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International Advanced Research centre for powder
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Educational background:

B.Sc. in Chemistry, St. Joseph's College, Bharathidhasan University, Trichy, (1988-91)
M.Sc. in Applied Chemistry, Department of Chemistry, Anna University, Chennai (1991-93)
Ph.D in Heterogeneous Photocatalysis, Department of Chemistry, Anna University, Chennai (1995-1999) & Technical university of Clausthal, Germany under DAAD Fellowship (1999-2001)

Professional Experience:

Research Experience: 20 years

Present Designation: Scientist E, Team Leader

Centre for Solar Energy Materials, ARCI, Hyderabad, India

Current research area:

- ✚ Nano Functional coatings for solar & optical applications
: *Selective absorber, Antireflective & Dust repellent coatings*
- ✚ Sensitised carbon nano clusters for PV & Self cleaning applications
- ✚ Synthesis of different metal / metal oxide nano materials for PV and CSP applications

Dec' 2015 - present: Team Leader, *Centre for Solar Energy Materials, ARCI, Hyderabad*

Jul' 2010 - present: Scientist E, *Centre for Solar Energy Materials, ARCI, Hyderabad*

Oct' 2009 - Jun' 2010: Senior Scientist, *Centre for Sol-gel coatings, ARCI, Hyderabad*

Dec' 2006 - May 2009: Research Scientist in Nanotechnology and Functional coatings, *Glass and Optics Department, INM Leibniz-Institute for New Materials research, Saarbrücken, Germany*

- ✚ *Nano functional coatings for optical, solar and other functional applications*

Nov' 2001 - May 2006: Postdoctoral fellow in the Institute for Inorganic chemistry, **Friedrich-Alexander-Universität, Erlangen-Nürnberg, Germany**

- ✚ *Visible light photocatalysts for indoor self-clean application*

Oct' 2000 - Sep' 2001 : DAAD Research Fellow (extension period) in the Institute for solar energy

Research, **Hamelin/Emmerthal (ISFH), Aussenstelle Hannover, Germany**

✚ *Synthesis of novel TiO₂ photocatalysts and films for UV photocatalytic application*

Oct' 1999 - Sep' 2000: DAAD Research Fellow, Institut für Thermische Verfahrenstechnik der Technischen Universität Clausthal, Clausthal-Zellerfeld, Germany.

✚ *Synthesis of Heterojunction photocatalytic materials for water treatment*

Jan' 1995 - May 1999: Research cum Project fellow in Department of Chemistry, **Anna University, Chennai, India**

✚ *Synthesis of metalized and non-metalized TiO₂ and ZnO photocatalysts and supported photocatalysts for UV photocatalytic application*

Jun' 1995 - Jun' 1996: Research Project Associate in Environmental Technology Lab, Central Leather Research Institute (**CLRI**), **Chennai, India (funded by The Netherlands Organization (TNO))**.

✚ Performance monitoring of Up-flow anaerobic sludge blanket (UFASB) waste water treatment plant & analysis of waste water.

Honors and Awards:

- *Bharath Jyoti Award (2015)* from India International Friendship Society
- *Glory of India Gold Medal (2015)* from International Institute of Success Awareness
- DAAD research award (June 1999), German Academic Exchange Service, Bonn, Germany
- Brain-fellowship award (Oct. 2006), Korean Science and Technology, Korea
- Guest Editor for a special issue on "Photocatalysis for the Environment and Energy" for the International journal of Photo energy
- Biography included in Who's Who in the World and Science & Engg.
- Hot paper status received for an article published in *Angewandete Chemie*
- Research work appreciated by various scientific forums
 1. Chemical Engg. News
 2. Chemie.de
 3. Material research society (MRS)
 4. High beam research -The Columbia Encyclopedia
 5. Pro-Physik.de
 6. Presse-Mitteilung (Angewante Chemie)
 7. Bayern photonics
 8. Spectrumdirect
 9. KOREANA Patent Firm
 10. Technology Innovation center (TIC) Korea
 11. Frankfurter Allgemeine Zeitung
 12. WDR- German TV (Science Programme)
- 2 research articles received a status of highly cited articles in the field of photocatalysis
- Reviewer of many research articles & research proposals
- Chairperson for an International conference session

Research credits (Technology dev. & transfer, Major Projects, Patents and conferences):

Technology developed in ARCI: 9

Technology Developed in Germany: 3

Publications: **32**

Patents: **26 (9 Ind. Patents +10 other countries+ 3 US + 2 WO+ 2 European)**

Total citations: **6099**

H index factor: **23**

i10 index: **25**

International and National Conferences: **49**

Affiliations Professional Societies:

- Member of International Solar Energy Society (ISES)
- Member of International material research society (MRS)
- Member of material research society, India (MRS)

Project and Research students supervised:

1 Ph.D student (as a co-supervisor) -Institute for Inorganic Chemistry, Friedrich-Alexander-Universität, Erlangen-Nürnberg, Germany.

*4 research students (2 SRF and 3 JRF), 6 Master Project Students; 13 Graduate Project Students
3 Post graduate trainees and 5 Graduate trainees*

LIST OF TECHNOLOGY, PROJECTS, PATENTS, PUBLICATIONS AND CONFERENCES

TECHNOLOGY DEVELOPED IN INDIA:

1. High crystalline TiO₂ nanoparticles with high uniformity & high purity for Dye and Perovskite solar cells and low temperature solar absorber paints
2. Cost effective selective absorber coatings with high solar absorptance and low thermal emissivity for ORC based solar thermal application (Developed under A joint India-U.S. research consortium (SERIUS))
3. Highly thermally stable Nanocomposite Oxide Selective Absorber Coating with excellent optical property for high temperature solar thermal power application.
4. Novel broad band antireflection coating developed by a newly synthesized mesoporous MgF₂ nanoparticles.
5. Easy to clean coatings (super hydrophobic coatings) on PV panels and Al reflectors for dust/dirt removal application
6. Anti-reflective coatings with anti-fogging (super hydrophilic) property for Solar Application
7. An improved property of Selective absorber coating for medium solar thermal power application
8. Cost effective method for a development of high thermal stable selective solar absorber layer with low emissive barrier layer for high temperature CSP application.
9. A novel preparation of anti-reflective coatings with scratch resistance property for optical and solar applications

TECHNOLOGY DEVELOPED AND TRANSFERRED IN GERMANY:

1. Carbon modified TiO₂ powder for self clean paint application (Technology transferred to KRONOS international inc., Germany)
2. Novel preparation of Yellow pigment for visible light photocatalysis (self clean application)
3. Antireflective coatings for optical and solar application (Technology transferred to LG, Korea)

SPONSORED RESEARCH PROJECTS:

1. Design and Development of Cost Efficient Solar Receiver Tube for Medium and High Temperature Solar Thermal Applications, DST-SERI (**Sanctioned Ind. Rs. 3.04 Crore**)
2. Development of selective absorber coatings on SS substrates, Thermax Ltd, Pune, Ind. **Rs 19 Lakh** (2010-2014)
3. Development of cost-efficient parabolic trough solar collector for ORC systems under DST-DOE Indo-US Science & Technology (SERIUS), Ind. **Rs. 2.80 crore** (Amount shared with PV cell development research, *completed 2 phase*).
4. Development of Super hydrophobic coating on PV Panels for Dust cleaning application, Ind. **Rs 55 Lakh**, NTPC (Approved)

CONSULTANCY PROJECTS:

1. Spectral emittance and absorptance study of Sol-gel and Sputter coated samples received from NCL, Pune; NAL, Bangalore & Milman thinfilm system Pvt. Ltd, Pune
2. Solar reflectance index study of Nano paints received from ATG Nano System, Chennai.

PATENTS:

1. **S. Sakthivel**, M. Shiva Prasad and S.V. Joshi, "Solar selective coating for solar energy collector /absorber tube with improved performance and a method of producing the same" [Indian patent Application no. 2142/DEL/2015](#), date of filling: 15.07.2015.
2. **S. Sakthivel**, M. Shiva Prasad, B. Mallikarjun and S.V. Joshi, "An improved performance of Nanocomposite Oxide Selective Absorber Coating with excellent optical and thermal resistant properties and method of manufacturing the same" [Indian patent Application no. 1111/DEL/2015](#), date of filling: 22.04.15.
3. **S. Sakthivel**, D. Karthik, and S.V. Joshi, "Method of producing porous MgF₂ nanoparticles, anti-reflection coating suspension and coatings for solar, optical, UV and IR transparent window applications" [Indian patent Application no. 4041/DEL/2014](#), date of filling: 31.12.14.
4. **S. Sakthivel**, S. Viswanathan and S.V. Joshi "Process of producing easy to clean coating (Super-hydrophobic coating) with high optical, weather, UV and corrosion resistance properties" [Indian patent Application no. 402/DEL/2014](#), date of filling: 13.02.2014.
5. **S. Sakthivel**, Sherine Alex and S.V. Joshi "Process for producing anti-reflective coatings with anti-fogging (super hydrophilic), UV, weather and scratch resistance properties" [Indian patent Application no. 2919/DEL/2013](#), date of filling: 3.10.2013.
6. **S. Sakthivel**, V. Premkumar and A. Srinivas Rao "An improved solar selective absorber coating with excellent optical absorptance, low thermal emissivity and excellent corrosion resistance property and a process of producing the same" [Indian patent Application no. 1129/DEL/2013](#), date of filling: 16.04.2013.
7. **S. Sakthivel** and A. Srinivas Rao "A high thermal stable selective solar absorber layer with low emissive barrier coating over a substrate and a process of producing the same" [Indian patent Application no. 3312/DEL/2012](#), date of filling: 29/10/2012.
8. **S. Sakthivel**, M. Righeira Carnegie and S.V. Joshi "Process for producing anti-reflective coatings with scratch resistance property" [Indian patent Application no. 1777/DEL/2012](#), date of filling: 11/06/2012.
9. Orth-Gerber, J.; Kisch, H.; **Sakthivel, S.** 'Kohlenstoffhaltiger Titandioxid-Photokatalystor und Verfahren zu seiner Herstellung' [German Pat. Appl. Publ. \(2004\) DE 102004 027549 A1](#).
10. Kisch, H.; **Sakthivel, S.** 'Photokatalytisches Gelbpigment' German Offen (2006), [DE 10 2006 049 769A1](#).
11. Veith, M; Peter, O.; Jilavi, M.; **Sakthivel, S.** 'Method for Producing Coatings Having Anti-Reflection Properties' [US2012/0125234 A1](#)
12. Veith, M; Peter, O.; Jilavi, M.; **Sakthivel, S.** 'Verfahren zur Herstellung von Beschichtungen mit Antireflexionseigenschaften' (2011), [DE 10 2009 035 797.1](#)
13. Veith, M; Peter, O.; Jilavi, M.; **Sakthivel, S.** 'Method for producing coatings having antireflection properties' (2011), [WO 2011/012214A1](#).
14. Veith, M; Peter, O.; Jilavi, M.; **Sakthivel, S.** 'Method for producing coatings having antireflection properties' (2012), [EP 2460035..](#)
15. Orth-Gerber, J.; Kisch, H.; **Sakthivel, S.** 'Carbon-containing, Titanium dioxide –based photocatalyst, and process for producing the same' (2005) [EP000001732992A1](#).
16. Orth-Gerber, J.; Kisch, H.; **Sakthivel, S.** 'Carbon-containing, Titanium dioxide –based photocatalyst, and process for producing the same' [WO 2005/108505 A1](#).
17. Orth-Gerber, J.; Kisch, H.; **Sakthivel, S.** 'Titanium dioxide photocatalyst containing carbon and method for its production' [U.S. Pat. Appl. Publ. \(2005\), US 2005227854 A1](#).
18. Orth-Gerber, J.; Kisch, H.; **Sakthivel, S.** 'Titanium dioxide photocatalyst containing carbon and method for its production' [U.S. Pat. Appl. Publ. \(2005\), US 2005226761 A1](#).
19. Orth-Gerber, J.; Kisch, H.; **Sakthivel, S.** Carbon containing titanium dioxide, process for producing and use thereof as a photocatalyst (1010) [UA90270 \(TG 178 WO/UA\)](#).

20. Orth-Gerber, J.; Kisch, H.; **Sakthivel, S.** 'A carbon containing photocatalyst based on titanium dioxide, A process for producing the same and use thereof (variants)' (2010), [RUSSIA 2006139088](#).
21. Orth-Gerber, J.; Kisch, H.; **Sakthivel, S.** 'Photocatalysis of titanium dioxide containing carbon and process for its manufacture', (2007), [Portugal BR000PI0509767A](#).
22. Orth-Gerber, J.; Kisch, H.; **Sakthivel, S.** 'Carbon-containing, Titanium dioxide –based photocatalyst, and process for producing the same', (2007) [Korea, Kr102007039872AA](#).
23. Orth-Gerber, J.; Kisch, H.; **Sakthivel, S.** 'Carbon-containing, Titanium dioxide –based photocatalyst, and process for producing the same' (2007) [China, CN 1930250 A \(TG 178 WO/CN\)](#).
24. Orth-Gerber, J.; Kisch, H.; **Sakthivel, S.** Carbon-containing, Titanium dioxide –based photocatalyst, and process for producing the same' (2007) [India 1031/MUMNP/2006 A](#).
25. Orth-Gerber, J.; Kisch, H.; **Sakthivel, S.** 'Carbon-containing, Titanium dioxide –based photocatalyst, and process for producing the same' (2006) [Taiwan 94110845](#).
26. Orth-Gerber, J.; Kisch, H.; **Sakthivel, S.** 'Carbon-containing, Titanium dioxide –based photocatalyst, and process for producing the same' [Malaysia PI 20051533](#).

PUBLICATIONS

1. D. Karthik, **S. Sakthivel**, S.V.Joshi, High performance antireflective coatings together with high weather and thermal stability by using a novel synthesis of mesoporous MgF₂ nanoparticles (Submitted in ACS Nano)
2. M. Shivaprasad, B. Malikarjun, **S. Sakthivel**, S.V. Joshi, A highly thermally stable tandem absorber coatings for high temperature CSP application (Going to be communicated to J. solar energy materials and solar cells)
3. B. Malikarjun and S. Sakthivel, Selective solar absorber coatings for high temperature Solar thermal power application (Going to be communicated to J. solar energy materials and solar cells)
4. M. Rigueira Carnegie, A. Sherine, D. Sivagami and **S. Sakthivel**, Anti-reflection coatings with enhanced abrasion and scratch resistance properties, J. Sol-Gel, Sci. Tech. June 2015 (**Accepted**).
5. A. Srinivasa Rao, **S. Sakthivel**, A highly thermally stable Mn–Cu–Fe composite oxide based solar selective absorber layer with low thermal loss at high temperature, Journal of Alloys and Compounds 644 (2015) 906–915.
6. Daylight photocatalysis by carbon-modified titanium dioxide, **S Sakthivel**, H Kisch – Wiley PUBLICATIONS 4909 Angew. Chem. Int. Ed. 2003, 42, 4908–4911. [Cited 1661](#)
7. Visible light activity and photoelectrochemical properties of nitrogen-doped TiO₂, **S Sakthivel**, M Janczarek, H Kisch - The Journal of Physical ..., 2004 - ACS Publications Journal of Physical Chemistry B (2004), 108(50), 19384-19387. [Cited 594](#)
8. Photocatalytic and Photoelectrochemical Properties of Nitrogen-Doped Titanium Dioxide, **S Sakthivel**, H Kisch - ChemPhysChem, 2003 - Wiley Publications , ChemPhysChem (2003), 4(5), 487-490. [Cited 477](#)
9. Solar photocatalytic degradation of azo dye: comparison of photocatalytic efficiency of ZnO and TiO₂ **Sakthivel, S.**; Neppolian, B.; Shankar, M. V.; Arabindoo, B.; Palanichamy, M.; Murugesan, V. Solar Energy Materials and Solar Cells (2003), 77(1), 65-82. [Cited 918](#)
10. Electrochemical mass spectroscopic and surface photovoltage studies of catalytic water photooxidation by undoped and carbon-doped titania, P Bogdanoff, H Tributsch, **S Sakthivel**... - The Journal of ..., 2005 - ACS Publications Journal of Physical Chemistry B (2005), 109(35), 16579-16586 [Cited 132](#)
11. A Low-Band gap, nitrogen-modified titania visible-light photocatalyst, H Kisch, **S Sakthivel**, M Janczarek... - The Journal of Physical ..., 2007 - ACS Publications Journal of Physical Chemistry C (2007), 111(30), 11445-11449. [Cited 116](#)
12. Exploring the electronic structure of nitrogen-modified TiO₂ photocatalysts through photocurrent and surface photovoltage studies, R Beranek, B Neumann, **S Sakthivel**, M Janczarek... - Chemical Physics, 2007 – Elsevier Chemical Physics (2007), 339(1-3), 11-19 [Cited 72](#)
13. Tageslicht-Photokatalyse durch Kohlenstoff-modifiziertes Titandioxid, **S Sakthivel**, H Kisch - Angewandte Chemie, 2003. [Cited 88](#)
14. Enhancement of photocatalytic activity by metal deposition: characterization and photonic efficiency of Pt, Au and Pd deposited on TiO₂ catalyst, **Sakthivel, S.**; Neppolian, B.; Shankar, M. V.; Arabindoo, B.; Palanichamy, M.; Murugesan, V. Water Research (2004), 38(13), 3001-3008. [Cited 518](#)
15. EPR study of the illumination effect on properties of paramagnetic centers in nitrogen-doped TiO₂ active in visible light photocatalysis, Konstantinova, E. A.; Kokorin, A. I.; Lips, K.; **Sakthivel, S.**; Kisch, H. Applied Magnetic Resonance (2009), 35(3), 421-427. [Cited 9](#)
16. Carbon-doped titanium dioxide: visible light photocatalysis and EPR investigation Konstantinova, Elizaveta A.; Kokorin, Alexander I.; **Sakthivel, Shanmugasundaram**; Kisch, Horst; Lips, Klaus, Chimia (2007), 61(12), 810-814. [Cited 27](#)

17. UV and visible light acrylate photopolymerization initiated by nitrogen- or carbon-doped titanium dioxide, Damm, C.; **Sakthivel, S.**; Kisch, H., *Zeitschrift fuer Physikalische Chemie (Muenchen, Germany)* (2006), 220(4), 477-486 [Cited 8](#)
18. A fine route to tune the photocatalytic activity of TiO₂, **Sakthivel, S.**; Hidalgo, M.C.; Bahnemann, D.; Geissen, S.-U.; Murugesan, V.; Vogelpohl, A. *Applied Catalysis, B: Environmental* (2006), 63(1-2), 31-40. [Cited 109](#)
19. Highly photoactive and stable TiO₂ coatings on sintered glass, Hidalgo, M. C.; **Sakthivel, S.**; Bahnemann, D. *Applied Catalysis, A: General* (2004), 277(1-2), 183-189. [Cited 39,](#)
20. Photocatalytic decomposition of leather dye Comparative study of TiO₂ supported on alumina and glass beads, **Sakthivel, S.**; Shankar, M. V.; Palanichamy, M.; Arabindoo, B.; Murugesan, V. *Journal of Photochemistry and Photobiology, A: Chemistry* (2002), 148(1-3), 153-159. [Cited 102](#)
21. **Sakthivel, S.**; Geissen, S.-U.; Bahnemann, D.; Murugesan, V.; Vogelpohl, A. 'Enhancement of Photocatalytic Activity by Semiconductor Heterojunctions: α -Fe₂O₃, WO₃ and CdS deposited on ZnO'. *Journal of Photochemistry and Photobiology, A: Chemistry* (2002), 148(1-3), 283-293. [Cited 174](#)
22. Solar light induced and TiO₂ assisted degradation of textile dye reactive blue 4, Neppolian, B.; Choi, H. C.; **Sakthivel, S.**; Arabindoo, B.; Murugesan, V. *Chemosphere* (2002), 46(8), 1173-1181. [Cited 363](#)
23. Solar/UV-induced photocatalytic degradation of three commercial textile dyes, Neppolian, B.; Choi, H. C.; **Sakthivel, S.**; Arabindoo, Banumathi; Murugesan, V. *Journal of Hazardous Materials* (2002), 89(2-3), 303-317. [Cited 394](#)
24. Photocatalytic degradation of leather dye over ZnO catalyst supported on alumina and glass surfaces, **Sakthivel, S.**; Neppolian, B.; Palanichamy, M.; Arabindoo, B.; Murugesan, V. *Water Science and Technology* (2001), 44(5), Oxidation Technologies for Water and Wastewater Treatment [Cited 20](#)
25. Kinetics of photocatalytic degradation of Reactive yellow 17 dye in aqueous solution using UV irradiation, Neppolian, B.; **Sakthivel, S.**; Arabindoo, Banumathi; Palanichamy, M.; Murugesan, V., *Journal of Environmental Science and Health, Part A: Toxic/Hazardous Substances & Environmental Engineering* (2001), A36(2), 203-213 [Cited 21](#)
26. Kinetics of photocatalytic degradation of textile dye reactive red 2, Shankar, M. V.; Neppolian, B.; **Sakthivel, S.**; Arabindoo, Banumathi; Palanichamy, M.; Murugesan, V., *Indian Journal of Engineering & Materials Sciences* (2001), 8(2), 104-109. [Cited 25](#)
27. ZnO-photoassisted degradation of textile dye using solar energy Neppolian, B.; **Sakthivel, S.**; Arabindoo, Banumathi; Palanichamy, M.; Murugesan, V. *Indian Journal of Chemical Technology* (2001), 8(1), 36-40. [Cited 14](#)
28. ZnO/UV mediated photocatalytic degradation of Acid Green 16, a commonly used leather dye, **Sakthivel, S.**; Neppolian, B.; Arabindoo, Banumathi; Palanichamy, M.; Murugesan, V. *Indian Journal of Engineering & Materials Sciences* (2000), 7(2), 87-93. [Cited 22](#)
29. TiO₂ catalysed photodegradation of leather dye, Acid Green 16, **Sakthivel, S.**; Neppolian, B.; Arabindoo, Banumathi; Palanichamy, M.; Murugesan, V. *Journal of Scientific & Industrial Research* (2000), 59(7), 556-562. [Cited 38](#)
30. Degradation of textile dye by solar light using TiO₂ and ZnO photocatalysts, Neppolian, B.; **Sakthivel, S.**; Arabindoo, Banumathi; Palanichamy, M.; Murugesan, V. *Journal of Environmental Science and Health, Part A: Toxic/Hazardous Substances & Environmental Engineering* (1999), A34(9), 1829-1838. [Cited 57](#)
31. Photocatalytic degradation of leather dye, Acid Green 16 using ZnO in the slurry and thin film forms, **Sakthivel, S.**; Neppolian, B.; Palanichamy, M.; Arabindoo, Banumathi; Murugesan, V. *Indian Journal of Chemical Technology* (1999), 6(3), 161-165. [Cited 43](#)
32. Photocatalytic degradation of textile dye commonly used in cotton fabrics Neppolian, B.; **Sakthivel, S.**; Arabindoo, Banumathi; Palanichamy, M.; Murugesan, V. *Studies in Surface Science and Catalysis* (1998), 113(Recent Advances in Basic and Applied Aspects of Industrial Catalysis), 329-335. [Cited 26](#)
33. Photocatalytic degradation of leather dyes in aqueous solution using solar/UV illuminated TiO₂/ZnO, Proceeding of the international symposium on Environmental pollution control and Waste management (EPCOWM02) (2002) 654-657. [Cited 2](#)
34. AlPO₄-C composite coating for high emissivity and oxidation protection Applications Subir Roy, R. Maharana, S. Gokul Laxmi, S. Sakthivel*, Manish Roy, V.V. Bhanu Prasad and D. K. Das, *J. Surface Engg. (in Press)*
35. Modified titania powders for visible light photodetoxification of water, Kisch, Horst; Burgeth, Gerald; Macyk, Wojciech; Sakthivel, Shanmugasundaram Abstracts of Papers, 228th ACS National Meeting, Philadelphia, PA, United States, August 22-26, (2004).
36. Work on non photocatalytically active titania particles C Faller-Schneider, K Moh, S Shanmugasundaram... - 2011 - scidok.sulb.uni-saarland.de

LIST OF CONFERENCES

49. **S. Sakthivel**, Role of nanofunctional coatings for PV and Solar thermal application, International conference on Nanomaterials and Nanotechnology, Dec. 7-11, KSRT, Tiruchengode, Tamil Nadu, India.
48. M. Shiva Prasad, S. Amarnath, K.Venkatesh, **S. Sakthivel**, S.V. Joshi, Development of Cost Efficient Solar Absorber Coatings for ORC Collectors, SERIUS Review meeting, March 13-14, 2015 Hyderabad, India
47. **S. Sakthivel**, National conference on Emerging trends in chemistry and materials, Thiruvalluvar University, Vellore, Tamil Nadu, 9-10th April 2015, Cost Efficient Nanofunctional Coatings for Solar Thermal and PV Applications.
46. **S. Sakthivel**, Workshop on chemical coatings on Explosives sponsored by office of principal Scientific Advisor, Dept. of Electronics and Communication, IIT Bombay, 21st May 2014 “Novel type of chemical coatings for explosive applications”
45. **S. Sakthivel**, “Importance of solar functional coatings for Solar thermal and PV applications, National Conference on Recent Advances in NanoSciences (RANSS’ 44), AUXILIUM college, Thiruvalluvar University, Vellore, 21-22nd Nov 2015(Invited presentation).
44. **S. Sakthivel**, Nano Functional Materials / Coatings for Solar energy harvesting Technologies “International conference on Chemistry and Materials (ICCM)”, Dept. of Chemistry, BIT Campus, Anna University, Trichy, 14-15th Nov 2014 (Invited presentation).
43. **Dr. S. Sakthivel** “Future and Application of Nano functional coatings in Energy Harvesting Technology” International conference on Nano-Bio and Material sciences (ICONBMS-2014) held at Osmania University, Hyderabad, Jan. 8-10, 2014 (invited presentation)
42. **Dr. S. Sakthivel** delivered an invited lecture on “Nano functional coatings for solar applications, at an International symposium VTU-International CANUES (VICAS-2013) held at VTU, Belgaum, Karnataka, Apr.18-19, 2013.
41. **Dr. S. Sakthivel** delivered an invited lecture on “Important role of functional nano coatings for Solar thermal and PV Applications” at a National workshop on Sustainable energy conversion and storage devices, held at SRM University, Chennai, Tamil Nadu, 2-8 September, 2013.
40. **Dr. S. Sakthivel** delivered an invited lecture on “Importance of Solar Energy conversion Technology in India” at a workshop on Renewable Energy sources, Sponsored by AICTE, held at Syedammal Engg. College, Ramnad, Tamil Nadu, 04-17 Oct 2013.
39. **Dr. S. Sakthivel** delivered an invited lecture on “A role of nano functional coatings in CSP and PV applications” at a workshop on Renewable Energy sources, Sponsored by AICTE, held at Syedammal Engg. College, Ramnad, Tamil Nadu, 04-17 Oct 2013.
38. **Dr. S. Sakthivel** delivered an invited lecture on “Importance of Solar Energy conversion Technology” at a National seminar on emerging trend in solar Energy 2013, held at B.S Abdur Rahman University, Chennai, Oct 23, 2013.
37. **Dr. S. Sakthivel** delivered an invited lecture on “ Important role of functional nano coatings for Solar conversion Technology” at a National work shop on Nanotechnology – A fuel for chemical Industry, held at RVR & Jc college of Engineering, Guntur, AP, Sep. 20-21, 2013.
36. **S. Sakthivel**, “Role of nanotechnology in the field of Environment and nergy” National seminar on role of nanotechnology in Environmental Protection, JNTU, Anathapur, Feb 11-12, 2012 (Invited presentation).
35. **S. Sakthivel**, “Ag-TiO₂ nanocomposite selective solar absorber coatings for solar thermal application” ICONSAT 2012, Hyderabad, Jan 20-23, 2012 (Oral presentation).
34. **S. Sakthivel**, “ Importance of Solar Energy Conversion Technologies in India & Challenges of producing solar receiver tubes for high temperature Applications” symposium on New Frontiers in Heterogeneous catalysis, Anna university, Chennai, Dec 21, 2011(invited presentation)

33. **S. Sakthivel** "Development of High absorption and low emissivity coatings for Solar thermal Applications" National Seminar on Nanotechnology - Its future and Applications in Energy Sector IEEE, Hyderabad section, August 26 - 27, 2011, Hyderabad (Invited presentation).
32. Kisch, H.; **Sakthivel, S.**; 'Modifying Titania for semiconductor Daylight Photocatalysis' EAAOP conference' Chania, Greece, 7-9 Sep, 2006.
31. Kisch, H.; **Sakthivel, S.**; Janczarek, M.; 'On the mechanism of visible light photocatalysis C- and N- doped titania' IPS-16 conference, Uppsala, Sweden, 2-7 July, 2006. Janczarek, M.; **Sakthivel, S.**; Kisch, H.; Hupka, J. 'Visible light – induced mineralization of organic pollutants by modified titania particles' International Symposium on the Role of Adsorbed Films and Particulate Systems in Nano and Biotechnologies, Gainesville (FL), USA, 24-26 August, 2005.
30. **Sakthivel, S.**; Janczarek, M.; Kisch, H. 'Visible light photoredox catalysis by nitrogen oxides doped titania' International SFB-Erlangen mini symposium on Redox-Active metal centers in homogeneous and heterogeneous electron transfer systems, Friedrich-Alexander universität Erlangen-Nürnberg, Erlangen, Germany, April 2005.
29. **Sakthivel, S.**; Janczarek, M.; Kisch, H. 'N- doped Titania Powders for Visible Light Photodetoxification of Water' 19. Vortragstagung mit Sonderforum der GDCh Fachgruppe Photochemie - Neuere spektroskopische Entwicklungen in der Photochemie, Jena, Germany 29-31 March, 2005.
28. Burgeth, G.; Macyk, W.; **Sakthivel, S.** 'Modified titania powders for visible light photodetoxification of water' ACS National Meeting, American Chemical Society, Division of Environmental Chemistry, 2004.
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