


**Sri Sai Ram Engineering College**  
**Department Of Humanities And Sciences**

Name : <i>Dr. K. Silambarasan</i>	
Designation :	<i>Assistant Professor</i>
Qualification :	<i>M.Sc., Ph.D.</i>
Area of Specialization :	<b>ENERGY STORAGE AND CONVERSION</b> – 2D transition metal dichalcogenides (TMDs) and carbon-based materials
Experience :	<i>Teaching : UG : 1 month</i> <i>PG : --</i>
	<i>Industry : --</i>
No. of Workshop / Conferences / FDP attended	<i>Workshop – / Conferences – 10 / FDP -</i>
Publications :	<i>Journals</i> <i>National : --</i> <i>International : 7</i>
	<i>Conferences</i> <i>National : --</i> <i>International : --</i>
Research Guidance :	<i>Nil</i>
General :	<i>Nil</i>
Staff Achievements:	<b>“Visiting Research Student” at Shizuoka University, Japan (Oct-2017 to Sep-2018)</b>

**Educational Qualification:**

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, Uthangarai - 635 207	Periyar University	85.90	I Class with distinction
PG	M.Sc.,	Physics	2016	Periyar University, Salem - 636 011.	Periyar University	74.5	I Class
	Ph. D.	Physics	2022	SRM Institute of Science and Technology, Kattankulathur - 603 203.	SRM Institute of Science and Technology	--	Highly Commended

### Academic Experience:

Name of the College	Designation	Joining Date	Relieving Date	Experience		
				Years	Months	Days
Sri Sairam Engineering College	Assistant Professor	11.08.2022	Till Date	0	01	20
Total				0	01	20

### PUBLICATIONS

1. **K. Silambarasan**, S. Harish, K. Hara, J. Archana, M. Navaneethan, "Ultrathin layered MoS<sub>2</sub> 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. I.F: 11.3
2. **K. Silambarasan**, J. Archana, S. Harish, M. Navaneethan, R. Sankar Ganesh, S. Ponnusamy, C. Muthamizhchelvan, K. Hara, "One-step fabrication of ultrathin layered 1T@2H phase MoS<sub>2</sub> with high catalytic activity-based counter electrode for photovoltaic devices", *Journal of Materials Science & Technology*, **51**, (2020), 94-101. I.F: 10.3
3. **K. Silambarasan**, J. Archana, S. Athithya, S. Harish, R. Sankar Ganesh, M. Navaneethan, S. Ponnusamy, C. Muthamizhchelvan, K. Hara, Y. Hayakawa, "Hierarchical NiO@NiS@graphene nanocomposite as a sustainable counter electrode

for Pt free dye-sensitized solar cell”, *Applied Surface Science*, **501**, (2020), 144010. I.F: 7.3

4. K. Prakash, S. Harish, **K. Silambarasan**, T. Logu, R. Ramesh, J. Archana, 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. I.F: 9.9
5. S. Nithiananth, **K. Silambarasan**, T. Logu, S. Harish, R. Ramesh, C. Muthamizhchelvan, M. Shimomura, J. Archana, M. Navaneethan, “Transition divalent metal substitution in chalcopyrite CuInSe<sub>2</sub> (In= Co, Ni, and Mn) counter electrode for dye-sensitized solar cell applications” *Materials Letters*, **308** (2022) 130887. I.F: 3.5
6. R. Sankar Ganesh, E. Durgadevi, **K. Silambarasan**, M. Navaneethan, S. Ponnusamy, C.Y. Kong, C. Muthamizhchelvan, Y. Shimura, 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. I.F: 4.6
7. R. Sankar Ganesh, **K. Silambarasan**, E. Durgadevi, M. Navaneethan, S. Ponnusamy, C.Y. Kong, C. Muthamizhchelvan, Y. Shimura, 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. I.F: 7.3

#### Conferences/Seminars/Webinars:

1. **K. Silambarasan**, S. Harish, M. Navaneethan, K. Hara, J. Archana “**Enhancing the active site of MoS<sub>2</sub>/rGO composite for counter electrode in DSSC applications**” presented oral presentation in “International Virtual Conference on Physics of Emerging Materials and Molecules (IVCPMM - 2021), Sri Vidya Mandir Arts and Science College (Autonomous), Krishnagiri, Tamilnadu, India – 636902.
2. **K. Silambarasan**, S. Harish, R. Ramesh, K. Hara, M. Navaneethan, J. Archana “**Enhancing the active site of interlayer expanded MoS<sub>2</sub>@rGO composites for energy and environmental applications**” presented poster presentation in “International Conference on Nanoscience and Nanotechnology”, SRM-IST, Chennai, (1-3) Feb 2021.
3. **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.
4. **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.

5. **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, SRM-IST, Chennai (Ramapuram) (21-22) Feb 2020.
6. **K. Silambarasan**, J. Archana, S. Harish, M. Navaneethan, S. Ponnusamy, C. Muthamizhchelvan, K. Hara, Y. Hayakawa, "**Monodispersed MoS<sub>2</sub> 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. **K. Silambarasan**, J. Archana, S. Harish, M. Navaneethan, S. Ponnusamy, C. Muthamizhchelvan, K. Hara, Y. Hayakawa, "**NiO@NiS@G nanocomposites-embedded on graphene as counter electrode for dye-sensitized solar cell**", presented poster presentation in "International Conference on Nanoscience and Nanotechnology", SRM-IST, Chennai, (28-30) Jan 2019.
8. **K. Silambarasan**, J. Archana, S. Harish, R. Sankar Ganesh, M. Navaneethan, Y. Hayakawa, K. Hara, "**N-doped graphene quantum dot@MoS<sub>2</sub>@reduced graphene oxide based low cost counter electrode for dye-sensitized solar cell**", presented poster presentation in The 4<sup>th</sup> International Symposium on Biomedical Engineering (ISBE-2019), Act City Hamamatsu, host-coordinator Shizuoka University (14-15) November 2019.
9. **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 MoS<sub>2</sub> nanosheets for counter electrode in dye sensitized solar cell**", presented poster presentation in 20<sup>th</sup> Takayanagi Kenjiro Memorial Symposium and The 4<sup>th</sup> International Conference on Nano Electronics Research, (27-29) November-2018.
10. **K. Silambarasan**, J. Archana, S. Harish, K. D. Nisha, E. Senthilkumar, M. Navaneethan, Y. Hayakawa, "**Effect of capping ligand on the formation of layered MoS<sub>2</sub> 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.