

Name : Dr. J. MADHAVAN

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ACADEMIC/RESEARCH PROFILE

At Present	Associate Professor Dept. of Chemistry, Thiruvalluvar University, Vellore-632 115	
Postdoctoral Fellow	School of Chemistry, University of Melbourne Parkville Campus, Australia	(Feb.2008- July2010)
Ph. D. Chemistry	Department of Energy, University of Madras, Chennai-600036, India <u>Thesis Title:</u> Advanced Oxidation Processes (Heterogeneous and homogeneous photocatalytic degradation of textile dyes). Supervisor: Prof. P. Maruthamuthu	Aug-2007 Highly Commended
M.Sc. 1997-1999	General Chemistry Department of Chemistry, Presidency College, Chennai, India – 600 005	66.8 % First Class
B.Sc. General Chemistry 1994-1997	Department of Chemistry, Pachaiyappa's college for Men, Kanchipuram, India – 631 503.	71.2 % First Class

RESEARCH EXPERIENCE

March 2021 onwards	Associate Professor, Department of Chemistry, Thiruvalluvar University, Vellore, Tamil Nadu, India
March 2011	Assistant Professor, Department of Chemistry, Thiruvalluvar University, Vellore, Tamil Nadu, India
Feb. 2008 - July 2010	Postdoctoral Research Fellow, School of Chemistry, University of Melbourne, Australia.
Aug. 2007 - Feb 2008	Research Associate, Dept. of Energy, University of Madras.
May 2005 - Aug 2007	CSIR-Senior Research Fellow, Dept. of Energy, University of Madras.
Mar 2005 - Apr 2005	Project Fellow (UGC-MRP), Dept. of Energy, University of Madras.
July 2002 - Feb 2005	University Research Fellow, Dept. of Energy, University of Madras.
2001 - June 2002	Research Fellow, Dept. of Energy, University of Madras.

RESEARCH AREA/SPECIALIZATION(S):

- Synthesis of semiconductor nanomaterials in dye sensitized solar cells by sonochemical, sol-gel, hydrothermal processes.
- Nanomaterials for Hydrogen evolution and bio/chemical sensor applications
- Polymer electrolytes for dye sensitized solar cells.
- Degradation of aqueous organic pollutants using heterogeneous photocatalysts.
- Fenton, photo-Fenton reactions and modified photo-Fenton reagents for advanced oxidative treatment of organic pollutants.
- Sonophotocatalytic degradation of aqueous organic pollutants such as dyes, drugs, pesticides, etc.

AWARDS AND GRANTS

1. CSIR, India (Senior Research Fellowship), May 2005.

2. DST-Young Scientist award (Registration No: CS 154-2011 dated December 27, 2011).
3. Highly cited author award from Royal Society of Chemistry, London for the article published in *Physical Chemistry Chemical Physics*.

Paper title “*Highly active MoS₂/Carbon electrocatalysts for the hydrogen evolution reaction-Insight into the effect of the internal resistance and roughness factor on the Tafel slope*”.

4. Certificate of Appreciation awarded as one of the top 5% of highly cited authors in Royal Society of Chemistry journals, 2019.
5. Guest editor for the Special Issue: Surface tuning and Interface Engineering of Advanced Materials for Detection and Removal of Toxic Pollutants from Environments - to the prestigious journal "Environmental Research" (IF 5.715, Elsevier).
6. Listed in the Top 2 % Scientists list under “**Energy**” category released by Standford University.

PATENT

1. P. Maruthamuthu, B. Muthuraaman, S. Ganesan, S. Anandan, S. Murugesan, **J. Madhavan**, S. Austin Suthanthiraraj. “*An improved solid-state polymer composition, a process for its preparation and an improved dye-sensitized solar cell*” Patent No. 266300 (2728/CHE/2007) dated 22.01.2007 Granted on dated 23.04.2015.

PROJECTS SACNTIONED/SUBMITTED

S.No.	Title of the project	Funding agency	Amount sanctioned	Status
1.	Solid-state dye sensitized solar cells: Fabrication, characterization and photoelectrochemical studies of nanocrystalline dye sensitized solar cells using polymer electrolytes.	DST-SERB Fast track proposal for Young Scientists. (Order no. SR/FT/CS-142/2011 dated 01.08.2012).	25.55 Lakhs.	Completed
2.	Solar energy conversion into electricity using blended polymer electrolytes for nanocrystalline dye-sensitized solar cells.	DAE-BRNS project BRNS (Order No. 2013/37P/1/BRNS/10 dated 01/04/2013).	20.12 Lakhs	Completed

3.	Biological synthesis and development of nano gold PTP1B inhibitors	BT/508/NE/TBP/2013 Dated 12/12/2014	56.40 Lakhs	Completed
4.	Sensing of Toxic ions in Aqueous media by Active Fluorescent Probes for Chemosensor Applications	PDF/2017/001478 dated 08-11-2017	19.20 lakhs	2017-1(ongoing)

MEMBERSHIP(S) IN PROFESSIONAL BODIES

Life Member in Indian Society for Radiation and Photochemical Sciences (ISRAPS), BARC, Mumbai.

PROJECT CONSULTANCY

1. **International project Consultant** for the project entitled “Designing, evaluating and improving solar cells based on conjugated polymer, perovskite organo-metal trihalide” sanctioned for King Saud University, Saudi Arabia.

STUDENTS GUIDED

Degree	Completed	On Going
Ph.D	6	On-going-3
M.Phil	14	-
M.Sc	14+3	-

GOOGLE SCHOLAR CITATION INDEX

Citations	5556
h-index	42
i10-index	101

Ph.D Students Details

S. No	Name of the candidate	Title	Year of completion	Present Position
1.	Dr. R.A. Senthil	Optimization of the performance characteristics of organic plasticizer doped polymer electrolytes for nanocrystalline dye sensitized solar cells	20 th Mar 2017	Postdoctoral fellow, Beijing University of Chemical Technology (BUCT), China
2.	Dr. J. Theerthagiri	Synthesis, characterization and application of platinum free counter electrode materials for dye-sensitized solar cells	24 th Mar 2017	Scientist-C, Sathyabama University, Chennai
3.	Dr. A. Malathi	Synthesis, characterization of visible light active photocatalysts and their application in water treatment	17 th Sep 2018	Postdoctoral fellow, Chulalongkorn Univerrsiy, Thailand
4.	K. Thiagarajan	Synthesis and characterization of electrode materials for Supercapacitor applications	19 th July 2019	Guest Lecturer, Govt. Thirumagal Mills College, Gudiyattam.
5.	A. Priya	Synthesis, characterization and application of photocatalysts for water treatment (photocatalytic degradation of pollutants)	14 th Oct 2019	Assistant Professor DLR College, Arani.
6.	K. Premnath	Synthesis, characterization and application of platinum free electrocatalysts for hydrogen evolution reaction	19 th April 2021	Postdoctoral fellow, Chulalongkorn Univerrsiy, Thailand

M.Phil Students Details

S.No	Name of the candidate	Title	Year of completion
1.	Ms.T.Rekha	A studies on effect of plasticizer addition to polyvinylene difluoride copolymer electrolyte	2013
2.	Mrs.N.Kavitha	Synthesis, characterization of visible light active photocatalyst and its application in water treatment	2013
3.	Mrs.A.Shoba	Preparation and Characterization of phenothiazinedoped blended polymer electrolytes	2013
4.	Mr.V.Elumalai	Synthesis and characterization of PANI-CoS counter electrode for solar cell applications	2014

5.	Mrs.R.Kavitha	Preparation, characterization and optimization of phenothiazine doped poly(vinylidene fluoride) polymer electrolytes	2014
6.	Mrs.E.Rekalakshmi	Synthesis, characterization of visible light active CuS doped WO ₃ photocatalyst and its application in water treatment	2014
7.	Ms.D. Pushparani	Synthesis, optical properties of Cd _{1-x} Zn _x S quantum dots and its photocatalytic activity	2015
8.	Mrs. L.S. Amudha	Synthesis and characterization of α -Fe ₂ O ₃ / rased e oxide nanocomposites for electrochemical sensor applications	2016
9.	Ms. R. Sudha	Growth of FeSe ₂ nanorods on grapheme oxide nanosheets as advanced electrocatalyst for hydrogen evolution reactions	2016
10.	N. Madhu	Synthesis and Characterization of amino acids stabilized gold nanoparticles and its colorimetric detection of heavy metal ions	2017
11.	S. Sathyaprabha	Preparation and characterization of rased e oxide incorporated polyethylene oxide based polymer gel electrolytes	2018
12.	K. Balaji	Synthesis, characterization and application of FeNiSe ₂ /MWCNTs electrocatalysts for hydrogen evolution reaction	2019
13.	J. Lekha	Synthesis of Ni ₃ V ₂ O ₈ /SWCNT nanocomposite as an efficient electrode material for Supercapacitor applications	2020
14.	S. Jeba Shajin	Synthesis, Characterization and application of Ni ₃ S ₂ /N-doped carbon Electrocatalyst for hydrogen evolution reaction in acidic Medium	2020

TECHNICAL SKILLS

Personally trained to handle the following instruments for sample analysis and characterization

- Transmission Electron Microscope (TEM).
- Scanning Electron Microscopy (SEM)
- High Performance Liquid Chromatography (HPLC).
- HPLC-Mass Spectrometry (HPLC-MS).
- TOC analyzer.
- Thermogravimetric analysis (TGA).

- UV-vis spectrophotometer.
- FT-IR spectrophotometer.

STAFF DEVELOPMENT PROGRAMMES

1. Attended the staff development programme for the “**Early Carrier Researchers**” organized by the University of Melbourne Research Office, during 22-24 September 2008.
2. Completed the course on the “**Workplace Discrimination and Harassment-Legal Compliance**” conducted by the Human resources office, University of Melbourne.
3. Attended the HPLC/MS training organized by Agilent technologies Inc.
4. Attended the Orientation course conducted by the UGC-Academic Staff College, University of Madras during 22.05.2013 to 18.06.2013.
5. Attended the Refresher course conducted by the UGC-Academic Staff College, University of Madras during 04.09.2014 to 24.09.2014.
6. Attended the SAKSHAM-IT Champion Training Program organized by MICROSOFT during 5-10, Feb 2015 held at Thiruvalluvar University, Vellore.
7. Attended the UGC-Refresher course conducted in “Material Science” conducted Bharathidasan University, Tiruchirapalli during 02.11.2016 to 22.11.2016.
8. Attended a 5 day Faculty Development Programme conducted by Thiruvalluvar University in rasad erizat with Mahathma Gandhi Nathional Council of Rural Education, Hyderabad during 29.07.2019 to 02.08.2019.
9. Attended a MHRD sponsored two weeks Faculty Development Programme on “Managing online courses and co-creating MOOCs:2.0” conducted by the Teaching

and Learning Centre, Ramanujan College, University of Delhi, during 18.05.2020 to 03.06.2020.

10. Attended a 5 day online Faculty Development Programme on “Emerging Pollutants and their Challenges on Earth Ecosystem” Organized by the Department of Environmental Science, Central University of Kerala, Kasaragod, Kerala during 16th -20th November 2020.
11. Attended the Online Refresher course conducted by the UGC-Academic Staff College, Madurai Kamaraj University during 09.12.2020 to 22.12.2020.
12. Resource person for the UGC sponsored Online Refresher Course on “Design, Synthesis and Applications of Organic compounds” conducted by UGC-Academic Staff College, University of Madras on 29.01.2021.

ADDITIONAL RESPONSIBILITIES

1. Member Syndicate, Thiruvalluvar University from 23.11.2021 onwards.
2. Academic council member 04-12-2012 to 03.12.2015.
3. Coordinator for International Relations Cell, Thiruvalluvar University.
4. Member on patent cell in Thiruvalluvar University, Vellore (14.08.2014).
5. Member of Broad of Studies in Chemistry for Department of Chemistry, Thiruvalluvar University, Vellore (10.02.2014 onwards)
6. Member in Entrepreneurship development & Intellectual Property Rights (IPR) cell in Thiruvalluvar University, Vellore from 27.06.2018 onwards.
7. Member of Solar Cell Committee in Thiruvalluvar University, Vellore.
8. Member of Rural Society for the Advancement of Chemistry (RUSAC).
9. Associate Member, Centre for Ionics University of Malaya (CIUM), University of Malaya, Kulalumpur 50603, Malaysia.
10. Member of Entrepreneurship Development (EDC) & Intellectual Property Rights Cell.
11. Deputy Coordinator for NAAC Cell of Thiruvalluvar University, 23.07.2019 onwards.
12. Member, PhD Thesis Scrutiny Committee, 30.08.2019 onwards.

13. Member, Plagiarism committee from 18.07.2019 onwards.
14. Co-opt member, BOS in Material Science 28.06.2019.
15. Checker, UGC Fellowship Section 27.11.2018 onwards.
16. Member of Innovation Hub, Thiruvalluvar University 17.06.2020 onwards.

TEACHING EXPERIENCE

1. Worked as a Guest Lecturer in the Department of Chemistry, Dr. Ambedkar Govt. Arts College, Chennai, during September 1999 to December 1999. Taught Industrial chemistry for final year B.Sc students and also handled Allied Chemistry for B.Sc students.
2. Working as a Assistant professor in the Department of Chemistry, Thiruvalluvar University, Vellore since March 2011. Teaching PG and M.Phil students.

ORGANIZING THE CONFERENCE/WORKSHOP

1. Organising committee member of “*International Workshop on Sonochemistry and Photocatalysis for Environmental Remediation (IWSPER)*” held on University of Melbourne, during 26-28, November 2008.
2. Organizing committee member of “National conference on Emerging Trends in Chemistry and Materials (ETCM)” held at Department of Chemistry, Thiruvalluvar University, Vellore, Tamil Nadu during 9 & 10 April 2015.
3. Organizing committee member for the South Zone Inter University Women Football Tournament at Neyveli from 03.01.2015 to 06.01.2015.
4. Appointment as the International Advisory Board Member for 6th International Conference on Functional Materials and Devices, 2017 (ICFMD-2017) held Melaka, Malaysia from 15-18 August 2017.
5. **Organizing Secretary** for the Faculty Development Program (FDP) on “Young Supervisor (M.Phil./PhD)-Plagiarism-Free Research Report Writing” organized by Thiruvalluvar University on 10.02.2020 at Thiruvalluvar University campus.
6. **Convenor** for A Three Day International Webinar on “Emerging Trends in Energy and Environmental Chemistry” organized by the Department of Chemistry, Thiruvalluvar University in collaboration with Marudhar Kesari Jain College for Women, Vniyambadi.
7. **Organizing Secretary** for the “*National Webinar on Integrative approach on the management of non-communicable diseases*” (online mode) organized by the

Thriuvalluavar University in collaboration with National Institute of Unani Medicine on 24.02.2021 at Thiruvalluvar University campus.

8. **Organizing Secretary** for the International Virtual Conference on Energy and Environment (IVCEE-2021) organized by the Department of Chemistry, Thriuvalluavar University on 01.03.2021 at Thiruvalluvar University campus.
9. **Organizing Secretary** for the Organic Agile Research Culture (OARD) to initiate International Virtual Conference on Energy and Environment (IVCEE-2021) organized by the Department of Chemistry, Thriuvalluavar University on 01.03.2021 at Thiruvalluvar University campus.

COUNTRIES VISITED

1. **Sri Lanka** for participating “Asian conference on Solar Energy Materials and Solar Cells” Kandy, Sri Lanka, during 12-16 June 2006.
2. **Australia** for working as “Postdoctoral Research Fellow” at School of Chemistry, University of Melbourne, Australia, during 04.02.2008 to 30.07.2010.
3. **Australia** for presenting a research paper in “Australian Colloid and Interface Symposium (ACIS-2009)”, held at Stamford Grand, Adelaide, organized by particulate fluids processing centre (PFPC), University of Melbourne, during 1-5 February 2009.
4. **Malaysia** for delivering an invited lecture at the “5th International Conference on Functional Materials and Devices 2015 (ICFMD 2015), Centre for Ionics University Malaya, Department of Physics, University of Malaya, Kuala Lumpur 50603, Malaysia during 4-6th August 2015.
5. **PR China** for delivering an invited talk entitled “Application of Nanomaterials for Sonophotocatalytic Degradation of Organic Pollutants” in the 4th Asia-Oceania Sonochemical Society Conference (AOSS-4) held at Nanjing University, Nanjing, China during 19 – 21 September 2019.
6. **PR China** for delivering an invited talk entitled “Nanostructured photocatalyst materials for the Degradation of Organic Pollutants” in the State Key Laboratory of Chemical Resource Engineering, Beijing University of Chemical Technology, Beijing-100029, China on 23 September 2019.

BOOK CHAPTER(S)

1. S. Anandan, **J. Madhavan** and M. Ashokkumar. “The Contribution of Nanotechnology to Hydrogen Production” *Chapter 5, Nanotechnology for Energy*

Challenge, Garcia-Martinez (Ed.), Wiley-VCH Verlag, GmbH, (2009), pp.111-136. ISBN-978-3-527-32401-9.

2. J. Theerthagiri, R.A. Senthil, D. Thirumalai, **J. Madhavan***. “Handbook of Ultrasonics and Sonochemistry” *Chapter title: Sonophotocatalytic degradation of organic pollutants using nanomaterials*, Springer (2016) DOI: 10.1007/978-981-287-470-2_50-12015, pp.1-34. ISBN-978-981-287-470-2.
3. J. Theerthagiri, **J. Madhavan***. “Rational design of solar cells for efficient solar energy conversion”. Edited by Dr Alagarsamy Pandikumar and Dr. Ramasamy Ramaraj. Chapter title: Chapter 7: Design and fabrication of carbon-based nanostructured counter electrode materials for Dye-Sensitized Solar Cells. Sep. 2018 ISBN No. 978-1-119-43740-6. Wiley.
4. J. Theerthagiri, **J. Madhavan***. “Counter Electrode Materials for Dye Sensitized and Perovoskite Solar Cells”. Chapter 2 Pt Electro-catalysts for I-mediated Dye-Sensitized Solar Cells Editors: Prof. Sining Yun & Prof. Anders Hagfeldt. Oct. 2018. ISBN: 978 3 527 41367 6. Wiley
5. C. Santhosh, A. Malathi[†], E. Dhaneshvar, A. Bhatnagar, A. Nirmala Grace, **J. Madhavan**. “Iron oxide nanomaterials. For water purification”. *Nanoscale Materials in Water Purification*. Editors: Sabu Thomas Daniel Pasquini Shao-Yuan Leu Deepu Gopakumar. 2018. <https://doi.org/10.1016/B978-0-12-813926-4.00022-7>. November 2018 ISBN: 9780128139271. Elsevier
6. J. Theerthagiri ^a, K. Duraimurugan ^b, **J. Madhavan***. “Photocatalytic Functional Materials for Environmental Remediation”. Edited by Dr Alagarsamy Pandikumar and Dr. Ramasamy Ramaraj. Chapter title: Chapter 10: Graphitic carbon nitride-based nanostructured materials for photocatalytic applications. July 2019 ISBN: 978-1-119-52984-2 Wiley.
7. J. Theerthagiri, Sunitha Salla, Gilberto Maia, **J. Madhavan**, Hyun-Seok Kim. New generation counter electrode materials for high performance dye-sensitized solar cells” which will be published in Cambridge Scholars Publishing, UK. Transition Metal Carbides as Counter Electrode for Dye-Sensitized Solar Cells. Jenny Standfor Publishing, Singapore (Accepted)
8. Saranya S, Selvi A, Babujanathanam R, Rajasekar A, and **Madhavan J*** (2019) Book Title: Model organisms to study biological activities and toxicity of nanoparticles. Chap title: Insecticidal activity of nanoparticles and mechanism of

action, Editor: Siddhardha B, Madhu D and Kaviyarasu K Publishers: Springer Nature Singapore Pte Ltd., 152, Singapore 189721, Singapore. (Accepted).

9. Nilanjana Das, Sanjeeb Kumar Mandal, Devlina Das, Jagannathan Madhavan and Adikesavan Selvi: Rhizomicrobiome Dynamics in Bioremediation
CHAPTER TITLE: Recent Updates on the Role of Biosurfactants for Remediation of Various Pollutants. Chapter 9, pp- 180-197, CRC Press. Taylor & Francis Group, LLC, 6000 Broken Sound Parkway NW, Suite 300, Boca Raton, FL 33487,U.S.A.
10. D. Balaji, K. Premnath and **J. Madhavan***. CHAPTER TITLE: Highly active transition metal based oxide free material to excellent future prospect for HER application. Chapter 18. Oxide free nanomaterials for Energy Storage and Conversion Applications. (Elsevier-Accepted).

REFEREES FOR FOLLOWING SCI JOURNALS

1. Journal of Physical Chemistry C
2. Journal of Materials Chemistry A
3. RSC Advances
4. Research on Chemical Intermediates
5. Ionics
6. Ultrasonics Sonochemistry
7. ChemElectroChem
8. Chemical Physics Letters
9. Applied Catalysis A
10. Applied Catalysis B: Environmental
11. Applied Surface Science
12. Current Applied Physics
13. Catalysis Communications
14. Chemical Engineering Journal
15. Ceramics International
16. Colloids and Surfaces A: Physicochemical and Engineering Aspects
17. Chemical Physics Letters
18. Journal of Crystal Growth
19. Diamond and Related Materials
20. Ecotoxicology and Environmental Safety
21. Electrochemistry Communications
22. Electrochimica Acta
23. Journal of Hazardous Materials
24. International Journal of Hydrogen Energy
25. Journal of Alloys and Compounds
26. Journal of Catalysis
27. Journal of Colloid and Interface Science

28. Journal of Environmental Chemical Engineering
29. Journal of Saudi Chemical Society
30. Journal of the Taiwan Institute of Chemical Engineers
31. Materials Letters
32. Materials Research Bulletin
33. Materials Science and Engineering B
34. Materials Science in Semiconductor Processing
35. Nano Energy
36. Journal of Non-Crystalline Solids
37. Optical Materials
38. Organic Electronics
39. Journal of Physics and Chemistry of Solids
40. Physica B
41. Journal of Power Sources
42. Renewable & Sustainable Energy Reviews
43. Solar Energy
44. Superlattices and Microstructures
45. Solar Energy Materials and Solar Cells
46. Solid State Ionics
47. Solid State Sciences
48. Thin Solid Films
49. Journal of Solid State Chemistry
50. Journal of Material Science: Materials in Electronics

LIST OF PUBLISHED RESEARCH ARTICLES

S. No	Author(s)	Title of the paper, Journals Name, Vol. (no.), pages	year	Impact Factor
1.	Anandan S, Madhavan J , Maruthamuthu P, Raghukumar V, Ramakrishnan VT	Synthesis and characterization of Naphthyridine and acridinedione ligands coordinated Ruthenium (II) complexes and their applications in dye sensitized solar cells. <i>Solar Energy Materials and Solar Cells</i> , 81 (2004) 419-428.	2004	6.98
2.	Anandan S, Latha S, Murugesan S, Madhavan J , Muthuraaman B, Maruthamuthu P	Synthesis, characterization and fabrication of solar cells making use of [Ru(dcbpy)(tpz)X]X (where X = Cl ⁻ , SCN ⁻ , CN ⁻). <i>Solar Energy</i> , 79 (2005) 440-448	2005	4.60
3.	Madhavan J , Muthuraaman B, Murugesan S, Anandan S, Maruthamuthu P	Peroxomonosulphate, an efficient oxidant for the photocatalysed degradation of a textile dye, acid red 88. <i>Solar Energy Materials and Solar Cells</i> 90 (2006) 1875-1887.	2006	6.98
4.	Latha S, Madhavan J ,	Direct Conversion of Solar radiation to	2007	-

	Muthuraaman B, Anandan S, Chitra Devi R, Maruthamuthu P	electricity by fabricated solar cells using Ruthenium polypyridyl complexes. <i>Ceylon Journal of Science: Physical Sciences</i> , 12 (2007) 25-31		
5.	Anandan S, Sathish Kumar P, Pugazhenthiran N, Madhavan J , Maruthamuthu P	Effect of loaded silver nanoparticles on TiO ₂ for photocatalytic degradation of textile dye (Acid Red 88). <i>Solar Energy Materials and Solar Cells</i> , 92 (2008) 929-937.	2008	6.98
6.	Dhanalakshmi KB, Anandan S, Madhavan J , Maruthamuthu P	Photocatalytic degradation of phenol over TiO ₂ powder: The influence of peroxomonosulphate and peroxodisulphate on the reaction rate. <i>Solar Energy Materials and Solar Cells</i> , 92 (2008) 457-463.	2008	6.98
7.	Ganesan S, Muthuraaman B, Mathew V, Madhavan J , Maruthamuthu P, Suthanthiraraj SA	Performance of a new polymer electrolyte incorporated with diphenylamine in nanocrystalline dye-sensitized solar cell. <i>Solar Energy Materials and Solar Cells</i> , 92(2008) 1718-1722.	2008	6.98
8.	Ganesan S, Muthuraaman B, Madhavan J , Mathew V, Maruthamuthu P, Suthanthiraraj SA	The use of 2, 6-bis (N-pyrazolyl) pyridine as an efficient dopant in conjugation poly (ethylene oxide) for nanocrystalline dye-sensitized solar cells. <i>Electrochim. Acta</i> , 53 (2008) 7903-7907.	2008	6.21
9.	Muthuraaman B, Murugesan S, Mathew V, Ganesan S, Joseph Paul B, Madhavan J , Maruthamuthu P, Austin Suthanthiraraj S	An Investigation on the Performance of a Silver Ionic Solid Electrolyte System for a New Detergent-based Nanocrystalline Dye-sensitized solar cell. <i>Solar Energy Materials and Solar Cells</i> , 92 (2008) 1712-1717	2008	6.98
10.	Sathish Kumar P, Sivakumar R, Anandan S, Madhavan J , Maruthamuthu P, Ashokkumar M	Photocatalytic degradation of Acid Red 88 using Au-TiO ₂ nanoparticles in aqueous solutions. <i>Water Research</i> , 42 (2008) 4878-4884.	2008	9.13
11.	Madhavan J , Murugesan S, Maruthamuthu P, Anandan S	Advanced Oxidation Process-Photocatalyzed degradation of a textile dye using titanium dioxide. <i>Environmental Science–An Indian Journal</i> , 3 (2008) 80-83	2008	2.54
12.	Madhavan J , Maruthamuthu P,	Kinetic studies on visible light assisted degradation of acid red 88 in presence of	2008	16.68

	Murugesan S, Anandan.	metal ion coupled oxone reagent. <i>Applied Catalysis B: Environmental</i> , 83 (2008) 8-14		
13.	Madhavan J , Greiser F, Ashokkumar M	Degradation of Orange G by sonophoto Fenton process. <i>Water Science and Technology</i> , 60 (2008) 2195-2202.	2009	1.63
14.	Madhavan J , Maruthamuthu P, Ashokkumar M, Murugesan S	Kinetics of degradation of acid red 88 in presence of Co^{2+} -ion/peroxomonosulfate reagent. <i>Applied Catalyst A: General</i> , 368 (2009) 35-39	2009	5.0
15.	Madhavan J , Greiser F, Ashokkumar M	Degradation of Orange G by advanced oxidation processes. <i>Ultrasonics Sonochemistry</i> , 17 (2010) 338-343	2010	6.51
16.	Madhavan J , Greiser F, Ashokkumar M	Combined Advanced Oxidation Processes for the Synergistic Degradation of Ibuprofen in Aqueous Environment. <i>Journal of Hazardous Material</i> , 178 (2010) 202–208	2010	9.0
17.	Madhavan J , Sathis Kumar P, Grieser F, Ashokkumar M, Anandan S	Sonophotocatalytic degradation of monocrotophos using TiO_2 and Fe^{3+} . <i>Journal of Hazardous Materials</i> , 177 (2010) 944–949	2010	9.0
18.	Madhavan J , Sathish Kumar P, Grieser F, Ashokkumar M, Anandan S	Sonophotocatalytic degradation of diclofenac using doped and undoped semiconductor nanopartilces. <i>Chemosphere</i> , 80 (2010) 747-752	2010	5.77
19.	Madhavan J , Grieser F, Ashokkumar M	Sonophotocatalytic degradation of Formetanate hydrochloride using homogeneous and heterogenous photocatalysts. <i>Separation and Purification Technology</i> , 73 (2010) 409-414.	2010	5.77
20.	Madhavan J , Sathish Kumar P, Anandan S, Grieser F, Ashokkumar M	Degradation of acid red 88 by the combination of sonolysis and photocatalysis. <i>Separation and Purification Technolog</i> , 74 (2010) 336–341	2010	5.77
21.	Madhavan J* , Grieser F, Ashokkumar M	Sonophotocatalytic degradation of paracetamol using TiO_2 and Fe^{3+} . <i>Separation and Purification Technology</i> , 103(2013) 114-118	2013	5.77
22.	Theerthagiri J,	Photocatalytic and photoelectrochemical	2014	3.11

	Senthil RA, Priya A, Madhavan J* , Michael RJV, Ashokkumar M	studies of Visible-light active α -Fe ₂ O ₃ -g-C ₃ N ₄ nanocomposites. <i>RSC Advanc</i> , 4(2014) 38222-38229.		
23.	Senthil RA, Theerthagiri J, Madhavan J*	Optimization of performance characteristics of 2-mercaptopyridine doped polyvinylidene fluoride (PVDF) polymer electrolytes for dye sensitized solar cells. <i>Journal of Non-Crystalline Solids</i> , 406(2014) 133-138	2014	2.90
24.	Theerthagiri J, Senthil RA, Madhavan J* , Neppolian B	A comparative study on the role of precursors of graphitic carbon nitrides for the photocatalytic degradation of direct red 81. <i>Materials Science Forum</i> , 807 (2015) 101-113	2015	0.36
25.	Theerthagiri J, Senthil RA, Priya A, Madhavan J* , Ashokkumar. M	Synthesis of a visible-light active V ₂ O ₅ -g-C ₃ N ₄ heterojunction as an efficient photocatalytic and photoelectrochemical material. <i>New Journal of Chemistry</i> , 39 (2015) 1367-1374.	2015	3.20
26.	Michael RJV, Theerthagiri J, Madhavan J , Umapaty MJ, Mantoharan PT	Cu ₂ S-incorporated ZnS nanocomposites for photocatalytic hydrogen evolution. <i>RSC Advance</i> , 5(2015) 30175-30186	2015	3.11
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110.	A. Priya, Prabhakarn Arunachalam, A. Selvi, R. A. Senthil, J. Madhavan, Abdullah M. Al-Mayouf.	A study of photocatalytic and photoelectrochemical activity of as-synthesized WO ₃ /g-C ₃ N ₄ composite photocatalysts for AO7 degradation. Materials Science for Energy Technologies 3 (2020) 43-50	2019	-
111.	J. Rajkumari, C. Maria Magdalane, B. Siddhardha, J. Madhavan, G. Ramalingam, Naif Abdullah Al-Dhabi, Mariadhas Valan Arasu,	Synthesis of titanium oxide nanoparticles using Aloe barbadensis mill and evaluation of its antibiofilm potential against Pseudomonas aeruginosa PAO1 Journal of Photochemistry & Photobiology, B: Biology 201 (2019) 111667	2019	4.38

	A.K.M. Ghilan, V. Duraipandiayan, K. Kaviyarasu.			
112.	Jagannathan Madhavan, Jayaraman Theerthagiri, Dhandapani Balaji, Sunitha Salla, *, Muthupandian Ashokkumar	Hybrid Advanced Oxidation Processes involving Ultrasound: An Overview Authors: <i>Molecules</i> 2019 , <i>24(18)</i> , 3341	2019	3.26
113.	Priya A; Malathi A; Prabhakarn Arunachalam; J. Madhavan, J. Theerthagiri, Abdullah M Al-Mayouf; Myong Yong Choi	Fabrication of visible light active BiFeWO ₆ /ZnO nanocomposites with enhanced photocatalytic activity <i>Colloids and Surfaces A: Physicochemical and Engineering Aspects</i> 586 , (2020) 124294	2020	3.99
114.	Theerthagiri Jayaraman, Madhavan Jagan, Seung Jun Lee, Muthupandian Ashokkumar, Bruno Pollet, Myong Yong Choi.	Sonoelectrochemistry for Energy and Environmental Applications. <i>Ultrasonics Sonochemistry</i> 63 (2020) 104960	2020	6.51
115.	T. Arunkumar, R. Karthikeyan, R. Ram Subramani, M. Anish, J. Theerthagiri, Rajender Boddula, J. Madhavan.	Effect of MWCNTs on Improvement of Fracture Toughness of Spark Plasma Sintered SiC Nano-Composites. <i>Current Analytical Chemistry</i> 16 (2020) 1-8	2020	1.36
116.	Theerthagiri, J, M. Arun Prasad, J. Madhavan , MY Choi	Fundamental Aspects and Recent Advances in Transition Metal Nitrides as Electrocatalysts for Hydrogen Evolution Reaction: A Review. <i>Current Opinion in Solid State and Materials Science</i> 24 (2020) 100805.	2020	9.57
117.	Kannadasan Thiagarajan, T. Bavani, Prabhakarn Arunachalam, Seung Jun Lee, Jayaraman Theerthagiri, Jaganathan Madhavan , Bruno Pollet, Myong Yong Choi.	Nanofiber NiMoO ₄ /g-C ₃ N ₄ Composite Electrode Materials for Redox Supercapacitor Applications. <i>Nanomaterials</i> 10(2) (2020) 392	2020	4.32
118	Balaji Dhandapani Madhavan Jagannathan Mohamad S.AlSalhib Mamduh J.Aljaafreh	N-doped carbon embedded Ni ₃ S ₂ electrocatalyst material towards efficient hydrogen evolution reaction in broad pH range.	2020	3.99

	SaradhPrasad	Colloids and Surfaces A: Physicochemical and Engineering Aspects, 603, 2020, 125194		
119.	Kannadasan Thiagarajan, Dhandapani Balaji, Jagannathan Madhavan*, Jayaraman Theerthagiri, Ki-Young Kwon, Myong Yong Choi	Cost-Effective Synthesis of Efficient CoWO ₄ /Ni Nanocomposite Electrode Material for Supercapacitor Applications. Nanomaterials 10(11) (2020) 2195	2020	4.32
120.	Premnath kumar, Arun rasad Murthy, Leticia S. Bezerra, Bibiana K. Martini, Gilberto Maia, and Jagannathan Madhavan	Carbon supported nickel phosphide as efficient electrocatalyst for hydrogen and oxygen evolution reactions, International Journal of Hydrogen Energy 46 (2021) 622-632.	2021	4.93
121.	P. Annie Vinosha, A. Manikandan, R. Ragu, A. Dinesh , P. Paulraj, Y. Slimani, M.A. Almessiere, A. Baykal, J. Madhavan, B. Xavier, G. Francisco Nirmala	Exploring the influence of varying pH on structural, electro-optical, magnetic and photo-Fenton properties of mesoporous ZnFe ₂ O ₄ nanocrystals. Environmental Pollution 272, (2021) 115983	2021	6.792
122.	Thirugnanam Bavani, Jagannathan Madhavan*, Saradh Prasad, Mohamad S. AlSalhi, and Mamduh ALJaffreh.	A straightforward synthesis of visible light driven BiFeO ₃ /AgVO ₃ nanocomposites with improved photocatalytic activity- A plausible degradation mechanism Environmental Pollution (Accepted)	2021	6.792
123.	Kumaraguru Duraimurugan, Muniyasamy Harikrishnan, Jagannathan Madhavan, Ayyanar Siva, Seung Jun Lee, Jayaraman Theerthagiri, Myong Yong Choi	Anthracene-Based Fluorescent Probe: Synthesis, Characterization, Aggregation-Induced Emission, Mechanochromism, and Sensing of Nitroaromatics in Aqueous Media. Environmental Research (Accepted)	2021	5.71
124.	Myong Yong Choi, Seung Jun Lee, Theerthagiri Jayaraman, Palaniyandy Nithyadharseni, Prabhakarn	Heteroatom-Doped Graphene-Based Materials for Sustainable Energy Applications: A Review. Renewable and Sustainable Energy Reviews (Accepted)	2021	12.11

	Arunachalam, Dhandapani Balaji, Arumugam Madankumar, Ph.D.; Jagannathan Madhavan, Vikas Mittal.			
125	Bavani Thirugnanam, Jagannathan Madhavan, Saradh Prasad, AlSalhi Mohamad S., ALJaffreh Mamduh and Vijay Anand Selvaraj	Fabrication of novel AgVO ₃ /BiOI nano composite photocatalyst with photoelectrochemical activity towards the degradation of Rhodamine B under visible light irradiation. Environmental Research (Accepted)	2021	6.49
126	Dhandapani Balaji Madhavan Jagannathan, Mohamad S. Alsalhi, Mohamad j. Aljaafreh, Saradh Prasad and Pau Loke Show.	Carbon supported Ni ₃ N/Ni heterostructure for hydrogen evolution reaction in both acid and alkaline media. International Journal of Hydrogen Energy (Accepted)	2021	5.816
127.	Annie vinisha, Annie Vinsla J V, Madhavan J, Sandhanasamy Devanesan, Mohamad S AlSalhi, Marcello Nicoletti, Belina Xavier	Impact of dysprosium Doped (Dy) Zinc Ferrite (ZnFe ₂ O ₄) Nanocrystals in Photo- Fenton Exclusion of Recalcitrant Organic Pollutant Environmental Research (Accepted)	2021	6.49
128.	Kumar Premnath Madhavan Jagannathan, Mohamad S. Alsalhi, Mohamad j. Aljaafreh, Saradh Prasad and Pau Loke Show.	Low-Cost and carbon-supported Transition Metal Sulphide as a Platinum Free Electrocatalyst towards Hydrogen Evolution Reaction at alkaline medium Accepted International Journal of Hydrogen Energy (Accepted)	2021	5.816
129.	Neppolian Bernardshaw, Kavitha Pandi; Preeyanghaa Mani; V. Vinesh; J. Madhavan.	Complete photocatalytic degradation of Tetracycline by carbon doped TiO ₂ supported with stable metal nitrate hydroxide Environmental Research (Accepted)	2021	

PAPERS COMMUNICATED:

1. One-pot synthesis of BiOBr/BiYWO₆ nanocomposite with enhanced photoelectrochemical and photocatalytic activity under visible light irradiation. Thirugnanam Bavani, Madhavan Jagannathan Neppolian Bernardshaw , V. Vinesh.
2. Recent progress with transition metal sulfides and their composites for electrochemical supercapacitor applications. J. Theerthagiri a,e, R.A. Senthil b , P. Nithyadharseni c , G.

Durai a , P. Kuppasami a , J. Madhavan d , Seung Jun Lee e , Myong Yong Choi.
Ceramic International (Revision submitted).

3. Hyun-Seok Kim, K Karuppasamy, J. Theerthagiri, Dhanasekaran Vikraman, Sajjad Hussain, Ramakant Sharma, K Prasanna, J. Madhavan. Perspectives and challenges in ionic liquid-based electrolyte membranes for electrochemical energy storage devices. **Journal of Industrial and Engineering Chemistry (Under Revision).**
4. Manikandan Elayaperumal, Ph.D.; Ameer Baig Ali Baig, PhD; Ramya V, PhD; Kavitha Gnanasekaran, PhD; Vadamar R, PhD; Madhavan Jaganathan, PhD. "Industrial Harmful Dye-Decay and Bacterial Validation by Ecofriendly Metal-Oxides of Zn doped SnO₂ Nanocomposites Under Visible Light". International Journal of Environmental Science and Technology.
5. Cost-Effective Synthesis of Efficient CoWO₄/Ni Nanocomposite Electrode Material for Supercapacitor Applications
Authors: Kannadasan Thiagarajan, Dhandapani Balaji, Jagannathan Madhavan*, Jayaraman Theerthagiri, Ki-Young Kwon*, Myong Yong Choi*.
6. A. Prabhakarn, J. Theerthagiri, M.N Shaddad, M.A Ghanem, A. M Al-Mayouf, **J. Madhavan**. J. Mateial Science. Nickel phosphate nanoparticles for supercapacitor applications prepared by microwave assisted synthesis. (Submitted).
7. K. Thiagarajan, A. Prabhakarn, A. M Al-Mayouf, A. Selvi, **J. Madhavan**. Hydrothermal Synthesis of CoBi₂O₄ Nanoboxes electrode material for Supercapacitor Applications. Journal of Colloid and Interface Science.
8. K. Thiagarajan, K. Premnath, Prabhakarn Arunachalam, **J. Madhavan***. Synthesis of Hierarchical Nanostructured CaMoO₄ for Electrochemical Supercapacitor Applications. Alloys and Compounds (Submitted).

INVITED LECTURE(S):

1. Presented an invited lecture at the State level seminar on modern trends in chemistry organized by the Department of Chemistry, Sun arts and science college, Tiruvannamalai on 7th February 2014. **Title:** *Electrochemical Cells.*
2. Presented an invited lecture at the National level conference on Recent advances in nanosciences organized by the Department of Chemistry, Auxilium college, Katadi, Vellore during 21&22nd November 2014. **Title:** *Nanomaterials in energy and environmental remediation.*
3. Presented an invited lecture at the 5th International Conference on Functional Materials and Devices 2015 (ICFMD 2015), Centre for Ionics University Malaya, Department of Physics, University of Malaya, Kuala Lumpur 50603, Malaysia during 4-6th August

2015. **Title :** *Photoelectro active nanomaterials for energy and environmental applications.*
4. Acted as a **judge** for the technical section at the National level conference on Recent advances in nanosciences organized by the Department of Chemistry, Auxilium college, Katadi, Vellore during 21&22nd November 2014.
 5. Acted as a **judge** & chairperson for the technical section at the 5th International Conference on Functional Materials and Devices 2015 (ICFMD 2015), Centre for Ionics University Malaya, Department of Physics, University of Malaya, Kuala Lumpur 50603, Malaysia during 4-6th August 2015.
 6. Acted as a chair the session for oral presentation at the “State Level Seminar on Recent Advances in Nanotechnology (CHEMFEST-16)” organized by Shanmuga Industries Arts & Science College, Tiruvannamalai during 21th September 2016.
 7. Presented a Guest Lecture at School of Advanced Sciences, VIT University, Vellore on 28 September 2016 Title : *Solar Cells: Principles, Materials & Design.*
 8. Acted as resource person for the project “Lecture Demonstrations for Popularisation of Science” funded by NCSTC, DST, Govt. of India and organized by Stella Maris College (Autonomous), Chennai.
 9. Presented a Guest Lecture at Department of Chemistry, School of Advanced Sciences, VIT University, Vellore on 15 March 2017 Title : *An Overview on Recent Developments in Solar Cell Design.*
 10. Acted as **resource person** for the FDP program in VIT, Academic Staff College on 24.04.2018. “Nanostructured materials for Energy and Environmental Applications”.
 11. Presented in “National Symposium on Sustainable Energy Conversion & Storage Materials (NSSECSM - 2018) organized by the Centre of Excellence for Energy Research, Sathyabama University, Chennai during April 26-27, 2018. ISBN No: 978-93-83409-45-7. Development of Novel Platinum Free Electrocatalysts for the Applications in Dye-Sensitized Solar Cells and Hydrogen Evolution Reactions
 12. Presented an invited talk at the National Conference on Energy Materials-2018 conducted by Dept. of Physics, Manonmaniam Sundaranar University, Tirunelveli, June 28-29, 2018. Title: Recent developments on platinum free electrocatalysts for energy applications.
 13. Presented an invited lecture at “Seminar on Orientation to Research” organized by Thiruvalluvar University, Vellore on 10.08.2019. Topic: Writing Research/Review articles for Communication-A Guide”.

14. Delivered an invited talk entitled “Application of Nanomaterials for Sonophotocatalytic Degradation of Organic Pollutants” in the 4th Asia-Oceania Sonochemical Society Conference (AOSS-4) held at Nanjing University, Nanjing, China during 19 – 21 September 2019.
15. Delivered an invited talk entitled “Nanostructured photocatalyst materials for the Degradation of Organic Pollutants” in the State Key Laboratory of Chemical Resource Engineering, Beijing University of Chemical Technology, Beijing-100029, China on 23 September 2019.
16. Presented a **Guest Lecture** at Department of Chemistry, Kamban College of Arts and Science, Tiruvannamalai, on 15 October 2019. Title : *Nanocatalysis-An effective approach for Sustainable Energy and Environment.*
17. **Resource person** for the National Conference on “Teaching, Learning and Evaluation: Changes and Challenges” organized by IQAC, Auxillium College, Katpadi on 30 and 31 January 2020.
18. **Resource person** for the National Conference on Emerging Trends on Materials Science organized by the Department of Chemistry and Physics, Thiru Vi. Ka. Govt. Arts College, Thiruvavur on 14.02.2020.
19. **Resource person** for the National Level seminar on (CHEM-PECANE-2020) organized by the Department of Chemistry, Aruna Vidhya Arts & Science College, Tiruvannamalai on 20.02.2020.
20. **Resource person** for the invited lecture on “Fundamentals and applications of Electrochemistry” organized by the Department of Chemistry, Marudhar Kesari Jain College for Women, Vaniyambadi on 06.03.2020.
21. Acted as a **SESSION CHAIR** for the technical section for the “International e-conference on Advancements in Materials Science and Technology (iCAM 2020)” organized by Sathyabama Institute of Science and Technology in accocaition with Gyeongsang National University during 23&25 November 2020.
22. Delivered an **invited lecture** on Thermodynamics to PG students of the Dept. of Chemistry, Marudhar Kesari Jain College, Vaniyambadi on 18 January 2021.
23. Resource person for the UGC sponsored Online Refresher Course on “Design, Synthesis and Applications of Organic compounds” conducted by UGC-Academic Staff College, University of Madras on 29.01.2021.

24. Delivered an **invited lecture** (online) on “Advanced Functional Materials for Energy and Environmental Applications” to students of the Dept. of Physics, St. Joseph's College, Chennai on 20 April 2021.
25. Delivered an **invited lecture** (online) on “Electrochemistry-Fundamentals and Applications” to MSc Chemistry students jointly organized by Academy of Sciences, Chennai, Dept. of Analytical Chemistry, University of Madras, and Dept. of Physical Chemistry, Madurai Kamaraj University on 29.7.21.
26. Delivered an **invited lecture** (online) on “Applications of nanomaterials in Energy and Environment” in the 5th International Conference on Recent Advances in Applied Science and Technology organized by Dept. of Physics, Manonmaniam Sundaranar University during 25.11.2021 to 28.11.2021.

CONFERENCES/WORKSHOPS PRESENTED/PARTICIPATED:

1. Participated in “Awareness Programme on Applications of Radioisotopes and Radiation Technology for Societal Development” Anna University, Chennai, India, during 13 & 14 July 2004.
2. Participated in “National conference on Pollution abatement through technology development” Anna University, Chennai, India, during 18 & 19 March 2005.
3. Participated in “Asian conference on Solar Energy Materials and Solar Cells” Kandy, Sri Lanka, during 12-16 June 2006.
4. Participated in the International Conference on Nanoscience and Technology (ICNSNT 2006) organized by the Centre for Nanoscience and Nanotechnology, University of Madras, Chennai during 26-28, August 2006.
5. Presented in “Envirotech 2006” J.B.A.S. College, Chennai, India.
Title: *Advanced Oxidation Processes: Photocatalysed degradation of textile dye using titanium dioxide.* **J. Madhavan**, R. Chitra Devi, S. Latha and P. Maruthamuthu.
6. Participated in “International conference on nanomaterial and its applications” held at National Institute of Technology, Trichy, India, during 4-6 February 2007.
7. Presented in “International workshop on Sonochemistry and Photocatalysis for Environmental remediation” held at University of Melbourne, Australia, during 26-28 November 2008.
Title: *Sonophotocatalytic degradation of Orange G using titanium dioxide.* (page 24)
J. Madhavan, F. Greiser and M. Ashokkumar.
8. Presented in Australian Colloid and Interface Symposium (ACIS-2009), held at Stamford Grand, Adelaide, during 1-5 February 2009.

- Title:** *Sonophotocatalytic degradation of Orange G using titanium dioxide. (page 162)*
J. Madhavan, F. Greiser and M. Ashokkumar.
9. Presented in “International symposium on Environmental risk assessment” held at Bharathiar University, Coimbatore, Tamil Nadu, India, during 17-19 October 2011.
Title: *Sonophotocatalytic degradation of Paracetamol using titanium dioxide.*
J. Madhavan, F. Greiser and M. Ashokkumar.
10. Presented in “National conference on Advanced Nanomaterials (ANM-2012)” held at Periyar University, Selam, Tamil Nadu, India, during 6 & 7 February 2012.
Title: *Improved performance and enhanced conductivity of a dye-sensitized solar cell incorporating a pyrazole doped poly (ethylene oxide) based polymer electrolyte.*
J. Madhavan, S. Ganesan, P. Maruthamuthu and S. Austin Suthanthiraraj.
11. Presented in “Second International Conference on Advanced Oxidation Processes (AOP-2012) held at Mahatma Gandhi University, Kottayam, Kerala, India, during 5-8 October 2012.
Title: *Degradation of Paracetamol by sonophotochemical processes.* **J. Madhavan**, F. Greiser and M. Ashokkumar.
12. Presented in “Young Scientist Research Awardees’ Meet” held at BARC, Mumbai, India, during 26-28 November 2012.
Title: *Solar energy conversion into electricity using blended polymer electrolytes for nanocrystalline dye sensitized solar cells.* **J. Madhavan.**
13. Presented in “International conference on emerging trends in chemical sciences organized by the school of advanced sciences” held at VIT University, Vellore, Tamil Nadu, India, during 5-7 December 2013.
Title: *Effect of phenothiazine addition in polyvinylidene fluoride-co-hexafluoropropylene polymer electrolytes for device application.* J. Theerthagiri, R.A. Senthil, **J. Madhavan**, M. Kumaravadivel, S. Austin Suthanthiraraj, P. Maruthamuthu.
14. Presented in the National Conference on Ecotechnologies for Wastewater Treatment, organized by the Dept. of Environmental Sciences, Bharathiar University, Coimbatore, Tamil Nadu, India, during 21 & 22 January 2014.
Title: *Photodegradation of textile dye over $g-C_3N_4$ under visible light irradiation.* J. Theerthagiri, R.A. Senthil, **J. Madhavan.**
15. Participated in the International conference on Nanoscience and Nanotechnology, organized by VIT University, Vellore during 29 November to 01.12.19.
16. Participated in FDP programme on ‘Young Supervisor (M.Phil/PhD) on Plagiarism-free research report writing’ held in Thiruvalluvar University, Vellore on 04.01.2020.
17. Attended the Indo-Australia workshop on Nanomaterials for applications in Agriculture, Energy and Environment, held on 23.01.2020 at NIT, Trichy.

18. Participated in the International Virtual Seminar on “Advanced Materials for Energy Conversion and Storage” organized by Department of Chemistry, Sathyabama university, Chennai.

Participated (Students) conferences/workshops/seminars

1. Presented in “A workshop on recent advances on wastewater treatment” organized by Institute of Chemical Technology, Mumbai, India, during 16 & 17 December 2009.
Title: *Combined Advanced Oxidation Processes for the Degradation of Organic Pollutants in Aqueous Environments.* **J. Madhavan**, F. Greiser and M. Ashokkumar.
2. Presented in “A workshop on recent advances on wastewater treatment” organized by Institute of Chemical Technology, Mumbai, India, during 16 & 17 December 2009.
Title: *Sonochemistry as an Advanced Oxidation Process for the Degradation of Organic Pollutants in Aqueous Environment.* **J. Madhavan**, F. Greiser and M. Ashokkumar.
3. Participated in National conference on “Frontiers in Spectroscopy” held at Government Arts College, Thiruvannamalai, Tamil Nadu, India, during 2 & 3 April 2012.
4. Participated in “Workshop on Sustainable Energy Conversion & Storage Devices” held at SRM University, Kattankulathur, Tamil Nadu, India, during 2-8 September 2013.
5. Participated in the UGC sponsored National Level Conference on “Emerging trends in Chemistry (ETC-2013) held at Sacred Heart College, Tirupattur, Tamil Nadu, India, during 20 & 21 September 2013.
6. Participated in the II National Conference on Application of Analytical Tools in Chemical and biological sciences held at D.K.M college for women, vellore, Tamil Nadu, India, during 4 & 5 October 2013.
7. Participated in “International Workshop on Advanced Materials (IWAM-2014)” held at Alagappa University, Karakudi, Tamilnadu, India, during 20 & 21 March 2014.
8. Participated in “Two Days National Seminar on Recent Research Trends in Chemistry (RRTC-14)” Organized by Department of Chemistry, C.Abdul Hakeem College, Melvisharam, Vellore, Tamil Nadu, India, during 25 & 26 September 2014.
9. Presented in “National level seminar on Neoperspectives on Chemical, Biochemical & Microbial world (NCBMW-14)” held at Sri Akilandesvari Womens College, Wandiwash, Thiruvannamalai, Tamil Nadu, India, during 10 & 11 October 2014.
Title: *Effect of 2-mercaptopyridine on polyvinylidene fluoride (PVDF) based polymer electrolytes and its application for nanocrystalline dye sensitized solar cells.* R.A. Senthil. J. Theerthagiri, **J.Madhavan**.

10. Presented in “National level seminar on Neoperspectives on Chemical, Biochemical & Microbial world (NCBMW-14)” held at Sri Akilandesvari Womens College, Wandiwash, Thiruvannamalai, Tamil Nadu, India, during 10 & 11 October 2014.
Title: *Ionic conductivity studies of phenothiazine doped PEO-PVDF blended polymer electrolytes for device applications.* A. Shoba, R.A. Senthil, J. Theerthagiri, **J. Madhavan.**
11. Participated in “National level seminar on Neoperspectives on Chemical, Biochemical & Microbial world (NCBMW-14)” held at Sri Akilandesvari Womens College, Wandiwash, Thiruvannamalai, Tamil Nadu, India, during 10 & 11 October 2014.
12. Presented in “National conference on Recent Advances in Nanosciences (RANSS’14)” held at Auxilium College (Autonomous), Vellore, Tamilnadu, India, during 21 & 22 November 2014.
Title: *Synthesis and characterization of molybdenum carbide for enhanced electrocatalytic activity in dye sensitized solar cell and 4-Nitrophenol reduction.* J. Theerthagiri, R.A. Senthil, **J. Madhavan.**
13. Presented in “International conference on Smart Materials (ICSM)” held at Sacred Heart College (Autonomous), Tirupattur, Tamil Nadu, India, during 11 & 12 February 2015.
Title: *Optimization of the ionic conductivity of phenothiazine doped polyvinylidene fluoride (PVDF) polymer electrolytes for device applications.* R.A. Senthil, J. Theerthagiri, **J. Madhavan.**
14. Presented in “International conference on Smart Materials (ICSM)” held at Sacred Heart College (Autonomous), Tirupattur, Tamil Nadu, India, during 11 & 12 February 2015.
Title: *Enhanced performance of $Co_3S_4/PANI$ electrocatalyst towards tri-iodide reduction for dye-sensitized solar cells.* J. Theerthagiri, R. A. Senthil, **J. Madhavan.**
15. Presented in “National Conference on Advanced Materials for Energy and Environmental Applications (AMEEA-2015)” Organized by Department of Physics, Bharathiar University, Coimbatore, Tamil Nadu, India, during 18-20 March 2015.
Title: *Efficient dye sensitized solar cell with 2-mercaptobenzothiazole doped polyvinylidene fluoride-co-hexafluoropropylene (PVDF-HFP) polymer electrolyte.* R.A. Senthil, J. Theerthagiri, **J. Madhavan.**
16. Presented in “National Conference on Advanced Materials for Energy and Environmental Applications (AMEEA-2015)” Organized by Department of Physics, Bharathiar University, Coimbatore, Tamil Nadu, India, during 18-20 March 2015.
Title: *Synthesis of nanocrystalline $\alpha-Mo_2C$ from hydrothermally obtained $\alpha-MoO_3$ nanowires and its electrocatalytic effect on counter electrode in dye-sensitized solar cells.* J. Theerthagiri, R.A. Senthil, **J. Madhavan.**
17. Presented in “National conference on Emerging Trends in Chemistry and Materials (ETCM)” held at Department of Chemistry, Thiruvalluvar University, Vellore, Tamil Nadu, India, during 9 & 10 April 2015.

Title: *Optimization of ionic conductivity of 2-mercaptobenzoimidazole doped PVDF based copolymer for dye sensitized solar cells.* R.A. Senthil, J. Theerthagiri, **J. Madhavan.**

18. Presented in “National conference on Emerging Trends in Chemistry and Materials (ETCM)” held at Department of Chemistry, Thiruvalluvar University, Vellore, Tamil Nadu, India, during 9 & 10 April 2015.

Title: *Synthesis of α - Mo_2C , PEDOT:PSS/ α - Mo_2C composite counter electrode for cost effective dye-sensitized solar cells.* J. Theerthagiri, R.A. Senthil, **J. Madhavan.**

19. Presented in “National conference on Emerging Trends in Chemistry and Materials (ETCM)” held at Department of Chemistry, Thiruvalluvar University, Vellore, Tamil Nadu, India, during 9 & 10 April 2015.

Title: *Synthesis and characterization of WO_3 -g- C_3N_4 visible light active photocatalyst for Acid Orange-7 degradation.* A. Priya, J. Theerthagiri, **J. Madhavan.**

20. Presented in “5th International Conference on Functional Materials and Devices 2015 (ICFMD 2015), Centre for Ionics University Malaya, Department of Physics, University of Malaya, Kuala Lumpur 50603, Malaysia during 4-6th August 2015.

Title : *Synthesis of W, Nb, Ta and Ti doped α - Mo_2C and their application as counter electrode in dye-sensitized solar cells.* J. Theerthagiri, R.A. Senthil, M.H. Buraidah, **J. Madhavan***, A.K. Arof.

21. Presented in “ Indian National conference on Development in Inorganic Applications (INDIA-2015)” held at the Department of Chemistry, School of Physical Sciences, Periyar University, Salem-636011, Tamil Nadu on 15th & 16th October 2015.

Title : *Dye-sensitized solar cell using α - Fe_2O_3 nanoparticles incorporated PVA polymer electrolytes.* R.A. Senthil, J. Theerthagiri, **J. Madhavan***.

22. Presented in “ Indian National conference on Development in Inorganic Applications (INDIA-2015)” held at the Department of Chemistry, School of Physical Sciences, Periyar University, Salem-636011, Tamil Nadu on 15th & 16th October 2015.

Title : *Carburization of α - MoO_3 nanowires and its electrocatalytic activity for tri-iodide reduction.* J. Theerthagiri, R.A. Senthil, **J. Madhavan***.

23. Presented in "One Day National Conference on Recent Trends in Chemical Sciences "RTCS-2016)" held at the Department of Chemistry, Muthurangam Govt Arts College (Autonomous), Vellore- 632002, Tamil Nadu on 5th February 2016.

Title : *Fabrication of dye-sensitized solar cell using 5-amino-1,3,4-thiadiazole-2-thiol modified PVDF-HFP polymer electrolytes.* R.A. Senthil, J. Theerthagiri, **J. Madhavan***.

24. Presented in "One Day National Conference on Recent Trends in Chemical Sciences "RTCS-2016)" held at the Department of Chemistry, Muthurangam Govt Arts College (Autonomous), Vellore- 632002, Tamil Nadu on 5th February 2016.

Title : *Cost-effective and transparent $Ni_{0.9}X_{0.1}Se_2$ (X= Cd, Co, Sn and Zn) ternary selenides as the counter electrode in dye-sensitized solar cells.* R. Sudha, J. Theerthagiri, R.A. Senthil, **J. Madhavan***.

25. Presented in "One Day National Conference on Recent Trends in Chemical Sciences "RTCS-2016)" held at the Department of Chemistry, Muthurangam Govt Arts College (Autonomous), Vellore- 632002, Tamil Nadu on 5th February 2016.
Title : *Synthesis of visible light active CuS-WO₃ nanocomposite by wet chemical route.* L.S. Amudha, J. Theerthagiri, R.A. Senthil, **J. Madhavan***.
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Title : *Synthesis and characterization of CuS-CdS photocatalyst with enhanced visible light-photocatalytic activity.* A. Malathi, **J. Madhavan***.
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Title: *Enhanced visible light active α -FeOOH/BiOI nanocomposite photocatalyst for dye degradation.* A. Malathi, **J. Madhavan***.

35. Participated in “Two day National Level Lecture - Workshop on Analytical Methods in Immunology and Molecular Biology” held at Department of Biotechnology, D.K.M College for Women, Vellore, Tamil Nadu, India, during 7 & 8 Feb 2017.

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Title: *A robust visible light driven BiFeWO₆/BiOI nanohybrid with efficient photocatalyst and photoelectrochemical performance.* A. Malathi, **J. Madhavan***.

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Title: *Synthesis and characterization of α -Fe₂O₃/WO₃ composite with enhanced photocatalytic performance under visible-light irradiation.* R.A. Senthil, **J.Madhavan***.

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Title: *One-step electrodeposited molybdenum incorporated nickel sulfide thin films as advanced electrocatalysts for the triiodide reduction in dye-sensitized solar cells.* J. Theerthagiri, **J.Madhavan***.

39. Presented in “International Conference on Recent Advances in Bioresource Technology -RABT 2017” held at the Department of Biotechnology, Thiruvalluvar University, Vellore, Tamil Nadu on 15-17th Feb 2017.

Title: *Synthesis and characterization of Ni₃V₂O₈@graphene oxide nanocomposite for high-performance supercapacitors.* J. Theerthagiri, **J.Madhavan***.

40. Chennai nanogathering 2017 national conference on nanomaterials and nanobiotechnology - (CNG-NCNN-17) 7 - 8th February 2017, national centre for nanoscience and nano technology, University of Madras, Chennai 600 025.

Title: *A robust visible light driven BiFeWO₆/BiOI nanohybrid with efficient photocatalytic and photoelectrochemical performance.*

A Malathi and **J. Madhavan.**

41. Participated in National conference on recent advancement in materials science -

(NCRAMS - 2017) 28-29th July 2017, pg & research department of physics & chemistry, Government arts college, Thiruvannamali 606 603.

Title: *Molybdenum incorporated nickel sulfide thin films by electrochemical deposition method as highly efficient hydrogen evolution electrocatalysts in acid medium.*

K. Premnath and J. Madhavan

42. Participated in National conference on “Emerging Trends in Chemistry and Materials”, (ETCM-2017) 10-11th August 2017, Department of Chemistry, Thiruvalluvar University, Vellore – 632 115.

Title: *Influence of α -Fe₂O₃ loaded wo₃ nanorods on photocatalytic degradation of organic pollutants under visible-light irradiation.*

A. Priya, R.A. Senthil and J. Madhavan

43. Participated in National conference on “Emerging Trends in Chemistry and Materials”, (ETCM-2017) 10-11th August 2017, Department of Chemistry, Thiruvalluvar University, Vellore – 632 115.

Title: *A low cost, additive-free facile synthesis of BiFeWO₆/BiVO₄ nanocomposite with enhanced visible-light induced photocatalytic activity.*

A. Malathi and J. Madhavan

44. Participated in National conference on “Emerging Trends in Chemistry and Materials”, (ETCM-2017) 10-11th August 2017, Department of Chemistry, Thiruvalluvar University, Vellore – 632 115.

Title: *Synthesis and application of Ca₂V₂O₇/pani nanoplatelets as an electrode material for supercapacitors.*

K. Thiagarajan and J. Madhavan

45. Participated in National conference on “Emerging Trends in Chemistry and Materials”, (ETCM-2017) 10-11th August 2017, Department of Chemistry, Thiruvalluvar University, Vellore – 632 115.

Title: *Preparation and characterization of graphene oxide incorporated polyethylene oxide (PEO) based polymer gel electrolytes.*

S. Sathyaprabha and J. Madhavan

46. Participated in National conference on “Emerging Trends in Chemistry and Materials”, (ETCM-2017) 10-11th August 2017, Department of Chemistry, Thiruvalluvar University, Vellore – 632 115.

Title: *Growth of iron selenides nanorods with graphene oxide electrocatalysts for hydrogen evolution reactions.*

K. Premnath, R. Sudha and J. Madhavan

47. Presented a paper in the National Symposium on Recent Scenario of Environmental Pollution in India- (NSRSEPI-2017) organized by the Deopt. Of Zoology, Thiruvalluvar University, Vellore, on 5th October 2017.

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48. Participated in the international conference on Advancements and Challenges in Chemical Sciences (ICACCS-2018) 2-3 Feb 2018, Dept. of Chemistry, Pachaiyappa;s College, Chennai. Synthesis of visible light driven BiFeO₃/BiOI photocatalyst for dye degradation

J. Madhavan and A. Malathi.

49. Participated in the International conference “Current Trends & Emerging Challenges in Biological Sciences (CTECBS)”-2018, Organized by Dept. of Life Sciences, DKM College for Women, Vellore on 15-16, Feb 2018.

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A. Selvi, A. Ananthaselvam, J. Madhavan and A. Rajasekar.

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K. Duraimurugan, D. Balaji, **J. Madhavan.**

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A. Ananthaselvam, A. Selvi, J. Narenkumar, **J. Madhavan,** A. Rajasekar.

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Dhandapani Balaji, Kumaraguru Duraimurugan and **Jagannathan Madhavan**.

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