

STAFF PROFILE

Department of Mechanical Engineering
UCE- Panruti
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Dr. G. HARIHARAN, B.E., M.E., M.I.S.T.E., Ph.D
Assistant Professor /Mech Dept-UCE Panruti

1. Research Area:

Solar Cell, Thin films, Thermal, Optimization Techniques

2. Educational Qualifications:

Qualification	Department	Year (From - To)	Percentage	Class
Ph.D	Mechanical Engineering	August 2020	--	--
M.E (Thermal)	Mechanical Engineering	2002- 2004	68 %	I
B.E (Mech)	Mechanical Engineering	1998-2002	65%	I
H.Sc	State Board	1998	76.83%	I
SS.LC	Matric board	1996	76.18%	I

3. Experience:

Name of Company / Institutions	Designation of Post	Scale of pay	From	To	Relived on	Exp in Years
			<u>DD-MM-YYYY</u>	<u>DD-MM-YYYY</u>		
University College of Engineering Panruti	Assistant Professor	15600-39100-6000	01.07.2023 (AN)	Till Date	-	0.2
University College of Engineering	Assistant Professor	15600-39100-6000	03.07.14	01.07.2023	01.07.2023 (FN)	8.11

Kanchipuram						
University VOC College of Engineering	Assistant Professor	15600- 39100- 6000	23.08.2010	02.07.2014	02.07.2014	4
Sathyabama University	Assistant Professor	22420- 7847- 32509	08.06.2009	19.08.2010	19.08.2010	1.2
Aarupadai Veedu Institute of Technology	Lecturer	17906/-	05.01.2009	05.06.2009	05.06.2009	0.6
SRM University (Ramapuram Campus)	Lecturer	8000- 275- 13500	09.08.2007	11.12.2008	11.12.2008	1.4
T.J.Institute of Technology	Lecturer	8550- 6071- 15903	16.02.2006	12.07.2007	12.07.2007	1.5
Neyveli Lignite Corporation Limited	Graduate Trainee	1970- stipend	22.12.2004	21.12.2005	21.12.2005	1
Meenakshi College of Engineering	Lecturer	8000/- consolid ated	01.08.2004	20.12.2004	20.12.2004	0.5
					Total	18years 11 months

4. Awards:

- Award for **Best NSS Programme Officer** for the year 2020-2021 in the University level NSS Award.
- Award for **Best NSS Unit** for the year 2020-2021 in the University level NSS Award for UCEK NSS Unit-II.
- Award for **100 %result** in Power plant Engineering.
- Award for **100 %result** in Advanced I.C.Engines.
- Award for **100 %result** in Engineering Graphics in Anna University Examinations held during Nov/Dec 2014.
- Certificate of appreciation and recognition of outstanding contribution with continued dedication to the student community- **“Award for Excellence in Teaching”** received from Sri Karuna nandar Charitable Trust SKCT (Reg. No.128/2017), Thiruvannamalai-606604 on Dec 29, 2020.

5. Additional / Academic Responsibilities at University:

- Library Officer** from 03.07.14 to till date at UCEK.
- NSS Programme Officer Unit-II** from 05.07.2019 to till date at UCEK.

- c. Acted as **Chairman** for Anna University Valuation work.
- d. **Anna University Representative** for University Theory and Practical Examinations for the last 8 years.
- e. **Anna university Squad member** for University theory Examinations.
- f. **Affiliation member** for Anna University Affiliation work for inspecting colleges.
- g. **Anna University NSS Coordinator** for the Tamil Nadu NSS Volunteers in the National Integration Camp (16.03.2022-22.03.2022) in Bangalore.
- h. **Establishment of various Mechanical Lab** (Thermal, EPL, Manufacturing lab) at UCEK.
- i. **Part Time Coordinator** – Coordinated the Part time classes from 9.8.07 to 11.12.08 in SRM Ramapuram campus.
- j. **NSS Coordinator**- Coordinated the NSS Activities from 9.8.07 to 11.12.08 in SRM Ramapuram campus.

Faculty Development Programs conducted.

- 1) Organized a Faculty Development Programme on **“ME6502-Heat and Mass Transfer”** sponsored by Centre for Faculty Development, Anna University, Chennai, from 15 June to 21 June 2015 at UCEK.
- 2) Organized a Faculty Development Programme on **“GE8292-Engineering Mechanics”** sponsored by Centre for Faculty Development, Anna University, Chennai, from 18 Dec to 24 Dec 2017 at UCEK.
- 3) Organized a Faculty Development Programme on **“ME8391-Engineering Thermodynamics”** sponsored by Centre for Faculty Development, Anna University, Chennai, from 18 Dec to 24 June 2018 at UCEK.
- 4) Organized a Faculty Development Programme on **“ME8593- Design of Machine Elements”** sponsored by Centre for Faculty Development, Anna University, Chennai, from 10th June to 15th June 2019 at UCEK.

6. Professional Activities:

- a. SAE Collegiate Club staff Coordinator- University VOC College of Engineering Thoothukudi

7. Membership of Scientific and Professional Societies:

- a. ISTE- Life Member- LM 64764
- b. IAENG- member – No.275278
- c. ISHMT-Life member- No.1729

8. Fellowships and Grants:

1) International Patent (Australian Government)

Certificate of Grant(Patent Number :2021103342)

Title of Invention - “**ARTIFICIAL NEURAL NETWORK BASED PRODUCTION MONITORING WITH OPTIMIZED TOOL LIFESPAN SYSTEM**”.

9. Completed B.E/M.E Projects:

- a. Number of ME Projects Completed: 2 Nos
- b. Number of BE Project Completed: 40 Nos

10. PhD Research Projects (Completed):

Nil

11. PhD Research Projects (Ongoing):

2 (Ongoing)

Sponsored Research Activities: Nil

PROJECT NAME

Duration: ___ Years

Consultancy Activities: Nil

PROJECT NAME

Duration: ___ Years

12. List of Seminar / Short Term Course / FDP/ Workshop attended: (Within India)

- 1) Undergone Faculty Development Program in the Topic “**Automobile Engineering**” Sponsored by the Centre for Faculty Development, at Jeppiaar Engineering College, Chennai, from 4th to 16th Dec 2006. (13 days)

- 2) Undergone Faculty Development Program in the Topic **“Heat Transfer”** Sponsored by the Centre for Faculty Development, at A.C.Tech, Anna University, Chennai, from 1st to 8th June 2012. (8 days)
- 3) Undergone Faculty Development Program in the Topic **“Thermal Engineering”** Sponsored by the Centre for Faculty Development, at University College of Engineering, Villupuram, from 20th to 26th June 2013 (7 days).
- 4) Undergone TEQIP sponsored Faculty Development Program in the Topic **“Sustainable Energy Technologies for the Future Generation”**, at Pondicherry Engineering College from 25th to 29th Nov, 2013(5 days).
- 5) Undergone Faculty Development Program in the Topic **“Engineering Thermodynamics”** Sponsored by the Centre for Faculty Development, at University College of Engineering, Villupuram, from 16th to 22th June 2014 (7 days).
- 6) Undergone AICTE approved Faculty Development Programme (FDP101X) on **“Foundation Program in ICT for Education”** conducted by IIT Bombay from Sep 13 to Oct 18, 2018 (Two Week Equivalent FDP Course), Remote Centre- ID 1537-UCEK.
- 7) Undergone AICTE approved Faculty Development Programme (FDP201X) on **“Pedagogy for Online and Blender Teaching –Learning Process”** conducted by IIT Bombay from Oct 30 to Dec 13, 2018 (Two Week Equivalent FDP Course), Remote Centre- ID 1537-UCEK.
- 8) Participated in the AICTE Sponsored National Seminar in the Topic **“KAIZEN- The Stepping stone for Innovation and Inventions”** at Rajalakshmi Engineering College on 20th and 21st March 2009. (2 days)
- 9) Participated in the one-day Seminar on **“Recent Trends in Refrigeration & Air-Conditioning”**, organized by “R & AC Division, Department of Mechanical Engineering, Anna University, Chennai on 14th October 2011 (1 day).
- 10) Participated in the National Level Technical Seminar on **“Optimization in Engineering and Management Research”** conducted by the Department of Mechanical Engineering, Anna university Chennai during 24th – 25th May 2012 (2 days).

- 11) Participated in the Two week ISTE Workshop on **“Thermodynamics in Mechanical Engineering”** Conducted by IIT Bombay through Edusat Programme held under the National Mission on Education through ICT (MHRD) in Anna University, Chennai from 14th -24th June, 2011**(11 days)**.
- 12) Participated in the Two Day Workshop on **“Engineering Materials and Its Applications”** held at Aarupadaiveedu Institute of Technology on 2nd and 3rd Dec2008**(2days)**.
- 13) Participated in the One Day Workshop on **“Research Opportunities at CVRDE”** held on 6th April, 2011at Anna University of Technology, Tirunelveli-627007**(1 day)**.
- 14) Participated in the One Day Workshop on **“Nanocoatings and Applications – NANOCOAT 2011”** Organized by Department of Manufacturing Engineering (DOME), Anna University, Chennai- 600 025 on 30th May 2011**(1day)**.
- 15) Participated in the One Day Workshop on **“Energy Security”** Organized by Heavy Water Plant, Tuticorin On 27th Feb 2012**(1 day)**.
- 16) Participated in the Two Days ISTE Workshop on **“Writing Effective Conference Papers”** Conducted by IIT Bombay through Edusat Programme held under the National Mission on Education through ICT (MHRD) in Rajalakshmi Engineering College, Chennai On 18th and 19th Feb 2012**(2 days)**.
- 17) Participated in one-day Workshop on **“Recent Trends in Product Design & Development”** conducted by the Department of Mechanical Engineering, Anna University, Chennai on 18th May 2012**(1 Day)**.
- 18) Participated in the Two week ISTE Workshop on **“Introduction to Research Methodologies”** Conducted by IIT Bombay through Edusat Programme held under the National Mission on Education through ICT (MHRD) in Anna University, Chennai from 25th June – 4th July 2012 **(10days)**.
- 19) Participated in the Two Day ISTE Workshop on **“Aakash for Education”** Conducted by IIT Bombay through Edusat Programme held under the National Mission on Education through ICT (MHRD) in Regional Centre of Anna University, Tirunelveli on 10th and 11th Nov, 2012**(2 days)**.

- 20) Participated in the **“International Workshop on Renewable Energy, Climate Change & Energy Management(RECCEM-2013)”** Organized by the Institute of Energy Studies, Anna University, Chennai during 24th -25th January, 2013 **(2 Days)**.
- 21) Participated in the Two Day Workshop on **“Recent Trends in Composite Materials and its Applications”** organized by K.L.N. College of Engineering, on 13th& 14th Aug 2013**(2 Days)**.
- 22) Participated in the two week AICTE –QIP sponsored Faculty Development Programme on **“Thin Films Deposition and Characterization”** Conducted by the Department of Physics and Dept of Mechanical Engineering, AC Tech Karaikudi, from 21.11.2017 to 04.12.2017**(14 Days)**.
- 23) Participated in the National Workshop on **“Powder X-ray Diffraction & Data Analysis”**, organized by the Department of Physics, Bishop Heber College, Tiruchy, from 23 to 24 February 2018 **(2 Days)**.
- 24) Participated in the one day workshop on **“Developing Effective Research Publications, Proposals & Patents”** organized by the Department of EEE, Agni College of Technology on 30th December 2015.**(1 Day)**.
- 25) Participated in the one day workshop on **“Research Methodology”** held on 16.12.2014, organized by the Centre for Faculty Development, at Anna University, Chennai-25 **(1 day)**.
- 26) Participated in the National workshop on **“Recent Advances in Engineering Materials & Chemical Sciences”** held at University College of Engineering, Villupuram on 26th February 2016. **(1 day)**.
- 27) Participated in the International Workshop on **“Preparation of Technical Articles & Research Proposals”** held at University College of Engineering, Villupuram on 4th January 2016. **(1 Day)**.
- 28) Participated in the Two Day Workshop on **“ Optimization Techniques for Engineering Applications”**, Organized by Department of Mechanical Engineering, Adhiparasakthi Engineering College on 13th and 14th February 2015 **(2 Days.)**

- 29) Participated in the one day workshop on **“Solar Energy Systems-Opportunities, Challenges & Development”** Organized by the Institute for Energy Studies, Anna University held on 31st August 2015 **(1 Day)**.
- 30) Participated in the DST-PURSE sponsored two day workshop on **“Advanced Characterization Techniques of Materials”** conducted by the Department of Mechanical Engineering, CEG, Guindy during 23rd -24th February 2015 **(2 Days)**.
- 31) Attended the QIP, AICTE sponsored Short Term Course on **“Industry 4.0 and Smart Manufacturing”** organized by the Department of Mechanical Engineering, Pondicherry Engineering College, Puducherry from 17.02.2020 to 22.02.2020.
- 32) Attended the Coordinators workshop on **“Koha and Library automation”** held at the Indian Institute of Technology, Bombay on 29th September 2018 under the aegis of National Virtual Library of India, funded by the ministry of Culture, Govt. of India.
- 33) Participated in the **One Day Training Programme for NSS Programme Officers** held on 5th March 2020 at MIT Campus, Anna University, conducted by the National Service Scheme, Anna University, Chennai-25.
- 34) Participated in the QIP sponsored One Week Short Term Course on **“Energy and Environmental Management”** conducted by National Institute of Technical Teachers Training & Research (NITTTR), Taramani from 17.06.2019 to 21.06.2019.
- 35) Attended the **“NSS Orientation Course”** for NSS Programme Officers conducted by Empanelled Training Institution, Madras School of Social Work from 20.09.2019 to 26.09.2019.
- 36) Attended the three weeks Industrial Training on **“Mechanical Engineering Applications in Telecom Industry”** conducted by Rajiv Gandhi Memorial Telecom Training Centre, Bharat Sanchar Nigam Limited (BSNL), Meenambakkam, Chennai from 08.06.2020 to 26.06.2020.
- 37) Attended the two week online refresher course on **“Advancements in Mechanical, Production & Civil Engineering & ICT in Teaching Learning Process”** conducted by the Department of Mechanical Engineering, Sri Sairam Engineering College (Online) from 13.05.2020 to 26.05.2020.
- 38) Attended the two week FDP on **“Managing Online classes and Co-creating Moocs 3.0”** conducted by Teaching Learning centre in Online mode by Ramanujan College , University of Delhi from 25.07.2020 to 10.08.2020.

- 39) Attended the one week FDP on **“Moodle Learning Management System”** Organized by CFD, Anna University, Chennai and Spoken Tutorial Project, IIT Bombay (Online) from 12.10.2020 to 16.10.2020.
- 40) Attended the one week FDP on **“Energy Engineering”** conducted by AICTE Training and Learning Academy, held by the Department of Hydro and Renewable Energy, IIT Roorkee from 23.11.2020 to 27.11.2020.

13. International Conferences Participated/ Presented:

- 1) Presented a Paper in the Title (2010), "Building Green Home with Geothermal System" ", International Conference on **“Environmental Sustainability with Green Building Technology** organized by Meenakshi Sundararajan Engineering College”, Kodambakkam during 15th to 17th March 2010.
- 2) Presented a Paper in the Title “Building Green Home with Geothermal System” in the International Conference on **“Emerging trends in Energy and Environment”** held on 7th& 8th January 2010 at Sri Sai ram Engineering College, West Tambaram.
- 3) Presented A paper Titled **“Review of Preparation Methods of Paraffin Composited as PCM for Thermal Energy Storage”** in the International Conference on ICGESCS’2013 held at Arunai Engineering College on 1st and 2nd Feb2013.
- 4) Presented a paper titled **“A Numerical Simulation Study on Drill Bit Point Angle and Helix Angle during Drilling AISI 1045 STEEL”** in the International Conference on Advances in Mechanical Engineering(**ICAME**) at UCE Villupuram 15th to 16th OCT (2015).
- 5) Presented a paper titled **“Synthesis and characterization of Cu doped Zinc Sulphide thin films prepared by chemical bath deposition for solar cell application”** in the TEQIP II sponsored International Conference on **“Trends and Innovations in Chemical and Pharmaceutical Technologies”** from 2nd – 4th February 2017 held in Department of Petrochemical Technology, Bharathidasan Institute of Technology, Anna University Tiruchirappalli.
- 6) Presented a paper in the title **“ Influence Of Annealing Temperature On The Characteristics Of Chemical Bath Deposited Zinc Sulphide Thin Films For Solar Cell Applications”** in the International Conference (ICCONNECT2K18)conducted by the Department of Mechanical Engineering , K.Ramakrishnan College of Technology, Samayapuram from March 23 to 24, 2018.
- 7) Participated in the online Two Days International Technical Conference on **“Artificial Intelligence & Robotics: Transforming Academia to Industry”** from 22- 23 January 2021, conducted by The Institution of Engineers (India), Tamil Nadu State Centre in association with MENTORX.

14. Publications :

a. Books:

- a. Published a book in the title **“Thermal Engineering”** authors, Dr.S.Ramachandran, Dr.R.Karunakaran, Mr.G.Hariharan, for B.E Mechanical Engineering, Air Walk Publications, (2016)**ISBN No.978-81-924031-5-1.**

b. International Journals:

- 1) Published a paper in the title **“Design and Performance Analysis of an Innovative Single Basin Solar NanoStill”**, Moses KoilrajGnanadason, Palanisamy Senthil Kumar, Vincent H Wilson, Gajendiran Hariharan, NavaneethakrishnanShenbagaVinayagamoorthis in the **“International Journal of Smart Grid and Renewable Energy”** ,Vol(4),issue 8.(2013).
- 2) Published a paper in the title **“Synthesis And Structural Characterization Of Nano Structured Zinc Sulphide Thin Films Grown On Glass Substrates By Chemical Bath Deposition”** Hariharan Gajendiran, ShenbagaVinayagaMoorthiNavneetha Krishnan, Dharani ArasanguudiPonnuswamy in the **“Int J Adv Engg Tech”** /Vol. VII/Issue II/April-June 2016.
- 3) Published a paper titled **“Investigation of Structural and Optical Properties of Nano Structured Zns Thin Films Prepared by Chemical Bath Deposition for Solar Cell Applications”** Hariharan Gajendiran, Shenbagavinayagamoorthis ,Navneetha Krishnan , Kalaiselvan Palani , Ezhilkumar Krishnamoorthy in the **“International Journal of Transactions on Innovations in Science & Technology”** Volume.3, Issue.1, 2018, pp.13-18 ISSN: 2456-5075.
- 4) Published a paper titled **“Wear Performance of Hybrid Ceramic Reinforced Aluminum Metal Matrix Composite”**Hariharan, G, Shenbaga Vinayaga Moorthi, in the Journal of the Balkan Tribological Association, Vol.25, no.1, 2019, pp.113-124, ISSN No:1310-4772.
- 5) Published a paper titled **“Effects of Post Annealing on the Characteristics of Zinc Sulphide Thin Films formed by Chemical Bath Deposition for Solar cell Applications”** Hariharan, G, Shenbaga Vinayaga Moorthi, N &Karthickeyan, D in the Journal of the Balkan Tribological Association, Vol.25, no.2,2019, pp.331-341, ISSN No:1310-4772.

- 6) Published a paper Titled **“Influence of Annealing Temperature on the Characteristics of Chemical Bath Deposited Zinc Sulphide Thin Films for Solar Cell Applications”** Hariharan, G, ShenbagaVinayagaMoorthi, N &Karthickeyan, D &Thanikaikarasan,S in the Journal of New Materials for Electrochemical Systems, (ECOLE POLYTECHNIQUE MONTREAL, CANADA), Vol.22,no.1,2019,pp.1-4,ISSN No.1480-2422 (Print); 2292-1168 (Online).
- 7) Published a paper Titled **“Detailed studies on employing fish canning waste as a partial alternative in a research diesel engine: Waste to energy initiation”**,Y Devarajan, NB Munuswamy, G Subbiah, G Hariharan, in the Journal of Environmental Progress & Sustainable Energy, John Wiley & Sons, Inc.,pages- e14130,(2023)
- 8) Published a paper Titled **“Numerical Modelling, Simulation, and Analysis of the End-Milling Process Using DEFORM-3D with Experimental Validation”**, B Deepanraj, N Senthilkumar, G Hariharan, T Tamizharasan, Tesfaye Tefera Bezabih, in the Journal of Advances in Materials Science & Engineering (Hindawi) published on 2022/9/13.
- 9) Published a paper Titled **“Influence of SiC Nanoparticles Reinforcement in Areca/Tamarind Hybrid Biopolymer Composites: Thermo-mechanical, Tribological and Morphological Features”**, G Hariharan, PC Krishnamachary, JS Binoj, BB Mansingh I the journal of Journal of Bionic Engineering(Springer) pages 1-14, published on 20.02.2023.
- 10) Published a paper Titled **“Decoration of WO₃ nanospheres with graphene nanotubes for enhancement of solar energy applications”**, G.Hariharan, A.P.Dharani, K.Aruna, Janaki Ramya &R.Sridarane in the Journal of Materials Science in Electronics(Springer) Vol.33,no.18, pp-14992-15004 (2022).
- 11) Published a paper Titled **“Design and fabrication of mixed phase transition metal chalcogenide hybrid composite (M+Ni& Co) for Pt free efficient dye - sensitized solar cell applications”**, G.Hariharan, A.P.Dharani, N.Shenbaga Vinayaga Moorthi & K.K.saravanan in the Journal of Materials Science in Electronics (Springer) Vol.34,no.3, (2023).

15. National Conferences:

- 1) Presented a paper titled **“A control Design of Robotics using Genetic Algorithm”** in the AICTE sponsored National Conference on “Optimization Techniques and its Application in Engineering” held at Rajalakshmi Engineering college on 6th & 7th August, 2009.

- 2) Participated in the National conference on “**Future Challenges and Budding Intelligent Techniques in Electrical and Electronics Engineering**” organized by Sathyabama University, Chennai on 29th& 30th July, 2010.
- 3) Presented a paper titled” **Lean Manufacturing**” in the national Conference on Recent Trends in Manufacturing and Industrial Engineering”,(NCRTMIE 2010) organized by the Department of Mechanical & Production Engineering, Sathyabama University, from 9th- 10th April,2010.
- 4) Presented a Paper in the National Conference on “**Recent Trends in Mechanical Engineering**” held at Rajalakshmi Engineering College, Thandalam.
- 5) Presented a paper in the topic “**Residual Life Assessment of Boiler and strategies to improve the efficiency of the Power Plant**” in the National Conference held at Shri Venkateswara University, Tirupathi.
- 6) Presented a paper titled “**Green energy Vehicle**” in the National Conference on Energy Audit and Power Quality” at Dr. M.G.R. Educational and Research Institute University held on 5th and 6th Oct 2012.
- 7) Presented a paper titled “**Investigation of Structural and Optical Properties of Nano Structured ZnS Thin Films Prepared by Chemical Bath Deposition for Solar Cell Applications**” in the “National Conference conducted by the Department of Mechanical Engineering, Adhi Parasakthi Engineering College, Melmaruvathur, April 4th 2018.
- 8) Presented a Technical Paper Entitled “**Preparation and Characterization of Cu doped Zinc Sulphide thin films by Chemical Bath deposition**” in the second National conference on “ Materials science and its Future Prospects” (NCMSFP-2017).
- 9) Presented a paper titled “**Combined cycle Magneto Hydro Dynamics Power Generation**” in the IEEE National Conference on Recent Advances in Mechanical Engineering (RAME 2014) held on 7th February 2014 at Saveetha University.

Guest Lecture Delivered:

1. Delivered Lecture in the topic “**Gas Cycles**” in Anna University approved FDP on “**ME6404-Therml Engineering**” conducted by Jeppiaar Institute of Technology, Sriperumbudur on 05.12.2016.

2. Delivered Lecture in the topic “**Psychrometrics**” in Anna University approved FDP on “**ME8391-Engineering Thermodynamics**” conducted by JeppiaarMaamallan Engineering College, Sriperumbudur on 07.09.2017.
3. Delivered Lecture in the Topic “**Future Scope for Mechanical Engineers**” in the MECH 4.0 Technical Webinar Series organized by the Department of Mechanical Engineering ,Sathyabama University on 10.07.2021.
4. Delivered Lecture in the topic “**Future Scope in Mechanical Engineering**” in the Webinar organized by the Department of Mechanical Engineering, DMI College of Engineering,Nazerthpet, chennai via google meet on 14.06.2021.
5. Delivered Lecture in the topic “**Thermal Engineering**” in the Guest Lecturer organized by the Department of Mechanical Engineering, DMI College of Engineering ,Nazerthpet, chennai in Offline on 08.03.2022.

Address for Communication:

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