CURRICULUM VITAE

K.MANIKANDAN

3/22-1,Kottur Maruthavancherry (PO) Nannilam (T.K) Thiruvarur (Dt) TamilNadu, India-609503 **E-mail: mechstarmani@gmail.com Mobile: +91-9788349787,8072085862 Area of Specialization: Internal Combustion Engineering**



ACADEMIC QUALIFICATIONS: Year of Course Name of Institution Board/University Class Percentage Passing PhD Anna University Anna University Thesis Chennai Chennai (IC Engine) Submitted P.G.D.C.A (Post Graduate Ministry of January Diploma in College for Career Commerce& First 90.2 2016 Computer Studies Industries Class Application) Govt of India M.E (Internal College of Engineering Anna University First 80.6 April **Guindy Campus** Chennai. India. combustion Class 2011 **Engineering**) First Class B.E E.G.S.PillayEngineering Anna University with Chennai. India. College Nagapattinam 76.4 (Mechanical April Distinction **Engineering**) 2005 Directorate of **Diploma in** A.V.C. Polytechnic, Technical First Class 91.1 Mechanical April Mayiladuthurai. Education with Engineering 2002 Chennai, India. Honours Govt.Hr.Secondary State Board March School. First 76.2 H.Sc India. 2000 Peralam. Class State Board First Govt.High School S.S.L.C April Mananthagudi India Class 71.6 1998

PROFESSIONAL EXPERIENCE (FULL TIME):					
Profession	Organization	Designation	Period	Experience	
Industry	H'Reck Engineers Pvt Ltd Mumbai, India	Planning Engineer	16 th June 2005 to 14 th Oct 2005	4 Months	
Industry	Boss Profiles Ltd Karaikal, India	Graduate Engineer Trainee	17 th Oct 2005 to 17 th July 2006	9 Months	
Teaching	E.G.S.Pillai Engineering College Nagapattinam, India	Lecturer	19 th July 2006 to 7 th June 2007	11 Months	
Teaching	M.Kumarasamy college of Engineering, Karur, India	Lecturer	21 st June 2007 to 18 th June 2009	2 Years	
Teaching	College of Engineering Guindy, Anna University Chennai, India	Half Time Teaching Assistantship	24 th Aug 2009 to 22 nd June 2011	1 Years 10 Months	
Research	Mahindra & Mahindra Ltd, Mahindra Research Valley, Chennai, India	Deputy Manager (Alternate Fuels)	16 th Aug 2011 to 26 th Aug 2013	2 Years	
Teaching Cum Research	Defence University Engineering College, Bishoftu, Ethiopia	Assistant.Professor	14 th Sep 2013 to 3 rd April 2015	1 Year 7 Months	
Teaching	E.G.S.Pillai Engineering College Nagapattinam, India	Assistant.Professor	2 nd June 2015 to 19 th July 2016	1 Year 2 Months	
Teaching	National Institute of Technology Ponducherry	Assistant. Professor (On contract)	20 th July2016 to 26 th Aug 2017	1 Year 1 Month	
Teaching cum Research	Addis Ababa Science and Technology University	Assistant.Professor	10 th Oct 2017 to 31 st July 2019	1 year 10 Months	
Teaching	JP College of Engineering,Tenkasi,India	Associate. Professor	2 nd Jan 2020 to 28 th June2023	3 years 6 Months	

PROFESSIONAL EXPERIENCE (PART TIME):					
Profession	Organization	Designation	Period	Experience	
Industry	Elango Automobiles Mayiladuthurai, India	Supervisor	May 2002 to June 2002	2 Months	
Teaching	J.J Hydraulics Training center Nagapattinam, India	Instructor	January 2007 to June 2007	6 Months	
Teaching	K.Ramakrishnan college of Engineering, Trichy, India.	Guest Visiting Faculty	January 2008 to June 2008	6 Months	

AREA OF RESEARCH / INTEREST

- Internal Combustion Engines
- Alternate Fuels
- Thermodynamic Simulation
- Renewable Energy, Energy conservation

PORTFOLIOS (ADMINISTRATIVE EXPERIENCE)

- **Chairperson** for the class committee in Mechanical Engineering dept in M.Kumarasamy college of Engineering, Karur, India for the Academic Year 2008 2009.
- **Class advisor** for final year Mechanical Engineering Students in M.Kumarasamy college of Engineering, Karur, India (2007 2008)
- **Staff In charge** for Mechanical Engineering Association in E.G.S.Pillay Engineering college, Nagapattinam, India (2006 2007)
- Lab In charge, Fluid Mechanics & Machinery Lab in M.Kumarasamy college of Engineering, Karur, India. (2007 2009)
- Boys **Hostel In Charge** in M.Kumarasamy college of Engineering, Karur, India. (2007 2009)
- **Class advisor** for Second year Automotive Engineering Students in Defence University Engineering college, Bishoftu, Ethiopia for the academic Year 2014 2015
- Exam Question Paper Evaluation committee Member, Dept of Motor Vehicle Engineering, Defense Engineering College, Bishoftu, Ethiopia. Academic Year(2013-2014, 2014 2015)

- Seminar Coordinator for Post Graduate Automotive Engineering Students in Defense Engineering College, Bishoftu, Ethiopia for the Academic Year 2014 2015.
- **Organizing Secretary of** International Conference on Advances in Mechanical and Civil Engineering (ICAMCE-2016) organized by E.G.S.Pillay Engineering college, Nagapattinam, India from June, 17th-18th, 2016.
- Class advisor for Second year Mechanical Engineering Students in National Institute of Technology, Puducherry, India for the academic Year 2016 2017
- **Project Coordinator** for Third year Mechanical Engineering Students in National Institute of Technology, Puducherry, India for the academic Year 2016 2017
- **Chairperson** for the class committee in Mechanical Engineering dept in National Institute of Technology Puducherry, India for the Academic Year 20017 2018.

SUBJECTS TAUGHT AT PG LEVEL:

- Vehicle Body Engineering (Academic year 2013 2014)
- Simulation of IC Engine (Academic year 2013 2014)

SUBJECTS TAUGHT AT UG LEVEL:

- Thermal Engineering (Academic year 2006 2007)
- Fluid Mechanics and Machinery (Academic year 2006 2007)
- Gas Dynamics and Jet Propulsion (Academic year: 2006 2007, 2007-2008, 2008 2009)
- Power Plant Engineering (Academic year: 2006 2007, 2007-2008, 2008 2009, 2016-2017)
- Applied Thermodynamics (Academic year: 2006 2007, 2008 2009, 2017-2018)
- Manufacturing Processes (Academic year 2007 2008)
- TQM (Academic year 2007 2008)
- Thermal Engineering Laboratory. (Academic year 2006 2007, 2007-2008)
- Fluid Mechanics Laboratory (Academic year 2006 2007, 2008-2009)
- Production Planning and Control (Academic year 2008 2009)
- Basic Mechanical Engineering (Academic year 2008 2009)
- IC Engine Lab (Academic year 2009 2010, 2010 2011)
- Basic Mechanical Engineering Lab (Academic year 2010 2011)
- Thermodynamics (Academic year 2013 2014, 2014 2015, 2020-2021)
- IC Engine (Academic year 2013 2014, 2014 2015, 2020-2021)
- Automotive Power Train Design (Academic year 2013 2014, 2014-2015)

- Automotive Maintenance (Academic year 2013 2014, 2018-2019)
- Engine Design (Academic year 2014 2015)
- Advance IC Engine (Academic year 2015 2016)
- Mechatronics (Academic year 2016 2017, 2017-2018)
- Engineering Metallurgy (Academic year 2016 2017)
- Machine Drawing (Academic year 2016 2017, 2017-2018)
- Automobile Engineering (Academic year 2016 2017, 2017-2018, 2018-2019)

VISITED INDUSTRIES:

- HENKEL LTD, Karaikal, India
- FINE AUTOMOTIVE & INDUSTRIAL RADIATOR PVT LTD, Pondicherry, India
- JANATICS PNEUMATICS, Coimbatore, India
- KALYANI ENGINEERING, Coimbatore, India
- MODERN FASTERNERS, Nagapattinam, India.
- POLO DYEING, Thirupur, India
- ASIAN FABRICS, Thiruchengode, India.
- REGMA CERAMICS LTD, Karaikal, India.
- SRVS BODY BUILDING, Kumbakonam, India
- NICHOLUS PIRAMAL INDIA PVT LTD, Hyderabad, India
- MAHINDRA VEHICLE MANUFACTURING PLANT, Mumbai, India.
- BISHOFTU AUTOMOTIVE INDUSTRY, Bishoftu, Ethiopia.
- DEJEN AVIATION INDUSTRY, Bishoftu, Ethiopia

PAPER PUBLICATION AND PRESENTED DETAILS:

National Conference:

- Presented the paper titled "Performance Analysis of Gasoline Direct Injection Engine" in National Conference organized by M.Kumarasamy College of Engineering, Karur, India on 5th March 2009. (CONFLUENCE 2009).
- Presented the paper titled "Wear Debris Analysis" in National Conference Organized by M.Kumarasamy college of Engineering, **Karur, India** on 5th March 2009 (CONFLUENCE 2009).

- **K.Manikandan**, Menelik Walle, "Experimental Investigation of Gasoline –Ethanol Blends in SI Engine Performance and Exhaust Emissions", in the proceedings of the National Conference on Latest Techniques in Mechanical Engineering(LTIME'14), held on March 18 2014, Karur, India
- **K.Manikandan**, "Performance and Exhaust Emission Analysis of gasoline –Ethanol Blend fuel in Spark Ignition Engine", in the Proceedings of the National Conference (Techno Fiesta'2014), held on July 16th-19th, 2014, **Bishoftu, Ethiopia.**
- **K.Manikandan**, "Thermodynamic Simulation Model for a Single Cylinder Four Stroke Spark Ignition Engine Fueled with Gasoline-Ethanol Blends", in the Proceedings of the National Conference (Techno Fiesta'2014), held on July 16th-19th, 2014, **Bishoftu, Ethiopia.**

International Conference:

- P.Tamilporai, **K.Manikandan**, "The Effect of Gasoline-Ethanol Blends and Compression Ratio on SI Engine Performance and Exhaust Emissions." In the Proceedings of International Conference on Applications of Renewable and Sustainable Energy for Industry and Society (REIS 2010), held on December, 16th-18th, 2010, Osmania University, Hyderabad, India.
- K.Manikandan, S.Krishnamohan, N.Ramanujam "Review of Exhaust Gas Heat Energy Recovery systems for internal combustion Engine" Presented and Published In the Proceedings of International Conference on Futuristic Innovations in Mechanical Engineering and Manufacturing Management (ICFIMEMM 2016) held on March, 30th-31st, 2016, at M.Kumarasamy college of Engineering, Karur, Tamilnadu, India.
- **K.Manikandan**, S.Ramabalan "Review of Ethanol Fueled HCCI Engine" Presented and Published In the Proceedings of International Conference on Advances in Mechanical and Civil Engineering (ICAMCE 2016) held on June, 17th-18th, 2016, at E.G.S.Pillay Engineering college, Tamilnadu, India.
- **K.Manikandan**, S.Ramabalan "Thermodynamic Model For a Single Cylinder Four Stroke Spark Ignition Engine Fueled With Gasoline-Ethanol Blends for various compression Ratios" Presented and Published In the Proceedings of International Conference on Advances in Mechanical and Civil Engineering (ICAMCE 2016) held on June, 17th-18th, 2016, at E.G.S.Pillay Engineering college, Tamilnadu, India.

International Journal:

- Manikandan K, Ramabalan S 'Development of thermodynamic Model to predict the Thermodynamic parameters of SI Engine', International Conference on Innovative Research in Science and Technology 2023, held on May 23-25th 2023, Shobit University, Meerut, UP, India. (This paper is going to Publish in Springer Nature Publication)
- Manikandan Kaliyaperumal, Ramabalan Sundaresan, Balu Pandian & Silambarasan Rajendran, 'Development of Fuzzy Logic Model for the prediction of Spark Ignition Engine Performance and Emission for Gasoline-Ethanol Blends', Green Processing and

Synthesis, vol.12 Issue.1pp.1-12,2023.

- **K.Manikandan**, Menelik Walle, "The Effect of Gasoline-Ethanol Blends and Compression Ratio on SI Engine Performance and Exhaust Emissions" *International Journal of Engineering Research & Technology*, Vol. 2, Issue 10, October, 2013, pp.3142 3153.
- S.Balamurugan, N.Jeyaprakash, **K.Manikandan** "Design and fabrication of muffler for four stoke diesel Engine" *International Journal of scientific Engineering and Technology*, Vol.No.4 Issue.3, March2015,pp 136-140
- C.Jegadheesan, Ajit pal singh, G.Rajendiran, **K.Manikandan** "Combustion Analysis of CI Engine fuelled by Pongamia Pinnate biodiesel using Hydrogen and Diethyl ether as Secondary fuel" Energy Education science and Technology Part C: Future Sources. Volume.7 issue.2,2015 pp 73-82.

SEMINARS, STTP AND WORKSHOP ATTENDED DETAILS

- Five Days National level online FDP on "Modeling, Technologies, and control on Electric vehicle" organized by AMET University, chennai India held on 25th -29th May 2020.
- Five Days online FDP on "Materials for Thermal and Renewable Energy Research" organized Sri Sairam Institute of Technology, chennai India held on 20th -24th May 2020.
- One day webinar on "Mastering the Art of Scientific Publications" organized by Arasu Enineering college, Kumbakonam, India, held on 23rd May 2020.
- One day webinar on "Applications of Artificial Intelligence in Manufacturing Industry" organized by Sri Sairam Institute of Technology, chennai, India, held on 21st May 2020.
- One day webinar on "Research Thrust Areas in Composites" organized by Arasu Enineering college, Kumbakonam, India, held on 20th May 2020.

• One week Short Term course On "Advanced course on Engine Combustion, Emissions, Control and Emerging Fuels" organized by Indian Institute of Technology, Kanpur, India from 3rd to 7th August 2018.

- One day National workshop on "Mathematical Modeling and Computational Techniques" organized by National Institute of Technology, Puducherry, India, held on 15th July 2017.
- One day National workshop on "Recent Trends in Concentrating Solar power Technologies and Fuel cell" organized by Dept of Mechanical Engineering, National Institute of Technology, Puducherry, India, held on 14th July 2017
- National workshop on "Recent Advancements in Nanotechnology" organized by Dept of Chemistry, National Institute of Technology, Puducherry, India, held on 14th April 2017

- Two days National workshop on "LaTex and Research Methodology" organized by Dept of Electronics & Communication Engineering, National Institute of Technology, Puducherry, India, held on 20th & 21st January 2017.
- One day International workshop on "Additive Manufacturing" organized by E.G.S.Pillay Engineering College, Nagapattinam, India, held on 28th September 2016.
- One day workshop on "Intellectual Property Rights and Innovations" organized by E.G.S.Pillay Engineering College, Nagapattinam, India, held on 16th April 2016
- One week TEQIP-II Sponsored Short Term Training Programme On "Recent Trends in Power Generation" organized by Pondicherry Engineering college, Puducherry, India from 2nd May 2016 to 6th May 2016.
- One day conference on "The Role of Mechanical Engineering in Green Energy" organized by Ethiopian Society of Mechanical Engineering, Addis Ababa, Ethiopia, held on 15th March 2015.
- One day workshop on "E-Learning (Using Moodle)" organized by Defense Engineering College, Bishoftu, Ethiopia, held on 23nd January 2015.
- Attended Seminar on "Research Methods" organized by Defense Engineering College, Bishoftu, Ethiopia, held on 2nd January 2015.

 Attended Seminar on "Simulation of Ellingham diagram to Industrial Applications" organized by Dept of Metallurgy& Materials. Defense Engineering College, Bishoftu, Ethiopia, held on 13th December 2013

- Attended Seminar on "Conflict Management and Negotiation skills" Mahindra Research Valley, Chennai, India, held on 16th January 2013
- Two days workshop On "Communication Excellence" organized by Mahindra Research Valley, Chennai, India held on 6th & 7th December 2012.
 - Two days workshop On "MS Office 2007" organized by Mahindra Research Valley, Chennai, India held on 25th & 26th April 2012.

- One day workshop On "Recent Developments in Advanced Materials and their Analysis" organized by Madras Metallurgical Society and CEG Anna University Chennai, India held on October 13th 2010.
 - Two days SAEINDIA Sponsored National Level workshop On "Under the Roof of Cylinder Head" organized by SriVenkateswara college of Engineering, Sriperumbatore, India held on 23rd & 24th September 2010.
 - Two days AICTE Sponsored National Level Seminar on "Environmental Pollution" organized by IFET college of Engineering, Velupuram, India On 17th & 18th September 2010.
 - Attended One day NPTEL workshop organized by NPTEL Indian Institute Technology Madras, India on 28th August 2010
- One week ISTE& AICTE Sponsored Short Term Training Programme On "Product Design and Recycle" organized by Bharathiyar Engineering college, Karaikal, India from 2nd March 2009 to 7th March 2009.
 - Two days AICTE Sponsored National Seminar on "Low Cost Textile Automation" organized by K.S.Rangasamy College of Technology, Tiruchengode, India on 30th & 31st January 2009.
 - Two days CSIR Sponsored National Seminar on "AUTO-TELEMATICS" organized by K.S.Rangasamy College of Technology, Triuchengode, India on 10th & 11th October 2008.
- One Week AICTE Sponsored Summer School On "e-Content Development and Delivery" Programme organized by N I T T T R held at M.Kumarasamy College of Engineering, Karur on 30th june,2008 to 5th July,2008.
- Two Days AICTE Sponsored National Workshop on "Computer Applications in Solids, Fluids and Thermal Sciences" organized by Maharaj Vijayram Gajapathiraj Engineering College at Vizianagaram, Andrapradesh, India held on 23-24 March 2007.
 - Five Days ISTE Sponsored Short Term Training Programme On "Manufacturing Excellence" organized by Adhiparasakthi Engineering College, Melmaruvathur, India held on 11.12.2006 to 15.12.2006.
 - Attended One Day Workshop on "TQM" organized by E.G.S.Pillay Engineering College at Nagapattinam, India held on 2nd March 2005

PROJECT DETAILS

Academic: Master of Engineering

Thesis Title:

Experimental and Theoretical Investigation of using Gasoline – Ethanol Blends in Spark Ignition Engine.

Abstract:

The Recent researches focusing on lowering the concentration of toxic components in combustion product and decreasing fuel consumption by using renewable, sustainable and non polluting fuels. The stringent pollution regulations and increasing energy demand as a result of technological development in the world promote research on alternative fuels. The high heat of vaporisation of ethanol and their high octane rating have made them preferred blend fuel for use in SI engines. Studies have shown that gasoline-ethanol blends (up to 50% ethanol by volume) on SI engine are reducing the exhaust emissions and slightly increase the performance. The effect of ethanol addition with gasoline on SI engine performance and exhaust emissions were investigated experimentally and thermodynamic parameters investigated theoretically. In theoretical study two zone, quasi-dimensional thermodynamic simulation model was developed for SI engine. This model has been adapted for SI engine running on gasoline and gasoline–ethanol blends (E10, E20 and E30). The experimental investigation were carried out for performance and exhaust emissions of gasoline and gasoline-ethanol blends(E10,E20 and E30) on single cylinder, four stroke air cooled S.I. engine.

Academic: Bachelor of Engineering

Thesis Title:

Energy Conservation Measures (The Project was carried out on FINE AUTOMOTIVE & INDUSTRIAL RADIATOR PVT LTD, Pondicherry, India)

Academic: Diploma in Mechanical Engineering

Project Title:

Servicing and Performance Analysis of Four Stroke Petrol Engine.

TECHNICAL SKILLS:

Technical Software: Auto CAD, LabView, SIMULINK, Solid Works

Programming Languages: MATLAB

Operating systems: Windows 7 and XP

ACHIEVEMENTS AND AWARDS

- **Team Member** of Hydrogen Three wheeler vehicle Development funded by UNIDO.
- Qualified in **GRADUATE APTITUDE TEST IN ENGINEERING** (GATE 2008) and having a score of 82.02 percentile and All India Rank 3265.

• Ministry of Human Resource Department, Govt.of.India, **Half Time Teaching** Assistantship (HTTA) from 24th August to 22nd June 2011.

- **DURAISAMY Endowment Prize winner** for good Academic Record given by A.V.C.C Polytechnic College, Mayiladuthurai, India.
- **Gold Medalist** in Diploma in Mechanical Engineering from A.V.C.C.Polytechnic college, Mayiladuthurai, India for the year (2000-2002)

• Department **First Rank Holder** in Diploma in Mechanical Engineering in the Board Examination held in 2001-2002 from A.V.C.C.Polytechnic college, Mayiladuthurai, India

- Department **First Rank Holder** in Diploma in Mechanical Engineering in the Board Examination held in April 2001 from A.V.C.C.Polytechnic college, Mayiladuthurai, India
- Department **First Rank Holder** in Bachelor of Engineering in IV &V Semester Examination conducted by Anna University during April/November 2003 – 2004 from E.G.S.Pillay Engineering college, Nagapattinam, India

• Department **Third Rank Holder** in Bachelor of Engineering (2002 – 2005) from E.G.S.Pillay Engineering college, Nagapattinam, India

• **Best Class Advisor Award** Given by M.Kumarasamy College of Engineering Karur, India in the academic year 2008-2009

• **Produced 100% result** and Salem Zonal First in Gas Dynamics and Jet Propulsion subject inAnna university Chennai semester exam- 2 Times.(M. Kumarasamy college of Engineering, Karur, India)

- **Produced 100% result** in TQM and Power Plant Engineering subjects in Anna University, Chennai semester exam. (M. Kumarasamy college of Engineering, Karur, India)
- More than 20 Under Graduate Mechanical Engineering Main & Mini projects guidance.

PROFESSIONAL BODY MEMBERSHIPS

- Life Member, Indian Society for Technical Education(ISTE), India
- Life Member, International Association of Engineers (IAENG), Hong Kong

• Life Member, International Association of Computer Science and Information Technology (IACSIT) ,Singapore

- Member in IAENG Society of Mechanical Engineering, Hong Kong
- Life Member, Computer Science Teachers Association, ACM, USA.
- Member, Ethiopian Society of Mechanical Engineers (ESME), Ethiopia.
- Member, International Society for Environmental Information Sciences (ISEIS)
- Member, International Technology and Engineering Educators Association (ITEEA)
- Member, International Organisation of Scientific Research (ISOR)
- Member, International Natural Hygene Society
- Member, International Association for Safety, Quality and Environmental Management (ISQEM)
- Associate member, Institute of Research Engineers and Doctors(IRED), UK
- Member, Material Research Society (MRS)
- Member, International Association of Online Engineering (IAOE)
- Member, International Association of Research & Development Organization(IARDO)

PERSONAL DETAILS:

Date of Birth	: 28 th July 1982	
Nationality	: Indian	
Languages Known	: Tamil (Mother Tongue), English (Full Proficiency) Hindi, French and Amharic (Limited Proficiency)	
Father's Name	: G.Kaliyaperumal	
Mother's Name	: K.Vasanthi	
Gender	: Male	
Marital Status	: Married	
Permanent Address :No.3/22-1 Main Road, Kottur,&Maruthavancherry (Po),Communication AddressPoonthottam- Via,Nannilam-(Tk),Thiruvarur (DT),Tamil Nadu (State)India - 609 503		
Mobile	: +91-9788349787, 8072085862	
E-Mail	: mechstarmani@gmail.com	

It is declared that all the information given above is true to the best of my knowledge and belief.

OR. Mars

Place: Kottur

Date: 06.11.2023

K.MANIKANDAN