

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)	Percentag e	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	Designati on 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/- consolidated	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 Blended 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 Tambaran.
- 3) Presented A paper Titled “**Review of Preparation Methods of Paraffin Composed 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, NavaneethakrishnanShenbagaVinayagamoorthi 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 Structued Zinc Sulphide Thin Films Grown On Glass Substrates By Chemical Bath Deposition”**" Hariharan Gajendiran, ShenbagaVinayagaMoorthiNavneetha Krishnan, Dharani ArasangudiPonnuswamy 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, Shenbagavinayagamoorthi ,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-Therm1 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, Siperumbudur 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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