Hindusthan College of Engineering and Technology, Coimbatore Department of Mechanical Engineering CAD/CAM Engineering



Hindusthan College of Engineering and Technology, Coimbatore

<u>About M.E CAD/CAM Program – Mechanical Department</u>

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.

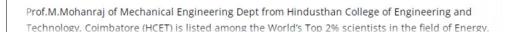
Mechanical Engineering is one of the most creative, broadest and most versatile of the engineering professions. Mechanical Engineers have initiated and implemented commendable progress in innovative areas like robotics, vibration control, energy conversion, energy management, fluid dynamics, power production, 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.

Name of the Department	Mechanical Engineering
Name of the PG Programme	M.E -CAD/CAM
Month & Year of PG programme started	June - 2006
Number of present intake	9

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







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.

Faculty Interaction outside the world



Yesseneov UniversityAlmaty, Republic of Kazakhstan



Satbayev University Almaty, Republic of Kazakhstan



Al-Farabi Kazakh National University Almaty, Republic of Kazakhstan



Delivering Lecture in Satbayev University

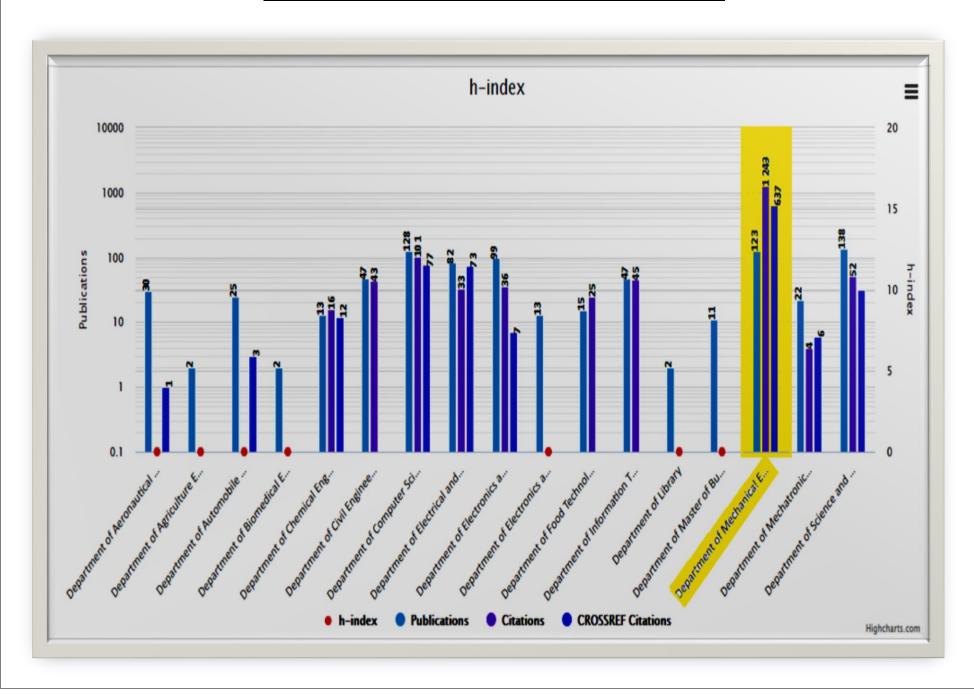


Colloborative Research project on Geothermal Heat pumps



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

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	Citations	h–index	i-10 index
Scholar			
Citations	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		
Τ.	Obsolescence in	Dr.K. Siva	
	CAD/CAM Lab	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)	' water heaters using solar		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 Research In-house Manikandan Development and Research Testing of Solar Photovoltaic water Pumping system		2.5	2	
Dr.M.Mohanraj	Development of Solar assisted heat pump using packed Bed collector	Research	In-house	2	2
Dr.YRasMathew	Coconut shell cutter Ma		Nandanam Marachekku Aalai	0.8	Ongoing
Dr.M.Mohanraj	Dr.M.MohanrajDevelopment of Cold storage for high Value food productsResearch Research Value food products		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 Project Title Research/ Consultancy Funding Agency		Amount (₹) in Lakhs	Duration
Dr.M.Mohanraj	numps for enace heating National University		Al-Farabi Kazakhstan, National University	1.5	2
Dr.M.Mohanraj	Performance improvement of solar Air heater	of solar		1.5	2
Dr.M.Mohanraj Development of heat Research In-hour solar still		In-house	1.5	2	
Dr.YRasMathew	Vibration measurement setup	Research	In-house	1.5	2years
Dr.M.Mohanraj			In-house	1	1
Dr.M.Mohanraj	Iohanraj Testing of Chillers using Research In-house low global Warming refrigerants		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	* ·		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 Smile 3D Tech Coimbatore		0.35	1	
Dr.K.Siva Dr.Y.Rasmathew	va Research (Incubation DST 5 Crore		5 Crore (Applied)	5 years	

Memorandum of understanding

Sl.No.	Academic Year	Date of MOU	LOGO	Company Name & Address
1		4/28/2022	SOURIAU - SUNBANK Connection Technologies	Souriau India Pvt Ltd
2		4/12/2021	INVENIRE INVENT YOUR FUTURE	INVENIRE 4/28 A, Rajalakshmi nagar, peelamedu Coimbatore
3		(R)8/26/2021 27-01-2016	Madras Radiators And Pressings Ltd.	Madras Radiators and Pressings Limited NO. 296, Pollachi Main Rd, Coimbatore- 641024
4		(R)8/27/2021 28-12-2015	Cutting Systems	Messer Cutting Systems India Pvt Ltd No. 199/2AB2, 198/2A2A and 198/2A2B SNMV College, Road, Malumichampatti, Coimbatore-641050

5		(R)8/28/2021 15-07-2017	Indo Shell Cash Private Limited	IndoShell cast Pvt Ltd A-14 Private Industrial Estate, Kurichi, Coimbatore-641021
6	2020-2021	9/1/2020	Ford	Ford India Pvt Ltd No 423, Poonamalle High Rd Arumbakkam Chennai - 600106
7		11/1/2019	Refrangible Society of Technophile Engineers	RSTE H 20 P BLOCK, DARPAN COLONY THATIPUR, Morar, Gwalior, Madhya Pradesh 474011
8	2019-2020	11.10.2019	PHE PERIYASAMY HYDRAULIC EQUIPMENTS	Periyasamy Hydraulic Equipments 1/588, Anna Nagar, Sri Lakshmi Nagar, Ganapathy, Neelambur, Coimbatore- 641062
9		10/5/2019	ADDING VALUE	Roots Industries India Itd Central Reserve Police Force Rd, Thoppampatti, Kathir Naickenpalayam, K. Vadamadurai, Coimbatore, 641017

10		12/16/2019	TE COMMERCIAL VEHICLES A VOLVO GROUP AND EICHER MOTORS JOINT VENTURE	VE commercials vehicles Ltd Plot No. 96, Main Road, Sector 32, Gurugram, Haryana 122001
11	2018-2019	5/1/2018	Refrangible Society of Technophile Engineers	RSTE H 20 P BLOCK, DARPAN COLONY THATIPUR, Morar, Gwalior, Madhya Pradesh 474011
12	2017-2018	8/9/2017	VLAND'S	VLand's BEST Hub Pvt ltd Sri Vel Towers, 11th St, Gandhipuram, Coimbatore- 641012

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	
4	Energy & Environment	11 .04. 2019 & 12 .04.2019







INNOVATIONS BY THE FACULTY FOR TEACHING AND LEARNING



Computer Interfaced
Temperature Control UTM



Regenerative Solar Still



Forced Convection Solar Air Heater Using Packed Bed Absorber Plate



Evaporator Cooler



PCM Insulated Hot Water Storage Tank



Experimental setup for Vibration Testing



Forced Convection Solar Dryer



Solar Assisted Heat Pump

- > 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 Standford 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 Standford University, USA in Energy Specialization during the year 2020.
- > Dr. M. Mohanraj, Professor in Mechanical Engineering has listed in top 2% scientist published by Standford 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 Standford 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 (Elesevier)
19.	Dr.M.Mohanraj	Journal of Clear Production (Elesevier)
20.	Dr.M.Mohanraj	Materials and Design (Elesevier)
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 (Elesevier)
25.	Dr.M.Mohanraj	Case studies in Thermal Engineering (Elesevier)

S. No	Name of the Faculty Members	Name of Editorial Boards of peer reviewed journals &National/International conference
26.	Dr.M.Mohanraj	Renewable Energy (Elesevier)
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