Dr. R. KANNAN M.Sc., B.Ed., M.Phil., PhD.

Lecturer /Physics, Department of General Engineering
Sakthi Polytechnic College- Sakthi Nagar-638315
Mobile no: 9524785965
E-Mail ID: kannanarjun13@gmail.com

EDUCATION DETAILS

DEGREE	SPECIALIZATION	YEAR OF PASSING	CLASS/GRADE	NAME OF THE COLLEGE/UNIVERSITY
B.Sc.	Physics	2003	I – Class with Distinction	Bharathiar University - Coimbatore
M.Sc.	Physics	2005	I – Class	Bharathiar University - Coimbatore
B.Ed.	Physical Sciences	2006	I – Class with Distinction	Madras university – Chennai
M. Phil	Thin Film Technology	2008	I – Class with Distinction	Bharathidasan university – Trichy
Ph.D	Thin Film Technology	2014	Highly Commended	Anna University – Chennai

SPONSORED PROGRAMS ORGANIZED

- 2nd International Conference on Emerging Smart Materials in Applied Chemistry (ESMAC-2021) Organized jointly with Kalinga Institute of Industrial Technology (KIIT), Bhubaneswar. (3rd to 5th December 2021).
- International Conference on Materials Research in Science and Engineering (KMRSE 21) at Kumaraguru College of Technology, Coimbatore. (23rd to 25th July 2021).
- International Conference on Physics and Chemistry of Materials in Novel Engineering Applications (PCMNEA 2020) at Kumaraguru College of Technology, Coimbatore. (6th to 7th February 2020).

- Faculty Development on PH8151 – Engineering Physics sponsored by CENTRE FOR FACULTY DEVELOPMENT ANNA UNIVERSITY, CHENNAI – 25. (11. 6. 2018 – 17. 6.2018).
- Seminar entitled Microscopy: A versatile tool to explore the horizons of Materials world in collaboration with Carl Zeiss India (Bangalore) Pvt. Ltd. Bengaluru, India. (16.02.2017)

BOOKS AUTHORED

SL. NO.	TITLE OF THE BOOK	YEAR	PUBLISHER(S)
[1]	rosion and Magnetic Characterization of Electroplated NiFe and NiFeW Soft Magnetic Thin Films for MEMS Applications - Lecture notes in mechanical engineering, Advances in Materials and Metallurgy	2019	Springer, ISBN: 978-981-13-1779-8

GUEST LECTURES DELIVERED

- Lecture entitled "General survey of the possible applications and development tendencies of magnetic levitation technology "was delivered in AICTE Training and Learning (ATAL) Academy sponsored FDP on Magnetic Levitation conducted by Hindusthan Institute of Technology, Coimbatore on 20.09.2021.
- Lecture entitled "Development of cost-effective electroplated high corrosion resistant nano structured thin layer coatings" was delivered to CAMERON industry team on 08.02.2021.
- Lecture entitled "Structural analysis of nano structured materials for engineering applications" was delivered in FDP program organized by KLDA – KCT on Oct 2020.
- Lecture entitled "PH8151 – Engineering Physics" was delivered in FDP sponsored by CENTRE FOR FACULTY DEVELOPMENT ANNA UNIVERSITY, CHENNAI – 25 (2018).
- Lecture entitled ""Recent trends in Electroplated Ni based thin films for Tribological applications"

  Was delivered at Paavai Engineering College held on 27th Dec 2018.

SUBJECTS HANDLED

- Engineering Physics – I & II
- Materials Science
- Applied Physics
- Engineering Physics Laboratory
- Insights into materials for engineering applications
- Bio Physics
- Advanced materials science

- Advanced characterization techniques
- Introduction to nano science

PAPERS PRESENTED / PUBLISHED

1. Journal Publications

1. Nivetha, G; **Kannan, R**; Selvambikai, M; Vasantharaj, C; B Praveen Kumar; et al. " Comparative Study of Structural and Mechanical Properties of as Deposited and Shock Wave Exposed NiW Nano Structured Thin Films", Defence Science Journal; New Delhi Vol. 72, Iss. 4, (Jul 2022): 600-608. DOI:10.14429/dsj.72.17658.
2. Ananthi, S. Senthil, T.S. **Kannan, R**. Ranjith Kumar, E. "Investigation of structural, mechanical and magnetic characterization of electroplated W deposited NiMo thin films", Journal of Materials Science: Materials in Electronics, 2022, 33(26), pp. 20855–20866. https://doi.org/10.1007/s10854-022-08894-3
3. Ananthi, S. Senthil, T.S. **Kannan, R.** Sengodan, R. "The effect of molybdenum (Mo) concentrations on the mechanical and magnetic properties of electrodeposited Co rich ternary CoMoW thin films from citrate electrolytic bath", Journal of Ovonic Research, 2022, 18(4), pp. 507–517. https://doi.org/10.15251/JOR.2022.184.507
4. A. Kalaivani, Mohanbabu Bharathi, **R. Kannan**, G. Senguttuvan, V. Sivakumar, D. Nithiyaprakash, Donghui Guo, "Preparation of bath temperature controlled NiFeP films for MEMS application"
   Solid State Communications, Volume 347, 2022,114715, ISSN 0038-1098,
   https://doi.org/10.1016/j.ssc.2022.114715
5. S. Goutham Srinivasan, M. S. Sooraj, **R. Kannan**, et al. "Analysis of corrosion resistance of nano structured Co-W coatings through electrodeposition technique coated on the surface of mild steel", AIP Conference Proceedings 2446, 170002 (2022); https://doi.org/10.1063/5.0108126
6. R. Marudhachalam, **R. Kannan,** T. Kavitha, et al. "Optimization of process condition of nanostructured nickel coating using partial factorial design", AIP Conference Proceedings 2446, 170007 (2022); https://doi.org/10.1063/5.0108310
7. **R. Kannan**, G. Nivetha, M. Selvambikai, et al. "Morphological analysis of shock wave exposed nickel tungsten thin film prepared by electroplating process", AIP Conference Proceedings 2446, 170004 (2022); https://doi.org/10.1063/5.0108312
8. S. Goutham Srinivasan, M. S. Sooraj, **R. Kannan**, et al. "Enhancement of wear resistance of mild steel using nano crystalline CoW coatings through electroplating technique", AIP Conference Proceedings 2446, 170001 (2022); https://doi.org/10.1063/5.0108359
9. R. G. Sethuraman, R. Kannan, R. Balamurugan, et al. "Role of nickel (Ni) on the micro structural and optical behaviors of CuO nano scale structures", AIP Conference Proceedings 2446, 130007 (2022); https://doi.org/10.1063/5.0108913

10. Kalaivani, A., Mohanbabu, B., **Kannan, R**. et al. Influence of current density on the physical properties of electroplated NiFeP nano thin films for MEMS applications. J Mater Sci: Mater Electron 32, 13610–13618 (2021). https://doi.org/10.1007/s10854-021-05939-x
11. R Marudhachalam, **R Kannan,** R Tamilselvi, P Devaki, "Effect of Hybrid Max Filter and Edge Detection on Scanning Electron Microscope Picture of Calcium Oxide and Copper Oxide Nanocomposites",Solid State Technology 63 (5), 7109- 7114, 2020.
12. E Shobhana**, R. Kannan,** K Mohanraj, "Investigations on Synthesis, Structural, Spectral, Thermal, Dielectric And Z-Scan Analysis of an organic Nonlinear optical Material: 8-Hydroxyquinolinium Trichloroacetate (8HQTC)", Solid State Technology 63 (5), 7122-7137,2020.
13. IJ Rajathy, **R. Kannan**, TS Senthil, Synthesis, Structural, Electric and Magnetic Properties of nano Crystalline NiFeAg thin films for MEMS Applications", Solid State Technology 63 (5), 6983-6989,2020.
14. E Shobhana, **R Kannan**, R Kesavasamy, B Babu, P Thirumoorthi, "Computational studies (DFT) of organic nonlinear optical material: N-methylglycine". AIP Conference Proceedings 2270 (1), 040002, 2020.
15. RG Sethuraman, **R Kannan**, T Venkatachalam, "Effect of Mn on the structural and optical properties of CuO nanostructures", AIP Conference Proceedings 2270 (1),110034, 2020.
16. S Renukadevi, AP Jeyakumari, **R Kannan**, "Synthesis, structural and antibacterial properties of CuO: CaO nano composites through co-precipitation method", AIP Conference Proceedings 2270 (1), 110044,2020.
17. ES Kumar, **R Kannan**, S Venkateshwaran, "Investigation on the effect of heat treatment on mechanical and tribological behaviour of aluminium reinforced hybrid composite", AIP Conference Proceedings 2270 (1), 030008, 2020.
18. A Kiruthiga, **R Kannan**, T Krishnakumar, "Investigation of structural and optical characteristics of chromium doped ZnO nanostructures by microwave irradiated route for sensing applications, AIP Conference Proceedings 2270 (1), 110021, 2020.
19. PS Premkumar, KR Aranganayagam, G Meena, R Arulpriya, D Nandhini, **R. Kannan**, "Structural, optical and thermal analysis of zinc based aerogel composite materials", AIP Conference Proceedings 2270 (1), 030010, 2020.
20. E Shobhana, **R Kannan**, R Kesavasamy, B Babu, P Thirumoorthi, "Growth and characterization of Sarcosine single crystal for nonlinear optical applications", AIP Conference Proceedings 2162 (1), 0200501, 2019.

21. **R Kannan**, M Selvambikai, S Jyothi, E Selvakumar, S Venkateswaran, "An investigations on structural, mechanical and magnetic properties of electroplated NiP nano crystalline thin films for aerospace and automotive applications", Materials Research Express 6 (11), 116435, 2019.

22. S Venkateshwaran, E Selvakumar, M Selvambikai, **R Kannan**, "Corrosion and magnetic characterization of electroplated NiFe and NiFeW soft magnetic thin films for MEMS applications", Advances in Materials and Metallurgy, 447-454, 2019.
23. **R Kannan,** E Selvakumar, M Selvambikai, S Venkateshwaran, "An investigation of electroplated nickel (Ni) and tungsten (W) nano crystalline coatings on mild steel: Structural, mechanical and tribological behaviour", AIP Conference Proceedings 2142 (1), 080003, 2019.
24. A Kiruthiga, T Krishnakumar, **R Kannan**, "The effect of surfactant on structural and optical properties of ZnO nanorods by wet chemical synthesis", AIP Conference Proceedings 2142 (1), 150017, 2019.
25. **R Kannan**, P Devaki, PS Premkumar, M Selvambikai, "Effect of tungsten (W) on structural and magnetic properties of electroplated NiFe thin films for MEMS applications", Materials Research Express 5 (4), 046414, 2018.
26. A Kalaivani, G Senguttuvan, **R Kannan**, "Structural, mechanical and magnetic study on galvanostatic electroplated nanocrystalline NiFeP thin films", Materials Research Express 5 (3), 036404,6, 2018.
27. R Balamurugan, R Prakasam, **R Kannan,** R Sengodan, "Laser Speckle Decorrelation Technique for In-plane Deformation Measurement", Lasers in Engineering (Old City Publishing) 39, 2018.
28. A. Kiruthiga**, R. Kannan** "IMPACT OF PEG6000 ON THE PHYSICAL PROPERTIES OF MICROWAVE-ASSISTED ZnO NANOSTRUCTURES USING WET CHEMICAL SYNTHESIS", Rasayan J. Chem., 11 (1), 18-22, 2018.
29. R. SENGODAN, B. CHANDAR SHEKAR, R. BALAMURUGAN, **R. KANNAN**, "Temperature dependence of optical properties on BaTiO3 thin films for optoelectronics applications", JOURNAL OF OPTOELECTRONICS AND ADVANCED MATERIALS 19 (9 -10), 595 – 603, 2017.
30. **R Kannan**, M Selvambikai, I JeenaRajathy, S Ananthi, "A study on structural analysis of electroplated nano crystalline nickel based thin films", Rasayan J Chem 10 (4), 1213-1217, 2017.
31. **R.Kannan** and S.Kokila, "Synthesis and Structural characterization of CoNiW alloy thin films by electrodeposition" International Journal of Thin films science and Technology, 4, No. 1, 59-62 (2015).
32. R.Kanagaraj, **R.Kannan,** S.Ganesan, "Effect of bath temperature on structural and magnetic properties of electrodeposited NiFeCr thin films", Journal of optoelectronics and advanced materials, v.17 no.1/2, 2015 pp.139-144.
33. R. Kanagaraj**, Dr. R. Kannan**, Dr. S. Ganesan and Dr. P. Esther, Influence of deposition time on structural and magnetic properties of electrodeposited NiFeCr thin films, International Journal of Applied Engineering Research, ISSN 0973- 4562 Vol. 10 No.38 (2015).

34. R. Kanagaraj, **R. Kannan**, S. Ganesan, Impact of additive on magnetic properties of electrodeposited nano crystalline NiFeCr thin films, International journal of Engineering research and Technology, Vol 3 , No 19 , (2015).
35. R. Kanagaraj, **R. Kannan**, S. Ganesan and S.K.Muthukumar , " Investigation of Structural and Magnetic Properties of Nano Crystalline NiFeCr Thin Films Electrodeposited from Sulphate Bath, International Journal of Chem Tech Research, Vol 8, No , 4, (2015).
36. R. Kanagaraj, **R. Kannan**, S. Ganesan and S.K.Muthukumar , " Impact of sulphate bath concentration on structural and magnetic properties of NiFeCr thin films" , International journal of Advanced Research in Physical Sciences, Vol 2 , No 7, (2015).
37. R. Kanagaraj, **R. Kannan**, S. Ganesan and S.K.Muthukumar , " Effects of Chloride bath conetration on structural and Magnetic Properties of NiFeCr thin films, Asian Journal of Applied Sciences, Vol 3 , No 4, (2015).
38. M. RAJESWARI, S. GANESAN, T. M. SELVAKUMARI, **R. KANNAN** , "Characterization of electrodeposited nanocrystalline Ni-Mn thin films for MEMS applications", Vol. 16, No. 5-6, May - June 2014, p. 640 – 644.
39. T. Baskar, K.S. Rajni **, R.Kannan**, "SYNTHESIS AND STRUCTURAL CHARACTERIZATION OF ELECTRO DEPOSITED NICKEL COBALT TUNGSTEN ALLOY THIN FILM AT DIFFERENT TEMPERATURE", IJARSE, Vol. No.3, Issue No.11, November 2014.
40. T. Baskar, K.S. Rajni , **R.Kannan**, "SYNTHESIS AND STRUCTURAL CHARACTERIZATION OF ELECTRODEPOSITEDCONIP ALLOY THIN FILM", International Journal of Advanced Technology in Engineering and Science, Volume No.02, Issue No. 10, October 2014.
41. R.Kanagaraj, **R.Kannan**, S.Ganesan, " Synthesis and Characterisation of Electrodeposited NiFeCr thin films", Journal of Ovonic Research, Vol. No. 10, No.6, 2014, pp.197 – 204.
42. **Kannan, R**, Ganesan, S & Selvakumari, TM 2012 'Structural and Magnetic properties of electrodeposited NiFeWS thin films', Optoelectronics and advanced materials-Rapid Communication Vol.6, no.3-4, pp.383-388.
43. **Kannan, R**, Ganesan, S & Selvakumari, TM 2012 'Synthesis and characterization of nano crystalline NiFeWS thin films in diammonium citrate bath', Digest journal of nanomaterials and biostructures, vol.7, no.3, pp.1039- 1050.
44. **Kannan, R**, Ganesan, S & Selvakumari, TM 2012 "Effect of annealing temperature on magnetic properties of nano crystalline NiFeWS thin films in Diammonium Citrate bath.", Optoelectronics and materials advanced, vol.14, No.9-10, pp.774-780.
45. **Kannan, R,** Ganesan, S, Balasubramanian, V. & Rajeswari, M. 2013 'Diammonium citrate concentration on structural and magnetic properties of nano structured NiFeWS alloy thin films', Advanced Science Focus, vol.1, no.1, pp.1-7, doi:10.1166/asfo.2013.1026.

46. **Kannan, R,** Kanagaraj, R & Ganesan, S 2013 'Influence of Tri Sodium Citrate Bath Concentration on the Electrodeposition of NiFeWS Thin Films', Journal of Ovonic Research, vol.9, no.2, pp.45-54, March - April 2013.
47. **Kannan, R**, Ganesan, S & Selvakumari, TM 2013 'An investigation on effects of annealing on magnetic properties of NiFeWS electrodeposited coatings in tri sodium citrate bath', Iranian Journal of Science & Technology, IJST, A2: pp.181- 187
48. **Kannan, R**, Ganesan, S , Esther, P, & Joseph Kennady C 2013 'Development of high performance magnetic Ni-Fe-W-S thin film for MEMS' , International journal of Thin Films Sciences and Technology, Vol no. 2, No.3, pp. 233-244.
49. **Kannan, R**, Ganesan, S, Balasubramanian, V. & Rajeswari, M. 2014 'Development of nano structured Ni rich Ni-Fe-W-S films for micro electro mechanical system applications', Journal Of Optoelectronics and Advanced Materials , Vol. 16, No. 1-2, pp. 156 – 161.
50. **Kannan, R** & Ganesan , S. 2014' Enhancement of magnetic properties on annealed Ni-Fe-W-S electrodeposited thin films for MEMS applications' Optoelectronics and advanced materials-Rapid Communication, Vol. 8, No. 3-4, March – April 2014, p. 274 – 281.
51. Balasubramanian, V, Suriyanarayanan, N. & **Kannan, R**. 2012 'Quantum confinement effects of the band gab of Bi2s3 thin films using chemical bath deposition', Research journal of chemical sciences, vol.2, no.11, pp.51-54.
52. Balasubramanian, V, Suriyanarayanan, N. & **Kannan, R**. 2012 'Optimization of chemical bath deposited Bismuth Sulphide thin films on glass substrate', Scholars research library, vol.4, no.4, pp.1864 - 1868.

2. National / International Conferences

SL. NO.	TITLE OF THE PAPER	NAME OF THE CONFERENCE	ORGANIZED BY	DURATION
1.	Aluminium Matrix Composite Reinforced with High Strength Tungsten Carbide and Fly ash & Preparation Method Thereof	CONFERENCE ON IPR PATENTS COPYRIGHTS INNOVATIONS & STARTUPS (CIPCIS 2020)	Pimpri Chinchwad College of Engineering & Research, Pune	February 18-19-2021
2.	An image processing approach for measuring the roughness of the electroplated NiMo and NiP nano	National Conference on Functional Materials (NCFM-2020)	Sharda University, Greater Noida.	25th July – 26th July 2020

	crystalline thin layer surfaces.			
3.	The effective role of bath temperature on structural and magnetic properties of electroplated Ni rich NiFeP nano crystalline thin films for sensor applications	National Conference on Functional Materials (NCFM-2020)	Sharda University, Greater Noida.	25th July – 26th July 2020
4.	Nickel based thin films for storage devices applications	National level "Nanotechnology Idea Contest"	Sri Ramakrishna Engineering College , Coimbatore - 22	Feb, 2020
5.	An Investigation of Electroplated Nickel (Ni) and Tungsten (W) Nano Crystalline Coatings on Mild Steel: Structural, Mechanical and Tribological Behavior.	International Conference on Advances in Basic Sciences	GDC Memorial College, Bahal, District Bhiwani (Haryana)	Feb. 7-9, 2019
6.	The effect of surfactant on structural and optical properties of ZnO nanorods by wet chemical synthesis	International Conference on Advances in Basic Sciences	GDC Memorial College, Bahal, District Bhiwani (Haryana)	Feb. 7-9, 2019
7.	An Investigations on Structural, Mechanical and Magnetic Properties of	International Conference on Optics & Electro-Optics(ICOL – 2019)	IRDE – DRDO – Dehradun	Oct 19-22, 2019

	Electroplated NiW nano Crystalline Thin Films for MEMS Applications			
8.	Investigations of Structural and Optical Properties of Chromium Doped ZnO Nanostructures by Wet Chemical Technique for Sensing Applications	International Conference on Optics & Electro-Optics(ICOL – 2019)	IRDE – DRDO – Dehradun	Oct 19-22, 2019
9.	Synthesis, structural and mechanical properties of electroplated NiFeMo nanocrystalline thin films	Second International Conference on Science, Technology, Engineering and Management,	KCT, Coimbatore.	Feb, 2019
10.	Corrosion and magnetic characterization of NiFe and NiFeW soft magnetic thin films for MEMS applications	International conference on Engineering materials, Metallurgy and Manufacturing ICEMMM – 2018)	SSN College of Engineering, Chennai.	Feb, 2018
11.	Structural, Mechanical and Magnetic analysis of electroplated NiFeAg soft magnetic thin films	ICMR sponsored National Conference titled 'Chemistry of Advanced Materials and its Biomedical Applications	KCT, Coimbatore.	April, 2018
12.	Synthesis and characterization of electroplated nano crystalline NiFeMo and NiFeW thin films for MEMS applications	International Conference on Nanotechnology: Ideas, Innovations and Initiatives (ICN:3I-2017).	IIT Roorkee, Uttarakhand	December 06 - 08, 2017
13.	Effect of H+ ion implantation on Optical Properties of Single Crystal:	International Conference on Nanotechnology: Ideas, Innovations and Initiatives (ICN:3I-2017).	IIT Roorkee, Uttarakhand	December 06 - 08, 2017

	Morpholinium dihydrogen phosphate			
14.	A study on structural analysis of electroplated nanocrystalline Nickel based thin films	International conference on Science, Technology and Engineering Promotion –	Kumaraguru College of technology, Coimbatore	Aug 18 - 19 – 2017
15.	Influence of annealing on magnetic properties of electrodeposited NiFeWS soft magnetic thin films	National conference on Advances in Materials Science and Nonlinear Systems (AMSNS-16)	KSR College of Engineering, Tiruchengode – 637 215	Jan, 2016
16.	Impact of additive on magnetic properties of electrodeposited nano crystalline NiFeCr thin films.	ICESMART - 2015 (International Conference on Engineering, Science, Management and Advances in Research Technology)	T. John Institute of Technology, Bangalore – 560 083.	April 2015
17.	Effect of thiourea on structural and magnetic properties of Electrodeposited NiFeCr thin films	DST-SERB sponsored second National Conference on Materials for Modern World – (NCMMW-2015)	Eswari Engineering College, Ramapuram, Chennai – 600089.	Sep, 2015
18.	Role of phosphorous on magnetic properties of Nano crystalline NiFeCr thin films	National Seminar on Nanomaterials and its Applications-(NSNA-2015)	Mar Ivanios College, Kerala-695015	Oct 2015
19.	Effect of Borax on magnetic properties of electrodeposited NiFeCr thin films	National Conference on applied science and humanities – (NCASH – 15)	K.S.School of Engineering and Management, Bengaluru – 560062	May, 2015

MEMBERSHIP IN PROFESSIONAL BODIES

- Life member in Indian Society for Technical Education (ISTE) – LM No:81600

HONORS AND AWARDS

- Award of merit-Teaching category 5th Sep - 2018 – KCT
- Certificate for the contribution of research project proposal submission.
- Certificate for 100% result in Engineering Physics-

ANY OTHER INFORMATION

- **Patent details:** APPLICATION NUMBER: 201841008026
  ALUMINIUM MATRIX COMPOSITE REINFORCED WITH HIGH STRENGTH TUNGSTEN CARBIDE AND FLYASH & PREPARATION METHOD THEREOF
  Status: Published
- **PhD Supervision: completed - 2**
- **Research Projects:**

S.No	Responsibility	Title of the project	Project cost (Lakhs)	Duration (Months)	Funding Agency
1	PI	Investigative Studies on Structural and Mechanical Properties of Electroplated NiP, NiB and NiW Nano Crystalline Thin Layers on Steel Substrate for Erosion Resistant Applications	38	36	DRDO – ARMREB-MAA
2	PI	Development of high performance nano structured magnetic NiFeW thin films for MEMES and NEMS applications	2.08	24	KCT - MFP
3	Co-PI	Fabrication of gas sensors using pure and doped CuO nanofibers	2.24	24	KCT - MFP
4	PI	Aluminium matrix composite reinforced with high strength tungsten carbide and flyash & preparation method thereof	1.94	08	KCIRI

- **Citations:** 156, h-index 6, i10-index 5
- **Paper Reviewed:** More than 75 papers for various journals like thin solid films, Material research express etc.
- **Journal Editor:**
  Dr. Kannan Rathinam
  Associate Editorial Board Member
  Innovations In Corrosion and Materials Science, Bentham Science Publishers.
- **Certification Courses Completed**
  1. Solid State Physics - IIT Kharagpur - Jul – Oct 2017 (12 weeks) Elite
  2. Materials Characterization IIT Madras Jan – Apr 2017 (12 weeks) Elite
  3. Business English Certification Cambridge English – Language Assessment April 2017 B1 level
  4. Structural analysis of nanomaterials IIT - Roorke Sep 2018 Elite
  5. Technical English for Engineers IIT- Madras Sep 2018 Elite

6. Introduction to Thermodynamic s: Transferring Energy from Here to There University of Michigan March 27, 2020 Completed
7. Learning How to Learn: Powerful mental tools to help you master tough subjects McMaster University March 28, 2020 Completed
8. LifeSkills for engineers (Level 1) University of Hyderabad Osmania University Feb 2020 Competency Certificate

- **Outreach Program Conducted**

  1. Outreach Program for project demo of school students - 17.11.2017 – ASC Block, KCT, Coimbatore
  2. Science project awareness program – Riverside Public students - 10.11.2017, Kotagiri.

- **Consultancy work details**

  1. Electroplating of Ni on Mild steel - Mr. M. D. Puhazhendhi II ME – CAD/ CAM, Department of Mechanical Engineerng Good will
  2. Electroplating of NiFeP thin films on Cu substrate - Mrs. Kalaivani Asst Prof, Department of Physics Sri Shakthi Institute of Engineering & Technology, Coimbatore.
  3. Electroplating of Mo on Mild steel - Apr-19 - K. Akash and team from Paavai Engg. College, Namakkal.
  4. Ni coating on Mild steel - Apr-19 - P. Vinoth Kumar and team from Paavai Engg. College, Namakkal.
  5. Electroplating of Mo on Copper - Apr-19 - D. Anto Ajith and team from Paavai Engg. College, Namakkal.
  6. NiW coating on Copper - Apr-19 - J. Dhamodiran and team from Paavai Engg. College, Namakkal.