

Name : Dr. D. RACHEL MALINI

Designation : Assistant Professor

Department : Physics

Date of Joining : 25. 11. 2013

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Educational Qualification:

Degree	Subject	College/ University & Place	Year Completed
Ph.D.	Physics	Alagappa University, Karaikudi	2013
M.Phil	Physics	Alagappa University, Karaikudi	1996
M.Sc	Physics	Alagappa University, Karaikudi	1994
B.Sc	Physics	V.V.Vanniaperumal College, Virudunagar	1992

Specialization in Teaching:

- Electronics and Instrumentation
- Microprocessor
- Nuclear Physics
- Nano Physics

Specialization in Research:

- Thin films - Preparation, Characterization and Application
- Electrochemical/ Electrochromic studies

Research Interest :

- Electrochromism in thin films
- Solar cells

Other work experience :

Designation	Institution/ Company	Year - From (month/year) To (month/Year)
Lecturer	NMSSV College, Madurai	Sept 2001 to Nov 2013
YRC Programme Officer	NMSSV College, Madurai	June 2009 to Nov 2013
Programme Officer of APAC (AIDS Prevention and Control) project (Funded by VHS-USAID)	NMSSV College, Madurai	June 2006 to April 2009
Staff-in-Charge of Value Education Classes	NMSSV College, Madurai	May 2005 to Nov 2013
Staff-in-Charge of Tutor ward system	NMSSV College, Madurai	May 2005 to Nov 2013
Staff-in-Charge of Painters club	NMSSV College, Madurai	May 2010 to April 2011
Staff-in-Charge of Association of Physics Department	NMSSV College, Madurai	May 2009 to April 2010
Staff-in-Charge of Discipline Committee	NMSSV College, Madurai	May 2009 to April 2010
Staff-in-Charge of Spoken English classes	NMSSV College, Madurai	May 2007 to April 2009
Staff-in-Charge of ECO club	NMSSV College, Madurai	May 2008 to April 2009
Staff-in-Charge of Readers and Writers club	NMSSV College, Madurai	May 2007 to April 2008
Member of the advisory committee for students union	NMSSV College, Madurai	May 2006 to April 2007
Staff-in-Charge of Carrier guidance cell	NMSSV College, Madurai	June 2005 to April 2006

Analytical and Instrumentation Skill :

- Deposition of thin films by RF magnetron sputtering technique.
- Fabrication of Electrochromic Device (ECD).
- Operation of sophisticated instruments like
 - (i) UV-Vis-NIR spectrophotometer
 - (ii) Photoluminescence spectrometer
 - (iii) Electrochemical instruments (Cyclic Voltametry, Impedance spectroscopy)
 - (iv) Stylus Profilometer
 - (v) Photoacoustic spectrometer

List of Research Papers Published in International Journals :

1. “ Properties of V–Ce mixed-oxide thin films deposited by RF magnetron sputtering”, D. Rachel Malini and C. Sanjeeviraja - **Materials Science in Semiconductor Processing** **19 (2014) 40-49.**
2. “Effect of RF power on electrochromic V–Ce mixed oxide thin films”, D. Rachel Malini and C. Sanjeeviraja - **Electrochimica Acta** **104 (2013) 162-169.**
3. “ H⁺- intercalation Electrochemical/Electrochromic Properties of V-Ce Mixed Oxide Thin Films”, D. Rachel Malini and C. Sanjeeviraja - **International Journal of Electrochemical Science** **8 (2013) 1349-1365.**

List of Research Papers Published in National Journals :

1. “ Preparation And Characterization Of RF Sputtered Ce-V Mixed Oxide Thin Films”, D. Rachel Malini and C.Sanjeeviraja - **AIP Conference Proceedings, Solid State Physics: Proceedings of the 56th DAE Solid State Physics Symposium (DAE-SSPS-2011)** **1447 (2012) 633-634.**
2. “ A study on Structural and Optical properties of annealed Vanadium pentoxide thin films prepared by RF Magnetron sputtering”, D. Rachel Malini, M. Jayachandran and C.Sanjeeviraja - **Proceedings of the 54th DAE Solid State Physics Symposium (DAE-SSPS-2009)** **(2009) 595-596.**

List of Research Papers Published in International Conference Proceedings :

1. “ Optical and electrochromic characterization of V-Ce mixed oxide thin films”, D. Rachel Malini and C.Sanjeeviraja - **Proceedings of International Conference on Research in Condensed Matter Physics**, Eds. Rita John, Tamio Eedo, Publisher: Excel India Publishers, New Delhi (2012) 145-147 (ISBN: 978-93-82062-63-9).
2. “Annealing effects on sputtered V₂O₅ thin films”, D. Rachel Malini and C.Sanjeeviraja - **Proceedings of International Conference on Advanced materials(ICAM-2012)**, Eds. V. Joseph, S. Moorthy Babu, S. Balakumar, J. Madhavan, J. Merlin Shyla, Publisher: Department of Physics, Loyola College, Chennai (2012) 172-176 (ISBN: 9788190949019).
3. “Characterization of Ce-V mixed oxide thin films prepared by RF magnetron sputtering”, D. Rachel Malini and C.Sanjeeviraja - **Proceedings of International Conference on Advanced Materials and its applications(ICAMA-2011)**, Publisher: Macmillan Advanced Research Series (2011) 571-577 (ISBN: CORP-000187).
4. “ Effect of substrate temperature on the characteristics of Vanadium Pentoxide thin films prepared by RF magnetron sputtering”, D. Rachel Malini, M. Jayachandran and C.Sanjeeviraja - **Proceedings of International Conference on Nanomaterials and Nanotechnology (NANO 2010): Synthesis and characterization of Nanostructured Materials**, Eds. V.Rajendran, B.Hillbrands, K.Saminathan and K.E.Geckeler, Publisher: Macmillan Publishers India Ltd.(2010) 453-458 (ISBN:023-033-193-9).

Papers Presented in Symposiums/ Conferences/ Seminars :

1. “Optical and electrochromic characterization of V-Ce mixed oxide thin films” International Conference on Research in Condensed Matter Physics (ICCMP-2012) convened by Department of Theoretical Physics, University of Madras, Chennai and the Graduate School of Engineering, Mie University, Japan sponsored by University of Madras, DST(SERB), DST(PURSE), DST-JSPS, DRDO and DBT during October 1-3, 2012, India.
2. “goPak; - rPupak; fyg;G Mf;i]L nkd;glyq;fspd; kpd;epwkg; gz;Gfs; gw;wpa Xu; Ma;T” 12th Tamil Nadu Science Congress organized by Periyar university, Salem in collaboration with Swadeshi Science Movement, Karaikudi during August 23-25, 2012, India.
3. “Annealing effects on sputtered V₂O₅ thin films” International Conference on Advanced materials (ICAM-2012) organized by Department of Physics, Loyola College, Chennai, sponsored by UGC, CSIR, DST, DRDO, INSA, BRNS and TNSCST during January 5-7, 2012, India.
4. “Preparation And Characterization Of RF Sputtered Ce-V Mixed Oxide Thin Films” 56th DAE-SSPS 2011 sponsored by the Board of Research in Nuclear Sciences, DAE, Government of India held at SRM University, Kattankulathur during December 19-23, 2011, India.
5. “thndhyp mjpHntz; Nkf;dl;uhd; njspj;jy; Kiwapy; gbtpf;fg; gl;l rPupak; - goPak; fyg;G Mf;i]L nkd;glyq;fs; gw;wpa Xu; Ma;T” 11th Tamil Nadu Science Congress organized by Gandhigram rural university, Gandhigram, Tamil Nadu, India in collaboration with Swadeshi Science Movement, Karaikudi on 26-27, June 2011.
6. “Characterization of Ce-V mixed oxide thin films prepared by RF magnetron sputtering” International Conference on Advanced materials and its applications (ICAMA-2011) organized by Multifunctional Materials Research Centre& Department of Physics, Department of Chemistry, Kalasalingam University, Krishnankoil supported by DST, CSIR, BRNS, DRDO on 4-5, March 2011.
7. “Effect of substrate temperature on the characteristics of Vanadium Pentoxide thin films prepared by RF magnetron sputtering” International Conference on Nano Materials and Nanotechnology (NANO 2010) organized by Centre for Nano Science and Technology, K.S.R. College of Technology, Tiruchengode, Tamil Nadu, India sponsored by IUPAC on 13-16, December 2010.
8. “A study on Structural and Optical properties of annealed Vanadium pentoxide thin films prepared by RF Magnetron sputtering” 54th DAE-SSPS 2009 sponsored by the Board of Research in Nuclear Sciences, DAE, Government of India held at The Maharaja Sayajirao University of Baroda, Vadodara, India on 14-18, December 2009.
9. “A comparative study on Structural, Morphological and Optical properties of as-deposited with annealed V₂O₅ thin films prepared by RF Magnetron sputtering” National

Conference on Recent Advances in Textile and Electrochemical Science (RATES-2009) organized by the Department Industrial Chemistry, School of Physics, Alagappa University, Karaikudi, Tamil Nadu , India on 4-5, December 2009.

10. “Annealing effect on Structural and Optical properties of V_2O_5 thin films” National Conference on ‘Nano Materials for energy conversion and conservation’ (NMECC-'09) organized by PG Department of Physics, Bishop Heber College, Tiruchirapalli, Tamil Nadu, India sponsored by UGC on 26.03.2009.
11. “ Structural and Optical properties of annealed Vanadium Pentoxide thin films prepared by RF magnetron sputtering” National Conference on Nano Material (NCN 2008) organized by the Department of Physics, Karunya University, Coimbatore, Tamil Nadu, India sponsored by DST, BRNS and CSIR on 17-18, August 2008.

List of workshop/ Conferences/ seminars participated :

1. State level seminar on ‘ Nano Materials’ organized by Department of Physics, V.V.Vanniaperumal College for women, Virudhunagar, Tamil Nadu, India on 5.2.2013.
2. Homi Bhabha Centenary Celebration organized by The American College, Madurai, Tamil Nadu, India on 30.11.2009.
3. National workshop on ‘ Theory and practice of X-ray diffraction techniques’ (TPXRDT-2009) organized by School of Physics, Alagappa University, Karaikudi, Tamil Nadu, India on 13-17, July 2009.
4. State level seminar on ‘Thin Films and their applications’ organized by the PG and Research Department of Lady Doak College, Madurai, Tamil Nadu, India on 20.2.'09.
5. UGC-SERO, Hyderabad sponsored State level conference on ‘Nano Materials’ (NANO-2007) at The S.F.R. College, Sivakasi, Tamil Nadu, India during 6-7, March 2007.
6. UGC sponsored Regional seminar on ‘Recent trends in Condensed matter Physics’ at V.V.Vanniaperumal College for Women, Virudhunagar, Tamil Nadu, India during 17-19, August 2005.

Awards/ Fellowship:

‘**Best Poster Award 2009**’ for the poster presented in 54th DAE-SSPS 2009 sponsored by the Board of Research in Nuclear Sciences, DAE, Government of India held at The Maharaja Sayajirao University of Baroda, Vadodara on 14-18, Dec 2009.

Lecture/Talk given:

Technical talk on the topic “Electrochromic Thin Films” in Alumni Association organized by Department of Physics, V.V. Vanniaperumal College for Women, Virudhunagar on 26.09.2014.