



EDIRISINGHAGE VIKUM ANURA PREMALAL

vikump@slintec.lk

CURRENT POSITION AND CONTACT INFORMATION

Senior Research Scientist
Sri Lanka Institute of Nanotechnology (SLINTEC)
Nanotechnology and Science Park
Mahenwatta, Pitipana, Homagama, Sri Lanka.

Phone: 01146505278, 0713562388
Email: vikump@slintec.lk, vikum777@gmail.com

EDUCATIONAL QUALIFICATIONS

Ph. D. Degree in Engineering (2008- 2011)

University: : Graduate School of Science and Technology, Faculty of Engineering,
Shizuoka University, Hamamatsu, Japan.

Date of award: : 22nd September 2011

M. Phil. Degree in Physics (2004-2007)

Institute : Postgraduate Institute of Science (PGIS), University of Peradeniya,
Sri Lanka.

Date of Award : 16th October 2007

B. Sc. (Special) Degree in Physics (1999-2003)

University of Peradeniya, Sri Lanka.
Passed with a Second Class (Upper Division) Honours Degree
Received the Prof. V. Appapillai Memorial Prize for Physics to the Best Student in Physics in
the year 2001
Subsidiary subjects: Chemistry and Mathematics
Date of Award : 11th April 2003

PROFESSIONAL QUALIFICATIONS

- Post-doctoral Research Fellow at the Shizuoka University, Japan, Faculty of Engineering:
At the Carbon Nanotube-Research Group.
April, 2012 – To March, 2015
- Research Assistant at the Institute of Fundamental Studies (IFS), Kandy, Sri Lanka
2004-2008. In the Dye-sensitized Solar Cell-Research Group Led by Professor Keerthi
Tennakone.
- Demonstrator (Teaching Assistant) at the Department of Physics, University of
Peradeniya, Sri Lanka. (From May 2003 to March 2004)

AWARDS, MEDALS AND ACADEMIC DISTINCTION

- Prof. V. Appapillai Memorial Prize for Physics to the Best Student in Physics in the year
2001.
- Japanese Government Scholarship (MONBUKAGAKUSHO: MEXT) for a Ph. D.
Program at the Department of Materials Science, Shizuoka University, Japan, from 2008
to 2011.
- Presidential Awards in 2010 for Scientific Research publication 2003-2006
- Presidential Awards in 2014 for Scientific research Publications 2007,2008 &2009

RESEARCH EXPERIENCE

- Synthesis, Characterization and Application of Long, Vertically- super aligned, Dry-
spinnable and Multi-walled Carbon Nanotubes.
- Preparation and Characterization of Nanomaterials and Nano-structured Architectures of
Compound Semiconductors such as TiO₂, SnO₂, ZnO, Sb₂S₃ (n-type) and CuSCN, CuI,
CuAlO₂, (p-type), .
- Fabrication of Dye-sensitized and Heterojunction Solar Cells and their characterization.
- Preparation and Characterization of FTO and ITO Transparent Conducting Glasses.
- Fabrication of Large-area, Dye-sensitized Solar Cells.

REFEREE FOR INTERNATIONAL JOURNALS

- Journal of Power Sources
- **Journal of Alloys and Compounds**
- Nano
- iPURSE

RESEARCH PUBLICATIONS

h-index: 10

Research publications in indexed journals

1. Improving mechanical properties of high volume fraction aligned multi-walled carbon nanotube/epoxy composites by stretching and pressing
Tran Huu Nam, Ken Goto, Yudai Yamaguchi, **E.V.A. Premalal**, Yoshinou Shimamura, Yoku Inoue, Shuichi Arikawa, Satoru Yoneyama, Shinji Ogihara
Composites Part B: Engineering 85 (2016), 15-23
I.F (2014): 2.983
2. Effects of CNT diameter on mechanical properties of aligned CNT sheets and composites
Tran Huu Nam, Ken Goto, Yudai Yamaguchi, **E.V.A Premalal**, Yoshinobu Shimamura, Yoku Inoue, Kimiyoshi Naito, Shinji Ogihara
Composites Part A: Applied Science and Manufacturing 76 (2015), 289-298
I.F (2014) : 3.071
3. Effects of Stretching on Mechanical Properties of Aligned Multi-walled Carbon Nanotube/Epoxy Composites.
Tran Huu Nam, Ken Goto, Hirokazu Nakayama, Kahori Oshima, **Vikum Premalal**, Yoshinobu Shimamura, Yoku Inoue, Kimiyoshi Naito, Satoshi Kobayashi
Composites Part A: Applied Science and Manufacturing 64 (2014) 194–202.
I.F (2013/ 2014): 3.012
4. Mechanical property enhancement of aligned multi-walled carbon nanotube sheets and composites through press- drawing process
Tran Huu Nama, Ken Goto, Kahori Oshima, **E.V.A. Premalal**, Yoshinobu Shimamura, Yoku Inoue, Kimiyoshi Naito, Shinji Ogihara
Advanced Composite Materials, 1-14 (2014) 73-86
I.F (2104) : 0.929
5. Facile synthesis of both needle-like and spherical hydroxyapatite nanoparticles: Effect of synthetic temperature and calcination on morphology, crystallite size and crystallinity
W.P.S.L. Wijesinghe, M.M.M.G.P.G. Mantilaka, **E.V.A. Premalal**, H.M.T.U. Herath, S. Mahalingam, M. Edirisinghe, R.P.V.J. Rajapakse, R.M.G. Rajapakse
Materials Science and Engineering C 42 (2014) 83–90
I.F (2013/ 2014): 2.736

6. Employment of CuI on Sb₂S₃ Extremely Thin Absorber Solar Cell: N719 Molecules as a Dual Role of a Recombination Blocking Agent and an Efficient Hole Shuttle.
N. Dematage, **E.V.A. Premalal**, A. Konno,
International Journal of Electrochemical Science 9 (2014) 1729 – 1737.
I.F (2013/ 2014): 1.96
7. Preparation of Structurally- modified, Conductivity-enhanced – p- CuSCN and Its Application in Dye-sensitized Solid-state Solar Cells.
E.V.A Premalal, N. Dematage, G.R.R.A. Kumara, R.M.G. Rajapakse, M. Shimomura, K. Murakami, A. Konno,
Journal of Power Sources 203 (2012) 288–296.
I.F (2013/ 2014): 5.21
8. Carbon Black Paste Combined with Conductivity-enhanced CuSCN for Improved Performance in Quasi-solid-state Dye-sensitized Solar Cells.
E. V. A. Premalal, Nilupulee Dematage, and Akinori Konno,
Chemistry Letters 41 (2012) 510-512.
I.F (203/ 2014): 1.3
9. Preparation of High-quality Spray-deposited Fluorine-doped Tin Oxide Thin Films Using Dilute di(n-butyl) tin(iv) Diacetate Precursor Solutions.
E.V.A. Premalal, N. Dematage, S. Kaneko, A. Konno,
Thin Solid Films 520 (2012) 6813-6817.
I.F (2013/ 2014): 1.87
10. Shorter Nanotubes and Finer Nanoparticles of TiO₂ for Increased Performance in Dye-sensitized Solar Cells.
E.V.A. Premalal, N. Dematage, G.R.R.A. Kumara, R.M.G. Rajapakse, K. Murakami, A. Konno,
Electrochimica Acta 63 (2012) 375-380.
I.F (2013/ 2014): 4.09
11. Development of Quality FTO Films by Spray Pyrolysis for Dye-Sensitized Solar Cells.
Edirisinghage V.A. Premalal, Nilupulee Dematage, Shoji Kaneko, Akinori Konno,
Electrochemistry 80(9) (2012) 624–628.
I.F (2013/ 2014): 0.98
12. Large-area Dye-sensitized Solar Cells with Titanium-based Counter Electrode.
G.R.A. Kumara, S. Kawasaki, P.V.V. Jayaweera, **E.V.A. Premalal**, S. Kaneko,
Thin Solid Films 520 (2012) 4119–4121.
I.F (2013/ 2014): 1.87
13. Pulse Electrodeposition as a Tool to Enhance the Penetration of Cuprous Iodide in Dye-sensitized, Solid-state Solar Cells.
E.V.A. Premalal, R.M.G. Rajapakse, Akinori Konno,
Electrochimica Acta 56 (2011) 9180-9185.
I.F (2013/ 2014): 4.09

14. Sensitization of Nano-porous ZnO Photo-anode by a Conjugated Conducting Polymer.
P.M. Sirimanne, **E.V.A. Premalal**, H. Minoura,
Renewable Energy 36 (2011) 405-408.
I.F (2013/ 2014): 3.36

15. Photo-induced Reductive Leaching of Iron from Ilmenite in Hydrochloric Acid Solutions.
P.M. Jayaweera, P.V.V. Jayaweera, U. L. Jayasundara, C .D. Jayaweera, G. S. Peiris,
E. V. A Premalal,
Mineral Processing and Extractive Metallurgy 120 (2011) 191-196.
I.F (2013/ 2014): 0.69

16. Preparation of ZnO Films with Different Morphologies and Their Applications in dye-sensitized Photo-voltaic Cells.
P.M. Sirimanne, **E.V.A. Premalal**,
Sri Lankan Journal of Physics 12 (2011) 15-24.
I.F (2013/ 2014): N.A

17. Tuning Chemistry of CuSCN to Enhance the Performance of TiO₂/N719/CuSCN All-solid-state Dye-sensitized Solar Cell.
E. V. A. Premalal, G. R. R. A. Kumara, R. M. G. Rajapakse, Masaru Shimomura,
K. Murakami, A. Konno,
Chemical Communications 46 (2010) 3360–3362.
I.F (2013/ 2014): 6.72

18. Electrochemical Impedance and X-ray Photoelectron Spectroscopic Analysis of Dye-sensitized Liquid Electrolyte-based SnO₂/ZnO Solar Cell.
G.R.R.A. Kumara, K. Murakami, M. Shimomura, K. Velauthamurthy, **E.V.A. Premalal**,
R.M.G. Rajapakse, H.M.N. Bandara,
Journal of Photochemistry and Photobiology A: Chemistry 215 (2010) 1–10.
I.F (2013/ 2014): 2.29

19. Recent Developments of Dye-sensitized Solid-state Solar Cell.
A. Konno, **E.V.A. Premalal**,
Journal of Photopolymer Science and Technology 23(2) (2010) 279-282.
I.F (2013/ 2014): 0.91

20. Sensitization Process of Two Organic Dyes Anchored on Titania Films in Photo-voltaic Cells.
E.V.A. Premalal, P.M. Sirimanne,
Solar Energy 83 (2009) 696-699.
I.F (2013/ 2014): 3.54

21. A High Efficiency Indoline-sensitized Solar Cell Based on a Nanocrystalline TiO₂ Surface Doped with Copper.
T.R.C.K. Wijayarathna, G.M.L.P. Aponsu, Y.P.Y.P. Ariyasinghe, **E.V.A. Premalal**,
G.K.R. Kumara, K. Tennakone,
Nanotechnology 19 (2008) 485703-485707.
I.F (2013/ 2014): 3.67

22. Stability of the SnO₂/MgO Dye-sensitized Photoelectrochemical Solar Cell.
M.K.I.Senevirathna, P.K.D.D.P.Pitigala, **E.V.A.Premalal**, K.Tennakone, G.R.A.Kumara,
A.Konno,
Solar Energy Materials & Solar Cells 91 (2007) 544-547.
I.F (2013/ 2014): 5.03

23. Utilization of Poly[2-methoxy-5-(2-ethyl-hexyloxy)-phenylene vinylene] as a Hole-conductor in Titania-based Photovoltaic Cell.
P.M. Sirimanne, **E.V.A. Premalal**, T. Soga,
Current Science 93 (2007) 132-133.
I.F (2013/ 2014): 0.83 ,

24. Optical Properties of Poly-[2-methoxy-5-(2-ethyl-hexyloxy)-phenylene Vinylene and Its Application in Photovoltaic Cells.
P. M. Sirimanne, **E. V. A. Premalal**,
Sri Lankan Journal of Physics 8 (2007) 29-37.
I.F (2013/ 2014): N.A

25. Utilization of MEH-PPV as a Sensitizer in Titana-based Photovoltaic Cells.
P.M. Sirimanne, **E.V.A. Premalal**, P.K.D.D.P.Pitigala, K. Tennakone,
Solar Energy Materials & Solar Cells 90 (2006) 1673–1679.
I.F (2013/ 2014): 5.03

26. Utilization of Natural Pigment Extracted from Pomegranate Fruits as Sensitizer in Solid Solar Cells.
P.M. Sirimanne, M.K.I Senevirathna, **E.V.A. Premalal**, .K.D.D.P.Pitigala, V. Shivarkumar,
K.Tennakone,
Journal of Photochemistry and Photobiology A: Chemistry 177 (2006) 324-327.
I.F (2013/ 2014): 2.29

27. A Solid-state Solar Cell Sensitized with Mercurochrome.
P.M. Sirimanne, M.K.I. Senevirathna, **E.V.A. Premalal**, P.K.D.D.P. Pitigala, K.
Tennakone.
Current Science 90 (2006) 639-640.
I.F (2013/ 2014): 0.83

28. Enhancement of the Photoproperties of Solid-state TiO₂|Dye|CuI Cells by Coupling of Two Dyes.
P.M. Sirimanne, M.K.I. Senevirathna, **E.V.A. Premalal**, P.K.D.D.P. Pitigala, K.
Tennakone,
Semiconductor Science and Technology 21 (2006) 818–821.
I.F (2013/ 2014):1.92

Proceedings of International Conferences

1. Development of Quality FTO Films for High Efficient Dye-sensitized Solar Cells and Other Optoelectronic Devices.
E.V.A. Premalal, N.Dematage, S. Kaneko, A.Konno,
The 6th Aceanian Conference on Dye-sensitized and Organic Solar Cells (DSC-OPV6)
Beppu, Oita, Japan, October 17-18, 2011.
2. Pulse Electrodeposition as a Tool to Enhance the Penetration of CuI to Have Improvements in All Solid-state Dye-sensitized Solar Cells.
E.V.A. Premalal, A.konno,
The Electrochemical Society of Japan, General assembly of 78, 2011 -3G33.
3. Tuning Chemistry of CuSCN to Enhance the Performance of TiO₂/N719/CuSCN All-solid-state Dye-sensitized Solar Cell.
E.V.A. Premalal, G.R.R.A. Kumara, Masaru Shimomura, Kenji Murakami, A. Konno,
7th Asian Conference on Electrochemistry in Kumamoto, May 18-22, 2010, Kumamoto, Japan.
4. TiO₂ Nanotube and Nanotube-nanoparticle Composite Based Dye-sensitized Solar Cells with Improved Performance.
E.V.A. Premalal, R.M.G. Rajapakse, A. Konno, K. Murakami,
Proceedings of 2011 International Workshop on Advanced Nanovision Science, January 17-18, 2011, Research Institute of Electronics, Shizuoka University, Japan.