



Dr. S. Karuppuchamy
Professor and Head

Contact

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Academic Qualifications: M.Sc., Ph.D. (Japan)

Teaching and Research Experience: 23 Years

Degree	Year	Grade	University
B.Sc (Chemistry)	1994	First Class	Madurai Kamaraj University, India
M.Sc (Chemistry)	1996	First Class	Madurai Kamaraj University, India
Ph.D (Materials Engineering)	March 2002	Studies on Electrodeposition of Oxide Semiconductor Thin Films and Their Application to Dye-sensitized Solar Cells	Gifu University, Gifu, Japan

Additional Responsibilities

1. Head, Department of Energy Science, Since 2013
2. Member – University Patent Cell
3. Chairman – Board of Studies, Department of Energy Science
4. Chief superintendent – University Examinations (2015-2016)
5. Co-ordinator – Environmental Awareness Club , Alagappa University (2016-2019)
6. Co-ordinator – Alternative Energy Unit, Alagappa University (2016-till date)
7. Co-ordinator- Journal club Department of Energy Science, Alagappa University
8. Editor in Chief- ALU Energy News, Departmental Magazine, Department of Energy Science, Alagappa University
9. Convener- Department Research Committee - Department of Energy Science, Alagappa University
10. Convener- Department purchase Committee - Department of Energy Science, Alagappa University
11. Convener- Department IQAC Committee - Department of Energy Science, Alagappa University
12. Convener- Department student affairs and counselling - Department of Energy Science, Alagappa University
12. Senate Member, Alagappa University, June 2018- Till date
13. Member, Standing Committee on Academic Affairs, Alagappa Univ., 2017-Till date
14. Co-ordinator, Incubation and Technology Transfer Centre, Alagappa University, (2019- Till date)
15. Member of Syndicate, Alagappa University -January 2020-Till date

Areas of Research

Nanotechnology, Renewable Energy (Solar, Bioenergy), Energy Storage Materials, Electrochemistry and Environmental Science

Research Supervision / Guidance

Program of Study		Completed	Ongoing
Research Project	Ph.D.	4	6
	PG	26	13
	UG / Others	10	-
	PDF	1	2

Publications

International		National		Others
Journals	Conferences	Journals	Conferences	Books / Chapters
129	98	2	52	13

h-index : **30**
i10 index : **53**
Total Citations : **2142**

Funded Research Projects

Completed Projects

S. No	Agency	Period		Project Title	Budget (Rs. In lakhs)
		From	To		
1	DST-SERB	2013	2016	Development of Highly Efficient dye-sensitized solar cells	17.30
2	Himadri Chemicals	2015	2016	Development of Energy Storage Materials	0.66
3	MOHE, Malaysia	2012	2017	Recovery of crude palm oil from EFB, USB, POME and DC	180.00
4	AURF	2017	2019	Synthesis of nanostructured metal oxides by biological route for solar cell applications	3.00
5	DAE-BRNS	2016	2019	Development of Low Cost Hole Transporting Materials for Highly Efficient Perovskite solar cells	32.90

Ongoing Projects

S. No	Agency	Period		Project Title	Budget (Rs. In lakhs)
		From	To		
1	RUSA	2017	2021	Sustainable Energy Technologies	150.00
2	DST-PURSE	2017	2020	Fabrication of Dye-Sensitized solar cells	7.50
3	DST-SERI	2018	2021	Fabrication of Low Cost Inverted Planar Perovskite Solar Cell	51.46
4	RUSA 2.0	2019	2021	Advanced Nanomaterials for Sustainable Energy and Sensor Application	75.00
5	DBT	2018	2021	Molecularly imprinted polymer sensor arrays for Mycotoxin detection in plants	36.45
6	DST	2019	2022	Molecularly imprinted Polymer-based biosensor for tuberculosis detection	17.40
7	ICMR	2019	2022	Smart lab on a chip biosensor integrated with protein imprinted polymer electrodes for rapid detection of HIV infection	27.30

Consultancy Projects

S. No	Agency	Period		Project Title	Budget (Rs. In lakhs)
		From	To		
1	Himadri Chemicals	2015	2016	Development of Energy Storage Materials	0.66

Patents

1. N. Okada and S. Karuppuchamy, Japanese patent, Number; 2005-353289
2. S. Karuppuchamy and M. Kurihara, Japanese patent, Number; 2005-005561
3. S. Karuppuchamy, N. Suzuki, S. Ito, M. Schweinsberg, F. Wiechmann and C. Schroder, European Patent (2006): EP:1893791
4. S. Karuppuchamy, N. Suzuki, S. Ito, M. Schweinsberg, F. Wiechmann and C. Schroder, European Patent (2006): EP:1893791A2
5. S. Karuppuchamy, N. Suzuki, S. Ito, M. Schweinsberg, F. Wiechmann and C. Schroder, PCT Int. Appl. (2006), WO 2006136333
6. S. Karuppuchamy, N. Suzuki, S. Ito, and M. Schweinsberg, F. Wiechmann and C. Schroder, PCT Int. Appl. (2006), WO 2006136334
7. S. Karuppuchamy, N. Suzuki, S. Ito, and M. Schweinsberg, F. Wiechmann and C. Schroder, PCT Int. Appl. (2006), WO 2006136335 A1
8. S. Karuppuchamy, N. Suzuki, S. Ito, M. Schweinsberg, H. Dolhaine, F. Wiechmann, and C. Schroeder, US Patent (2008): US 20080210567
9. H. Nishida Y. Andou, Y. Shirai, S. Karuppuchamy, A. Noor Ida, A. Hidayah and M.A. Hassan, Japanese Patent Application Number, JP2011-256880
10. H. Nishida Y. Andou, Y. Shirai, S. Karuppuchamy, A. Noor Ida, A. Hidayah and M.A. Hassan, PCT Inter. Application, WO/2013/076960
11. H. Nishida Y. Andou, Y. Shirai, S. Karuppuchamy, A. Noor Ida, A. Hidayah and M.A. Hassan, Malaysian Patent Application No: PI2014700501

Distinctive Achievements / Awards

1. 1998-2002-Research Fellowship, Ministry of Education, Science and Culture (MONBUSHO), Govt. of Japan at Gifu University, Japan
2. 1999/10-Travel Grant was awarded from Gifu Univ., Japan, to present a paper at The Joint Int. Electrochemical Society Meeting, Honolulu, USA
3. 2002~2004-Postdoctoral fellowship, Asahi Kasei Corporation, Japan
4. 2005-Innovation award from Henkel Kindai Lab., Japan & Germany
5. 2006/03-Visited as a Visiting Researcher to the VT-Research/Technology of Henkel KGaA, Dusseldorf, Germany
6. 2007-Best paper award from the Japan Society of Color Material, Japan
7. 2008-Biography-Marquis Who's Who in the World, USA
8. 2008/11- Visited as a Visiting Researcher to the School of Electrical Engineering, Pusan National University, Pusan, South Korea

9. Chaired a Session in the First International Conference on Nanostructured materials and Nanocomposites held at Kottayam, India during April 6-8, 2009
10. 2009/8 to 2009-9: Visited as a Senior Scientist, TSM Co.Ltd. Gumi, South Korea
11. 2009/4 to 2011/03: Scientific Adviser (Honorary Position), TSM Co.Ltd. Gumi, South Korea
12. 2011/01 to 2011-2: Visiting Professor, Kyushu Institute of Technology, Kitakyushu, Japan
13. 2011/02 to 2011-3: Visited as a Visiting Senior Scientist, TSM Co.Ltd. Gumi, South Korea
14. 2011/09-2012/03: Asia Biomass Energy Researcher, New Energy Foundation, Government of Japan at Kyushu Institute of Tech. Japan
15. Organizing committee member of the CSIR & BRNS Sponsored Conference on Recent Applications of Nanomaterials in Chemistry and Environmental Research, 20 & 21 July 2012, India.
16. Served as a Member of the panel of Judges for final year students Project presentation at the Dept. of Process and Food Engineering held at Faculty of Eng. UPM, Malaysia during 26th June 2012.
17. 2013- Young Scientist award –Department of Science and Technology, (DST), Government of India
18. 2013 – Leading scientists of the World 2013 – International Biographical Centre, Cambridge, UK
19. Served as Member of squad team for April 2013 Alagappa University Examinations.
20. External Expert for judging the best poster and oral presentation during National Science day held at CSIR-CECRI, Karaikudi during Feb. 28th 2014.
21. National Advisory Committee Member – National Conference on Recent Adv. in Nanomater. for Sensor Applications during March 6-7th 2014.
22. Chaired a session in the International Workshop on Adv. Mater. (IWAM-2014) held at Alagappa University during March 20th 21st 2014.
23. 2014/04 - Till date, Scientific Advisor (Honorary Position), SPD Laboratory, Japan
24. Editorial Board Member - Advanced Nanoscience and Technology: An International Journal (ANTJ)
25. National Advisory Committee Member – International conference on Fracture 2014
26. National Advisory Committee Member – ICNM 2014.
27. Chaired a Session in the International conference on Fracture 2014 held at Kottayam, India during Aug. 9 -11th 2014
28. Chaired a Session in the National Conference on Materials for Energy Storage and Conversion held at Tirunelveli, Tamilnadu, Sept. 4-5th 2014
29. International Advisory Committee Member – International Conference on Sustainable Energy Resources and Materials (ISERMAT-2015) held at Chennai, Tamil Nadu – Jan. 8-9th 2015
30. Chaired a Session in the International Conference on Sustainable Energy Resources and Materials (ISERMAT-2015) held at Chennai, Tamil Nadu – Jan. 8-9th 2015

31. Served as one of the Judges for selecting best paper at the ISERMAT-2015 held at Chennai during January 8-9th 2015.
32. Best paper award received at the National Conference on Recent Developments in Chemistry (RDC-15) held at Aruppukottai, Tamil Nadu – Feb. 13-14th 2015
33. 2015/04 - Visited for collaborative work , Universiti Technology Mara and Universiti Putra Malaysia, Malaysia.
34. Served as one of the Judges for selecting best paper at the CRSI Symposium in Chemistry held at NIT Trichy during July 23-25th 2015.
35. 2015/10 - Visited for collaborative work, Kinki University, Kyushu Institute of Technology and SPD Laboratory, Japan.
36. International Technical Committee Member, International Conference on Nanomaterials and Nanotechnology (NANO-15) Nano -15, Dec. 7th to 10th 2015
37. Served as Inspection Committee member to inspect the function of DDE centres of Annamalai University during 01.12.2015 to 30.12.2015.
38. 7 Research Papers were listed as TOP 25 Hottest articles in the Elsevier Journals
39. Reviewer for more than 35 journals from various scientific publishers such as Elsevier, American Chemical Society, Springer, Taylor and Francis, ECS USA, Hindawi and Cambridge Journals.
40. National Advisory Board Member -International Conference on Nanostructured Materials and Nanocomposites (ICNM -2015) Mathura, UP India
41. International Scientific Committee Member, International conference on Energy – 2015 (ICOE-2015), Colombo, Sri Lanka.
42. International Advisory Committee Member – International Conference on Sustainable Energy Resources and Materials (SERM-2015)-January 8-9th 2015
43. Chaired a Session in the International Conference on Sustainable Energy Resources and Materials (SERM-2015)-January 8-9th 2015
44. Best paper award received at the National Conference on Recent Developments in Chemistry (RDC-15), February 13-14th 2015, Aruppukottai, Tamilnadu.
45. Doctoral Committee member for Research scholars of PSN College of Engineering, affiliated to Anna University, Chennai, India.
46. Delivered invited lecture in the UGC sponsored National Seminar on Recent Advances in Chemistry held at G.T.N Arts College, Dindigul on 18th March 2015.
47. Doctoral Committee member for Research scholars of Thiagarajar College of Engineering, Anna University, Chennai, India.
48. Served as External Examiner for M.Phil and Ph.D. candidates of Bharathidasan University, Kalasalingam University, Gandhigram Rural Institute and Bharathiar University, India.
49. Expert member- Scrutiny Committee, University Faculty appointments.
50. Chairperson in the 1st Inter. Conf. on Energy, Environment and Engineering (ICEEE-2016) held at CIT, Coimbatore during 29th Feb. to March 2nd 2016.
51. Chaired a session in the International Conference on Frontier Areas in Chemical Technologies (FACTS-2016), held at Karaikudi, India during 21-23 March 2016.

52. Delivered invited talk at Palm Oil Milling Technology Colloquium 2016 (POMTeC'16), held at Hotel UiTM, Shah Alam, Malaysia during March 30-31st 2016.
53. Served as one of the Judges to select Best paper presentation in the Palm Oil Milling Technology Colloquium 2016 (POMTeC'16), held at Hotel UiTM, Shah Alam, Malaysia during March 30-31st 2016
54. Best paper award received at the National Conference on Research advances in materials science and applications(RAMSA-2016), Anna university – Tiruchirappalli&19-20 AUG -2016.
55. Best paper award received at the International Conference on Functional Materials, PSN College of Engineering and Technology- Tirunelveli & 7-10 SEP-2016.
56. Chaired a session at the National Seminar on Advanced Materials Research (AMR-2017) held at Alagappa University during January 19th 2017.
57. Alagappa Excellence Award for Research (2016-2017), Alagappa University, Karaikudi.
58. Convener & Organizing Secretary– Inter. Conf. on Renewable Energy Science and Technology, March 10th -11th 2017.
59. Advisory Committee Member – Workshop on Biosensors in Agricultural, Environmental and Medical Sciences, 13th 14th March 2017.
60. Advisory Committee Member – Nat. Conf. on Futuristic Materials (NCFM-2017), March 27-28, 2017.
61. Advisory Committee Member -Int. Conf. on Recent Developments in Arts, Science, Agriculture and Environment, held at Kuala Lumpur, Malaysia during May 5-8, 2017.
62. Chaired a Session in the International Conference on Frontier Areas in Chemical Technologies (FACTS-2017) held at Karaikudi during July 6-8th 2017.
63. Best Researcher Award- 2017, EET CRS-17.
64. October 16-18th 2017, Visited as Visiting Researcher Dyenamo AB, Uppsala and KTH, Royal Institute of Technology, Stockholm, Sweden
65. October 19 to 21st 2017, Visited as Visiting Researcher to EPFL, Lausanne, Switzerland
66. Invited Reviewer for the papers submitted to 62nd DAE Solid state Physics Symposium sponsored by BRNS, Mumbai, Govt. of India held at Mumbai during 26th -30th 2017
67. Chaired a Session in the International Conference on Advanced Nanomaterials, 26-27 Feb-2018, Karaikudi.
68. Served as a Member of Assessment Committee for UGC-JRF Fellow up gradation, March 5th 2018 held at CECRI, Karaikudi.
69. Advisory Committee Member – Int. Conf. on Sustainable Energy Technologies, 27-28 June 2018, Tiruchirappalli.
70. Chaired a Session in the Second International Conference - ISERMAT 2019 held during 14-15, March 2019 at SSN College of Engineering, OMR, Kalavakkam, Chennai.
71. Advisory Committee Member - International Conference on Sustainable Energy Resources and Materials (ISERMAT-2019)-March 14th - 15th 2019
72. Chaired a Session in the 3rd International Conference on Applied Nanoscience & Nanotechnology (ICANN – 2019), March 18th – 19th 2019 held at Alagappa University, Karaikudi

73. Advisory Committee Member - 3rd International Conference on Applied Nanoscience & Nanotechnology (ICANN – 2019), March 18th – 19th 2019 held at Alagappa University, Karaikudi
74. October 19 to 21st 2017, Visited as Visiting Researcher to EPFL, Lausanne, Switzerland
75. Elected as Fellow Academy of Sciences, Chennai, 2018
76. Visited as Visiting Professor to Kyushu Institute of Technology, Japan and SPD Laboratory, Japan during Feb. 24th March 3rd 2019
77. Visited as Invited Researcher to SPD Laboratory, Japan from April 17th 2019 to June 22nd 2019
78. Scientific Advisor (Honorary Position), SPD Laboratory, Japan 2019/04 – 2024/03
79. Tamilnadu Scientist Award (TANSA-2017) for Chemical Sciences, Govt. of Tamilnadu.

Events organized in leading roles

Number of Seminars / Conferences / Workshops / Events organized: 11

1. Convener, Joint Technical Conference at Henkel Technolgy Research Center, Yokohama, Japan. July 9th 2004.
2. Organizing Committee in Recent Applications of Nanomaterials in Chemistry and Environmental Research, Erode, India. July 20 & 21, 2012.
3. Convener, One day Seminar on Energy Conservation, Alagappa University. Dec. 12th 2014.
4. Convener, One day Seminar on Energy Conservation, Alagappa University. Dec. 14th 2015.
5. Convener, One day Seminar on Energy Conservation, Alagappa University, Dec. 10th 2016.
6. Alagappa Themed Nobel Excellence Talk 2015 (ACT NEXT 2016) at Alagappa University, Karaikudi.
7. Alagappa Themed Nobel Excellence Talk 2017 (ACT NEXT 2017) at Alagappa University, Karaikudi.
8. Convener, International Conference on Renewable Energy and Technology (ICREST-2017) at Alagappa University, Karaikudi, 10-11 March 2017.
9. Convener, One day Seminar on Energy Conservation, at Alagappa University, Dec. 13th 2018
10. Convener, One day Seminar on Energy Conservation, at Alagappa University, Dec. 13th 2019

11. Convener, International Conference on Renewable Energy and Technology (ICREST-2020) at Alagappa University, Karaikudi. 26-27 March 2020.

Events Participated/Paper Presented

Conferences / Seminars / Workshops:

1. Self-Assembly of ZnO/Tetrabromophenol Blue Mixed Thin Film by One-step Electro - deposition and Its Sensitized Photoelectrochemical Performance, S. Karuppuchamy, T. Yoshida, J. Yoshimura, M. Matsui, T. Sugiura and H. Minoura, *66th Meeting of the Electrochemical Society of Japan, Tokyo, Japan, March 31 to April 2, 1999.*
2. One-Step Electrodeposition of ZnO Thin Films Modified with Sulfonephthalein Dyes and Their Photoelectrochemical Properties, S. Karuppuchamy, T. Yoshida, J. Yoshimura, M. Matsui, T. Sugiura and H. Minoura, *99th Asian Conf. on Electrochemistry, Tokyo, Japan, May 19-21, 1999*
3. Self-Assembly of Zinc Oxide Thin Films Modified with Tetrasulfonated Metallo - phthalocyanines by One-Step Electrodeposition, S. Karuppuchamy, T. Yoshida, M. Tochimoto, D. Schelettwein, D. Wöehrle, T. Sugiura, and H. Minoura, *The Joint Int. Meeting, Honolulu, USA, October 17-22, 1999*
4. Self-Assembly of Inorganic/Organic Hybrid Thin Films by One-Step Electrodeposition, S. Karuppuchamy*, T. Yoshida, T. Sugiura, and H. Minoura, *4th Int. Conf. on Ecomaterials & Int. Workshop on Materials Design and Processing for the Improvement of Materials Efficiency, Gifu, Japan, November 9-12, 1999*
5. Electrochemical Self-Assembly of ZnO/Dye Thin Films and Their Photo- electrochemical Properties, S. Karuppuchamy, T. Yoshida, T. Sugiura and H. Minoura, *67th Meeting of the Electrochemical Society of Japan, Nagoya, Japan, April 4-6, 2000*
6. Electrochemical Self-Assembly of ZnO/ Cis-Dithiocyanato Bis(4,4'-Dicarboxylic Acid-2,2'-Bipyridine)Ruthenium(II) Thin Film and Its Photoelectrochemical Properties, S. Karuppuchamy*, K. Nonomura, T. Yoshida, T. Sugiura and H. Minoura, *Int. Symp. on Soft Solution-Processing (SSP-2000), Tokyo, Japan, December 11-13, 2000.*
7. p-n heterojunction Solar Cell using Metal Oxide and Metal Sulfides, S. Karuppuchamy*, M. Kurihara and I. Morimoto, *Joint Technical Conference at Asahi Kasei Central Research Laboratories, Fuji, Japan, November 27th 2002*

8. Electrochemical Deposition of Oxide Materials for Corrosion Protection, S. Karuppuchamy*, N. Suzuki and S. Ito, *Joint Technical Conference at Henkel Technology Research Center, Yokohama, Japan, July 9th 2004*
9. Blue emission of $\text{YMO}_4\text{:Eu}^{2+}$ (M=V,P) nanocrystals prepared through facile wet process, M. Iwasaki, N. Yamashita, M. Taguchi, S. Karuppuchamy, S. Ito and W. Park, *Int. Conf. on Optics and Photonics 2006 (SPIE) (Nanophotonic Materials III), San Diego, CA, USA, August 13, 2006*
10. Electrochemical growth of crystalline titanium dioxide films on various metal substrates, S. Karuppuchamy*, N. Suzuki, S. Ito, M. Yoshihara and T. Endo, *Meeting of the Electrochemical Society of Japan, Kyoto, Japan, September 14-15, 2006*
11. Effect of preparation conditions on the structural properties of electrodeposited titanium dioxide films, S. Karuppuchamy*, N. Suzuki, S. Ito, M. Yoshihara and T. Endo, *Meeting of the Electrochemical Society of Japan, Kyoto, Japan, September 14-15, 2006*
12. Synthesis and Characterization of Novel CeO_2 -loaded HfO_2 /Carbon Clusters Composite Material, H. Matsui, M. Nishii, S. Karuppuchamy* and M. Yoshihara, *First International Conference on Nanostructured Materials and Nanocomposites, Kottayam, India, April 6-8, 2009*
13. Electronic Behavior of Visible Light Sensitive MoO_3 /Carbon Clusters/ ZrO_2 Nanocomposite Materials, S. Karuppuchamy*, H. Matsui, A. Ishiko and M. Yoshihara, *First International Conference on Nanostructured Materials and Nanocomposites, Kottayam, India, April 6-8, 2009*
14. Development of Nanostructured Titanium Dioxide Thin Films for Dye-sensitized Solar Cell Applications, S. Karuppuchamy*, Y. Andou and M. Kottaisamy, *First International Conference on Nanostructured Materials and Nanocomposites, Kottayam, India, April 6-8, 2009*
15. Nanocrystalline Dye sensitized Solar Cells, S. Karuppuchamy*, *National Seminar on Nanotechnology for Energy and Environmental Applications, Krishnankoil, India, April 9, 2009*
16. Metal oxide/Carbon Cluster Composite Materials obtained by a novel self-assembly approach, S. Karuppuchamy* H. Matsui, J-M. Jeong M. Nishii, M.A. Hassan, and M. Yoshihara, *Korean Institute of Metals and Materials, South Korea, October 2011*

17. Visible light induced photocatalytic activity of Nb₂O₅/carbon cluster/Cr₂O₃ composite materials, J-M. Jeong, S. Karuppuchamy*, H. Matsui, K. Kira, M.A. Hassan and M. Yoshihara, *Korean Institute of Metals and Materials, South Korea, October 2011*
18. The effect of surface area on the photo-catalytic behavior of ZrO₂/carbon cluster composite materials, J-M. Jeong, S. Karuppuchamy*, H. Matsui, N. Ohkura, M. A. Hassan and M. Yoshihara, *Korean Institute of Metals and Materials, South Korea, October 2011*
19. Production of Biocharcoal from woody biomass for biofuels and other value added products, S. Karuppuchamy*, *New Energy Foundation Conference, Tokyo, Japan, March 1st 2012*
20. Nanostructured materials for Advanced technological Applications, S. Karuppuchamy*, M. Yoshihara and H. Matsui, CSIR &BRNS Sponsored National conference on recent Applications of Nanomaterials in chemistry and Environmental research (RANCER 2012), July 2012, Erode, India
21. Preparation of Nanostructured Metal oxide/Carbon Cluster Composite Materials, S. Karuppuchamy and M. Karthikeyan, Nat. Conf. on recent Advances in Surface Science (RASS-2013), Feb. 14-15, 2013, Gandhigram, India
22. Development of Nanostructured Metal oxide/Carbon Cluster Composite Materials for Energy Applications, S. Karuppuchamy and H. Matsui, Indo-US Workshop on nano-structured electronic materials: challenges & relevance to electronics & energy research (IUSWNM-2013), 8-11, March 2013, Thrissur, India
23. Development of Natural Fiber Reinforced Polymer Composites, S. Karuppuchamy, A. Arun, Y. Andou, Y. Shirai and M. A. Hassen, Int. Conf. on Recent Advances in Textile and Electrochemical Sciences (RATES-2013), March 21-23, 2013, Karaikudi, India
24. Cathodic Electrodeposition of Titanium Dioxide Thin Films and Their Applications to dye-sensitized solar cells, S. Karuppuchamy, P. Shakkthivel and Y. Andou, Int. Conf. on Recent Advances in Textile and Electrochemical Sciences (RATES-2013), March 21-23, 2013, Karaikudi, India
25. Development of Nanostructured Hybrid Materials for Energy Applications, S. Karuppuchamy, P. Shakkthivel and H. Matsui, Int. Conf. on Recent Advances in Textile and Electrochemical Sciences (RATES-2013), March 21-23, 2013, Karaikudi, India
26. Bioplastic Production by Marine Microbes, A. Arun, S. Karuppuchamy and M. Jothi basu, Int. Conf. on Recent Advances in Textile and Electrochemical Sciences (RATES-2013), March 21-23, 2013, Karaikudi, India

27. Dual Transition Metal Ions Doped LiMn_2O_4 as Cathode Material for Lithium Ion Batteries, J. Suganya, M. Ramalakshmi, K. Gurunathan, S. Karuppuchamy and P. Shakkthivel, Int. Conf. on Recent Advances in Textile and Electrochemical Sciences (RATES-2013), March 21-23, 2013, Karaikudi, India
28. Nanoflakes of Mn_3O_4 Synthesis by Novel Precipitation Method and Their Characterization, V. Madhavi, S. Sasikala, M. Ramalakshmi, K. Gurunathan, S. Karuppuchamy and P. Shakkthivel, Int. Conf. on Recent Advances in Textile and Electrochemical Sciences (RATES-2013), March 21-23, 2013, Karaikudi, India
29. Synthesis and characterization of copper tungstate (CuWO_4) nanoparticles for energy storage application, R. Dhilip Kumar and S. Karuppuchamy*, Inter. Conf. on Nanomaterials: Science, Technology and Applications (ICNM'13), Dec. 5-6, 2013, Chennai, India
30. Development of Nanostructured Carbon Modified Hafnium Oxide Composite Materials for Waste Water Treatment, S. Karuppuchamy*, C. Brundha and H. Matsui, National Conference on Ecotechnologies for Waste Water Treatment (NCEWT-14), Jan. 21-22nd 2014, Coimbatore, India
31. Synthesis and Photocatalytic Applications of Carbon-Based TiO_2 , J. Maragatha and S. Karuppuchamy* National Conference on Ecotechnologies for Waste Water Treatment (NCEWT-14), Jan. 21-22nd 2014, Coimbatore, India
32. Photodegradation treatment of textile wastewater by nanoporous TiO_2 , K. Santhi, A.Arun and S. Karuppuchamy*, National Conference on Ecotechnologies for Waste Water Treatment (NCEWT-14), Jan. 21-22nd 2014, Coimbatore, India
33. Synthesis of Nanocrystalline Titanium Dioxide for Photodecomposition of Remazol Brown Dye, K. Santhi, C. Rani and S. Karuppuchamy*, National Conference on Recent Adv. in Nanomater for Sensor Applications-(NANOSE-2014), March 6-7th 2014, Karaikudi, India.
34. Morphology and Thermal Conductivity Studies of Plasticized PMMA / SAN Blended Polymer Electrolytes with Different Lithium Salts by M.Selvamurugan, M.Thamima, K.K.Mothilal, S.V.Ganesan and S. Karuppuchamy*, National Conference on Recent Adv. in Nanomater. for Sensor Applications - (NANOSE-2014), March 6-7th 2014, Karaikudi, India
35. FT-IR Studies of Some Plasticized SAN Based Polymer Blend Electrolytes with Different Lithium Salts by M.Thamima, M. Selvamurugan, K.K.Mothilal and S.Karuppuchamy*,

National Conference on Recent Adv. in Nanomater. for Sensor Applications (NANOSE-2014), March 6-7th 2014, Karaikudi, India

36. Fabrication of dye sensitized solar cell using core shell structured nanomaterials, C. Brundha, K. Santhi and S.Karuppuchamy*, National Conf. on Emer. Trends in Electrochem. Eng. Sci. and Tech. (ETEST-2014), July 23-24, 2014 (PP 1-1) Page. 29, Madurai, India
37. Development of Palm Fiber Reinforced Polymer Composites, S. Karuppuchamy, First world Conference on Fracture 2014, August 9 -11th 2014, Kottayam, Kerala, India
38. Microwave-assisted synthesis of CuWO_4 and Cu-WO_3 nanoparticles for supercapacitor applications, R. Dhilip Kumar and S.Karuppuchamy* at National Conference on Materials for Energy Storage and Conversion (MESOCON-2014) Page 60, September 4-5th 2014, Tirunelveli, Tamilnadu
39. Synthesis and Characterization of SAN Based Polymer Blend Electrolytes, M.Thamima, M. Selvamurugan, K.K.Mothilal and S.Karuppuchamy* at National Conference on Materials for Energy Storage and Conversion (MESOCON-2014) Page 61, September 4-5th 2014, Tirunelveli, Tamilnadu
40. Reduction of charge recombination by Li_2CO_3 coating in dye sensitized solar cells, C. Brundha and S.Karuppuchamy* at National Conference on Materials for Energy Storage and Conversion (MESOCON-2014) Page 60, September 4-5th 2014, Tirunelveli, Tamilnadu
41. Development Of Core/Shell Structured Nanomaterials For Efficient Dye-Sensitized Solar Cells, S.Karuppuchamy and C. Brundha, International Conference on Green Technology for Environmental Pollution Prevention and control (ICGTEPC 2014), Sept. 27-29th, 2014, Trichy, Tamilnadu, India
42. Fabrication of core-shell structured TiO_2/MgO electrodes for Dye Sensitized Solar Cells, S.Karuppuchamy and C. Brundha, at International Conference on Sustainable Energy Resources, Materials & Technologies (ISERMAT-2015) January 8-9th, 2015, Chennai, India
43. Metal doped transition metal oxide nanomaterials for energy storage applications, R. Dhilip Kumar, S. Karuppuchamy at National Conference on Advanced Materials (NCAM-2015), February 6th 2015, Tiruchirappalli, Tamilnadu
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148. Preparation and optimization of CUSCN for inverted perovskite solar cells, K. Ramachandran, G. Paruthimal Kalaiganb and S. Karuppuchamy*, International Conference on Nanomaterials Driven Advances in Chemical and Biosensor (NanoSe 2019), 27-29 December 2019, Karaikudi, Tamil Nadu, India.
149. Low cost technologies for fabrication of large scale dye sensitized solar cells K. P. Muthukumar, V. Arjun, I. Karuppusamy, and S. Karuppuchamy* , Anveshan 2020 Students Research Convention (south zone), 21-22 January 2020 Tiruchirappalli, Taminadu, India.
150. Preparation of two Polymorphs of MnO₂ using Natural *Moringa Oleifera* Gum Assisted Microwave Method and Evaluation of Their Pseudo-capacitance Activity, V. Sannasi and S. Karuppuchamy*, International Conference on Chemical Science and Technology – FEB 2020, 3-4 February 2020, Perambalur, Tamil Nadu, India.

Overseas Exposure / Visits

1. Japan (1998-2012), (2015),(2016) (2018) & (2019)
2. USA (1999)
3. South Korea (2008), (2009), (2010)&(2011)
4. Germany (2006)&(2017)
5. Singapore (2001), (2005)&(2009)
6. Malaysia (2000), (2001), (2002),(2005), (2011-2012), (2015)&(2016)
7. Thailand (2012), (2015),(2016), (2018) &(2019)
8. Sweden (2017)
9. Switzerland (2017)

Membership in

Professional Bodies

1. Life Member- Chemical Research Society of India (CRS)
2. Life Active Member-Society for Advancement of Electrochemical Science and Technology (SAEST)
3. Member- International Society of Electrochemistry (ISE)
4. Member- Asian Federation of Biotechnology (AFOB)
5. Member-American Nano Society, USA

Editorial Board

1. Advanced Nanoscience and Technology: An international Journal (ANTJ)
2. Journal – Nanobio and Bionano

Academic Bodies

1. Chairman – Board of Studies, Department of Energy Science
2. Member– Board of Studies, Chemistry specialization in Energy Science
3. Member – Board of Studies, Department of Energy Science, Periyar University
4. Doctoral committee member: Anna University
5. External Examiner for Ph.D., Thesis – Anna University, Madurai Kamaraj Univ., Gandhigram Rural Univ., MS University, CSIR-CECRI, Bharathidasan Univ., Bharathiar Univ., Periyar Univ., & Kalasalingam University.

Others

Collaborations with

1. Kyushu Institute of Technology, Japan
2. Kinki University, Japan
3. Polytechnic University of Aguascalientes, Mexico
4. Universiti Putra Malaysia, Malaysia
5. Universiti Teknologi Mara, Malaysia
6. EPFL, Lausanne, Switzerland

MOU with

1. Polytechnic University of Aguascalientes, Mexico
2. Kinki University, Japan
3. SPD Laboratory Kinki University, Japan
4. Himadri Chemical, Kolkata
5. Kyushu Institute of Technology, Japan

Resource persons in various capacities

Number of Invited / Special Lectures delivered: 85

1. Development of Dye-sensitized Solar Cells, Asahi Kasei Corporation, Fuji, Japan, October 2001.
2. Development of Core/Shell structured Materials for Dye-sensitized Solar Cell Applications, Toyota Technological Institute, Nagoya, Japan, and October 25th 2003.
3. Electrochemical deposition of nanostructured metal oxide thin films, Kinki University, Iizuka, Japan, Nov.14th 2003.
4. Development of dye-sensitized solar cells, Kinki University, Osaka, Japan, May 20th 2004.
5. Development of modern surface coating technology for corrosion protection, Henkel KGaA, Dusseldorf, Germany, Mar. 7th 2006.
6. Development of Efficient Dye-sensitized Solar Cells, Shinshu University, Ueda, Japan, August 21st 2006.
7. Development of Flexible Solar Cells, Yokohama Rubber Co.Ltd, Hiratsuka, Japan, September 13th 2006.
8. Super-hydrophilic amorphous titanium dioxide thin films, Kinki University, Osaka, Japan, Oct. 23rd 2006.

9. (a) Development of Nanomaterials for Advanced Energy Devices (b) Current State and Development of Modern Environment-Friendly Surface Coating Technology for corrosion prevention, Central Electrochemical Research Institute, Karaikudi, India, Mar. 24th 2008.
10. Nanomaterials and their Applications in Advanced Energy Devices, Saraswathi Narayanan College, Madurai, India, Mar. 27th 2008.
11. Development of Nanomaterials for Advanced Energy Devices, Pusan National University, Pusan, South Korea, November 14th 2008
12. Development of Nanostructured Titanium Dioxide Thin Films for Dye-sensitized Solar Cell Applications, First International Conference on Nanostructured Materials and Nanocomposites, Kottayam, India, April 6-8, 2009.
13. Nanocrystalline Dye sensitized Solar Cells, National Seminar on Nanotechnology for Energy and Environmental Applications, Krishnankoil, India, April 9, 2009.
14. Recent trends in Dye Sensitized Solar Cell Technology, TSM Co. Ltd., Gumi, South Korea, September 15th 2009.
15. Development of Flexible Dye-sensitized solar cells and its Future, Chennai, SSN Research Centre, India, September 4th 2010.
16. Nanocomposite Materials for Photocatalytic Applications, Clean Energy Research Centre, Yamanashi University, Kofu, Japan, Feb. 2nd 2011.
17. New Materials for Energy Conversion, TSM Co. Ltd., Gumi, South Korea, Feb. 14th 2011.
18. Novel Nanocomposite Materials for Photocatalytic Applications, Institute for Advanced Engineering, Gyeonggi-do, South Korea, Feb. 22nd 2011.
19. New approach for the preparation of Lithium ion battery Electrodes, Kyungil University, Daegu, South Korea, Feb. 28th 2011.
20. Nanostructured Materials for Advanced Energy Devices, Central Electrochemical Research Institute, Karaikudi, India, Dec. 5th 2011.
21. Fabrication of dye-sensitized solar cells, Raman Research Institute, Bangalore, India, Dec. 8th 2011.
22. Cathodic electrodeposition of nanostructured titanium dioxide thin films for surface engineering applications, National Aerospace Laboratories, Bangalore, India, Dec. 9th 2011.
23. Development of Nanostructured Materials for Energy and Environmental Applications, Centre for Materials for Electronics Technology, Thrissur, India, Dec. 12th 2011.
24. Production of Biocharcoal from woody biomass for biofuels and other value added products, New Energy Foundation Conference, Tokyo, Japan, March 1st 2012.
25. Participated in the Short-term course on Instructional design & Delivery System (Faculty Development Programme) conducted by Ministry of Human Resource Development, Government of India, August 9th to 11th 2012.
26. 2012/12: Participated in the Two-week ISTE workshop on "Engineering Thermodynamics" conducted by IIT Bombay & MHRD, Government of India, December 11th to 21st 2012.

27. Delivered guest Lecture on Advanced Nanomaterials for Energy Conversion and Storage Applications, at Department of Chemistry, Saraswathi Narayanan College, Madurai, India. Sept. 27th 2013.
28. Served as Chief Guest and delivered special address in the School Annual day celebration at Sankar Ponnar Hr. Sec. School, Palani on April 6th 2013.
29. Delivered Invited Lecture on Electrochemical Deposition of Nanostructured Semiconductors for Solar Cells at National Seminar Organized by Sakthi College of Arts and Science for Women, Oddanchatram, India, Sept. 28th 2013.
30. Served as Chief Guest and delivered special address in the School Annual day celebration at Sankar Ponnar Hr. Sec. School, Palani on April 12th 2014
31. Served as Chief Guest and delivered a talk on Plastic Free Society at the special meeting arranged by Devathur Panchayath, Dindigul on July 5th 2014.
32. Delivered invited lectures on Current Progress on Oil Palm Biomass-Based Composites and Their Future Trends at First world conference on Fracture 2014 held at Kottayam, Kerala, India, August 9 -11th 2014.
33. Served as Chief Guest and delivered Independence Day speech at Independence Day celebration meeting arranged by Devathur Panchayath, Dindigul on August 15th 2014.
34. Delivered invited lectures on Development of Highly Efficient Dye-sensitized solar cells at National Conference on Materials for Energy Storage and Conversion held at Tirunelveli, Tamilnadu, September 4-5th 2014.
35. Served as Chief Guest and delivered talk on Energy Conservation at the special meeting arranged by Devathur Panchayath, Dindigul on December 13th 2014.
36. Delivered keynote address on Development of Nanomaterials for highly Efficient Dye-sensitized solar cells at the International Conference on Sustainable Energy Resources, Materials & Technologies (ISERMAT-2015) January 8-9th, 2015, Chennai, India
37. Delivered Invited lecture on Development of Advanced Nanomaterials for Energy Applications at the UGC sponsored one day National Seminar on Recent Advances in Chemistry held at GTN Arts College, Dindigul on 18th March 2015
38. Delivered the inaugural address at the International Postgraduate Seminar for Research Excellence 2015 held at Universiti Teknologi Mara, Malaysia during 20-24, April 2015.
39. Invited lecture at the International Postgraduate Seminar for Research Excellence 2015 held at Universiti Teknologi Mara, Malaysia during 20-24, April 2015.
40. Delivered a Special Lecture on Development of Bio-composites from Bio-waste at University Putra Malaysia, Kuala Lumpur, Malaysia, 23rd April 2015.
41. Served as Chief Guest and delivered talk on Importance of Tree Plantation at the special meeting arranged by Devathur Panchayath, Dindigul on May 16th 2015.
42. Delivered a Lecture to the participants at the FDP Programme on Frontiers Research in Applied Sciences (FRAS-15) conducted by the Department of Chemistry, Anna University, BIT Campus, Tiruchirappalli, India, 8th June 2015.
43. Delivered Invited Lecture on Development of Nanomaterials for Highly Efficient Dye-sensitized Solar Cells" at Research Center for Organic Electronics (ROEL), Department of

- Chemistry and Chemical Engineering, Yamagata University, Yonezawa, JAPAN, 13th Oct. 2015.
44. Delivered Invited Lecture on “Development of Tungsten Based Nanomaterials for Energy Storage Applications” at Molecular Engineering Institute, Kinki University, Iizuka, Fukuoka-ken, JAPAN, 14th Oct. 2015.
 45. Delivered Invited Lecture on “Development of one-dimensional core/shell structured materials for solar cells” at Eco-Town Collaborative R&D Center for the Environment and Recycling, Kyushu Institute of Technology, JAPAN, 15th Oct. 2015.
 46. Delivered Invited Lecture on “Nanomaterials and Energy” at Japan Science and Technology, Osaka, JAPAN, 15th Oct. 2015.
 47. Delivered Invited Lecture on “Renewable Energy: Recent Trends, Emerging Issues and Future Directions” at Department of Applied Chemistry, Kinki University, Higashiosaka, Osaka, JAPAN, 17th Oct. 2015.
 48. Delivered Invited Lecture on “Development of Carbon-doped titanium oxide materials for photocatalytic applications at Graduate school of Engineering, ERES Division, Gifu University, Gifu, JAPAN, 19th Oct. 2015
 49. Delivered Invited Lecture on “Dye-sensitized photoelectrochemical solar Cells: Current status and future prospects” at SPD Laboratory, Inc. Hamamatsu, JAPAN, 20th Oct. 2015.
 50. Served as Chief Guest and delivered talk on Water Conservation at the special meeting arranged by Devathur Panchayath, Dindigul on February 20th 2016.
 51. Delivered Invited Lecture on Bioenergy, UPM-UiTM-UTM LRGS Palm Oil Milling Technology, 3rd April 2016, Shah Alam, Malaysia.
 52. Delivered Invited Lecture on Synthesis of Nanostructured Metal oxides for Energy Applications, TEQIP II sponsored National Conference on Research Advances in Materials Science and Applications (RAMSA, 16) 19 -20th August 2016, Trichy, India.
 53. Delivered Invited Lecture on Development of Novel Photocatalysts for Environmental Clean Up in the International Seminar on Curr. Environ. Issues and Measures of Mitigation: A Multidisciplinary Approach, 22-23rd September 2016, Erode, India.
 54. Delivered Special Lecture on Advanced Materials for Energy Applications in the UGC Sponsored Refresher Course during November 8th 2016 Organized by Bharathidasan University Trichy.
 55. Delivered Invited Lecture on “Development of Polymer Composites” at Molecular Engineering Institute, Kinki University, Iizuka, Fukuoka-ken, Japan on December 15th 2016.
 56. Delivered Invited Lecture on “Development of low cost energy storage materials” at Eco-Town Collaborative R& D Center for the Environment and Recycling, Kyushu Institute of Technology, Japan on December 16th 2016.
 57. Delivered Invited Lecture on “Synthesis of Oxide Semiconductor Nanostructured Materials for Supercapacitor Applications” at 4th International Symposium on Applied Engineering and Sciences (SAES 2016), Kyushu Institute of Technology, Japan during 17th -18th December 2016.

58. Delivered Invited Lecture on “Eco-Friendly Synthesis of Nanostructured Materials for Energy Storage Applications” at Department of Applied Chemistry, Kinki University, Higashiosaka, Osaka Japan at December 19th 2016.
59. Delivered Invited Lecture on “The Future of Low Cost Solar Cells in India” at Department of Engineering, Graduate School of Integrated Science and Technology, Shizuoka University, Japan on December 20th 2016.
60. Delivered Invited Lecture on “Perovskite Solar Cells” at SPD Laboratory, Inc. Hamamatsu, Japan on December 21st 2016.
61. Delivered Keynote Lecture on Development of advanced nanomaterials for energy applications in a workshop on 'Research in Basic Science held at Kongunadu Arts and Science College (KASC), Coimbatore during 15.2.2017
62. Delivered Special lecture on Energy Materials at AICTE QIP sponsored Workshop on “Frontiers in Materials Research for Energy Applications” on 13.12.2017, Thiagarajar College of Engineering, Madurai.
63. Delivered Invited Lecture on Development of Highly Efficient Dye-sensitized solar cells in Dyanamo DSSC Conference held at Uppsala, Sweden during 16-17 October 2017.
64. Delivered Invited Lecture on Energy Materials and served as a Resource Person in the UGC-Sponsored Refresher Course in Nano Science held at Bharathidasan University during 28th December 2017 Trichy.
65. Delivered a Lecture on DSSC research in India and trends in the International Seminar held at Bangalore during 5-7th February 2018.
66. Special Lecture delivered on Development of Advanced Nanomaterials for Energy Applications at BARC, Mumbai during February 16th 2018.
67. Delivered invited Lecture on Nanomaterials for Energy Applications in the International Conf. on Advanced Nanomaterials (ICAN-2018) held at Alagappa University Karaikudi during 26th -27th Feb. 2018.
68. Delivered Key Note Lecture on Dye- Sensitized Solar Cells at i-SET 2018. 27-28 June – 2018, Tiruchirappalli, Tamil Nadu, India.
69. Delivered invited Lecture on Nanomaterials for Energy and Environmental Applications in Department of Physics held at Alagappa University Karaikudi during 28th March 2018.
70. Delivered Special Lecture on Nanomaterials for Energy Applications in the UGC Sponsored Summer School entitled on “Materials Science held at Bharathidasan University, Trichy during March 2018.
71. Delivered Special Lecture on Nanomaterials for Energy Applications in the UGC-HRDC Sponsored Refresher Course in Chemistry during November 17th 2018 by Bharathiar University, Coimbatore.
72. Delivered Special Lecture on Nanomaterials for Energy and Environmental Applications in the UGC Sponsored Refresher Course during November 21st 2018 Organized by Madurai Kamaraj University, Madurai.
73. Delivered Invited Lecture on Solar Cells and Biogas research in India at the Indo-Swedish Conference on Energy Materials held at Bangalore during 5-6th December 2018.

74. Delivered Special Lecture on Nanomaterials for Energy and Environmental Applications in the UGC Sponsored Refresher Course on February 16th 2019 Organized by Bharathiar University, Coimbatore.
75. Delivered Invited Lecture on Development of Nanomaterials for Energy and Environmental Application in School of Materials Science and Innovation Faculty of Science, Mahidol University, Bangkok on February 25th 2019.
76. Delivered Invited Lecture on Perovskite Solar Cells: Current status and future prospects on SPD Laboratory, Inc. Hamamatsu, Japan on February 26th 2019.
77. Delivered Invited Lecture on The Future of Low Cost Solar Cells in India on Surface Science Laboratory, Toyoto Technological Institute. Nagoya, Japan on February 27th 2019.
78. Delivered Invited Lecture on Development of Large Area Dye-Sensitized Solar Cells on Faculty of Engineering, Department of Chemistry and Biomolecular Science, Gifu University, Gifu, Japan on February 28th 2019.
79. Delivered Invited Lecture on Development of one-dimensional core/shell structured materials for dye-sensitized solar cells on Department of Biological Functions and Engineering, Kyushu Institute of Technology, Japan on March 1st 2019.
80. Delivered Invited Lecture on Development of Nanomaterials for Energy Storage Application on Molecular Engineering Institute, Kinki University, Iizuka, Fukuoka-ken, Japan on March 2nd 2019.
81. Delivered Invited Lecture on Large Area Perovskite Solar Cells, SPD Laboratory, Japan on June 21st 2019
82. Delivered Invited Lecture in the International Workshop on Energy Technologies (iWET2019) during September 24-26, 2019 at MS University, Tirunelveli, India
83. Delivered Key note Lecture on Current Trends in Sustainable and Renewable Energy at state Level Symposium on Emerging Trends in Chemical Sciences – 2k19 organized by GTN College, Dindigul on 18th October 2019.
85. Delivered Invited Lecture on Nanomaterials for Energy Applications, National Seminar organized by St. Mary's college Thoothukudi, Tamilnadu, India on 7th January 2020.

Others

1. Articles published in Newspapers / Magazines : 2
2. Products developed : 2
3. No. of Ph.D Thesis evaluated : 21
4. No. of PhD Public Viva Voce Examination conducted : 19

Recent Publications

1. Effect of organic additives on cadmium electrode in nickel-cadmium batteries,

- P. Sakthivel, S. Karuppuchamy, G. Paruthimal Kalaignan, T. Vasudevan, and N. Begam, *J. Surf. Sci. Technol.*, 12, (1996) 54-62
2. Development of nickel composite coatings by electroless deposition method: A review, S. Karthikeyan, S. Karuppuchamy, A.P. Sakthivel, T. Vasudevan, K.N. Srinivasan, S. John, *J. Surf. Sci. Technol.*, 15, (1999) 116-124
 3. Self-assembly of inorganic/organic hybrid thin films by one-step electrodeposition, S. Karuppuchamy*, T. Yoshida, T. Sugiura, and H. Minoura, Proc.4th Int. Conf. on Ecomaterials & Int. Workshop on Materials Design and Processing for the Improvement of Materials Efficiency, *The Society of Non-Traditional Technology*, 1999, p. 211-214
 4. Cathodic electrodeposition of TiO₂ thin films for dye-sensitized photoelectrochemical applications, S. Karuppuchamy, D.P. Amalnerkar, K. Yamaguchi, T. Yoshida, T. Sugiura, and H. Minoura, *Chem. Lett.*, (2001) 78-79
 5. Self-assembly of ZnO/Riboflavin 5'-phosphate thin films by one-step electrodeposition and its characterization, S. Karuppuchamy, T. Yoshida, T. Sugiura, and H. Minoura, *Thin Solid Films*, 397(1-2), (2001) 63-69
 6. Cathodic electrodeposition of oxide semiconductor thin films and their application to dye-sensitized solar cells, S. Karuppuchamy*, K. Nonomura, T. Yoshida, T. Sugiura, and H. Minoura, *Solid State Ionics*, 151, (2002) 19-27
 7. Studies on electrodeposition of oxide semiconductor thin films and their application to dye-sensitized solar cells, S. Karuppuchamy*, *Doctoral Dissertation, Gifu University, Gifu, Japan* (2002)
 8. Electrochemical self-assembly of ZnO/SO₃EtPTCDI hybrid photoelectrodes, T. Oekermann, S. Karuppuchamy, T. Yoshida, D. Schelettwein, D. Woehrle, and H. Minoura, *J. Electrochem. Soc.*, 151(1), (2004) C62-C68
 9. An efficient dye-sensitized photoelectrochemical solar cell made from CaCO₃-coated TiO₂ nanoporous film, N. Okada, S. Karuppuchamy, and M. Kurihara, *Chem. Lett.*, (2005) 16-17
 10. Super-hydrophilic amorphous titanium dioxide thin film deposited by cathodic electrodeposition, S. Karuppuchamy* and J. Jeong, *Mater. Chem. Phys.* 93 (2-3), (2005) 251-254

11. Photoinduced-hydrophilicity of titanium dioxide thin films deposited by cathodic electrodeposition, S. Karuppuchamy*, J. Jeong, D. P. Amalnerkar and H. Minoura, *Vacuum*, 80, (2006) 494-498
12. A simple route to the synthesis of tetraalkylammonium cation modified inorganic complexes, S. Karuppuchamy*, N. Okada, and M. Kurihara, *J. Oleo Science*, 55, (2006) 91-94
13. Synthesis of nano-particles of TiO₂ by simple aqueous route, S. Karuppuchamy* and J. Jeong, *J. Oleo Science*, 55, (2006) 263-266
14. Electronic behavior of calcined material from a tellurium-S-phenylene-O- strontium - O- phenylene-S hybrid copolymer, H. Matsui, T. Kuroda, K. Otsuki, K. Yokoyama, T. Kawahara, S. Karuppuchamy and M. Yoshihara, *TANSO*, 222, (2006) 114-118
15. Multicolor anodized aluminum film with gold and silver nanorod array, A. Yasui, T. Kawahara, M. Iwasaki, S. Karuppuchamy, H. Tada and S. Ito, *J. Jpn. Soc. Colour Mater.*, 79, (2006) 190-196
16. Gold-silver alloy nanowires electrochemically grown in the nanopores of aluminum anodic oxidation film from cyanide-free bath and their color properties, A. Yasui, T. Kanoh, M. Iwasaki, T. Kawahara, S. Karuppuchamy, H. Tada, and S. Ito, *J. Surf. Finish. Soc. Jpn.* 57, (2006) 670-675
17. Electrochemical properties of electrosynthesized TiO₂ thin films, S. Karuppuchamy*, M. Iwasaki and H. Minoura, *Appl. Surf. Sci.*, 253, (2006) 2924-2929
18. Electronic behavior of calcined material from a tantalum-O-phenylene-S- tin-S-phenylene-O hybrid copolymer, S. Yamamoto, H. Matsui, S. Ishiyama, S. Karuppuchamy* and M. Yoshihara, *Mat. Sci. Eng. B.*, 135, (2006) 120-124
19. Blue emission of YMO₄:Eu²⁺ (M=V,P) nanocrystals prepared through facile wet process, M. Iwasaki, N. Yamashita, M. Taguchi, S. Karuppuchamy, S. Ito and W. Park, *Nanophotonic Materials III, Ed. By Z. Gaburro and S. Cabrini* (2006) 6321041-6321049
20. Electronic behavior of niobium oxide-carbon cluster composite material obtained by calcinations of a niobium-O-phenylene-O-hybrid copolymer, T. Kawahara, H. Miyazaki, H. Matsui, R. Kudou, S. Karuppuchamy and M. Yoshihara, *Mater. Tech.*, 24, (2006) 253-255

21. Electronic behavior of calcined materials obtained from an osmium-S-phenylen-S hybrid copolymer, H. Matsui, T. Kuroda, S. Karuppuchamy, R. Kudou, S. Eguma and M. Yoshihara, *Mater. Tech.*, 24, (2006) 308-312
22. Physico-chemical, photoelectrochemical and photocatalytic properties of electrosynthesized TiO₂ thin films, S. Karuppuchamy*, M. Iwasaki and H. Minoura, *Vacuum*, 81, (2007) 708-712
23. Electronic nature of vanadium nitride – carbon cluster composite materials obtained by the calcination of oxovanadylphthalocyanine, T. Kawahara, H. Miyazaki, S. Karuppuchamy*, H. Matsui, M. Ito and M. Yoshihara, *Vacuum*, 81 (2007) 680-685
24. Electronic behavior of calcined material from [tetra(2,4,6-trimethylphenylthio)] tin, S. Yamamoto, H. Matsui, Y. Kanae, S. Karuppuchamy*, and M. Yoshihara, *J. Chem. Eng. Jpn.*, 40, (2007) 329-332
25. Electronic properties of calcined materials from a scandium-O-phenylene-O-yttrium-O- phenylene hybrid copolymer, T. Kawahara, T. Kuroda, H. Matsui, M. Mishima, S. Karuppuchamy, Y. Seguchi and M. Yoshihara, *J. Mater. Sci.*, 42, (2007) 3708-3713
26. The electronic behaviors of calcined materials from a (S-nickel-S-phenylene-O) – strontium -(O-phenylene-S-selenium-S) hybrid copolymer, T. Furukawa, H. Matsui, H. Hasegawa, S. Karuppuchamy* and M. Yoshihara, *Solid State Commun.*, 142, (2007) 99-103
27. Electronic behavior of WO₂/carbon clusters composite materials, H. Matsui, S. Yamamoto, T. Sasai, S. Karuppuchamy and M. Yoshihara, *Electrochemistry*, 75, (2007) 345-348
28. Electron transfer behavior of calcined material from a samarium – O – phenylene – S – nickel-S- phenylene – O hybrid copolymer, H. Matsui, S. Yamamoto, Y. Izawa, S. Karuppuchamy* and M. Yoshihara, *Mater. Chem. Phys.*, 103, (2007) 127-131
29. Electronic behavior of calcined materials from SnO₂ hydrosol / starch composite materials, H. Matsui, S. Karuppuchamy*, J. Yamaguchi and M. Yoshihara *J.Photochem. Photobio. A. Chem.*, 189, (2007) 280-285
30. Electronic behavior of calcined material from a (niobium-O- phenylene-S)–(cadmium-S-phenylene-O) hybrid copolymer, S. Yamamoto, H. Matsui, K. Matoba, S. Karuppuchamy and M. Yoshihara, *J. Jpn. Soc. Colour Mater.*, 80(6) (2007) 241-245

31. Syntheses and electronic behaviors of networked alternating aluminum-organic moiety hybrid copolymers, H. Matsui, R. Kudo, T. Kawahara, S. Karuppuchamy* and M. Yoshihara, *J. Inorg. Organomet. Polym.*, 17, (2007) 661-664
32. Electronic behavior of calcined material obtained from a tantalum-O-phenylene-O hybrid copolymer, H. Miyazaki, H. Matsui, S. Karuppuchamy*, R. Kudo, S. Ito and M. Yoshihara, *J. Chem. Eng. Jpn.*, 40 (2007) 1072-1075
33. Cathodic electrodeposition of nanoporous ZnO thin films and their super-hydrophilic properties, S. Karuppuchamy* and S. Ito, *Vacuum*, 82 (2008) 547-550
34. Electronic behavior of calcined material from a gallium-N-phenylene-N hybrid copolymer, H. Matsui, S. Yamamoto, T. Hama, S. Karuppuchamy* and M. Yoshihara, *Mater. Res. Bull.*, 43/1, (2008) 104-110
35. Synthesis of a net-worked strontium-O-phenylene-S-tellurium hybrid copolymer having a two-step electron transfer nature, T. Kawahara, H. Matsui, K. Otsuki, S. Karuppuchamy*, K. Yokoyama and M. Yoshihara, *Des. Monomers Polym.* 11 (2008) 47-55
36. Electronic behavior of calcined material obtained by microwave treatment of a tin-O-phenylene -O hybrid copolymer, H. Matsui, T. Kuroda, T. Nishio, T. Kawahara, S. Karuppuchamy* and M. Yoshihara, *Vacuum*, 82 (2008) 1172-1176
37. Electronic behaviors of calcined materials from samarium-O-aryl moiety hybrid copolymers, H. Matsui, T. Kawahara, R. Kudo, M. Uda, S. Karuppuchamy* and M. Yoshihara, *J. Alloy. Comp.*, 462 (2008) L20-L23
38. Synthesis and electronic behaviors of TiO₂ / carbon clusters / Cr₂O₃ composite materials, H. Miyazaki, H. Matsui, T. Nagano, S. Karuppuchamy*, S. Ito and M. Yoshihara, *Appl. Surf. Sci.*, 254 (2008) 7365-7369
39. Electronic behavior of calcined material from 2,2-diphenylphosphino-1,1- binaphthyl dichloro palladium, S. Yamamoto, H. Matsui, T. Okajima, S. Karuppuchamy* and M. Yoshihara, *Solid State Commun.*, 148 (2008) 274-278
40. Electronic behavior of visible light sensitive ZrO₂ / Cr₂O₃ / carbon clusters composite materials, H. Miyazaki, H. Matsui, Y. Kita, S. Karuppuchamy*, S. Ito and M. Yoshihara, *Curr. Appl. Phys.*, 9 (2009) 155-160
41. A novel one-step electrochemical method to obtain crystalline titanium dioxide films at low-temperature, S. Karuppuchamy*, N. Suzuki, S. Ito and T. Endo, *Curr. Appl. Phys.*, 9 (2009) 243-248

42. Electronic behavior of carbon clusters / hafnium oxide composite material, H. Matsui, T. Kuroda, T. Kawahara, S. Karuppuchamy*, R. Kudo and M. Yoshihara, *Curr. Appl. Phys.*, 9 (2009) 263-267
43. The electronic behavior of calcined material obtained from a manganese-O-phenylene - S-rhenium-S-phenylene hybrid copolymer, H. Matsui, T. Kuroda, T. Kawahara, D. Katayama, S. Karuppuchamy* and M. Yoshihara, *Ceramics International*, 35 (2009) 87-92
44. Synthesis and electronic behaviors of $\text{Ce}_{0.5}\text{Hf}_{0.5}\text{O}_2$ / carbon clusters composite materials, H. Miyazaki, H. Matsui, H. Kitakaze, S. Karuppuchamy*, S. Ito and M. Yoshihara, *Mater. Chem. Phys.*, 113 (2009) 21-25
45. Synthesis and photocatalytic activities of MnO_2 -loaded Nb_2O_5 /carbon clusters composite material, H. Miyazaki, H. Matsui, T. Kuwamoto, S. Ito, S. Karuppuchamy* and M. Yoshihara, *Micro. Meso. Mater.*, 118 (2009) 518-522
46. Synthesis and characterization of $\text{Ta}_2\text{O}_5/\text{HfO}_2$ /carbon clusters composite materials, K. Miyazaki, H. Matsui, S. Karuppuchamy*, J. Uchizumi, S. Ito and M. Yoshihara, *Mater. Chem. Phys.*, 113 (2009) 36-41
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