

Faculty Profile

Name : **Dr. J. MADHAVAN**

Designation : Assistant Professor

Specialization : Nanomaterials for Solar cells, Wastewater treatment.



Contacts

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Membership : ---

Projects (Total projects-1)

Title : Solid-state Dye Sensitized Solar Cells: Fabrication, characterization and photoelectrochemical studies of nanocrystalline dye sensitized solar cells using polymer electrolytes.

Duration : 2012.

Funding agency : DST, New Delhi
DST-Young Scientist Award, 2011.

Amount sanctioned : Rs.25,55,000/-

Publications:

Articles (Total articles- 20)

1. Title : Degradation of acid red 88 by the combination of sonolysis and photocatalysis.
Author : **J. Madhavan**, P. Sathish Kumar, S. Anandan, F. Grieser, M. Ashokkumar.
Name : Separation and Purification Technology
Volume : 74
Year : 2010
Pages : 336–341.

- 2. Title** : Sonophotocatalytic degradation of Formetanate hydrochloride using homogeneous and heterogenous photocatalysts.
Author Name : **J. Madhavan**, F. Grieser, M. Ashokkumar.
Volume : 73
Year : 2010
Pages : 409-414.
- 3. Title** : Sonophotocatalytic degradation of diclofenac using doped and undoped semiconductor nanopartilces.
Author Name : **J. Madhavan**, P. Sathish Kumar, F. Grieser, M. Ashokkumar, S. Anandan.
Volume : 80
Year : 2010
Pages : 747-752.
- 4. Title** : Sonophotocatalytic degradation of monocrotophos using TiO₂ and Fe³⁺.
Author Name : **J. Madhavan**, P. Sathis Kumar, F. Grieser, M. Ashokkumar, S. Anandan.
Volume : 177
Year : 2010
Pages : 944–949.
- 5. Title** : Combined Advanced Oxidation Processes for the Synergistic Degradation of Ibuprofen in Aqueous Environment.
Author Name : **J. Madhavan**, F. Greiser and M. ashokkumar.
Volume : 178
Year : 2010
Pages : 202–208.
- 6. Title** : Degradation of Orange G by advanced oxidation processes.
Author Name : **J. Madhavan**, F. Greiser and M. Ashokkumar.
Volume : 17
Year : 2010
Pages : 338-343.
- 7. Title** : Kinetics of degradation of acid red 88 in presence of Co²⁺-ion/peroxomonosulfate reagent.
Author Name : **J. Madhavan**, P. Maruthamuthu, M. Ashokkumar and S. Murugesan.
Volume : 368
Year : 2009
Pages : 35-39.

- 8.** Title : Degradation of Orange G by sonophoto Fenton process.
Author : **J. Madhavan**, F. Greiser and M. Ashokkumar.
Name : **Water Sciecne and Technology**
Volume : 60, Issue-8
Year : 2009
Pages : 2195-2202.
- 9.** Title : Kinetic studies on visible light assisted degradation of acid red 88 in presence of metal ion coupled oxone reagent.
Author : **J. Madhavan**, P. Maruthamuthu, S. Murugesan and S. Anandan
Name : Applied Catalysis B: Environmental
Volume : 83
Year : 2008
Pages : 8-14.
- 10.** Title : Advanced Oxidation Process-Photocatalyzed degradation of a textile dye using Titanium Dioxide.
Author : **J. Madhavan**, S. Murugesan, P. Maruthamuthu and S. Anandan
Name : **Environmental Science–An Indian Journal**
Volume : 3
Year : 2008
Pages : 80-83.
- 11.** Title : Photocatalytic degradation of Acid Red 88 using Au-TiO₂ nanoparticles in aqueous solutions.
Author : P. Sathish Kumar, R. Sivakumar, S. Anandan, **J. Madhavan**, P. Maruthamuthu, M. Ashokkumar.
Name : **Water Research**
Volume : 42 Issue 19
Year : 2008
Pages : 4878-4884.
- 12.** Title : An Investigation on the Performance of a Silver Ionic Solid Electrolyte System for a New Detergent-based Nanocrystalline Dye-sensitized solar cell.
Author : B. Muthuraaman, S. Murugesan , Vinod Mathew, S. Ganesan, B. Joseph Paul, **J. Madhavan**, P. Maruthamuthu and S. Austin Suthanthiraraj.
Name : Solar Energy Materials and Solar Cells
Volume : 92 Issue 12
Year : 2008
Pages : 1712-1717.

13. Title :The use of 2, 6-bis (N-pyrazolyl) pyridine as an efficient dopant in conjugation poly (ethylene oxide) for nanocrystalline dye-sensitized solar cells.
Author : S. Ganesan, B. Muthuraaman, **J. Madhavan**, Vinod Mathew, P. Maruthamuthu, S.A. Suthanthiraraj
Name : Electrochimica Acta
Volume : 53 Issue27
Year : 2008
Pages : 7903-7907.

14. Title : Performance of a new polymer electrolyte incorporated with diphenylamine in nanocrystalline dye-sensitized solar cell.
Author : S Ganesan, B. Muthuraaman, V. Mathew, **J. Madhavan**, P. Maruthamuthu, S. Austin Suthanthiraraj.
Name : Solar Energy Materials & Solar Cells
Volume : 92 Issue 12
Year : 2008
Pages : 1718-1722.

15. Title :Photocatalytic degradation of phenol over TiO₂ powder: The influence of peroxomonosulphate and peroxodisulphate on the reaction rate.
Author : K. B. Dhanalakshmi, S. Anandan, **J. Madhavan** and P. Maruthamuthu,
Name : Solar Energy Materials and Solar Cells
Volume : 92
Year : 2008
Pages : 457-463.

16. Title : Effect of loaded silver nanoparticles on TiO₂ for photocatalytic degradation of textile dye (Acid Red 88).
Author : S. Anandan, P. Sathish Kumar, N. Pugazhenthiran, **J. Madhavan** and P. Maruthamuthu.
Name : Solar Energy Materials and Solar Cells
Volume : 92
Year : 2008
Pages : 929-937.

- 17. Title** : Direct Conversion of Solar radiation to electricity by fabricated solar cells using Ruthenium polypyridyl complexes.
- Author** : S. Latha, **J. Madhavan**, B. Muthuraaman, S. Anandan, R. Chitra Devi, and P. Maruthamuthu.
- Name** : Ceylon Journal of Science: Physical Sciences
- Volume** : 12
- Year** : 2007
- Pages** : 25-31.
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- 18. Title** : Peroxomonosulphate, an efficient oxidant for the photocatalysed degradation of a textile dye, acid red 88
- Author** : **J. Madhavan**, B. Muthuraaman, S. Murugesan, S. Anandan and P. Maruthamuthu,
- Name** : **Solar Energy Materials and Solar Cells**,
- Volume** : 90
- Year** : 2006
- Pages** : 1875-1887.
-
- 19. Title** : Synthesis, characterization and fabrication of solar cells making use of [Ru(dcbpy)(tptz)X]X (where X = Cl⁻, SCN⁻, CN⁻)
- Author** : S. Anandan, S. Latha, S. Murugesan, **J. Madhavan**, B. Muthuraaman and P. Maruthamuthu
- Name** : Solar Energy
- Volume** : 79
- Year** : 2005
- Pages** : 440-448.
-
- 20. Title** : Synthesis and characterization of Naphthyridine and acridinedione ligands coordinated Ruthenium (II) complexes and their applications in dye sensitized solar cells.
- Author** : S. Anandan, **J. Madhavan**, P. Maruthamuthu, V. Raghukumar and V. T. Ramakrishnan
- Name** : Solar Energy Materials and Solar Cells
- Volume** : 81
- Year** : 2004
- Pages** : 419-428.

Books (Total Books-1)

Title : Nanotechnology for Energy Challenge.
The Contribution of Nanotechnology to Hydrogen Production
Editors:Garcia-Marti

Author : S. Anandan, **J. Madhavan** and M. Ashokkumar.

Name : **Publisher:** Wiley-VCH Verlag,GmbH.

Volume : Chapter 5

Year : 2009

Pages : 111-136.

ISBN-978-3-527-32401-9.
