

Name : Dr. Jayashri N.Nair
Designation : Assistant Professor
Department : Mechanical Engineering
Mail Id : jayashri@vnrvjiet.in
Experience (in years): Teaching: 17 Years **Research:** 1 year



1. Educational / Technical qualifications:

S.No	Level (UG / PG / Ph.D)	Year of passing	Specialization
1	Phd	2020	Alternate Fuels
2	M.Tech	2008	Cryogenics
3	B.Tech	1998	Mechanical Engineering

2. Teaching and Learning:

2.1. Teaching Interests:

- Fluid Mechanics, Thermo Dynamics, Refrigeration and Air Conditioning, Heat transfer, Applied Thermodynamics.

2.2. Novel Teaching & Learning Techniques adopted:

- POGIL, videos, WIT & WIL, Show n Tell, Lab Protocol, Story board, Brainstorming sessions, PPT.

2.3. Involvement in curriculum updating / Design:

- Prepared Course outcomes for subjects (R11,12,13)
 - 1) Thermodynamics
 - 2) Applied thermodynamics
 - 3) Thermal Engineering Lab
 - 4) Engineering graphics-II
 - 5) Thermal Engineering
 - 6) Heat and MassTransfer
 - 7) Heat and Mass Transfer lab
- UpdatedThermodynamics syllabus (18-19)
- Updated Thermal Engineering syllabus(15-16)
- Designed syllabus(1303044) Renewable Energy Sources(R13)
- Designed syllabus(1303022) Heat and Mass Transfer (R13)
- Designed (18PE1ME04) Gas Dynamics and Jet Propulsion, Professional elective-1 (R18)

3. Co-curricular and Extra-Curricular Activities

3.1. Interests and Hobbies: Work outs, Like painting and do embroidery works.

3.2. CCA/ECA Organized: NIL

3.3. CCA/ECA participated:

- Member of invitation and reception committee for sports day,cultural and annual day

- Went to Go-Kart competition to Jalandhar(18/3/2014-26/3/2014)
- Created POGIL activity, conducted POGIL sessions, Prepared POGIL Posters, Participated in POGIL Poster Competition, Presented POGIL Poster at IIITH (14-15)
- Actively involved in NGO activities in the areas of helping old age (Kalyan old age home, Maninagar) and neglected people (leprosy patients)
- Judged for the voice quality, tone and pitch by Prasar Bharati and have worked as Radio Jockey for Aakash Vani Gujarat.

3.4. Counseling and Mentoring Activity:

- Mentor for Mechanical students R19 (Roll NO 21 to 40)
- Have been actively contributed in Mentoring students for professional life.
- Have motivated students in having regular seminars in the Department on emerging topics.

3.5. Committees involved in:

Department level:

- Incharge of interaction with outside world for NBA (2019).
- Incharge of Thermal Engineering Lab (2012-2014).
- Incharge of Heat and Mass Transfer Lab (2014-till date).
- Member of Department Academic Committee (2012-2014).
- Incharge of NBA criteria 5 (2015).
- Member of Department Academic Committee (2012-2014).
- Incharge of Students progress for NAAC (2012) .
- Incharge of R & D for UGC (2012).

Institute Level:

- Member of Women Welfare committee
- Annual day Invitation committee
- Member of Online Teaching, Learning and Evaluation Team (OTLE Team), a wing of “Center for Education Technology” (CET)

4. Conference / Workshop / Seminar / Guest Lectures:

4.1 Conducted:

- Head of the proceeding committee of the National conference on “**Exploring Potentiality of Women in Engineering**” held at Charotar University of Science And Technology, Changa, Gujarat – July 2009.
- Conducted **CATIA** Certificate Courses-40hrs (11-8-2014 to 26-10-2014) for B.Tech III year ME-I and ME-II students, VNRVJIET.
- Conducted **Computerized numerical control machine Programming**-Certificate Course-40 hrs in the year 2013-14 for II B.Tech MEI and ME-II students.
- Conducted certificate course on **ANSYS software** -40 hrs, 2013-14, for III B.Tech MEI and ME-II students.
- Invited Mr Pankaj from ARK Solutions as guest lecture on **Finite Element Analysis**-90 mins (15-10-2014).
- Conducted National webinar on “**Preparing for Emerging Opportunities Post 2020**” 3rd October, 2020.
- Conducted for one week online Faculty Development Programme on “**Recent Advances in Thermal Science and Management**” 27th July – 31st July 2020.

4.2 Attended:

- 15th July-15th November 2020 ‘LaTex for students, Engineers and Scientists’ **IIT Bombay** X-Lakshya programme under skill development.
- 15th July-15th November 2020 ‘Workplace Communication’ **IIT Bombay** X-Lakshya programme under skill development.
- Two weeks training on "ADVANCED CONCEPTS FOR DEVELOPING MOOCS" from 02nd July – 17th July 2020, Teaching Learning Center Ramanujan College, University of Delhi, Under **Ministry of Human Resource Development** Pandit Madan Mohan Malaviya National Mission on Teachers and Teaching.
- 28th -29th August, 2020 Webinar on Two day Global Virtual Seminar series on “Exciting advances in manufacturing automation-2020” organized by Department of Mechanical Engineering, **GITAM Institute of Technology**.
- 29th May 2020 webinar on “Selection of Chillers” Organized by Genex Consultants, in collaboration with **ISHRAE Deccan** Chapter, held at **Anurag Group of Institutions**, Telangana on
- 15th to 16th July, 2020, Participated in a two-day webinar entitled, “Multifunctional Materials” organized by Centre for Nano Science and Technology, Dept. of H&S, **VNRVJJET, Hyderabad-500090**.
- 21st September -25th September, 2020 “Solar Energy: Technologies and Applications” sponsored by AICTE Training and Learning (**ATAL**) Academy online FDP on "at **Jyothi Engineering College, Kerala**.
- 31st August -5th September, 2020 “Advanced Techniques in Modelling and Analysis for Structural and Thermal Applications”, AICTE sponsored organized by **VNR Vignana Jyothi Institute of Engineering and Technology, Hyderabad**.
- 10th -14th August, 2020 Green Energy technologies: Need of Future, jointly organized by Vaagdevi College of Engineering, Warangal and **NIT Srinagar**
- 15th-17th May 2020 hands on online workshop on Effective Utilization of digital platform for Teaching and Learning Process conducted at **VNR Vignana Jyothi Institute of Engineering and Technology, Hyderabad**
- 25th -29th November 2019 3D printing Processing and application at VNR Vignana Jyothi Institute of Engineering and Technology, Hyderabad.
- 19th-23rd November 2019, **Development Characterisation and Analysis of Composites (DCAC-2019)** at VNR Vignana Jyothi Institute of Engineering and Technology, Hyderabad.
- 24th– 28th September 2019 **Automation studio software** at VNR Vignana Jyothi Institute of Engineering and Technology, Hyderabad.
- 11th -15th December 2017 **Engineering Drawing through AUTOCAD** at VNR Vignana Jyothi Institute of Engineering and Technology, Hyderabad.
- 25-27th February 2016, **Application of “FINITE ELEMENT METHOD in Mechanical Engineering”** at VNR Vignana Jyothi Institute of Engineering and Technology, Hyderabad.
- Two weeks ISTE STTP on ‘**Thermodynamics**’ (BMWME209X) conducted by IIT Bombay in blended mode from July 16, 2015 to December 21, 2015.
- 3rd – 4th April 2015, “**Research methodology**”-BITS Pilani, Hyderabad
- 19th – 20th Mar 2015 “3D Printing” 2015 at VNR VJJET .
- TEQIP Conclave 7th -8th March “**Enhancing Quality of Technical Education and Research**” at IIT Hyderabad.

- 26th-28th December 2014 International Workshop on “**OpenFoam a Free Computational Fluid Dynamics Software:- Applications and Programming**” at Rajarshi Shahu College of Engineering(RSCOE), Pune.
- 16th-17th December 2014”, National Workshop on “**Additive Manufacturing** at VNRVJIET, Hyderabad.
- 3rd-7th August 2013 International Workshop on “**Process Oriented Guided Inquiry Learning (POGIL)**” at VNR VJIET, Hyderabad.
- 28th February 2013 National Workshop on “**Advanced Trends in IC Engines and Combustion**” at JNTUH, Hyderabad.
- 4th February 2012 “**Trends in Renewable Energy Applications & Technology – Solar**” conducted by Ministry of New & Renewable Energy, Govt. of India.
- 13th -14th August 2010 “**Advances in Thermal Engineering**” 2 day Workshop at CMR College of Engineering & Technology, Hyderabad
- 29th -30th December 2010 “**Advances in CAD/CAM/CAE**” 2 day Workshop at CMR College of Engg & Tech, Hyderabad.
- 7th -12th Nov 2005 “**Faculty Induction Program**” at Nirma Institute of Technology Ahmedabad, Gujarat.
- 28th -29th May 2007 “**Solid Modelling and Mechanical Analysis**” at L.D. College of Engg, Ahmedabad, Gujarat.
- 30th June to 11th July 2003 “**Advances in Refrigeration and Air-conditioning (ARAC)**” at Nirma Institute of Technology, Ahmedabad, Gujarat
- 2nd June to 13th June 2003 “**Design Methodology**” at Indian Institute of Technology Powai, Mumbai.
- 30th September to 11th October 2002 “**Application of Artificial Intelligence in Mechanical Engineering**” at L.D. College of Engg, Ahmadabad, Gujarat.

5. Academic Contribution and Research & Consultancy:

5.1. Invited Lectures:

- ❖ Resource person for a workshop on “**Career in Mechanical Engineering**” for intermediate students at Oakridge international School, Bachupally on 30th September, 2020.
Resource person for one session in the workshop conducted by Mechanical Engineering department on ‘**Engineering graphics through Autocad**’ (25th Aug 2014)
- ❖ Resource person for two Sessions on ‘**Engineering graphics through Autocad**’ from August 26th to 31st, 2013 Refresher Course on AutoCAD for Faculties at VNR VJIET.
- ❖ Resource person for one session of POGIL Activity on seismic zones in India, from Aug-5th to 7th, 2013 under (Reviving Education by implementing Active & Guided Inquiry Experiences Science, Technology, Engineering & Maths) REIMAGINE STEM.

5.2. Articles / Chapters published in Books:

- Written chapter ‘EFFECT OF BIODIESEL ON PERFORMANCE, EMISSIONS AND COMBUSTION’ for Book titled “Applied soft computing techniques for Renewable Energy” for NOVA Publishers, ISBN: 978-1-53618-180-7

5.3. Books published as single author or as editor: NIL

5.4. Projects Guided:

a) UG: 16 Major and minor Projects

b) PG: 7 Minor Projects

5.5. Research Interests: Alternate Fuels, Renewable energy sources, Thermal Engineering systems

5.6. Ph.D students: NIL

5.7. Papers published in reviewed Journals:

S. No	Title of the Paper	Journal Name Vol.No. PP	ISBN/ISSN No.	Impact Factor	Status (National/ International)
1.	Effect of cooled EGR on modified light duty diesel engine for combustion, performance, and emissions under high-pressure split injection strategies.	Case Studies in Thermal Engineering Thermal engineering https://doi.org/10.1016/j.csite.2018.03.004	2214-157X	1.8	International
2.	Combustion analysis of modified light duty diesel engine under high pressure split injections with cooled egr	Engineering Science and Technology,an International Journal https://doi.org/10.1016/j.jestch.2019.01.013	1110-0168	2.018	International
3.	Nair, J. N., Kaviti, A. K., & Daram, A. K. (2016). Analysis of performance and emission on compression ignition engine fuelled with blends of neem biodiesel. <i>Egyptian Journal of Petroleum</i> . https://doi.org/10.1016/j.ejpe.2016.09.005	Egyptian journal of petroleum (Elsevier Pub.)Vol 26,issue 4,Dec 17,pg 297-237	1110-0162	1.44	International
4	Study of Biodiesel blends and emission characteristics of biodiesel'	IJRSET Vol. 2, Issue 8, August 2013	2319-8753	1.69	International
5	Comparative study on performance of compression Ignition Engine operated on Diesel &B100 Biodiesel	IJRSET Vol. 3, Issue 7, July 2014	2319-8753	1.69	International
6	Transesterification of Algae Oil using K ₂ CO ₃ /ZnO Heterogeneous Base Catalys	Asian Journal of Chemistry https://doi.org/10.14233/ajchem.2019.21807 ,Vol 31,No. 5(2019),pg1100-1104	0975-427X	SJR 0.14	Indian

7.	Combustion and emission characteristics of light duty diesel engine fueled with transesterified algae biodiesel by K ₂ CO ₃ /ZnO heterogeneous base catalyst.	Energy Sources, Part A: Recovery, Utilization, and Environmental Effects.2020 Jun 18:1-3 DOI:10.1080/15567036.2020.1779415	15567230	Impact factor 08	International
8.	The Effects of Aerofoil Profile Modification on a Vertical Axis Wind Turbine.” October 2020.	International Journal of Scientific & Technology Research	2277-8616	-	International

5.8. Papers presented at National / International conference:

S.No	Title of the Paper	Names of the Conference/ Seminars	National/ International	Period
1	Important Design Aspects Of Cryo Pump	Exploring Potentiality of Women in Engineering	National	3-4 July 2009
2	Influence on Emissions and Performance of CI Engine with Graphene Nanoparticles Blended with Karanja Biodiesel	“3 rd International Conference on Advancements in Aeromechanical Materials for Manufacturing (ICAAMM-2020)”	International	24 th & 25 th July 2020
3.	Impact of Tamarindus Indica Biodiesel Blends on Performance and Exhaust Emissions Characteristics of Light Duty Compression Ignition Engine	INTERNATIONAL CONFERENCE ON SUSTAINABLE DEVELOPMENT IN MECHANICAL ENGINEERING (SDME 2020	International	30 th -31 st October,2020

5.9. Sponsored research Projects:

S.No	Title	Agency	Period	Grant amount	Ongoing / Completed
1	Cultivation of Microalgae and characterization of its suitability as an alternate fuel.	UGC	2 years	3.3lakhs	completed

5.10 Consultancy Projects:

S.No	Title	Agency	Period	Sanctioned Amount	Ongoing / Completed
	NIL				

Reviewer:

1. Energy Conversion and Management (Elsevier Publications)
2. International Journal of ambient energy (Elsevier Publications)
3. Biofuels (Taylor & Francis)
4. Energy Sources, Part A: Recovery, Utilization, and Environmental Effects (Taylor & Francis)
5. BioEnergy Research (Springer nature)
6. Walailak Journal
7. Rasayan Journal

6. Awards / Honors received:

- Best Paper Award – 2009 for “Important Design Aspects of Cryo Pump”, presented at “Exploring Potentiality of Women in Engineering” at Charotar University of Science And Technology, Changa, Gujarat.
- 16th Rank in Gujarat Public Service Commission 2009. Selected under Technical Education Department at University Assistant Professor Level.
- Was awarded Certificate on outstanding contribution in reviewing by ENERGY CONVERSION AND MANAGEMENT Journal, Elsevier Publication, February 2017.

7. Motto: To Always create a win- win situation