

# FACULTY PROFILE

HARICHANDRAN. R

## Personal Details

**Salutation:** Dr.  
**Instructor Name:** Harichandran. R  
**Designation:** Professor  
**Department:** MECHANICAL ENGINEERING - NEC  
**Date of Joining in NEC:** 09-07-2007  
**Date of Joining in Present Post:** 06-04-2022  
**Mobile Number:** 9944087728  
**College Id:** MECT014  
**College Email Id:** harichandra@nec.edu.in  
**Unique Staff Id:** 1-455141929



## Address for Communication

**Address Line 1:** National Engineering College  
**Address Line 2:** K.R.Nagar  
**City:** Kovilpatti  
**Pincode:** 628503  
**District:** Thoothukudi  
**State:** Tamilnadu

## Educational Qualifications

Sr	Name of the Degree	Specialization	Name of the Institute	Name of the University	Year of Passing
1	B.E	Mechanical Engineering	Mepco Schlenk Engineering College, Sivakasi	Anna University	2005
2	M.E	Computer Aided Design	Anna University of Technology, Tirunelveli	Anna University of Technology, Tirunelveli	2011
3	Ph.D	Nanocomposites	Anna University	Anna University	2017

## Faculty Professional Experience

Sr	Name of Institute / Organizations	Designation	Date of Joining	To	Total Experience
1	PAC Ramasamy Raja Polytechnic College, Rajapalayam	Lecturer	01-08-2005	06-07-2007	1 Years 11 Months

Sr	Name of Institute / Organizations	Designation	Date of Joining	To	Total Experience
2	National Engineering College, Kovilpatti.	Lacturer	09-07-2007	31-10-2011	4 Years 4 Months
3	National Engineering College, Kovilpatti.	Assistant Professor	01-11-2011	09-07-2013	1 Year 8 Months
4	National Engineering College, Kovilpatti.	Assistant Professor(Senior Grade)	10-07-2013	26-12-2017	4 Years 4 Months
5	National Engineering College, Kovilpatti.	Associate Professor	27-12-2017	01-04-2022	4 Years 3 Months
6	National Engineering College	Professor	06-04-2022		

### FDP/ Workshop/ Seminar/ Training/ Knowhow Program Attended

Sr	Name of the Event	Event Type	Name of the Instituion or Organization	From	To
1	Two days Workshop on Recent Advances in Composite Materials.	National Workshop	National Engineering College, K.R.Nagar, Kovilpatti	05-03-2010	06-03-2010
2	DST Sponsored National Level Seminar on Advances in Finite Element Analysis	National Workshop	Sethu Institute of Technology, Kariapatti.	16-11-2011	16-11-2011
3	International Workshop on System Thinking & Modeling	International Workshop	SCAD Group of Institutions, Tirunelveli	15-12-2012	16-12-2012
4	CSIR Sponsored Workshop on Recent Advances in welding of Dissimilar Materials	National Workshop	National Engineering College, Kovilpatti.	19-04-2013	20-04-2013
5	National Conference in Materials, Manufacturing and Design	National Seminar	Mepco Schlenk Engineering College, Sivakasi	07-05-2014	08-05-2014
6	BRNS sponsored Workshop on Electron Microscopy	National Workshop	Mepco Schlenk Engineering College, Sivakasi	13-02-2014	14-02-2014
7	Two Days Programme on the theme of Empowering Indian engineering education for Global Expectations	National Seminar	National Engineering College, Kovilpatti.	07-11-2014	08-11-2014
8	BRNS sponsored National Level Seminar On Advances in Industrial Tribology	National Seminar	National Engineering College, Kovilpatti.	11-02-2015	12-02-2015

Sr	Name of the Event	Event Type	Name of the Institution or Organization	From	To
9	Workshop on Formulation of Research and Development Grant Proposals by Scientists and Technologies	National Seminar	National Engineering College, Kovilpatti.	18-11-2015	20-11-2015
10	Workshop on Current Trends in nanotechnology	National Workshop	Mepco Schlenk Engineering College, Sivakasi	05-02-2016	06-02-2016
11	Workshop on Research issues in Powder Metallurgy	National Workshop	Mepco Schlenk Engineering College, Sivakasi	30-12-2016	31-12-2016
12	FDP on Applications of FEM in Acoustic and Vibration Analysis	Faculty Development Program	VIT University, Vellore.	22-04-2016	23-04-2016
13	GIAN course titled on Novel Functional Materials for Energy Conversion, storage and Enhancement Applications	Faculty Development Program	NIT, Surathkal, Karnataka.	04-10-2016	07-10-2016
14	FDP on Innovative methods for Teaching Mechanical Engineering	Faculty Development Program	NIT, Warangal, Telangana.	22-03-2017	26-03-2017
15	Six days GIAN course titled on Smart Manufacturing	Faculty Development Program	Dr. B. R. Ambedkar National Institute of Technology, Jalandhar, Punjab.	19-02-2018	24-02-2018
16	Five days GIAN course titled on Fatigue of Composite Materials	Faculty Development Program	Dr. B. R. Ambedkar National Institute of Technology, Jalandhar, Punjab.	11-11-2019	15-11-2019
17	Industrial Training Program	Industrial Know-How Program	Daimler India Commercial Vehicles Private Limited and Dynamic Plastics and Assembly, Chennai	30-07-2018	04-08-2018
18	Training Program on LMS(online)	Faculty Development Program	NITTTR, Chennai	26-07-2021	30-07-2021
19	Universal Human Values in Technical education(online)	National Workshop	AICTE	19-10-2020	23-10-2020
20	Selection of Nanomaterials for energy Harvesting and Storage Applications	Faculty Development Program	NPTEL-AICTE	01-09-2020	31-10-2020
21	Structural Analysis of nanomaterials(Online)	Faculty Development Program	NPTEL-AICTE	01-07-2021	31-08-2021

## International and National Conferences Attended

Sr	Name of the Conference	Event Type	Name of the Institution or Organization	Title of the Paper	Authors
1	Fascinating Advancements in Mechanical Engineering (FAME '16)	International Conference Presentation	Mepco Schlenk Engineering College	Effect of h-BN solid nano lubricant on the dry sliding wear behaviour of Al-B4C nanocomposites	Dr.R.Harichandran and Dr.N.Selvakumar
2	International Conference	International Conference Participation	National Institute of Technology Tiruchirappalli	A study on Mechanical and Corrosion Behaviour of TiB2-Bronze Metal Matrix Composites	Su. Venkatesan, J. Jerald, P. Asokan, R. Harichandran
3	International Online Conference on Nano Materials	International Conference Presentation	Mahatma Gandhi University, P.D Hills P.O, Kottayam, Kerala, India	Selection of Nanomaterials for Solar Collector Applications	R. Harichandran
4	Emerging trends in Engineering and technology National level	National Conference Presentation	Anna University of Technology Madurai	Numerical simulation of transient temperature in friction stir welding of AZ61A magnesium alloy	R.Harichandran and s.rajakumar
5	conference	National Conference Presentation	National Engineering College, K.R.Nagar, Kovilpatti	Determination of J-integral and stress intensity factor using ABAQUS, Recent advances in Mechanical Engineering	Venkatachalam, G, Harichandran, R, Rajakumar, S, Dharmaraj, C, & Pandivelan, C

### FDP/ Workshop/ Seminar/ Conference Programs Organized

Sr	Name of the Event	Event Type	Name of the Funding Agency	Amount received from funding Agency	Role
1	National Level Seminar on Challenges in Materials for Energy Conversion, Storage and Enhancement Applications	National Seminar	DST-SERB	₹ 50,000.00	Organizing Secretary

### Guest Lecture Delivered

Sr	Name of the Event / Program	Name of the Institution / Organization	Title of the Lecture delivered	From	To
1	Skill Development Programme	Bharathiar University	Application of nano materials for solar power thermal generation	23-01-2021	23-01-2021

## Faculty Research Publications

Sr	Title of the Paper	Name of the Journal	Year of Publication	Authors	DOI (Digital Object Identifier System)
1	Determination of J-integral and stress intensity factor using the commercial FE software ABAQUS in austenitic stainless steel(AISI 304) plates	The International Journal of Advanced Manufacturing Technology	2008	Venkatachalam, G, Harichandran, R, Rajakumar, S, Dharmaraj, C, & Pandivelan, C	DOI 10.1007/s00170-008-1872-z, 2008
2	Effect of nano/micro B4C particles on the mechanical properties of aluminium metal matrix composites fabricated by ultrasonic cavitation-assisted solidification process	Archives of Civil and Mechanical Engineering	2016	R.Harichandran and Dr.N.Selvakumar	doi.org/10.1016/j.acme.2015.07.001
3	High temperature wear behaviour of nano/micro B4C reinforced aluminium matrix composites fabricated by an ultrasonic cavitation-assisted solidification process	Transactions of the Indian Institute of Metals	2016	R. Harichandran, N.Selvakumar, G.Venkatachalam	DOI 10.1007/s12666-016-0856-1
4	Microstructure and Mechanical Characterization of (B4C+h-BN)/Al hybrid nanocomposites processed by ultrasound assisted casting	International Journal of Mechanical Sciences	2018	R.Harichandran and N.Selvakumar	doi.org/10.1016/j.ijmecsci.2017.08.039
5	Effect of h-BN solid nanolubricant on the performance of R134a–polyolester oil-based vapour compression refrigeration system	Journal of the Brazilian Society of Mechanical Sciences and Engineering	2019	R Harichandran, P Paulraj, S Maha Pon Raja, J Kalyana Rama	<a href="https://doi.org/10.1007/s40430-019-1645-7">https://doi.org/10.1007/s40430-019-1645-7</a>
6	Computational Intelligence for analyzing the mechanical properties of AA 2219 – (B4C + h-BN) hybrid nano composites processed by ultrasound assisted casting	Archives of Metallurgy and Materials	2019	P Radha, N Selvakumar, R Harichandran	DOI: 10.24425/amm.2019.129509

Sr	Title of the Paper	Name of the Journal	Year of Publication	Authors	DOI (Digital Object Identifier System)
7	Production and high temperature wear characterization of AA7075/Al <sub>2</sub> O <sub>3</sub> /Graphite hybrid nanocomposites by enhanced stir and ultrasound assisted casting method	Materials Research Express	2019	S Singh, A Gupta, VS Sharma, R Harichandran	doi.org/10.1088/2053-1591/ab5aa1
8	Effect of h-BN nanoceramic substrate on the performance of microstrip patch antenna in S-band applications	International Journal of RF and microwave and Computer aided engineering	2020	C Balamurugan, P Marichamy, R Harichandran	DOI: 10.1002/mmce.22098
9	The tribological behavior of hybrid aluminum alloy nanocomposites at High temperature: Role of nanoparticles	Journal of Materials Research and Technology, Elsevier	2020	P Paulraj, R Harichandran	doi.org/10.1016/j.jmrt.2020.08.044
10	Influence of hot extrusion on strain hardening behaviour of graphene platelets dispersed aluminium composites	Journal of Alloys and Compounds	2021	RV Kumar, R Harichandran, U Vignesh, M Thangavel, SB Chandrasekhar	doi.org/10.1016/j.jallcom.2020.157448
11	Performance Comparison of Microstrip Patch Antenna Using h-BN Nanoceramic Substrate and FR4 Substrate	Wireless Personal Communications	2021	C Balamurugan, P Marichamy, R Harichandran	https://doi.org/10.1007/s11277-021-08592-z
12	Performance analysis of domestic solar air heating system using V-shaped baffles – An experimental study	Proc IMechE Part E: J Process Mechanical Engineering	2021	R.Vijayakumar, R.Harichandran, Karthick Alagar, R.Vigneshkumarla	DOI: 10.1177/09544089211016256
13	Experimental study on the thermal performance of a solar air heater integrated with multi geometry arrangements over the absorber plate	Environmental Science and Pollution Research	2021	R.Vijayakumar, R.Harichandran, P.Ramanan	doi.org/10.1007/s11356-022-18830-x
14	Experimental and numerical evaluation of thermal conductivity of graphene nanoplatelets reinforced aluminium composites produced by powder metallurgy and hot extrusion technique	Journal of Alloys and Compounds	2022	R.Harichandran, R.Vignesh Kumar, M. Venkateswaran	doi.org/10.1016/j.jallcom.2021.163401

Sr	Title of the Paper	Name of the Journal	Year of Publication	Authors	DOI (Digital Object Identifier System)
15	Effect of h-BN solidlubricant on the dry sliding wear behaviour of Al-B4C nanocomposites	Archives of Materials Science and Engineering	2016	R.Harichandran, N.Selvakumar	<a href="http://dx.doi.org/10.5604%2F18972764.1223976">http://dx.doi.org/10.5604%2F18972764.1223976</a>
16	A study on the mechanical and corrosion behaviour of bronze – TiB2 metal matrix composites	Materials Today Proceedings	2020	S. Venkatesan, J. Jerald, P.Asokan, R. Harichandran	<a href="http://dx.doi.org/10.1016/j.matpr.2020.05.116">http://dx.doi.org/10.1016/j.matpr.2020.05.116</a>

## Research Supervisor & Scholars Details

Sr	Name of the University	Name of the Faculty	Reference No. (Supervisor id Number)	Research Area	Date of supervisor recognition
1	Anna University	Mechanical Engineering	2920072	Composite Materials, Design, Refrigeration and air-conditioning	03-05-2017

Sr	Name of the Research Scholar	Date of Registration	Internal or External / Full time or Part Time	Research topic	Present Status
1	Mr.P.Paulraj	01-01-2018	External	investigations on High temperature tribological behaviour of Al-SiC-h-BN hybrid composites	Confirmation Completed
2	Mr.R.Vijayakumar	15-12-2017	Internal	An experimental investigation on solar air heater with roughned surfaces over the absorber plate	Synopsis Submitted
3	Mr.R.Vijayakumar	13-01-2018	Internal	Workability and Heat transfer characteristics of Graphene nano platelets reinforced aluminium composites	Synopsis Submitted

## Funded Research Project Details

Sr	Name of the Project	Principal Investigator	Co-Investigator	Amount of Fund Received	Funding Agency	Project Duration
1	Investigation on crashworthiness characteristics of bio-inspired thin-walled conical tubular members	Dr.M.Kathiresan	Dr.R.Harichandran	₹ 0.00	DST-SERB	2022-2025

## Membership in Professional Societies

Sr	Name of the Society / Organization	Type of Membership	Membership ID
1	Institution of Engineers(India)	Member	M-152412-1

## Instructor Log

Sr	Academic Year	Academic Term	Department	Program	Course
1	2021-22	2021-22 (EVEN)		B.E (MECHANICAL ENGINEERING)	19ME45C - Materials Science and Metallurgy
2	2021-22	2021-22 (EVEN)		B.E (MECHANICAL ENGINEERING)	19ME63C-FINITE ELEMENT ANALYSIS
3	2021-22	2021-22 (ODD)		B.E (MECHANICAL ENGINEERING)	19ME52C-Dynamics of Machinery
4	2021-22	2021-22 (ODD)		B.E (MECHANICAL ENGINEERING)	19ME34C- Manufacturing Technology-I
5	2020-21	2020-21 (EVEN)	MECHANICAL ENGINEERING - NEC	B.E (MECHANICAL ENGINEERING)	15ME63C-Finite Element Analysis
6	2020-21	2020-21 (EVEN)		B.E (MECHANICAL ENGINEERING)	19ME45C - Materials Science and Metallurgy
7	2020-21	2020-21 (ODD)		B.E (MECHANICAL ENGINEERING)	19ME34C- Manufacturing Technology-I
8	2020-21	2020-21 (ODD)		B.E (MECHANICAL ENGINEERING)	15ME54C-Computer Aided Design and Manufacturing