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EDUCATION

❖ **Ph.D. (Experimental Nano/Solid State Physics),**

Department of Physics, Western Michigan University, Kalamazoo, Michigan, USA
July 2011

Dissertation: “Electron transmission characteristics and the production of narrow beams using glass optics and nanocapillaries”

Supervisor: Prof. John A. Tanis

❖ **B.Sc.**

B.Sc. Physics sp. (Hons) University of Peradeniya, Peradeniya, Sri Lanka April 2004

PROFESSIONAL EXPERIENCE

❖ Senior Lecturer, Department of Physics, University of Peradeniya, Sri Lanka

2011 – to date

❖ Course Coordinator, MSc in Physics, Postgraduate Institute of Science, University of Peradeniya, Peradeniya, Sri Lanka

2014 – to date

❖ Visiting Lecturer, Postgraduate Institute of Science, University of Peradeniya, Peradeniya, Sri Lanka

2011 – to date

❖ Member, Board of Study in Physics, Postgraduate Institute of Science, University of Peradeniya, Peradeniya, Sri Lanka

2014– to date

❖ Member, Physical Education and Sports Advisory Committee, University of Peradeniya, Peradeniya, Sri Lanka

2016 – to date

❖ Research Assistant / Teaching Assistant, Department of Physics and Astronomy, Western Michigan University, Kalamazoo, Michigan, USA

2005 – 2011

TEACHING

- ❖ PH 383 Advanced Physics Laboratory I
- ❖ PH 384 Advanced Physics Laboratory II
- ❖ PH 375 Introductory Nanoscience
- ❖ PH 323 Electromagnetic Waves and Communication
- ❖ PH 374 Experimental Techniques and Material Characterization
- ❖ PH 457 Advanced Nanoscience
- ❖ AS 461 Semiconducting Devices & Technology (Applied Sciences program)
- ❖ CHN 501 Introduction to Nanoscience and Nanotechnology
- ❖ PH 526 Introduction to Nanotechnology
- ❖ PH 516 Material Characterization Techniques

SERVICES

- ❖ **Coordinator:** MSc in Physics, Postgraduate Institute of Science
- ❖ **Member:** Board of Study in Physics, Postgraduate Institute of Science.
- ❖ **Member :** Science Teachers Association of University of Peradeniya (April 2013 to date)
- ❖ **Member:** Physical Education and Sports Advisory Committee, University of Peradeniya (January 2016 to date)
- ❖ **Member:** Project Committee of Prototype Manufacturing of Solar Panels (Ministry of Science and Technology - 2017)

GRANTS

- ❖ Ministry of Science and Technology, Sri Lanka, "Science technology and research educational training program with facilities for prototype manufacturing solar panels" (Award Rs. 240 M – ongoing)
- ❖ National Science Foundation, Sri Lanka, "Synthesis of colloidal quantum dots for Infra-red photo detection and solar cells" (NSF/PDRS/2017/01) Competitive Research award (Award Rs. 4.3 M – ongoing)
- ❖ University of Peradeniya, Sri Lanka, "Phyto-fabrication of Silver Nanoparticles using Bryophytes" (URG/2016/54/S) University Competitive Research Grant (Award Rs. 0.4 M - ongoing)

- ❖ National Science Foundation, Sri Lanka “Synthesis and characterization of thin films based on Group II and VI elemental compounds for fabricating solar cells” (RG/2012/BS/03), Competitive Research award (Award Rs. 1.3 M - Completed)
- ❖ National Science Foundation, Sri Lanka (2012), Overseas Training Program Grant (2013)
- ❖ Sivananthan Laboratories Inc, Bolingbrook, IL, USA, Research Award (2015-2016)

AWARDS AND FELLOWSHIPS

- ❖ President’s Award for Scientific Publications, Sri Lanka 2013
- ❖ George E. Bradley Award for exceptional performance in all aspects of graduate work in Physics, Western Michigan University, Kalamazoo, Michigan, USA 2011
- ❖ All University Graduate Research and Creative Scholars Award, Western Michigan University, Kalamazoo, Michigan, USA 2011
- ❖ Leo R. Parpart scholarship for outstanding research, Western Michigan University, Kalamazoo, Michigan, USA 2010
- ❖ Gwen Frostic Scholarship for outstanding research, Western Michigan University, Kalamazoo, Michigan, USA 2010
- ❖ Jacob DeWitt Award for Outstanding Teaching, Western Michigan University, Kalamazoo, Michigan, USA 2009
- ❖ Canada America and Mexico Student Travel Support (by NSF) 2009
- ❖ Graduate Student Travel Award, Western Michigan University, Kalamazoo, Michigan, USA 2009
- ❖ Haym Kruglak Award for Outstanding Teaching, Western Michigan University, Kalamazoo, Michigan, USA 2007 and 2008

PUBLICATIONS (PEER REVIEWED JOURNALS)

Number of research publications in SCI indexed journals: 28
 Google Scholar H-Index (2017): 07

1. W.G.C. Kumarage, R.P. Wijesundera, V.A. Seneviratne, C.P. Jayalath and **B.S. Dassanayake**, *A study on the enhancement of optoelectronic properties of CdS thin films: seed-assisted fabrication*, Semicon. Sci. Technol. 32 045014 (11pp) (2017).

2. P. K. K. Kumarasinghe, Amila Dissanayake, B. M. K. Pemasiri, and **B. S. Dassanayake**, *Effect of post deposition heat treatment on microstructure parameters, optical constants and composition of thermally evaporated CdTe thin films*, Mat. Sci Semicon. Proc, **58** 51–60 (2017).
3. P. K. K. Kumarasinghe, Amila Dissanayake, B. M. K. Pemasiri, and **B. S. Dassanayake**, *Variation of optical, structural, electrical and compositional properties of thermally evaporated CdTe thin films due to substrate temperature*, J Mater Sci: Mater Electron DOI 10.1007/s10854-016-5521-2 (2016).
4. S.J. Wickramarachchi, T. Ikeda, D. Keerthisinghe, **B.S. Dassanayake** and J.A. Tanis, *Incident energy and charge deposition dependences of electron transmission through a micro-sized tapered glass capillary*, Nuclear Instruments and Methods in Physics Research, **382**, 60-66 (2016).
5. W.G.C. Kumarage, R.P. Wijesundera, V.A. Seneviratne, C.P. Jayalath and **B.S. Dassanayake**, *Tunable optoelectronic properties of CBD-CdS thin films via bath temperature alterations*, J. Phys. D: Appl. Phys., **49** 095109 (7pp) (2016).
6. D. Keerthisinghe, **B. S. Dassanayake**, S. J. Wickramarachchi, N. Stolterfoht, and J. A. Tanis, *Transmission of electrons through insulating PET foils: Dependence, on charge deposition, tilt angle and incident energy*, Nuclear Instruments and Methods in Physics Research B, **382**, 67-70 (2016).
7. W.G.C. Kumarage, K.I.H. Senevirathne, V.A. Seneviratne, C.P. Jayalath, **B.S. Dassanayake**, *Influence of Bath Temperature on CBD-CdS Thin Films*, Proc. Engineering, **139**, 64-68 (2016).
8. S.J. Wickramarachchi, T. Ikeda, **B.S. Dassanayake**, D. Keerthisinghe and J.A. Tanis, *Electron-beam transmission through a micrometer-sized tapered-glass capillary: Dependence on incident energy and angular tilt angle*, Phys. Rev. A **94**, 022701 (2016).
9. D. Keerthisinghe, **B. S. Dassanayake**, S. J. Wickramarachchi, N. Stolterfoht, and J. A. Tanis, *Elastic and inelastic transmission of electrons through insulating polyethylene terephthalate nanocapillaries*, Phys. Rev. A, **92**, 012703 (2015).
10. W.G.C. Kumarage, K.I.H. Senevirathne, V.A. Seneviratne, C.P. Jayalath, **B.S. Dassanayake**, *Solution Grown CDS as a Window Layer for Solar Applications*, Proceedings of the Special

Session on Advanced Materials, 4th International Conference on Structural Engineering and Construction Management, 134, (2013).

11. S.J. Wickramarachchi, T. Ikeda, D. Keerthisinghe, **B.S. Dassanayake** and J.A. Tanis, *Angular dependence of electron transmission through a micro-sized tapered glass capillary*, Nuclear Instruments and Methods in Physics Research B **317** 101-104 (2013).
12. A. Ayyad, **B.S. Dassanayake**, D. Keerthisinghe¹, T. Ikeda, A. Kayani and J.A. Tanis, *Transmission of fast highly charged ions through straight and tapered glass capillaries*, Phys. Scr. **T156** 014058 (2013).
13. D. Keerthisinghe, **B. S. Dassanayake**, S. Wickramarachchi, A. Ayyad, N. Stolterfoht and J. A. Tanis, *Transmission and guiding of fast electrons through insulating PET nanocapillaries*, AIP Conf. Proc. **1525** 36 (2013).
14. **B. S. Dassanayake**, D. Keerthisinghe, S. Wickramarachchi, A. Ayyad, S. Das, N. Stolterfoht and J. A. Tanis, *Temporal evolution of electron transmission through insulating PET nanocapillaries*, Nuclear Instruments and Methods in Physics Research B **298** 1-4 (2013).
15. S. J. Wickramarachchi, **B. S. Dassanayake**, D. Keerthisinghe, T. Ikeda and J. A. Tanis, *Dependence of electron transmission on charge deposited in tapered glass macrocapillaries at a tilt angle of 5.0°*, Phys. Scr. **T156** 014057 (4pp) (2013).
16. D. Keerthisinghe, **B. S. Dassanayake**, S. Wickramarachchi, N. Stolterfoht and J. A. Tanis, *Charge dependence and energy loss of electrons transmitted through insulating nanocapillaries*, Nuclear Instruments and Methods in Physics Research B **317** 105 (2013).
17. **B.S. Dassanayake**, S. Das, A. Ayyad, R.J. Berezsky, K. Tőkési and J.A. Tanis, *Time evolution of electron transmission through a single glass macrocapillary: charge build-up, sudden discharge, and recovery* Phys. Rev. A **83**, 012707 (2011).
18. **B.S. Dassanayake**, S. Das, A. Ayyad, R.J. Berezsky, K. Tőkési and J.A. Tanis, *Charge evolution and energy loss associated with electron transmission through a macroscopic single glass capillary* Nuclear Instruments and Methods in Physics Research B **269** 1243 (2011).
19. G.G. De Silva, **B.S. Dassanayake**, D. Keerthisinghe, A. Ayyad and J.A. Tanis, *Electron transmission through a micro size tapered glass capillary* Nuclear Instruments and Methods in Physics Research B **269** 1248 (2011).

20. **B.S. Dassanayake**, S. Das, and J.A. Tanis, *Inelastic transmission of electrons through a single macro-glass capillary and secondary electron emission*, AIP Conference Proceedings **1336**, 154 (2011).
21. A. Ayyad, **B.S. Dassanayake**, A. Kayani, and J.A. Tanis, *Transmission of fast ions through a single macro-glass capillary* AIP Conference Proceedings **1336**, 91 (2011).
22. **B.S. Dassanayake**, S. Das, and J.A. Tanis, *Electron transmission through a single glass macro capillary: Dependence of energy and time*, Phys. Scr. **2011**, 014041 (2011).
23. **B.S. Dassanayake**, S. Das, R.J. Bereczky, K. Tőkési and J.A. Tanis, *Energy dependence of electron transmission through a single glass macrocapillary*, Phys. Rev. A **81**, 020701(R) (2010).
24. **B.S. Dassanayake**, S. Das, N. Stolterfoht, and J.A. Tanis, *Guiding of Electrons Through Insulating PET Nanocapillaries*, Revista Mexicana de Fisica **S56** (2) 71 (2010).
25. S. Das, **B.S. Dassanayake**, N. Stolterfoht, and J.A. Tanis, *Inelastic processes associated with electron guiding through insulating PET nanocapillaries*, Revista Mexicana de Fisica **S56** (2) 66 (2010).
26. **B.S. Dassanayake**, S. Das, A. Ayyad, A. Kayani, N. Stolterfoht, and J.A. Tanis, *Guiding of electrons and fast ions through insulating nanocapillaries*, AIP Conference Proceedings **1099**, 125 (2009).
27. M. Winkworth, P.D. Fainstein, M.E. Galassi, J. Baran, **B.S. Dassanayake**, S. Das, A. Kayani and J.A. Tanis, *Interferences in Electron Emission from O₂ by 30 MeV O^{5,8+} Impact*, Nuclear Instruments and Methods Physics Research Section B **267**, 373 (2009).
28. M. Winkworth, P.D. Fainstein, M.E. Galassi, J. Baran, S. Das, **B.S. Dassanayake**, A. Kayani and J.A. Tanis, *Interference effects in electron emission spectra for 3 MeV/u H⁺ O₂ collisions* J. Phys.: Conf. Sr. **163** 012044 (2009).
29. S. Das, **B.S. Dassanayake**, M. Winkworth, J.L. Baran, N. Stolterfoht, and J.A. Tanis, *Inelastic guiding of electrons in polymer nanocapillaries*, Phys. Rev. A **76**, 042716 (2007).

POST-GRADUATE STUDENTS/THESES SUPERVISED AND COMPLETED

1. J.A.M.S. JAYASINGHE, MSc by Research, Postgraduate Institute of Science, Sri Lanka (2016).
2. R.D.S.M Gunatissa, MSc by Research, Postgraduate Institute of Science, Sri Lanka (2016).

Currently (2017) I am supervising 03 M.Phil./Ph.D. and 5 MSc students at the Department of Physics, University of Peradeniya.

REFERENCES

- ❖ Prof. J.A. Tanis, Department of Physics, Western Michigan University, Kalamazoo, MI – 49008, USA. e-mail: john.tanis@wmich.edu, Phone: 001-269-387-4960, Fax: 001-269-387-4939.
- ❖ Dr. V.A. Seneviratne, Department of Physics, University of Peradeniya, Peradeniya, Sri Lanka. E-mail: sene74@yahoo.com, Phone: 094-812-239-4606.