CHONG Kok-Keong (钟国强)

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Brief Profile

Prof. Dr. Chong Kok-Keong received B.Sc. (Hons) 1st class degree majoring in Physics from University of Malaya in 1998 and Ph.D. (Optical Engineering) degree from Universiti Teknologi Malaysia in 2002. He is also Fulbright visiting scholar in Princeton University, USA for the period of Sep-Dec 2015. Currently, he is full professor in Universiti Tunku Abdul Rahman teaching the subjects of solar cell technology, renewable energy, etc. He is a certified HRDF trainer with certificate no. TTT/14963. For research experience, he has been working in the field of solar energy for more than 17 years and his research interest including concentrating solar power, high concentrator photovoltaic system, solar cell technology, photovoltaic system, and solar thermal system. To date, he has produced 91 publications with h-index = 18 & total citations of 1164. Up to today, he has been principal investigator and project leader for seven external and three internal research grants with total amount of RM 3.45 Million, including the largest research grant with total amount of RM 1.988 Million from Ministry of Energy, Water and Green Technology to commercialize his research output. For recognition, he has been honored to receive Malaysia Toray Science Foundation (MTSF) Science & Technology Award 2017, JCI Ten Young Outstanding Malaysian (TOYM) 2013 Award, Fulbright Scholar Award 2015-16, Gold Award in PECIPTA'17, as well as UTAR Research Excellence Award 2010 and UTAR Innovation Excellence Award 2012 & 2014. He is also elected as Associate Fellow of ASEAN Academy of Engineering & Technology 2013, Global Young Academy 2014, Young Affiliate Fellow for The World Academy of Sciences (TWAS) 2011, Young Science Network-Academy of Science Malaysia 2012, and Committee Member of Fulbright Alumni Association Malaysia. In addition, he was invited to showcase research product in main exhibition hall of Malaysia Pavilion – Astana Expo 2017 with theme "Future Energy", which is the largest exhibition in the world. For the community services, he is appointed as member of Working Group on Solar Photovoltaic System (WG/E/8-1), SIRIM, and Accreditation Committee Member of Malaysian Qualification Agency (MQA). For editorial services, he is member of editorial board in 11 international journals including Frontiers in Energy Research: Solar Energy (Frontiers: a Swiss-based open access publisher part of the Nature Publishing Group family) etc.

Qualification	Ph.D. (Optical Engineering) Year 2002 Faculty of Electrical Engineering, Universiti Technologi Malaysia Bachelor of Science (Physics) Year 1998 First Class Honours Faculty of Science, University of Malaya
Awards and Recognitions	1. Malaysia Toray Science Foundation (MTSF) Science & Technology Award 2017 2. Gold Award in PECIPTA'17, 2017 3. Research product is displayed in main exhibition hall of Malaysia Pavilion – Astana Expo 2017 with theme "Future Energy" 4. Fulbright Award (FY 2015/2016) 5. Junior Chamber International The Outstanding Young Malaysian Award (JCI TOYM) 2013 6. Elected member of Global Young Academy, 2014 7. Associate Fellow of the ASEAN Academy of Engineering & Technology (AAET), 2012 8. Young Affiliate Fellow in TWAS (The Academy of Sciences for the Developing World) for the period 2011-2015 selected from the South & Southeast Asia and Pacific Region. 9. Young Scientists Network- Academy of Sciences Malaysia (YSN-ASM) in 2012 10. Biography listed in Marquis Who's Who in the World Edition 2011 11. Top 25 hottest articles in Solar Energy Journal for "General formula for on-axis sun-tracking system and its application in improving tracking accuracy of solar collector" in Jan-Mar 2009, Apr-Jun 2009, Jul-Sep 2009, Jan-Mar 2010. 12. UTAR Innovation Excellence Award 2012, 2014 13. UTAR Research Excellence Award 2010 14. Silver medal in 20th International Invention, Innovation & Technology Exhibition ITEX 2009 & Silver medal in 25th International Invention, Innovation & Technology Exhibition ITEX 2014 15. Best Exhibit (2nd Runner up) in Conference & Exhibition on Innovative Technologies in Intelligent Systems & Industrial Applications (CITISIA 2009) 16. National Science Fellowship (MOSTE) 1999
Professional Membership	1. Senior Member of SPIE (Society of Photo-Optical Instrumentation Engineers), 2012 2. Senior Member of IEEE, 2013 3. Member of the World Society of Sustainable Energy Technologies 4. Member of National Professor Council (Majlis Profesor Negara), 2013 5. Fulbright Alumni Association of Malaysia (Executive Committee), 2016
Working Experience	Year Jan 2013 - now Professor Electrical and Electronic Engineering Department Faculty of Engineering and Science Universiti Tunku Abdul Rahman

	(Teaching Undergraduate subjects: Optics and Optoelectronics, Renewable Energy.) Year Jan 2010 – Dec 2012 Associate Professor Electrical and Electronic Engineering Department Faculty of Engineering and Science Universiti Tunku Abdul Rahman Year March 2005 – Dec 2009 Assistant Professor Electrical and Electronic Engineering Department Faculty of Engineering and Science Universiti Tunku Abdul Rahman Year 2001 - 2004 Research Associate (Post-doctorate) Institute of Energy and Environment Malaysia University of Science and Technology (**A collaborative program with Massachusetts Institute of Technology MIT, USA)** **Administrative work at Universiti Tunku Abdul Rahman** Jan 2012 – Sep 2015: Head of Programme for Master of Engineering Science and Ph.D. in Engineering Jan 2010 – Dec 2011: Head of Programme for Master of Engineering Science Jan 2009 – Dec 2009: Head of Programme for Physics July 2007- Dec 2008: Course Coordinator for Physics
Editorial Experience	1. Member of Editorial Board: 9 September 2013 – 2016 **The Scientific World Journal: Energy** **Hindawi Publishing Corporation.** http://www.hindawi.com/journals/tswj/editors/energy/ 2. Associate Editor: 3 July 2013 – now **Frontiers in Energy Research: Solar Energy** Frontiers (Swiss-based open access publisher part of the Nature Publishing Group family) http://www.frontiersin.org/Solar_Energy/editorialboard 3. Member of Editorial Board: 10 Dec 2011 – now (international journals) **Energy and Power** **Scientific and Academic Publishing** **p-ISSN:** 2163-159X, **e-ISSN:** 2163-1603 http://www.sapub.org/journal/editorialboard.aspx?journalid=1018 4. Member of Editorial Board: 8 March 2012 – now (international journals) **Advances in Robotics & Automation** **OMICS Publishing Group** http://www.omicsgroup.org/journals/editorialboardARA.php 5. Member of Editorial Board: 12 April 2012 – now (international journals) **Conference Papers in Energy,** **Hindawi Publishing Corporation.** http://www.cpis.com/journals/energy/editors/

	6. Member of Editorial Board: 24 May 2012 – now **International Journal of Advanced Renewable Energy Research,** Publication Frequency: 12 issues per year. ISSN: 2251-9408 (Online). http://www.ijarer.org/Editorial%20Board.html 7. Member of Editorial Board: 4 Dec 2012 – now **American Journal of Energy Engineering** Science Publishing Group, USA. http://www.sciencepublishinggroup.com/journal/editorialboard.aspx?journalid=168 8. Member of Editorial Board: 5 Dec 2012 – now **American Journal of Electrical Power and Energy Systems** Science Publishing Group, USA. http://www.sciencepublishinggroup.com/j/epes 9. Member of Editorial Board: 25 January 2013 – now **International Journal of Information Engineering (IJIE)** American V-King Scientific Publishing, USA. **ISSN:** 2225-8442 (print), **ISSN:** 2226-7921 (online) http://ijie.vkingpub.com/EditorialBoard.aspx 10. Member of Editorial Board: 3 May 2013 – now **Scientific Journal of Architecture (SJA)** American V-King Scientific Publishing, USA. ISSN: 2164-7224(print), ISSN: 2167-0536(online) http://www.j-arc.org/editorialBoard.aspx 11. Member of Editorial Board: 2013 – now **OA Robotic Surgery** OA Publishing London, London http://www.oapublishinglondon.com/oa-robotic-surgery/editorial-board/
Conference & Worshop Organization Experience	1. Steering committee of IEEE Conference on Sustainable Utilization and Development in Engineering and Technology 2010, 20-21 November 2010 Universiti Tunku Abdul Rahman, Kuala Lumpur Campus. 2. Technical program committee of IEEE Conference on Sustainable Utilization and Development in Engineering and Technology 2012, 6-9 October 2012 Universiti Tunku Abdul Rahman, Kuala Lumpur Campus. 3. Organizing Committee for Young Scientist Network-Academy of Science Malaysia Strategic Workshop 2013, Thistle Port Dickson Hotel, 12-14 December 2013 4. Technical program committee of 2014 International Conference on Computer Science and Service System, Bangkok, Thailand, June 13th to 15th, 2014 5. Advisory Committee of National Physics Conference 2014 (PERFIK2014), Sunway Resort Hotel and Spa , Kuala Lumpur, Malaysia, 18-19 November 2014: http://www.utar.edu.my/perfik2014/ 6. Track chair for The 8th International Conference on Applied Energy – ICAE2016
Reviewer Experience	1. Reviewer for the following International Journals: Renewable and Sustainable Energy Review, Solar Energy, Journal of Solar Energy Engineering, Energy

	Conversion and Management, Sensors, Optics Letters, Applied Optics, Optics Express, HKIE TRANSACTIONS, Proceedings of the Institution of Mechanical Engineers, Part A, Journal of Power and Energy (IF 0.799) 2. Reviewer for Conference Paper: IEEE CITIASIA 2009, IEEE Conference on Sustainable Utilization and Development in Engineering and Technology 2010, 2012 3. Reviewer for the Draft of International Standard IEC/TC 82 Solar Photovoltaic Energy Systems: Date: 6 August 2010 - 26 November 2010 i) 82/603/NP Concentrator Photovoltaic Module and Assembly Safety Qualification **ii)** 82/609/NP Concentrator Photovoltaic Module Array and Assembly: Energy Rating by Measurement
External Services	1. Committee Member of Fulbright Alumni Association Malaysia 2. Malaysian Qualification Agency (MQA) Accreditation Committee Member 2012-2015 3. Invited committee member for drafting new policy on Green Technology in Malaysia organized by Ministry of Energy, Green Technology & Water 4. Member of Focus Group for Strategi Bajet 2010: Mesyuarat Focus Group mengenai Alam Sekitar dan Pelaksanaan Dasar Teknologi Hijau
Consultancy Services	1. Conducting training on "Technical Article Writing Workshop" Date: 22nd-23rd March, 29th-30th March, 12th-13th April 2014 Dream Catcher Consulting Sdn Bhd (663670-T) 303-4-5 & 303-4-6, Block B, Krystal Point Jalan Sultan Azlan Shah 11900 Sungai Nibong 2. Conducting 1-day workshop on "Effective Presentation Skills during Viva Voce and Proposal Defense for Science & Engineering Students" Date: 13th June 2013 Centre for Extension Education Universiti Tunku Abdul Rahman 9 Jalan Bersatu 13/4 46200 Petaling Jaya Selangor Darul Ehsan 3. Consultancy service on Solar PV project sizing, site inspection, electrical design of solar PV system, solar PV system layout plan Date: 1st Nov 2012 - 9th April 2013 LeveragEdge Sdn. Bhd. No. 23-A, Jalan Tiara 2, Tiara Square, Taman Perindustrian UEP, 47600 Subang Jaya, Selangor 4. Conducting 3 days Training Program: Solar Photovoltaic System & Application Date: 27 August 2009 – 29 August 2009 Pentamaster Solutions Sdn Bhd Plor 18 & 19, Technoplex, Medan Bayan Lepas, Taman Perindustrian Bayan Lepas, Phase IV, 11900 Penang.

	5. Conducting 2 days Training Program: Optical System Design Date: 31 May 2010 – 1 June 2010 Pentamaster Solutions Sdn Bhd Plor 18 & 19, Technoplex, Medan Bayan Lepas, Taman Perindustrian Bayan Lepas, Phase IV, 11900 Penang. 7. Speaker for the title "Photovoltaic System: Application and Sizing Technique", BSTD Half-day Course by Institution of Engineers Malaysia. 7. Sub working Group Leader on Solar Photovoltaic System (WG/E/8-1), SIRIM: Scope: To prepare Malaysian Standards for systems of photovoltaic conversion of solar energy into electrical energy and for all the elements in the entire photovoltaic energy system. In this context, the concept "photovoltaic energy system" includes the entire field from light input to solar cell and including the interface with the electrical systems to which energy is supplied.
External Thesis Examiner	1. Ph.D. Thesis for Ms R. Venkateswari, Anna University, Chennai, India Thesis title: Energy efficient communication protocols and transceiver design for wireless body area networks (invitation date: 28/01/2015) 2. Ph.D thesis for Mr Shabbir Saleh Bohra, Sardar Vallabhbhai National Institute of Technology, Surat, India Thesis title: Investigation of Third Generation Silicon Solar Cells (invitation date: 04/09/2014) 3. Ph.D. Thesis for Priya C, Anna University, Chennai, India Thesis title: Certain investigation on lossless medical image compression algorithms for bio-imaging applications (invitation date: 28/01/2016) 4. Ph.D. Thesis for Ms. Patel Kinjalben Kaushikbhai, Sardar Vallabhbhai National Institute of Technology, Surat, India Thesis title: Study on CZTS thin films prepared by solution growth technique (invitation date: 28/01/2016) 5. Master of Science thesis for Lok Choon Long (SGR130119), University of Malaya Thesis title: Optimization of axial flux permanent magnet coreless generator based on hybrid genetic algorithm-pattern search optimization. (invitation date: 28/01/2016) 6. Ph.D. Thesis for Gnanavadivel. J, Anna University, Chennai, India Thesis title: Study and enhancement of power quality in single phase AC-DC power converters (invitation date: 1/08/2017) 7. Master of Engineering Science thesis for Teo Wan Chee, Multimedia University Thesis title: Solar assisted drying system using chemical heat pump with $CaO/Ca(OH)_2$ for food processing (invitation date: 1/10/2017)
On-going Postgraduate students	**Main Supervisor** **Postgraduate student** — **Enrolment period** 1. Tan Woei Chong (Ph.D. engineering) — 19 Sep 2013 – viva Research title: Heat sink design study in active cooling system of dense-array concentrator

	photovoltaic system under ultra-high solar concentration	
	2. Aaron Hong Kai Jeat (Master of Eng. Science) Research title: Tailoring the bandgap of organic photovoltaic device based on the solar spectrum obtained in Malaysia to obtain the best power conversion efficiency	2 Nov 2016 – in progress
	3. Manjeevan Singh Seera (Master of Engineering (Electrical)) Research title: Performance optimization of commercial photovoltaic technologies under local spectral irradiances using machine learning	16 Oct 2017 – in progress

Co-Supervisor

Postgraduate student	Status
1. Wong Yi Hong (Master of Eng. Science) Research title: Solar and wave technology offshore platform technology and mobile electricity generation technology	9 Sep 2015 – in progress

Graduated Postgraduate Students

Main Supervisor

Postgraduate student	Enrolment period
1. Jessie Siaw Fei Lu (Ph.D. engineering) Research title: Design and construction of concentrator photovoltaic system	Jan 2007 – March 2015
2. Wong Chee Woon (Master of Engineering Science) Research title: Study of sun-tracking error in elevation-azimuth sun-tracker	Jan 2008 – Aug 2010
3. Yew Tiong Keat (Master of Engineering Science) Research title: Solar flux distribution study on non-imaging focusing solar tracker	Oct 2007 – Aug 2011
4. Tan Ming Hui (Master of Engineering Science) Research title: Feasibility study of constructing world largest single-stage solar furnace system suing non-imaging focusing heliostat for approaching sun-surface temperature	May 2010 – March 2012
5. Tan Woei Chong (Master of Engineering Science) Research title: Research and development on high efficiency dense-array type of triple junction concentrator photovoltaic receiver using wire bonding technique	May 2010 – May 2013
6. Chin Le Yan (Master of Engineering Science) Research title: Characteristic study of high efficiency solid state lighting and its application in horticulture	May 2009 – December 2013
7. Wong Chee Woon (Ph.D. engineering) Research title: Optical characterization of non-imaging solar concentrator for the application in dense array concentrator photovoltaic system	Mar 2011 – Mar 2017

	8. Yew Tiong Keat (Ph.D. engineering) Research title: Study on secondary optics in dense array concentrator photovoltaic system	June 2012 – Mar 2017
	9. Tan Ming Hui (Ph.D. engineering) Research title: Research study on 120 m^2 prototype non imaging concentrating dish in the application of concentrator photovoltaic system	June 2012 – Mar 2017
	10. May Thu Htet - Myanmar (Master of Eng. Science) Research title: A Study of Two Phased Thermosyphon Loop under Bottom Heating Mode and Top Heating Mode in Solar Water Heating Application	Oct 2010-Aug 2016
	11. Nneka Onubogu – Nigeria (Master of Eng. Science) Research title: High Acceptance Angle Optical Fiber Based Solar Day-lighting System Using Two-Stage Reflective Non-Imaging Dish Concentrator	Sep 2015 – Dec 2017

Co-Supervisor

Postgraduate student	Status
1. Lee Sze Shin (Master of Eng. Science) Research title: CFD Simulation on Photovoltaic Cell Cooling System	July 2011 – March 2015
2. Ho Ming Cheng (Master of Eng. Science) Research title: Research and Development of a Mobile Sun-Tracking Algorithm for Electrical Mobile Platform	16 June 2014 – Dec 2017

Research Funding

Position: Project Leader (Principal Investigator)
Collaborator: Dr Yap Chi Chin (UKM), Dr Chang Wei Sea (Monash Univ), Dr Lim Boon Han, Dr Yeoh Keat Hoe
Project Title: Tailoring band gap of organic photovoltaic device to obtain the best power conversion efficiency based on local solar spectrum in ASEAN region.
Fund source: Fundamental Research Grant Scheme (FRGS), MOHE
Total amount: RM 72,700.00
Period: 1st Aug 2016 – 31st Jul 2018

Position: Project Leader (Principal Investigator)
Collaborator: Dr Philip Tan (advisor), Prof Dr Faidz Abdul Rahman, Dr Yap Vooi Voon, Dr Lau Sing Liong, Dr Ng See Seng, Dr Tan Kia Hock, Mr Wong Chee Woon, Jessie Siaw Fei Lu, Mr Yew Tiong Keat, Mr Tan Ming Hui, Mr Tan Woei Chong
Project Title: Pre-commercialized project on grid connected dense array concentrator photovoltaic system
Fund source: Akaun Amanah Industri Bekalan Elektrik (Malaysia Electricity Supply Industry Trust Account), Ministry of Energy, Green Technology & Water
Total amount: RM 1,988,000.00
Period: 1st Jan 2012 – 31st Dec 2015

Position: Project Leader (Principal Investigator)

	Collaborator: Mr Wong Chee Woon **Project Title:** Research and development on secondary optics in dense array concentrator photovoltaic system **Fund source:** e-Science Fund, Ministry of Science, Technology & Innovation **Total amount:** RM 200,000.00 **Period:** Oct 2012 – Sep 2014 **Position:** Project Leader (Principal Investigator) **Collaborator:** Dr Philip Tan (advisor), Mr Wong Chee Woon, Mr Yew Tiong Keat, Mr Tan Ming Hui, Mr Tan Woei Chong **Project Title:** Patent fund of Non-imaging dish concentrator for the application of concentrator photovoltaic system **Fund source:** Akaun Amanah Industri Bekalan Elektrik (Malaysia Electricity Supply Industry Trust Account), Ministry of Energy, Green Technology & Water **Total amount:** RM 157,700.00 **Period:** 14 June 2012 - 14 June 2017 **Position:** Project Leader (Principal Investigator) **Collaborator:** Dr Philip Tan (advisor), Mr Wong Chee Woon, Dr Lau Sing Liong, Dr Ng See Seng, Jessie Siaw Fei Lu, Mr Yew Tiong Keat **Project Title:** Research and Development on Cost effective Solar Power Plant Using Indigenous Technology of Non-Imaging Focusing Heliostat & Concentrator Photovoltaic **Fund source:** Akaun Amanah Industri Bekalan Elektrik (Malaysia Electricity Supply Industry Trust Account), Ministry of Energy, Green Technology & Water **Total amount:** RM 382,900.00 **Period:** 1 Aug 2007 – 31 Jul 2010 **Position:** Project Leader (Principal Investigator) **Collaborator:** Dr Lau Sing Liong **Project Title:** Development of Integrated Concentrating Photovoltaic-Stirling Engine System Using Triple-Junction Solar Cells and Indigenous Non-Imaging Focusing Technology **Fund source:** e-Science Fund, Ministry of Science, Technology & Innovation **Total amount:** RM 294,260.00 **Period:** 1 Feb 2008 – 30 Jun 2010 **Position:** Project Leader (Principal Investigator) **Collaborator:** Prof Dr Faidz Abdul Rahman **Project Title:** Performance Study of Single-Stage Solar Furnace System Using Non-Imaging Focusing Heliostat for Approaching Sun-Surface Temperature **Fund source:** Fundamental Research Grant Scheme (FRGS), Ministry of Higher Education. **Total amount:** RM 36,800.00 **Period:** 1 Apr 2010 – 31 Mar 2012 **Position:** Project Leader (Principal Investigator) **Collaborator:** Prof Dr Faidz Abdul Rahman **Project Title:** Research and development on Wirebonding Technique for Contacting Triple-Junction InGaP/InGaAs/Ge Solar Cell in Dense Array Concentrator Photovoltaic Module **Fund source:** UTAR Research Fund **Total amount:** RM 180,000.00 **Period:** 1 Jan 2010 – 30 June 2011 **Position:** Project Leader (Principal Investigator)

	Collaborator: Mr Wong Chee Woon **Project Title:** Performance Study of Single-Stage Solar Furnace System Using Non-Imaging Focusing Heliostat for Approaching Sun-Surface Temperature **Fund source:** UTAR Research Fund **Total amount:** RM 24,000.00 **Period:** 1 Jan 2011 – 31 Dec 2011 **Position:** Researcher **Collaborator:** Dr Lim Eng Hock (Project Leader/Principal investigator) **Project Title:** The Multi-functional Solar-Concentrating Microstrip Patch Array and Reflectarray for the Space Stations **Fund source:** UTAR Research Fund **Total amount:** RM 55,900.00 **Period:** 1 March 2009 – 28 Feb 2010 **Position:** Researcher **Collaborator:** Mr Wong Chee Woon (Project Leader/Principal investigator) **Project Title:** Research on novel nonimaging optics to improve the efficiency of concentrator photovoltaic system **Fund source:** Fundamental Research Grant Scheme (FRGS), MOHE **Total amount:** RM 80,000.00 **Period:** 1 June 2011 – 31 May 2013 **Position:** Researcher **Collaborator:** Dr Lim Eng Hock (Project Leader/Principal investigator) **Project Title:** The dual-functional solar concentrator-antenna systems for power generation and microwave communication in space missions **Fund source:** e-Science Fund **Total amount:** RM 198,000.00 **Period:** 1 Sep 2009 – 31 Aug 2011 **Position:** Researcher **Collaborator:** Dr Lau Sing Liong (Project Leader/Principal investigator) **Project Title:** Study of Solar Adsorption Refrigeration System **Fund source:** UTAR Research Fund **Total amount:** RM 34,000.00 **Period:** 1 Jan 2011 – 30 June 2012 **Position:** Researcher **Collaborator:** Prof Dr Ong Kok Seng (Principal investigator), Dr. S. C. Lee, Dr. Y. P. Lim, Mr. W. H. Yeo **Project Title:** Development of energy efficiency studies in UTAR **Fund source:** UTAR Research Fund (IPSR/RMC/UTARRF/c1-13/L04) **Total amount:** RM 71,000.00 **Period:** 1 August 2013- 31 July 2014 **Position:** Researcher **Collaborator:** Dr Lai An Chow (Co-Principal investigator), Dr Lee Jer Vui, King Yeong Jin **Project Title:** Grid Connection And Hybrid Wind, Pv And Ocean Energy Using Flexible Ac Transmission System (Facts) **Fund source:** 2014 SATU NCKU Joint Research Scheme Program **Period:** June 2014 - May 2016 **Position:** Researcher **Collaborator:** Dr Lai An Chow (Project Leader/Principal investigator)

	Project Title: Research And Development Of A Mobile Sun-Tracking Algorithm For Electrical Mobile Platforms **Fund source:** UTAR Research Fund (IPSR/RMC/UTARRF/2013-C2/L01) **Total amount:** RM 49,000.00 **Period:** 1 Feb 2014 – 31 Jan 2015
Post-graduate and Post-doctorate Research Experience	**1. IRPA Project** **Project Title:** High Concentration Solar Energy Technology **Year:** 1999-2001 **Position:** Research Assistant (Ph.D Student) **Research Institute:** Einstein Laboratory, Faculty of Electrical Engineering Universiti Teknologi Malaysia **2. Malaysian University of Science and Technology (MUST) Project (A collaborative program with Massachusetts Institute of Technology MIT, USA)** **Project Title:** Solar Energy Technology **Year:** 2001-2004 **Position:** Research Associate (Post-doctorate) **Research Institute:** Institute of Energy and Environment, MUST **3. IRPA Project collaborate with Forest Research Institute of Malaysia (FRIM)** **Project Title:** Field testing of uniform photosynthesis process for agriculture trees using solar powered rotating platform **Year:** 2003-2004 **Position:** Research Associate (Post-doctorate) **Research Institute:** Institute of Energy and Environment, MUST
Publications	Last update Jan 2018. For ISI/WoS, h-index = 15, total citations = 622 For Scopus, h-index = 16, total citations = 807 For Google scholar, h-index = 18, total citations = 1164 Total publications in Tier 1 (Q1) is 27 journal papers Total publications in Tier 2 (Q2) is 7 journal papers A. Peer Review Journal Article: 1. **Kok-Keong Chong**, Onubogu Nneka Obianuju, Tiong-Keat Yew, Chee-Woon Wong, Woei-Chong Tan (2017) Design and construction of active daylighting system using two-stage non-imaging solar concentrator **Applied Energy**, article in press (ISI/WoS Q1, IF 2016 = 7.182) 2. **Kok-Keong Chong**, Tiong-Keat Yew, Chee-Woon Wong, Ming-Hui Tan, Woei-Chong Tan, Boon-Han Lim (2017) Dense-array concentrator photovoltaic prototype using non-imaging dish concentrator and an array of cross compound parabolic concentrators **Applied Energy**, article in press (ISI/WoS Q1, IF 2016 = 7.182) 3. Yiying Qin, Zhiqiang Hu, Boon Han Lim, Bin Yang, **Kok-Keong Chong**, Wei Sea Chang, Putao Zhang, Haitao Zhang (2017) Performance improvement of dye-sensitized solar cell by introducing Sm^{3+}/Y^{3+} co-doped TiO_2 film as an efficient blocking layer, **Thin Solid Films**. Volume 631, pp. 141–146 (ISI/WoS Q2, IF 2016 = 1.879) 4. Ming-Hui Tan, **Kok-Keong Chong** (2017) Rectifying structural deflection effect of large solar concentrator via correction of sun-tracking angle in the concentrator photovoltaic system, **Solar Energy**, Volume 148, pp. 140–148 (ISI/WoS Q1, IF 2016 = 4.108) 5. Woei-Chong Tan, **Kok-Keong Chong**, Ming-Hui Tan (2017) Performance study of water-cooled multiple-channel heat sinks in the application of ultra-high concentrator photovoltaic system, **Solar Energy**, Volume 147, pp. 314–327 (ISI/WoS Q1, IF 2016 = 4.108) 6. Woei-Chong Tan, **Kok-Keong Chong** (2016) Simplification of heat transfer modelling for 3-D open cell copper foam by using single-direction aligned cylinder-bank

	geometry, **Applied Thermal Enginering Journal**, Volume 107, 25 August 2016, pp. 1192–1200 (ISI/WoS Q1, IF 2016 = 3.356) 7. Yiying Qin, Zhiqiang Hu, Boon Han Lim, Wei Sea Chang, **Kok Keong Chong**, Putao Zhang, Haitao Zhang (2016) Sol-hydrothermal synthesis of TiO2:Sm^{3+} nanoparticles and their enhanced photovoltaic properties, **Journal of Alloys and Compounds**, vol 686, pp. 803-809 (ISI/WoS Q1, IF 2016 = 3.133) 8. Boon-Han Lim, **Kok-Keong Chong**, Chern-Sing Lim, An-Chow Lai (2016) Latitude-Orientated Mode of Non-imaging Focusing Heliostat Using Spinning-Elevation Tracking Method, **Solar Energy**, Vol 135, p. 253-264 (ISI/WoS Q1, IF 2016 = 4.108) 9. **Kok-Keong Chong**, Petr P. Khlyabich, Marcos Reyes-Martinez, Barry P. Rand, Yueh-Lin Loo (2016) Comprehensive method for analyzing the power conversion efficiency of organic solar cells under different spectral irradiances considering both photonic and electrical characteristics. **Applied Energy**, Vol 180, p. 516-523 (ISI/WoS Q1, IF 2016 = 7.182) 10. Chee-Woon Wong, **Kok-Keong Chong** (2016) Solar flux distribution study of non-imaging dish concentrator using linear array of triple-junction solar cells scanning technique, **Solar Energy**, Vol 125, p. 86-98 (ISI/WoS Q1, IF 2016 = 4.108) 11. Ming-Hui Tan, **Kok-Keong Chong** (2016) Influence of Self-Weight on the Optical Alignment of Non-Imaging Dish Concentrator, **Renewable Energy,** Vol 87 p. 445-457. (ISI/WoS Q2, IF 2016 = 4.357) 12. Tiong-Keat Yew, **Kok-Keong Chong**, Boon-Han Lim (2015) Performance Study of Crossed Compound Parabolic Concentrator as Secondary Optics in Non-imaging Dish Concentrator for the Application of Dense-Array Concentrator Photovoltaic System, **Solar Energy**, Vol 120, p. 296-309. (ISI/WoS Q1, IF 2016 = 4.108) 13. Chee-Woon Wong, **Kok-Keong Chong**, Ming-Hui Tan (2015) Performance optimization of dense-array concentrator photovoltaic system considering effects of circumsolar radiation and slope error. **Optics Express**, Vol. 23, No. 15, p. A841-A857. (ISI/WoS Q1, IF 2016: 3.307) 14. Ming-Hui Tan, **Kok-Keong Chong**, Chee-Woon Wong (Jan 2014) Optical characterization of non-imaging dish concentrator for the application of dense-array concentrator photovoltaic system. **Applied Optics**, Vol. 53, No. 3, pp.475-486 (ISI/WoS Q2, IF 2016: 1.650) 15. Fei-Lu Siaw, **Kok-Keong Chong**, Chee-Woon Wong (2014) "A comprehensive study of dense-array concentrator photovoltaic system using non-imaging planar concentrator" **Renewable Energy**, Vol 62 p. 542-555 (ISI/WoS Q2, IF 2016 = 4.357) 16. Fei Lu Siaw, **Kok-Keong Chong** (2013) "A systematic method of interconnection optimization for dense-array concentrator photovoltaic system" **The Scientific World Journal**, Volume 2013, Article ID 275169, 11 pages (*IF 2012 = 1.73*) 17. **Kok-Keong Chong**, Sing-Liong Lau, Tiong-Keat Yew, Philip Chee-Lin Tan (2013) "Design and development in optics of concentrator photovoltaic system" **Renewable and Sustainable Energy Reviews** Vol 19 p. 598-612 (ISI/WoS Q1, IF 2016 = 8.050) 18. **Kok-Keong Chong**, Woei-Chong Tan (2012) "Study of automotive radiator cooling system for dense-array concentration photovoltaic system" **Solar Energy**, Volume 86, Issue 9, pp. 2632-2643. (ISI/WoS Q1, IF 2016 = 4.108) 19. L.Y. Chin, **K.K. Chong** (2012) "Study of high power LED lighting system in accelerating the growth rate of Lactuca Sativa for indoor cultivation" **International Journal of the Physical Sciences** Vol. 7(11), pp. 1773 - 1781, 9 March, 2012. ISSN 1992 - 1950 (*IF 2010 = 0.540*) 20. **K.K. Chong**, M.H. Tan (2012) "Comparison study of two different sun-tracking methods in optical efficiency of heliostat field" **International Journal of Photoenergy,** Vol. 2012, Article ID 908364, 10 pages (ISI/WoS Q3, IF 2016 = 1.277) 21. **K.K. Chong,** K.G. Chay, K.H. Chin (2012) "Study of a solar water heater using static V-trough collector" **Renewable Energy**, Vol 39 p. 207-215. (ISI/WoS Q2, IF 2016 = 4.357) 22. **K.K. Chong,** T.K. Yew, C.W. Wong, S.L. Lau (2011) **"**Study of image quality of mirror via solar flux distribution measurement using a novel high speed optical scanner" **Applied Optics**, Vol 50 (25), p. 4927-35 (ISI/WoS Q2, IF 2016: 1.650) 23. **K.K. Chong,** M.H. Tan (2011) "Range of motion study for two different sun-tracking methods in the application of heliostat field" **Solar Energy**, Vol. 85. p. 1837-50. (ISI/WoS Q1, IF 2016 = 4.108) 24. **K.K. Chong**, T.K. Yew, Design and construction of novel optical scanner using photodiodes array system for two-dimensional measurement of light flux Distribution.

IEEE Transactions on Instrumentation and Measurement, Vol. 60, No. 8, (AUGUST, 2011), p. 2918-2925. **ISSN:** 0018-9456. (ISI/WoS Q2, IF 2016 = 2.456)

25. **K.K. Chong**, C.Y. Lim, C.W. Hiew (2011) Cost effective solar furnace system using fixed geometry non-imaging focusing heliostat and secondary parabolic concentrator. **Renewable Energy** Vol. 36. p.1595-1602. (ISI/WoS Q2, IF 2016 = 4.357)
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B. Book Chapter

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Conference Presentation	35th IEEE Photovoltaic Specialists Conference Conference Date: 20-25 June 2010 Hawaii Convention Center, Honolulu, Hawaii, USA i) **Poster presentation**: Open-Loop Azimuth-Elevation Sun-Tracking System Using On-Axis General Sun-Tracking Formula for Achieving Tracking-Accuracy of below 1 mrad ii) **Poster presentation**: Solar Flux Distribution Analysis of Non-Imaging Planar Concentrator for the Application in Concentrator Photovoltaic System

	24th European Photovoltaic Solar Energy Conference and Exhibition Conference Date: 21-25 September 2009 CCH – Congress Center and International Fair, Hamburg, Germany i) **Poster presentation**: On-axis General Sun-Tracking Formula and Its Application in Improving Sun-Tracking Accuracy of a 25kWth Non-Imaging Planar Concentrator Prototype ii) **Poster presentation**: Effect of structural variation in Cadmium Telluride thin film solar Cells from Numerical Analysis 2011 Optics + Photonics SPIE Conference Conference Date: 21-25 August 2011 San Diego Marriott Marquis and Marina, San Diego Convention Center, San Diego, California USA i) **Oral presentation**: Optical characterization of nonimaging focusing heliostat ii) **Poster presentation**: Optical characterization of solar furnace system using fixed geometry nonimaging focusing heliostat and secondary parabolic concentrator TWAS (The Academy of Sciences for Developing World) 22nd General Meeting and Conference Conference Date: 21-23 November 2011 Abdus Salam International Centre for Theoretical Physics (ICTP), Trieste, Italy **Keynote speaker**: Optimization of non-imaging focusing heliostat Seminar for universities collaboration: uOttawa, UM, UTAR Date: 15 December 2011 Organizers: Brunfield, University of Malaya and Universiti Tunku Abdul Rahman **Plenary speaker:** Research and Development on Concentrator Photovoltaic System in Universiti Tunku Abdul Rahman Seminar of project Site Visit by Minister of Energy, Green Technology and Water YB Dato' Sri Peter Chin Fah Kui Date: 19th March 2012 Organizer: Universiti Tunku Abdul Rahman **Plenary speaker:** Research and Development on Cost effective Solar Power Plant Using Indigenous Technology of Non-Imaging Focusing Heliostat & Concentrator Photovoltaic TWAS 12th General Conference and 23rd General Meeting Conference Date: 18-21 September 2012 Tianjin, China **Poster presentation**: Optical Characterization of Solar Furnace System Using Fixed Geometry Non-Imaging Focusing Heliostat and Secondary Parabolic Concentrator 27th European Photovoltaic Solar Energy Conference and Exhibition. Conference Date: 24-28 September 2012 Messe Frankfurt, Germany. i) **Poster presentation**: Electrical Characterization of Dense-Array Concentrator Photovoltaic System

	ii) **Poster presentation**: Second Prototype Non-Imaging Planar Concentrator for Concentrator Photovoltaic System 39th IEEE Photovoltaic Specialists Conference Conference Date: 16-21 June 2013 Tampa Convention Center, Tampa, Florida, USA i) **Poster presentation**: An Interconnection Reconfiguration Method for Concentrator Photovoltaic Array ii) **Poster presentation**: Optimizing performance of dense-array concentrator photovoltaic system SOLAR ASIA 2013 Conference Date: 22-24 August 2013 University of Malaya, Malaysia. **Oral presentation**: Thermal management of concentrator photovoltaic system using automotive radiator cooling system TWAS 13th General Conference and 24th General Meeting Conference Date: 1-4 October 2013 Buenos Aires, Argentina **Poster presentation**: Electrical Characterization of Dense-Array Concentrator Photovoltaic System TWAS 14th General Conference and 25th General Meeting Conference Date: 26-29 October 2014 Shangri La's Barr Al Jissah Resort & Spa Hotel, Muscat, Sultanate of Oman **Poster presentation**: Electrical Characterization of Dense-Array Concentrator Photovoltaic System Fouth International Conference for Young Scientists & General Assembly Meeting 2014 of the Global Young Academy Santiago De Chile, 21-25 May 2014 **Oral presentation**: Non-Imaging Dish Concentrator for the Application in Concentrator Photovoltaic System IEEE 2nd International Conference on Emerging Technology Trends in Electronics, Communication and networking SVNIT, Surat, India, 26-27 December, 2014 **Plenary speaker**: Research and Development in Dense-Array Concentrator Photovoltaic System Fifth International Conference for Young Scientists & General Assembly Meeting 2015 of the Global Young Academy Montebello, Quebec, Canada, 25-29 May 2015 **Oral presentation**: Performance Analysis of Dense-Array Concentrator Photovoltaic System Using Non-Imaging Dish Concentrator and Crossed Compound Parabolic Concentrator National Physics Conference 2014 (PERFIK 2014) Sunway Resort Hotel and Spa, Kuala Lumpur, Malaysia, 18 – 19 November, 2014 **Keynote speaker**: Dense-Array Concentrator Photovoltaic System using Non-Imaging Dish Concentrator and Crossed Compound Parabolic Concentrator

	2014 Light, Energy and the Environment (Energy) Congress Optics for Solar Energy (SOLAR) topical meeting: Optical Society of America (OSA) Energy Change Institute, Australian National University, Canberra , Australia 02 - 05 December 2014 **Oral presentation**: New computational code for two tracking methods to analyze shadowing and blocking efficiencies of heliostat field. The 8th International Conference on Applied Energy Beijing International Convention Center, Beijing, China 08 - 11 October 2016 **Oral presentation**: 1. High acceptance angle optical fiber based daylighting system using two-stage non-imaging dish concentrator. 2. Prototype of dense-array concentrator photovoltaic system using non-imaging dish concentrators and cross compound parabolic concentrator. 1st International Conference of Women in Science and International Networking Hilton Ramses Hotel, Cairo, Egypt 21-23 March 2017 **Keynote speaker**: Research and development of solar energy technologies in developing countries 16th International Conference on Sustainable Energy Technologies 17th - 20th July 2017, Bologna, Italy **Invited oral presentation**: Hybrid Concentrator Photovoltaic-Thermal System using Low Temperature Differential Stirling Engine 6th Conference on Emerging Energy and Process Technology 2017 (CONCEPT 2017) Date: 27th – 28th November 2017 Venue: Double Tree by Hilton, Johor Bahru, Malaysia **Invited oral presentation**: Study of Parasitic Energy Losses in Photovoltaic System with Dual-Axis Solar Tracker Located at Different Latitudes Astana World Expo 2017 Date: 16th June 2017 Venue: Malaysia Pavilion, Astana, Kazakhstan **Speaker of the Pocket Talk in Malaysia Pavilion**: Dense-Array Concentrator Photovoltaic System