Dr.V.Selvaraj

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Department of Chemistry,
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Area of Research:

Material Science Nanomaterials/Nanocomposites : Renewable Energy, Biomedical, super hydrophobic, oil-water separation and Sensor Applications.

Topic of research:

Synthesis of novel nanomaterials, biopolymers, composites, hybrid composite materials, metal nanoparticles with multi-supporting, value added products, materials for biomedical, fuel cells, sensors, polymers, biobased renewable polymer, drug delivery applications (Cancer, HIV and non-operable diseases), superhydrophobic materials, self cleaning and oil-water separations.

Educational Qualifications/CAREER HIGHLIGHTS:

DOCTOR OF PHILOSOPHY (PH.D.):

Ph.D. in Material sciences, Department of Chemical Engineering, Anna University, awarded on 2nd Dec. 2008.

Title of Thesis: ***Synthesis and Characterization of Nanomaterials for Electrocatalytic and Biomedical Applications***

MASTER OF PHILOSOPHY (M.PHIL):

First Class, Analytical Chemistry, August 2002, Department of Analytical chemistry, University of Madras, Chennai - 600 025.

MASTER OF SCIENCE:

First Class, **General Chemistry**, April/May 2001, Pachayappas College of Arts and Science, University of Madras, Chennai-600025

BACHELOR OF SCIENCE:

First Class, General Chemistry, April/May1999, St.Joseph College of Arts and Science, University of Madras

CSIR/NET (UGC):

Recipient of **Lectureship (LS),** Award from **Council of Scientific and Industrial Research,** New Delhi, India (December-2005).

GATE:

Graduate Aptitude Test in Engineering (GATE) qualified with **Score – 87.12%** (March-2004) Award from Indian Institute of Technology, India.

SRF:

Recipient of **Senior Research Fellow** (SRF), Award from **Council of Scientific and Industrial Research,** New Delhi, India (April 2007).

HIGHLIGHTS OF THE RESEARCH ACTIVITIES:

1. PROJECTS:

i. **"Development *of hybrid Nanomaterials for energy production from renewable sources*"**-under DST/Nanomission. Total cost of Project amount **Rs. 65, 06,000/-** (Sixty five lakhs and six thousand), Date of approval: 21-12-2013 and Completed 27-03-2017, Total year 4, 2012-2017. **Project Status - Completed**.

ii. Consultant Project: "Utilizing Recycled Plastic for the Production of Organic Photovoltaics"-Sanctioned by RECYCL3D industry, Canada, at a cost of 25,00,000 INR (Twenty five lakhs), Date of approval: 7th July 2018, **Project approved.**

2. PATENTS

1. Process for the Production of Novel Low Temperature Cure Cardanol based Benzoxazine (Ref. filed No. 201841027513), **Granted (24/01/2023)**, **Patent Number: 419117.**
2. Synthesizing Carbon Dot from Asparagus Racemosus for Silver Ion Sensing (Ref. filed No. 202241062049), **Granted (26/03/2024)**, **Patent number**: **530169.**
3. Process of Preparation of Low Temperature Curing Cardanol based Benzoxazine-Epoxy Polymer Matrix Composites (Ref. filed No. 201941009030).
4. Development of IoT based Flood Alert System (Ref. filed No. 202141053947).

3. NANOTECH RESEARCH LAB ESTABLISHMENT FROM DST-NANOMISSION PROJECT:

- The equipments were purchased for fifty lakhs and Nanotech Research Lab has been established with stabilized laboratory of Jasco V-650 UV-visible spectrophotometer, Jasco spectrofluorometer Model FP – 8300, BioLogic SAS Multichannel electrochemical workstation with inbuilt FRA-Cyclic Voltammetry and solar simulator with model SS50AAA.
- Minor equipments – Spin coating machine, Centrifuge machine, Vacuum pump, Hot air oven, Muffle furnace and Ultrasonicator.

4. STATUS OF THE RESEARCH SCHOLARS:

i. Ph.D. Awarded/Submitted thesis:

1. **Student name:** Swarna Karthika T, **Thesis title:** Fabrication of biopolymer based hybrid composites coated super hydrophobic materials for self-cleaning and oil/water separation applications. **Date of Viva Voce:** thesis submitted 2024, **Faculty:** Science and humanities. **Department:** Chemistry. **Branch/specialization**:

Hybrid super hydrophobic composites for **self-cleaning and oil-water separation applications**.

2. **Student name:** Arun Kumar K, **Thesis title:** synthesis and characterization of nickel alloy based hybrid nanocatalysts for electrocatalytic applications. **Date of Viva Voce:** 25-07-2022. **Faculty:** Science and humanities. **Department:** Chemistry. **Branch/specialization**: Hybrid ccomposites/hybrid nanocatalysts **for electrocatalytic applications**.
3. **Student name:** Raghavarshini T.R, **Thesis title:** Development And Characterization of Bio-Based Polymer Composites for High Performance Applications**. Date of Viva Voce:** 23-01-2020. **Faculty:** Science and humanities. **Department:** Chemistry. **Branch/specialization**: Bio-Based Polymer Composites for High Performance Applications.
4. **Student name:** Thamil Magal R, **Thesis title:** A Facile Synthesis and Characterization of Nanocomposite based Hybrid Catalysts for Electrooxidation in Fuel Cells. **Date of Viva-Voce**: 24-04-2019. **Faculty:** Science and humanities. **Department:** Chemistry. **Branch/specialization:** Nanocomposite based catalysts for electrochemical oxidation in fuel cells.
5. **Student name:** Saranya D, **Thesis title:** Synthesis and Characterization of Non-Precious Metal Loaded Conducting Polymer Based Hybrid Nanocomposites for Electrocatalytic and Fuel Cell Applications. **Date of Viva-Voce**: 20-08-2018. **Faculty:** Science and humanities. **Department:** Chemistry. **Branch/specialization** : Hybrid material for fuel cells.
6. **Student name**: Jeyanthi K. P. **Thesis title:** Synthesis and Characterizations of Cardanol Based Eco-Friendly Polybenzoxazine Composites for Multipurpose Applications. **Date of viva-voce:** 11-05-2018, **Faculty:** Science and humanities. **Department**: Chemistry. **Branch/ specialization:** Cardanol based Eco-Friendly Polybenzoxazine Composites for Multipurpose Applications.

7. **Student name**: Prasanna D. **Thesis title:** Synthesis and Characterization of Nanohybrid Materials for Direct Alcohol Fuel Cell Applications **Date of viva-voce:** 11-05-2017. **Faculty:** Science and humanities. **Department:** Chemistry. **Branch/specialization:** Fuel cells.
8. **Student name:** Kalpana. K, **Thesis title:** Development of High Performance Semiconductor Based Nanomaterials for Environmental Applications, **Date of viva-voce:** 08-08-2016. **Faculty**: Science and humanities. **Department:** Chemistry. **Branch/ specialization**: Photocatalyst.
9. **Student name**: Krishnadevi K, **Thesis title:** Synthesis and Characterization of Amine Terminated Cyclophosphazene Incorporated Hybrid Nanocomposites for High Performance Applications. **Date of viva-voce** : 12-10-2015. **Faculty:** Science and humanities. **Department**: Chemistry. **Branch/ specialization:** Hybrid Nanocomposites.
10. **Student name:** Anand M, **Thesis title:** Elicitation and Synthesis of Bioactive Compounds and Evaluation of their Biological Activities. **Date of viva-voce:** 06-02-2015. **Faculty:** Science and humanities. **Department:** Chemistry. **Branch/specialization:** Organic synthesis.
11. **Student name:** Kanimozhi K, **Thesis title:** Studies on Development and Characterization of Functionalized Fillers Reinforced Hybrid Nanocomposites. **Date of viva-voce:** 27-10-2014. **Faculty:** Science and humanities. **Department:** Chemistry. **Branch/specialization:** Polymer nanocomposites.

5. HIGHLIGHTS OF PUBLICATIONS/JOURNALS:

1. **V. Selvaraj,** and T. Swarna Karthika (2025), Development of tungsten oxide-natural wax based hybrid superhydrophobic cotton filter for selective oil absorption from oil-brackish water mixture towards environmental applications", **ChemistrySelect,** (accepted). ISSN: 2365-6549, **IF: 1.9**.

2. **V. Selvaraj,** and T. Swarna Karthika (2025), Development of Value-Added Superhydrophobic Fiber as a Highly Selective Oil Filter, Superior Self-Cleaning, and Efficient Oil–Water Separation Material Exhibiting a Significant Number of Life Cycles, **ACS Omega**, 10(5), 4847–4859. ISSN: 2470-1343. **IF: 4.132.**
3. **V. Selvaraj,** T. Swarna Karthika, C. Mansiya, V. Andal and M. Alagar (2025), Review on Superhydrophobic Polymer Composite Coating Materials and its Coating Technology for Advanced Applications, **Polymer-Plastics Technology and Materials**, 64(5), pp. 694-734, **IF:2.6**. ISSN: 2574-089X.
4. Priya Bijesh, V. Andal and **V. Selvaraj,** (2025), ‘’Microwave Synthesis of Carbon Dot from Asparagus RacemosusFor Ag+ Ion Sensing, Anti-Oxidant and Cytotoxicity Studies’’, **Bull. Chem. Soc. Ethiop**. 2025, 39(5), 0000-0000**.** ISSN 1726-801X (Online), Impact Factor: 1.3.
5. **V.Selvaraj**, T.Swarna Karthika, C.Mansiya and M.Alagar (**2024**), ‘Mechanically robust, fluoride free, bio-inspired and facile fabrication strategy of bio-material coated superhydrophobic cotton fabrics for environmental applications’ **Progress in Organic Coatings,** Volume 189, April 2024, 108314. Online ISSN: 1873-331X, Print ISSN: 0300-9440. **IF: 6.6**.
6. K.Arunkumar, K.Pradeeswar**i, V.Selvaraj,** G.Latha, and M.Alagar **(2024),** Bio-polymer based thermally stable composites as catalytic support materials for energy harvesting process**’ International Journal of Hydrogen Energy**, Vol.50, Part B,2 Jan.2024, pp.1484-1495, ISSN:0360-3199, **IF:7.2.**
7. **V.Selvaraj**, T.Swarna Karthika, M. Alagar and A.Justin Adaikala Baskar (2023), ‘CdO-Nanografted Superhydrophobic Hybrid Polymer Composite-Coated Cotton Fabrics for Self-Cleaning and Oil/Water Separation Applications’ **ACS Omega** 2023, 8, 45, 43163–43177, ISSN: 2470-1343. **IF: 4.132.**
8. **V. Selvaraj**, T. Swarna Karthika, C. Mansiya and M. Alagar (**2023**), ‘ZnO nano grafted chitin–chitosan based hybrid composite coated super hydrophobic filter paper for water flow cleaning and oil–water separation applications’ **New J. Chem.**, 47 (28), 13397-13408. **ISSN:** 1144-0546 (print); 1369-9261 (web), **IF: 3.591.**
9. **V.Selvaraj,** K.Arunkumar, and M.Alagar **(2023),** Studies on bond relationship between energy of activation and catalytic activity of azomethine polymer framework enveloped over mesquite carbon hybrid composite electrodes for energy

production applications' **Ionics**, vol. 29, pp.2449–2464**, ISSN**: 0947-7047 (Print) 1862-0760 (Online). **IF: 2.817.**

10. R.Tamilselvi, S.Lekshmi Gopakumari, **V.Selvaraj**, Olha Bazaka, Igor Levchenko, Kateryna Bazaka, Mohandas Mandhakini, **(2022), "**Spinel $CoFe_2O_4$ Nanoflakes: A Path to Enhance Energy Generation and Environmental Remediation Potential of Waste-Derived rGO", **Nanomaterials**, Vol. **12, article no:** 3822**; MDPI,** ISSN: 2079-4991, **IF**: **5.719.**

11. **V.Selvaraj**, K. Arunkumar, and M.Alagar, (2022) "An evaluation of activation energy, surface area, and catalytic activity relationship of the developed nonmetal alloy decorated Schiff's base based conjugated conductive polymer composite electrodes for fuel cell applications", **International Journal of Energy Research**, Volume 46, Issue4, pp.4630-4644. ISSN:1099-114X, **IF: 4.672.**

12. R.Tamilselvi, G.S.Lekshmi, N.Padmanathan, **V.Selvaraj**, O.Bazaka, I.Levchenko, K.Bazakaf, and M.Mandhakini, (2022) "NiFe2O4 /rGO nanocomposites produced by soft bubble assembly for energy storage and environmental remediation" **Renewable Energy,** Volume 181, Pages 1386-1401. ISSN: 0960-1481, **IF: 8.7.**

13. **V.Selvaraj**, R.Thamil Magal, V.Andal, K.Arunkumar, and Sivaraj Murugan, (2022) **"**Bio-Based Graphene Sheet/Copolymer Composite as Supporting Material for Nanocatalysts towards Electrochemical Studies and Direct Alkaline Alcohol Fuel Cells" **Journal of Nanomaterials,** Vol.2022, pp-1-13, Article ID.4598887, ISSN: 1687-4110, **IF: 3.791.**

14. Priya Bijesh, **V.Selvaraj,** and V.Andal, "A review on synthesis and applications of nano metal Oxide/porous carbon composite" **Materials Today: Proceedings**, Volume 55, Part 2, 2022, ISSN: 2214-7853, Pages 212-219. **IF-4.9.**

15. K Sathish, S Senthil Kumar, R Thamil Magal, **V Selvaraj**, V Narasimharaj, R Karthikeyan, G Sabarinathan, Mohit Tiwari, Adamu Esubalew Kassa, 'A Comparative Study on Subtractive Manufacturing and Additive Manufacturing' **Advances in Materials Science and Engineering,** Volume 2022, pp. 1-8, Article ID: 6892641, *Doi.No.:10.1155/2022/6892641*.

16. K Arunkumar an**d V.Selvaraj, (2021),** Development of livestock poultry waste based Ni-Co/S green nanocomposite catalysts: a facile one-pot in situ solvothermal method for alkaline methanol oxidation and super capacitor applications**, Ionics**, **vol.27**, pp.3587–3603**. ISSN**: 0947-7047 (Print), 1862-0760 (Online), **IF:2.817.**

17. **V.Selvaraj,** T.Swarna Karthika, C.Mansiya and M.Alagar, (**2021**), 'An over review on recently developed techniques, mechanisms and intermediate involved in the advanced azo dye degradation for industrial applications' **Journal of Molecular Structure**, Vol.1224,15Jan 2021, 129195, doi.org/10.1016/j.molstruc.2020,129195, ISSN:0022-2860, **IF - 3.8**.
18. **Selvaraj V,** Ragavarshini T. R and Alagar M, (2020), Design and development of bio-carbon reinforced hetero structured bio-phenols polybenzoxazine-epoxy hybrid composites for high performance applications, **Journal of Polymer Research, Volume 28, article number 174, (2021)**, ISSN: 1022-9760, **IF**: **3.097.**
19. **Selvaraj V**, Ragavarshini T. R and Alagar M, (2020), 'Advanced development of dairy farm waste-based biocarbon-reinforced unsymmetrical structured biophenols polybenzoxazine composites' **High Performance Polymers, Volume 33, Issue 1, July 20, 2020,** DOI: 10.1177/0954008320941575. 2.161, **ISSN**: 0954-0083 (print), 1361-6412 (web)**, IF: 2.161.** `
20. **Selvaraj V,** and Ragavarshini T. R **(2020), '**Development of high performance hybrid sustainable bio-composites from biobased carbon reinforcement and cardanol-benzoxazine matrix', **Polymer Bulletin**, volume **78**, pages.4129-4148 (2021), DOI: 10.1007/s00289-020-03232-1. ISSN: 0170-0839, **ISSN:** 0170-0839 (print); 1436-2449 (web), **IF : 3.2**
21. **Selvaraj V,** Jayanthi K.P, Arunkumar K, Jeyaram S, Geethakrishnan T and. Alagar M **(2020),** 'Synthesis and characterization of GO doped bio-resource based composites for NLO and multifaceted applications' **Journal of Polymer Research, Vol.27, 22 Feb. 2020, article number 71,** ISSN:1022-9760, **IF: 2.8.**
22. **Selvaraj V,** and Ragavarshini T. R **(2020), '**Building up of *Prosopis juliflora* carbon incorporated cardanol based polybenzoxazine composites with intensification of mechanical and corrosion resistance properties for adaptable applications', **Polymer Bulletin**, Vol.77, pp.6449–6466, (2020), ISSN:0170-0839, **IF: 2.870.**
23. **Selvaraj V,** Ragavarshini T. R and Alagar M **(2020),** 'Development of cashew nut shell carbon reinforced thiourea based bio-phenolic benzoxazine-epoxy composites: High performance biobased coating materials', **Polymer Composites**, Vol.41(5), May 2020, pp.1950-1961, https://doi.org/10.1002/pc.25510**,** ISSN:1548-0569, **IF: 3.171**.

24. **Selvaraj V,** Ragavarshini T. R and Alagar M **(2020),** 'Development of prosopis juliflora carbon reinforced PET bottle waste based epoxy blended bio-phenolic based polybenzoxazine composites for advanced applications' RSC Adv., Vol.10, pp.5656–5665. **ISSN:** 2046-2069, **IF: 3.9.**
25. **Selvaraj V,** Ragavarshini T. R and Alagar M **(2020),** 'Development and characterization of palm flower carbon reinforced DOPO-urea diamine based cardanol benzoxazine-epoxy hybrid composites', **Polymer Engineering and Science,** Vol. 60, pp.732-739. ISSN: 1548-2634, **IF: 2.428.**
26. **Selvaraj V,** Ragavarshini T. R and Alagar M **(2019), '**Evaluation of thermo-mechanical, dielectric and corrosion resistant properties of cardanol benzoxazine epoxy based hybrid composites: A very low temperature curing pre-polymer for high performance paint related applications', **High Performance Polymers**, Volume: 32, page(s): 524-539, **ISSN: 0954-0083, IF: 2.161**.
27. **Selvaraj V,** Ragavarshini T. R. and Alagar M **(2019), '**Low temperature cure siloxane based hybrid renewable cardanol benzoxazine composites for coating applications', **Journal of Polymer and the environment**, Vol.27, pp.2682–2696. **ISSN: 1566-2543 & 1572-8900, IF: 3.667.**
28. **Selvaraj V,** Jayanthi K.P and. Alagar M **(2019), '**Livestock chicken feather fiber reinforced cardanol benzoxazine-epoxy composites for low dielectric and microbial corrosion resistant applications', **Polymer Composites**, Vol.40, pp.4142-4153. ISSN: 1548-0569, **IF: 3.171.**
29. **Selvaraj V,** Ragavarshini T. R. and Krishnadevi K **(2019),** An escalation of anticorrosion and micro electrical properties of polyurethane nanocomposites form green brassica nigra oil, **Polymer Bulletin**, Vol.76, pp.469-494, ISSN: 0170-0839, **IF : 2.870.**
30. Anand M, Alagar M, Ranjith J and **Selvaraj V (**2019**)**, 'Total synthesis and anticancer activity of a cyclic heptapeptide from marine sponge using water soluble peptide coupling agent EDC' **Arabian Journal of Chemistry**, Vol. 12, Pages 2782-2787, ISSN:1878-5352, **IF: 5.161.**
31. Saranya D and **Selvaraj V (2018), '**Double metal oxide based nickel hybrid nanocatalyst for electrooxidation and alkaline fuel cell device fabrication', **International Journal of Hydrogen Energy**, Vol.43, pp.13450-13461**,** ISSN: 0360-3199, **IF: 7.2.**

32. **Selvaraj V,** Jayanthi K.P and. Alagar M, (**2018**), 'Development of biocomposites from agro wastes for low dielectric applications', **Journal of Polymers and the Environment,** Vol.26, pp.3655–3669, ISSN: 1572-8919 & 1566-2543, **IF: 3.667.**
33. **Selvaraj V** and Thamil Magal R (**2018**) 'Development of rice straw black liquor based porous carbon-poly(aniline-co-methoxy aniline) as supporting for electrochemical performances of alcohol oxidations', **Ionics**, Vol.24, pp.3923–3935, **ISSN:** 0947-7047 (Print), 1862-0760 (Online), **IF: 2.817.**
34. **Selvaraj V** and ThamilMagal R (**2018**), 'A comparative study for the electrocatalytic oxidation of alcohol on Pt-Au nanoparticle-supported copolymer-grafted graphene oxide composite for fuel cell application', **Ionics**, Vol.24, pp.1439–1450, **ISSN:** 0947-7047 (Print), 1862-0760 (Online), **IF : 2.817**
35. Krishnadevi K and **Selvaraj V (2017), '**Development of cyclophosphazene and rice husk ash incorporated epoxy composites for high performance applications', **Polymer Bulletin,** Vol.74, pp.1791-1815, **ISSN:** 0170-0839 (print), 1436-2449 (web), **IF: 2.870.**
36. Prasanna D and **Selvaraj V (2017),** 'Platinum-copper doped poly(sulfonyldiphenol/ cyclophosphazene/benzidine)-graphene oxide composite as an electrode material for single stack direct alcohol alkaline fuel cells', **RSC Adv.,** Vol. 7, pp. 34922-34932, **ISSN: 2046-2069, IF: 3.9.**
37. Saranya D and **Selvaraj V (2017),** 'Hydrothermal assisted synthesis of zeolite based nickel deposited poly(pyrrole-co-fluoro aniline)/CuS catalyst for methanol and Sulphur fuel cell applications', **Journal of Electroanalytical Chemistry**, Vol 787, pp. 55-65, **ISSN:** 1572-6657, **IF: 4.5.**
38. Krishnadevi K and **Selvaraj V (2017), '**Fabrication of bioactive material reinforced caprolactam based cyanate ester composite for coating applications', Polymer-Plastics Technology and Engineering. Vol. **56,** pp.1586-1597, **ISSN:** 2574-089X, 2574-0881, **IF: 2.63.**
39. **Selvaraj V,** Jayanthi K.P and. Alagar M, (**2017**), 'Synthesis and characterization of cardanol based fluorescent composite for optoelectronic and antimicrobial applications', **Polymer,** Vol 108, pp. 449-461, **ISSN:** 0032-3861, **IF : 4.6.**
40. **Selvaraj V,** R. Thamil Magal and Prasanna D, **(2017)** 'Development of platinum and platinum-tin deposited nitrogen doped novel copolymer-carbon nanotube

composite electrocatalyst for alcohol oxidation fuel cells', **Materials Research Innovations,** 21 (4), 222-231, **ISSN:** 1433-075X, 1432-8917, **IF : 1.46.**

41. Anand M, **Selvaraj V** and Alagar M**, (2017**), 'Phytoconstituents from the roots of Achyranthesaspera Linn and their anticancer activity', **Chemistry of Natural Compounds**, 53(1), 189-191, **ISSN:**0009-3130 (print):1573-8388 (web), **IF: 1.029.**
42. Kalpana K and **Selvaraj V (2016)**, 'Development of ZnS/SnS/A-FA nanorods at ambient temperature: Binary catalyst for the removal of congo red dye and pathogenic bacteria from wastewater', **Journal of Industrial Engineering Chemistry**, Vol 41, pp. 105-113, **ISSN:** 1226-086X, **IF: 6.064.**
43. KalpanaK and **Selvaraj V (2016)**, 'ZnS/SnS/Ag_2S photocatalyst with enhanced photocatalytic activity under visible light illumination towards wastewater treatment' Research on Chemical Intermediates, 43 (1), 423-435, **ISSN:** 1568-5675, **IF: 2.92.**
44. Krishnadevi K and **Selvaraj V (2016)** 'Cyclotriphosphazene and TiO_2 reinforced nanocomposite coated on mild steel plates for antibacterial and corrosion resistance applications', **Applied Surface Science**, Vol. 366, pp. 148–157, **ISSN:** 0169-4332, **IF: 6.707.**
45. Prasanna D and **Selvaraj V (2016)**, 'Cyclophosphazene based conductive polymer-carbon nanotube composite as novel supporting material for methanol fuel cell applications', **Journal of Colloid and Interface Science**, Vol.472, pp.116–125, **ISSN:** 0021-9797 (print); 1095-7103 (web), **IF: 8.128.**
46. Prasanna D and **Selvaraj V (2016)**, 'Development of ternary hexafluoroisopropylidenedianiline/cyclophosphazene/benzidine-disulfonic acid-carbon nanotubes (HFPA/CP/BZD-CNT) composite as a catalyst support for high performance alcohol fuel cell applications', **Electrochimica Acta**, Vol. 190, pp. 668–677, **ISSN:** 0013-4686, **IF: 6.901.**
47. Prasanna D and **Selvaraj V(2016)**, 'Pt and Pt-Sn nanoparticles decorated conductive polymer-biowaste ash composite for direct methanol fuel cell', **Korean Journal of Chemical Engineering,** Vol. 33, pp. 1489–1499, **ISSN:**1975-7220, **Print** 0256-1115, **IF: 3.309.**
48. Kalpana K and **Selvaraj V (2016)**, 'Thiourea assisted hydrothermal synthesis of ZnS/CdS/Ag_2S nanocatalysts for photocatalytic degradation of congo red under

direct sunlight illumination', RSC Advances, vol. 6, no. 5, pp. 4227-4236 **ISSN: 2046-2069, IF: 3.245.**

49. Krishnadevi K and **Selvaraj V (2016), '**Development of halogen-free flame retardant phosphazene and rice husk ash incorporated benzoxazine blended epoxy composites for microelectronic applications' New J. Chem., Vol. 39, pp. 6555-6567 **ISSN:** 1144-0546 (print); 1369-9261 (web), **IF: 3.9.**
50. Krishnadevi K and **Selvaraj V (2016) '**Biowaste material reinforced cyanate ester based epoxy composites for flame retardant applications, **High Performance Polymers,** 28 (8), 881-894, **ISSN**: 0954-0083 (print) 1361-6412 (web)**, IF: 2.161.**
51. Kanimozhi K, Prabunathan P, **Selvaraj V** and Alagar M **(2015), '**Mullite-reinforced caprolactam-toughened DGEBA epoxy nanocomposites', High Performance Polymers, Vol. 27, pp. 833-841, **ISSN**: 0954-0083 (print), 1361-6412 (web)**, IF: 2.161.**
52. **Selvaraj V,** Jayanthi K.P, Lakshmikandhan T and Alagar M **(2015)**, 'Development of a polybenzoxazine/TSBA-15 composite from the renewable resource cardanol for low-k applications', RSC Adv., Vol. 5, pp. 48898-48907, **ISSN:** 2046-2069, **IF: 3.9.**
53. Kalpana K and **Selvaraj V (2015)**, 'Photodegradation and antibacterial studies of ZnS enwrapped fly ash nanocomposite for multipurpose industrial applications', RSC Advances, Vol.5, pp. 47766-47777, **ISSN:** 2046-2069, **IF: 3.9.**
54. Prasanna D and **Selvaraj V (2015)**, 'Development of non-covalent ternary polymer–CNT composites as a novel supporting material for electrooxidation of glycerol', RSC Adv., Vol. 5, pp.98822-98833, **ISSN:**2046-2069, **IF: 3.9.**
55. Kalpana K and **Selvaraj V (2015)**, 'A novel approach for the synthesis of highly active ZnO/TiO_2/Ag_2O nanocomposite and its photocatalytic applications', Ceramics International, vol. 41, no. 8, pp. 9671-9679, **ISSN:** 0272-8842, **IF: 5.2.**
56. Krishnadevi K, **Selvaraj V** and Prasanna D **(2015), '**Thermal, mechanical and antibacterial properties of cyclophosphazene incorporated benzoxazine blended bismaleimide composites', RSC Adv., Vol.5, pp.913-921, **ISSN:2046-2069, IF: 3.9.**
57. Kanimozhi K, **Selvaraj V** and Alagar M **(2015),** 'Bio-based silica-reinforced caprolactam-toughened epoxy nanocomposites', **High performance polymers,** Vol 28(2), pp. 189-197, **ISSN**: 0954-0083, (print) 1361-6412 (web)**, IF : 2.161.**

58. Kanimozhi K, Sethuraman K, **Selvaraj V** and Alagar M **(2014),** 'Development of ricehusk ash reinforced bismaleimide toughened epoxy nanocomposites', **Frontiers in Chemistry,** Vol. 2, pp.1-9, **ISSN:** 2296-2646, **IF : 3.994.**
59. Anand M, **Selvaraj V** and. Alagar M, (**2014**), Green Phyto-Synthesis of Gold Nanoparticles using Achyranthesaspera Linn Seed-Epicotyls layer extracts and its Anticancer Activity', Asian J of Pharmaceutical and Clinical Research, Vol.7, 136-139, **Online ISSN:** 2455-3891, Print ISSN: 0974-2441, **IF: 0.59.**
60. Anand M, **Selvaraj V** and Alagar M (**2014**), 'Phytochemical screening and evaluation of (invitro) antioxidant activity of achyranthesasperalinn root extract', '**Int. J. of pharma and pharmaceutical sciences'**, vol. 32, pp. 192-197, **ISSN:** 0378-5173 (print); 1873-3476 (web), **IF: 5.875.**
61. Anand M, **Selvaraj V** and Alagar M, (**2014**), 'Synthesis, characterization and evaluation of antioxidant and anticancer activities of novel benzisoxazole-substituted-allyl derivatives,' **Korean journal of chemical engineering**, vol. 31, pp. 659-663, **ISSN:** 1975-7220, **Print** 0256-1115, **IF: 3.309.**
62. Kanimozhi K, **Selvaraj V** and Alagar M **(2014),** 'Development and characterization of surface-modified mullite reinforced BMI-toughened epoxy nanocomposites' **Polymer Bulletin**, Vol.71, pp. 1277-1293, **ISSN:** 0170-0839 (print); 1436-2449 (web), **IF: 2.87.**
63. Kanimozhi K, **Selvaraj V** and Alagar M **(2014),** 'Thermal and mechanical properties of functionalized mullite reinforced unsaturated polyester composites'. **Polymer Composites**, Vol.35, pp.1663–1670**, Online ISSN:** 1548-0569, **IF: 3.171.**
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70. **Selvaraj V,** Nirmala Grace A, Alagar M, and Hamerton I (2010), 'Antimicrobial and Anticancer Efficacy of Antineoplastic Agent Capped Gold Nanoparticles', **Journal of Biomedical Nanotechnology**, Vol.6, pp.1–9, **ISSN:** 1550-7033 (print), 1550-7041 (web), **IF : 4.099.**
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72. **Selvaraj V**, Nirmala Grace A and Alagar M. (2009), 'Electrocatalytic oxidation of formic acid and formaldehyde on nanoparticles decorated single walled carbon nanotubes', Journal of Colloid and Interface Science, Vol.333, pp.254-262, **ISSN:** 0021-9797 (print); 1095-7103 (web), **IF: 8.128.**
73. **Selvaraj V**, Vinoba M and Alagar M, (2008) 'Electrocatalytic oxidation of ethylene glycol on Pt and Pt-Ru nanoparticles modified multi-walled carbon nanotubes' **Journal of Colloidal and interfacial Science**, Vol.332, pp,537-544 **ISSN:** 0021-9797 (print); 1095-7103 (web), **Impact factor : 8.128.**
74. **Selvaraj V** and Alagar M. (2008), 'Synthesis of Novel Ag/POSS Nanocomposite Powder for Glucose Oxidation and Antimicrobial Applications', J.Bionanosci., Vol.2, pp.54–61, **ISSN** 2191-1649 Print, ISSN 2191-1630, **IF: 2.305.**

75. Sathish Kumar K, **Selvaraj V**, and Alagar M (2008), 'Synthesis of PET-PLA/Drug Nanoparticles and their Effect with Gold Nanoparticles for Controlled Drug Release in Cancer Chemotherapy', **Research Letters in Nanotechnology**, Vol.2008, pp.1-4. **ISSN:** 1556-276X, **IF:4.703.**
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78. **Selvaraj V,** Alagar M and Sathish Kumar K. (2007), Synthesis and characterization of metal nanoparticles decorated PPY–CNT composite and their electrocatalytic oxidation of formic acid and formaldehyde for fuel cell applications', **Applied Catalysis B : Environmental**, Vol.75, pp.129–138 **ISSN:** 0926-3373, **IF: 22.1.**
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81. **Selvaraj V**, Alagar M and Hamerton I. (2006), 'Analytical detection and biological assay of antileukemic drug using gold nanoparticles', **Electrochimica Acta,** Vol.52, pp.1152–1160, **ISSN:** 0013-4686, **IF: 6.901.**
82. **Selvaraj V**, Alagar M and Hamerton I. (2006), 'Electrocatalytic propertiesof monometallic and bimetallic nanoparticles incorporated polypyrrole films for electrooxidation of methanol', **Journal of Power Sources**, Vol.160, pp.940–948, **ISSN:** 0378-7753, **IF: 9.2.**
83. Balamurugan A, Kannan S, **Selvaraj V** and Rajeswari S (2004), 'Development and Spectral Characterization of Poly(MethylMethacrylate)/Hydroxyapatite

Composite for Biomedical Applications, **Trends Biomater.Artif.Organs**, Vol.18, pp.41-45, **ISSN:** 9711-1198, **IF : 0.15.**

6. CONFERENCES PAPERS :

1. T.R.Raghavarshini, D.Maragatham, V.Selvaraj, (2015), Investigation of Optical Properties for Zinc Sulphide Nanocrystalline Thin Flim Grown on Glass Plate through Silar Method", International Journal of ChemTech Research, Vol.8, pp 292-296, ISSN: 0974-4290
2. D.Prasanna and V.Selvaraj, Pd and Pd-Fe Nanoparticles Doped Poly(ANILINE)-Rice Husk ash Composites for Electrooxidation of Formic Acid, Proceedings of ICAME-2015, ICAME304, pp.661-668. 5th & 16th of October 2015.
3. K.Krishnadevi and V.Selvaraj, Benzoxazine Based Epoxy Composite Coatings for Corrosion Protection on Mild Steel, Proceedings of ICAME-2015, ICAME304, pp.1094-1098. 5th & 16th of October 2015.

7. ACADEMIC ACTIVITIES:

- Member in Board of studies-SDNB Vaishnav College for Women (Autonomous), Syllabus framing for MSC and BSC Chemistry and applied chemistry from 2020-22 academic year (3 years)
- Member in Board of studies - St.Joseph's College of Arts and Science (Autonomous), Syllabus framing for MSC and BSC Chemistry and applied chemistry (from 2018 onwards)
- Chairman - Board of Studies for Chemistry, Syllabus framing for M.PhiL programme, Anna University of technology Chennai
- Coordinator for Writing Engineering Chemistry - Tamil Medium Book for B.E/B.Tech student-Anna University of Technology Chennai.
- Chief Superinananent TANSET, Anna University Examination, TNPSC, and Anna University Distance examination.
- Reviewer in RSC (Material Science A, New Journal of Chemistry, RSC advances, etc.), ACS (Renewable Energy, etc), Science Direct (Electrochimica Acta, International Journal of Hydrogen energy, Applied Catalysis B : Environment, Journal of colloidal and

interfacial science, Progress in Organic Coating, Journal of Electro Analytical Chemistry, etc.,), Sage publications (HPP, Journal of textile industries, Ionics, etc).

8. ADMINISTRATIVE ACTIVITIES:

- **Core Committee Member,** University College of Engineering Villupuram, **From 17th March 2022 onwards**
- November 2011 to 31-07-2012 - **Assistant Director,** Centre for Affiliation and Research, **Anna University of Technology Chennai (AUTC),** CPT campus, Tharamani, Chennai-600 113.

9. INTERNATIONAL CONFERENCES / SYMPOSIUM ATTENDED:

i. Organizer Secretary/Coordinator :

1. **Name of the Programme** : Annual Day Cultural Programme, **Organiser :** University College of Engineering Villupuram, Villupuram. **Date:** 22-03-2019.
2. **Name of the Conference:** International Conference on Engineering Materials and Renewable Energy, **Organiser :** Dept. of Chemistry, University College of Engineering Villupuram, Villupuram. **Date :** 4-01-2018 to 5 -1-2018.
3. **Name of the Programme** : Agnimithra, **Organiser :** University College of Engineering Villupuram, Villupuram. **Date:** 9-03-2017 to 10 -3-2017.
4. **Name of the Conference:** Second National Conference on Material Science and its Future Prospects, **Organizer:** Dept. of Chemistry, University College of Engineering Villupuram, Villupuram. **Date :** 1-03-2017.
5. **Name of the Workshop:** National Workshop on Recent Advances in Engineering Materials and Chemical Sciences **Organiser :** Dept. of Chemistry, University College of Engineering Villupuram, Villupuram. **Date :** 26-02-2016.

6. **Name of the Programme** : Agnimithra, **Organiser :** University College of Engineering Villupuram, Villupuram. **Date:** 01-03-2017 to 02 -3-2017.

ii. Paper Presentation:

1. V. Selvaraj, (2020) "Research and Development of Novel Nanocomposites Based Electrocatalyst for Fuel Cells Application", international conference on advanced materials (ICAM-2020), 11.02.2020 & 12.02.2020, Arul Anandar College, Madurai.
2. V. Selvaraj, (2015) "Sustainable trends in energy and environmental researchers", National Conference on Sustainable trends in energy and environmental researchers, 27.2.2015 & 28.2.2015, SSN College of Engineering, Chennai.
3. V. Selvaraj, (2014) "Polymer Processing and Characterization", Third International Conference on Polymer Processing and Characterisation, 11.10.2014 & 13.10.2014, Mahatma Gandhi University, Kottayam, Kerala.
4. V. Selvaraj, (2014) "Advancement in Material Science", National Conference on Advancement in Material Science, 26.9.2014 & 27.9.2014, Coimbatore Institute of Technology, Coimbatore.

iii. Participated:

1. **Name of the Programme** : Webinar on Plastics Challenges : Processing and Recycling" **Organiser :** Dept. of Mechanical Engineerring, Vignan Institute of Technology and Science, Telegana. **Date :** 26-07-2020.
2. **Name of the Programme** : National Level Webinar on N-LIST Resources for Research" **Organiser :** RUSA, Muthurangam Government Arts College, Vellore. **Date :** 25-07-2020.
3. **Name of the Programme** : International Level Webinar on Optical Nano Biosensors and Microfluids in X-Ray Spectroscopy" **Organiser :** Dept. of Physics, St. Xavier's College, Palayamkottai. **Date :** 24-07-2020

4. **Name of the Programme** : Lecture Series on Advanced Materials and Modern Applications (AMMA-2020)" **Organiser :** Dept. of Electronics and Communication Engineering, SSN College, Chennai. **Date :** 01-07-2020 to 02-07-2020.
5. **Name of the Programme**: Online Refresher Course in Chemistry For Higher Education" **Organiser:** Swayam Arpit Online Course Certification. **Date :** 16-02-2020.
6. **Name of the Programme**: One Day National Worshop on E-Learning and MOOCs in Higher Education" **Organiser :** Anna University, Chennai. **Date:** 14-09-2019.
7. **Name of the Programme**: One Day Workshop on IT Essentials & Opportunities" **Organiser:** Dept. of Computer Science and Engineering, University College of Engineering, Villupuram. **Date:** 22-08-2019.
8. **Name of the Programme**: National Conference on emerging trends in renewable energy and innovation in materials science (NETREIMS - 19)" **Organiser:** Dept of Physics, Thiru Kolanjiappar Government Arts College, Virddhachalam. **Date :** 15-02-2019 to 16 -02-2019.
9. **Name of the Programme**: One Day Worshop on Intellectual Property Rights" **Organiser:** University College of Engineering, Villupuram. **Date:** 02-02-2019.
10. **Name of the Programme**: Two days National Workshop on "VRAR FOR 360 Media Preparation – Virtual Reality and Augmented Reality" **Organiser:** Dept. of Information Technology, University College of Engineering Villupuram, Villupuram. **Date :** 9-04-2018 to 10 -4-2018.
11. **Name of the Programme**: Two days National Workshop on "Python Prgramming" **Organiser:** Dept. of Computer Science and Engineering, University College of Engineering Villupuram, Villupuram. **Date :** 13-10-2017 to 14 -10-2017.
12. **Name of the Programme**: International Conference on Nanomaterials and Molecular Research", **Organiser :** PG & Research

Department of Physics, St.Joseph's College of Arts and Science (Autonomous), Cuddalore. **Date :** 8-12-2016 to 9 -12-2016.

13. **Name of the Programme** : One day Workshop on "Domestic & Industrial Safety", **Organiser :** Dept. of Mechanical Engineering, University College of Engineering Villupuram, Villupuram. **Date :** 25-9-2015.
14. **Name of the Programme** : One day National Workshop on "XML and Web Services" **Organiser :** Dept. of Computer Science and Engineering, University College of Engineering Villupuram, Villupuram. **Date :** 19-8-2015.
15. **Name of the Programme** : National Conference on Nanomaterials for Environmental Remediation" **Organiser :** Centre for Material Science, KCG College Technology, Chennai. **Date :** 19-3-2015 to 20-03-2015.
16. **Name of the Programme** : National Level Technical Symposium on Python Programming Workshop" **Organiser :** Dept. of Computer Science and Engineering, University College of Engineering Villupuram, Villupuram. **Date :** 01-03-2015 to 02-03-2015.
17. **Name of the Programme** : National Level Technical Symposium on Android Basics and Internals Workshop" **Organiser :** Dept. of Computer Science and Engineering, University College of Engineering Villupuram, Villupuram. **Date :** 01-03-2015 to 02-03-2015.
18. **Name of the Programme** : One day National Workshop on "How to Prepare Research Project Proposal" **Organiser :** Anna University of Technology, Chennai. **Date :** 06-8-2011.
19. **Name of the Programme** : National Seminar on Recent Trends In Advanced Ceramics" **Organiser :** Madras Institute of Technology Campus, Chennai. **Date :** 27-09-2007 & 28-09-2007.

10. ACADEMIC ACTIVITIES:

- Member in Board of studies-SDNB Vaishnav College for Women (Autonomous), Syllabus framing for MSC and BSC Chemistry and

applied chemistry from 2020-22 academic year (3 years)

- Member in Board of studies - St.Joseph's College of Arts and Science (Autonomous), Syllabus framing for MSC and BSC Chemistry and applied chemistry (from 2018 onwards)
- Chairman - Board of Studies for Chemistry, Syllabus framing for M.PhiL programme, Anna University of technology Chennai
- Coordinator for Writing Engineering Chemistry - Tamil Medium Book for B.E/B.Tech student-Anna University of Technology Chennai.
- Chief Superinananent TANSET, Anna University Examination, TNPSC, and Anna University Distance examination.
- Reviewer in RSC (Material Science A, New Journal of Chemistry, RSC advances, etc.), ACS (Renewable Energy, etc), Science Direct (Electrochimica Acta, International Journal of Hydrogen energy, Applied Catalysis B : Environment, Journal of colloidal and interfacial science, Progress in Organic Coating, Journal of Electro Analytical Chemistry, etc.,), Sage publications (HPP, Journal of textile industries, Ionics, etc).

11. ADMINISTRATIVE ACTIVITIES:

- **Core Committee Member,** University College of Engineering Villupuram, **From 17th March 2022 onwards**
- November 2011 to 31-07-2012 - **Assistant Director,** Centre for Affiliation and Research, **Anna University of Technology Chennai (AUTC),** CPT campus, Tharamani, Chennai-600 113.

12 . FACULTY DEVELOPMENT PROGRAMME ATTENDED:

i. **DAYS**

1. **Four days faculty development programme on '**Chemistry in an era of change. **Organizer**: Department of Chemistry, K. Ramakrishnan College of Engineering, Trichy. **Sponsor**: K. Ramakrishnan College of Engineering. **Programme Duration:** 13.07.2020 to 13.07.2020.
2. **Two days national level faculty development programme on '**Facilitating 21st Century Learners. **Organizer**: IQAC & HR services of Idaya engineering college for women, chinnasalem. **Sponsor**: Idaya engineering college for women. **Programme Duration:** 06.07.2020 to 07.07.2020
3. **Three days on-line industrial oriented faculty development programme**. **Organizer**: Dept. of Civil Engineering, Swarnandhra College of Engineering and Technology, Andhra Pradesh. **Sponsor**: AICTE **Programme Duration:** 11.06.2020 to 13.06.2020

ii. ONE WEEK

1. **One week faculty development programme on** Embedded Systems in Automotive Industry: An Industry 4.0 Perspective **Organizer:** MRK INSTITUTE OF TECHNOLOGY, Sponsored: All India Council for Technical Education (ATAL-online), **Programme Duration:** 06/01/2025 to 11/01/2025.
2. **One week faculty development programme on** Inculcating Universal Human Values in Technical Education. **Organizer**: All India Council for Technical Education (AICTE). **Sponsor**: All India Council for Technical Education (AICTE). **Programme Duration:** 14.03.2022 to 18.03.2022.
3. **One week faculty development programme on '**Moodle Learning Management System. **Organizer**: Center for Virtual Learning, Dr.N.G.P. Arts and Science College, Coimbatore. **Sponsor**: MHRD, Govt. of India. **Programme Duration:** 04.5.2020 to 10.5.2020.
4. **One week faculty development programme on '**CY 8151 – Engineering Chemistry - I. **Organizer**: Department of Chemistry, University College of Engineering Villupuram. **Sponsor**: Centre for Faculty Development, Anna University. **Programme Duration:** 06.5.2019 to 11.5.2019.

5. **One week faculty development programme on '**ME6502- Heat and Mass Transfer. **Organizer**: Department of Mechanical Engineering, University College of Engineering Villupuram. **Sponsor**: Centre for Faculty Development, Anna University. **Programme Duration:** 18.6.2018 to 24.6.2018.
4. **One week faculty development programme on '**EC8251- Circuit analysis. **Organizer**: Department of Electrical and Communication Engineering, University College of Engineering Villupuram. **Sponsor**: Centre for Faculty Development, Anna University. **Programme Duration:** 01.12.2017 to 7.12.2017.
5. **One week faculty development programme on '**ME6007-Composite materials and mechanics. **Organizer**: Department of Mechanical Engineering, University College of Engineering Villupuram. **Sponsor**: Centre for Faculty Development, Anna University. **Programme Duration:** 24.5.2017 to 30.5.2017.
6. **One week faculty development programme on** ME6404-Thermal engineering, **Organizer**: Department of Mechanical Engineering, University College of Engineering Villupuram. **Sponsor**: Centre for Faculty Development, Anna University. **Programme Duration:** 13.12.2016 to 19.12.2016.
7. **One week faculty development programme on** CY6251- Engineering Chemistry II. **Organizer**: Department of Chemistry, University College of Engineering Tindivanam. **Sponsor**: Centre for Faculty Development, Anna University. **Programme Duration :** 30.11.2015 to 6.12.2015.
8. **One week faculty development programme on** ME 6301-Engineering Thermodynamics. **Organizer :** Dept. of Mechanical Engineering, University College of Engineering Villupuram. **Sponsored**: Centre for Faculty Development, Anna University. **Programme Duration:** 16.6.2014 to 22.6.2014.

9. **One week faculty development programme on** GE 6253-Engineering Mechanics, Organized by University College of Engineering Villupuram, **Organizer :** Centre for Faculty Development, Anna University. **Programme Duration :** 9.12.2013 to 15.12.2013.

iii. Two/Three Weeks

1. **Two week faculty development programmes on** AICTE Training And Learning (ATAL) Academy Faculty Development Program on Industrial revolution 5.0 for sustainable green manufacturing**. Organiser: CHENNAI INSTITUTE OF TECHNOLOGY, Programme Duration: 03/02/2025 to 15/02/2025.**
2. Eight module courses completed September 2024 with NITTR registration number: 20202101739.
3. **Two week faculty development programmes on** two weeks virtual multidisciplinary short term training programme on research methodology and data analysis. **Organiser:** The Internal Quality Assurance Cell (IQAC), Annamalai University **Sponsored:** Annamalai University, **Programme Duration:** 19.01.2022 to 04.02.2022.
4. **Two weeks faculty development programmes** on 'Managing online classes and co-creating MOOCS 3.0, **Organiser:** Teaching Learning Centre, Ramanujan College, University of Delhi, **Sponsored:** Ministry of Human Resource Development, **Programme Duration:** 25.07.2020 to 10.08.2020.
5. **Two weeks faculty development programmes on** 'Challenges and opportunities in biomaterials research'. Organiser: V.R.S College of Engineering & Technology, Villupuram. **Sponsored:** AICTE, **Programme Duration:** 26.11.2019 to 09.12.2019.
6. **Two weeks faculty development programmes** on 'Foundation programme in ICT for Education, **Organiser:** IIT Bombay, **Sponsored:** AICTE, **Programme Duration:** 08.03.2018 to 12.04.2018

7. **Two weeks faculty development programmes on** 'Nanotechnology for energy and agricultural sectors'. Organiser: Department of Mechanical Engineering, IFET College of Engineering, Villupuram. **Sponsored:** AICTE, **Programme Duration:** 13.11.2017 to 26.11.2017.
8. **Two weeks faculty development programmes on** Advanced technology in teaching skills and research. **Organiser:** Beta Technologies India Pvt. Ltd, Coimbatore. **Sponsored:** Beta Technologies India Pvt. Ltd. **Programme Duration:** 18.5.2012 to 31.5.2012.
9. **Two weeks faculty development programmes** on 'Optimization Techniques in power system problems'. **Organiser:** Adhiprasakthi Engineering College, Melmaruvathur. **Sponsored:** AICTE. **Programme Duration**: 7.6.2011 to 21.6.2011.
10. **Name of the Programme** : 1st Virtual Summer School on Nanoscience and Nanomaterials" **Organiser :** National Centre for Nanoscience and Nanotechnology, University Of Madras, Guindy Campus, Chennai. **Date :** 10-07-2020 to 30 -07-2020.
11. **Three weeks faculty development programmes** on 'Basic Science and Communication'. **Organiser:** Bharat Sanchar Nigam Limited. **Sponsored:** Govt. of India. **Programme Duration**: 08.6.2020 to 26.6.2020.
12. **Three weeks Refresher Course** on 'Knowledge Management: Inter and Multi- disciplinary Perspective, **Organiser:** University Library, Anna University, Chennai, **Sponsored:** Centre for Faculty Development, **Programme Duration:** 1.2.2018 to 21.2.2018.
13. **Four Months Refresher Course** on 'Analytical Chemistry, **Organiser:** IIT, Kharagpur, **Sponsored:** Ministry of HRD, Govt. of India, **Programme Duration:** 1.7.2019 to 31.10.2019.

13. INVITED TALK:

1. **Name of the programme: One week Faculty Development Training Programme on** Engineering Chemistry –II, **Organiser: Dept. of Chemistry,** University College of Engineering Tindivanam, Anna University, Tindivanam**.**

SPONSORED: Centre for Faculty Development Program, Anna University, **Title and date of Invited talk:** Fuel cells and 03-12-2015.

2. **Name of the programme: Two Weeks Faculty Programme on** 'Multi Disciplinary Approaches in Chemical Sciences. **Organiser:** Dept. of Chemistry, Bharathidasan Institute of Technology, Anna University, Tiruchirappalli**. Sponsored:** TEQIP II, **Title and date of Invited talk** : Nanomaterials in Fuel Cell Applications and Environmental applications and 30-07-2016.
3. **Name of the programme: One week Faculty programme on CS-**6504, **Organiser:** Dept. of Computer Science, University College of Engineering Villupuram, Anna University, Villupuram**. SPONSORED: Centre for Faculty Development Program,** Anna University, **Title and date of Invited talk:** Research Methodology and 16-06-2016.
4. **Name of the programme:** National conference on Advances in Chemical Science and Technology, 02-02-2017 to 03-02-2017. **Organizer:** Dept. of Chemistry, KCG College, Chennai. **Sponsored: AICTC, Title and date of Invited talk:** Hybrid Material for Electrochemical and Direct Alkaline Alcohol Fuel Cells and 03-02-2017.
5. **Name of the programme**: Science Day Celebration, **Organiser:** Dept. of Science and Humanities, Idaya College of Engineering for Women, Chinnasalem. **Title and date of Invited talk:** Science Day Celebration and 28-02-2018.
6. **Name of the programme**: One week workshop on Sophisticated Analytical Instruments in Marine Pharmacentical Research (SAIMR). **Organiser:** Centre for Ocean Research, Sathyabama Institue of Science and Technology, Chennai. **Sponsored by AICTE** centre for ocean research, **Title and date of Invited talk :** FTIR and UV–VISIBLE SPECTROSCOPY and 24-01-2018.
7. **Name of the programme:** First international virtual conference on "Recent trends in nanomaterial synthesis and applications during 16.07.2020 to 18.07.2020. **Organiser:** Dept. of Chemistry, Madanapalle Institute of Technology and science, madanapalle, Andhra Pradesh, India, **Title and date of Invited talk:** Recent Advances in Nanomaterials for Direct Alkaline Alcohol Fuel Cell Applications' and 17-07-2020.
8. **Name of the programme:** National Seminar on Recent Advances in Nano Materials. **Organiser:** Dept. of Chemistry, krishanasamy college of science, arts

and management for women, Cuddalore. **Title and date of Invited talk:** Recent Advances in Nano Materials and 24-02-2020.

9. **Name of the programme:** International Conference on Advanced Materials for Energy and Environmental Applications (ICAMEA-2020), 20-02-2020 to 21-02-2020. **Organiser:** Dept. of Physics, Thiru Kolanjiappar Government Arts College, Vriddhachalam. **Title and date of Invited talk:** Recent Developments in Nanomaterials for Energy Storage and Energy Generation Applications – Fuel Cell - Review and 21-02-2020.
10. **Name of the programme:** FDP on 'Interdisciplinary approches on chemical & physical sciences' (IACPS'20') during 28.07.2020 to 01.08.2020. **Organiser:** Dept. of Chemistry, Anna University - BIT Campus Tiruchirappalli, Tamilnadu, India 620204, **Title and date of Invited talk:** 'Semiconductor nanomaterials for environmental applications' and 31-07-2020.
11. **Name of the programme:** Guest Lecture on 04.09.2021 **Organiser :** IFET College of Engineering, Villupuram. **Title and date of Invited talk** : Recent trends in Cyclodextrin-based nanofiber application in textile industries on 04.09.2021
12. **Name of the programme:** AICTE Training And Learning (ATAL) Academy Online Elementary FDP on "Smart Materials for Energy and Environmnent-An Experimental and theoretical Perspectives" from **26/07/2021** to **30/07/2021. Organizer:** University College of Engineering Villupuram. **Title and date of Invited talk:** Smart Materials for Energy and Environmnent-An Experimental and theoretical Perspectives on 30-07-2021.
13. **Name of the programme:** AICTE Training And Learning (ATAL) Academy Online Elementary FDP on "Strategies and Outcomes to Enhance sustainable Green Environment "from 19/07/2021 to 23/07/2021 **Organiser:** Dept. of Chemistry, University College of Engineering (BIT Campus) Tiruchirappalli, **Title and date of Invited talk** : Strategies and Outcomes to Enhance sustainable Green Environment on 23-07-2021.
14. **Name of the programme:** International Conference on Adcanced Materials for Energy and Environmental Applications during 20.02.2021 to 21.02.2021. **Organiser :** Dept. of Physics, Thiru Kolanjippar Government Arts College, Vriddhachalam **Title and date of Invited talk:** Recent Trends in Nanomaterials for

Energy Storage and Energy Generation Application – Fuel Cell – A Review and 21.02.2021.

14. BOOK PUBLICATIONS

S.No	Title of the books/Chapters	Author's Name	Publisher	Pub. Year
1.	Engineering Chemistry I ISBN No: 978-93-80757-92-6	Dr.V.Selvaraj	Sri Maruthi Publishers	2014
2.	Engineering Chemistry II ISBN No: 978-93-80757-93-3	Dr.V.Selvaraj	Sri Maruthi Publishers	2014
3.	Second Nation Conference on Materials Science and its Future Prospects (NCMSFP-2017) (ISBN No.)	Editor Dr.V.Selvaraj	Bonfring Intellectual Integrity	2017
4.	Hybrid nanomaterials for electrooxidation in fuel cell applications ISBN No: 978-620-2-30620-1	Dr.V.Selvaraj	Scholars press	2018
5.	Recent developments in computing, electronics and mechanical sciences. ISBN No.978-81-941281-9-9	Book Chapter Dr.V.Selvaraj	Anvi books and publications	2020
6.	Contemporary research in engineering and management ISBN No.978-93-91193-03-4	Book Chapter Dr.V.Selvaraj	Mangalam publications	2021
7.	Chemistry for Engineers (ISBN No.978-93-5506-186-7)	Dr.V.Selvaraj	HSRA Publications	2022
8.	Technological developments in engineering and management, ISBN No.978-93-91697-12-9	Chief editor Dr.V,Slvaraj	Tech press	2022
9.	Plant-Derived Nanoparticles for Heavy Metal Remediation" ,Phytonanotechnology, ISBN: **978-981-19-4811-4**	Dr.V.Selvaraj	Springer	2022

15. TOPMOST 25 ARTICLE IN SCIENCE DIRECT

1. **Electrocatalytic oxidation of formic acid and formaldehyde on nanoparticle decorated single walled carbon nanotubes,** *Journal of Colloid and Interface Science, Volume 333, Issue 1, May 2009, Pages 254-262* Selvaraj, V.; Grace, A.N.; Alagar, M.
2. **Electrocatalytic oxidation of ethylene glycol on Pt and Pt-Ru nanoparticles modified multi-walled carbon nanotubes,** *Journal of Colloid and Interface Science, Volume 322, Issue 2, June 2008, Pages 537-544 Selvaraj, V.; Vinoba, M.; Alagar, M. Cited by Scopus (7)*

3. **Synthesis and characterization of metal nanoparticles-decorated PPY-CNT composite and their electrocatalytic oxidation of formic acid and formaldehyde for fuel cell applications**, Applied Catalysis B: Environmental, Volume 75, Issue 1-2, August 2007, Pages 129-138, Selvaraj, V.; Alagar, M.; Kumar, K.S. Cited by Scopus (16)
4. **Pt and Pt-Ru nanoparticles decorated polypyrrole/multiwalled carbon nanotubes and their catalytic activity towards methanol oxidation** • Short communication, Electrochemistry Communications, Volume 9, Issue 5, May 2007, Pages 1145-1153. Selvaraj, V.; Alagar, M. Cited by Scopus (19)
5.

List 1	Top 20 Articles, in the Domain of Article 19243782, Since its Publication (2009)

1. **Electrocatalytic oxidation of formic acid and formaldehyde on nanoparticle decorated single walled carbon nanotubes.** Selvaraj V, Grace AN, Alagar M.
J Colloid Interface Sci; 2009 May 1;333(1):254-62.
Abstract | More from the authors | Email rajselva_77@ yaho o.co.in | Citation export

16. DETAILS OF EMPLOYMENT (PAST & PRESENT):

Sep 2002-Feb 2004 (1.6 year)	Project Fellow	P.G. Extent center, University of Madras, Vellore.
March 2004-July2008 (4.6 years)	(Research Assistant & SRF-April 2007 on wards)	Department of Chemical Engineering, A.C.Tech, Anna University, Chennai-25
20th August 2008 to 25th August 2010	Assistant professor	University College of Engineering Villupuram (A Constituent College of Anna University, Chennai-600025.), Villupuram.
25th August to 31-07-2012	Assistant professor	University college of Engineering Villupuram (Now Changed to A Constituent college of Anna University of Technology Chennai, Chennai-113), Villupuram.
1-08-2012 to till date	Assistant professor	University college of Engineering Villupuram (Now again changed to a constituent college of Anna University, Chennai-25), Villupuram.

17. RESEARCH AREA(S) EXPERTISE AND CONTRIBUTIONS

Material Science: (75 Scopus Articles, One Patent Granted and One Project Completed)

- Synthesis of novel hybrid nanomaterials, and electrocatalysts for electrochemical studies (**ONE DST - Nanomission Project Completed**) towards fuel cell and solar cell applications
- Synthesis nanoparticles for biomedical applications like cancer detector, anticancer studies, and anti-microbial studies
- Metal nanoparticles with multi-supporting for direct acid and alkaline fuel cells, and sensors (glucose sensors) applications
- Biobased low temperature curable benzoxazine biopolymer and their composites, value added hybrid composites products (**One Patent Granted and another Patent hearing completed**)
- **Super hydrophobic materials:** Development of biopolymers for super hydrophobic and self-cleaning including water oil separation applications
- **Drug delivery:** Biopolymer encapsulation for target drug delivery applications (Cancer, HIV and non-operable diseases).
- **Metal nanoparticles based semiconductors**: Photochemical degradations under UV light and solar light degradations

Future Teaching & Learning/Research & Innovation Plans:

- To generate Hydrogen Valley Platform in India using fuel cell/nanocatalysts application
- To prepare bio-benzoxazine and bio-epoxy based paints and super hydrophobic coatings for multi-facet applications
- Development of non-precious 1D material embedded metal complex based composite electrode materials for electrochemical and direct alkaline fuel cell applications
- Design of green process for the fabrication of bio-composites for high performance anti-fouling coating, oil-water separation and packaging applications.
- Development biobased high performance hybrid nanocomposite materials for high temperature micro-oven appliance applications
- Development of siloxane based polybenzoxazine nanocomposite materials for high performance super hydrophobic, flame retardant, UV resistant and oil-water separation applications

Personal Details:

Curriculum Vitae

Gender	:	Male
Nationality	:	Indian
Permanent Address	**:**	3/69B, Pattikuppam street, Pathirakottai, Panrut Taluke, Cuddalore-607102.

(V.Selvaraj)