<table>
<tr><td>Name:

Dr. K. Silambarasan</td><td colspan="4">  </td></tr>
<tr><td>Designation:</td><td colspan="4">Assistant Professor</td></tr>
<tr><td>Qualification:</td><td colspan="4">M.Sc., Ph.D (Physics)., Ph.D (Engg.)., PDF (Malaysia)</td></tr>
<tr><td>Area of specialization:</td><td colspan="4">Multiferroic, 2D materials, Solar cells, Photo-catalytic activity, Energy Harvesting, Nanogenerator.</td></tr>
<tr><td rowspan="2">Experience:</td><td>Industrial Experience</td><td>Postdoctoral Experience</td><td colspan="2">Teaching Experience</td></tr>
<tr><td>-</td><td>2 years</td><td colspan="2">1 year</td></tr>
<tr><td rowspan="2">Number of workshops / FDP attended:</td><td colspan="2">Number of Workshops</td><td colspan="2">Number of FDPs</td></tr>
<tr><td colspan="2">1</td><td colspan="2">2</td></tr>
<tr><td rowspan="3">Publications:</td><td colspan="2">Conference</td><td colspan="2">Journal</td></tr>
<tr><td>National</td><td>International</td><td>National</td><td>International</td></tr>
<tr><td>-</td><td>-</td><td>-</td><td>16</td></tr>
<tr><td>Books / Book Chapters</td><td colspan="4">-</td></tr>
<tr><td rowspan="2">Patents:</td><td colspan="2">National</td><td colspan="2">International</td></tr>
<tr><td colspan="2">-</td><td colspan="2">-</td></tr>
<tr><td rowspan="2">Research Guidance</td><td colspan="2">Completed</td><td colspan="2">Ongoing</td></tr>
<tr><td colspan="2">-</td><td colspan="2">-</td></tr>
<tr><td>Professional Body Membership</td><td colspan="4">IEEE</td></tr>
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Research	**Google Scholar ID**: FC6ANDMAAAAJ **Researcher ID:** GWQ-4423-2022 **Orcid ID:** 0000-0002-5295-7782 **Scopus ID:** 57303553500 **Anna University Guideship: No**
Staff Achievements	1. Best Poster Presentation in the National Conference on Functional Materials (NCFM-2025): SRM-IST. 2. Research Exchange Student, Shizuoka University, Japan (October 2017 – September 2018).

Educational Qualifications:

Category	Name of the Degree	Specialization	Year of Passing	Name of the College	Name of the University	% of Marks / Grades obtained	Class obtained
UG	B.Sc.,	Physics	2013	Sri Vidya Mandir Arts & Science College	Periyar University	85.9	I Class with distinction
PG	M.Sc.,	Physics	2016	Periyar University	Periyar University	74.5	I Class
Doctorate	Ph.D.	Physics	2022	SRM Institute of Science and Technology	SRM Institute of Science and Technology	Highly Commented	
	Ph.D.	Nano Technology	2024	Shizuoka University, Japan	Shizuoka University, Japan		

Academic Experience:

Name of the College	Designation	Joining Date	Relieving Date	Experience		
				Years	Months	Days
Sri Sairam Engineering College, Chennai	Assistant Professor	11.08.2022	Till Date	1	0	4
UTHM (Malaysia)	PDF	16.08.2023	15.08.2025	2	0	0
Total				3	0	4

FDP/STTP Attended:

1. Six days faculty development programme on "Advanced 3D Printing Techniques for Healthcare, Automotive and Energy Systems" organized by CIPET: SARP-ARSTPS, Chennai.
2. Two-week faculty development programme on "Advances in Computational and Experimental Research in Physics" organized by the Department of Physics, SRM Institute of Science and Technology, Ramapuram Campus, Chennai, from 27th July to 8th August 2020.

Papers presented in International / National Conferences:

1. Silambarasan Kuppusamya, Dinesh Selvakumarana, Kumaresan Lakshmanan, "Enhancement of Supercapacitor and Oxygen Evolution Applications through the Development of Graphitic Carbon Nitride-Encapsulated SrFe2O4 Spinel Nanocomposite Electrodeshas" presented Poster presentation in National Conference on Functional Materials (NCFM 2025), to be held from 29th – 31st October 2025 at CeMAT, SRM Institute of Science and Technology, Kattankulathur.
2. "Enhancing Bifunctional Strontium Ferrite (SrFe2O4) for Energy Storage Applications" presented an oral presentation in "International Conference on Advanced Functional Materials and Devices - 2024 (AFMD-2024) organised by Nanotechnology Research Center (NRC), SRM Institute of Science and Technology (SRMIST)", February 26-29, 2024.
3. K. Silambarasan, S. Harish, M. Navaneethan, K. Hara, J. Archana "Enhancing the active site of MoS2/rGO composite for counter electrode in DSSC applications" presented oral presentation in "International Virtual Conference on Physics of Emerging Materials and Molecules (IVCPEMM - 2021), Sri Vidya Mandir Arts and Science College (Autonomous), Krishnagiri, Tamilnadu, India - 636902
4. K. Silambarasan, S. Harish, R. Ramesh, K. Hara, M. Navaneethan, J. Archana "Enhancing the active site of interlayer expanded MoS2@rGO composites for energy and environmental applications" presented poster presentation in "International Conference on Nanoscience and Nanotechnology", SRM-IST, Chennai, (1-3) Feb 2021.
5. K. Silambarasan, S. Harish, M. Navaneethan, J. Archana, K. Hara, "Size tunable ZnO hexagonal nanodisks for ultraviolet photo detector" presented poster presentation in "International Conference on Nanoscience and Nanotechnology", SRM-IST, Chennai, (1-3) Feb 2021.
6. K. Silambarasan, S. Harish, M. Navaneethan, J. Archana, K. Hara, "Investigation of one-dimensional metal-oxide Nanocomposites for photo-sensing Applications", presented poster presentation in "International Conference on Nanoscience and Nanotechnology", SRM-IST, Chennai, (1-3) Feb 2021.
7. K. Silambarasan, J. Archana, S. Harish, M. Navaneethan, S. Ponnusamy, C. Muthamizhchelvan, K. Hara, "Metal sulfide and carbon-based hybrids materials for Pt-free counter electrode in dye-sensitized solar

cells" presented poster presentation in 8th National Conference on Hierarchically Structured Materials, SRMIST, Chennai (Ramapuram) (21-22) Feb 2020.

8. K. Silambarasan, J. Archana, S. Harish, M. Navaneethan, S. Ponnusamy, C. Muthamizhchelvan, K. Hara, Y. Hayakawa, "Monodispersed MoS2 nanosheets by hydrothermal method for counter electrode in dye sensitized solar cell", presented poster presentation in "International Conference on Nanoscience and Nanotechnology", SRM-IST, Chennai, (28-30) Jan 2019. 7.
9. K. Silambarasan, J. Archana, S. Harish, M. Navaneethan, S. Ponnusamy, C. Muthamizhchelvan, K. Hara, Y. Hayakawa, " NiO@NiS@G nanocompositesembedded on graphene as counter electrode for dye-sensitized solar cell", 104 presented poster presentation in "International Conference on Nanoscience and Nanotechnology", SRM-IST, Chennai, (28-30) Jan 2019.
10. K. Silambarasan, J. Archana, S. Harish, R. Sankar Ganesh, M. Navaneethan, Y. Hayakawa, K. Hara, "N-doped graphene quantum dot@MoS2@reduced graphene oxide based low cost counter electrode for dye-sensitized solar cell", presented poster presentation in The 4th Inernational Synposium on Biomedical Engineering (ISBE-2019), Act City Hamamatsu, host-coordinator Shizuoka University (14-15) November 2019.
11. K. Silambarasan, J. Archana, M. Navaneethan, S. Harish, R. Sankar Ganesh, K. D. Nisha, Y. Shimura, K. Hara, Y. Hayakawa, "Low cost and high catalytic 1T and 2H phase MoS2 nanosheets for counter electrode in dye sensitized solar cell", presented poster presentation in 20th Takayanagi Kenjiro Memorial Symposium and The 4th International Conference on Nano Electronics Research, (27-29) November2018.
12. K. Silambarasan, J. Archana, S. Harish, K. D. Nisha, E. Senthilkumar, M. Navaneethan, Y. Hayakawa, "Effect of capping ligand on the formation of layered MoS2 as hole transport layer for perovskite solar cell", presented poster presentation in "International Conference on Nanoscience and Nanotechnology", SRM-IST, Chennai, (9-11) Aug 2017.

Journal Publications:

1. Lakshmanan, Kumaresan, Ranjith Kumar Dharman, **Silambarasan Kuppusamy**, Nandhakumar Eswaramoorthy, Mangalaraja Ramalinga Viswanathan, Mohd Khairul Bin Ahmad, and Tae Hwan Oh. "Ag/Yb2O3@ Ti3C2 Nanocomposites as High-Performance Catalysts for Energy Storage and Photocatalytic Dye Degradation." Ceramics International (2025).
2. Kumaresan Lakshmanan, Shanmugavelayutham Gurusamy, Vasanthi Palanisamy, Orawan Rojviroon, Ranjith Rajendran, Elavarasan Nagaraj, Sanya Sirivithayapakorn, **Silambarasan Kuppusamy,** and Thammasak Rojviroon. "One-step thermal plasma fabrication of hexagonal C@ TiCN nanoparticles for

highly stable electrocatalytic HER, OER and supercapacitor applications." International Journal of Hydrogen Energy 175 (2025): 151459.

3. Shazleen Ahmad Ramli, Rosnah Mohd Zin, M. K. Ahmad, N. I. Azyan, N. K. A. Hamed, D. G. Saputri, A. M. S. Nurhaziqah, N. Nafarizal, **K. Silambarasan**, A. B. Suriani & M. Y. Ahmad. "MoS_2-decorated etched-TiO_2 rods film for superior photocatalytic dye degradation." Journal of Sol-Gel Science and Technology 114, no. 2 (2025): 641-659.
4. **Kuppusamy Silambarasan**, Dinesh Selvakumaran, Premanand Rajaraman, Kumaresan Lakshmanan, and Mohd Khairul Bin Ahmad. "Development of surface-activated La0. 6Ca0. 4MnO3 perovskite-type electrodes using oxygen plasma for highly stable supercapacitor application." Ceramics International 50, no. 24 (2024): 52695-52706.
5. **Kuppusamy Silambarasan**, Dinesh Selvakumaran, Kumaresan Lakshmanan, and Mohd Khairul Bin Ahmad. "Development of graphitic carbon nitride-encapsulated SrFe2O4 spinel nanocomposite electrode for enhancing supercapacitor and oxygen evolution applications." Energy & Fuels 38, no. 8 (2024): 7344-7358.
6. Selvam, T. Kirthiga, K. Prakash, M. Geerthana, **K. Silambarasan**, and T. Mathavan. "Enhanced high energy and power density hybrid asymmetric supercapacitor based on 2D layered MoS2/g-C3N4 electrode materials." Journal of Materials Science: Materials in Electronics 34, no. 33 (2023): 2199.
7. **Silambarasan K**., E. Vinoth, S. Harish, M. Navaneethan, and K. Hara. "High spectral responsivity and specific detectivity of p-MoS2/n-Si heterojunction photodetector for near-IR detection via facile solution process." Journal of Materials Science: Materials in Electronics 34, no. 28 (2023): 1975.
8. Selvam, T. Kirthiga, **K. Silambarasan**, K. Prakash, J. Archana, S. Harish, A. Milton Franklin Benial, and T. Mathavan. "Enhanced energy density and power density of asymmetric supercapacitor by induced defects on the surface of MoS2 with strontium atoms." Journal of Materials Science: Materials in Electronics 34, no. 5 (2023): 345.
9. Athithya, Seenidurai, Valparai Surangani Manikandan, Santhana Krishnan Harish, **Kuppusamy Silambarasan**, Shanmugam Gopalakrishnan, Hiroya Ikeda, Mani Navaneethan, and Jayaram Archana. "Plasmon effect of Ag nanoparticles on TiO2/rGO nanostructures for enhanced energy harvesting and environmental remediation." Nanomaterials 13, no. 1 (2022): 65.
10. Prakash, K., S. Harish, **K. Silambarasan**, T. Logu, R. Ramesh, J. Archana, and M. Navaneethan. "Boosting the energy density of supercapacitors by constructing hybrid molybdenum disulphide nanostructures as a highly durable novel electrode." Journal of colloid and interface science 628 (2022): 131-143.
11. Nithiananth, S., **K. Silambarasan**, T. Logu, S. Harish, R. Ramesh, C. Muthamizhchelvan, M. Shimomura, J. Archana, and M. Navaneethan. "Transition divalent metal substitution in chalcopyrite CuInSe2 (In= Co,

Ni, and Mn) counter electrode for dye-sensitized solar cell applications." Materials Letters 308 (2022): 130887.

12. **Silambarasan, K.**, S. Harish, K. Hara, J. Archana, and M. Navaneethan. "Ultrathin layered MoS2 and N-doped graphene quantum dots (N-GQDs) anchored reduced graphene oxide (rGO) nanocomposite-based counter electrode for dye-sensitized solar cells." Carbon 181 (2021): 107-117.
13. **Silambarasan, K.**, J. Archana, S. Athithya, S. Harish, R. Sankar Ganesh, M. Navaneethan, S. Ponnusamy, C. Muthamizhchelvan, K. Hara, and Y. J. A. S. S. Hayakawa. "Hierarchical NiO@ NiS@ graphene nanocomposite as a sustainable counter electrode for Pt free dye-sensitized solar cell." Applied Surface Science 501 (2020): 144010.
14. **Silambarasan, K.**, J. Archana, S. Harish, M. Navaneethan, R. Sankar Ganesh, S. Ponnusamy, C. Muthamizhchelvan, and K. Hara. "One-step fabrication of ultrathin layered 1T@ 2H phase MoS2 with high catalytic activity based counter electrode for photovoltaic devices." Journal of Materials Science & Technology 51 (2020): 94-101.
15. Ganesh, R. Sankar, E. Durgadevi, **K. Silambarasan**, M. Navaneethan, S. Ponnusamy, C. Y. Kong, C. Muthamizhchelvan, Y. Shimura, and Y. Hayakawa. "Effect of ethylenediamine on morphology of 2D Co-Mo-S@ NG hybrids and their enhanced electrocatalytic activity for DSSCs application." Materials Science in Semiconductor Processing 105 (2020): 104725.
16. Ganesh, R. Sankar, **K. Silambarasan**, E. Durgadevi, M. Navaneethan, S. Ponnusamy, C. Y. Kong, C. Muthamizhchelvan, Y. Shimura, and Y. Hayakawa. "Metal sulfide nanosheet–nitrogen-doped graphene hybrids as low-cost counter electrodes for dye-sensitized solar cells." Applied Surface Science 480 (2019): 177-185.

Awards:

1. Best Poster Presentation in the National Conference on Functional Materials (NCFM-2025): SRM-IST.

Online Courses:

1. Completed a 12-week NPTEL-AICTE course on Basic Environmental Engineering and Pollution Abatement during July - Oct 2025.
2. Completed a 12-week NPTEL-AICTE course on Physics of Renewable Energy Systems during July - Oct 2025.