

Curriculum Vitae

Name: Pubudu Samarasekara

Professional function/grade in the organization: Professor

Institution: Physics department, University of Peradeniya, Peradeniya, Sri Lanka

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Biodata:

Mailing address: Physics department, University of Peradeniya, Peradeniya,
Sri Lanka

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Nationality: Sri Lankan

Marital status: Married

Date of Birth: 06th of April, 1963

Education: (1) B.Sc. special (second upper) in Physics from University of
Kelaniya, Sri Lanka in 1985

(2) Ph.D. in Physics from The City University of New York
(CUNY), USA in 1996

GPA of undergraduate studies: 3.36 out of 4

GPA of graduate studies: 3.64 out of 4

Science Citation Index (SCI): 639 as given in 2017

h-index 19

i10-index 24

Research Experiences:

(1) Part time involvement of research related to Conductivity measurements,
and Hall effect supervised by Professor K. Tennakone in University of
Ruhuna from 1986 to 1988

(2) Preparation of magnetic thin films by rf sputtering and pulsed laser
Deposition (PLD) techniques, and studies of their magnetic and structural
properties using vibrational sample magnetometer (VSM), X-ray

Diffractionmeter (XRD) and scanning electron microscope (SEM) .This research was related to my Ph.D. dissertation in Queens College of CUNY in the duration from 1992 to 1994.

- (3) Synthesize of epitaxial ferrite films by PLD techniques, and studies of their magnetic properties by using SQUID at the Center of material research and technology (MARTECH) in Florida state university (FSU) in 1995 undertaken as a part of dissertation.
- (4) Deposition of thin films of semiconductors such as zinc oxide and CuO for photo-voltaic and gas sensor applications using DC sputtering technique at department of Physics, University of Ruhuna , and investigation of their photo voltage , photo current, absorption spectrums, structure and gas sensing properties from 1996 to 2007. In addition to these, I have conducted a research on theoretical Physics of magnetic thin films. I have also supervised few M. Phil degrees there.
- (5) Research on Carbon nanotubes and photovoltaic at department of mechanical, industrial and manufacturing engineering in The University of Toledo, Ohio, USA from 2007 June to 2007 December.
- (6) Research on theoretical Physics and preparations of thin films of semiconductors in University of Peradeniya since 2008.

Teaching Experiences:

- (1) As a probationary lecturer from 1986 to 1989 in Physics in the University of Ruhuna, I taught undergraduate level courses of statistical Physics, Solid State Physics, Thermal Physics, and Optics.
- (2) I have taught undergraduate level tutorial and practical classes in Physics and Astronomy related to Classical Mechanics, Optics, Heat, Modern Physics, Electricity and Magnetism in Queens College of CUNY, USA from 1990 to 1994
- (3) As a senior lecturer, I have taught B.Sc. undergraduate and graduate level (general and special) Physics courses related to Modern Physics, Wave mechanics, Relativity, Mathematical methods, Solid State Physics, Electricity and Magnetism in the Ruhunu University from 1996 to 2007.

(4) I am teaching undergraduate and graduate level courses such as Optics, relativity, computational Physics, classical mechanics, electronics, astronomy, AC theory, semiconductor devices since August of 2008 in University of Peradeniya.

List of publications:

All of following research papers has been submitted to refereed journals.

1. K. Tennakone, S.W.M.S. Wickramanayake, P. Samarasekara and, C.A.N. Fernando, “Doping of Semiconductor Particles with Salts” Phys. Stat. Sol. (a)**104**, K57-K60 (1987)
2. H. Hegde, P. Samarasekara and F.J. Cadieu, “Nonepitaxial sputter synthesis of aligned strontium hexaferrites, $\text{SrO} \cdot 0.6(\text{Fe}_2\text{O}_3)$, films” J. Appl. Phys., **75(10)**, 6640-6642 (1994)
3. A. Navarathna, P. Samarasekara, H. Hegde, R. Rani and F.J. Cadieu, “Nitriding studies of aligned high anisotropy ThMn_{12} -type $\text{NdFe}_{11}\text{Co}_{1-y}\text{Mo}_y\text{N}$ film samples” J.Appl.Phys. **76(10)**, 6068 (1994)
4. H. Hegde, P. Samarasekara, R. Rani, A. Nanavarathna, K. Tracy, and F.J. Cadieu, “ Sputter synthesis of TbCu_7 type $\text{Sm}(\text{CoFeCuZr})$ films with controlled easy axis orientation” J. Appl. Phys. **76(10)**, 6760-6762 (1994)
5. K. Tennakone, C.S. Lokuhetti and P. Samarasekara, “Ionic Conductivity of Prussian Blue Type Compounds Doped with Alkali Metal Chlorides”, Vidyodaya J. of Sci.**5(1)**, SriLanka, 117-122 (1995)
6. P. Samarasekara, R. Rani, F.J. Cadieu and S.A. Shaheen, “Variable texture NiOFe_2O_3 ferrite films prepared by pulsed laser deposition” J. Appl. Phys. **79(8)**, 5425-5427 (1996)
7. P. Samarasekara and F.J. Cadieu, “Polycrystalline Ni ferrite films deposited by RF sputtering techniques” Jpn. J. Appl. Phys. **40**, 3176-3179 (2001)
8. P. Samarasekara and F.J. Cadieu, “Magnetic and Structural Properties of RF Sputtered Polycrystalline Lithium Mixed Ferrimagnetic Films” Chinese J. Phys. **39(6)**, 635-640 (2001)
9. P. Samarasekara, “Easy Axis Oriented Lithium Mixed Ferrite Films Deposited by the PLD Method” Chinese J. Phys. **40(6)**, 631-636 (2002)

10. P. Samarasekara, A.G.K. Nisantha and A.S. Disanayake, “High Photo-Voltage Zinc Oxide Thin Films Deposited by DC Sputtering” Chinese J. Phys. **40(2)**, 196-199 (2002)
11. P. Samarasekara, “ A Pulsed RF Sputtering Method for Obtaining Higher Deposition Rates” Chinese J. Phys. **41(1)**, 70-74 (2003)
12. P. Samarasekara, “Oxygen Partial Pressure Dependence of the Structure of RF Sputtered Strontium Ferrite” , Silver Jubilee celebration proceeding publication at University of Ruhuna-2003 Page 138-140
13. P. Samarasekara, “Oxygen partial pressure dependence of the coercivity of Sputtered polycrystalline Nickel ferrite films” Journal of Science; University of Kelaniya **2**, 73-84 (2005)
14. P. Samarasekara, M.A.K. Mallika Arachchi, A.S. Abeydeera, C.A.N. Fernando, A.S. Disanayake and R.M.G. Rajapakse, “Photocurrent enhancement of D.C. Sputtered copper oxide thin films”, Bull. Mater. Sci. **28(5)**, 483-486 (2005)
15. P. Samarasekara, N.T.R.N. Kumara and N.U.S. Yapa, “Sputtered Copper Oxide (CuO) thin films for Gas Sensor Devices”, J. Phys. Condens. Matter **18**, 2417-2420 (2006)
16. P. Samarasekara, “A solution of the Heisenberg Hamiltonian for oriented thick ferromagnetic films” Chinese J. Phys. **44(5)**, 377-386 (2006).
17. P. Samarasekara, N.U.S. Yapa and N.T.R.N. Kumara, “Photo-voltaic and absorption properties of sputtered zinc oxide thin films” - Science Symposium3 Proceedings publications, University of Ruhuna (2005) Page 53-57
18. P. Samarasekara, “Variation of magnetic energy in oriented ultra-thin ferromagnetic Films” Ruhuna Journal of Science **1**, 27-35 (2006)
19. P. Samarasekara, “Second order perturbation of Heisenberg Hamiltonian for non-oriented ultra-thin ferromagnetic films”, Elec. J. Theo. Phys. **3(11)**, 71-83 (2006).
20. P. Samarasekara and William A. Mendoza, “Effect of third order perturbation on Heisenberg Hamiltonian for non-oriented ultra-thin ferromagnetic films” Elec. J Theo. Phys. **7(24)**, 197-210 (2010)

21. P. Samarasekara and S.N.P. De Silva “Heisenberg Hamiltonian solution of thick ferromagnetic films with second order perturbation” Chinese J. Phys. **45(2-I)**, 142-150 (2007)
22. P. Samarasekara, “Influence of third order perturbation on Heisenberg Hamiltonian of thick ferromagnetic films” Elec. J. Theo. Phys. **5(17)**, 227-236 (2008).
23. P. Samarasekara, N.U.S. Yapa, N.T.R.N. Kumara and M.V.K. Perera “CO₂ Gas Sensitivity of Sputtered Zinc Oxide Thin Films” Bull. Mater. Sci. **30(2)**, 113-116 (2007)
24. P. Samarasekara and N.U.S. Yapa “Effect of sputtering conditions on the gas sensitivity of Copper Oxide thin films” Sri Lankan Journal of Physics **8**, 21-27 (2007)
25. P. Samarasekara “Classical Heisenberg Hamiltonian Solution of Oriented Spinel Ferrimagnetic Thin Films”, Elec. J. Theo. Phys. **4(15)**, 187-200 (2007)
26. P. Samarasekara, M.K. Abeyratne and S. Dehipawalage “Heisenberg Hamiltonian with Second Order Perturbation for Spinel Ferrite Thin Films” Elec. J. Theo. Phys. **6(20)**, 345-356 (2009)
27. P. Samarasekara “Determination of Energy of thick spinel ferrite films using Heisenberg Hamiltonian with second order perturbation” GESJ: Physics **1(3)**, 46-52 (2010)
28. P. Samarasekara and William A. Mendoza “Third Order Perturbed Heisenberg Hamiltonian of Spinel Ferrite Ultra-thin films” GESJ: Physics **1(5)**, 15-24 (2011).
29. P. Samarasekara, “Investigation of Third Order Perturbed Heisenberg Hamiltonian of Thick Spinel Ferrite Films” Inveni Rapid: Algorithm Journal **2**, 1-3 (2011)
30. P. Samarasekara, “Applied magnetic field and stress induced anisotropy dependence of energy for oriented ferromagnetic thick films” Journal of Science; University of Kelaniya **4**, 1-10 (2008)
31. P. Samarasekara, “Second and fourth order anisotropy dependence of the energy of oriented thick ferromagnetic films” Ceylon J. Science **13**, 17-23 (2007)
32. P. Samarasekara, “Contribution of stress induced anisotropy and applied magnetic field to the Heisenberg Hamiltonian of ultra-thin ferromagnetic films with second order perturbation” Inveni Rapid: modeling & simulation **1**, 1-3 (2011)
33. P. Samarasekara, “Investigation of anisotropy constants dependence of ultra-thin

- ferromagnetic films with second order perturbed Heisenberg Hamiltonian” Journal of Science; University of Kelaniya **3**, 73-82 (2007)
34. P. Samarasekara, “Four layered ferromagnetic ultra-thin films explained by second order perturbed Heisenberg Hamiltonian” Ceylon J. Science **14**, 11-19 (2008)
 35. P. Samarasekara, “Variation of energy with anisotropy constants of ferromagnetic thin films with four layers” GESJ: Physics **2(6)**, 48-56 (2011)
 36. P. Samarasekara, “Demagnetization factor dependence of energy of ultra-thin ferromagnetic films with four layers” Research & Reviews: Journal of Physics-STM journals **1(2)**, 1-8 (2012).
 37. P. Samarasekara, “Effect of demagnetization factor on total energy of ultra-thin ferromagnetic films with three layers” Ruhuna Journal of Science **2**, 1-9 (2007)
 38. P. Samarasekara, “Stress induced anisotropy and applied field dependence of second order perturbed energy of thick ferromagnetic films” Journal of Science, University of Kelaniya **6**, 77-84 (2011).
 39. P. Samarasekara, “Thick ferromagnetic films and anisotropies explained by second order perturbed Heisenberg Hamiltonian” Ceylon journal of Science **15**, 65-69 (2009)
 40. P. Samarasekara, “Relationship between demagnetization factor and energy of thick ferromagnetic films” Research & Reviews: Journal of Physics-STM journals **1(3)**, 1-6 (2012).
 41. P. Samarasekara “Gas sensing properties of tungsten oxide thin films in methane and nitric oxide gases” GESJ: Physics **2(2)**, 44-50 (2009)
 42. Ahalapitiya H. Jayatissa, P. Samarasekara and Guo Kun “Methane gas sensor application of cuprous oxide synthesized by thermal oxidation” Physica Status Solidi (a) **206 (2)**, 332-337 (2009)
 43. P. Samarasekara “Hydrogen and Methane Gas Sensors Synthesis of Multi-Walled Carbon Nanotubes” Chinese J. Phys. **47(3)**, 361-369 (2009)
 44. P. Samarasekara “Liquid Junction Photocells Synthesized with Dye Coated Zinc Oxide Films” Journal of science; University of Kelaniya **5**, 25-31 (2010).
 45. P. Samarasekara “Photocurrent Variation of Dye Coated Titanium Dioxide Liquid Junction Photocells” GESJ: Physics **2(8)**, 3-9 (2012).
 46. P. Samarasekara “Characterization of Low Cost p-Cu₂O/n-CuO Junction” GESJ:

- Physics **2(4)**, 3-8 (2010)
47. K. S. M. Kumara and P. Samarasekara, “Calculation and modeling the dark energy of the universe by the unification of dark energy and dark matter” –Peradeniya University research sessions (PURSE) **15(1)**, 443-445 (2010)
 48. P. Samarasekara and Udara Saparamadu, “Investigation of Spin Reorientation in Nickel Ferrite Films” GESJ: Physics **1(7)**, 15-20, (2012).
 49. P. Samarasekara and Amila D. Ariyaratne, “Determination of magnetic properties of Cobalt films using second order perturbed Heisenberg Hamiltonian” Research & Reviews: Journal of Physics-STM journals **1(1)**, 16-23 (2012).
 50. P. Samarasekara and N.H.P.M. Gunawardhane, “Explanation of easy axis orientation of ferromagnetic films using Heisenberg Hamiltonian” GESJ: Physics **2(6)**, 62-69 (2011)
 51. P. Samarasekara and Udara Saparamadu “Easy axis orientation of Barium hexa-ferrite films as explained by spin reorientation” GESJ: Physics **1(9)**, 10-15 (2013).
 52. P. Samarasekara and Udara Saparamadu "In plane oriented Strontium ferrite thin films described by spin reorientation" Research & Reviews: Journal of Physics-STM journals **2(2)**, 12-16 (2013).
 53. K.P.T Silva and P. Samarasekara, "The study and comparison of the Generalized Chaplygin gas Model and the unification of dark energy and dark matter" PURSE proceedings at University of Peradeniya **17**, 203 (2012).
 54. P. Samarasekara, “Cobalt ferrite films as described by third order perturbed Heisenberg Hamiltonian” Journal of science: University of Kelaniya **9**, 27-38 (2014).
 55. P. Samarasekara, Rasika Dahanayake and S. Dehipawalage, “Characterization of spin coated Iron oxide films using EXAFS” GESJ:Physics **2(10)**, 36-41 (2013).
 56. P. Samarasekara, “Field Dependence of Third Order Perturbed Energy of Cobalt Ferrite Thick Films” Research & Reviews: Journal of Physics-STM journals **3(1)**, 1-7 (2014).
 57. P. Samarasekara, “Inverse Spinel cobalt ferrite ultra-thin films as explained by second order perturbed Heisenberg Hamiltonian” GESJ:Physics **2(10)**, 10-17 (2013).
 58. P. Samarasekara and Prabhani Rajakaruna, “Orientation of easy axis of ferromagnetic films as explained by third order perturbed Heisenberg Hamiltonian” Research &

- Reviews: Journal of Physics-STM journals **2(3)**, 5-9 (2013).
59. P. Samarasekara and C. K.D. Sirimanna, "Magnetic dipole interaction and total magnetic energy of Lithium ferrite thin films" GESJ:Physics **1(11)**, 3-12 (2014).
 60. Amber LaGuerre, P. Samarasekara, Rasika Dahanayake and Sunil Dehipawala "The structural study of Spin Coated Thin Film Magnets" Bulletin of the American Physical Society (APS) March meetings, **59(1)**, 2014.
 61. P. Rajakaruna and P. Samarasekara, "An Explanation to Spin Reorientation of *CoPt/AlN* multilayers using Heisenberg Hamiltonian with Third-order Perturbation" iPURSE proceedings at University of Peradeniya **18**, 407 (2014).
 62. C.K.D. Sirimanna and P. Samarasekara, "Determination of magnetic energy of Lithium ferrite using Heisenberg Hamiltonian" iPURSE proceedings at University of Peradeniya **18**, 435 (2014).
 63. P. Samarasekara, Rasika Dahanayake and S. Dehipawalage "Spin Coated Fe and Ni Mixed Oxide ($\text{Fe}_x\text{Ni}_y\text{O}_z$) Films and Their Structural Properties" GESJ: Physics **2(12)**, 3-7 (2014).
 64. P. Samarasekara and Udumbara Wijesinghe, "Optical properties of spin coated Cu doped ZnO nanocomposite films" GESJ:Physics **2(14)**, 41-50 (2015).
 65. P. Samarasekara, Udumbara Wijesinghe and E.N. Jayaweera, "Impedance and electrical properties of Cu doped ZnO thin films" GESJ:Physics **1(13)**, 3-9 (2015).
 66. Katherine Vides, Rasika Dahanayake, Pubudu Samarasekara and Sunil Dehipawala, "Micro Structure of Nickel in spin coated thin film magnets" Bulletin of the American Physical Society (APS) March meetings, **59(1)**, 2014.
 67. Sunil Dehipawala, Pubudu Samarasekara and Rasika Dahanayake " Structural Study of Iron Oxide Thin Films Using Pre-edge Feature of XANES" Advanced materials research **1098**, 58-62 (2015).
 68. P. Samarasekara and N.G.K.V.M. Premasiri, "Structural properties of spin coated multilayered cupric oxide thin films" Research & Reviews: Journal of Physics-STM journals **4(2)**, 8-13 (2015)
 69. P. Samarasekara and N.G.K.V.M. Premasiri, "Optical properties of spin coated and sol-gel dip coated cupric oxide thin films" GESJ: Physics **1(15)**, 27-33 (2016).

70. Sunil Dehipawala, Rahel Steffen, Pubudu Samarasekara, Rasika Dahanayaka
 “Characterization of Iron Nano Particles using Synchrotron X-rays” Nanoscience,
 Multidisciplinary conference, New York, 2015.
71. D.M.C.U. Dissanayake and P. Samarasekara, “Characterization of sol-gel spin coated
 nanocrystalline cadmium sulphide thin films” iPURSE proceedings at University of
 Peradeniya **19**, 327 (2015).
72. Sunil Dehipawalage, Pubudu Samarasekara, Rasika Dahanayake, George Tremberger
 Jr., Tak D. Cheung and Harry D. Gafney, “Characterization of nano-sized iron
 particle layers spin coated on glass substrate” Physical chemistry of interfaces and
 nanomaterials XIV, Proceedings of SPIE Photonics west **9549**, 95490X-1-5 (2015).
73. D.M.C.U. Dissanayake and P. Samarasekara, “Optical and structural Properties of
 Spin Coated Cadmium Sulphide Thin Films” Journal of science: University of
 Kelaniya **10**, 13-20 (2015).
74. P. Samarasekara and P.A.S. Madushan, “Electrical properties of CdS thin films spin
 coated on conductive glass substrates” GESJ: Physics **2(16)**, 12-18 (2016).
75. P. Samarasekara and P.A.S. Madushan, “Synthesis of multilayered CdS thin films on
 amorphous glass substrates by spin coating” GESJ: Physics **1(15)**, 20-26 (2016).
76. N.U.S. Yapa and P. Samarasekara, “STUDY OF NON-ORIENTED ULTRA THIN
 FERROMAGNETIC FILMS” PGIS research congress in 2016.
77. P. Samarasekara and N.U.S. Yapa, “Third order perturbed Heisenberg Hamiltonian of
 bcc ferromagnetic ultra thin films” Research & Reviews: Journal of Physics-STM
 journals **5(2)**, 23-30 (2016)
78. P. Samarasekara and N.U.S. Yapa, “Third order perturbed energy of fcc
 ferromagnetic thin films as described by Heisenberg Hamiltonian” Ceylon Journal of
 Science **45(2)**, 71-77 (2016).
79. P. Samarasekara and N.U.S. Yapa, “Simple cubic ferromagnetic films with
 three layers as described by third order perturbed Hamiltonian” GESJ:Physics **2(16)**,
 3-11 (2016).
80. Sunil Dehipawala, Pubudu Samarasekara, Rasika Dahanayake and Leung Edmund,
 “Micro-structure of iron in Petroselinum crispum and its dependence with the
 chemical nature of the soil” APS March meeting 2016.
81. P. Samarasekara and B. I. Warnakulasooriya “Five layered fcc ferromagnetic films
 as described by modified second order perturbed Heisenberg Hamiltonian”
 Journal of science: University of Kelaniya **11**, 11-21 (2016).
82. P. Samarasekara and H. P. Weeramuni “Optical properties of Zn doped CuO films
 synthesized by spin coating” (will be submitted to GESJ:Physics)
83. P. Samarasekara and B.M.M.B. Basnayaka “Photocurrent enhancement of spin coated

- CdS thin films by adding Cu” (submitted to Kelaniya journal of science)
84. P. Samarasekara and N.U.S. Yapa, “Ferromagnetic films with hundred layers as described by third order perturbed Heisenberg Hamiltonian” (will submit to KJS)
85. P. Samarasekara and T.H.Y.I.K. De Silva, “Fcc and bcc structured ferromagnetic films with five to twenty spin layers explained by second order perturbed Heisenberg Hamiltonian” Ceylon Journal of Science 46(1), 37-45 (2017).
86. P. Samarasekara and T.H.Y.I.K. De Silva, “Ferromagnetic films with three to twenty spin layers as described using second order perturbed Heisenberg Hamiltonian” (submitted to GESJ: Physics).

Proceedings:

- (i) At American Physics institution (API) conference held at Florida, USA in 1995.
“Variable texture NiOFe₂O₃ ferrite films prepared by pulsed laser deposition”
- (ii) At First science session held parallel with Silver jubilee celebration at University of Ruhuna in 2003 “Oxygen Partial Pressure Dependence of the Structure of RF Sputtered Strontium Ferrite”
- (iii) Fourth Science Symposium at University of Ruhuna in 2006, “Variation of magnetic energy in oriented ultra-thin ferromagnetic Films”
- (iv) Third Science Symposium at University of Ruhuna in 2005, “Photo-voltaic and absorption properties of sputtered zinc oxide thin films”
- (v) Peradeniya University research sessions in 2010 “Calculation and modeling the dark energy of the universe by the unification of dark energy and dark matter”
- (vi) Peradeniya University research sessions in 2012 "The study and comparison of the Generalized Chaplygin gas Model & the unification of dark energy and dark matter"
- (vii) Physical Society (APS) March meetings in 2014 “The structural study of Spin Coated Thin Film Magnets” Bulletin of the American
- (viii) iPURSE proceedings at University of Peradeniya in 2014 "An Explanation to Spin Reorientation of *CoPt/AlN* multilayers using Heisenberg Hamiltonian with Third-order Perturbation"
- (ix) iPURSE proceedings at University of Peradeniya in 2014 “Determination of magnetic energy of Lithium ferrite using Heisenberg Hamiltonian”
- (x) American Physical Society (APS) March meetings 2014 “Micro Structure of Nickel in spin coated thin film magnets”

- (xi) Nanoscience, Multidisciplinary conference, New York, 2015 “Characterization of Iron Nano Particles using Synchrotron X-rays”
- (xii) Proceedings of SPIE Photonics west 2015 “Characterization of nano-sized iron particle layers spin coated on glass substrate”.
- (xiii) iPURSE proceedings at University of Peradeniya in 2015 “Characterization of sol-gel spin coated nanocrystalline cadmium sulphide thin films”
- (xiv) APS March meeting 2016 “Micro-structure of iron in *Petroselinum crispum* and its dependence with the chemical nature of the soil”.
- (xv) PGIS research congress in 2016. “Study of non-oriented ultra thin ferromagnetic films”

Patents:

- (i) Sputtered Copper Oxide (CuO) thin films as a Carbon Dioxide (CO₂) gas sensor-2006
Patent number- 14328

International Patent classification (IPC): G 01N 27/403

- (ii) Fabrication of CO₂ Gas Sensors using Sputtered Zinc Oxide Thin Films.-2007

Patent Number: 14384

International Patent classification (IPC): G 01N 21/77, G 01N 21/75

Awards/Achievements/Reputations:

1. I was rewarded by presidential awards in 2001, 2002, 2003, 2006, 2007 and 2009 for my research articles published in these years.
2. Marquis Who’s Who in Asia-2007
3. Marquis Who’s who world-2008
4. One of my publication on carbon nanotubes was appreciated in Vertical News in 2009 with link “<http://nanotechnology.verticalnews.com/articles/2220207.html>”
5. I was one of the 2nd best researchers among all fields in Sri Lanka in years of 2003 and 2006 as given in the National research council web site in Sri Lanka.
6. Number 14 in my publication list was used as a reference in chapter 2 of on line text book, “Nano materials”, published by Scribd.
7. Some of my published theoretical research papers appear in the web site of NASA AstroPhysics data system (ADS) in following link.
<http://adsabs.harvard.edu/abs/2006EJTP....3k..71S> -

Scholarships:

1. Graduate teaching and research assistantship in City University of New York, USA from 1990 to 1995
2. Research assistantship at Center of materials science and technology (MARTECH) in Florida State University (FSU), USA in 1995/1996
3. Postdoctoral fellowship at department of mechanical, industrial and manufacturing engineering in The University of Toledo, Ohio, USA from 2007 June to 2007 December.

Text Books:

1. Book on Optics in Sinhalese for high school (A/L) and undergraduate students published by S. Godage book publishers-2005. (ISBN- 955-20-6920-3)
2. Book on Solid State Physics for graduate and undergraduate students published by S. Godage book publishers-2004. (ISBN -955-20-6936-X)
3. Book on conceptual Physics in Sinhalese for high school children (accepted to publish in Sri Lanka)

Administrative experiences:

1. served as the head of Physics department, University of Ruhuna, Sri Lanka from August 2004 to August 2006.
2. served as the acting Dean/Science in the absence of Dean during above period.

Research Grants:

1. Equipment grant RU/SF/RP/96/03 “Preparation of thin films of magnetic and solar cell materials using D.C. sputtering” from University of Ruhuna in 1996
2. Equipment grant worth of 20 million Sri Lankan rupees “Deposition of ferromagnetic thin and thick films for microwave applications, and investigation of their electrical, structural and magnetic properties” was approved in 2002 by National research Council (NRC), Sri Lanka
3. Equipment grant worth of 10.8 million Sri Lankan rupees “Deposition of multi-layers in thin film form using sputtering technique” was approved in 2005 by NRC, Sri Lanka. (NRC Grant 2005: No.05-01)

M. Phil /M. Sc/Ph. D Degree Supervision:

- (i) A. S. Abeydeera “Sputter synthesized p-type CuO layers for photo-voltaic applications” completed M. Phil and graduated in 2006.
- (ii) N.U.S. Yapa “Gas sensitivity of sputtered metal oxide thin films” completed M. Phil and graduated in 2009.
- (iii) M.K.I. Senevirathne- “Strategies of improving the conversion efficiency of dye-sensitized solar cells and the quantum yield photo reduction of water” completed M. Phil and graduated in 2007
- (iv) D.J.G.S. Dissanayaka, “Revision of G.C.E. (A/L) electronic curriculum to suit the requirement of modern industry” completed M. Sc and graduated in 2011
- (v) Udumbara Wijesinghe, “Characterization of sol gel synthesized undoped and copper (II) doped ZnO thin films” completed M. Sc and graduated in 2015.
- (vi) D.M.C.U. Dissanayake, “CHARACTERIZATION OF SOL-GEL SPIN COATED NANOCRYSTALLINE CADMIUM SULPHIDE THIN FILMS” completed M. Sc and graduated in 2016.
- (vii) H. P. Weeramuni, “Synthesis of Zn doped CuO films and characterization” Research part of M. Sc was completed and thesis is written now.
- (viii) N.U.S. Yapa, “Spin reorientation of ferromagnetic thin films as described by 3rd order perturbed Heisenberg Hamiltonian” Research part of Ph. D was completed and thesis is written now.

Reviewer of Journal:

- (i) Served as reviewer of Sri Lankan Journal of Physics published by IOP Sri Lanka-2006
- (ii) Bulletin of materials science- Springer Link Journal
- (iii) Journals published by Institute of Physics in Sri Lanka (IPSL), since 2010.
- (iv) Reviewer of “Vacuum” journal published by Elsevier publishers in 2012
- (v) Reviewer and editor of the Physics journals published by Science Publishing Group, USA
- (vi) Reviewer of solar energy journal published by Elsevier.
- (vii) Reviewer of journal of microsystem technologies published by Springer 2017.

Invited and guest speeches:

1. Chief guest and invited speaker of Astro night 2008 held at Kingswood college in Kandy.
2. Guest lecturer of Astro Day 2009 “Beyond the Zenith” held at Mahamaya Girl’s college in Kandy.
3. Chief Guest and invited speaker of Astro night 2010 held at St. Anthony’s college at Katugasthota.

4. Chief guest and invited speaker of Astro night 2010 “Hypnotic elixir” held at St. Sylvester’s college in Kandy.
5. Guest lecturer of Astro Day 2012 “Beyond the Zenith” held at Mahamaya Girl’s college in Kandy.
6. Conducted a lecture on “Artificial satellites and uses, current understanding of universe” in seminar for A/L Physics teachers-Central province conducted by PGIS in 2010.
7. Conducted a lecture on Astronomy for children in north/south organized by UNF at university of Peradeniya in 2010.
8. Chief Guest & invited speaker of Astro night 2012 held at Girl’s high school in Kandy.
9. Chief Guest & invited speaker of Astro night 2012 held at Trinity college in Kandy.
10. Chief Guest and invited speaker of Astro night 2012 held at St. Anthony’s college at Katugasthota.
11. Chief Guest and invited speaker of Astro night 2013 held at St. Anthony’s college at Katugasthota.
12. Chief Guest and invited speaker of Astro night 2016 held at Kingswood college in Kandy.

Referees:

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