Dhayalan Velauthapillai

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Personal Data

Name: Dhayalan Velauthapillai
Date of Birth: 09 May 1963
Gender: Male
Nationality: Norwegian
Addresses :

Private: Haukedalsbrotet 11, 5113 Tertnes, Norway
Office: Department of Computing, Mathematics and Physics, Faculty of Engineering and science, Western Norway University of Applied Sciences, Campus Bergen

Present Position: Professor, Faculty of Engineering and Science, HVL
Previous Positions:

- Associate Professor, Faculty of Engineering, Bergen University College — Aug 01- Feb 13
- Post Doc., Dept of Physics, University of Bergen, Norway and Institute of Microtechnique, University of Neuchatel, Switzerland. — May 99 – April 01
- Associate Professor, Section for natural Sciences, Faculty of Teaching, University College of Bergen. — Aug 97 - July 99
- Senior Lecturer (Temperory), Department of Physics, University of Bergen — Aug 96 - June 97
- Consultant, Geminali ANS, Norway — Aug 96 - June 97
- PhD Research fellow, Norwegian Research Council, Department of Physics, University of Bergen — Jan 92 - June 96

Degrees and Assessments

Academic Degrees:

- Dr. Scient in Physics, Institute of Physics and Technology, Mat. Nat. Faculty, University of Bergen, Norway — June 1996
- Postgraduate Certificate in Education (Praktisk Pedagogisk Seminar), Department of Education, Faculty of Psychology, University of Bergen, Norway — June 1992
- Cand. Scient, Electronics and Instrumentation, Institute of Physics and Technology, Mat. Nat. Faculty, University of Bergen, Norway — June 1991
- Cand. Mag. in Physics, Mat. Nat. Faculty, University of Bergen, Norway — June 1989

Commission of Trust

Editorial responsibilities:

Guest Editor for different journals : Solar Energy, Nanomaterials and Energy, Emerging Materials Research

Review and referee assignments:

I have been rendering review and referee assignments to the following international journals:
Journal of Solar Energy, Superlattices and Microstructures, Journal of Nano Research, Journal of Optical Society of America, Journal of Applied Optics, Optics Express, Optics Communications, European Optical Society etc

Scientific Achievements

Brief Account of my research profile:

I have been conducting research during the past 25 years in the following areas: Nano materials and Device Technologies, Organic Solar cells, Quantum Dot Sensitized Solar Cells, Dye sensitized Solar Cells, Thin films, Computer simulations of nano materials, Propagation and focusing of scalar and electromagnetic waves, isotropic and anisotropic medium, electromagnetic modeling and computing, diffractive and refractive micro-lenses, medical optics, Microstrip antennas, internet and information management

Awards and Recognitions:

- Excellence in teaching award 2016, Best Professor, HiB
- 'Top 10'award in Norway, Leadership Foundation, 2009
- Mentor for female Associate Professors, Balanse-Bergen, RCN's 'Balanse' program, 2015-2016
- Appointed Member by the Government of Norway, Contact Committee between Immigrants and the Authorities (KIM) 2005 – 2009.
- Appointed Member, Advisory Committee for inclusive education (URIO), Department of Education, 2007-2009.
- Appointed Member, 'Inkluderingutvalget', worked with the parliament document 'NOU 2011:14 Bedre integrering', Barne og likestillings departementet, 2010-2011.
- Appointed Substitute member, Forbrukerrådet, 2010-2012.
- Recognized as 'Professor of the year' by the students at HiB in 2001 and 2010

Research leadership and International responsibilities

I am currently leading 4 external funded international projects and 3 internal funded projects, and under my supervision, 5 PhD research fellows in Norway and 8 PhD research fellows at the partnering institutions in India and Sri Lanka carry out their research.

1. Leader and Coordinator, Clean energy policy and management – Comparison study, Capacity building and establishment of clean energy consortium, - External Funding from Ministry of Foreign affairs, v/ Norwegian Embassy, Sri Lanka, 6,2 MNOK, 2017-2020
2. Primary Investigator, Experimental study on perovskite solar cells, Additional funding from HVL related to funding from the Royal Norwegian Embassy, 2017-21
3. Leader and Coordinator, NORPART, Higher education and Research in Nano materials for Clean energy applications (2017-21)
4. Head, Research group for Advanced Nanomaterials for Clean Energy App- (ANCEA) at HVL, Lab facilities funded by FRAMO, 2017
5. Coordinator, UTFORSK, Nano materials for clean energy and health applications with ICT as the enabling technology (2017-2020)
6. Leader and Principal Investigator, Grant from SIU, INCP project on Advanced Nanomaterials for Clean Energy Applications - A Joint collaborative project between Bergen University College, Norway and Coimbatore Institute of Technology, India (2015-2017)
7. Leader and applicant, Establishment of laboratory facilities for testing of solar cells based on advanced nano materials at HiB, Funded by FRAMO and HiB, 2015
8. Co-organizer and International Coordinator, International Conference on Sustainable Energy Technologies (ICSET), Funded by NFR (NANO2021) , MIMT, HiB, Univ. of Exeter (UK), UiO and Indian Research institutions, 2014
9. DISTECH – member of the research group at HiB, 2009-2013, Funded by Strategic Research Program at HiB, *Funded by HiB*
10. Leader, Research Project, Quantum confinement effects in Gd-doped CdS nanoparticles prepared by chemical precipitation technique, Funded by MIMT/ DPT, UiB, 2014
11. Leader , Project, Photovoltaic performance of inverted organic solar cells with In-doped ZnO layers , Funded by MIMT/ DPT, 2013
12. Co-organizer and International Coordinator, International Conferences on Nanomaterials for Frontier Applications (ICNFA 2013 and ICNFA 2015), Funded by NFR (NANO2021) , MIMT, HiB, UiB, Indian Research institutions, 2013, 2015
13. Principal Investigator , 2003 – 2017, Funded by Research and Development Fund at HiB, Project Title: (i) Electromagnetic modeling – Development of Software technology (ii) Advanced Nanomaterials for solar and health applications
14. Principal Investigator , *Research Title:* Design and testing of refractive and diffractive microlenses, UiB, Funded by NFR, 1998 – 2001
15. Principal Investigator, Overseas Research grant, University of Nechatel, Switzerland, *Funded by RCN, 2000*
16. Project Manager, *Development Project Title*: LKA-05/166 "Income generating agricultural activities for female breadwinners", *Funded by NORAD, 2006-2007*

Assignment as public examiner/opponent:

I have functioned as a public examiner/opponent in 10 PhD defences.

Assignments as outside expert:

Expert member of the Research Board of Coimbatore Institute of technology, Coimbatore, India
Foreign Expert member for PhD evaluation, Barathiyar University, Coimbatore, India
Foreign Expert member for PhD evaluation, Periyar University, Erode, India
Foreign Expert member for PhD evaluation, Anna University, Chennai, India
Foreign Expert member, Master Program in Clean Energy Technologies, University of Jaffna, Sri Lanka

Short list of Publications (2012 – 2017):

Published over 125 journal, conference articles and proceedings with peer review. Articles published in the period during the last 4-5 years (from 2012 to 2017) are listed below.

Monographs and Collections:

1. Dhayalan Velauthapillai, Madhu Ganesh, Senol Baskaya, A.S. Krishnan, Sustainable energy technology, Special Issue, Int. J. Energy Technology and Policy, Inderscience publications, 2017
2. Takhir Razykov, Smagul Krazhanov, Dhayalan Velauthapillai, Special Issue on third and fourth generation solar cells, Solar Energy, (1-184), ISSN 0038-092X, Elsevier Publications, 2014

Recent Journal Papers (Periodika) (2012 – 2017)

2017

1. M.R. Venkatraman, N. Muthukumarasamya,S. Agilan, Vijayshankar Asokan, **Dhayalan Velauthapillai**, Size controlled synthesis of TiO2 nanoparticles by modified solvothermal method towards effective photo catalytic and pholtovoltaic applications, Mat. Res. Bulletin, https://doi.org/10.1016/j.materresbull.2017.09.017, 2017
2. Rajesh, G, Muthukumarasamy, Natarajan, **Velauthapillai, Dhayalan**; Batabyal, Sudip, Annealing Induced Shape Transformation of CZTS Nanorods Based Thin Films. Langmuir Volum 33.(24), 2017
3. Akila, Y; Muthukumarasamy, N.; Agilan, S; **Velauthapillai, Dhayalan**. Zirconium oxide post treated tin doped TiO2 for dye sensitized solar cells. Materials Science in Semiconductor Processing ; Volum 57. s. 24-31, 2017
4. Keerthana, Sivakumar; Agilan, Santhanam; Muthukumarasamy, Natarajan; Balasundaraprabhu, Rangasamy; Velauthapillai, Dhayalan. Synthesis and characterization of zeolite NaA and NaY coating on mild steel. Journal of Sol-Gel Science and Technology, Volum 79.(3) s. 510-519, 2016
5. Murugesan, R; Pasupathy, N; Udhayakumar, M; Rajesh, K.B.; **Velauthapillai, Dhayalan**. Generating multiple focal structures with circularly polarized double ring shaped beam and axial birefringence. J.Optics, s. 1-7, 2017

6. Nagarajan, Prabavathy; Shalini, S.; Balasundaraprabhu, **R; Velauthapillai, Dhayalan**; Prasanna, R.; Walke, Pravin S.; Muthukumarasamy, N. Effect of solvents in the extraction and stability of anthocyanin from the petals of Caesalpinia pulcherrima for natural dye sensitized solar cell applications. Journal of materials science. Materials in electronics, s. 1-11, 2017
7. Prabavathy, N.; Shalini, S; Balasundaraprabhu, R; **Velauthapillai, Dhayalan**; Prasanna, S.; Muthukumarasamy, N. Enhancement in the photostability of natural dyes for dye-sensitized solar cell (DSSC) applications: a review: PCA, photostability, DSSC, Z-scheme of photosynthesis, natural dyes. International Journal of Energy Research, 2017
8. Rasukkannu, Murugesan; **Velauthapillai, Dhayalan**; Vajeeston, Ponniah. Computational Modeling of Novel Bulk Materials for the Intermediate-Band Solar Cells. ACS Omega ;Volum 2. s. 1454-1462, 2017
9. Janet, Amala; Rajesh, K.B.; Lavanya, M; Uthayakumar, M; Jaroszewicz, Zbigniew; **Velauthapillai, Dhayalan.** Tight Focusing Properties of Azimuthally Polarized Pair of Vortex Beams through a Dielectric Interface. Chinese Phy. Lett. **34**, 2017

2016

10. Ponnusamy, P.M.; Agilan, Santhanam; Muthukumarasamy, Natarajan; Raja, M; **Velauthapillai, Dhayalan**. Studies on cobalt doped NiO nanoparticles prepared by simple chemical method. J. of mat. Sci.. Materials in electronics, **27**.(1) s. 399-406, 2016
11. Ponnusamy, Pothapalayam Mahali; Agilan, Santhanam; Muthukumarasamy, Nataraja; **Velauthapillai, Dhayalan**. Effect of chromium and cobalt addition on structural, optical and magnetic properties of NiO nanoparticles. Zeitschrift fur physikalische Chemie (Munchen. 1991), Volum 230.(8) s. 1185-1197, 2016
12. Ponnusamy, Pothapalayam Mahali; Agilan, Santhanam; Muthukumarasamy, Natarajan; Senthil, Thottipalayam Subramaniyam; Rajesh, G.; Venkatraman, Madurai Ramakrishnan; **Velauthapillai, Dhayalan**. Structural, optical and magnetic properties of undoped NiO and Fe-doped NiO nanoparticles synthesized by wet-chemical process. Materials Characterization, Volum 114. s. 166-171, 2016
13. Shalini, Sharma; Prabhavathy, N; Balasundaraprabhu, Rangasamy; Kumar, T. Satish; Walke, Pravin; Prasanna, Srinivasan; **Velauthapillai, Dhayalan**. Effect of Na doping on structure, morphology and properties of hydrothermally grown one dimensional TiO2 nanorod structures. Journal of materials science. Materials in electronics, s. 1-9, 2016
14. Sivakumar, Keerthana; Santhanam, Agilan; Muthukumarasamy, N; **Velauthapillai, Dhayalan**; Balasundaraprabhu, Rangasamy. Seed-Free Synthesis and Characterization of Zeolite Faujasite Aluminosilicate Coating on α-Alumina Supports. International Journal of Applied Ceramic Technology ;Volum 13.(6) s. 1182-1189, 2016
15. Udhayakumar, Gayathri; Muthukumarasamy, Natarajan; **Velauthapillai, Dhayalan**; Santhosh, S B; Asokan, Vijayashankar. Magnesium incorporated Hydroxyapatite Nanoparticles: Preparation, Characterization, antibacterial and larvicidal activity. Arabian Journal of Chemistry, 2016
16. Vinoth Pandi, D.; Muthukumarasamy, Natarajan; Santhanam, Agilan; Ramakrishnan, Venkatraman; Yuvapragasam, Akila; **Velauthapillai, Dhayalan**. The performance of CdS quantum dot sensitized ZnO nanorod-based solar cell. Journal of Sol-Gel Science and Technology;Volum 80.(3) s. 867-872, 2016
17. Yuvapragasam, Akila; Muthukumarasamy, Natarajan; Agilan, Santhanam; Senthilarasu, Sundaram; **Velauthapillai, Dhayalan**. Sea grass like arranged TiO2 nanorods sensitized by natural dyes for solar cell applications. Applied Physics A: Materials Science & Processing, Volum 122:56764080700.(8), 2016
18. Yuvapragasam, Akila; Muthukumarasamy, Natarajan; Santhanam, Agilan; Mallick, Tapas K.; Senthilarasu, Senthil; **Velauthapillai, Dhayalan**. Enhanced performance of natural dye sensitised solar cells fabricated using rutile TIO2 nanorods. Optical materials (Amsterdam); Volum 58. s. 76-83, 2016
19. Y. Akila, N. Muthukumarasamy, S. Agilan, Tapas K. Mallick,, S. Senthilarasu, **Dhayalan Velauthapillai**, Enhanced performance of natural dye sensitised solar cells fabricated using rutile TIO2 nanorods, Optical Materials, 58,, Pages 76–83, 2016
20. P.M. Ponnusamy · S. Agilan · N. Muthukumarasamy · T.S. Senthil · G. Rajesh · M.R. Venkatraman · Dhayalan Velauthapillai, Materials Characterization, Volume 114, 2016, Pages 166–171

2015

21. Thambidurai, M.; Muthukumarasamy, N.; Ranjitha, A; **Velauthapillai, Dhayalan**. Structural and optical properties of Ga-doped CdO nanocrystalline thin films. Superlattices and Microstructures; Volum 86. s. 559-563, 2015
22. Ponnusamy, P.M.; Agilan, S.; Muthukumarasamy, N.; **Velauthapillai, Dhayalan**. Effect of Chromium and Cobalt Addition on Structural, Optical and Magnetic Properties of NiO Nanoparticles.. Zeitschrift fur physikalische Chemie, 2015
23. Ponnusamy Pm · S. Agilan · N. Muthukumarasamy · M.Raja · **Dhayalan Velauthapillai**, Studies on cobalt doped NiO nanoparticles prepared by simple chemical method, Materials in electronics 2015 ;27.1) s. 399-406
24. A Ranjitha, N Muthukumarasamy, M Thambidurai, **Dhayalan Velauthapillai**, S Agilan, R Balasundaraprabhu, Effect of reaction time on the formation of TiO 2 nanotubes prepared by hydrothermal method, Optik-International Journal for Light and Electron Optics, doi:10.1016/j.ijleo.2015.06.022, 2015
25. A. Yuvapragasam, N. Muthukumarasamy, S. Agilan, **Dhayalan Velauthapillai**, T.S.Senthil, S. Senthilarasu, Natural dye sensitized TiO_2 nanorods assembly of broccoli shape based soalr cells, J. Photochem and Photobio B:Biology, 148, 223-231, 2015
26. C.K. Senthil Kumaran, S. Sugapriya, **Dhayalan Velauthapillai**, R. Rajamani, C. Bellan, Influence of Dietary Selenium Nanowires on Growth Performance of Broiler Chicken, International Journal of Biosciences and Nanosciences 2(4):78-83, 2015
27. G. Rajesh, N. Muthukumarasamy, E.P. Subramanian, M.R. Venkatraman, S. Agilan, V. Ragavendran, M. Thambidurai, S. Velumani, Junsin Yi, **Dhayalan Velauthapillai**, Solution-based synthesis of high yield CZTS (Cu2ZnSnS4) spherical quantum dots, Superlattices and Microstructures, Volume 77, Pages 305–312, doi:10.1016/j.spmi.2014.11.016, 2015.
28. M. Raja, N. Muthukumarasamy, **Dhayalan Velauthapillai**, R. Balasundrapraphu, T.S. Senthil, S. Agilan, Enhanced photovoltaic performance of quantum dot-sensitized solar cell fabricated using Al-doped ZnO nanorod electrode doi:10.1016/j.spmi.2014.12.029, 2015

2014

29. N. Gokilamani, N. Muthukumarasamy, M. Thambidurai, A. Ranjitha, **Dhayalan Velauthapillai**, Grape pigment (malvidin-3-fructoside) as natural sensitizer for dye-sensitized solar cells, Materials for Renewable and Sustainable Energy, 10.1007/s40243-014-0033-6, 2014
30. M. Raja, N. Muthukumarasamy, **Dhayalan Velauthapillai**, R. Balasundraprabhu, S. Agilan, T. S. Senthil, Quantum dot sensitized aluminium doped and copper doped ZnO nanostructure based solar cells, J Mater Sci: MaterElectron, DOI 10.1007/s10854-014-2268-5, 2014

31. S. Keerthana, S. Agilan, N. Muthukumarasamy, **D. Velauthapillai**, Synthesis and characterization of NaA zeolite powder/film deposited on alumina beads by dip-coating method, J Sol-Gel Sci Technol, DOI 10.1007/s10971-014-3531-1, 2014
32. Thambidurai, M; Kim, Jun Young; Ko, Youngjun; Song, Hyung-Jun; Shin, Hyeonwoo; Song, Jiyun; Lee Yeonkyung; Muthukumarasamy, N; **Velauthapillai, Dhayalan**; Lee, Changhee, *High-efficiency inverted organic solar cells with polyethylene oxide-modified Zn-doped TiO2 as an interfacial electron transport layer*, Nanoscale, Vol. 6, Issue. 15 (8585-9), DOI:10.1039/c4nr02780a, 2014
33. Thambidurai Mariyappan, Jun Young Kim, Jiyun Song, Youngjun Ko, Hyung-jun Song, Chan-mo Kang, Muthukumarasamy Natarajan, **Dhayalan Velauthapillai** and Changhee Lee, *Enhanced Power Conversion Efficiency of Inverted Organic Solar Cells by Using Solution Processed Sn-Doped TiO2 as an Electron Transport Layer*, J. Mater. Chem. A, (2014), DOI: 10.1039/c4ta00531g , 2014
34. N.Gokilamani, N.Muthukumarasamy, M.Thambidurai, A.Ranjitha, **Dhayalan Velauthapillai**, Basella alba rubra spinach pigment sensitized TiO2 thin film based solar cells, Appl Nanosci, DOI 10.1007/s13204-014-0317-2, 2014.
35. M.Raja, N.Muthukumarasamy, **Dhayalan Velauthapillai**, R.Balasundaraprabhu, Influence of Copper on the morphology and properties of one dimensional ZnO nanorod structures, Superlattices and Microstructures, Solar Energy, Volume 106, Pages 129-135, http://dx.doi.org/10.1016/j.spmi.2014.04.007, 2014.
36. A. Ranjitha, N. Muthukumarasamy, M. Thambidurai, **Dhayalan Velauthapillai**, Enhanced photovoltaic performance of quantum dot sensitized solar cells with Ag-doped TiO2 nanocrystalline thin films, J Mater Sci: Mater Electron, DOI 10.1007/s10854-014-1935-x, 2014
37. A.Ranjitha, N.Muthukumarasamy, M.Thambidurai, **Dhayalan Velauthapillai**, R.Balasundaraprabhu, S.Agilan, *Fabrication of Ni-doped TiO2 thin film photoelectrode for solar cells,* Solar Energy, Volume 106, 159-65, 2014
38. V Asokan, D Madsen, **Dhayalan Velauthapillai**, V Myrseth, P. Kosinski, *Effect of Temperature on the Transformation of Carbon Black into Nanotubes,* Advanced Materials Research, **875-877**, 1565-1571, 2014
39. M. Thambidurai, N. Muthukumarasamy, **Dhayalan Velauthapillai**, Changhee Lee, *Rosa centifolia sensitized ZnO nanorods for photoelectrochemical solar cell applications*, Sol Ene, 106, http://dx.doi.org/10.1016/j.solener.2014.01.045, 2014.
40. M.Raja, N.Muthukumarasamy, **Dhayalan Velauthapillai**, R.Balasundrapraphu, T.S.Senthil, S.Agilan, *CdS quantum dot sensitized Cu doped ZnO nanorod thin films for solar cell applications*, Sol. Energy, http://dx.doi.org/10.1016/j.solener.2014.01.043, 2014.
41. M. Thambidurai, Jun Young Kim, Chan-mo Kang, N. Muthukumarasamy, Hyung-Jun Song, Jiyun Song, Youngjun Ko, **Dhayalan Velauthapillai**, Changhee Lee , *Enhanced photovoltaic performance of inverted organic solar cells with In-doped ZnO as an electron extraction layer*, Renewable Energy 66 433 - 442, 2014

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42. M. Thambidurai, Jun Young Kim, Jiyun Song, Youngjun Ko, N. Muthukumarasamy, **Dhayalan Velauthapillai**, Changhee Lee, *Nanocrystalline Ga-doped ZnO thin films for inverted polymer solar cells,* Solar Energy, Volume 106, August 2014, Pages 95-101, http://dx.doi.org/10.1016/j.solener.2013.12.009, 2013
43. Thambidurai Mariyappan, Jun Young Kim, Jiyun Song, Youngjun Ko, Hyung-jun Song, Chan-mo Kang, M. Natarajan, **Dhayalan Velauthapillai** and Changhee Lee, *High Performance Inverted Organic Solar Cells with Solution Processed Ga-Doped ZnO as Interfacial Elec, Transport Layer*, J. Mat. Chem. C, DOI: 10.1039/C3TC31650E, 2013
44. N. Gokilamani , N. Muthukumarasamy, M. Thambidurai, A. Ranjitha, **Dhayalan Velauthapillai**, Solanum nigrum and Eclipta alba leaf pigments for Dye Sens. applications, J Sol-Gel Sci Technol. DOI 10.1007/s10971-013-3172-9, 2013.
45. M. Thambidurai, N. Muthukumarasamy, **D.Velauthapillai**, Changhee Lee, *Quantum confinement effects in Gd-doped CdS nanoparticles prepared by chemical precipitation technique*, J.Mat. Sci: Materials in Electronics, 24, **11**, 4535-4541, 2013
46. Ranjitha, A Muthukumarasamy, N ; Thambidurai, M ; Velauthapillai, Dhayalan ; Balasundaraprabhu, R Agilan, S , *CdSe Quantum Dot Sensitized TiO2 Thin Film for Solar Cell Application* , Asian Journal of Chemistry, **25**, S402-S404, 2013
47. Subramaniam, EP, Muthukumarasamy, N , Rajesh, G Velauthapillai Dhayalan, *Synthesis of Cu2ZnSnS4 Nanopowder by Hydrothermal Method*, Asian Journal of Chemistry, **25**, S191-S193, 2013
48. G.Rajesh, N.Muthukumarasamy, E.P.Subramanian, S.Agilan, **Dhayalan Velauthapillai**, *Synthesis of Cu2ZnSnS4 thin films by dip-coating method without sulphurization*, J. Sol-Gel Science and Technology,: **66**, **2, 288,** 2013.
49. Vijayshankar Asokan, **Dhayalan Velauthapillai**, Reider Løvlie, Dorte Nørgaard Madsen, *Catalytic transformation of CB into nanotubes and its characterizations*, J. Mater. Sci. Mater. Electron., **24**, **9** , **3231-3239**, 2013.
50. **Dhayalan Velauthapillai**, Jakob Stamnes, *Focusing of aberration-free electromagnetic waves in thin dielectric slabs*, Journal of Modern Optics, DOI:10.1080/09500340.2013.770572, Vol. 60, No. 3, 240-247 , 2013.
51. N. Gokilamani, N. Muthukumarasamy, M. Thambidurai, A. Ranjitha, **Dhayalan Velauthapillai**, T.S. Senthil, R. Balasundaraprabhu, *Dye-sensitized solar cells with natural dyes extracted from rose petals*, J. Mater. Sci. Mater. Electron., Volume: **24** Issue: **9** Pages: **3394-3402** DOI: **10.1007/s10854-013-1261-8**, 2013.
52. A. Ranjitha, N. Muthukumarasamy, M. Thambidurai, **Dhayalan Velauthapillai**, R. Balasundaraprabhu, *CdS quantum dot sensitized nanocrystalline Gd-doped TiO2 thin films for photoelectrochemical solar cells*, J. Mater. Sci. Mater. Electron., Volume: **24** Issue: **8** Pages: **3014-3020** DOI: **10.1007/s10854-013-1205-3,** 2013.
53. N. Gokilamani, N. Muthukumarasamy, M. Thambidurai, A. Ranjitha, **Dhayalan Velauthapillai**, *Utilization of natural anthocyanin pigments as photosensitizers for dye-sensitized solar cells*, Journal of Sol-Gel Science and Technology, DOI 10.1007/s10971-013-2994-9, 2013.
54. Senthil kumaran C.K, Agilan S, **D.Velauthapillai**, N. Muthukumarasamy, Thambidurai M, A. Ranjitha and Balasundaraprabhu R, S., *Preparation and characterization of copper dendrite like structure by chemical method, International Journal Advanced Materials Research,* 03/2013; 678:27-31. DOI:10.4028/www.scientific.net/AMR.678.27, 2013.
55. M.Thambidurai, N.Muthukumarasamy, **Dhayalan Velauthapillai**, Changhee Lee, *Synthesis and characterization of flower like ZnO nanorods for dye-sensitized solar cells*, J. Mater. Sci. Mater. Electron., DOI 10.1007/s10854-013-1103-8, 2013.
56. M.Thambidurai, N.Muthukumarasamy**, Dhayalan Velauthapillai**, Changhee Lee, 'Chemical bath deposition of ZnO nanorods for dye sensitized solar cell applications', J. Mater. Sci. Mater. Electron., DOI 10.1007/s10854-012-1035-8, 2013
57. **Velauthapillai, D**., & Stamnes, J. J. (2013). Focusing of aberration-free electromagnetic waves in thin dielectric slabs. Journal of Modern Optics, 60(3), 240-247. doi:http://dx.doi.org10.1080/09500340.2013.770572

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58. Kumaran, C. K. S., Agilan, S., **Velauthapillai, D**., Muthukumarasamy, N., Thambidurai, M., & Senthil, T. S.. The effect of annealing on the morphology of copper dendrite structure. Digest Journal of Nanomaterials and Biostructures, 7(2), 771-775, **2012**

59. Mariyappan, T., Muthukumarasamy, N., **Velauthapillai, D**., Santhanam, A., Sabari Arul, N., Murugan, N., & Balasundaraprabhu, R. (2012). Structural, optical and electrical properties of Co doped CdS quantum dots. Journal of Electronic Materials, 41(4), 665-672. doi:http://dx.doi.org10.1007/s11664-012-1900-5
60. Stamnes, J. J., & **Velauthapillai, D**. (2012). Double refraction of a Gaussian beam into a uniaxial crystal. Journal of the Optical Society of America A, 29(4), 486-497. doi:http://dx.doi.org10.1364/JOSAA.29.000486
61. Thambidurai, M., Muthukumarasamy, N., **Velauthapillai, D**., Agilan, S., & Balasundaraprabhu, R. (2012). Impedance spectroscopy and dielectric properties of cobalt doped CdS nanoparticles. Powder Technology, 217, 1-6. doi:http://dx.doi.org10.1016/j.powtec.2011.09.038
62. Thambidurai, M., Muthukumarasamy, N., **Velauthapillai, D**., Lee, C., & Kim, J. Y. (2012). Synthesis of ZnO nanorods and their application in quantum dot sensitized solar cells. Journal of Sol-Gel Science and Technology, 64(3), 750-755. doi:http://dx.doi.org10.1007/s10971-012-2907-3
63. Thambidurai, M., Muthukumarasamy, N., **Velauthapillai, D**., Murugan, N., Chaudhuri, J., Parameswaran, S., . . . Balasundaraprabhu, R. (2012). Effect of Cr-doping on the structural and optical properties of CdS nanoparticles prepared by chemical precipitation method. Journal of materials science. Materials in electronics, 23(2), 618-624. doi:http://dx.doi.org10.1007/s10854-011-0454-2