

NATIONAL ENGINEERING COLLEGE, K.R.NAGAR, KOVILPATTI - 628503.

(An Autonomous Institution Affiliated to Anna University, Chennai)

Department of Mechanical Engineering

Faculty Profile



- 1) Name of the Faculty : D.Vignesh Kumar
2) Age & Date of Birth : 35, 13.06.1982
3) Designation : Assistant Professor (Senior. Grade)
4) Experience in NEC as on 01.06.16 : 7 Years (05.06.2009)
(With joining Date in NEC)

Designation	Institute/Organization	Period	Nature of Duties
Asst Professor(S.G)	National Engineering College, Kovilpatti	14.07.2011- Till date	Teaching
Asst Professor(S.G)	National Engineering College, Kovilpatti	05.06.2009- 13.07.2014	Teaching
Lecturer	Francis Xavier Engineering College , Tirunelveli	03.08.2007 – 31.05.2009	Teaching
Graduate Engineering Trainee	Super Spring Pvt Ltd, Coimbatore	25.05.2006 – 30.06.2007	Product Development
	Total	Teaching – 8 Yrs 10 Months	Industry - 1 Year

5) Qualification :

Sl. No.	Qualification	Specialization	Year of Completion	University
1	DME	Mechanical Engineering	2001	Board of Technical Education, Tamilnadu
2	UG	Mechanical Engineering	2004	M.S.University
3	PG	Manufacturing Engineering	2006	Anna University, Chennai
4	Ph. D	Optimization and Tolerance allocation	Pursuing	Anna University, Chennai

6) Area of Expertise

Particulars	Area of Project
Interest to Guide Projects to UG/PG Students	U.G - Manufacturing Engg, Automobile Engg, Fluid Power Engg. P.G - Tolerance allocation and optimization
Prepare Proposals for funding	-

7) Name of the Courses handled for the :
last 5 years (2011-12 to 2015-16)

	Name of the Subject	No. of times	Specific remarks (if any)
ODD Sem.	Total Quality Management	3	Result > 95%
	Applied Hydraulics and Pneumatics	4	Result > 95%
	Robotics	1	Result > 95%
	Mechatronics and Modern Control	2	Result > 95%
	Gas Dynamics and Jet Propulsion	1	Result > 95%
EVEN Sem.	Maintenance Engineering	3	Result > 95%
	Automobile Engineering	2	Result > 95%
	Non Destructive Testing (P.G)	2	Result > 95%
	Entrepreneurship Development	2	Result > 95%
	Engineering Economics and cost analysis	2	Result > 95%
	Total Quality Management (IT)	1	Result > 95%

7.a) Practical Subjects handled so far

	Name of the Subject	No. of times	Specific remarks (if any)
ODD Sem.	Mechatronics Lab	4	100 % Result
	Dynamics Lab	1	100 % Result
	Fluid Mechanics Lab	1	100 % Result
EVEN Sem.	Manufacturing Lab-II	2	100 % Result
	Strength of materials laboratory	1	100 % Result
	Design and Fabrication Project	3	100 % Result

8) Research Area : Modeling and Analysis Of Optimal Tolerance Synthesis Based On Taguchi Quality Loss Function With Alternative Process And Nominal Dimension Selection

9) Ph.D work and publications: “Optimum tolerance synthesis of simple assemblies with nominal dimension selection using genetic algorithm” in Proc. IMechE Part C: J Mechanical Engineering Science.DOI: 10.1177/095440621561336.

10) Progress after Ph.D : Pursuing P.hD

11) Details of Project guided (BE and ME) : List with outcomes

Project Details	Out Comes
Implementation of Mistake Proofing arrangements to eliminate operation scrap in H-Series Engine cylinder Block and Head lines. (2015-2016)	Implemented in Ashok Leyland Ltd, Hosur, Tamilnadu. Eliminates operational scrap by implementing mistake proofing for cylinder Head & cylinder block using poka-yoke concept.
Design and Fabrication of Wadding machine. (2014-2015)	Machine was developed with the help of Vijay tools Madurai. This machine is used to insert the wadding (Paper) in pet bottle caps. Production rate increased by implementing this machine.
Design and Fabrication of Lifting steps in low floor buses. (2014-2015)	The main aim of the project to help the disable and aged peoples to board in to the buses easily by introducing a lifting mechanism in the existing buses.
Performance test on diesel engine using Bio Diesel derived from neem and pongamia oil. (2013-2014)	Introducing vegetable oils and their derivatives as fuel in diesel engines. To develop alternative fuels with low emission and cost.
Enhancing Economizer efficiency of boiler using finned tubes. (2013-2014)	To increase the heat transfer rate in economizer.
Study on mode of collapse of thin aluminium conical shells with cutouts (2012-2013)	The mode of collapse of conical shell with different types of cutouts is characterized and the effect of these cutouts were analyzed.

12) Research Publication details :

List of faculty publications along with date of issues DOIs and publication/SCI impact factor details for the last 5 years (2011-12 to 2015-16)

International Journals

“Optimum tolerance synthesis of simple assemblies with nominal dimension selection using genetic algorithm” in Proc. IMechE Part C: J Mechanical Engineering Science. DOI: 10.1177/095440621561336.

M. Siva Kumar, M.N. Islam, N. Lenin, D. Vignesh Kumar and D. Ravindran. A simple heuristic for linear sequencing of machines in layout design. International Journal of Production Research (1.03), 49 (22), 6749-6768 on 2012.

Process Parameter Optimization in Arc Welding of Dissimilar Metals, Thammasat Int. J. Sc. Tech, Vol. 15, No. 3, 1 – 7 on 2010.

M. Siva Kumar, M. N. Islam, N. Lenin & D. Vignesh Kumar, Optimum Tolerance Synthesis for Complex Assembly with Alternative Process Selection Using Bottom Curve Follower Approach, International Journal of Engineering (IJE), Volume (3) : Issue(4) 380- 402 on 2009.

National Journals

Lenin N, Siva Kumar M, Ravindran D, Vignesh Kumar D and Islam M N “Decision making in multi-objective facility layout design Selection problem”. Journal of Manufacturing Engineering. 2013, 8(2), 105-113.

International Conferences.

Lenin N, Siva Kumar M, Ravindran D, Vignesh Kumar D and Islam M N, Decision Making in Multi-Objective Facility Layout Design Selection Problem, 3rd International Conference On Recent Advances in Material Processing Technology (RAMPT'13).

13) Details of R&D Projects : Completed / Ongoing Projects/ status and outcomes.

Nil

14) Details of Consultancy Projects : Completed / Ongoing Projects/ status and outcomes.

Nil

15) Faculty interaction with outside world : Nil

(Please attach proof)

16) Professional society activities, events, conferences organized: Member in IE

17) Professional society activities, events, conferences attended:

- Attended four day workshop for Training of Evaluators/ Resource person on Outcome Based Accreditation organized by NBA and National Engineering College on 7, 14-16, June 2014

18) FDP, Short term courses, workshops, seminar arranged : Nil

19) FDP, Short term courses, workshops, seminar attended :

- Attended one day workshop in New Frontiers and Advancements of Tribology at National Engineering College on 25 Feb 2014
- Attended one day workshop in Next Generation Technologies for Sun-Wind Energy Conversion at National Engineering College on 28, Feb 2014
- Attended four day workshop for Training of Evaluators/ Resource person on Outcome Based Accreditation organized by NBA and National Engineering College on 7, 14-16, June 2014
- Attended two day workshop in optimization and its application at NIT, Tiruchirappalli on 10-11-2014 - 11-01-2014.
- Attended two day workshop in Recent Advances in Welding of Dissimilar Materials at National Engineering College on 19-20, April 2013
- Attended two day workshop in Application of Natural Fiber Composites for the Development of Rural Societies at National Engineering College on 27-28, June 2012
- Attended two days FDP on Teaching Methodology for Transmission System Design at KLN College of Engineering, Madurai on 18-19 march 2011.
- Attended two week FDP in Recent Advances in Modeling and Simulation of Joining of Materials at NIT, Tiruchirappalli on 29-12-2008-10-01-2009.

- 20) List of course module developed :
- Fluid Power systems.
 - Mechatronics and modern control.
 - Dimensioning and Tolerances.
 - Total Quality Management.
- 21) Records of new program specific facility created by faculty :
- 22) Faculty Intellectual Property Rights (FIPR) applied : Nil
- 23) Laboratories/research facilities established :
1. Computerized data logging system with control for process variables like pressure flow and temperature at automation lab.
 2. Design and testing of fluid power circuits (hydraulic and pneumatic) to control (i) velocity (ii) direction (iii) force of single and double acting actuators at automation lab.
- 23) Any other information's/special achievements