECTION DIESEL ENGINE OPERATED BY WASTE PLASTIC OIL AND DIESEL FUEL BLENDS	International	2020	Vol. 26, No 2, 416–427

15	CASHEW NUT SHELL OIL AS ALTERNATE FUEL FOR CI ENGINE – OPTIMIZATION APPROACH FOR PERFORMANCE IMPROVEMENT-Biomass Conversion and Biorefinery	International	2020	doi.org/10.1007/s13399-021-01312-4
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➤ PRESENTED IN CONFERENCES

Sl. No.	Title	Level National/International	Year	Details
1	Heat transfer analysis of Al <sub>2</sub> O <sub>3</sub> nanofluid in circular tube with Copper plate winding	National	2013	National conference on Innovative Research in Materials, Manufacturing and Design, IRMMD 2013 held at Department of Mechanical Engineering, Annai College of Engineering and Technology
2	EXPERIMENTAL STUDY ON HEAT TRANSFER AUGMENTATION OF VARIOUS NANOFUIDS WITH INSERTS	National	2014	TEQIP II & SAEINDIA sponsored National conference on Innovations in Engineering Design, NIED14 held at Department of Automobile Engineering, University College of Engineering(BIT Campus), Tiruchirappalli
3	Development and Realization of a Power Strip Equipped with Charge/Discharge Regulator and Digital MPPT Command in Photovoltaic System using GSM Technology	National	2014	TEQIP II & SAEINDIA sponsored National conference on Innovations in Engineering Design, NIED14 held at Department of Automobile Engineering, University College of Engineering(BIT Campus), Tiruchirappalli

4	Design and Study of Performance Analysis of Modified Solar Water Heating System	National	2014	TEQIP II & SAEINDIA sponsored National conference on Innovations in Engineering Design, NIED14 held at Department of Automobile Engineering, University College of Engineering(BIT Campus),Tiruchirappalli
5	Effect of Filling Ratio on Thermal Characteristics of Heat Pipe using Titanium Oxide Nano fluid	National	2014	TEQIP II & SAEINDIA sponsored National conference on Innovations in Engineering Design, NIED14 held at Department of Automobile Engineering, University College of Engineering(BIT Campus),Tiruchirappalli
6	“Fabrication of Solar Dryer with Stones as Heat Storage Material and Blower Speed Control	National	2014	TEQIP II & SAEINDIA sponsored National conference on Innovations in Engineering Design, NIED14 held at Department of Automobile Engineering, University College of Engineering(BIT Campus),Tiruchirappalli
7	Heat transfer intensification and friction factor characteristics of Al <sub>2</sub> O <sub>3</sub> /water nanofluid in laminar flow conditions with circular ring insert	International	2015	International conference on Advances in Mechanical Engineering ICAME 2015 held at Department of Mechanical Engineering, University College of Engineering Villupuram

8	Contemplation of Thermal Characteristics by filling ratio of Al <sub>2</sub> O <sub>3</sub> nanofluid in wire mesh Heat pipe	International	2015	International conference on Innovative trends in mechanical and Civil Engineering, ICITMC-2015
9	Multi Objective Optimization Of Heat Exchanger Using Al <sub>2</sub> O <sub>3</sub> /Water NanoFluid With Tube Inserts Using RSM Method	International	2018	International conference on Contemporary Design and Analysis of Manufacturing and Industrial Engineering Systems,CDAMIES 2018, held at NIT,Tiruchirapalli
10	A review on Improving Part Load Performance and Emission of a Dual Fuel Diesel Engine	International	2019	International conference on Recent Innovations in Mechanical Engineering ICRIME 2019, held at Francis Xavier Engineering College during 8 March 2019
11	Experimental Assessment to Decrease Diesel NO <sub>x</sub> Emissions in CI Engine by using Urea Solution	National	2018	National conference Recent Research in Mechanical Engineering RRME'18 held at Department of Mechanical Engineering, Adhiparasakthi Engineering College
12	Performance, emission and combustion characteristics of waste plastic oil in LHR diesel engine with different injection timing	International	2019	Recent Trends in Nanomaterials for Energy, Environmental and Engineering Applications held at K.Ramakrishnan College of Technology Trichy, India
13	Combustion and performance characteristics of rapeseed-based biofuel for transportation	International	2020	International Virtual Conference on Recent Innovations in Science and Technology

➤ **RESEARCH GUIDANCE**

**Anna University Supervisor Recognition No:**

<b><u>As Supervisor</u></b>	<b><u>Completed</u></b>	<b><u>Ongoing</u></b>
<b>Ph.D. Scholars</b>	<b>01</b>	<b>03</b>
<b>M.E./ M.Tech. Projects</b>	<b>10</b>	
<b>B.E./ B.Tech. Projects</b>	<b>40</b>	<b>04</b>

➤ **ADDITIONAL / ACADEMIC RESPONSIBILITIES AT UNIVERSITY:**

- Hostel DEPUTY WARDEN from 25/09/2014 to till date at University College of Engineering Panruti.
- Department THERMAL LAB INCHARGE from the Academic Year 2009 to July 2014 at BIT Campus,Tiruchirapalli.
- Department THERMAL LAB INCHARGE from Academic Year 2015 to till date at University College of Engineering Panruti.

➤ **PROFESSIONAL ACTIVITIES:**

**a. Conference/Workshop Organized:**

1. Organised two days seminar on "**A WALK WITH NANO'S CALOR TRANSPORT(AW<sup>2</sup>NCT'13)**" organized by BIT Campus,Tiruchirapalli (TEQIP Sponsored) during 21/10/2013 to 22/10/2013. (2 Days)
2. Organized National Conference on "**Advancements and Futuristic Trends in Mechanical Engineering AFTME 2014**" at University College of Engineering(BIT Campus),Tiruchirappalli during 21-22 April 2014

**b. Invited Lectures/Talks:**

1. Delivered a Technical lecture on the topic "**FIRST LAW OF THERMODYNAMICS AND STEADY FLOW ENERGY EQUATION**" in the Anna University sponsored FDP on Engineering Thermodynamics at M.R.K.Institute of Technology, Kattumannarkoil on 7th June 2016.
2. Delivered a Technical lecture on the topic "**Heat Exchangers**" in the Anna University sponsored FDP on Heat and Mass Transfer at UCEV, Villupuram on 20th June 2018.
3. Delivered a key note address in Technical Symposium "**INSTINX-18**" at Annai Teresa College of Engineering,Tirunavalur on 03 Feb 2018.

➤ **Membership of Scientific and Professional Societies:**

Member of ISTE

➤ **LIST OF SEMINAR / SHORT TERM COURSE /FDP/ WORKSHOP ATTENDED: (WITHIN INDIA)**

- a. Participated in Two weeks FDP on "**RENEWABLE ENERGY SOURCES**" organized by **NITTTR** during 02/07/2018 to 13/07/2018. (12 Days)
- b. Participated in Two weeks FDP on "**ADVANCES IN RESEARCH AND DEVELOPMENT OF INTELLIGENT MOBILE ROBOTS**" organized by **E.G.S.Pillay Engineering College** during 20/11/2017 to 03/12/2017. (14 Days)
- c. Participated in National Symposium on "**RECENT TRENDS IN NANOSCIENCE AND TECHNOLOGY**" organized by **AUT,Tiruchirapalli** on 09/09/2010 (01 Day)
- d. Participated in "**COMPUTATIONAL FLUID DYNAMICS**" organized by **MHRD** during 12/06/2012 to 22/06/2012. (11 Days)
- e. Participated in FDP on "**HEAT and MASS TRANSFER**" organized by **CFD,Anna University Chennai** during 17/12/2012 to 24/12/2012. (08. Days)
- f. Participated in FDP on "**ENGINEERING MECHANICS**" organized by **CFD,Anna University Chennai** during 15/07/2013 to 19/07/2013. (05 Days)
- g. Participated in FDP on "**RESEARCH AVENUES IN WELDING TECHNOLOGY**" organized by **BIT Campus,Tiruchiraplli** (TEQIP Sponsored) during 01/08/2013 to 08/08/2013. (08 Days)
- h. Participated in FDP on "**FINITE ELEMENT ANALYSIS**" organized by **CFD,Anna University Chennai** during 08/12/2014 to 14/12/2014. (7 Days)
- i. Participated in Two weeks FDP on "**ADVANCED MANUFACTURING PROCESS FOR AUTOMOBILES**" organized by **BIT Campus,Tiruchiraplli** (TEQIP Sponsored) during 20/05/2015 to 02/06/2015. (14 Days)
- j. Participated in Workshop on "**MATERIALS CHARACTERIZATION FOR HIGH TEMPERATURE APPLICATIONS**" organized by **BIT Campus,Tiruchiraplli** (TEQIP Sponsored) during 08/03/2016 to 09/03/2016. (2 Days)
- k. Participated in FDP on "**DESIGN OF MACHINE ELEMENTS**" organized by **CFD,Anna University Chennai** during 17/05/2017 to 23/05/2017. (7 Days)

**DECLARATION:**

I CERTIFY THAT THE INFORMATION FURNISHED ABOVE IS CORRECT TO THE BEST OF KNOWLEDGE AND BELIEF.

DATE:

Signature With date