



NATIONAL ENGINEERING COLLEGE

(An Autonomous Institution Affiliated to Anna University, Chennai)

K.R.Nagar, Kovilpatti - 628 503.

FACULTY PROFILE

ANDREWS. A

Personal Details

Salutation: Mr.

Instructor Name: **Andrews. A**

Designation: **Associate Professor**

Department: MECHANICAL ENGINEERING - NEC

Date of Joining in NEC: 02-06-2016

Date of Joining in Present Post: 01-07-2026

Mobile Number: 8220353153

College Id: MECT526

College Email Id: andrewsnztmech@nec.edu.in

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Address for Communication

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City: Nazareth

Pincode: 628617

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	Kings Engineering College	Anna University, Chennai	2014
2	M.E	Engineering Design	Easwari Engineering College	Anna University, Chennai	2016
3	Ph.D	Vibration-based Fault Diagnosis	Anna University, Chennai	Anna University, Chennai	2024

Faculty Professional Experience

Sr	Name of Institute / Organizations	Designation	Date of Joining	To	Total Experience
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Sr	Name of Institute / Organizations	Designation	Date of Joining	To	Total Experience
1	National Engineering College	Assistant Professor	02-06-2016	02-05-2023	7 Years
2	National Engineering College	Assistant Professor (Senior Grade)	03-05-2023	30-06-2026	3 Years
3	National Engineering College	Associate Professor	01-07-2026		

FDP/ Workshop/ Seminar/ Training/ Knowhow Program Attended

Sr	Name of the Event	Event Type	Name of the Institution or Organization	From	To
1	Comprehensive Materials testing and Analysis	National Workshop	Anna University, Chennai	05-10-2013	05-10-2013
2	High speed and high performance machining	National Seminar	VIT, Chennai	11-10-2014	11-10-2014
3	Mechanical Vibration	Short Term Training Program	Anna University, Chennai	21-10-2016	22-10-2016
4	Instructional Design and Delivery System	Faculty Development Program	NITTTR, Chennai	22-05-2017	27-05-2017
5	Technology enabled teaching learning process	Faculty Development Program	NITTTR, Chennai	28-05-2017	30-05-2017
6	Empowering Teachers in Life skills education	Faculty Development Program	NIT, Trichy	06-11-2017	10-11-2017
7		Industrial Know-How Program	TryCAE Industrial Engineering, Trichy	11-11-2017	08-11-2017
8	Vibration Condition Monitoring	National Workshop	Hindustan Institute of Technology, Chennai	10-01-2018	11-01-2018
9	Foundation Program in ICT for Education	Faculty Development Program	IIT, Mumbai	08-03-2018	12-04-2018
10	Pedagogy for Online and Blended Teaching Learning Process	Faculty Development Program	IIT, Mumbai	03-05-2018	30-05-2018
11		Industrial Know-How Program	Art Industrial School, Nazareth	23-08-2018	25-08-2018
12	Design and Analysis of Mechanical Systems	National Workshop	NIT, Trichy	10-06-2019	15-06-2019
13		Industrial Know-How Program	TVS Supply Chain Solutions, Chennai	09-12-2019	13-12-2019
14		Industrial Know-How Program	TryCAE Industrial Engineering, Trichy	01-04-2020	14-04-2020

Sr	Name of the Event	Event Type	Name of the Instituion or Organization	From	To
15	MATLAB for All	Short Term Training Program	SIR M Visvesvaraya Institute of Technology, Bangalore	04-06-2020	08-06-2020
16	Introduction to Soft Computing	Faculty Development Program	Rajalakshmi Engineering College, Chennai	08-06-2020	12-06-2020
17	Basics of Noise and Vibration	National Workshop	VIT, Chennai	17-06-2020	19-06-2020
18	Emerging Simulation Trends	International Workshop	SRM Institute of Science and Technology, Chennai	29-07-2020	30-07-2020
19	Virtual Labs	Faculty Development Program	NITK, Suratkal	10-08-2020	04-08-2020
20	MATLAB onramp	Training	MathWorks	08-06-2020	08-06-2020
21	Machine Learning Onramp	Training	MathWorks	11-06-2020	11-06-2020
22	MATLAB Fundamentals	Training	MathWorks	11-06-2020	11-06-2020
23	Machine Learning with MATLAB	Training	MathWorks	14-12-2020	14-12-2020
24	Deep Learning with MATLAB	Training	MathWorks	15-12-2020	16-12-2020
25	Sheet Metal Design using Solidworks	Faculty Development Program	ICT Academy	25-01-2021	30-01-2021
26	Machine Learning and Deep Learning	Faculty Development Program	NIT, Warangal	30-03-2021	03-04-2021
27	Applications of Artificial Intelligence in Mechanical Engineering	Faculty Development Program	K. RAMAKRISHNAN COLLEGE OF ENGINEERING (ATAL)	02-08-2021	06-08-2021
28	Principles of Vibration Control	Faculty Development Program	NPTEL	01-09-2021	31-10-2021
29	Foundations of Machine Learning	Faculty Development Program	Kongu Engineering College	21-10-2021	28-10-2021
30	IOT Based Condition Monitoring	Faculty Development Program	Veermata Jijabai Technological Institute VJTI Mumbai (ATAL)	06-12-2021	10-12-2021
31	Machine Learning Applications in Mechanical Engineering	Faculty Development Program	Acropolis Institute of Technology and Research (ATAL)	13-12-2021	17-12-2021
32	Machine Learning Fundamentals	Short Term Training Program	MET Institute of Software and Research	07-04-2022	09-04-2022
33	Research Paper Writing, IPR and Patent Filling	Short Term Training Program	Sanmathi Engineering College, Washim	05-09-2022	08-09-2022
34	IP Awareness Training	Short Term Training Program	Department of promotion of industry and internal trade, India	08-09-2022	08-09-2022
35	IoT and Machine learning applications in engineering systems	Faculty Development Program	VIT, Chennai	21-11-2022	25-11-2022

Sr	Name of the Event	Event Type	Name of the Instituion or Organization	From	To
36	Artificial Intelligence Machine learning and Deep learning	Faculty Development Program	NIT Warangal	28-11-2022	01-12-2022
37	Numerical and Simulation Tools for Research in Mechanical Engineering	Faculty Development Program	VIT-AP University, Amaravati (AP)	20-06-2023	24-06-2023
38	Vehicular Vibrations Control With Modern Suspension System	International Workshop	NIT Karnataka	21-08-2023	25-08-2023
39	Mentoring and Counselling Skills for Teachers	Faculty Development Program	NITTTR	26-08-2024	30-08-2024
40	Recent Trends in Digital Manufacturing Technologies: Scope, Impact, and Applications	Faculty Development Program	National Institute of Technology, Warangal	21-10-2024	25-10-2024
41	Recent Advancements in AI & IoT – Industry Perspective	Faculty Development Program	Periyar Maniammai Institute of Science and Technology	25-11-2024	30-11-2024
42	Additive Manufacturing and Industry 4.0	Course	NIT, Trichy	02-12-2024	06-12-2024
43	Recent Trends on AI – Text, Vision and Hardware Implementation Models	Faculty Development Program	Panimalar Engineering College, Chennai	28-08-2025	02-09-2025
44	Next-Generation Healthcare: Leveraging Artificial Intelligence for Signal Processing and Imaging	Faculty Development Program	NIT Hamirpur	29-12-2025	02-01-2026
45	Generative & Agentic AI – Tools and Demos	Faculty Development Program	Sardar Vallabhbhai National Institute of Technology	16-02-2026	21-02-2026
46	Programming in MATLAB	Training	MathWorks	28-04-2026	28-04-2026
47	AI+X: From Data Engineering to Agentic Intelligence	National Workshop	MathWorks	20-07-2026	24-07-2026

International and National Conferences Attended

Sr	Name of the Conference	Event Type	Name of the Instituion or Organization	Title of the Paper
1	Emerging Research and Advances in Mechanical Sciences (ERAMS – 16)	National Conference Presentation	Velammal engineering college, Chennai	Non-linear feature extraction from Zhao-Atlas-Marks transforms in non-stationary gear fault diagnosis

Sr	Name of the Conference	Event Type	Name of the Instituion or Organization	Title of the Paper
2	Fifth International Conference on Recent Trends in Mechanical, Instrumentation and Thermal Engineering – MIT 2017	International Conference Presentation	Association of mechanical and Aeronautical Engineers – A division of IDES Cochin	Extraction of Hu-Descriptors from Short-Term-Fourier Transforms in Non-Stationary Gear Fault Diagnosis
3	International Conference on Sustainable Materials, Design and Applications 2018 (ICSMDA 2018)	International Conference Presentation	Kongu Engineering College, Erode-638 060, Tamil Nadu	Effect of Material Properties on Isolator Selection for a Pump – Numerical Analysis
4	International Conference on Research Advancements & Challenges in Engineering Services – ICSPACE 20	International Conference Presentation	Velammal engineering college, Chennai	Selection of Inactive Vibration for Pump
5	International Conference of Advance Research and Innovation – ICARI 2021	International Conference Presentation	MIET Engineering College, Meerut, India	Fault Diagnosis of Gearbox Based on Empirical Mode Decomposition and Artificial Neural Network
6	International Conference on processing and characterization of materials	International Conference Presentation	SSN college of Engineering, Chennai	An Integrated Approach for Gear Fault Diagnosis using VMD and ANN
7	International Conference on Advanced Materials, Manufacturing and Industrial Engineering	International Conference Presentation	Vellore Institute of Technology, Chennai Campus	Multi-Axis Vibration Analysis for Early Detection of Horizontal and Vertical Misalignments

FDP/ Workshop/ Seminar/ Conference Programs Organized

Sr	Name of the Event	Event Type	Role
1	Rotating Machinery Fault Diagnosis	National Seminar	Co-Ordinator
2	Fusion 360	Short Term Training Program	Co-Ordinator
3	Recent Advancements in Mechanical Engineering	National Conference	Co-Coordinator
4	2-day Student Bootcamp on Autodesk Fusion	Hands-on Training	Co-Ordinator

Guest Lecture Delivered

Sr	Name of the Event / Program	Name of the Institution / Organization	Title of the Lecture delivered	From
1	Workshop	Mechanical Engineering Association, NEC	Vibration control in Machineries	13-09-2019
2	Seminar	Institution of Engineers (India), Student Chapter, NEC	Applications of Artificial Intelligence in Mechanical Engineering	02-09-2023
3	Workshop	Mechanical Engineering Association, NEC	Modeling to Manufacturing	22-03-2024

Sr	Name of the Event / Program	Name of the Institution / Organization	Title of the Lecture delivered	From
4	Seminar	Institution of Engineers (India), Student Chapter, NEC	AI-Driven Multi-Objective Optimization	22-08-2026
5	Seminar	Dept. of Mechanical Engineering, Jayaraj Annapackiam CSI College of Engineering	The Role of Artificial Intelligence in Modern Mechanical Systems	07-09-2026

Faculty Research Publications

Sr	Title of the Paper	Name of the Journal	Year of Publication	Authors	DOI (Digital Object Identifier System)
1	Application of Zhao-Atlas-Marks transforms in non-stationary bearing fault diagnosis	Procedia Engineering	2016	A Krishnakumari, M Saravanan, A Andrews, G Venkatesan, S Jain	https://doi.org/10.1016/j.proeng.2016.05.136
2	Intelligent Fixture Layout Design for End Milling Process Using Artificial Neural Networks	Lecture Notes in Mechanical Engineering	2020	FMT Rex, D Ravindran, A Andrews, L Nagarajan	https://doi.org/10.1007/978-981-15-3631-1_20
3	A hybrid approach for fault diagnosis of spur gears using Hu invariant moments and artificial neural networks	Metrology and Measurement Systems	2020	F Rex, A Andrews, A Krishnakumari, P Hariharasakthisudhan	10.24425/mms.2020.134587
4	Design, Optimization and Analysis of Baja Suspension System Using Full Factorial Approach	Springer Proceedings in Materials	2020	VAG Ram, TS Easwar, A Vishal, A Andrews, FMT Rex	https://doi.org/10.1007/978-981-15-6267-9_3
5	Numerical Investigation of Swirl Flow on Heat Transfer Enhancement in a Stepped Pipe	Recent Advances in Manufacturing, Automation, Design and Energy Technologies	2021	B Prince Abraham, F Michael Thomas Rex, P Samuel Ponraj, R Jayavenkatesh, A Andrews	https://doi.org/10.1007/978-981-16-4222-7_98
6	Optimization of flexible fixture layout to improve form quality using parametric finite element model and mixed discrete-integer genetic algorithm	Proceedings of the Institution of Mechanical Engineers, Part C: Journal of Mechanical Engineering Science	2022	F Michael Thomas Rex, P Hariharasakthisudhan, A Andrews, B Prince Abraham	https://doi.org/10.1177/09544062211034191

Sr	Title of the Paper	Name of the Journal	Year of Publication	Authors	DOI (Digital Object Identifier System)
7	Vibration-Based Surface Roughness Prediction Using Sequential Feature Selection and ANN	Academic Journal of Manufacturing Engineering	2022	Andrews A	
8	An Integrated Approach for Fixture Layout Design and Clamping Force Optimization	Journal of Scientific & Industrial Research	2022	Michael Thomas Rex F, Ravindran D, Andrews A	https://doi.org/10.56042/jsir.v8i11.46354
9	A multi-stage diagnosis method using CEEMD, ABC, and ANN for identifying compound gear-bearing faults	Proceedings of the Institution of Mechanical Engineers, Part C: Journal of Mechanical Engineering Science	2022	Andrews A, Manisekar K	https://doi.org/10.1177/09544062221133757
10	An intelligent compound gear-bearing fault identification approach using Bessel kernel-based time-frequency distribution	Metrology and Measurement systems	2023	Andrews A, Manisekar K	https://doi.org/10.24425/mms.2023.144394
11	Fault feature selection for the identification of compound gear-bearing faults using firefly algorithm	The International Journal of Advanced Manufacturing Technology	2023	Andrews A, Manisekar K	https://doi.org/10.1007/s00170-023-10846-y
12	A Unified Approach for Compound Gear-Bearing Fault Diagnosis Using Bessel Transform, Artificial Bee Colony-Based Feature Selection and LSTM Networks	Journal of Vibration Engineering and Technologies	2023	Andrews A, Manisekar K	https://doi.org/10.1007/s42417-023-01024-1
13	An expert system for vibration-based surface roughness prediction using Firefly algorithm and LSTM network	Journal of the Brazilian Society of Mechanical Sciences and Engineering	2023	Andrews A, Manisekar K, Michael Thomas Rex	10.1007/s40430-023-04341-4

Sr	Title of the Paper	Name of the Journal	Year of Publication	Authors	DOI (Digital Object Identifier System)
14	A Smart CEEMDAN, Bessel Transform and CNN-Based Scheme for Compound Gear-Bearing Fault Diagnosis	Journal of Vibration Engineering & Technologies	2024	Andrews A, K. Manisekar	https://doi.org/10.1007/s42417-024-01422-z
15	Investigating and predicting tribological characteristics of AZ31 alloy composites reinforced with nano-Al ₂ O ₃ and micro-Sn particles: a comparative analysis using CCD-RSM and ANN models	Physica Scripta	2024	C Veera Ajay, K Manisekar and A Andrews	10.1088/1402-4896/ad5b94
16	A comprehensive approach with DTW-driven IMF selection, multi-domain fusion, and TSA-based feature selection for compound fault diagnosis	Measurement	2025	Andrews A, K. Manisekar	https://doi.org/10.1016/j.measurement.2024.115974
17	Integrated Improved Complete Ensemble Empirical Mode Decomposition and Continuous Wavelet Transform Approach for Enhanced Bearing Fault Diagnosis in Noisy Environments	Engineering Proceedings	2025	Mahesh Kumar J, Andrews A, Murali Karthick K, Gowtham S, Saravanan P	https://doi.org/10.3390/engproc2025095013
18	Optimization and prediction of the tribological parameters of biocompatible AZ31/Al ₂ O ₃ /Si ₃ N ₄ metal matrix composites using CCD-RSM, MOORA and FNN models	International Journal on Interactive Design and Manufacturing (IJIDeM)	2025	C Veera Ajay, K Manisekar, A Andrews, K Thoufiq Mohammed	https://doi.org/10.1007/s12008-025-02254-1

Sr	Title of the Paper	Name of the Journal	Year of Publication	Authors	DOI (Digital Object Identifier System)
19	Noise-resilient bearing fault diagnosis using DTW-based IMF selection and wavelet-fused features with the Bat Algorithm	Signal, Image and Video Processing	2025	Andrews A, K. Manisekar	https://doi.org/10.1007/s11760-025-04227-z
20	Multidomain feature fusion with Bessel transform and HU descriptors for compound imbalance-misalignment fault diagnosis	Proceedings of the Institution of Mechanical Engineers, Part C: Journal of Mechanical Engineering Science	2025	A Andrews, M Kondal, SS Palanisami, S Mohammed Fazil	https://doi.org/10.1177/09544062251358059
21	Parametric Optimization of Coupled Thermal and Structural Analysis of a Brake disc Using Finite Element Analysis	EPJ Web of Conferences	2026	SIS Hussain, A Andrews	https://doi.org/10.1051/epjconf/202635503003
22	Structural Optimization and Fatigue Life Assessment of Connecting Rod Using Topology Optimization and Finite Element Analysis	EPJ Web of Conferences	2026	M Faisal, A Andrews	https://doi.org/10.1051/epjconf/202635503002
23	Surface roughness prediction in turning processes using CEEMD-based vibration signal denoising and LSTM networks	Proceedings of the Institution of Mechanical Engineers, Part E: Journal of Process Mechanical Engineering	2026	Andrews A, K. Manisekar	https://doi.org/10.1177/09544089241263456
24	Data-Driven Noise Suppression and Multiresolution Feature Fusion with Feature Space Refinement for Bearing Fault Diagnosis	Journal of Vibration Engineering & Technologies	2026	A. Andrews and D. Abisha	https://doi.org/10.1007/s42417-026-02627-0

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	4520011	Vibration Analysis, Condition Monitoring, Machining, Signal Processing, Machine Learning and Optimization	04-04-2025

Funded Research Project Details

Sr	Name of the Project	Principal Investigator	Co-Investigator	Amount of Fund Received	Funding Agency	Project Duration
1	AI-Driven Prediction of Mechanical Properties in Heat-Treated Magnesium MMCs	Dr.A.Andrews	Dr.K.Thoufiq Mohammed	₹ 3,51,000.00	NEC Seed Money Grant	2 Years

Product Development Activities

Sr	Product Title	From	To	Funding Agency	Funds Received	IPR Status
1	Semi-automatic ice cream cone crimping machine	04-01-2021	10-02-2022	NEWGEN IEDC	₹ 2,50,000.00	Filed
2	Compact Fish Descaling Machine	09-05-2022	01-06-2023	NEWGEN IEDC	₹ 2,50,000.00	Filed
3	Development of An Intelligent System For Bearing Fault Detection Using Simulated Vibration Signals And Machine Learning	03-06-2024	31-03-2025		₹ 7,500.00	

Membership in Professional Societies

Sr	Name of the Society / Organization	Type of Membership
1	Institution of Engineers (India)	Associate Member
2	Society for Manufacturing Engineers	Administrative Member

Consultancy Work Details

Sr	Consultancy Work Detail	Name of Industry / Agency	Amount	From	To
1	Design of wiper mechanism	CM EnviroSystems, Bangalore	₹ 1,25,000.00	01-06-2017	20-06-2018
2	Preventive Maintenance	K.R. Mills, Kovilpatti	₹ 1,00,000.00	29-01-2022	27-12-2021