

# FACULTY PROFILE

MICHAEL THOMAS REX. F

## Personal Details

**Salutation:** Dr.

**Instructor Name:** **Michael Thomas Rex. F**

**Designation:** **Assistant Professor (Senior Grade)**

**Department:** MECHANICAL ENGINEERING - NEC

**Date of Joining in NEC:** 14-06-2010

**Date of Joining in Present Post:** 30-07-2016

**Mobile Number:** 9486264631

**College Id:** MECT501

**College Email Id:** michelrex@nec.edu.in



## Address for Communication

**Address Line 1:** Assistant Professor (SG), Department of Mechanical Engineering

**Address Line 2:** National Engineering College

**City:** Kovilpatti

**Pincode:** 628503

**District:** Thoothukudi

**State:** Tamil Nadu

## Educational Qualifications

Sr	Name of the Degree	Specialization	Name of the Institute	Name of the University	Year of Passing
1	B.E	Mechanical	PET Engineering College	Anna University	2006
2	M.E	Engineering Design	Kongu Engineering College	Anna University	2009
3	Ph.D	Mechanical	National Engineering College	Anna University	2019

## Faculty Professional Experience

Sr	Name of Institute / Organizations	Designation	Date of Joining	To	Total Experience
1	National Engineering College, Kovilpatti	Assistant Professor (Sr.Gr)	30-07-2016		6

Sr	Name of Institute / Organizations	Designation	Date of Joining	To	Total Experience
2	National Engineering College, Kovilpatti	Assistant Professor	14-06-2010	29-07-2016	6
3	St. Mother Theresa Engineering College, Thoothukudi	Lecturer	29-06-2009	07-06-2010	1
4	S.V Sugar Mills Limited, Chengalpattu	Graduate Trainee			1

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

Sr	Name of the Event	Event Type	Name of the Institution or Organization	From	To
1	Teaching Methodology for Transmission System Design	Faculty Development Program	KLN College of Engineering	18-03-2011	19-03-2011
2	Optimization Techniques for Engineering Applications	Short Term Training Program	Sri Ramakrishna Engineering College	10-03-2012	10-03-2012
3	Quantitative Tools for Research	Faculty Development Program	Kongu Engineering College	13-09-2013	15-09-2013
4	Optimization and its Applications	Faculty Development Program	NIT, Trichy	10-11-2014	11-11-2014
5	Foundation skills in Integrated Product Development	Faculty Development Program	Thiagarajar College of Engineering, Madurai	23-11-2015	27-11-2015
6	Innovative methods for Teaching Mechanical Engineering	Faculty Development Program	NIT, Warangal	22-03-2017	26-03-2017
7	Technology Enabled Teaching Learning Process	Short Term Training Program	NITTTR & National Engineering College, Kovilpatti	27-05-2017	29-05-2017
8	Innovative Digital Tools Enabled Product Design	GIAN Course	IIT, Chennai	05-02-2018	09-02-2018
9	Foundation program in ICT for Education	Faculty Development Program	IIT, Bombay	08-03-2018	12-04-2018
10	Pedagogy for Online and Blended Teaching-Learning Process	Faculty Development Program	IIT, Bombay	03-05-2018	30-05-2018
11	Industrial Training	Industrial Know-How Program	Art Industrial School	23-08-2018	25-08-2018
12	IOT based Manufacturing and Design - Challenges and Opportunity	Short Term Training Program	Viswajyothi College of Engineering and Technology	23-11-2020	28-11-2020

Sr	Name of the Event	Event Type	Name of the Institution or Organization	From	To
13	Artificial Intelligence	Faculty Development Program	AICTE Training And Learning (ATAL) Academy	14-12-2020	18-12-2020
14	Industry oriented FDB on Data science	Faculty Development Program	AICTE Training And Learning (ATAL) Academy	19-07-2021	23-07-2021
15	Experimentation for improvement	Course	COURSERA		
16	Machine Learning	Course	COURSERA		

## International and National Conferences Attended

Sr	Name of the Conference	Event Type	Name of the Institution or Organization	Title of the Paper	Authors	From	To
1	National Conference on Design, Manufacture and Management for Next Generation	National Conference Presentation	Kongu Engineering College	Optimization of fixture layout for minimum deformation of workpiece by genetic algorithm and artificial neural networks	F. Michael Thomas Rex	12-03-2009	13-03-2009
2	National Conference on Advances in Mechanical Science	National Conference Presentation	Kumaraguru college of Technology	Deformation control through fixture layout design using GA and FEM	F. Michael Thomas Rex	26-03-2009	27-03-2009
3	National Conference on Recent Advances in Mechanical Engineering	International Conference Presentation	National Engineering College	Dynamic Analysis of Workpiece-Fixture System to Predict Elastic Deformation of the Workpiece	U Sankara subbu, F. Michael Thomas Rex	28-03-2014	
4	International Conference on Mechanical Engineering Design	International Conference Participation	SSN College of Engineering	Prediction of Workpiece Elastic Deformation using FEM based Contact Analysis	F. Michael Thomas Rex, D. Ravindran, N. Lenin	25-04-2016	16-04-2016
5	First International Conference on Future Technologies in Manufacturing, Automation, Design and Energy	International Conference Participation	National Institute of Technology Puducherry	Redesign of Automotive Brake Pedal using FEA Based Topology Optimization	Manickam S, Esakkimuthu M, Nissan Prabhu N, Palani Raja G, Michael Thomas Rex F, Prince Abraham B	28-12-2020	30-12-2020

Sr	Name of the Conference	Event Type	Name of the Institution or Organization	Title of the Paper	Authors	From	To
6	An International Conference on Materials and Technologies	International Conference Presentation	National Institute of Technology Raipur	An Integrated Approach for Fixture Layout design and Clamping Force	Michael Thomas Rex F	28-01-2022	29-01-2022

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

Sr	Name of the Event	Event Type	Nature of funding	Amount received from funding Agency	Role
1	Recent Advancements in Mechanical Engineering (RAIME - 2020)	National Conference	Self Supporting	₹ 0.00	Convenor

### Guest Lecture Delivered

Sr	Name of the Event / Program	Name of the Institution / Organization	Title of the Lecture delivered	From	To
1	FDP on Engineering Mechanics, sponsored by Anna University, Chennai	National Engineering college	Equilibrium of Particles and Rigid bodies, Friction	16-12-2013	22-12-2013
2	Course on Innovation Through Design Thinking	National Engineering college	Design Thinking Process	18-10-2021	31-01-2022

### Faculty Research Publications

Sr	Title of the Paper	Name of the Journal	Year of Publication	Authors	DOI (Digital Object Identifier System)
1	Optimisation of Corrosion behaviour and hardness of Ni-B4C Composite coated AZ31 Mg alloy using RSM	Surface Topography: Metrology and Properties	2022	G Venses, M Sivapragash, T Sasi Kumar and F Michael Thomas Rex	<a href="https://doi.org/10.1088/2051-672X/ac577f">https://doi.org/10.1088/2051-672X/ac577f</a>

Sr	Title of the Paper	Name of the Journal	Year of Publication	Authors	DOI (Digital Object Identifier System)
2	Evaluation of Solid Particle Erosion and Electrochemical Corrosion of Plasma-Sprayed WC/8YSZ Coating on SS316	Surface Topography: Metrology and Properties	2022	S Maharajan, F Michael Thomas Rex, D Ravindran and S Rajakarunakaran	<a href="https://doi.org/10.1088/2051-672X/ac564c">https://doi.org/10.1088/2051-672X/ac564c</a>
3	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	2021	Michael Thomas Rex, F., Hariharasakthisudhan, P., Andrews, A., Prince Abraham, B.	<a href="https://doi.org/10.1177/09544062211034191">https://doi.org/10.1177/09544062211034191</a>
4	Design, Optimization and Analysis of Baja Suspension System Using Full Factorial Approach	Advances in Materials and Manufacturing Engineering	2021	VAG Ram, TS Easwar, A Vishal, A Andrews, FMT Rex	<a href="https://doi.org/10.1007/978-981-15-6267-9_3">https://doi.org/10.1007/978-981-15-6267-9_3</a>
5	A hybrid approach for fault diagnosis of spur gears using Hu invariant moments and artificial neural networks	Metrology and Measurement Systems	2020	F. Michael Thomas Rex, A. Andrews, A. Krishnakumari, P. Hariharasakthisudhan	<a href="https://doi.org/10.24425/mms.2020.134587">https://doi.org/10.24425/mms.2020.134587</a>
6	Intelligent Fixture Layout Design for End Milling Process Using Artificial Neural Networks	Lecture Notes in Mechanical Engineering	2020	F. Michael Thomas Rex, D. Ravindran, A. Andrews, Lenin Nagarajan	<a href="https://doi.org/10.1007/978-981-15-3631-1_20">https://doi.org/10.1007/978-981-15-3631-1_20</a>
7	TIG welding process parameter optimization for Aluminium Alloy 6061 using grey relational analysis and regression equations	Numerical Optimization in Engineering and Science	2020	AAM Moshi, D Ravindran, SRS Bharathi, FMT Rex, PR Kumar	<a href="https://doi.org/10.1007/978-981-15-3215-3_41">https://doi.org/10.1007/978-981-15-3215-3_41</a>

Sr	Title of the Paper	Name of the Journal	Year of Publication	Authors	DOI (Digital Object Identifier System)
8	An integrated approach for optimal fixture layout design	Journal of Engineering Manufacture	2017	F Michael Thomas Rex, D Ravindran	<a href="https://doi.org/10.1177/0954405415590991">https://doi.org/10.1177/0954405415590991</a>
9	Prediction of Workpiece Elastic Deformation using FEM Based Contact Analysis	Applied Mechanics & Materials	2016	F. Michael Thomas Rex, D. Ravindran, N. Lenin	<a href="https://doi.org/10.4028/www.scientific.net/AMM.852.498">https://doi.org/10.4028/www.scientific.net/AMM.852.498</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	3720003	Fixture Design, Vibration based condition monitoring, Machine Learning	12-04-2021

Sr	Name of the Research Scholar	Internal or External / Full time or Part Time	Research topic	Present Status
1	S. Maharajan	External	Wear study on Plasma-spray coated Austenite Steel	Confirmation Completed

## Product Development Activities

Sr	Product Title	From	To	Funding Agency	Funds Received	IPR Status
1	A Device for Surveilling the Level of Intravenous Fluid	01-06-2020	01-04-2021	DST, New Generation Innovation and Entrepreneurship Development Centre	₹ 2,00,000.00	Filed
2	Smart Featured LPG Trolley	01-07-2021	05-07-2022	DST, New Generation Innovation and Entrepreneurship Development Centre	₹ 2,00,000.00	

## Membership in Professional Societies

Sr	Name of the Society / Organization	Type of Membership	Membership ID
1	Society for Manufacturing Engineers	Secretary	
2	The Institution of Engineers	Associate Member	AM161671-7

## Consultancy Work Details

Sr	Consultancy Work Detail	Name of Industry / Agency	Amount	From	To
1	Vibration based Lubrication level monitoring of bearings in the Spinning machines	Kayaar Exports Private Limited (KEPL), Kovilpatti	₹ 29,000.00	01-01-2021	31-12-2021
2	Vibration monitoring of spinning machines, Autoconer and DC Generators	Kayaar Exports Private Limited (KEPL), Kovilpatti	₹ 71,000.00	01-01-2021	31-12-2021

## Instructor Log

Sr	Academic Year	Academic Term	Program	Course
1	2021-22	2021-22 (EVEN)	B.E (MECHANICAL ENGINEERING)	Strength of Materials
2	2021-22	2021-22 (ODD)	B.E (MECHANICAL ENGINEERING)	Dynamics of Machinery