

PHONE - HOME 081-2387859 MOBILE 077-9165678
E-MAIL thotawatthageca@yahoo.com
thotawatthageca@gmail.com



C.A. THOTAWATTHAGE

PERSONAL

Full Name : Chathuranga Asela Thotawatthage.
Address : No 102, Uda Eriyagama; Peradeniya.
Date of Birth : 10th September 1982
School : Kingswood College, Kandy.
Religion : Buddhism
Civil Status : Unmarried
NIC Number : 822543049 V
Nationality : Sri Lankan

ACADEMIC QUALIFICATIONS

M.Sc. in Computer Science (2013) in Postgraduate Institute of Science (PGIS), University of Peradeniya.

Courses followed in the M.Sc. :

Combinatorial mathematics, Introduction to parallel computing, Operating system design, Graph theory, Computer networks and Distributed system, Artificial intelligence, Advance topic in computer graphics, Software engineering, Digital image processing, Special topics in computer science, Laboratory work, Seminar, Project management, Research project and Database system.

B.Sc. (Honours) in Applied Science (2007) 2nd lower class majoring **Mathematics and Physics** in the first three years and **Applied Science** subjects in the **4th year** from Faculty of Science, University of Peradeniya.

Major Subjects – Physics, Mathematics I, Mathematics II.

Other Subjects – Fundamental of Computer
Basic life science (Fundamental)
English (EN100, EN200)

Courses followed in the B.Sc. :

4th year applied science Subjects

Industrial Training - Projects on improvement on Environmental Management System and Quality Management System in **Lanka Transformers Limited**, Moratuwa.

Industrial Management, Research methodology and scientific writing, Seminar (Lasers In Medicine), Cleaner production for industry, Energy use and conservation, Industrial waste management, Semiconductor device technology and applications, Management of computer and computer network, Industrial mathematics, Financial mathematics, Workshop practice, Remote sensing and GIS laboratory I, Industrial applications (Electronic/Hardware) laboratory.

3rd year

Optical instrumentation, Electromagnetic theory, Electronic theory 2, General physics laboratory 3, Electronic laboratory 2

Linear algebra, Real analysis 3, Differential geometry, Partial differential equation, Group theory, Complex analysis, Fluid mechanics, Linear programming, Numerical analysis 2.

2nd year

Fluid mechanics, Statistic and thermodynamics, Quantum mechanics, Solid state physics, Electronic theory 1, General physics laboratory 1 & 2, Electronic Laboratory 1

Group Rings and field, Real analysis 2, Ordinary differential equations, Mathematical method, Mathematical modeling, Numerical analysis, Graph theory.

1st year

General physics 1 and 2, Elementary physics laboratory 1 and 2

Vector method, Introduction to probability theory, Differential equation, Abstract algebra 1, Real analysis 1, Classical mechanics 1.

- **G. C. E. (A\L) - 2001 (From Kingswood College)**

- Maths Stream

Physics	A
Combined Math	B
Chemistry	S
Gen. English	C
Gen. Test	67

- **G. C. E. (O\L) - 1998 (From Kingswood College)**

- 4 Distinction and 4 Credit Passes

- Passed the Grade 5 Scholarship Examination with 143 marks in 1992

RESEARCH PUBLICATIONS

International Papers

- 1) Y. P. Y. P. Ariyasinghe, T. R. C. K. Wijayarathna, I. G. C. K. Kumara, I. P. L. Jayarathna, **C. A. Thotawatthage**, W. S. S. Gunathilake, G. K. R. Senadeera and V. P. S. Perera; Efficient passivation of SnO₂ nano crystallites by Indoline D-149 via dual chelation; Journal of Photochemistry and Photobiology A: Chemistry; 217; 249-252 (2011)
- 2) M. A. K. L. Dissanayake, **C. A. Thotawatthage**, G. K. R. Senadeera, T. M. W. J. Bandara, W. J. M. J. S. R. Jayasundera and B. E. Mellander; Efficiency enhancement by mixed cation effect in dye-sensitized solar cells

with PAN based gel polymer electrolyte; Journal of Photochemistry and Photobiology A: Chemistry; 246; 29-35 (2012)

- 3) A.K. Arof, M.F. Aziz, M.M. Noor, M.A. Careem, L.R.A.K. Bandara, **C.A. Thotawatthage**, W.N.S. Rupasinghe, M.A.K.L. Dissanayake; Efficiency enhancement by mixed cation effect in dye-sensitized solar cells with a PVdF based gel polymer electrolyte; International Journal of Hydrogen Energy; 39; 2929-2935 (2013)
- 4) M. A. K. L. Dissanayake, **C. A. Thotawatthage**, G. K. R. Senadeera, T. M. W. J. Bandara, W. J. M. J. S. R. Jayasundara, B.-E. Mellander; Efficiency enhancement in dye sensitized solar cells based on PAN gel electrolyte with Pr₄NI + MgI₂ binary iodide salt mixture; J Appl Electrochem; 43, 891-901 (2013)
- 5) M.A.K.L. Dissanayake, H.K.D.W.M.N.R. Divarathna, **C.A. Thotawatthage**, C.B. Dissanayake, G.K.R. Senadeera, B.M.R. Bandara; Dye-sensitized solar cells based on electrospun polyacrylonitrile(PAN) nanofibre membrane gel electrolyte; Electrochimica Acta; 130; 76-81 (2014)
- 6) M.A.K.L. Dissanayake, R. Jayathissa, V.A. Senevirathne, **C.A. Thotawatthage**, G. K. R. Senadeera, B.-E. Mellander; Polymethylmethacrylate (PMMA) based quasi-solid electrolyte with binary iodide salt for efficiency enhancement in TiO₂ based dye sensitized solar cells; Solid State Ionics; 265: 85-91 (2014)
- 7) M.A.K.L. Dissanayake, W.N.S. Rupasinghe, V.A. Senevirathne, **C.A. Thotawatthage**, G. K. R. Senadeera; Optimization of iodide ion conductivity and nano filler effect for efficiency enhancement in polyethylene oxide (PEO) based dye sensitized solar cells; Electrochimica Acta; 145; 319-326 (2014)

International Conference Papers

- 8) **C.A. Thotawatthage**, G.K.R. Senadeera, T.M.W.J. Bandara and M.A.K.L. Dissanayake, Mixed cation effect in enhancing the efficiency of dye sensitized solar cells based on polyacrylonitrile (PAN) and nano-porous TiO₂, proceedings of Solar Asia 2011 Int. Conf., Institute of Fundamental Studies, Kandy, Sri Lanka (2011) 175-179
- 9) H. Iqbal, K. Perera, V.A. Seneviratne, W.N.S. Rupasinghe, **C.A. Thotawatthage**, G.K.R. Senadeera and M.A.K.L. Dissanayake, Dye sensitized solar cells with polymethylmethacrylate (PMMA) based gel polymer electrolyte and tetrapropylammonium iodide salt (Pr₄N⁺I⁻), proceedings of Solar Asia 2011 Int. Conf., Institute of Fundamental Studies, Kandy, Sri Lanka (2011) 163-168
- 10) P.D.N. Gunasekara, Y.P.Y.P. Ariyasinghe, T.R.C.K. Wijayarathna, **C.A. Thotawatthage**, M.A.K.L. Dissanayake and G.K.R. Senadeera, efficient quasi- solid poly (acrylonitrile) (PAN) based polymeric electrolyte for dye sensitized solar cells and its characteristics, proceedings of Solar Asia

2011 Int. Conf., Institute of Fundamental Studies, Kandy, Sri Lanka (2011) 180-185

- 11) H. A. C. S. Perera, K. Perera, K. Vidanapathirana, V.A. Seneviratne, W.N.S. Rupasinghe, **C.A. Thotawatthage**, G.K.R. Senadeera and M.A.K.L. Dissanayake, quasi-solid state dye sensitized solar cells with poly(vinylidene-fluoride) (PVdF) based gel polymer electrolyte and nanoporous TiO₂ electrode, proceedings of Solar Asia 2011 Int. Conf., Institute of Fundamental Studies, Kandy, Sri Lanka (2011) 186-192
- 12) P.W. Abeygunawardhana, S. Palamakubura, **C.A. Thotawatthage**, G.K.R. Senadeera and M.A.K.L. Dissanayake, nanocrystalline TiO₂ photo-sensitized with natural dyes, proceedings of Solar Asia 2011 Int. Conf., Institute of Fundamental Studies, Kandy, Sri Lanka (2011) 229-235
- 13) C.N. Nupearachchi, **C.A. Thotawatthage**, G.K.R. Senadeera and V.P.S. Perera, comparison of natural pigments in black tea and green tea with DSSCs, proceedings of Solar Asia 2011 Int. Conf., Institute of Fundamental Studies, Kandy, Sri Lanka (2011) 241-245
- 14) **C.A. Thotawatthage** and G.K.R. Senadeera, quasi-solid natural rubber polymer electrolytes for dye sensitized solar cells, proceeding of polychar 19 World Forum on Advanced Materials, March 20 - 24, 2011, Kathmandu, NEPAL, 250
- 15) Rohan Senadeera, Shasheeka Jayarathne, Samodha Gunathilake, **Chathuranga Thotawatthage**, Piyasiri Ekanayake and Lakshman Dissanayake; Novel blended PVdF-PEO nanocomposite polymer electrolyte with mixed cations and its application in dye sensitized solar cells; SUSTAINABLE FUTURE ENERGY 2012 and 10th SEE FORUM Innovations for Sustainable and Secure Energy 21-23 November 2012, Brunei Darussalam
- 16) T.M.W.J Bandara, W.J.M.J.S.R. Jayasundara, M.A.K.L. Dissanayake, **C.A. Thotawatthage**, G.K.R. Senadeera, L.R.A.K. Bandara and B.-E. Mellander; Dye sensitized solar cells based on nano porous TiO₂ and gel polymer electrolytes containing tetrapropyle ammonium iodide and 1-methyl-3-propyl imadazolium iodide binary iodide system; Solar Asia 2013 Int. Conf., CIUM, University of Malaya, Kuala Lumpur, Malaysia (2013) 111-116
- 17) P.W. Abeygunawardhana, **C.A. Thotawatthage**, G.K.R. Senadeera and M.A.K.L. Dissanayake; Efficiency dependence on dipping time and pH value of natural dye of nanocrystalline, nanoporous TiO₂ photo sensitizer; Solar Asia 2013 Int. Conf., CIUM, University of Malaya, Kuala Lumpur, Malaysia (2013) 117-122
- 18) T.R.C.K. Wijayarathna, Y.P.Y.P Ariyasinghe, G.K.R. Senadeera, V.P.S. Perera and **C.A. Thotawatthage**; Use of surface Plasmon resonance of gold nanoparticles in the efficiency enhancement of dye sensitized solar cells with TiO₂; Solar Asia 2013 Int. Conf., CIUM, University of Malaya, Kuala Lumpur, Malaysia (2013) 123-130

- 19) H.K.D.W.M.N.R. Divarathne, M.A.K.L. Dissanayake, G.K.R. Senadeera and **C.A. Thotawathage**; Quasi-solid state dye sensitized solar cells based on electrospun polyacrylonitrile (PAN) nanofiber membrane electrolyte; Solar Asia 2013 Int. Conf., CIUM, University of Malaya, Kuala Lumpur, Malaysia (2013) 131-136
- 20) S.L. Jayaratne, M.A.K.L. Dissanayake, V.A. Senaviratne, **C.A. Thotawathage** and G.K.R. Senadeera; Efficiency enhancement in dye sensitized solar cells based on blended polymer electrolyte PMMA:PEG with Pr₄NI as the iodide salts; Solar Asia 2013 Int. Conf., CIUM, University of Malaya, Kuala Lumpur, Malaysia (2013) 137-142
- 21) W.N.S. Rupasinghe, **C.A. Thotawathage**, M.A.K.L. Dissanayake, G.K.R. Senadeera and V.A. Seneviratne; Efficiency enhancement of dye sensitized solar cells by TiO₂ nano fillers in polymer electrolyte; Solar Asia 2013 Int. Conf., CIUM, University of Malaya, Kuala Lumpur, Malaysia (2013) 143-148
- 22) H.N.M. Sarangika, G.K.R. Senadeera, **C.A. Thotawathage** and M.A.K.L. Dissanayake; Novel quasi solid state electrochromic smart windows based on TiO₂ and SnO₂ electrodes with PMMA gel electrolyte; Solar Asia 2013 Int. Conf., CIUM, University of Malaya, Kuala Lumpur, Malaysia (2013) 169-174
- 23) E.M.T.K. Ekanayake, V.A. Senevirathne, L.R.A.K. Bandara, K.V.L. Amarasinghe, **C.A. Thotawathage**, J.M.K.W. Kumari and M.A.K.L. Dissanayake; Electrical characterization of tetrabutylammonium iodide based polymer free Gel electrolyte; 14th Asian Conference on Solid State Ionics (ACSSI 2014), At UTown, NUS, Singapore (2014)
- 24) H. N. M Sarangika, G. K. R Senadeera, H. K. D. W. M. N. R. Divarathne, **C.A. Thotawathage**, P. M. P. C. Ekanayake and M. A. K. L Dissanayake; High Performance Dye-Sensitized Solar Cells with PEO Based Gel Polymer Electrolyte Using TiO₂ Nano Fibers Developed by Electrospinning; 14th Asian Conference on Solid State Ionics (ACSSI 2014), At UTown, NUS, Singapore (2014)

Local papers

- 25) T.R.C.K. Wijayarathna, Y.P.Y.P. Ariyasinghe, I.P.L. Jayarathne, **C.A. Thotawathage**, M.R.Nishantha, G.K.R. Senadeera and V.P.S. Perera, Effect of surface Plasmon resonance of gold nanoparticle in the TiO₂ film of dye sensitized photo electrochemical solar cells, Proceeding of OUSL annual academic session (2009) 205-208
- 26) T.R.C.K. Wijayarathna, Y.P.Y.P. Ariyasinghe, **C.A. Thotawathage**, V.P.S. Perera and G.K.R. Senadeera; Effect of Ni doping of the nanostructured photo anode on the performance of dye sensitized solar cells; Proceeding of OUSL annual academic session (2011) 311-314
- 27) G.K.R. Senadeera, H.M.N. Sarangika, **C.A. Thotawathage**, T.R.C.K. Wijayarathna and Y.P.Y.P. Ariyasinghe; Studies on quasi solid state

electrochromic smart windows based on TiO₂ and SnO₂; Proceeding of OUSL annual academic session (2012) 234-237

- 28) M. Amarasinghe, **C.A. Thotawatthage**, M.A.K.L. Dissanayake, B.S. Dasanayake and G.K.R. Senadeera; Effect of the nano-structure of TiO₂ photoanodes on the performance of dye sensitized solar cells; Peradeniya University International Research Session, University of Peradeniya, (2014)
- 29) H.N.M. Sarangika, W.A.R.B. Weerasekara, G.K.R. Senadeera, M.A.K.L. Dissanayake, **C.A. Thotawatthage**, K.V.L. Amarasinghe and V.A. Senevirathne; Use of carbon embedded TiO₂ as cathode material in rechargeable Mg batteries with Polyethylene Oxide based Gel electrolyte; Peradeniya University International Research Session, University of Peradeniya, (2014)
- 30) K. Paramanathan, M.A.K.L. Dissanayake, G.K.R. Senadeera, **C.A. Thotawatthage** and P. Ravirajan; Optimizing growth process of CdS semiconductor thin films for efficiency enhancement in CdS/CdTe solar cells; Ruhuna International science and Technology Conference (RISTCON 2014), University of Ruhuna Sri Lanka (2014)
- 31) J. Weerasinghe, G. K. R. Senadeera, V. A. Senevirathne, **C.A. Thotawatthage**, J.M.K.W. Kumari and M.A.K.L. Dissanayake; Dye sensitized solar cells fabricated with polymer free quasi solid state (gel) electrolyte; Conference: Ruhuna International science and Technology Conference, University of Ruhuna Sri Lanka (2015)

OTHER SKILLS

- Passed the Diploma in Computer Studies from London Business School (PVT) Ltd in 1999.
- Participated the Australian National Chemistry Quiz 2000 (Royal Australian Chemical institute).

EXTRA CURRICULAR ACTIVITIES

- Secretary of the college Saukyadana unit from 1997 to 2001.
- Senior member of the Kingswood Science Association from 1999 to 2001.
- Member of the college scout team 1990 to 1992.
- Participated in the senior march past in the annual inter-house sports meet (1996, 1997).
- Member of the Table tennis team at Science Games, Faculty of Science, University of Peradeniya in 2006
- Participated in census 2001 in Sri Lanka.

PROFESSIONAL QUALIFICATIONS

- 4 month industrial training – projects on improving waste management system under Quality Assurance Executive in Lanka Transformers Limited, Angulana, Moratuwa.
- Working as a volunteer in Institute of Fundamental Studies, Hanthana Road, Kandy From 2007.08.30.
- Working as a Research assistant (Grade II) in Institute of Fundamental Studies, Hanthana Road, Kandy From 2009.06.15 to 2013.09.15.
- Working as a Research assistant (Grade I) in Institute of Fundamental Studies, Hanthana Road, Kandy From 2013.12.01

OTHER PROFESSIONAL ACTIVITIES

- Participated “Workshop on scientific writing” organized by Post graduate institute of science (PGIS) on 26 May 2010
- Participated “Solar Asia 2011 international conference on solar energy materials, solar cells and solar energy application” organized by Institute of Fundamental Studies on 28-30 July 2011
- Participated “Workshop on Electrochemistry” organized by the board of study in chemical science and physics of the PGIS on 03 Nov 2011
- Participated “Workshop on current status and future trends in thin film solar PV technology” organized by Institute of Fundamental Studies on 28-29 June 2012
- Participated and resource person of “2nd International conference on Solar Asia 2013” organized by University of Malaya, Malaysia on 22-24 Aug 2013
- Participated “Advance workshop on thin film solar cells; Their science, fabrication and characterization” organized by Department of physics, University of Ruhuna on 19-21 March 2013
- Participated “Workshop on Thin film solar cells: Their technology and business potential for Sri Lanka” organized by University of Jaffna on 16-17 April 2014
- Participated “4th workshop on Thin film solar cells and their science and technology” organized by Department of physics, University of Peradeniya on 27-28 Feb 2015

PROFESSIONAL HONOURS, AWARDS AND FELLOWSHIPS

- NRC Merit award for scientific publication 2011 & 2012

NON-RELATED REFEREES

Prof. M.A.K.L. Dissanayake,
National Institute of Fundamental Studies,
Hantana Road,
Kandy.

Tel: 0777130667
E-Mail: makldis@yahoo.com

Dr. G.K.R. Senadeera,
National Institute of Fundamental Studies,
Hantana Road,
Kandy.

Tel: 0718470973
E-Mail: gkrsena@yahoo.com

I hereby certify that the details given above are true and correct to my knowledge.

.....
Date

.....
Signature