

Faculty Member Profile

PERSONAL INFORMATION:

Name: **Dr.M. Vignesh Kumar**

Title(s) / Position(s): Dr.

Department: MECHANICAL ENGINEERING

Current Designation: Asst Professor (Sr.Scale), Head – Project Development Cell

Years in Current Designation: 6 years

Gender:MALE Ethnicity: ENGINEERING

Primary Discipline: Engineering Design (Mechanical Engineering)



ORCID ID: <https://orcid.org/0000-0002-3004-8895>

Google Scholar: <https://scholar.google.co.in/citations?user=IfIEjY8AAAAJ&hl=en>

DEGREES AND OTHER CREDENTIALS:

Post-Doctoral Fellow -2019 to 2021

Research in area of Welding

National Institute of Technology, Trichy (NITT)

Ph.D- Manufacturing Engineering- 2020

Research in the area of SURFACE ENGINEERING

Annamalai University

M.Tech - Engineering Design - 2011

Amrita school of Engineering, Ettimadai.

Amrita University

B.E - Mechanical Engineering - 2009

JEPPIAAR College of engineering, Chennai.

Anna University

PROFESSIONAL BODY MEMBERSHIP (if any) :

- Active member of SAE (*Society of Automotive Engineers*).
- Active member IIE (**Institution of Engineers**)
- Active member of ISNEE (*Indian Society of New Era Engineers*)
- Active member of IIW (*Indian Institute of Welding*)

Previous work experience: 9 Years 11 Months

Name of the Organization / Institution	Designation / Position	Service between (MM-YY to MM-YY)	Years of service
KCG College of Technology	Head-Project Development Cell	11-01-2021 – Till Now	-
National Institute of Technology, Trichy (NITT)	Post Doctoral Fellow	9th December 2019 – November 2021	1 year 11 Months
KCG College of Technology	Assistant Professor	27 th Jun 2016- 27 th November 2019	3 years 6 Months
Jeppiaar Engineering College	Assistant Professor	Jan 2012- Jan 2016	4 years
Shree Venkateshwara Hi-Tech Engineering College	Lecturer	Sep 2011- Jan 2012	.6 Months

Appointment with the School / Department of Mechanical Engineering:

Type of appointment: YEAR / FULL TIME

AWARDS

BEST TEACHING FACULTY	-2019 &2018
COMMANDABLE CONTRIBUTION TO COLLEGE	-2019, 2018 & 2017
DHRONACHARAYA AWARD	-2018 (FMAE - Best Faculty Advisor)

RECENT PUBLICATION (LAST THREE YEARS) :

PATENT

Published a patent-An Investigation of Abrasive Water Jet Machining on Glass Fiber Reinforced Polymmers Publication date 2021/5/26; Patent office AU; Patent number-2021101722

INTERNATIONAL JOURNAL:

1. M. Vignesh Kumar, G. Padmanaban, V. Balasubramanian" **Sliding Wear Characteristics Of Friction Stir Processed Cast ZK 60 Magnesium Alloy Under Different Applied Loads**" *Transactions Of Indian Institute of Metals*, Vol.71(5), pp.12231230.(Springer) (UGC Journal No:34829)
2. M. Vignesh Kumar, G. Padmanaban, V. Balasubramanian " **Influence of Tool Rotational Speed on The Formation of Friction Stir Processing Zone in Cast ZK60/SiCp Magnesium Alloy Surface Composites**" *Materials Performance and Characterization*, Vol. 7(1), 2018, pp. 579-590, (ASTM) (UGC Journal No: 3981)
3. M. Vignesh Kumar, G. Padmanaban, V. Balasubramanian "**Influence of Tool Tilt Angle on The Formation of Friction Stir Processing Zone in Cast Magnesium Alloy ZK60/SiCp Surface Composites**" *Metallography, Microstructure, and Analysis*, Vol. 8(1), 2018, pp. 58-66 (Springer) (UGC Journal No: 31029)
4. M. Vignesh Kumar, G. Padmanaban, V. Balasubramanian "**Effect of Tool Pin Profile on Microstructure and Hardness of Magnesium Alloy ZK60/SiCp Surface composites Fabricated by Friction Stir Processing**" - *Journal of Testing and Evaluation*. Vol. 47(6), 2019, pp. 4309-4319, (ASTM) (UGC Journal No: 10794).

5. M. Vignesh Kumar, G. Padmanaban, V. Balasubramanian "**Role of Tool Pin Profiles on Wear Characteristics of Friction Stir Processed Magnesium Alloy ZK60/SiCp Surface Composites**" - *Material Science and Engineering Technology*. Vol.51, 2020, pp. 140-152, (Willey Publication) (UGC Journal No: 4011).
6. M. Vignesh Kumar, G. Padmanaban, V. Balasubramanian, "**Enhancing the Mechanical Properties and Wear Characteristics Of Cast Zk60/Sicp Magnesium Alloy Surface Composites Through Friction Stir Process**"- *Physics of Metals and Metallography*. (Springer) (UGC Journal No:) (Accepted)
7. M. Vignesh Kumar, G. Padmanaban, V. Balasubramanian, "**Effect of Tool Traverse Speed on Macrostructure, Microstructure and Hardness of Cast ZK60 Magnesium Alloy/SiCp Surface Composites Synthesized by Friction Stir Processing**"- *Material Testing*. (Journal of central south university) (UGC Journal No:) (Under Review).
8. M. Vignesh Kumar, G. Padmanaban, V. Balasubramanian, "**Study the Thermal History, Mechanical and Metallurgical Characteristics of Friction Stir Processed Cast Zk60 Magnesium Alloy By Using Finite Element Analysis With Experimental Verification**"- *Iranian Journal of Science and Technology, Transactions of Mechanical Engineering*. (Springer) (UGC Journal No:) (Under Review- Revision Submitted).
9. V. Gopal and S. Ramesh S. Rajeshkannan, M. Vignesh kumar "Optimization and Mechanical Characterization of AA5083 and AA7075 Dissimilar Aluminium Alloy Joints Produced by Friction Stir Welding"- *International Journal of Vehicle Structures & Systems*. Vol.13(3),2021, pp. 234-240 (Scopus).
10. I Manikandan, M. Vignesh kumar, S. Rajeshkannan "Experimental Investigation of Aluminium Hybrid Composites Reinforced with ZnS, TiO₂ and BaTiO₃ Produced Through Powder Metallurgy"- *International Journal of Vehicle Structures & Systems*. Vol.13(3),2021, pp. 234-240 (Scopus).
11. M.Vignesh Kumar "**Finite element simulation of thermal History during Friction Stir Welding of Dissimilar aluminium Alloys AA 6061 and AA 7075**" *Journal of Mines, Metals and Fuels Special edition Mechanical engineering Print ISSN 0022-2755; Volume 1, March 2015*.
12. M.Vignesh Kumar "**Design of Biomimetic Robotic Fish for Under Water Exploration with a Control of Arduino Micro Controller**" *International Journal on Applications in Engineering and Technology Volume 1: Issue 4: April 2015, pp 8-10. ISSN (online): 2395-3500*.
13. M.Vignesh Kumar "**Design and Development of Snake Like Robot Based On Environmental Condition Using Arduino**" *International Journal on Applications in Mechanical and Production Engineering Volume 1: Issue 8: August 2015, pp 3-6. ISSN (online): 2395-3500*.

NATIONAL JOURNALS:

14. G. Deepak Raj, S. Dhivakar, R. Praveen Kumar, S. Bharath, M. Vignesh Kumar "**Emission Control in Automobiles**" *Journal of Basic and Applied Engineering Research Print ISSN: 2350-0077; Online ISSN: 2350-0255; Volume 1, Number 5; October, 2014 pp. 50-53*.
15. Athira Soman, R. Kathiravan, T. Vignesh. Deepak Raj, M. Vignesh Kumar "**Stress Analysis on SAE Supra Car Using FEA**" *Journal of Basic and Applied Engineering Research Print ISSN: 2350-0077; Online ISSN: 2350-0255; Volume 1, Number 5; October, 2014 pp. 54-59*.

INTERNATIONAL CONFERENCE:

1. Presented a paper titled for "**Sliding Wear Characteristics Of Friction Stir Processed Cast ZK 60 Magnesium Alloy Under Different Applied Loads**" at the International Conference on IIW-2K17'.
2. Presented a paper titled "**Enhancing the Wear Characteristics of Cast ZK60 Magnesium Alloy By Friction Stir Processing**" at the 2nd International Conference on advances in cutting, welding & surfacing, CIT, Coimbatore, ISBN:978-81-930396-1-8.
3. Presented a paper titled, "**Finite Element Simulation of Thermal History during Friction Stir Welding of Dissimilar Aluminum Alloys AA 6061 and AA7075**", at the International Conference on Recent Advances in Mechanical Engineering, Dr. MGR University, Chennai, April 2011.

4. M.Vignesh Kumar "**Finite element simulation of thermal History during Friction Stir Welding of Dissimilar aluminum Alloys AA 2024 and AA 7075** " at the International conference on Science, Technology, Engineering and Management, Jeppiaar engineering college, Chennai-119.

CONFERENCES:

5. "**Finite Element Simulation of Thermal History During Friction Stir Welding**" Velammal Engineering College, Chennai. National Conference on "Emerging Research & Advances in Mechanical Sciences"(ERA-2013) Dated On: 22nd March 2013.
6. "**Experimental investigation of dissimilar Aluminium Alloys AA6061 and AA2024 during Friction Stir Welding**" P.S.R Engineering College, Sivakasi National Conference on "Research & Advances in Mechanical Engineering" (RAME'13) Dated on: 1st & 2nd March 2013.
7. "**Designing and Analysis of an ATV Chasis**" Tamil Nadu Engineering College, Coimbatore National Conference on "Frontiers in Mechanical Science and Automotive Technology" (FMSAT 2013) Dated on: 6th April 2013.
8. "**Selection, Designing and Analysis of Chasis of an All Terrain Vehicle**" Tamil Nadu Engineering College, Coimbatore National Conference on "Frontiers in Mechanical Science and Automotive Technology" (FMSAT 2013) Dated on: 6th April 2013.
9. "**Design Optimization and Analysis of a Parabolic Leaf Spring**" P. S. R Engineering College, Sivakasi. National Conference on "Research & Advances in Mechanical Engineering" (RAME'13) Dated on: 1st & 2nd March 2013.

FUNDED SEMINAR

1. "**Application of Light weight Materials and Characterization in automobile Industry**" Funded by Institution of Engineers -30,000 /-

FUNDED PROJECT

1. IEI: Fabrication of Solar Weederator In Farming Tillage (RDUG2018020)
2. TAMILNADU STATE COUNCIL FOR SCIENCE AND TECHNOLOGY:
 - Mobile operated spy robot for surveillance by using arduino - 2017
 - Agrobot in Tomato Farms- 2019

SAE & FMAE project:

1. Faculty advisor:

The designing software which are being used are Pro-engineer. Analysis and simulation will be done using ANSYS. Our 25-member team is all set to leave imprints on FORMULA JEPPIAAR and INFERNO RACING Team. A high performance, stylish car is to be made will better handling and manoeuvring capabilities keeping in mind the cost effectiveness of our project. With this project we also aim to create a healthy and learning atmosphere.

FMAE ACHIEVEMENTS:

3rd Position in all over India	(FMAE 2018)
1st prize Engineering Design	(FMAE 2018)
1st prize Business Presentation	(FMAE 2018)
1st prize Skid Pad	(FMAE 2018)
1st prize Auto Cross	(FMAE 2018)

SAE ACHIEVEMENTS

1. 11th Position in all over India (Supra SAE 2018)- **2nd in TAMILNADU**
2. 12th Position in all over India (Supra SAE 2018)- **2nd in TAMILNADU**
3. 11th Position in all over India (Supra SAE 2017)- **1st in TAMILNADU**

Go-Kart:

Faculty advisor: Formula green is the go green car team of jeppiaar engineering college, our team is going to participate in the event for first time. And also, the faculty advisor of GO-KART & QUAD TORQUE teams.

Inferno Racing Team: **Won Overall Championship in BFKCT** in 2019 (Cash Price -1,60,000/-)

KCG College of Technology: GO-KART 14th place out of 140-2018

KCG College of Technology: GO-KART 27th place out of 91-2017