

Hindusthan College of Engineering and Technology, Coimbatore

Department of Mechanical Engineering

RESEARCH CENTRE



Hindusthan College of Engineering and Technology, Coimbatore

About RESEARCH CENTRE – Mechanical Department

The mission of the Department of Mechanical Engineering is to produce mechanical engineering graduates who will possess the acumen, competence, and skills needed to enter, succeed, and lead in professional practice or post-graduate studies. The goal is to provide learning and nurturing environment that stimulates faculty and students to collaborate in solving practical problems, motivate lifelong learning, and help reach their highest potential.

Mechanical Engineering is one of the most creative, broadest and most versatile of the engineering professions. Mechanical Engineers have initiated and implemented commendable progress in innovative areas like robotics, vibration control, energy conversion, energy management, fluid dynamics, power production, manufacturing, computer-aided design, machine design, and material science. Collectively, the faculty has practical experience of solving real problems in these areas and with this experience they help students develop as transformational leaders in Engineering.

Department of Mechanical Engineering offers a two year post graduate M.E course in CAD/CAM as there is a growing importance of application of computers in the field of Mechanical Engineering. Students will learn how to use computer tools in the conception, design, improvement, and analysis of mechanical products, processes, and systems, as well as in the manufacturing area. Computer aided design, Computer Integrated many fracturing and finite element analysis are among the topics in which students specialise.

Anna University approved research supervisors have been working on a plethora of research specialization's span over the following areas:

- Manufacturing Engineering
- Energy Engineering
- Refrigeration and Air Conditioning
- Computational Fluid Dynamics
- Composite Materials and Industrial Engineering
- Welding
- Surface Engineering

S. No.	Name of the Faculty /Designation	Year of Recognition	Area of Specialization	No. of Scholars Pursuing PhD	No. of Scholars Completed PhD
1	Dr.K.Siva	2010	Tribology	2	2
2	Dr.M.Mohanraj	2013	Refrigeration and Air Conditioning	9	7
3	Dr.J.Manikandan	2017	Computational Fluid Dynamics	-	-
4	Dr.P.Jeyalakshmi	2016	Internal Combustion Engineering	4	-
5	Dr.S.Kannan	2017	Material Science	1	-

List of Ph.D Holders in the Department

S.No	Name	University	Year of completion
1	Dr. K. Siva	Anna University, Chennai	2009
2	Dr. M. Mohanraj	Anna University, Chennai	2009
3	Dr. J. Manikandan	Anna University, Chennai	2014
4	Dr. P. Jeyalakshmi	Anna University, Chennai	2014
5	Dr. S. Kannan	Anna University, Chennai	2015
6	Dr. C. Nithyanandam	Anna University, Chennai	2018
7	Dr. Y. Ras Mathew	Anna University, Chennai	2018
8	Dr. V. Senthil Murugan	Anna University, Chennai	2019
9	Dr. K.R.Sakthivel	Anna University, Chennai	2021

Academic Research –Research Area

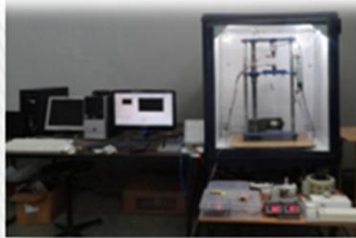
Faculty and Scholars involved in active research are empowering their research skills in the following domain specific areas like

- Renewable Energy
- Metal Castings
- Welding
- Composite material
- Nano Materials
- Photovoltaic Thermal Heat pumps
- Heat Pump desalination
- Solar Air Heater
- Vertical axis Wind Turbine
- Vibration control/NiTiInol alloys
- Environmental Management
- Internal Combustion Engines

Academic Research Laboratory



RESEARCH FACILITIES



**Computer Interfaced
Temperature Control UTM**



Evaporator Cooler



**Experimental setup for
Vibration Testing**



Regenerative Solar Still



**PCM Insulated Hot Water
Storage Tank**



**Forced Convection Solar
Dryer**



**Forced Convection Solar Air
Heater Using Packed Bed
Absorber Plate**



Solar Assisted Heat Pump

Faculty Interaction outside the world



Yesseneov University
Almaty, Republic of Kazakhstan



Satbayev University
Almaty, Republic of Kazakhstan



Al-Farabi Kazakh National University
Almaty, Republic of Kazakhstan



Delivering Lecture in Satbayev University



**Collaborative Research project on Geothermal
Heat pumps**



**Collaborative Research project on Two stage
Cascade Heat pump for space Heating**

Hindusthan College professor listed among World's top 2% scientists !

November 23, 2020 CovaiMail Education Comments Off



#News | **THE COVAI MAIL** | www.covaimail.com   

Prof.M.Mohanraj of Mechanical Engineering Dept from Hindusthan College of Engineering and Technology, Coimbatore (HCET) is listed among the World's Top 2% scientists in the field of Energy.



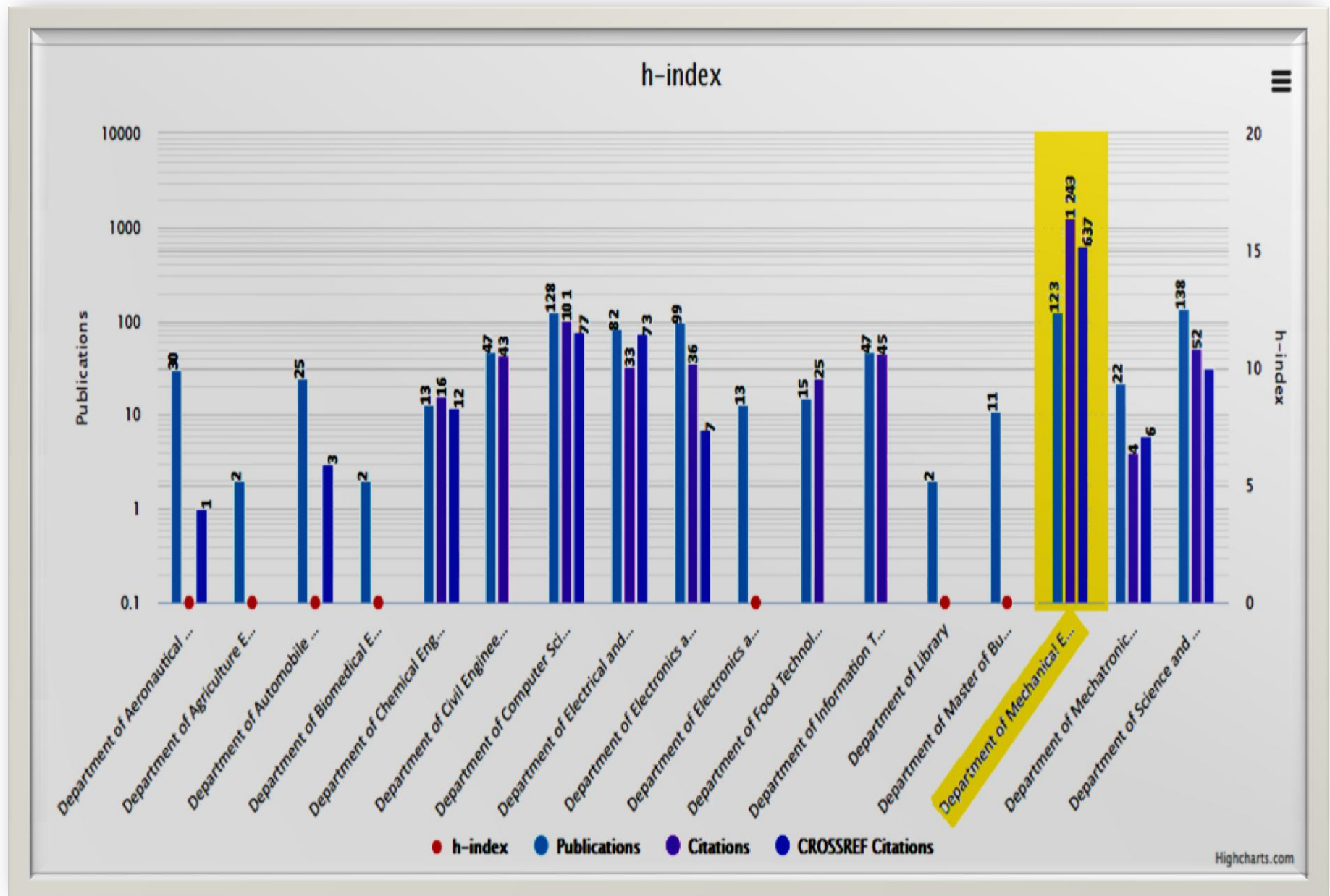
Four consecutive years of being listed in the world's Top 2% Scientists list published by Stanford University (2019, 2020, 2021 & 2022)

Prof.M.Mohanraj of Mechanical Engineering Dept from Hindusthan College of Engineering and Technology, Coimbatore (HCET) is listed among the World's Top 2% scientists in the field of Energy.

HCET shared this news on Monday in a statement mentioning that Prof.Mohanraj is featured among the elite few global scientists' rank list that was released recently by US based Stanford University. The statement further mentioned that Prof.Mohanraj has published 75+ Research Articles in the field of Energy Engineering, Material Science etc.,

Sarasuwathi Khannaiyann, Managing Trustee and Priya Satish Prabu, Executive Trustee and Secretary, Hindusthan Educational and Charitable Trust and Karunakaran, CEO, Hindusthan Educational Institutions congratulated him.

Mechanical Department Faculty – h Index



Faculty Publications

Title	Journals
No. of A-I / A-II and SCI/ESCI Indexed Publications	53
No. of Scopus / UGC Care Publications	53
Others (Non SCI / IEEE Conference / IET Conferences, Books / Book's Chapter)	29
Total	135

Overall Department Google Scholar Citations	Citations	h-index	i-10 index
	4500+	34	70+

Highest Citations	4500+
Highest h- index	34
Highest i10 index	70+
Highest Impact factor	17.0
Average Impact Factor	6

Citation Details- Faculty

S.No.	Name of the Faculty	Citations	h- Index	i10 - Index
1	Dr. K. Siva	235	8	6
2	Dr. M. Mohanraj	4399	34	60
3	Dr. J. Manikandan	11	2	0
4	Dr. P. Jeyalakshmi	29	2	1
5	Dr. S. Kannan	61	4	2
6	Dr. C.Nithyanandam	10	2	0
7	Dr.V.Senthilmurugan	51	3	2
8	Mr. D.Amalraju	27	1	1
9	Mr. L.Karthick	54	4	1
Total		4877	60	73

MSME - Funded Incubator Ideas

S.No	Name of the Incubatee	Proposed Project Idea of Innovation	Project Cost
1	Ms.Jayanthi S	Smart Coconut Harvesting Device	12.5 Lakhs
2	Dr.Ras Mathew Yanose	Tail Guided Vertical Axis Wind Turbine	14.0 Lakhs
3	Mr.M.Yavana Chandran	Advanced Welding Holder	5.20 Lakhs
4	Mr.Surya Narayanan	Portable Water Purifier	6.00 Lakhs

AICTE/MODROBS

S.No.	Title of the Project	Name of the Principal Investigator with designation	Cost in Rs. (Lakhs)
1	Modernisation & Removal of Obsolescence in CAD/CAM Lab	Dr.K. Siva Professor and Head	9.47 Lakhs

Funded Projects / Consultancy

Name of the Faculty	Project Title	Funded / Research/ Consultancy	Funding Agency	Amount in Lakhs	Duration
Dr.M.Mohanraj (CO-PI)	Development and Testing of Solar auto cascade heat pump for water heating applications	Research	Centre for Science & Technology, Evaluation Republic of Kazakhstan,.	62	3
Dr.M.Mohanraj (CO-PI)	Development testing and standardization of heat pump water heaters using solar photovoltaic-thermal hybrid evaporators	Research	DST	38.5	3 years
Dr.K.Siva Dr.M.Mohanraj Mr.Y.Rasmathew	Five Innovative projects selected by local Coimbatore MSME and submitted to MSME, Delhi for final approval	Research	MSME	34.55	Waiting for funding
Dr.K.Siva	MODROBS- Modernization & Removal of Obsolescence	Research	AICTE	9.4	Completed
Dr.Y.Ras Mathew	Advanced Welding Holder	Research	MSME	5.25	Ongoing

Name of the faculty	Project Title	Project Type Research/ Consultancy	Funding Agency	Amount (₹) in Lakhs	Duration
Dr.M.Mohanraj	Solar assisted auto cascade heat pumps for space heating applications	Consultancy	Q-Alt Technologies, Almaty, Kazakhstan	2.5	2
Dr.J.Manikandan	Development and Testing of Solar Photovoltaic water Pumping system	Research	In-house	2.5	2
Dr.M.Mohanraj	Development of Solar assisted heat pump using packed Bed collector	Research	In-house	2	2
Dr.Y..RasMathew	Design and Development of Coconut shell cutter	Consultancy	Nandanam Marachekku Aalai	0.8	Ongoing
Dr.M.Mohanraj	Development of Cold storage for high Value food products	Research	In-house	1.75	2
Dr.M.Mohanraj	Review of project proposals	Research / Consultancy	National Council for Science and Technology Evaluation	1.5	1month

Name of the faculty	Project Title	Project Type Research/ Consultancy	Funding Agency	Amount (₹) in Lakhs	Duration
Dr.M.Mohanraj	Ambient Source heat pumps for space heating applications	Consultancy	Al-Farabi Kazakhstan, National University	1.5	2
Dr.M.Mohanraj	Performance improvement of solar Air heater	Research	In-house	1.5	2
Dr.M.Mohanraj	Development of heat pump assisted regenerative solar still	Research	In-house	1.5	2
Dr.Y..RasMathew	Vibration measurement setup	Research	In-house	1.5	2years
Dr.M.Mohanraj	Testing of domestic refrigerator using low Global warming refrigerants	Research	In-house	1	1
Dr.M.Mohanraj	Testing of Chillers using low global Warming refrigerants	Research	In-house	1	1
Dr.M.Mohanraj	Solar assisted heat pump for space heating	Research/ Consultancy	Al Farabi Kazakhstan, University Almaty	1	3years

Name of the faculty	Project Title	Project Type Research / Consultancy	Funding Agency	Amount (₹) in Lakhs	Duration
Dr.J.Manikandan	“Additive Manufacturing”	Online Faculty Development Programme(FDP)	AICTE-ATAL	0.93	16.02.2021 To 20.02.2021
Dr.P.Jeyalakshmi	Development of Solar driers	Research	In-house	0.75	1
Dr.V.Senthil Murugan	Development of Evaporative coolers	Research	In-house	0.6	1
Dr.M.Mohanraj	Development of HDH desalination systems	Research	In-house	0.5	1
Dr.M.Mohanraj	Promotion of Refrigerant hydrocarbons	Consultancy	HANS Industrial Corporation,	0.5	2
Dr.C.Nithyanandam	Design of Low Cost Mould by Fiber Reinforced Polymer Using a 3D Printer	Consultancy	Smile 3D Tech Coimbatore	0.35	1
Dr.K.Siva Dr.Y.Rasmathew	ITBI	Research (Incubation Center)	DST	5 Crore (Applied)	5 years

International Conferences

S. No	Name of Conference	Date
1	Advances in Materials and Manufacturing (INTCOM M 2016)	01.02.2016 & 02.02.2016
2	International Conference on Renewable and Sustainable Energy	12 .04. 2017 & 13 .04.2017
3	International Conference on Thermal Analysis and Energy Systems	12 .04. 2018 & 13 .04.2018
4	Energy & Environment	11 .04. 2019 & 12 .04.2019




HINDUSTHAN COLLEGE OF ENGINEERING AND TECHNOLOGY
Coimbatore - 641035
(ISO 9001:2008 Certified Institution) Approved by AICTE, Affiliated to Anna University, Accredited by NBA, New Delhi
Organized by Departments of Mechanical & Mechatronics Engineering in association with The Institute of Indian Foundrymen

**INTERNATIONAL CONFERENCE ON
ADVANCES IN MATERIALS AND MANUFACTURING (INTCOMM 2016)**

IMPORTANT DATES

Date	Event
01.02.2016	Call for Papers
02.02.2016	Registration
03.02.2016	Check-in
04.02.2016	Conference
05.02.2016	Departure



REGISTRATION DETAILS

Category	Registration Fee	Food & Accommodation
Regular	1000/-	1500/-
Student	500/-	1000/-
Life	10000/-	10000/-
Corporate	10000/-	10000/-
Spouse	5000/-	5000/-
Child	2000/-	2000/-

Selected Papers will be Published in Annexure I & II Journals, Indian Foundry Journal & Foundry Journal



For Further Details : **THE ORGANISING SECRETARY, INTCOMM 2016**
email : intcomm2015@gmail.com / www.intcomm.in / www.hindusthan.net
Co-ordinators : Dr.S.Kannan : (91)8903455449, Prof.Pradeep Johnson : (91)9952385622, Prof.A.Nazeer Ahmed : (91)9500096221



- Dr. M. Mohanraj, Professor in Mechanical Engineering has been invited as a visiting professor to Al-Farabi Kazakh National University, Almaty, Republic of Kazakhstan for the period of one month during June 2016 for developing a two stage cascade heat pump.
- Dr. M. Mohanraj, Professor in Mechanical Engineering has been collaborated with National Institute of Technology, Calicut as Co-Principal Investigator for Project titled “Development, testing and standardization of photovoltaic-thermal heat pump water heater” funded by Department of Science and Technology. Funding amount 36.5 Lakhs.
- Department has conducted an International Conference on Renewable and Sustainable Energy during April 12th and 13th of 2017. Selected papers were published in a special issue in Thermal Sciences- The scientific Journal. Published by Society of Thermal Engineers Serbia (Impact Factor 1.5).
- Dr. M. Mohanraj has visited Al-Farabi Kazakh National University, Almaty as a technical consultant for developing an ambient source heat pump system for space heating applications.
- Department has conducted an International Conference on Thermal Analysis and Energy Systems during April 12th and 13th of 2018. Selected papers were published in a special issue in Journal of Thermal Analysis and Calorimetry (Impact factor: 4.52).
- Dr. M. Mohanraj was invited as a subject expert for developing a curriculum in Department of Mechanics, Al-Farabi Kazakh National University, Almaty Republic of Kazakhstan during May-June 2018.
- Department has conducted an International Conference on Energy and Environment during the year 10th and 11th of 2019. Selected papers were published in Journal of Power and Energy (Impact Factor: 1.7).
- Dr. M. Mohanraj has been invited as a keynote speaker for an International Conference on Journal of Thermal Analysis and Calorimetry held at Budapest, Hungary during June 2019.
- Dr. M. Mohanraj, Professor in Mechanical Engineering has listed in top 2% scientist published by Stanford University, USA in Energy Specialization during the year 2019.
- Dr. M. Mohanraj, Professor in Mechanical Engineering has visited Satbayev University, Almaty, Republic of Kazakhstan as a visiting faculty and researcher.
- Dr. M. Mohanraj, Professor in Mechanical Engineering has listed in top 2% scientist published by Stanford University, USA in Energy Specialization during the year 2020.
- Dr. M. Mohanraj, Professor in Mechanical Engineering has listed in top 2% scientist published by Stanford University, USA in Energy Specialization during the year 2021.
- Dr. M. Mohanraj, Professor in Mechanical Engineering has visited Yesseneov University, Almaty, Republic of Kazakhstan as a visiting faculty and researcher.
- Dr. M. Mohanraj, Professor in Mechanical Engineering has listed in top 2% scientist published by Stanford University, USA in Energy Specialization during the year 2022.
- Dr. M. Mohanraj, Professor in Mechanical Engineering has visited Yesseneov University, Almaty, Republic of Kazakhstan as a visiting faculty and researcher.
- Dr. M. Mohanraj, Professor in Mechanical Engineering has collaborate with Yesseneov University, Aktau for the research project titled “Development of solar thermal desalination assisted by a compression heat pump” funded by Ministry of Science, Republic of Kazakhstan.

Faculty Reviewer

S. No	Name of the Faculty Members	Name of Editorial Boards of peer reviewed journals & National/International conference
1.	Dr.K.Siva	Science and Engineering of Composite Materials
2.	Dr.K.Siva	Ciência & Tecnologia dos Materiais - Journals - Elsevier
3.	Dr.M.Mohanraj	Journal of Technological Innovations in Renewable Energy
4.	Dr.M.Mohanraj	International Journal of Energy Research (John Wiley)
5.	Dr.M.Mohanraj	International Journal of Energy (Elsevier)
6.	Dr.M.Mohanraj	International Journal of Applied Energy (Elsevier)
7.	Dr.M.Mohanraj	International Journal of Measurements (Elsevier)
8.	Dr.M.Mohanraj	International Journal of Thermal Sciences (Elsevier)
9.	Dr.M.Mohanraj	Renewable and Sustainable Energy Reviews (Elsevier)
10.	Dr.M.Mohanraj	Energy Conversion and Management (Elsevier)
11.	Dr.M.Mohanraj	International Journal of Refrigeration (Elsevier)
12.	Dr.M.Mohanraj	Sustainable Energy Technologies and Assessments (Elsevier)
13.	Dr.M.Mohanraj	Chemical Engineering Research and Design (Elsevier)
14.	Dr.M.Mohanraj	Applied Thermal Engineering (Elsevier)
15.	Dr.M.Mohanraj	Energy and Buildings (Elsevier)
16.	Dr.M.Mohanraj	Journal of Alloys and Compounds (Elsevier)
17.	Dr.M.Mohanraj	Vacuum (Elsevier)
18.	Dr.M.Mohanraj	Experimental Thermal Sciences (Elsevier)
19.	Dr.M.Mohanraj	Journal of Clear Production (Elsevier)
20.	Dr.M.Mohanraj	Materials and Design (Elsevier)
21.	Dr.M.Mohanraj	Mechatronics (Elsevier)
22.	Dr.M.Mohanraj	Solar Energy (Elsevier)
23.	Dr.M.Mohanraj	Science Bulletin (Elsevier)
24.	Dr.M.Mohanraj	International Journal of Heat and Mass Transfer (Elsevier)
25.	Dr.M.Mohanraj	Case studies in Thermal Engineering (Elsevier)

S. No	Name of the Faculty Members	Name of Editorial Boards of peer reviewed journals &National/International conference
26.	Dr.M.Mohanraj	Renewable Energy (Elsevier)
27.	Dr.M.Mohanraj	Journal of Energy Resource Technology (ASME)
28.	Dr.M.Mohanraj	International Journal of Energy Sources (Part-A) (Taylor&Francis)
29.	Dr.M.Mohanraj	International Journal of Green Energy (Taylor and Francis)
30.	Dr.M.Mohanraj	Heat Transfer Engineering (Taylor and Francis)
31.	Dr.M.Mohanraj	Desalination and Water treatment (Taylor and Francis)
32.	Dr.M.Mohanraj	International Journal of Modeling and Simulation (Taylor and Francis)
33.	Dr.M.Mohanraj	International Journal of Energy Efficiency (Springer)
34.	Dr.M.Mohanraj	International Journal of Neural Computing (Springer)
35.	Dr.M.Mohanraj	Journal of renewable, Wind, Water, and Solar (Springer)
36.	Dr.M.Mohanraj	Journal of Thermal Analysis and Calorimetry (Springer)
37.	Dr.M.Mohanraj	Environmental Science Group (Springer)
38.	Dr.M.Mohanraj	Journal of Institution of Engineers (Series C) Mechanical Engineering (Springer publishers)
39.	Dr.M.Mohanraj	Environmental Science and Pollution Research (Springer)
40.	Dr.M.Mohanraj	Fortntues in Energy (Springer Publishers)
41.	Dr.M.Mohanraj	Korean Journal of Chemical Engineering (Springer Publishers)
42.	Dr.M.Mohanraj	Indian Journal of Engineering and Material sciences (CSIR)
43.	Dr.M.Mohanraj	International Journal of Global warming (Inderscience publishers)
44.	Dr.M.Mohanraj	International Journal of Exergy (Inderscience publishers)
45.	Dr.M.Mohanraj	Thermal Sciences Scientific Journal
46.	Dr.M.Mohanraj	International Journal of Environmental Engineering and Management
47.	Dr.M.Mohanraj	Journal of Renewable and Sustainable Energy (American Institute of Physics)
48.	Dr.M.Mohanraj	Part-A Journal of Power and Energy (Sage publishers)
49.	Dr.M.Mohanraj	Part D, Journal of Automobile Engineering (Sage Publishers)
50.	Dr.M.Mohanraj	Part E Journal of Processes Mechanical Engineering (Sage Publishers)

S. No	Name of the Faculty Members	Name of Editorial Boards of peer reviewed journals &National/International conference
51.	Dr.M.Mohanraj	Advances in Mechanical Engineering (Sage Publishers)
52.	Dr.M.Mohanraj	Journal of Scientific and Industrial Research (CSIR)
53.	Dr.M.Mohanraj	Journal of Engineering Science and Technology (Taylors University Journal)
54.	Dr.M.Mohanraj	Journal of Food Science and Technology (Springer Publishers)
55.	Dr.M.Mohanraj	Water Science and Technology
56.	Dr.M.Mohanraj	International Journal of Photon Energy
57.	Dr.J.Manikandan	International Journal of Scientific Development and Research - IJSDR
58.	Dr.J.Manikandan	International Journal of Engineering and Technology-IJET
59.	Dr.P.Jeyalakshmi	Journal of Thermal Analysis and Calorimetry – JTAC Springer Publication
60.	Dr.P.Jeyalakshmi	Journal of Thermal Analysis and Calorimetry – JTAC Springer Publication
61.	Dr.S.Kannan	Journal of Mechanical Science and Technology - JMST
62.	Mr.C.Nithyanandam	International Journal of Innovations in Engineering, Research and Technology-IJIERT
63.	Mr.R.Sankarganesh	JAC-Journal of Advances in Chemistry
64.	Mr.K.R.Sakthivel	IRJI-International Research Journal of INDIA
65.	Mr. L .Karthick	Mechanics Based Design of Structures and Machines, An International Journal