



**Dr. S. Karuppuchamy**  
**Associate Professor and Head(i/c)**

### Contact

Address : Department of Energy Science  
Alagappa University  
Karaikudi – 630 003  
Tamil Nadu, INDIA

Employee Number : 14101

Date of Birth : 14-02-1973

Contact Phone (Office) : +91 4565 223380

Contact Phone (Mobile) : +91 958545459761

Contact e-mail(s) : skchamy@gmail.com

Skype id : skaruppuchamy

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

### Teaching Experience: 10 Years

### Research Experience: 20 Years

### Additional Responsibilities

1. Head in Charge, Department of Energy Science
2. Member – University Patent Cell
3. Chairman – Board of Studies, Department of Energy Science
4. Chief Superintendent – University Examinations (2015-2016)
5. Coordinator – Environmental Awareness Club , Alagappa University
6. Coordinator- Journal club Department of Energy Science , Alagappa University

7. Editor in Chief- ALU Energy News, Departmental Magazine, Department of Energy Science, Alagappa University
8. Convener- Department Research Committee - Department of Energy Science, Alagappa University
9. Convener- Department purchase Committee - Department of Energy Science, Alagappa University
10. Convener- Department IQAC Committee - Department of Energy Science, Alagappa University
11. Convener- Department student affairs and counselling - Department of Energy Science, Alagappa University

### Areas of Research

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

### Research Supervision / Guidance

Program of Study		Completed	Ongoing
Research	Ph.D.	1	5
Project	PG	12	-
	UG / Others	10	-

### Publications

International		National		Others
Journals	Conferences	Journals	Conferences	Books / Chapters / Monographs / Manuals
95	4	-	-	9

<b>Cumulative Impact Factor (as per JCR) :</b>	<b>140</b>
<b>h-index :</b>	<b>24</b>
<b>i10 index :</b>	<b>42</b>
<b>Total Citations :</b>	<b>1440</b>

## 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

### Ongoing Projects

S. No	Agency	Period		Project Title	Budget (Rs. In lakhs)
		From	To		
1	MOHE Malaysia	2012	2017	Recovery of crude palm oil from EFB, USB, POME and DC	180
2	DAE-BRNS	2016	2019	Development of Low Cost Hole Transporting Materials for Highly Efficient Perovskite solar cells	32.90
3	AURF	2016	2017	Synthesis of nanostructured metal oxides by biological route for solar cell applications	3.00
4	RUSA	2016	2019	Sustainable Energy Technologies	1500.00*

Project Approval Board (PAB) of RUSA, MHRD, Government of India has approved the joint project proposal submitted by Alagappa University, Anna University, and Bharathiar University. Alagappa University Departments such as Energy Science, Nano Science & Technology, Physics and Industrial Chemistry are involved in this Project. Dr. S. Karuppuchamy is the Principal Investigator for this project from Alagappa University.

## 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

## Others

### 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. 2013- Young Scientist award –Department of Science and Technology, (DST), Government of India
17. 2013 – Leading scientists of the World 2013 – International Biographical Centre, Cambridge, UK
18. 2014/04 - Till date, Scientific Advisor (Honorary Position), SPD Laboratory, Japan
19. Editorial Board Member - Advanced Nanoscience and Technology: An International Journal (ANTJ)
20. National Advisory Committee Member – International conference on Fracture 2014
21. National Advisory Committee Member – National Conference on Recent Adv. in Nanomater. for Sensor Applications -2014
22. National Advisory Committee Member – ICNM 2014
23. Chaired a Session in the International conference on Fracture 2014 held at Kottayam, India during Aug. 9 -11<sup>th</sup> 2014
24. Chaired a Session in the National Conference on Materials for Energy Storage and Conversion held at Tirunelveli, Tamilnadu, Sept. 4-5<sup>th</sup> 2014
25. International Advisory Committee Member – International Conference on Sustainable Energy Resources and Materials (ISERMAT-2015) held at Chennai, Tamil Nadu – Jan. 8-9<sup>th</sup> 2015
26. Chaired a Session in the International Conference on Sustainable Energy Resources and Materials (ISERMAT-2015) held at Chennai, Tamil Nadu – Jan. 8-9<sup>th</sup> 2015
27. Best paper award received at the National Conference on Recent Developments in Chemistry (RDC-15) held at Aruppukottai, Tamil Nadu – Feb. 13-14<sup>th</sup> 2015
28. 2015/04 - Visited for collaborative work ,Universiti Technology Mara and Universiti Putra Malaysia, Malaysia.
29. 2015/10 - Visited for collaborative work, Kinki University, Kyushu Institute of Technology and SPD Laboratory, Japan.
30. International Technical Committee Member, International Conference on Nanomaterials and Nanotechnology (NANO-15) Nano -15, Dec. 7<sup>th</sup> to 10<sup>th</sup> 2015
31. 7 Research Papers were listed as TOP 25 Hottest articles in the Elsevier Journals
32. 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.
33. National Advisory Board Member -International Conference on Nanostructured

- Materials and Nanocomposites ( ICNM -2015) Mathura, U P India
34. International Scientific Committee Member, International conference on Energy – 2015 (ICOE-2015), Colombo, Sri Lanka.
  35. International Advisory Committee Member – International Conference on Sustainable Energy Resources and Materials (SERM-2015)-January 8-9<sup>th</sup> 2015
  36. Chaired a Session in the International Conference on Sustainable Energy Resources and Materials (SERM-2015)-January 8-9<sup>th</sup> 2015
  37. Best paper award received at the National Conference on Recent Developments in Chemistry (RDC-15), February 13-14<sup>th</sup> 2015, Aruppukottai, Tamilnadu.
  38. International Technical Committee Member, International Conference on Nanomaterials and Nanotechnology (NANO-15) Nano -15, Dec. 7<sup>th</sup> to 10<sup>th</sup> 2015.
  39. Doctoral Committee member for Research scholars of PSN College of Engineering, affiliated to Anna University, Chennai, India
  40. Doctoral Committee member for Research scholars of Thiagarajar College of Engineering, Anna University, Chennai, India
  41. Served as External Examiner for M.Phil and Ph.D. candidates of Bharathidasan University, Kalasalingam University, Gandhigram Rural Institute and Bharathiar University, India
  42. Expert member- Scrutiny Committee, University Faculty appointments
  43. Chaired a session in the International Conference on Frontier Areas in Chemical Technologies (FACTS-2016), held at Karaikudi, India during 21-23 March 2016.
  44. 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.
  45. Best paper award received at the International Conference on Functional Materials, PSN College of engineering and technology- Tirunelveli & 7-10 SEP-2016.

### Events organized in leading roles

Number of Seminars / Conferences / Workshops / Events organized: 13

1. Convener in Joint Technical Conference at Henkel Technolgy Research Center, Yokohama, Japan. July 9<sup>th</sup> 2004.
2. Organizing Committee in Recent Applications of Nanomaterials in Chemistry and Environmental Research, Erode, India. July 20 & 21, 2012.
3. Convener in One day Seminar on Energy Conservation, Alagappa University. Dec. 12<sup>th</sup> 2014.
4. Convener in One day Seminar on Energy Conservation, Alagappa University. Dec. 14<sup>th</sup> 2015.
5. National Advisory Committee Member in International conference on Fracture 2014, Kottayam, Kerala. Aug. 9-11<sup>th</sup> 2014.

6. National Advisory Committee Member in National Conference on Recent Adv. in Nanomater. for Sensor Applications-2014, Alagappa University. Mar. 6-7<sup>th</sup> 2014.
7. National Advisory Committee Member in Inter. Conf. on Nanomaterials: Science, Technology and Applications, ICNM 2014, Kerala. Dec. 19-21<sup>st</sup> 2014.
8. International Advisory Committee Member in Sustainable Energy Resources and Materials (ISERMAT-2015), Chennai. Jan. 8-9<sup>th</sup>, 2015.
9. International Technical Committee Member in Nanomaterials and Nanotechnology (NANO-15) Nano -15, Tiruchengode. Dec. 7-10<sup>th</sup>, 2015.
10. National Advisory Board Member in Nanostructured Materials and Nanocomposites ( ICNM -2015) , Kottaiyam, 2015.
11. International Scientific Committee Member in International conference on Energy – 2015 (ICOE-2015), Srilanka. 2015.
12. International Advisory Committee Member in International Conference on Sustainable Energy Resources and Materials (SERM-2015). Jan. 8-9<sup>th</sup>, 2015.
13. Alagappa Themed Nobel Excellence Talk 2015 (ACT NExT 2016) at Alagappa University, Karaikudi.

## 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, 66<sup>th</sup> 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, 99<sup>th</sup> 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. Wöehrlle, 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, 4<sup>th</sup> 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 Photoelectrochemical Properties, S. Karuppuchamy, T. Yoshida, T. Sugiura and H. Minoura, 67<sup>th</sup> 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 27<sup>th</sup> 2002.
8. Electrochemical Deposition of Oxide Materials for Corrosion Protection, S. Karuppuchamy\*, N. Suzuki and S. Ito, Joint Technical Conference at Henkel Technolgy Research Center, Yokohama, Japan, July 9<sup>th</sup> 2004.
9. Blue emission of YMO<sub>4</sub>:Eu<sup>2+</sup> (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<sub>2</sub>-loaded HfO<sub>2</sub>/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<sub>3</sub>/Carbon Clusters/ZrO<sub>2</sub> 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 Nb<sub>2</sub>O<sub>5</sub>/carbon cluster/Cr<sub>2</sub>O<sub>3</sub> 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 ZrO<sub>2</sub>/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 1<sup>st</sup> 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<sub>2</sub>O<sub>4</sub> 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<sub>3</sub>O<sub>4</sub> 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 coppertungstate (CuWO<sub>4</sub>) 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. 21-22<sup>nd</sup> 2014, Coimbatore, India.
31. Synthesis and Photocatalytic Applications of Carbon-Based TiO<sub>2</sub>, J. Maragatha and S. Karuppuchamy\* National Conference on Ecotechnologies for Waste Water Treatment (NCEWT-14), Jan. 21-22<sup>nd</sup> 2014, Coimbatore, India.
32. Photodegradation treatment of textile wastewater by nanoporous TiO<sub>2</sub>, K. Santhi, A.Arun and S. Karuppuchamy\*, National Conference on Ecotechnologies for Waste Water Treatment (NCEWT-14), Jan. 21-22<sup>nd</sup> 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 6-7<sup>th</sup> 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 6-7<sup>th</sup> 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 6-7<sup>th</sup> 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 -11<sup>th</sup> 2014, Kottayam, Kerala, India.
38. Microwave-assisted synthesis of  $\text{CuWO}_4$  and  $\text{Cu-WO}_3$  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 4-5<sup>th</sup> 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 4-5<sup>th</sup> 2014, Tirunelveli, Tamilnadu.
40. Reduction of charge recombination by  $\text{Li}_2\text{CO}_3$  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 4-5<sup>th</sup> 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. 27-29<sup>th</sup>, 2014, Trichy, Tamilnadu, India.
42. Fabrication of core-shell structured  $\text{TiO}_2/\text{MgO}$  electrodes for Dye Sensitized Solar Cells, S.Karuppuchamy and C. Brundha, at International Conference on Sustainable Energy Resources, Materials & Technologies (ISERMAT-2015) January 8-9<sup>th</sup>, 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 6<sup>th</sup> 2015, Tiruchirappalli, Tamilnadu.
44. Synthesis and Characterization of PMMA Based Polymer Blend Electrolytes, M.Selvamurugan, M.Thamima, K.K.Mothilal, S.V.Ganesan, S.Karuppuchamy at National Conference on Recent Developments in Chemistry (RDC-15), February 13-14<sup>th</sup> 2015, Aruppukottai, Tamilnadu.
45. Synthesis of Nanostructured Titanium Dioxide using Bio-surfactant for Photocatalytic Applications, M.Thamima, K.Santhi, C.Rani and S.Karuppuchamy, at National Conference on Recent Developments in Chemistry (RDC-15), February 13-14<sup>th</sup> 2015, Aruppukottai, Tamilnadu.

46. Synthesis and Characterization of Ultra Violet Light Sensitive Nanostructured Carbon-Doped Titanium oxide, J. Maragatha and S. Karuppuchamy at National Conference on Recent Developments in Chemistry (RDC-15), February 13-14<sup>th</sup> 2015, Aruppukottai, Tamilnadu.
47. Synthesis and characterization of Ni-WO<sub>3</sub> and NiWO<sub>4</sub> ceramic nanopowder for supercapacitor applications, S. Karuppuchamy\* and R. Dhilip Kumar, 10<sup>th</sup> Mid-year CRSI Symposium in Chemistry (CRSI), July 23-25<sup>th</sup> 2015, NIT, Trichy, Tamilnadu, India
48. Synthesis and Characterization of Nanostructured Titanium Dioxide for Solar Cell Applications, M. Thamima and S. Karuppuchamy\*, 10<sup>th</sup> Mid-year CRSI Symposium in Chemistry (CRSI), July 23-25<sup>th</sup> 2015, NIT, Trichy, Tamilnadu, India
49. Microwave-assisted synthesis of nanoporous Zn-WO<sub>3</sub> for photocatalytic applications, K. Santhi, R. Dhilip Kumar, C. Rani and S. Karuppuchamy\*, 10<sup>th</sup> Mid-year CRSI Symposium in Chemistry (CRSI), July 23-25<sup>th</sup> 2015, NIT, Trichy, Tamilnadu, India
50. Synthesis, characterization and photocatalytic applications of carbon doped TiO<sub>2</sub>, J. Maragatha, K. Santhi and S. Karuppuchamy\*, National Conference on Development in Inorganic Applications, October 15-16, 2015, Salem, India.
51. Preparation of titanium dioxide nanowires and their application in dye-sensitized solar cells, C. Brundha and S. Karuppuchamy\*, National Conference on Development in Inorganic Applications, October 15-16, 2015, Salem, India.
52. Microwave synthesis of nanostructured zinc oxide using bio-surfactant for photocatalytic applications, M. Thamima and S. Karuppuchamy\*, National Conference on Development in Inorganic Applications, October 15-16, 2015, Salem, India.
53. Microwave synthesis of SnO/SnO<sub>2</sub> nanocomposite for photocatalytic Applications, K. Santhi, R. Dhilip Kumar, J. Maragatha, C. Rani and S. Karuppuchamy\*, Inter. Conf. on Nanomaterials and Nanotechnology, (NANO-15), December 7-10<sup>th</sup> 2015, Coimbatore, India.
54. Facile Synthesis of Nanostructured Lithium Titanate for Battery Applications, M. Selvamurugan, R. Dhilip Kumar and S. Karuppuchamy\*, Inter. Conf. on Nanomaterials and Nanotechnology, (NANO-15), December 7-10<sup>th</sup> 2015, Coimbatore, India.
55. Development of nano-structured core shell materials for efficient dye-sensitized solar cells, C. Brundha, M. Thamima and S. Karuppuchamy\*, Inter. Conf. on Nanomaterials and Nanotechnology, (NANO-15), December 7-10<sup>th</sup> 2015, Coimbatore, India.
56. Microwave assisted synthesis of nanostructured nickel tungstate for supercapacitor applications, R. Dhilip Kumar, M. Selvamurugan and S. Karuppuchamy\*, Inter. Conf.

on Nanomaterials and Nanotechnology, (NANO-15), December 7-10<sup>th</sup> 2015, Coimbatore, India.

57. Synthesis and Characterization of Nanostructured Titanium Dioxide for Perovskite Solar Cell Applications, M. Thamima, C. Brundha and S. Karuppuchamy\*, Inter. Conf. on Nanomaterials and Nanotechnology, (NANO-15), December 7-10<sup>th</sup> 2015, Coimbatore, India.
58. Microwave Assisted Synthesis of Carbon Doped Ti<sub>4</sub>O<sub>7</sub> for Photocatalytic Applications, J. Maragatha, K. Santhi and S. Karuppuchamy\*, Inter. Conf. on Nanomaterials and Nanotechnology, (NANO-15), December 7-10<sup>th</sup> 2015, Coimbatore, India.
59. Mathematical modelling and experimental investigation on solar parabolic trough collector integrated with thermal energy storage system, N. Nallusamy, P. Malathi Sivaram and S. Karuppuchamy, Indo-German Conf. on Sustainability (IGCS-2015), December 5-6, 2015 at IIT Madras, Chennai, India.
60. Preparation of one-dimensional nanostructured metal oxide and its application in dye-sensitized solar cells, N. Nallusamy, C. Brundha and S. Karuppuchamy\*, Inter. Conf. on Nanomaterials for Frontier Applications (ICNFA 2015), Dec. 2-4, 2015 at Coimbatore Institute of Technology, Coimbatore, India.
61. Lactic acid production from *Borassus flabellifer* juice using lactic acid bacteria, M. Nagalakshmi and S. Karuppuchamy\*, Inter. Conf. on Reasserting Microbial Biotech. (RMBT-15), Sept. 28-29, 2015 at MS University, Thirunelveli, Tamil Nadu, India.
62. Microwave Synthesis of Nanostructured Zinc Tungstate (ZnWO<sub>4</sub>) for Supercapacitor Applications, R. Dhilip Kumar and S. Karuppuchamy\*, Inter. Conf. on Recent Advancements in Materials (ICRAM-15), Oct. 16-17, 2015, Anna University, BIT Campus, Trichy, Tamil Nadu, India.
63. Synthesis and Characterization of Nanostructured Cu-WO<sub>3</sub> for Photocatalytic Applications, K. Santhi, C. Rani and S. Karuppuchamy\*, Inter. Conf. on Recent Advancements in Materials (ICRAM-15), Oct. 16-17, 2015, Anna University, BIT Campus, Trichy, Tamil Nadu, India.
64. Microwave Synthesis of Zinc Oxide Nanoparticles Using Bio-surfactant for Photocatalytic Applications, M. Thamima and S. Karuppuchamy\*, Inter. Conf. on Recent Advancements in Materials (ICRAM-15), Oct. 16-17, 2015, Anna University, BIT Campus, Trichy, Tamil Nadu, India.
65. Synthesis and Characterization of Nanostructured Lithium titanate composites for Battery Applications, M. Selvamurugan and S. Karuppuchamy\*, Inter. Conf. on Recent Advancements in Materials (ICRAM-15), Oct. 16-17, 2015, Anna University, BIT Campus, Trichy, Tamil Nadu, India.
66. Microwave assisted synthesis of Co-WO<sub>3</sub> and CoWO<sub>4</sub> for pseudocapacitor applications, R. Dhilip Kumar and S. Karuppuchamy, International Conference on

Energy, Environment and Engineering (ICEEE-2016), Feb 29 to March -2, 2016, Coimbatore, Tamilnadu.

67. Synthesis of nanostructured metal tungstate for supercapacitor applications, R. Dhilip Kumar and S. Karuppuchamy\*, Nineteenth National Conference on Electrochemists (NCE-19) 28<sup>th</sup> and 29<sup>th</sup> March 2016, Tiruchirappalli, Tamilnadu.
68. Microwave synthesis of Sn-WO<sub>3</sub> Photocatalyst, K. Santhi, C.Rani , S.Karuppuchamy, International conference on Frontier Areas in Chemical Technologies (FACTs-2016), 21-23 MAR-2016, Karaikudi.
69. Fabrication of dye-sensitized solar cell using electrospun TiO<sub>2</sub>/CaCO<sub>3</sub> nanowires, C.Brundha,S.Karuppuchamy\*, International conference on Frontier Areas in Chemical Technologies (FACTs-2016), 21-23 MAR-2016, Karaikudi.
70. Facile synthesis of Barium Titanate nanopowder by microwave assisted route for Photocatalytic applications, M.Thamima, S.Karuppuchamy\*, International conference on Frontier Areas in Chemical Technologies (FACTs-2016), 21-23 MAR-2016, Karaikudi, India.
71. Rapid synthesis of lithium titanate nanocomposites for lithium-ion batteries, M.Selvamurugan, S.Karuppuchamy\*, International conference on Frontier Areas in Chemical Technologies (FACTs-2016), 21-23 MAR-2016, Karaikudi, India.
72. Synthesis, characterization and antibacterial properties of TiO<sub>2</sub> nanowires,M. NagalakshmiC.Brundha, S.Karuppuchamy\*, International conference on Frontier Areas in Chemical Technologies (FACTs-2016), 21-23 MAR-2016, Karaikudi, India.
73. Microwave synthesis of metal doped TiO<sub>2</sub> for Photocatalytic applications, J. Maragatha, S.Karuppuchamy\*, International conference on Frontier Areas in Chemical Technologies (FACTs-2016), 21-23 MAR-2016, Karaikud, India.

### Overseas Exposure / Visits

1. Japan
2. USA
3. Germany
4. South Korea
5. Singapore
6. Malaysia
7. Thailand

## 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 Studies, Periyar University
4. Doctoral committee member: Anna 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

#### 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: 55

## Others

1. Articles published in Newspapers / Magazines : 2
2. Products developed : 1
3. No. of Ph.D Thesis evaluated : 8
4. No. of PhD Public Viva Voce Examination conducted : 6

## Recent Publications

1. P. Sakthivel, S. Karuppuchamy, G. Paruthimal Kalaignan, T. Vasudevan, N. Begam (1999) Effect of organic additives on cadmium electrode in nickel-cadmium batteries, *J. Surf. Sci. Technol.*, 12, 54-62.
2. S. Karthikeyan, S. Karuppuchamy, A.P. Sakthivel, T. Vasudevan, K.N. Srinivasan, S. John (1999) Development of nickel composite coatings by electroless deposition method: A review, *J. Surf. Sci. Technol.*, 15, 116-124.
3. S. Karuppuchamy, T. Yoshida, T. Sugiura, H. Minoura (1999) Self-assembly of inorganic/organic hybrid thin films by one-step electrodeposition, Proc.4<sup>th</sup> Int. Conf. on Ecomaterials & Int. Workshop on Materials Design and Processing for the Improvement of Materials Efficiency, *The Society of Non-Traditional Technology*, 211-214.
4. S. Karuppuchamy, D.P. Amalnerkar, K. Yamaguchi, T. Yoshida, T. Sugiura, H. Minoura (2001) Cathodic electrodeposition of TiO<sub>2</sub> thin films for dye-sensitized photoelectrochemical applications, *Chem. Lett.*, 78-79. (IF-1.550).
5. S. Karuppuchamy, T. Yoshida, T. Sugiura, H. Minoura (2002) Self-assembly of ZnO/Riboflavin 5'-phosphate thin films by one-step electrodeposition and its characterization, *Thin Solid Films*, 397, 63-69. (IF-1.761).
6. S. Karuppuchamy, K. Nonomura, T. Yoshida, T. Sugiura, H. Minoura (2002) Cathodic electrodeposition of oxide semiconductor thin films and their application to dye-sensitized solar cells, *Solid State Ionics*, 151, 19-27. (IF-2.112).
7. T. Oekermann, S. Karuppuchamy, T. Yoshida, D. Schelettwein, D. Woehrlle, H. Minoura (2004) Electrochemical self-assembly of ZnO/SO<sub>3</sub>EtPTCDI hybrid photoelectrodes, *J. Electrochem. Soc.*, 151, C62-C68. (IF-3.266).



8. N. Okada, S. Karuppuchamy, M. Kurihara (2005) An efficient dye-sensitized photoelectrochemical solar cell made from CaCO<sub>3</sub>- coated TiO<sub>2</sub> nanoporous film, *Chem. Lett.*, 16-17. (IF-1.550).
9. S. Karuppuchamy, J. Jeong (2005) Super-hydrophilic amorphous titanium dioxide thin film deposited by cathodic electrodeposition, *Mater. Chem. Phys.*, 93, 2005, 251-254. (IF-2.101).
10. S. Karuppuchamy, J. Jeong, D. P. Amalnerkar, H. Minoura (2006) Photoinduced-hydrophilicity of titanium dioxide thin films deposited by cathodic electrodeposition, *Vacuum.*, 80, 494-498. (IF-1.558).
11. S. Karuppuchamy, N. Okada, M. Kurihara (2006) A simple route to the synthesis of tetraalkylammonium cation modified inorganic complexes, *J. Oleo Science*, 55, 91-94.
12. S. Karuppuchamy, J. Jeong Synthesis of nano-particles of TiO<sub>2</sub> by simple aqueous route, *J. Oleo Science*, 55, 2006, 263-266.
13. H. Matsui, T. Kuroda, K. Otsuki, K. Yokoyama, T. Kawahara, S. Karuppuchamy, M. Yoshihara (2006) Electronic behavior of calcined material from a tellurium-S-phenylene-O- strontium -O- phenylene-S hybrid copolymer, *TANSO*, 222, 114-118.
14. A. Yasui, T. Kawahara, M. Iwasaki, S. Karuppuchamy, H. Tada, S. Ito (2006) Multicolor anodized aluminum film with gold and silver nanorod array, *J. Jpn. Soc. Colour Mater.*, 79, 190-196.
15. A. Yasui, T. Kanoh, M. Iwasaki, T. Kawahara, S. Karuppuchamy, H. Tada, S. Ito (2006) Gold-silver alloy nanowires electrochemically grown in the nanopores of aluminum anodic oxidation film from cyanide-free bath and their color properties, *J. Surf. Finish. Soc. Jpn.*, 57, 670-675.
16. S. Karuppuchamy, M. Iwasaki, H. Minoura (2006) Electrochemical properties of electrosynthesized TiO<sub>2</sub> thin films, *Appl. Surf. Sci.*, 253, 2924-2929. (IF-3.150).
17. S. Yamamoto, H. Matsui, S. Ishiyama, S. Karuppuchamy, M. Yoshihara (2006) Electronic behavior of calcined material from a tantalum-O-phenylene-S- tin-S-phenylene-O hybrid copolymer, *Mat. Sci. Eng. B.*, 135, 120-124. (IF-2.331).
18. M. Iwasaki, N. Yamashita, M. Taguchi, S. Karuppuchamy, S. Ito, W. Park (2006) Blue emission of YMO<sub>4</sub>:Eu<sup>2+</sup> (M=V,P) nanocrystals prepared through facile wet

- process, *Nanophotonic Materials III*, Ed. By Z. Gaburro and S. Cabrini, 6321041-6321049.
19. T. Kawahara, H. Miyazaki, H. Matsui, R. Kudou, S. Karuppuchamy, M. Yoshihara (2006) Electronic behavior of niobium oxide-carbon cluster composite material obtained by calcinations of a niobium-O-phenylene-O-hybrid copolymer, *Mater. Tech.*, 24, 253-255. (IF-1.442).
  20. H. Matsui, T. Kuroda, S. Karuppuchamy, R. Kudou, S. Eguma and M. Yoshihara (2006) Electronic behavior of calcined materials obtained from an osmium-S-phenylen-S hybrid copolymer, *Mater. Tech.*, 24, 308-312. (IF-1.442).
  21. S. Karuppuchamy, M. Iwasaki, H. Minoura (2007) Physico-chemical, photoelectrochemical and photocatalytic properties of electrosynthesized TiO<sub>2</sub> thin films, *Vacuum*, 81, 708-712. (IF-1.558).
  22. T. Kawahara, H. Miyazaki, S. Karuppuchamy, H. Matsui, M. Ito, M. Yoshihara (2007) Electronic nature of vanadium nitride – carbon cluster composite materials obtained by the calcination of oxovanadylphthalocyanine, *Vacuum*, 81, 680-685. (IF-1.558).
  23. S. Yamamoto, H. Matsui, Y. Kanae, S. Karuppuchamy, M. Yoshihara (2007) Electronic behavior of calcined material from [tetra(2,4,6-trimethylphenylthio)] tin, *J. Chem. Eng. Jpn.*, 40, 329-332. (IF-0.553).
  24. T. Kawahara, T. Kuroda, H. Matsui, M. Mishima, S. Karuppuchamy, Y. Seguchi, M. Yoshihara (2007) Electronic properties of calcined materials from a scandium-O-phenylene-O-yttrium-O-phenylene hybrid copolymer, *J. Mater. Sci.*, 42, 2007, 3708-3713. (IF-2.302).
  25. T. Furukawa, H. Matsui, H. Hasegawa, S. Karuppuchamy, M. Yoshihara (2007) The electronic behaviors of calcined materials from a (S-nickel-S-phenylene-O) – strontium -(O-phenylene-S-selenium-S) hybrid copolymer, *Solid State Commun.*, 142, 99-103. (IF-1.458).
  26. H. Matsui, S. Yamamoto, T. Sasai, S. Karuppuchamy, M. Yoshihara (2007) Electronic behavior of WO<sub>2</sub>/carbon clusters composite materials, *Electrochemistry*, 75, 345-348.
  27. H. Matsui, S. Yamamoto, Y. Izawa, S. Karuppuchamy, M. Yoshihara (2007) Electron transfer behavior of calcined material from a samarium – O – phenylene

- S - nickel-S- phenylene - O hybrid copolymer, *Mater. Chem. Phys.*, 103, 127-131. (IF-2.101).
28. H. Matsui, S. Karuppuchamy, J. Yamaguchi, M. Yoshihara (2007) Electronic behavior of calcined materials from SnO<sub>2</sub> hydrosol / starch composite materials, *J.Photochem. Photobio. A. Chem.*, 189, 280-285. (IF-2.477).
29. S. Yamamoto, H. Matsui, K. Matoba, S. Karuppuchamy, M. Yoshihara (2007) Electronic behavior of calcined material from a (niobium-O- phenylene-S)-(cadmium- S-phenylene-O) hybrid copolymer, *J. Jpn. Soc. Colour Mater.*, 80, 241-245.
30. H. Matsui, R. Kudo, T. Kawahara, S. Karuppuchamy, M. Yoshihara (2007) Syntheses and electronic behaviors of networked alternating aluminum-organic moiety hybrid copolymers, *J. Inorg. Organomet. Polym.*, 17, 661-664. (IF-1.308).
31. H. Miyazaki, H. Matsui, S. Karuppuchamy, R. Kudo, S. Ito, M. Yoshihara (2007) Electronic behavior of calcined material obtained from a tantalum-O-phenylene-O hybrid copolymer, *J. Chem. Eng. Jpn.*, 40, 1072-1075. (IF-0.553).
32. Karuppuchamy, S. Ito (2008) Cathodic electrodeposition of nanoporous ZnO thin films and their super-hydrophilic properties, *Vacuum*, 82, 547-550. (IF-1.558).
33. H. Matsui, S. Yamamoto, T. Hama, S. Karuppuchamy, M. Yoshihara (2008) Electronic behavior of calcined material from a gallium-N-phenylene-N hybrid copolymer, *Mater. Res. Bull.*, 43, 104-110. (IF-2.435).
34. T. Kawahara, H. Matsui, K. Otsuki, S. Karuppuchamy, K. Yokoyama, M. Yoshihara (2008) Synthesis of a net-worked strontium-O-phenylene-S-tellurium hybrid copolymer having a two-step electron transfer nature, *Des. Monomers Polym.*, 11, 47-55. (IF-1.497).
35. H. Matsui, T. Kuroda, T. Nishio, T. Kawahara, S. Karuppuchamy, M. Yoshihara (2008) Electronic behavior of calcined material obtained by microwave treatment of a tin-O- phenylene -O hybrid copolymer, *Vacuum*, 82, 1172-1176. (IF-1.558).
36. H. Matsui, T. Kawahara, R. Kudo, M. Uda, S. Karuppuchamy, M. Yoshihara (2008) Electronic behaviors of calcined materials from samarium-O-aryl moiety hybrid copolymers, *J. Alloy. Comp.*, 462, L20-L23. (IF-3.014).

37. H. Miyazaki, H. Matsui, T. Nagano, S. Karuppuchamy, S. Ito, M. Yoshihara (2008) Synthesis and electronic behaviors of TiO<sub>2</sub> / carbon clusters / Cr<sub>2</sub>O<sub>3</sub> composite materials, *Appl. Surf. Sci.*, 254, 7365-7369. (IF-3.150).
38. S. Yamamoto, H. Matsui, T. Okajima, S. Karuppuchamy, M. Yoshihara (2008) Electronic behavior of calcined material from 2,2-diphenylphosphino-1,1-binaphthyl dichloro palladium, *Solid State Commun.*, 148, 274-278. (IF-1.458).
39. H. Miyazaki, H. Matsui, Y. Kita, S. Karuppuchamy, S. Ito, M. Yoshihara (2009) Electronic behavior of visible light sensitive ZrO<sub>2</sub> / Cr<sub>2</sub>O<sub>3</sub> / carbon clusters composite materials, *Curr. Appl. Phys.*, 9, 155-160. (IF-2.114).
40. S. Karuppuchamy, N. Suzuki, S. Ito, T. Endo (2009) A novel one-step electrochemical method to obtain crystalline titanium dioxide films at low-temperature, *Curr. Appl. Phys.*, 9, 243-248. (IF-2.114).
41. H. Matsui, T. Kuroda, T. Kawahara, S. Karuppuchamy, R. Kudo, M. Yoshihara (2009) Electronic behavior of carbon clusters / hafnium oxide composite material, *Curr. Appl. Phys.*, 9, 263-267. (IF-2.114).
42. H. Matsui, T. Kuroda, T. Kawahara, D. Katayama, S. Karuppuchamy, M. Yoshihara (2009) The electronic behavior of calcined material obtained from a manganese-O-phenylene - S-rhenium-S-phenylene hybrid copolymer, *Ceram. Int.*, 35, 87-92. (IF-2.758).
43. H. Miyazaki, H. Matsui, H. Kitakaze, S. Karuppuchamy, S. Ito, M. Yoshihara (2009) Synthesis and electronic behaviors of Ce<sub>0.5</sub>Hf<sub>0.5</sub>O<sub>2</sub> / carbon clusters composite materials, *Mater. Chem. Phys.*, 113, 2009, 21-25. (IF-2.101).
44. H. Miyazaki, H. Matsui, T. Kuwamoto, S. Ito, S. Karuppuchamy, M. Yoshihara (2009) Synthesis and photocatalytic activities of MnO<sub>2</sub>-loaded Nb<sub>2</sub>O<sub>5</sub>/carbon clusters composite material, *Micro. Meso. Mater.*, 118, 518-522. (IF-3.349).
45. K. Miyazaki, H. Matsui, S. Karuppuchamy, J. Uchizumi, S. Ito, M. Yoshihara (2009) Synthesis and characterization of Ta<sub>2</sub>O<sub>5</sub>/HfO<sub>2</sub>/carbon clusters composite materials, *Mater. Chem. Phys.*, 113, 36-41. (IF-2.101).
46. H. Matsui, K. Kira, S. Karuppuchamy, M. Yoshihara (2009) The electronic behaviors of visible light sensitive Nb<sub>2</sub>O<sub>5</sub> / Cr<sub>2</sub>O<sub>3</sub> / carbon clusters composite materials, *Curr. Appl. Phys.*, 9, 592-597. (IF-2.114).

47. H. Matsui, S. Nagano, S. Karuppuchamy, M. Yoshihara (2009) Synthesis and characterization of  $\text{TiO}_2$  /  $\text{MoO}_3$  / carbon clusters composite material, *Curr. Appl. Phys.*, 9, 561-566. (IF-2.114).
48. H. Matsui, T. Okajima, S. Karuppuchamy, M. Yoshihara (2009) The electronic behavior of  $\text{V}_2\text{O}_3$  /  $\text{TiO}_2$  / carbon clusters composite materials obtained by the calcination of a  $\text{V}(\text{acac})_3$  /  $\text{TiO}(\text{acac})_2$  / polyacrylic acid complex, *J. Alloy. Comp.*, 468, L27-L32. . (IF-3.014).
49. N. Suzuki, S. Karuppuchamy, S. Ito (2009) Uniform coating of crystalline  $\text{TiO}_2$  film on large area steel plates by the electrochemical deposition with a staged pulse current, *J. Appl. Electro-chem.*, 39, 141-146. (IF-1.540).
50. H. Matsui, S. Yamamoto, R. Ito, S. Karuppuchamy, M. Yoshihara (2009) The electronic behavior of calcined material obtained from an (yttrium-O-phenylene - O)-(ytterbium-O-phenylene-O) hybrid copolymer, *J. Alloy. Comp.*, 472, L13-L17. (IF-3.014).
51. H. Matsui, A. Ishiko, S. Karuppuchamy, M. Yoshihara Synthesis and characterization of  $\text{MoO}_3$  / carbon clusters /  $\text{ZrO}_2$  composite materials, *J. Alloy. Comp.*, 473, L33-L38. (IF-3.014).
52. H. Matsui, Y. Saito, S. Karuppuchamy, M. Yoshihara (2009) The Electronic behaviors of  $\text{TiO}_2$  /  $\text{MnO}_2$  / carbon clusters composite materials obtained by the calcination of a  $\text{TiO}(\text{acac})_2$  /  $\text{Mn}(\text{acac})_3$  / epoxy resin complex, *Curr. Appl. Phys.*, 9, 1203-1209. (IF-2.114).
53. S. Karuppuchamy, Y. Andou, M. Kottaisamy (2009) Development of Nanostructured Titanium Dioxide Thin Films for Dye-sensitized Solar Cell Applications, Proc.1<sup>st</sup> Int. Conf. on *Nanostructured Materials and Nanocomposites*, 19-21.
54. H. Matsui, N. Bando, S. Karuppuchamy, J-M. Jeong, M. Yoshihara (2011) Synthesis and characterization of  $\text{ZrO}_2$  /  $\text{MnO}_2$  / carbon clusters composite materials, *Superlattice Microstruct.*, 50, 427-436. (IF-2.117).
55. S. Karuppuchamy, H. Matsui, K. Kira, M.A. Hassan, M. Yoshihara (2012) Visible light induced photocatalytic activity of  $\text{Nb}_2\text{O}_5$ /carbon cluster/ $\text{Cr}_2\text{O}_3$  composite materials, *Ceram. Int.*, 38, 1515-1521. (IF-2.758).
56. H. Matsui, N. Bandou, S. Karuppuchamy M.A. Hassan, M. Yoshihara (2012) Efficient photocatalytic activity of  $\text{MnO}_2$ -loaded  $\text{ZrO}_2$ /carbon clusters

- nanocomposite materials under visible light irradiation, *Ceram. Int.*, 38, 1605-1610. (IF-2.758).
57. H. Matsui, M. Nishii, S. Karuppuchamy, J-M. Jeong, M.A. Hassan, M. Yoshihara (2012) Visible light induced electron transfer behavior of a novel CeO<sub>2</sub>-loaded HfO<sub>2</sub>/Carbon cluster composite materials, *J. Alloy. Comp.*, 513, 184-188. (IF-3.014).
58. H. Matsui, A. Ishiko, S. Karuppuchamy, M.A. Hassan, M. Yoshihara (2012) The photoelectronic behaviors of MoO<sub>3</sub>-loaded ZrO<sub>2</sub>/carbon clusters composite materials, *Appl. Nanosci.*, 2, 25-30.
59. H. Matsui, M. Ikegami, S. Karuppuchamy, M.A. Hassan, M. Yoshihara (2012) Visible light-sensitive MnO<sub>2</sub>- and CeO<sub>2</sub>-loaded ZrO<sub>2</sub>/carbon cluster/Pt nanocomposite materials, *Superlattice Microstruct.*, 51, 239-246. (IF-2.117).
60. H. Matsui, Y. Saitou, S. Karuppuchamy, M.A. Hassan, M. Yoshihara (2012) Photo-electronic behaviors of Cu<sub>2</sub>O- and/or CeO<sub>2</sub>-loaded TiO<sub>2</sub>/carbon clusters composite materials, *J. Alloys Comp.*, 538, 177-182. (IF-3.014).
61. R. Prabu, S. Karuppuchamy, S. Raksha (2012) Effect of sodium sulphate salinity for production of docosahexaenoic acid (DHA) by *Thraustochytrids*, *Asian Biomedicine*, 6, 693-701.
62. H. Matsui, N. Ohkura, S. Karuppuchamy, M.A. Hassan, M. Yoshihara (2013) The effect of surface area on the photo-catalytic behavior of ZrO<sub>2</sub>/carbon clusters composite materials, *Ceram. Int.* 39, 5827-5831. (IF-2.758).
63. H. Matsui, H. Miyazaki, A. Fujinami, S. Ito, S. Karuppuchamy, M. Yoshihara (2013) Visible light-sensitive Al<sub>2</sub>O<sub>3</sub>/carbon clusters composite materials, *Appl. Nanosci.*, 3, 225-228.
64. S. Karuppuchamy, Y. Andou, T. Endo (2013) Preparation of Nanostructured TiO<sub>2</sub> for Flexible Dye-sensitized Solar Cell Applications, *Appl. Nanosci.*, 3, 291-293.
65. S. Karuppuchamy, M. Karthikeyan (2013) Preparation of Nanostructured Metal oxide/carbon cluster composite materials, *Recent Advances in Surface Science, Conf. Proceedings*, 193-194.
66. N. Ida, H. Ariffin, Y. Andou, M. A. Hassan, Y. Shirai, H. Nishida, W. Z. Wan Yunus, N.A. Ibrahim, S. Karuppuchamy (2013) Modification of Oil Palm Mesocarp Fiber

- Characteristics Using Superheated Steam Treatment, *Molecules*, 18, 9132-9146. (IF-2.465).
67. H. Matsui, K. Santhi, S. Sugiyama, M. Yoshihara, S. Karuppuchamy, (2014) Visible light-induced photocatalytic activity of SiO<sub>2</sub>/carbon cluster composite materials, *Ceramics Inter.*, 40, 2169-2172. (IF-2.758).
68. R. Dhilip Kumar, S. Karuppuchamy, (2014) Synthesis and characterization of nanostructured copper tungstate (CuWO<sub>4</sub>) for supercapacitor applications, *Ceramics Inter.*, 40, 12397-12402. (IF-2.758).
69. K. Santhi, P. Manikandan, C. Rani, S. Karuppuchamy (2014) Synthesis of Nanocrystalline Titanium Dioxide for Photodegradation Treatment of Remazol Brown Dye, *Appl. Nanosci.*, 5, 373-378.
70. M. Thamima, S. Karuppuchamy (2015) Biosynthesis of titanium dioxide and zinc oxide nanoparticles from natural sources; A review, *Adv. Sci. Eng. Med.*, 7, 18-25.
71. S. Karuppuchamy, C. Brundha (2015) Fabrication of Core-shell structured TiO<sub>2</sub>/MgO Electrodes for Dye-Sensitized Solar Cells, *Appl. Mech. Mater.*, 787, 3-7.
72. S. Karuppuchamy, Y. Andou, H. Nishida, M. A. Hassan, Y. Shirai (2015) Oil Palm Frond Fiber Reinforced Green Composites, *Adv. Sci. Eng. Med.*, in press 2015.
73. R. Dhilip Kumar, S. Karuppuchamy (2015) Synthesis and Characterization of Nanostructured Zn-WO<sub>3</sub> and ZnWO<sub>4</sub> by simple solution growth technique, *J. Mater. Sci. Mater. Elect.*, 26, 3256-3261 (IF-1.8).
74. K.S. Seo, S. Karuppuchamy, J.K. Park, C.E. Lee (2015) Investigations on the antioxidant activity of *Kalopanax septemlobus* root, *Minerva Biotechnologica*, 27, 179-189. (IF-0.35).
75. R. Dhilip Kumar, S. Karuppuchamy (2015) Facile Synthesis of Honeycomb Structured SnO/SnO<sub>2</sub> Nanocomposites by Microwave Irradiation Method, *J. Mater. Sci. Mater. Elect.* 26, 6439-6443. (IF-1.8).
76. W.S. Shazzelyn, A.W. Sharifudin, A. Sulaiman, N. Mokhtar, A.S. Baharuddin, M.Tabatabaei, Z. Busu, S. Karuppuchamy (2015) The Presence of Residual Oil in Relation to Solid Particles Distribution in Palm Oil Mill Effluent (POME), *Bioresources*, 10, 7591-7603. (IF-1.334).
77. S. Karuppuchamy\* and R. Dhilip Kumar, (2015) Synthesis and Characterization of Visible Light Active Titanium Dioxide Nanomaterials for Photocatalytic Applications, *Int. J. ChemTech Res*, 8, 278-283.

78. M. Thamima and S. Karuppuchamy\*(2015) Microwave Assisted Synthesis of Zinc Oxide Nanoparticles, *Int. J. ChemTech Res*, 8, 250-256.
79. K. Santhi, C. Rani, R. Dhilip Kumar and S. Karuppuchamy\* (2015) Synthesis of nanoporous Zn-WO<sub>3</sub> by microwave irradiation method for photocatalytic applications, *J. Mater. Sci. Mater. Elect.* 26, 10068-10074. (IF-1.8).
80. S. Karuppuchamy\*, Y. Andou, A.S. Baharuddin, A. Sulaiman, M. A. Hassan, H. Nishida and Y. Shirai (2015) Thermo-mechanical properties of Palm Fiber Plastic (PFP) Composites, *Adv. Sci. Eng. Med.* 7, 844-848.
81. K. Santhi, R. Dhilip Kumar, J. Maragatha, C. Rani and S. Karuppuchamy\* (2015) Microwave synthesis of SnO/SnO<sub>2</sub> nanocomposite for photocatalytic Applications, *Proceedings of Inter. Conf. Industrial Applications of Nanostructured Materials*, 161-164.
82. M. Selvamurugan, R. Dhilip Kumar and S. Karuppuchamy\* (2015) Facile Synthesis of Nanostructured Lithium Titanate for Battery Applications, *Proceedings of Inter. Conf. Application of Nanostructured Materials for Energy and Environmental Technology*, 189-192.
83. J. Maragatha, K. Santhi and S. Karuppuchamy\* (2015) Microwave Assisted Synthesis of Carbon Doped Ti<sub>4</sub>O<sub>7</sub> for Photocatalytic Applications, *Proceedings of Inter. Conf. Industrial Applications of Nanostructured Materials*, 173-176.
84. N. Nallusamy, P. Malathi Sivaram and S. Karuppuchamy (2015) Mathematical modelling and experimental investigation on solar parabolic trough collector integrated with thermal energy storage system, *Proceedings of Indo-German Conf. on Sustainability (IGCS-2015)*, in press.
85. K. Santhi, C. Rani and S. Karuppuchamy\* (2016) Synthesis and Characterization of a Novel SnO/SnO<sub>2</sub> Hybrid Photocatalyst, *Journal of Alloys and Compounds*, 662 (2016) 102-107. (IF-3.014).
86. R. Dhilip Kumar, M. Sathish and S. Karuppuchamy\* (2016) Microwave mediated synthesis of nanostructured Co-WO<sub>3</sub> and CoWO<sub>4</sub> for supercapacitor applications, *J. Alloys. Compd.* 674, 384-391. (IF-3.014).
87. R. Dhilip Kumar, Y. Andou and S. Karuppuchamy\* (2016) Synthesis and characterization of nanostructured Ni-WO<sub>3</sub> and NiWO<sub>4</sub> for supercapacitor applications, *J. Alloy. Compd.* In 654, 349-356. (IF-3.014).
88. R. Dhilip Kumar, Y. Andou, M. Sathish and S. Karuppuchamy\* (2016) Synthesis of nanostructured Cu-WO<sub>3</sub> and CuWO<sub>4</sub> for supercapacitor applications, *J. Mater.Sci. Mater. Elect.*, 27, 2926-2932. (IF-1.8).



89. M. Thamima and S. Karuppuchamy\* (2016) Synthesis, characterization and photocatalytic properties of rod-shaped titanium dioxide, *J. Mater.Sci. Mater. Elect.* 27, 458-465. (IF-1.8).
90. R. Dhilip Kumar and S. Karuppuchamy\* (2016) Microwave-assisted synthesis of Zn-WO<sub>3</sub> and ZnWO<sub>4</sub> nanopowder for pseudocapacitor applications, *J. Phys.Chem. Solid.* 92, 94-99(IF-2.0).
91. S. Karuppuchamy\*, Y. Andou, S. S. Jang, H. Nishida, M. A. Hassan and Y. Shirai (2016) Eco-friendly superheated steam treated oil palm empty fruit bunch fibers and their application in polymer composites, *Adv. Sci. Eng. Med.* 8, 131-134.
92. K. Santhi, J. Maragatha, C. Rani and S. Karuppuchamy\* (2016) Synthesis, characterization and photocatalytic activity of nanostructured copper doped WO<sub>3</sub>, *Materials Focus.* 5, 398-403.
93. K. Santhi, C. Rani and S. Karuppuchamy\* (2016) Degradation of Alizarin Red S Dye Using Ni doped WO<sub>3</sub> Photocatalyst, *J. Mater.Sci. Mater. Elect.* 27, 5033-5038. (IF-1.8).
94. J. Maragatha and S. Karuppuchamy\*, (2016) Synthesis and Characterization of visible light responsive Carbon Doped Ti<sub>4</sub>O<sub>7</sub> Photocatalyst, *J. Mater.Sci. Mater. Elect.* 27, 9233-9239. (IF-1.8).
95. M. Selvamurugan and S. Karuppuchamy, (2016) Synthesis and characterization of Lithium titanate (Li<sub>4</sub>Ti<sub>5</sub>O<sub>12</sub>) nanopowder for Li-ion-batteries, *J. Mater.Sci. Mater. Elect.* 27, 9699-9703. (IF-1.8).
96. J. Maragatha, S. Rajendran, T. Endo, S. Karuppuchamy\* (2016) Microwave synthesis of metal doped TiO<sub>2</sub> for photocatalytic applications, *J Mater Sci: Mater Electron.*, DOI 10.1007/s10854-016-6185-7. (IF-1.8).
97. R. Dhilip Kumar, Y. Andou, and S. Karuppuchamy\* (2016) Facile synthesis of Co-WO<sub>3</sub>/f-CNT for supercapacitor applications, *J. Mater. Sci: Mater-Electron*, DOI 10.1007/s10854-016-6203-9. (IF-1.8).
98. M.Thamima and Y.Andou and S. Karuppuchamy\* (2017) Microwave assisted synthesis of perovskite structured BaTiO<sub>3</sub> nanospheres via peroxy route for photocatalytic applications, *Ceram.Int.* 43, 556-563. (IF-2.758).
99. K. Rokesh, S. Chandra Mohan, S. Karuppuchamy and K. Jothivenkatachalam (2017) Photo-assisted Advanced Oxidation Processes for Rhodamine B Degradation Using ZnO-Ag Nanocomposite Photocatalyst, *J. Environ. Chem Eng.* in press, (IF-1.428).