

Bio Data

I. Personal details

Name & Designation : Dr. Sreeja Sreedharan. R
Assistant Professor
Dept. of Physics
Sanatana Dharma College, Alappuzha.

Date of Birth : 31.05.1982

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II. Academic Achievements

a. Qualification

Qualification	Register No & Year of Passing	Marks Secured	Percentage of Marks	Institution of Study
Ph. D (Optoelectronics)	9344/2017	-	-	Dept. of Optoelectronics University of Kerala
M.Phil (Photonics)	6020/2007	-	A Grade	Dept. of Optoelectronics University of Kerala
M.Sc (Physics)	63001402/ 02144015/04	1447/1800	80.38 %	University College University of Kerala
B. Ed (Physical Sciences)	16285/2006	790/1000	79 %	University College of Teacher Education, Nedumangadu. University of Kerala
SET	2005	-	Qualified	-
B.Sc (Physics)	100427/2002	917/1000	91.7%	Mahatma Gandhi College University of Kerala

Details of Ph.D Degree

Course based Ph.D in Optoelectronics (Faculty of Applied Sciences & Technology) under the guidance of Dr. V.P.Mahadevan Pillai, Vice-Chancellor, University of Kerala

Title of the Thesis : *INVESTIGATION ON THE STRUCTURAL, MORPHOLOGICAL AND OPTICAL PROPERTIES OF ZINC OXIDE NANOSTRUCTURED FILMS: EFFECT OF DOPING OF RAREEARTH IONS AND INCORPORATION OF CERTAIN METALS*

Research Degree awarded vide University Notification No. Ac.E.II/8/17 dated 22/12/2017 (Reg.No. 9344, Sl.No. 41). Both Ph.D and M.Phil degrees in Optoelectronics and Photonics respectively are recognized to be eligible for the purpose of Higher Studies and Employment in the field of Physics by University of Kerala.

b. List of Research Publications in International Journals

1. **R. Sreeja Sreedharan, V.S. Kavitha, S.Suresh, R. Reshmi Krishnan, R.Jolly Bose, V. P Mahadevan Pillai** “*Tailoring the properties of zinc oxide films by incorporating gold nanoparticles using RF magnetron sputtering*” *Applied Physics A-Materials Science & Processing*, 124 (2018) 815(18 pages); <https://doi.org/10.1007/s00339-018-2131-2>. ISSN No. – 0947-8396 (Print), 1432-0630 (Online), Publisher- Springer Berlin Heidelberg. **Impact Factor - 1.784.**
2. **R. Sreeja Sreedharan, R. Reshmi Krishnan, G. Sanal Kumar, V.S. Kavitha, S.R. Chalana, R. Jolly Bose, S. Sures, R. Vinodkumar, S.K. Sudheer, V.P. Mahadevan Pillai** “*Bright visible luminescence from highly textured, transparent Dy³⁺ doped RF sputtered zinc oxide films*” *J. Alloys and Compounds* 721 (2017) 661- 673 **Impact Factor – 4.175**, ISSN No.0925-8388, eISSN-1873-4669, Publisher- Elsevier.
3. **R. Sreeja Sreedharan, R. Reshmi Krishnan, R.Jolly Bose, V.S. Kavitha , S.Suresh, R.Vinodkumar , V. P Mahadevan Pillai** “*Visible luminescence from highly textured Tb³⁺ doped RF sputtered zinc oxide films*” *J. Lumin.* 184(2017)273–286; doi:10.1016/j.jlumin.2016.12.032. **Impact Factor - 2.961**, ISSN No. – 0022-2313, eISSN No. – 1872-7883, Publisher- Elsevier.

4. **R. Sreeja Sreedharan**, R.Vinodkumar, I. Navas, R. Prabhu and V.P.Mahadevan Pillai “*Influence of Pr doping on the structural, morphological, optical, luminescent and non-linear optical properties of RF sputtered ZnO films*”, JOM, The Minerals, Metals and Materials Society. JOM 68 (2016) 341: doi:10.1007/s11837-015-1632-0. **Impact Factor - 2.305**, ISSN No. (ISSN (Print)-1047-4838, ISSN (Electronic)-1543-1851, Publisher-Springer.
5. **R. Sreeja Sreedharan**, V. Ganesan, C.Sudarsanakumar, K. Bhavsar, R. Prabhu and V. P. Mahadevan Pillai “*Highly textured and transparent RF sputtered Eu₂O₃ doped ZnO films*” Nano Reviews, 6 (2015) 26759: <http://dx.doi.org/10.3402/nano.v6.26759> Online ISSN: 2002-2727, Publisher- Taylor & Francis.
6. **R Sreeja Sreedharan**, V Ganasan, C Sudarsanakumar, Radhakrishna Prabhu, V P Mahadevan Pillai,
“*Highly transparent and luminescent nanostructured EU₂O₃ doped ZnO films*” IOP Conf. Series: Materials Science and Engineering 64 (2014) 012027, ISSN:1757-8981E-ISSN:1757-899X doi:10.1088/1757-899X/64/1/012027.
7. R. Jolly Bose, **R. Sreeja Sreedharan**, R. Resmi Krishnan, V. R. Reddy, M. Gupta, V. Ganesan, S. K. Sudheer, V. P. Mahadevan Pillai,” *Effect of thermal annealing on the phase evolution of silver tungstate in Ag/ WO₃ films*” Spectrochimica Acta Part A: Molecular and Biomolecular Spectroscopy 145 (2015) 239–244 **Impact Factor - 2.931**, ISSN No. 1386-1425, eISSN No. 1873-3557.
8. R. Reshmi Krishnan, **R.Sreeja Sreedharan**, S.K.Sudheer, C. Sudarsanakumar, V.Ganesan, P.Srinivasan, V.P.MahadevanPillai “*Effect of tantalum doping on the structural and optical properties of RF magnetron sputtered indium oxide thin films*” Materials Science in Semiconductor Processing; 37 (2015) 112-122. DOI[10.1016/j.mssp.2015.02.033](https://doi.org/10.1016/j.mssp.2015.02.033) ISSN: 1369-8001, eISSN-1873-4081, **Impact Factor- 2.722**.
9. V.M. Vimuna, **R. Sreeja Sreedharan**, R. Resmi Krishnan, V.S. Kavitha, S.R. Chalana, S. Suresh, V.P. MahadevanPillai. “Study on the structural, morphological and optical properties of RF sputtered gallium doped zinc oxide thin films” Materialtoday:Proceeding,

10. V.S. Kavitha, R.ReshmiKrishnan, **R.SreejaSreedharan**, R.JollyBose, N. VenugopalaPillai, V.Ganesan, P.Sreenivasan, V.Ragavendran, S. Muthunatesan, V.P.MahadevanPillai, “*Effect of annealing on the structural and optical properties of laser ablated nanostructured barium tungstate thin films*” Materials Science in Semiconductor Processing, 37 (2015) 159: ISSN: 1369-8001, eISSN-1873-4081, **Impact Factor-2.722**, <http://dx.doi.org/10.1016/j.mssp.2015.02.049>
11. G. Sanal Kumar, Navas IllyaskutY, S. Suresh, **R. Sreeja Sreedharan**, V.U. Nayar, V.P. Mahadevan Pillai, “*Terbium oxide doped MoO₃ nanostructures: Morphology engineering and enhanced photoluminescence*” J. Alloys and Compounds 698 (2017) 215-227; doi:10.1016/j.jallcom.2016.11.082 **Impact Factor – 4.175**, ISSN No. – 0925-8388.
12. S. Suresh, Gautam E. Unni, Chensheng Ni, **R. Sreeja Sreedharan**, R. Reshmi Krishnan, M. Satyanarayana, Mariyappan Shanmugam, V.P. Mahadevan Pillai “*Phase modification and morphological evolution in Nb.sub.2O.sub.5 thin films and its influence in dye-sensitized solar cells*” Applied Surface Science 419 (2017) 720–732 **Impact Factor – 5.155**, ISSN No. – 0169-4332.
13. S.R. Chalana, R. Jolly Bose, R. Reshmi Krishnan, V.S. Kavitha, **R. Sreeja Sreedharan**, V.P.Mahadevan Pillai, “*Structural phase modification in Cu incorporated nanostructured zinc sulfide thin films*” Journal of Physics and Chemistry of Solids 95 (2016) 24–36; **Impact Factor – 2.752**, ISSN No. – 0022-3697.
14. S. Hridya, V. S. Kavitha, S. R. Chalana, R. Reshmi Krishnan, **R. Sreeja Sreedharan**, S. Suresh, V. P. N. Nampoori, S. Sankararaman, Radhakrishna Prabhu, V. P. Mahadevan Pillai, “*Study on the Structural, Morphological and Optical Properties of RF-Sputtered Dysprosium-Doped Barium Tungstate Thin Films*” JOM, The Journal of The Minerals, Metals & Materials Society, 69 (2017) 2272-2277 **Impact Factor – 2.305**, ISSN No. (ISSN (Print)-1047-4838, ISSN (Electronic)-1543-1851).

15. V.S. Kavitha, R. Reshmi Krishnan, **R. Sreeja Sreedharan**, K. Suresh, C.K. Jayasankar, V.P. Mahadevan Pillai, “Tb³⁺ doped WO₃ thin films: A potential candidate in white light emitting devices”, Journal of Alloys and Compounds 788 (2019) 429-445. **Impact Factor – 4.175**, ISSN No. – 0925-8388, Publisher- Elsevier.
16. V. S. Kavitha, R. Jolly Bose, R. Sreeja Sreedharan, C. Sudarsanakumar, Radhakrishna Prabhu, V. P. Mahadevan Pillai, “Highly Ordered Good Crystalline ZnO-Doped WO₃ Thin Films Suitable for Optoelectronic Applications” JOM, The Journal of The Minerals, Metals & Materials Society, 71 (2019) 1874–1884 **Impact Factor – 2.305**, ISSN No. (ISSN (Print)-1047-4838, ISSN (Electronic)-1543-1851.
17. J.S. Priya, R. Sreeja Sreedharan, V.S. Kavitha, S. Suresh, R. Reshmi Krishnan, V.P. Mahadevan Pillai. “Influence of background oxygen pressure and post - deposition annealing on the structural, morphological, optical and luminescence properties of laser ablated SrWO₄ thin films ” Materials Science in Semiconductor Processing, 103(2019) 104615: ISSN: 1369-8001, eISSN-1873-4081, Impact Factor-2.722.
18. S. Greeshma Predeep, R. Sreeja Sreedharan, S.Suresh, V.S. Kavitha, N. Venugopala Pillai, V. P Mahadevan Pillai “ Luminescent Tb³⁺ doped barium tungstate films as a potential candidate for photonic applications” J. Lumin. 226 (2020) 117484; Impact Factor - 2.961, ISSN No. – 0022-2313, eISSN No. – 1872-7883, Publisher- Elsevier.

19. Chapter in Edited books (Relevant to Subject)

Sl. No	Title of the Chapter(s)	Title of the Book(s)	Whether Sole Author or Co Author	Name of the Publisher (with city/ Country)	Month and Year of Publication, Volume No. and Page .No	ISBN/ ISSN No.
1	Chapter 1: Materials for Energy Systems 1.13 Influence of RF Power on the Structural, Morphological and Optical Properties of RF Sputtered Zinc Oxide Films	RECENT TRENDS IN ENERGY & ENVIRONMENT	Co Author	GRENZE Scientific Society, Kerala, India	February 2019, Page No. 62-70	ISBN No. 978-81-936117-9-1

c. Papers Presented in International Conferences

1. “Effect of incorporation of gold nano particles in the structural, morphological, optical and luminescence properties of ZnO films” **R. Sreeja Sreedharan** and V.P.Mahadevan Pillai, International Conference on Molecular Structure of Nano and Bio Materials (**ICMSNB-2018**) September 27-28, 2018 organized by Arignar Anna Govt. Arts College, Tamil Nadu – **Oral Presentation**.
2. “Structural, morphological, optical and luminescent properties of terbium doped RF sputtered ZnO thin films” **R. Sreeja Sreedharan** and V.P.Mahadevan Pillai, International Symposium on Photonics Applications and Nanomaterials-2015 (**ISPAN-2015**), October 28-30, 2015 organized by Sree Chithira Thirunal Medical Science & Technology, TVPM - **Poster Presentation**.
3. “Highly transparent and luminescent nano-structured Eu₂O₃doped ZnO films” , **R Sreeja Sreedharan**, V Ganasan, C Sudarsanakumar, Radhakrishna Prabhu and V P Mahadevan Pillai, 2nd International Conference on Structural Nano-Composites (**NANOSTRUC 2014**) - **Poster presentation**.
4. “RF sputtered aluminum oxide doped zinc oxide nanostructured films”, **R. Sreeja Sreedharan**, R. Reshmi Krishnan, R. Jolly Bose, R. Vinodkumar, S. K. Sudheer and V.P.Mahadevan Pillai, International Conference on Thin Films and Applications (**ICTFA**

2013) organized by School of Electrical and Electronic Engineering, SASTRA University
- *Poster Presentation*.

d. Papers Presented in National Conferences

1. ‘Influence of RF power on the structural, morphological and optical properties of rf sputtered zinc oxide films’. **R. Sreeja Sreedharan** and V.P.Mahadevan Pillai, February 15-16, National Conference on Energy & Environment (**NCEE-2019**) organized by Sree Ayyappa College (TDB), Chengannur – *Poster Presentation*.
2. “Fabrication of RF sputtered Dy³⁺ doped ZnO films for luminescent applications” **R. Sreeja Sreedharan** and V.P.Mahadevan Pillai, National Seminar on Theoretical and Experimental Physics (**STEP-18**), October 24-26, 2018 organized by Department of Physics, Govt. College for Women, TVPM – *Oral Presentation*.
3. “Influence of RF Power on the Fabrication of zinc Oxide Thin Films for Luminescence Applications Using Sputtering Technique” **R. Sreeja Sreedharan** and V.P.Mahadevan Pillai, National Seminar, Science, Technology and Future of the World, September 5-6, 2018 organized by Department of Physics, St. Xavier’s College, TVPM – *Oral Presentation*.
4. “Influence of Au incorporation in the structural, morphological and optical properties of RF sputtered ZnO films.” **R. Sreeja Sreedharan** and V.P.Mahadevan Pillai, National Seminar on Photonics and its Applications (**NSPA-2015**) December 9-11, 2015 organized by Department of Optoelectronics, University of Kerala - *Oral Presentation*.
5. “Effect of Eu₂O₃ doping in the structural, morphological and optical properties of RF sputtered ZnO thin films” .” **R. Sreeja Sreedharan** and V.P.Mahadevan Pillai, National Seminar on Nanoscience and Nanotechnology, March 19-20, 2015 organized by Centre for Nanoscience & Nanotechnology and Department of Biotechnology, University of Kerala - *Poster Presentation*.
6. “Structural, Morphological and Optical Properties of Magnesium doped ZnO films” **R. Sreeja Sreedharan**, R. Reshmi Krishnan, P.Radhakrishna Prabhu, V. P Mahadevan Pillai, DAE-BRNS National Laser Symposium (**NLS-23**) December 3-6, 2014 organized by Sri Venkateswara University, Tirupati - *Poster Presentation*.
7. “Effect of substrate temperature on RF sputtered ZnO films” , **R. Sreeja Sreedharan** and V.P.Mahadevan Pillai, Indo-German Conference on Laser Applications and Nano-

Science, Sreenivasa Ramanujan Institute for Basic Sciences, KSCTE, Deutsche Forschungsgemeinschaft [DFG], Goethe-Zentrum and Humboldt Club of Kerala, December 5-7, 2013 - *Poster Presentation*.

8. “Synthesis and Characterization of RF sputtered aluminum oxide doped zinc oxide nano-structured films”, **R. Sreeja Sreedharan** and V.P.Mahadevan Pillai, National seminar on Spectroscopic Techniques and applications for material characterization. (NSST-2013) organized by Department of Optoelectronics, University of Kerala - *Poster Presentation*.
9. “Eu³⁺ Incorporated conductive ZnO thin film phosphors” S.Binu, R. Vinodkumar, I.Navas, **R. Sreeja Sreedharan** and V.P.Mahadevan Pillai, ‘DAE-BRNS 6th National Symposium on Pulsed Laser Deposition of thin Films and Nanostructured Materials’ (PLD 2011), November 9-11, 2011 - *Poster Presentation*.

e. Workshops Attended

1. Workshop on Powder, Nano & Thin film Characterization using X-ray Diffraction organized by Crystal Growth Centre, Anna University, Chennai during 29-30 August, 2013.
2. Pre ICORS International Workshop on Raman Spectroscopy Recent Advances, Techniques and Applications organized by KSCSTE in association with EduWorldFoundation on 10.08.2012.
3. Workshop on Experimental Techniques in Nonlinear Optics organized by Raman Research Institute, Bangalore during 19-20 January, 2011.
4. National Workshop on Optoelectronics and Optical Communication (NWOOC-2011) organized by Department of Optoelectronics, University of Kerala, during 5-6 January, 2011.

f. Seminars Attended

1. Seminar on Photonic Materials – 2014 (PHOTOMAT-2014) organized by Department of Optoelectronics, University of Kerala, on 06.12.2014.
2. National Conference on Recent Trends in Optoelectronics and Laser Technology (NCOL-2007) organized by Department of Optoelectronics, University of Kerala, during 9-11 April, 2007.

3. Seminar on Recent Trends in Communication Technology (RTCT-2006) organized by Department of Optoelectronics, University of Kerala on 05.12.2006.
4. National Seminar on Low Dimensional and Non-linear Physics organized by Department of Physics, University College, Thiruvananthapuram on 20.03.2004.

g. OTHERS

1. Served as panellist for paper presentation in the Webinar on NEP 2020: A Futuristic Approach organized by KUCTE Nedumangadu, Thiruvananthapuram