

## Kings College of Engineering (Autonomous)

### Department of Mechanical Engineering

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|-----------------------------------------------------------------|------------------------------------------------------------------------------------------------------|
| Name : Mr. S. Nelson Raja                                       |                   |
| Designation :                                                   | Assistant Professor                                                                                  |
| Qualification :                                                 | B.E., M.TECH., (Ph.D).                                                                               |
| Area of Specialization :                                        | Composite Materials, Powder Metallurgy, Material Science, Material Characterization and Optimization |
| Experience :                                                    | Teaching : 6.5 Years                                                                                 |
|                                                                 | Industry : Nil                                                                                       |
| No. of Workshop / Conferences / FDP / STTP / Seminar Attended : | 68                                                                                                   |
| Publication :                                                   | Journal<br>National : Nil<br>International : 04                                                      |
|                                                                 | Conference<br>National : 02<br>International : 11                                                    |
| Membership :                                                    | ISTE Life Member<br>IAENG Life Member                                                                |
| Achievements :                                                  | -                                                                                                    |

## Publications

### Journals

1. **S. Nelson Raja**, Kathhi Palaksha Reddy & Thanjavur Krishnamoorthi Kandavel “Workability and Corrosion Behavior Studies on Sintered Iron-Based Hybrid Powder metallurgy alloys” Materials and Corrosion, 2022, <https://doi.org/10.1002/maco.202213268>.
2. **S. Nelson Raja**, K. Vadivel, B. Ineesh Kumar & T. D. Choumya Devi “Investigation of Fatigue Loading on Galvanized Iron AISI 4340 Sheet Metal using Spot Welded Joint in Finite Element Analysis” International Journal for Research in Applied Science & Engineering Technology (IJRASET), Volume 7 Issue XI, Nov 2019.
3. **S. Nelson Raja**, K. Vadivel, S. Sabanayagam & M. Sakthivel, “Evaluation on Mechanical Properties of Natural Fiber Based Epoxy Resin Composites” International Journal for Research in Applied Science & Engineering Technology (IJRASET), Volume 11 Issue IV Apr 2023.
4. **S. Nelson Raja**, Arunkumar Ganesan, A.Abiyuth & A.Arsath Sathick, “Optimization of Electric Discharge Machining (EDM) process parameters using Grey Relational Analysis(GRA) for Incoloy 800HT” International Journal of Engineering Research & Technology (IJERT), Volume 12, Issue 02.

### National Conferences

1. **S. Nelson Raja**, S. Sabanayagam, M. Sakthivel & R. Rajadurai “Experimental Investigation on Physical and Morphological Properties of Al7075 Reinforced Hybrid Metal Matrix Composites”, National Conference on Emerging Trends in Engineering and Technology (ETET 2024), ISBN – 978-93-91977-49-8, organized by NIT, Pondicherry on 15.02.24 to 16.02.24.
2. **S. Nelson Raja** “Optimization of Electric Discharge Machining (EDM) Process Parameters Using Grey Relational Analysis (GRA) for Incoloy 800HT”, National Conference on Envision on 5G in AI, IOT & Cloud Computing Applications (Conf Call 2024), ISBN – 978-81-971735-6-7organized by PITS, Thanjavur on 28.03.2024.

### International Conferences

1. **S. Nelson Raja**, R. Elanthendral, R. Madhan, K. Sathish & K. Suresh, “Synthesis and Property Evaluation of Magnesium Based Hybrid Composite for Industrial Applications” International Conference on Sustainable Technologies in Engineering & Sciences (ICSTES – 2025) 08th & 09th May, 2025.
2. **S. Nelson Raja** & M. Sakthivel “Workability and Corrosion Behavior Studies on Sintered Iron Based Hybrid Powder Metallurgy Alloys” International Conference on Sustainable Technologies in Engineering & Sciences (ICSTES – 2025) 08th & 09th May, 2025.

3. M. Sakthivel & **S. Nelson Raja** "Sustainable Materials for Emerging Applications: Natural Fiber-Reinforced Composites" International Conference on Sustainable Technologies in Engineering & Sciences (ICSTES – 2025) 08th & 09th May, 2025.
4. M. Sakthivel & **S. Nelson Raja** "Investigation of Corrosion Characteristics in Friction Stir Welded Dissimilar Joints across Various Testing Environments" International Conference on Sustainable Technologies in Engineering & Sciences (ICSTES – 2025) 08th & 09th May, 2025.
5. Jegan Krishnan, Sabanayagam Sundaram, **Nelson Raja Selvaraj** & Sakthivel Mathiyazhagan "Oxidation Behavior of Plasma Sprayed IN625 Coating on SS304 for Boiler Environment" 6<sup>th</sup> International Conference 2024 on Emerging Trends in Management, Education, Engineering, Science and Technology (ICETMEEST-2024), February 22<sup>nd</sup> & 23<sup>rd</sup> 2024.
6. **S. Nelson Raja**, G. Kabilan, M. Kabilan, R. Keerthivasan & R. Kishorekumar "Mechanical Properties Upgrading Over Fusion Deposition Modelling Process Parameter Effect on Polymer Matrix Composites" International Conference on Recent Trends in Engineering and Science (ICRTES - 2024) 02 & 03<sup>rd</sup> May, 2024.
7. **S. Nelson Raja**, S. Arunkumar, S. Gnanasekaran, R. Hariprasath & K. Madheshwaran "Tribology Properties Upgrading Over Fusion Deposition Modelling Process Parameter Effect on Polymer Matrix Composites" International Conference on Recent Trends in Engineering and Science (ICRTES - 2024) 02 & 03<sup>rd</sup> May, 2024.
8. Arunkumar Ganesan, **S. Nelson Raja**, K. Ram & A. Abiyuth "Optimization of Process Parameter for Laser Welding of Super Austenite Stainless Steel (UNS S31254)" International Conference on Recent Trends in Engineering and Science (ICRTES - 2024) 02 & 03<sup>rd</sup> May, 2024.
9. **S. Nelson Raja** "Experimental Investigation of Mechanical and Metallurgical Properties on Aluminium 7075 Reinforced Hybrid Metal Matrix Composites" International Conference on Recent Advances in Civil & Mechanical Engineering (RACME) held on 27.04.2023.
10. **S. Nelson Raja** "Mechanical and Tribological Properties Upgrading over Fusion Deposition Modeling Process Parameters Effect on Polymer Matrix Composites" International Conference on Recent Advances in Civil & Mechanical Engineering (RACME) held on 27.04.2023.
11. **S. Nelson Raja** "Workability and Corrosion Behavior Studies on Sintered Iron-Based Hybrid Powder Metallurgy Alloys" International Conference on Recent Advances in Civil & Mechanical Engineering (RACME) held on 27.04.2023.

## **FDP / Workshop / STTP / Seminar / Webinar Attended**

### **FDPs**

1. Attended Six days FDP on “Defensive AI: Machine Learning in Cyber Security” Organized by Mount Zion College of Engineering and Technology Associated with ATAL during 07.07.2025 to 12.07.2025.
2. Attended Five days FDP on “Cutting Edge Research in Mechanical Engineering” organized by Ashoka Women’s Engineering College, Kurnool during 04.07.2025 to 18.07.2025.
3. Attended Three - Days Faculty Development Program on “Design Thinking” Organized by ICT Academy at Queens College of Arts and Science for Women- Punalkulam from 23.06.2025 to 25.06.2025.
4. Attended Two weeks online Faculty Development Program on “3D Printing and design” Organized by SkillDzire collaborated with AICTE from 17 Mar 2025 to 31 Mar 2025.
5. Attended five days online NITTTR – Professional Development Program on “Trends in 3D Printing and Manufacturing” at NITTTR, Chennai from 20 Jan 2025 to 24 Jan 2025.
6. Attended Six days online Faculty Development Program on “Machine Learning and IoT for Real Time Instrumentation in Electric and Sustainable Energy Systems” Organized by SIMATS Engineering, SIMATS, Thandalam, Chennai from 12.05. 2025 to 17.05.2025.
7. Attended a five-day online Faculty Development Program on "Emerging Technologies – Shaping the Future," organized by Bangalore Institute of Technology, from 12 May 2025 to 16 May 2025.
8. Attended Five Days online Faculty Development Programme on “Recent Innovations in Mechanical Engineering” organized by Department of Mechanical Engineering, St.Joseph’s College of Engineering and Technology, A.S.Nagar, Elupatti, Thanjavur from 16 Sep 2024 to 21 Sep 2024.
9. Attended One week online FDP on “Resilient Infrastructure for disaster Preparedness and Recovery” organized by ATAL from 20/01/2025 to 25/01/2025.
10. Attended Six Days online Faculty Development Programme on “Six Day Online International Faculty Development Program on Additive Manufacturing Advancements in Different Applications (AMADA-24)” organized by the Department of Mechanical Engineering, SRM Institute of Science and Technology, Ramapuram Campus, Chennai-89, during 21st to 26th October 2024.
11. Attended 12 Hours online Live FDP on “Fusion Fundamentals CAM” organized by ICT Academy from 24/09/2024 to 27/09/2024.
12. Attended One Day Faculty Development Programme on “Outcome Based Education” organized by the IQAC, Kings College of Engineering (Autonomous), Punalkulam on 27.08.2024.

13. Attended Six Days online Faculty Development Programme on “Six Day Online International Faculty Development Program on “Progress in Mechanical Engineering” organized by the Department of Mechanical Engineering, SRM Institute of Science and Technology, Ramapuram Campus, Chennai during 14th to 19th October 2024.
14. Attended One week FDP on “Value Added Ethics on Professional” organized by NITTTR, Kolkatta on 27.05.2024 to 31.05.2024.
15. Attended One week FDP on “Energy sustainability through renewable energy systems” organized by Swami Keshvanand Institute of Technology, Jaipur during 18.03.2024 to 22.03.2024.
16. Attended One week FDP on “Automobile and Refrigeration and Air conditioning” organized by NITTTR, Chennai during 11.03.24 to 15.03.24.
17. Attended Six days Online Faculty Development Program on “Smart Manufacturing” organized by the Department of Mechanical Engineering, SRM Institute of Science and Technology, Ramapuram from 18<sup>th</sup> to 23<sup>rd</sup> December 2023.
18. Attended Six days Online Faculty Development Program on “Additive Manufacturing Advancements in Different Applications” organized by the Department of Mechanical Engineering, SRM Institute of Science and Technology, Ramapuram from 26<sup>th</sup> to 31<sup>st</sup> December 2023.
19. Attended Six days Online Faculty Development Program on “Design, Processes and Applications of Additive Manufacturing” organized by Easa College of Engineering and Technology, Coimbatore during 22<sup>nd</sup> to 27<sup>th</sup> January 2024.
20. Attended 10 Hour FDP on Digital Prototyping CATIA organized by ICT Academy during 27<sup>th</sup> Nov 2023 to 01<sup>st</sup> Dec 2023.
21. Attended Five days FDP on “Trends in 3D Printing and Manufacturing” Organized by NITTTR-Chennai during 11.09.2023 to 15.09.2023.
22. Attended FDP on “Recent Advancement in Materials, Manufacturing and Technology” organized by Swarnandhra College of Engineering and Technology on 30.10.2023 to 04.11.2023.
23. Attended One Week FDP on “Trends in CNC Machining & Metrology” Organized by NITTTR-Chennai during 04.10.2021 to 08.10.2021.
24. Attended Two week FDP on “IoT for Precision Agriculture and Transportation” organized by ATAL during 23.01.2023 to 03.02.2023.
25. Attended FDP on “Integrating PCE Activity in Classroom Teaching” Organized by IQAC, Kings College of Engineering, Punalkulam on 17.02.2022.
26. Attended Five days FDP on “Embracing Online Teaching and Learning” Organize by NIT, Trichy during 03.05.2021 to 07.05.2021.
27. Attended Five days FDP on “Non Traditional Machining” Organized by NITTTR-Chennai during 25.01.2021 to 30.01.2021.

28. Attended Five days FDP on “Applications of Graph Theory and Artificial Intelligence in Distributor Feeder Management” Organized by QIS College of Engineering and Technology, Ongole during 28.11.2022 to 02.12.2022.
29. Attended Two days FDP on “Additive Manufacturing for Environmental Sustainability” Organized by Sri Krishna College of Engineering and Technology, Coimbatore during 24.11.2022 & 25.11.2022.
30. Attended Five days FDP on “Innovation in Mentoring Pedagogy and Incorporation of ICT Techniques in Education” Organized by Paavai Engineering College, Namakkal during 30.01.2023 to 04.02.2023.
31. Attended Five days FDP on “Advances in Casting and Manufacturing” Organized by NITTTR-Chennai during 25.10.2021 to 29.10.2021.
32. Attended One Week FDP on “Dimensional Management” Organized by Finolex Academy of Management and Technology, Ratnagiri during 05.07.2021 to 10.07.2021.
33. Attended Five days FDP on “Automotive Friction Materials” Organized by SRM Institute of Science and Technology, Kattankulathur during 13.12.2021 to 17.12.2021.
34. Attended Three days FDP on “Computational Design & Dynamics” Organized by Sree Sakthi Engineering College, Coimbatore during 27.01.2023 to 29.01.2023.

## **Workshop**

1. Attended One day Workshop on "Modeling & Simulation of an Open ECU Engine for Biofuel Blends" Organized by School of Mechanical Engineering, SASTRA Deemed University, Thanjavur supported by SERB-ANRF on 15 May 2025.
2. Attended State Level Technical Workshop on "IP to Market: Understanding IPR & Technology Transfer" Organized by Academy of Maritime Education and Training (AMET) Deemed to be University, Chennai on 20 Mar 2025.
3. Attended All India Workshop on "Recent Advances in Functional Nano materials" Organized by Institution of Engineers (India), Tiruchirappalli Local Center under aegis of Mechanical Engineering Division Board, IEI in association with K.Ramakrishnan College of Engineering, Tiruchirappalli on 30 Apr 2025.
4. Attended a Workshop on "How to Simplify your Literature Review Writing with Paperpal" organized by Paperpal on 02.03.2025.
5. Attended Two days Workshop on “Recent Development in Additive Manufacturing Processes” organized by K Ramakrishna College of Engineering, Trichy during 24.05.2024 to 25.05.2024.
6. Attended National Level Workshop on “Role of Assessment and Accreditation towards Improving Quality of Education and National Educational Policy Implementation in Higher Educational Institution” Organized by Kamaraj College of Engineering and Technology, Virudhunagar during 08.02.2023 to 10.02.2023.

7. Attended Workshop on “Introduction to Patents for Startups” organized by Francis Xavier Engineering College, Tirunelveli on 12.06.2021.
8. Attended Workshop on “Patent Commercialization Methods and Strategy” organized by Francis Xavier Engineering College, Tirunelveli on 19.06.2021.

### **STTPs**

1. Attended STTP on “Hybrid and Electric Vehicle: Development, Integration and Challenges” Organized by Erode Sengunthar Engineering College, Erode during 20.09.2021 to 25.09.2021.

### **Seminar / Webinar**

1. Attended a One day Webinar on "Navigate the World of Scientific Writing: from Manuscript Structure to Publication" organized by Springer Nature on 15.05.2025.
2. Attended a national level capacity building programme on “AI Tools for Research” organized by ACT Academy Kerala associated with Sri Krishna Adithya College of Arts and Science, Coimbatore on 29.06.2025.
3. Attended Webinar on “Awareness Program on 5-S” organized by SRM Madurai College of Engineering and Technology- Madurai on 30.03.2024.
4. Attended webinar on “Intellectual property Awareness Program” organized by NIPAM, Kolkatta during 26.09.23.
5. Attended webinar on “Sustainable Development Food and Nutritional Security for Zero Hunger” organized by Excel Engineering College, Namakkal during 23.09.23.
6. Attended webinar on “Awareness Program on IPR Registration” organized by SRM Madurai College of Engineering and Technology- Madurai during 27.09.2023.
7. Attended webinar on “Recent Advancemets in Engine Technology” organized by SRM Madurai College of Engineering and Technology- Madurai during 29.09.2023.
8. Attended webinar on “Art of Writing Research Article” organized by NITTTR-Chennai during 25.08.2023.
9. Attended webinar on “Research Scope on Composite Materials” organized by SRM Madurai College of Engineering and Technology- Madurai during 24.08.2023.
10. Attended webinar on “Recent Development in Automobile technology” organized by NITTTR- Chennai during 17.08.2023.
11. Attended Seminar on “First Aid in the Digital World” organized by Excel Engineering College, Namakkal during 09.09.23.
12. Attended webinar on “Solar Energy Applications for Sustainable Future” organized by NITTTR- Chennai during 30.12.2021.
13. Attended webinar on “Wind Energy Applications and Research Opportunities” organized by NITTTR- Chennai during 16.02.2022.
14. Attended Seminar on “The Journey of Entrepreneurship Organic Products” Organized by Paavai Engineering College on “14.05.2023.

15. Attended Webinar on “Surface Modification of Magnesium Alloy Using Electrical Discharge Coating” Organized by Department of Mechanical Engineering, Kings College of Engineering, Pudukkottai on 24-05-2021.
16. Attended Webinar on “Advanced Materials for Engineers” Organized by Department of Mechanical Engineering, Kings College of Engineering, Pudukkottai on 15.09.2021.
17. Attended Webinar on “Art of Research Articles” Organized by Department of Mechanical Engineering, Kings College of Engineering, Pudukkottai on 20.02.2021.
18. Attended Webinar on “Challenges in Life on Faculty Perceptive” Organized by Department of Mechanical Engineering, Kings College of Engineering, Pudukkottai on 29.03.2021.
19. Attended Webinar on “Article Writing and Journal Publication” Organized by Department of Electronics and Communication Engineering, Kings Engineering College, Chennai on 17.06.2020.
20. Attended a Webinar on “Recent Advancements and Optimization Practices in Renewable Energy Industries” organized by Department of Mechanical Engineering, CSI College of Engineering, Ooty in Association with Indian Society for Technical Education on 11th June 2021.
21. Attended Webinar on "Wellbeing and Empowerment (SDG-5)-A Mind Perspective" Conducted by NITTTR-Chennai on 08.03.2023.
22. Attended Webinar on "Dynamics of Machinery" Conducted by NITTTR-Chennai on 09.03.2023.
23. Attended Webinar on “Piezoelectric Nano fibers for Nanogenerators” Organized by Department of Mechanical Engineering, Kings College of Engineering, Pudukkottai on 23.03.2021.

### **Certifications**

1. Value Added Course on “Compendium of Electric Vehicle Engineering” organized by Sri Ramakrishna Engineering College – Coimbatore through online mode and certified.
2. Fast Track Course on “Electric Vehicles” organized by Sri Ramakrishna Engineering College – Coimbatore through online mode and certified.

### **Program Organized**

1. Guest Lecture on “CAD in Mechanical Engineering” held on 24.03.2025.
2. Seminar on “IoT Based Predictive Maintenance for Heavy Machineries” held on 28.03.2025.
3. Seminar on “Carbon Capture & Utilization in Thermal Power Plants” held on 20.03.2025.

4. One Day Industrial Visit "Kothari Sugars and Chemicals Ltd – Kattur, Trichy" on 25<sup>th</sup> February 2025.
5. Orientation Programme on 12<sup>th</sup> February 2025 and 14<sup>th</sup> August 2024.
6. Seminar on "Failure Analysis and Reliability Engineering" held on 02.12.2024.
7. Seminar on "Vacuum and Surface Hardening" held on 20.10.2023.
8. The Career Guidance session on "Goal Setting" was organized on 28th April 2023.
9. Logo Design Competition on 1<sup>st</sup> April 2023.
10. Technical Quiz Competition on 4<sup>th</sup> March 2023.
11. Technical Cross Word Competition on 29.04.2025.
12. Intra Department Paper Presentation on 15.09.2022.
13. Guest Lecture on "Surface Engineering and its Characterization" on 05.11.2024.
14. Technical Paper Presentation on 30.04.2024.
15. CAD QUEST Competition on 18.10.2023.
16. Guest Lecture on "Welding Processes and its Applications" on 19.04.2023.
17. Mini Project Expo on 03.06.2022.
18. Webinar on "Material Characterization" held on 30.09.2021.
19. Technical quiz on "Thermal Engineering" on 30.05.2021.
20. Seminar on "Advances in Automobiles" held on 28.09.2022.