## 1. Dr. Ng Khar Thoe



Having multidisciplinary interests and a passion for lifelong learning, Dr. Ng Khar Thoe has diversified her scope of studies in R&D division to be an advocate for Science Education integrating transdisciplinary approaches supported by blended learning tools. She holds a Ph.D in Education (OUM), M.Ed. (Brunel, London) and B.Sc.Ed. (Hons.)(USM, Penang). Her research interests lie mainly on enhancing essential skills of learners through technology-enhanced science/mathematics pedagogical approaches including PBA, PBL and IBL. She has wide teaching experience as teacher at primary and secondary levels both at schools locally and abroad prior to be specialist in science/training division; as well as being tutor/trainer/academic facilitator/project supervisor at tertiary institutions prior to be specialist in R&D division. She also has diverse managerial experience as Regional Coordinator, Acting Head of Science, Chief editor of journals, Co-Chair and Chair of Conference, etc. with involvement in many national/regional/international programmes as founder/coordinator/judge/reviewer/ advisor/ speaker/consultant as well as project and Regional Director of Science across the World in Asia Pacific Region. She published extensively with more than 350 publications involving as lead writer (>200), editor and chief editor, of which quite a number of books, modules, book chapters as well as refereed/indexed/Scopus/ISI papers were cited/referred widely. Her efforts made in these publications also won acclaims, accolades and appreciation from many events at regional and international levels, e.g. ICDE2009, ICDE2013, ISCIIID 2014, 1RCCS2014, 2RCCS2015, iPEINX2016, SEAQIL REGRANT 2017-2019, ICRDSTHM-17, ICRTSTMSD-18, iCon-MESSSH-20, to name a few. Her current focus and research interests include helping as many youths and people as possible to achieve their life goals through lifelong continuous professional learning with blended-mode platforms for inspiring creativity, networking as well as sustainable living for all.

### 2. Contact details (phone, fax, email, etc.)

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# 3. Qualification

Ph.D (Education)(OUM)(Secondary Science PBL integrating ICT); Ph.D. (Arts Ed.)(WIU, USA)(Secondary Science/Language/Values-education integrating PBA); M.Ed. (Primary Science Education) (Brunel University of West London, U.K.); B.Sc.Ed. (Hons.)(USM) (Major: Mathematics, Minor: Physics); Dip.H.E.N. (Kingston University and St. George's College of Health Studies, U.K.); Certificates in Total Quality Management (TQM)[Malaysia Productivity Corporation (MPC) and RECSAM]; Certificate in Business Writing (Global Leadership Consultants); Certificate in Language (BULATS Cambridge English language assessment), etc.

### 4. Expertise

Mixed-method research; Science education integrating transdisciplinary approaches and blended learning; Technology-enhanced Project-based Activities (PBA)/Problem-based Learning (PBL)/Inquiry-based Learning (IBL); Values-based education for sustainable living; Educational leadership and

sustainability in entrepreneurial venture; Curriculum innovation, evaluation, teacher standards; Action research; Academic Writing; Educational policy and planning; Lesson Study.

#### 5. Google Scholar and Research Gate accounts

https://scholar.google.com/scholar?hl=en&as\_sdt=0%2C5&q=ng+khar+thoe&btnG= https://www.researchgate.net/profile/Khar\_Ng

#### 6. Other academic links

http://www.recsam.edu.my/sub\_lesmatborderless http://www.recsam.edu.my/sub\_lsmjournal

#### 7. Publications, Conference, Book chapters, etc.

Refer Appendix

**Journal** (including Non-Refereed/Refereed, Indexed, Scopus, ISI, Online Journals, etc.) **Publication** 

Lead author/Chief editor (by year of publication with the most recent on top)

- Ng, K.T. & Murugan, R. (Eds.) (2019). *Learning Science and Mathematics On-line journal.* Issue 14, pp.1-145. December, 2019. Penang, Malaysia: SEAMEO RECSAM
- Ng, K.T. (Ed.) (2018). <u>Learning Science and Mathematics On-line journal. Issue 13</u>, pp.1-152. December, 2018. Penang, Malaysia: SEAMEO RECSAM.
- Ng, K.T. (2018). <u>Development of transdisciplinary models to manage knowledge, skills and innovation processes</u> integrating technology with reflective practices. (Editor's choice). International Journal of Computer Applications (IJCA) (0975-8887) Scholarly peer-reviewed research publishing journal. No.2. <u>pp.1-9</u> Retrieved 1 January, 2020 from <u>https://www.ijcaonline.org/proceedings/icrdsthm2017</u> and <u>https://research.ijcaonline.org/icrdsthm2017/number2/icrdsthm2017022.pdf</u> and <u>https://pdfs.semanticscholar.org/9c1c/f423f6d2c5810c866ffbba64f65832179b5b.pdf</u>
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- Ng, K.T., Parahakaran, S., & Thien, L.M. (2015). <u>Enhancing sustainable awareness through SSYS congress:</u> <u>Challenges and opportunities of e-platforms to promote values-based education</u>. Paper published in International Journal of Educational Science and Research (IJESR). Vol.5, Issue 2, Apri 2015, pp.79-90. ISSN(P): 2249-6947; ISSN(E): 2249-8053. Retrieved October 30, 2015 from https://archive.org/details/9.EduSciIJESR <u>EnhancingSustainableAwareness</u> NgKharThoe and http://www.tjprc.org/download.php?fname=--1428924827-

9.%20Edu%20Sci%20-%20IJESR%20%20-Enhancing%20sustainable%20awareness%20%20-%20%20%20Ng%20Khar%20Thoe.pdf

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- Ng, K.T., Sit, M.K.W., Chen, C.F., & Nazerila, A. (1996). Fun with the Earth and the Solar System: Enhancing Creativity and Thinking Skills in Primary Science. *Classroom Teacher*. Jilid 1, Bil. 2, September. SEAMEO RECSAM. ISSN 1394-5688

Co-authorship/Co-editorship (by year of publication with the most recent on top)

Alizah, A., Lee, T.L., Ng, K.T., Noraini, I., Siti Zarikh, & Sofiah, A.B. (2019). <u>Transforming public libraries into digital knowledge dissemination centre in supporting lifelong blended learning programmes for rural youths</u>. Acta Information Malaysia (AIM). 3(1)(2019), <u>pp.16-20</u>. ISSN: 2521-0874 (Print). ISSN: 2521-0505 (Online). CODEN: AIMCCO.

- Chin, C.K., Hairiah, M., Miyadera, R., Ng, K.T., Ch'ng, Y.S. & Promsing, N. (2019). <u>Promoting Education for Sustainable</u> <u>Development in teacher education integrating blended learning and digital tools: An evaluation with exemplary</u> <u>cases</u>. *EURASIA Journal of Mathematics, Science and Technology Education (EJMSTE)*. Modestum Open Access. ISSN: 1305-8223 (online).15(1). https://doi.org/10.29333/ejmste/99513 & http://www.ejmste.com/lssue-1-2019,6606
- Oversby, J., Sanders, J., Corrienna, A.T., Ng, K.T., & Norizan, E. (2019). <u>Question generating supported by blended</u> <u>learning platform: Issues of social justice for environmental education</u>. *EURASIA Journal of Mathematics, Science and Technology Education* (<u>EJMSTE</u>). Modestum Open Access. ISSN: 1305-8223 (online).15(5). http://www.ejmste.com/Question-Generating-Supported-by-Blended-Learning-Platform-Issues-of-Social-Justice.105848,0,2.html
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- Lay, Y.F. & Ng, K.T. (2019b). The predictive effects of school climate on Southeast Asian Grade 8 students' science achievement in TIMSS 2015. European Journal of Educational Research, Eurasian Society of Educational Research. ISSN 2165-8714.
- Lay, Y.F., Ng, K.T., Khoo, C.H. & Chan, S.H. (2019). Examining the validity and reliability of a Malaysian Relevance of Science Education (<u>MROSE</u>) questionnaire using Partial Least Squares Structural Equation Modeling (PLS-SEM). *European Journal of Educational Research, Eurasian Society of Educational Research*. ISSN 2165-8714. ISSN 1648-3898 (print). e-ISSN 2538-7138 (online).
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**Book** (including Module/Monograph, Guidebook, Project/Research Report, etc.) **Publication** 

Lead author/editor (by year of publication with the most recent on top)

- Ng, K.T., Mangao, D.D. & Lay, Y.F. (Eds.) (2019). The Southeast Asia Regional Standards for Science Teachers (SEARS-ST) project. Penang, Malaysia: SEAMEO RECSAM.
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- Nur Jahan, A., Hazura, A.B., Corrienna, A.-T. & Ng, K.T. (2014). Teachers' preparedness in classroom teaching and learning: A descriptive study of TIMSS 2011 for Indonesia, Malaysia, Singapore and Thailand. In S. L. Ong, E. J. Gonzalez & Kanageswari, S.S. (Eds.), *TIMSS 2011: What can we learn together?* Reaching greater heights. Penang: SEAMEO RECSAM.
- White, A.L. & Ng, K.T. (2012). <u>East meets West: Australian pre-service teachers' experiences of cultural exchange with</u> <u>implications for mathematics/science learning</u>. In Ahmad, N.M.Z. & Devadason, R.P. (Eds). *Transforming school science education in the 21st century*. SEAMEO RECSAM.

#### Academic Recognition (Fellowship/Scholarship/Bursary/Consultancy, etc.)

Awarded with the following bursary, scholarships, conference/visiting/research fellowships:

- (a) *Fellowship* to attend ICDE M-2009 conference at Netherland;
  - Visiting fellowship to study 'Science and Technology Education' at Auckland College of Education funded by New Zealand government under international cooperation program (1996);
  - Visiting fellowship to study 'Open and Distant Learning' (ODL) in University of Southern Queensland (USQ), Australia (1999);
  - Visiting professor foreign research fellowship to study '*RECSAM as a regional training hub to promote South-south Cooperation*' in Centre for Research on International Cooperation in Educational Development (CRICED) in University of Tsukuba, Japan (2010);
- (b) *Scholarship* for the participation in 'Managing the Integration of Culture into Development Programme' workshop funded by SEAMEO-SPAFA and ASEAN Foundation (2005) at Manila;
- (c) *Bursary* by Nursing and Midwifery Council (NMC) (1992) to study mental health education.

Invited by various national/regional/international institutions as:

- (1) (a) International Technical Committee Member of Society for Research Development (SRD)(2018-2020) to evaluate articles submitted to be considered for Indexed/Scopus journals.
  (b) Co-Chair for ICRTSTMSD-18 conference (4-5 August 2018) held at Bali, Indonesia subsequently granted with life membership; and (c) Chair of Publicity for iCon-MESSSH'20 conference to be held 14-15 August 2020 at RECSAM.
- (2) Consultant, co-researcher, module and book chapter writer for workshops (2018-20) on 'Integration of 5E in primary rural school science' (under Geran Penyelidikan Dana Khas UMS or SDK0026-2018) for primary rural school at Sabah.
- (3) International peer-review editor for articles submitted for presentation at the International Conference on Distance Learning: Research and Innovation for a Digital Society (1-3 August 2019) organized by Sukhothai Thammathirat Open University (STOU); Review editor for articles selected for publication in Open Praxis Volume 8, 2016 organised by Internatioal Council of Distance Education (<u>ICDE</u>).
- (4) Panel of judge to evaluate teachers' projects during the National level pedagogy innovation competition (Pertandingan Inovasi Pedagogi Peringkat Negeri)(19-20/6/19) organized by Institut Pendidikan Guru Kampus Pulau Pinang (IPGPP)
- (5) Secretariat (2009/10) and/or judge for water related themes drawing competition in conjunction with annual World Water Day celebration organized by WaterWatch Penang (2009-2019)[URL: http://www.waterwatchpenang.org/worldwaterday];
- (6) Judge for the national (2005), judge (1996-2018) and chief judge (11-14/8/2015, 20-21/7/2016 and 9-10/82017 at IPGMTB) for Science/Technology Category for Innovation Competition during Penang State Science and Technology Carnivals (annually from 1996-2018)[URL: http://sctechkoku.blogspot.com/2013/04/karnival-pendidikan-sains-teknologi.html];
- (7) Chief judge for Penang Green Idol (Talent Contest) organized by Penang Green Council (PGC)

at Sunway Carnival, Butterworth (14 April 2016); Panel judge for student category competition during I-PEINX 2016 competition at UTM, Skudai (17 April 2016); Panel judge for Science and Technology Literacy competition organized by Association for Science and Mathematics Education Penang (ASMEP)(2014).

- (8) Judge for National Lego Robotics competitions (2003, 2005);
- (9) Auditor for school (SMK Sg Nibong) participated in Chief Minister Green Award (CMGA)(2005);
- (10) Consultant to provide input for the development of HEBAT science curriculum to raise achievement of TIMSS and PISA organized by British Council under the Government Transformation Programme (GTP) funded by MOE, Malaysia (Dec 2013-2015).
- (11) Consultant for Mesyuarat Kawal Mutu Dokumen Standard Kurikulum dan Pentaksiran (DSKP) Sains Tingkatan 1 (23-24/2/2015) sponsored by Bahagian Perkembangan Kurikulum (BPK).
- (12) Consultant to provide input for Mini Lab on Higher Order Thinking Skills (HOTs) in Science (19/12/2012) organized and sponsored by PEMANDU and Ministry of Education (MOE) Malaysia with submission of doctoral thesis to PEMANDU;
- (13) Participant (with VIP invitation) during Bett Asia Leadership Summit (3-4 December 2014) at Marina Bay Sands, Singapore.
- (14) Consultant/facilitator involved in providing input during the science experiment (5/6/2012) and e-learning (SEARCH portal and subportals) workshops for teachers and students of SK Pos Dipang.
- (15) Consultant for the development of guidebook for Scientific and Technological Literacy (STL) project funded by UNESCO (2005-07) with second edition published by Lee (2008) [http://elib.uum.edu.my/kip/Record/vtls000031851] and Climate Change (2010) resource guide [URL: http://www.recsam.edu.my/Reference/Books/2010/Teachers%20Guidebook-CCE-Wholeguide.pdf];
- (16) Consultant/Resource person for SEAMEO UN-HABITAT project for 'Human Values-based Water, Sanitation and Hygiene Education' (HVWSHE) or 'South East Asia Water And Values Education' (SEA WAVE)(SEAMEO Secretariat, 2007) in SEAMEO Secretariat, Bangkok (2006), SEAMEO Innotech, Manila (2006) and SEAMOLEC, Jakarta (2007); coordinator/ plenary speaker for 'Regional Training of Trainer (TOT) course for HVWSHE (2007) at RECSAM; etc.

### Academic Awards/Achievement/Acclaims/Accolades/Appreciation

#### International

- '<u>ICDE prize for innovation and best practices</u> for 'Leadership' category' during the 25<sup>th</sup> ICDE World Conference with theme 'New Strategies for Global Open, Flexible and Distance Learning', 16<sup>th</sup> to 18<sup>th</sup> October, 2013 at Tianjin, China. The winning paper in which she was the lead writer entitled '*Promoting sustainable living in the borderless world through blended learning platforms*'. It was published in <u>Open Praxis</u> that was indexed [URL: http://www.openpraxis. org/index.php/OpenPraxis, http://www.openpraxis.org/index.php/ OpenPraxis/issue/archive] and compiled in the 75<sup>th</sup> anniversary compendium [URL: http://www.icde.org/en/icde\_news/ 75th\_anniversary\_year/ and http://www.icde.org/en/icde\_news/news\_archive/2014/july\_-\_ september/Open+Praxis+publishes+compendium+of+papers.b7C\_wRnWZf.ips], and so forth.
- 2. International exposition on 'Syariah Compliant Idea, Invention, Innovation & Design' (SCIIID) 2014 (held on 26-27 November at Dewan Sri Budiman UiTM Shah Alam). The following projects/products proposed by her were presented:
  - (i) An interactive learning tool to promote thinking skills through effective questioning in science/ mathematics teaching (Design category)(Gold award)

- (ii) Development of a model to promote 'Values-based Environmental Economy, Mathematics and Science/Social Science' (VEMS) Education among youths for financial management incorporating Islamic values (Innovation category)(Silver award)
- 3. During the ICRDSTHM-17 (28-29 April 2017 at Kuala Lumpur) and ICRTSTMSD-18 (4-5 August 2018 at Bali, Indonesia) conferences organized by SRD, the following papers won recognition/award:
  - (a) 'Development of transdisciplinary models to manage knowledge, skills and innovation processes integrating technology with reflective practices' presented in International Conference on Recent Developments in Science, Technology, Humanities and Management (ICRDSTHM-17) [Editor's choice] (https://www.ijcaonline.org/proceedings/icrdsthm2017)
  - (b) 'Transforming public libraries into digital knowledge dissemination centre in supporting blended learning programmes for rural youth' presented in International Conference on Recent Trends in Science, Technology, Management and Social Development (ICRTSTMSD-18) conference (4-5 August 2018) [Best paper award]
- 4. (a) The article as lead author entitled '*Relationship between affect and achievement in science and maths in Malaysia and Singapore*' that was published in 2012 in the ISI journal *Research in Science and Technological Education* [URL: http://www.tandfonline.com/doi/full/10.1080/02635143.2012.708655#.UgEY\_tKbdnM] *Vol.30, Issue 3, 2012* under Routledge Taylor and Francis Group was listed as one of the most frequently downloaded in the year.



(b) The book chapter as co-author entitled 'Adopting mobile devices in classroom, frameworks for ICT policy, 10.4018/978-1-61692-012-8.ch003, (34-49)[https://www.igiglobal.com/gateway/chapter/43771] was cited in highly cited publication [https://onlinelibrary.wiley.com/doi/abs/10.1046/j.0266-4909.2003.00027.x] [https://scholar.google.com/scholar?start=70&q=ng+khar+thoe&hl=en&as\_sdt=0,5]

Innovation and best practice in open and distance education         I_Gil-Jaurena, B Malik - Open Praxis, 2013 - openpraxis.org         The prize on the theme of leadership was awarded to Khar Thoe Ng, Suma Parahakaran, Rhea Febro, Egbert Weisheit and Tan Luck Lee for their paper Promoting sustainable living in the borderless world through blended learning platforms         ☆ ワワ Cited by 1 Related articles All 9 versions ≫         Application of SPSS in theoretical mechanics education         HB Sun, TT Liu - Applied Mechanics and Materials, 2012 - Trans Tech Publ         Allen & Unwin. (2005) [3] Ng Khar Thoe, Soon Seng Thah & Fong Soon Foo, Malaysian Journal of Educational Technology, Vol 10, No. 1. (2010) [4] Sofia D. Anastasiadou, Lazaros Anastasiadi, International Journal of Applied Science and Technology, Vol 1. No. 1. (2011)         ☆ ワワ Cited by 2 Related articles All 4 versions	[HTML] openpraxis.org	1
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	1 University of Duisburg-Essen, Germany, 3 Väzjö University, Sweden,	2 University of Bath, UK., 4 University of Birmingham, UK.
Guest editorial: Wireless and mobile technologies in education	Correspondence: Richard Joiner, Department of Psychology, University of Bath, Bath BA27A Email: rjoiner@	

- 5. The 6<sup>th</sup> International Conference on Science and Mathematics Education (CoSMEd 2015) with theme '*Revitalising Science and Mathematics Teaching and Learning Culture towards Sustainable Living*' (16-19 November 2015) and the 7<sup>th</sup> CoSMEd 2017 with theme '*Humanising STEM education for Sustainable Development Goals in the 21<sup>st</sup> century*' (13-17 November 2017) held at SEAMEO RECSAM, Penang, Malaysia. The following papers and posters were presented as author/co-author and won awards:
  - (i) <u>'The predictive effects of school safety on Southeast Asian Grade 8 students' science</u> <u>achievement in TIMSS 2015'</u> [Organiser's Choice Award (Science Education Category)]( <u>https://journal.unnes.ac.id/nju/index.php/jpii/article/view/18898</u>)
  - (ii) Students' engagement and science achievement in TIMSS 2011: A comparative study between Malaysia and Singapore [Best Paper Award (Science Education Category)]
  - (iii) Reviving mathematics/science learning culture supported by digital platforms to promote sustainable energy education for all [Best Poster Award: Gold and Champion (Digital Category)]
  - (iv) Developing essential skills for sustainable future living in technology-enhanced teacher education programmes [Best Poster Award: Silver (Digital category)]
  - (v) Reinvigorating technology-enhanced science learning culture: Preparing quality teachers with MSTQS as a guide for Continuing Professional Development [Poster Award: Special Mention (Digital Category)]
  - (vi) Strategizing green school initiatives through 'PEACE' approach [Poster Award: Special Mention (Digital Category)]
  - (vii) Optimizing the use of blended learning platforms in monitoring and evaluating disaster risk reduction education [Poster Award: Special Mention (Digital Category)]
  - (viii) Enhancing science learners' awareness on conservation and wise use of resources integrating Information and Communication Technology [Best Poster Award: Gold and Champion (Non-digital/A1-size Category)]
  - (ix) Fostering global citizenship through agro-environmental projects with focus on conservation and wise use of resources [Best Poster Award: Silver (Non-digital Category)]
  - (x) Nurturing sustainable water use ethics through emerging practices in Mathematics and Science classroom integrating blended learning platform [Best Poster Award: Bronze (Non-digital/A1-size Category)]
  - (xi) Promoting learners' essential skills in climate awareness education through blended learning mode [Poster Award: Special Mention (Non-digital/A1-size Category)]

- (xii) Development of MSTQS from SEARS-ST: A recent initiative [Poster Award: Special Mention (Non-digital/A1-size Category)]
- (xiii) Enhancing the employability skills for future generation: An experience with biotechnology education using technological tools [Poster Award: Special Mention (Non-digital/A1-size Category)]

## Regional

- 1. 'Best poster award' (as lead author) during the first 'Regional Conference on Campus Sustainability' (1RCCS2014) at Universiti Malaysia Sabah (UMS) from 7-9 April 2014 [http://www.ums.edu.my/ecomc/index.php/en/sep-resources/m-publication/44-1rccs-proceeding] for poster entitled 'Building sustainable campus with creative minds through networking and human resource development'.
- 'Best paper award' (as lead author) during the <u>second 'Regional Conference on Campus</u> <u>Sustainability'</u> (2RCCS2015) at Universiti Malaysia Sabah (UMS) from 6-8 April 2015 [http://www.ums.edu.my/ecomc/index.php/en/sep-resources/m-publication/74-a-e-2rccsproceedingsvol1] for paper entitled '<u>Empowering lifelong skills development through</u> <u>blended-mode borderless learning platforms in sustainable campus including the underserved</u>'.
- 'Best paper award' (as lead author) during the third 'Regional Conference on Campus Sustainability' (3RCCS2016) at Adamson University, Manila from 8<sup>th</sup> to 9<sup>th</sup> April 2016 for paper entitled '*Preparing sustainable platforms for professional development and networking:* <u>A reflective study towards stronger SEAMEO community</u>'.
- 'SEAMEO QITEP in Language' (SEAQIL) Research Grant (REGRANT) (as second co-author) awards (2016-2019) including presentation of research output in two international conferences organized by SEAQIL
  - (a) 'Exploring language trainees' literacy beliefs and perceptions using a values-based approach in online teaching and learning' (SEAQIL REGRANT 2016 award). This project was also presented during AISOFOLL 2017 conference (Theme: 'Supporting the enhancement of critical thinking skills through language teaching')(16-19 October 2017 at West Jakarta).
  - (b) 'Human values-based language teaching using Higher Order Thinking Skills for teaching for (URL: secondary school students using the Dhall and Tehseen Model' http://web.giteplanguage.org/wpcontent/uploads/2018/07/recipients\_regrants\_2018.pdf)(No. 25). This project was also  $10^{\text{th}}$ AISOFOLL presented in the 2019 conference (http://aisofoll.giteplanguage.org/home/?fbclid=IwAR3HJ9ArQSOD3CjROfgXN7QzI8zdz0 UUIWbQVX2e3kQm6tN7G1ph1-N4E88).
- Intel Webinar Penang Host for Malaysia and SEAMEO region [implemented in Regular/Customized Courses (2010) and 'Search for SEAMEO Young Scientists' (SSYS) in 2012]

### National

- 1. Intel Teach awardee for Project-based Activities (PBA) action plan competition (2010), Master Trainer for Intel Teach programme and Webinar Host with free webinar meeting room awarded.
- 2. 'Pertandingan Penyelidikan dan Rekacipta' (PEREKA)(2014) competition organized by UMS in Kompleks Dewan Kuliah Pusat Ke-2, UMS, 27-28 October 2014.
  - (i) Innovation 'Social science, humanities, arts and education' category project entitled "A comprehensive model to examine the interrelated issues for 'STEEEMS' education" (Bronze)
  - (ii) Research category project entitled "Development of an instrument to examine the relationships among humanistic, ego and eco/biocentric views with universal life values" (Bronze award)

- 3. '<u>Pertandingan Penyelidikan dan Rekacipta' (PEREKA)(2015) competition</u> organized by Universiti Malaysia Sabah (UMS) in Kompleks Dewan Kuliah Pusat Ke-2, UMS, 9-10 December 2015.
  - (i) Innovation category project entitled "'STEEEAMING' up sustainable energy era through applications in the interdisciplinary knowledge/skills" (IE01)(Silver award)
  - (ii) Research category project 1 entitled "*Examining learners' thinking patterns and educators*" *questioning techniques through mixed-research with implications to raise achievement in TIMSS and PISA*" (RE09)(Bronze award)
  - (iii)Research category project 2 entitled "Promoting technology-enhanced science learning programmes through values-based leaderships" (RE08)Bronze award)
- 4. 'Innovative Practices in Education and Industry Exhibition' (I-PEINX)(2016) organized by Universiti Teknologi Malaysia (UTM) at Dewan Sultan Iskandar (DSI), UTM, 14 March 2016.
  - (i) 'Design (*Reka Bentuk*)' type for 'Social Science' category project entitled "*Enhancing* essential skills of learners through values-based sustainable energy education leveraging on interactive blended learning tools" (Silver award)
  - (ii) 'Design (*Reka Bentuk*)' type for 'Science and Technology' category project entitled "LeSMaT: A sustainable e-platform for learning science and mathematics together in the borderless world" (Bronze award)
  - (iii) 'Innovation (Inovasi)' type for 'Social Science' category project entitled "Promoting Science, Mathematics, Technology and Language Literacy using STEEEAMS Model: A Pedagogical Innovation" (Gold award)
  - (iv)'Innovation (*Inovasi*)' type for 'Science and Technology' category project entitled "Developing technological innovation models for learning of science/mathematics concepts and engineering skills through transdisciplinary approaches" (Silver award)

### **Centre/Institution**

RECSAM's staff:

(i) BMI competition winner for woman category (2011);

- (ii) Group singing contest consolation (2012) and third prize (2013);
- (iii) Director's appreciation certs in 2014 for ICDE (2013) and 1RCCS (2014);
- (iv) Director's appreciation certs in 2015 for PEREKA (2014) and ISCIIID (2014);
- (v) Excellent Service Award (2015);
- (vi) Director's appreciation certs in 2015 for Best Paper Award during 2RCCS (2015).
- (vii) Xero MC certificates for 2018 (awarded in 2019) and 2019 (awarded on 15<sup>th</sup> January 2020).

### School/University

- 1. Schools:
- (a) St. John Ambulance 'First Aid and Marching' competition at state level representing Penang Chinese Girls' High School (Champion Team) and Volleyball house player winning team (1981).
- (b) School brass band president. Editor for school graduation magazine [Form 5: SJK(C)PCGHS]
- (c) School prefect [Form 6: SGGS].
- 2. University:
- (a) Committee and editor for Chinese Society;
- (b) Winner for song composing competition ('Outstanding Award' in 1988) organized by Chinese Society at Universiti Sains Malaysia (USM), Penang.

# Keynote/Plenary Speaker in Seminar/Colloquium/Forum/Conference

(i) Colloquium/Seminar/Plenary speaker, Co-Chair/Chairperson (2015-2019)

(a) Plenary Speaker and Chairperson during the First (1/2015) Seminar/Colloquium (27/5/2015) entitled 'The development

of Malaysian Science Teacher Quality Standards (MSTQS) from Southeast Asia Regional Standards for Science

Teachers (SEARS-ST): How can this affect science teachers' performance to raise students' achievement in TIMSS

and PISA?' for Dimension 4: Professional Development.

(b) Colloquium/Co-Chair speaker for the following topics:

(i) Colloquium (July 2010) entitled 'Promoting culture for investigative research: Lessons learnt from Japan' as speaker.

(ii) Colloquium (1st/13) entitled 'Developing essential skills for sustainable living' (3-5 p.m. at 19/4/2013) as chairperson and speaker.

- (iii) Developing Open and Distant Learning (ODL) modules and tools to promote ESD and values-based education'. Presentation during the colloquium organized in conjunction with Critical Success Factor (CSF) workshop 1/2016 (24th May) at RECSAM.
- (iv) 'Promoting LeSMaT(Borderless) among SEAMEO 50x3 network schools through blended-mode digital learning platform and Champion School Awards competition'. Presentation during the colloquium organized in conjunction with Critical Success Factor (CSF) workshop 3/2017, 15th-19th May 2017. Penang, Malaysia: SEAMEO RECSAM.
- (v) 'Supporting transdisciplinary science/mathematics education, management and social development integrating use of e-tools and sustainable technology-enhanced communities'. Invited talk delivered as Co-Chair and compiled in the refereed Proceedings of the International Conference on Recent Trends in Science, Technology, Management and Social Development (ICRTSTMSD-18), August 4-5, 2018 at Bali, Indonesia.
- (vi) 'LeSMaT (Borderless) curriculum and blended-mode training' Presentation during the colloquium organized in conjunction with CSF workshop 5/2018 (28/8) at RECSAM.
- (v) 'The roles of RECSAM to promote lifelong learning in STEM education: Experience and the way forward'. Presentation during the colloquium on 'Promoting lifelong Mathematics and Science education with prototypes and blended-mode activities: Research and exemplars' (21<sup>st</sup> August 2019) at RECSAM.

### (i) Keynote/Plenary/Invited speakers [India (2016), Thailand (2017), ASMEP (2019)]:

- (a) 'Advanced tools: A challenge in the digital era for teaching and learning in schools' (first title) and 'Partnership, innovation and collaboration: The way forward' (second title). Keynote/plenary presentations during the 1<sup>st</sup> Hyderabad (2<sup>nd</sup> Asia) Summit on 'The New Avatar: Zooming technology into the future and preparing for the present' (2<sup>nd</sup>-3<sup>rd</sup> July, 2016) at Telengana Tourist Plaza, Hyderabad, India. [URL: <u>https://www.linkedin.com/company/geaerd]</u>
- (b) 'Smart learning hub in SEARCH for innovative SEAMEO Science and Mathematics researchers' [Keynote presentation during the Regional Academic Seminar/Forum on 'Smart ASEAN via Smart Learning Hub, Smart Media and Communication' from 7-8 February, 2017, organized by Sukhothai Thammatirat Open Unniversity (STOU), Thailand.]
- (c) 'From STEM to STEAM through LearnT-SMArET' (Invited speech during the 53<sup>rd</sup> Annual General Meeting (AGM) at Bilik Persidangan Idris Bajbee, Pusat Pengajian Ilmu Pendidikan (PPIP), USM on 2-5 p.m., 20 March 2019.
- (ii) Keynote/Plenary speakers [Philippines (2011, 2012), Jakarta (2012 and Malaysia (2007, 2012)]:
- (a) Plenary speaker [invited by Southeast Center for Training and Development (SECTD) at Philippines] for topics listed below during the conferences at:
  - (i) Ateneo de Manila University, Quezon City (27-29/2011); (ii) Baguio Convention Center, Baguio City (9-11/3/2012); (iii) Leyte, National High School, Tacloban City (16-18/3/2012); (iv) Penang (8-10/5/2012)

- [Ng, K.T. (2011d). *Technology in Educational Innovation*. Plenary presentation at 'International Conference on Educational Innovation Leadership'. December 27 to 29, 2011 at Ateneo de Manila University, Quezon City, Philippines.
- Ng, K.T. (2012a). *Introduction to Inquiry-based investigation: Guided discovery learning*. Plenary presentations at 'International Seminar on Science and Mathematics Education'. 9<sup>th</sup> to 11<sup>th</sup> March, 2012 at Baguio Convention Center, Baguio City; 16<sup>th</sup> to 18<sup>th</sup> March at Leyte National High School Tacloban City, Philippines; and May 8 to 10 at RECSAM.
- Ng, K.T. (2012b). Problem-based Learning (PBL) via Scaffolded Instruction (SI) integrating ICT with examplars on Climate Change issues. Plenary presentations at 'International Seminar on Science and Mathematics Education'. 9th to 11th March, 2012 at Baguio City; 16th to 18th March at Tacloban City, Philippines; and May 8 to 10 at RECSAM.
- Chong, H.Y. & Ng, K.T. (2012). Exploring global 'Climate Change' issue incorporating knowledge in Science (especially Astronomy, Environmental Education) and Mathematics through Guided Discovery Learning and PBL-SI integrating ICT. Plenary presentation at 'International seminar on Science and Mathematics Education'. 9th to 11th March, 2012 at Baguio Convention Center, Baguio City and 16th to 18th March at Leyte National High School, Tacloban City, Philippines.]
- (b) Keynote speaker (*Enhancing lifelong science learning using technological tools*) during 3<sup>rd</sup> International Conference on Science Education and Teacher Professional Development organized by SEAMEO Regional Centre for Quality Improvement of Teachers and Education Personnel (QITEP) in Science (or SEAQIS) from 16-19 September, 2012 at Millennium Hotel, Jakarta, Indonesia.

[Ng, K.T. (2012c). *Enhancing lifelong science learning using technological tools*. Keynote plenary presentation during the 3<sup>rd</sup> International Conference on Science Education and Teacher Professional Development organized by SEAMEO Regional Centre for Quality Improvement of Teachers and Education Personnel (QITEP) in Science, 16 to 19 September 2012 at Millennium Hotel, Jakarta.]

(c) Keynote/plenary speaker for sub-theme "Water for Health, Sanitation and Recreation" during the Regional Training of Trainers (TOT) on Integration of 'Human Values-based Water, Sanitation and Hygiene Education' (HVWSHE)(16 to 25 May 2007).

### (iii) Invited speaker/Resource speaker/Facilitator/Trainer at other SEAMEO countries:

- (a) Montfort College Teacher Training Workshop (17/12-22/12/02) at ChiangMai, Thiland
- (b) Brunei Sister School Project at Sek Men Sultan Muhammad Jamaluddin Alam (SMJA)(30/6-4/7/2003) at Bandar Seri Begawan, Negeri Brunei Darussalam.

# (iv) Key speaker/Resource speaker/Facilitator/Trainer at Malaysia (2007-2010):

Key/Resource speaker with sharing of publications of off-line (1997-2010) and on-line (2010-2014) resources:

- (a) SMJK Ave Maria, Ipoh [Young Ambassador for Chemistry (YAC) workshop (2010) to facilitate SAW programme;
- (b) Workshop on topic 'Web-based resources for PBA with guide to assessment/evaluation of projects during Science and Technology Carnival organized by Penang State education Department (SED) 3-4 May, 2011.
- (c) Provide CPD programmes for project/Master/Excellent teachers and/or students in Smart/Cluster/High Performing secondary and primary schools [e.g. SMK AI-Mashoor(L), SMK Penang Free, SMK Abdullah Munshi, SMK Convent Green Lane, SMK AI-Irshad, SMJK(C) Chung Ling, SMK Sungai Nibong, SM Sains Tun Syed Sheh Shahabuddin (SMSTSSS), SMK(P) Sri Mutiara, SJK(C) Kwang Hwa and other schools listed in the SAW database as reported in CRICED Tsukuba University 'South-South Cooperation' fellowhip report (Ng, 2010, pp.165-167). SMK(P) Sri Mutiara was the project school ranked the highest in Malaysia and the fourth highest in the world (2008-2010) with research-based publications as listed. The following are some of the workshops conducted: PBA-101 workshop (2007), SP3ACEMAN-PBL workshop (2008), Action research and SAW (2009), SAW-PBL workshop (2009) under excellent cluster school programme and science motivation workshop organized by USM museum (2010), CL-Global and Vision Academy (M) (2007-8), SMSTSSS, SMK AI-Mashoor(L), SMK Sri Mutiara (2008-2010).
- (d) Provide advice to prepare projects for LearnT-SMArET online course series, e.g. Chung Ling Butterworth

(CLB)(2014-2019), SMK Serendah Hulu Selangor (2017), SMJK Phor Tay (2017-2018), SMJK(C) Chung Ling (2018-19), SMK Bagan Jaya (2018-2019), to name a few.]

#### Presentation of Papers/Posters in Conference/Colloquium/Seminar/Workshop/Symposium/Meeting

#### Lead author/presenter (by year of publication with the most recent on top)

- Ng, K.T., Lay, Y.F. & Corrienna, A.T. (2019). Lessons learnt from TIMSS in achieving STEAM goals: Exemplars in blended-mode training. CoSMEd-TIMSS conference 2019. Penang, Malaysia: SEAMEO RECSAM.
- Ng, K.T., Taufek, M., Teh, K.H., & Mangao, D.D. (2019). *Partnerships in achieving SDGs: Exemplars from SEAMEO RECSAM*. Paper presented during the Second International Conference on SDG. 30 to 31 July at Olive Tree hotel, Penang, Malaysia.
- Ng, K.T. (2019a). The roles of RECSAM to promote lifelong learning and STEM education: Experience and the way forward. Presentation during colloquium (21/8/2019) at RECSAM.
- Ng, K.T. (Ed.)(2019b). Report on SEAMEO 'Learning Science and Mathematics Together' (LeSMaT) In a Borderless World. Information Paper No.7 (IP-7) presented in the 50th Governing Board Meeting (GBM). 24-26 September, 2019 at Kuala Lumpur, Malaysia.
- Ng, K.T. (2019c). Introduction to LearnT-SMArET: What, Who, Where, Why, How, When. Presentation (7 November) during the 'LearnT-SMArET with promotion of scientific/mathematical, problem-solving and computational thinking skills' online training course (7/11-12/12/2019) led by SEAMEO RECSAM in collaboration with SEAMEO Secretariat, SEAMOLEC, SEAQIM, SEAQIS & Biotrop.
- Ng, K.T. (2019d). Registering Edmodo with guide from LeSMaT(Borderless) official FB group as exemplary digital tool and e-platform to promote LearnT-SMArET. Presentation (7 Nov) during 'LearnT-SMArET with promotion of scientific/mathematical, problem-solving and computational thinking skills' e-course (7/11-12/12/19) led by RECSAM in collaboration with SEAMEO Secretariat, SEAMOLEC, SEAQIM, SEAQIS & Biotrop.
- Ng, K.T. (2019e). Enhancing thinking, technology and life (work/survival/ entrepreneurship) skills through transdisciplinary science/mathematics education: Exemplary project/issue-based learning [Part A: 21 November (including SE4ALL, TeleHeal and ConWUR); and Part B: 12 December (including CADRRED and LAMS output)].Presentations during the 'LearnT-SMArET with promotion of scientific/mathematical, problem-solving and computational thinking skills' online training course (7/11-12/12/2019) led by RECSAM in collaboration with SEAMEO Secretariat, SEAMOLEC, SEAQIM, SEAQIS and Biotrop.
- Ng, K.T. (2019f). *Guide to prepare project proposal and/or final assignments (1 and 2).* Presentation (21 November and 12 December) during the 'LearnT-SMArET with promotion of scientific/mathematical, problem-solving and computational thinking skills' online training course (7/11-12/12/2019) led by SEAMEO RECSAM in collaboration with SEAMEO Secretariat, SEAMOLEC, SEAQIM, SEAQIS and Biotrop.
- Ng, K.T., Anti, R. & Thanit, P. (2019). Introduction. Familiarisation with digital tools for online training and communication: WebEx and Telegram. Presentation (7 Nov) during the 'LearnT-SMArET with promotion of scientific/mathematical, problem-solving and computational thinking skills' online training course (7/11-12/12/19) led by RECSAM in collaboration with SEAMEO Secretariat, SEAMOLEC, SEAQIM, SEAQIS and Biotrop.
- Ng, K.T. (2018). Supporting transdisciplinary science/mathematics education, management and social development integrating use of e-tools and sustainable technology-enhanced communities. Invited Talk delivered as Co-Chair and compiled in the refereed Proceedings of the International Conference on Recent Trends in Science, Technology, Management and Social Development (ICRTSTMSD-18), August 4-5, 2018 at Bali, Indonesia.
- Ng, K.T. (Ed.)(2018a). Progress report on SEAMEO 'Learning Science and Mathematics Together' (LeSMaT) In a Borderless World. Presentation during 18<sup>th</sup> SEAMEO Centre Directors' Meeting (CDM). 26-28 July, 2018. Bangkok.
- Ng, K.T. (Ed.)(2018b). Report on SEAMEO 'Learning Science and Mathematics Together' (LeSMaT) In a Borderless World. Information Paper No. 5 (IP-5) presented in the 49<sup>th</sup> Governing Board Meeting (GBM). 25-27 September, 2018 at Ho Chi Minh City, Vietnam.

- Ng, K.T. (2018c). Introduction to LearnT-SMArET: What, Who, Where, Why, How, When. Presentation during the 'LearnT-SMArET through championing use of digital tools and e-platforms' online training course (5/11-10/12/2018) organised by SEAMEO Secretariat and RECSAM.
- Ng, K.T. (2018d). Enhancing thinking, technology and life (work/survival/entrepreneurship) skills through transdisciplinary science/mathematics education: Exemplary project/issue-based learning [Part A: 19 November (including SE4ALL and TeleHeal); and Part B: 6 December (including CADRRED and ConWUR)].Presentations during the 'LearnT-SMArET through championing use of digital tools and eplatforms' online training course (5/11-10/12/2018) organised by SEAMEO Secretariat and RECSAM.
- Ng, K.T. (2018e). Registering Edmodo with guide from LeSMaT(Borderless) official FB group as exemplary digital tool and e-platform to promote LearnT-SMArET .Presentation during 'LearnT-SMArET through championing use of digital tools and e-platforms' online training course (5/11-10/12/2018) organised by SEAMEO Secretariat and RECSAM.
- Ng, K.T. (2018f). *Guide to prepare project proposal and/or final assignments (1 and 2).* Presentations (19 November and 10 December) during the 'LearnT-SMArET through championing use of digital tools and e-platforms' online training course (5/11-10/12/2018) organised by SEAMEO Secretariat and RECSAM.
- **Ng, K.T.** (2018g). *Preparation of e-certs as follow-up activities for the conduct of blended-mode trainings/events.* Presentation during In-House Workshop conducted at ICT Laboratory 1, Penang: SEAMEO RECSAM.
- Ng, K.T., Gatot, H.P., Purnomo, A., Lay, Y.F., & Awangku Hassanal Bahal, P.B. (2018). Promoting LearnT-SMArET through managing blended-mode competition: A reflective study with exemplary output from Criterion-Reference Assessment. Presentation compiled in the refereed Proceedings of the ICRTSTMSD-18, August 4-5, 2018 at Bali.
- Ng, K.T. (2017a). Smart Learning Hub in SEARCH for Innovative SEAMEO Science and Mathematics Researchers. Keynote presentation during the Regional Academic Seminar on 'Smart ASEAN via Smart Learning Hub' from 7-8 February, organized by Sukhothai Thammatirat Open University (STOU), Thailand.
- Ng, K.T. (2017b). Exploring science curriculum of Brawijaya: Physics emphasizing on current trends. Presentation compiled in the module prepared for 'Developing 21<sup>st</sup> century skills through learning Science and Mathematics: A seminar workshop for students of Brawijaya Smart School, Malang, Indonesia. From 14-21 February. Penang: SEAMEO RECSAM.
- Ng, K.T. (2017c). Promoting LeSMaT (Borderless) among SEAMEO 50x3 network schools through blended-mode digital learning platform and Champion School Awards competition. Presentation during the colloquium organized in conjunction with Critical Success Factor (CSF) workshop 3/2017, 15<sup>th</sup> -19<sup>th</sup> May. Penang, Malaysia: SEAMEO RECSAM.
- Ng, K.T. (Ed.)(2017d). Update report on SEAMEO 'Learning Science and Mathematics Together' In a Borderless World [LeSMaT (Borderless)]. Working Paper (WP) presented in the 49<sup>th</sup> SEAMEC Conference. 25-26 July, 2017 at Jakarta, Indonesia.
- Ng, K.T. (Ed.)(2017e). Update report on SEAMEO 'Learning Science and Mathematics Together' In a Borderless World [LeSMaT (Borderless)]. Working Paper (WP) presented in the SEAMEO Centre Directors Meeting (CDM). 26-28 July, 2017 at Jakarta, Indonesia.
- Ng, K.T. (2017f). SEAMEO RECSAM's Virtual/ E-Learning Programmes. Presentation (4/9) during Workshop on 'Capacity Building (CB) for SEAMEO Centres (Theme: SEAMEO Education Agenda and Virtual Programmes) conducted from 4 to15 September, 2017 at Bangkok, Thailand: SEAMEO Secretariat Office.
- Ng, K.T. (2017g). LearnT-SMArET through Championing Use of Digital Tools and E-Platform. Presentation (8/9) during Workshop on 'Capacity Building (CB) for SEAMEO Centres (Theme: SEAMEO Education Agenda and Virtual Programmes) conducted 4 to15 September, 2017 at Bangkok, Thailand: SEAMEO Secretariat Office.
- Ng, K.T. (2017h). Action Plan for Virtual Learning (VL) activities in next six months and more for LeSMaT(Borderless), etc.. Presentation (13/9) during Workshop on 'Capacity Building (CB) for SEAMEO Centres (Theme: SEAMEO Education Agenda and Virtual Programmes) conducted from 4 to15 September, 2017 at Bangkok, Thailand: SEAMEO Secretariat Office.
- Ng, K.T. (20175i). Action Plan for 'Build your Augmented Reality Schedule (ICC-CB online programme). First draft prepared (14/9) during Workshop on 'Capacity Building (CB) for SEAMEO Centres (Theme: SEAMEO

Education Agenda and Virtual Programmes) from 4 to15 September, 2017 at Bangkok, Thailand: SEAMEO Secretariat Office.

- Ng, K.T. (Ed.)(2017j). Report on SEAMEO Learning Science and Mathematics Together (LeSMaT) In a Borderless World. Information Paper (IP) 7 presented in the 48<sup>th</sup>Governing Board Meeting (GBM). 26-27 September, 2017. Penang: SEAMEO RECSAM.
- Ng, K.T. (Ed.)(2017k). *Guide to prepare project proposal*. Presentation (27/11 and 30/11) during 'The Real World of Immersive Augmented Reality' Online Training programme conducted from 9 October to 30 November 2017. Online training programme organized and hosted by SEAMEO Secretariat at Bangkok, Thailand.
- Ng, K.T., Lay, Y.F., Parahakaran, S., & Montecillo, P.L. (2017). Developing sustainable education models in blended-learning platforms to promote STEM and environmental literacy with life skills development. Presentation at symposium on theme 'Blended learning' during International Conference on Science and Mathematics Education (CoSMEd) 2017, November 16, 2017 at SEAMEO RECSAM.
- Ng, K.T. (2016a). Essential elements in paper writing Element 1: Introduction, Rationale, Objective, Research question; Element 5: Findings, Discussion and Conclusion. Presentation compiled in the module prepared for Academic Writing workshop (30-31 March 2016). SEAMEO RECSAM.
- Ng, K.T. (2016b). Developing Open and Distant Learning (ODL) modules and tools to promote ESD and valuesbased education. Presentation during the colloquium organized in conjunction with Critical Success Factor (CSF) workshop 1/2016, 24<sup>th</sup> May at SEAMEO RECSAM.
- Ng, K.T. (2016c). Advanced tools: A challenge in the digital era for teaching and learning in schools. Keynote/plenary presentation during the 1<sup>st</sup> Hyderabad (2<sup>nd</sup> Asia) Summit on 'The New Avatar: Zooming technology into the future and preparing for the present'. 2<sup>nd</sup> July 2016 at Hyderabad, India.
- **Ng, K.T.** (2016d). *Partnership, innovation and collaboration: The way forward*. Keynote/plenary presentation during the 1<sup>st</sup> Hyderabad (2<sup>nd</sup> Asia) Summit on 'The New Avatar: Zooming technology into the future and preparing for the present'. 2<sup>nd</sup> July 2016 at Telengana Tourist Plaza, Hyderabad, India.
- Ng, K.T. (2016e). Essential techniques in writing and presenting a research paper Session 3: Making decisions for presentation; Session 5: Participating in poster presentation. Presentation compiled in the module prepared for workshop on academic writing and paper presentations for Nakhon Sawan Rajabhat University, Thailand. 18-19 July, 2016. SEAMEO RECSAM.
- Ng, K.T. (Ed.)(2016f). Update report on the SEAMEO Learning Science and Mathematics Together (LeSMaT).Working Paper (WP) presented in the Centre Directors Meeting (CDM).27-29 July, 2016.Sukhumvit Hotel, Bangkok.
- Ng, K.T. (Ed.)(2016g). *Report on SEAMEO Student Networking LeSMaT Initiative*.Information Paper (IP) 6 presented in the 47<sup>th</sup>Governing Board Meeting (GBM).20-22 September, 2016. Penang: SEAMEO RECSAM.
- Ng, K.T. (2016h). Promoting Golden SEAMEO students' networking activities through LeSMaT (Borderless) eplatforms with more opportunities/exposure and Enhancing Teachers' Continuing-professional- development with Higher-learning-opportunities (EnTeaCH). Presentation during the colloquium organized in conjunction with Critical Success Factor (CSF) workshop 2/2016, 11<sup>th</sup> October at SEAMEO RECSAM.
- Ng, K.T. (2016i). Promoting Education for Sustainable Living (ESL) through blended learning platform: An introduction to useful digital tools for networking activities. Workshop presentation in conjunction with International Conference on Education for Sustainable Development (ICESDev), 26th October 2016 at SEAMEO RECSAM.
- Ng, K.T. (Ed.)(2016j). SEAMEO student networking 'Learning Science and Mathematics Together' (LeSMaT) in the borderless world initiative.Executive Report compiled in the CD-ROM for the 39<sup>th</sup> Higher Officials Meeting (HOM). 15 to 17 November 2016. Amari Watergate Hotel, Bangkok, Thailand.
- Ng, K. T., Ch'ng, D.Y.S., Lay, Y.F., Parahakaran, S., Ng, Y.Y.. & Ong, L.S. (2016). Enhancing essential skills of learners through values-based sustainable energy education leveraging on interactive blended learning tools.

Project presented in Innovative Practices in Education and Industry Exhibition (I-PEINX 2016), 14 March at Dewan Sultan Iskandar, Universiti Teknologi Malaysia (UTM), Johor.

- Ng, K. T., Hideo, N., Mohd. Johan, Z., Suhaidah, T., Leong, Y. C., Thien, L. M., & Montecillo, P. L. (2016). Developing technological innovation models for learning of science/mathematics concepts and engineering skills through transdisciplinary approaches. Project presented in Innovative Practices in Education and Industry Exhibition (I-PEINX 2016), 14 March at Dewan Sultan Iskandar, Universiti Teknologi Malaysia (UTM), Johor, Malaysia.
- Ng, K.T., Lay, Y.F., Ng, S.B., & Devadason, R.P. (2016). Development of Southeast Asia Regional Sandards for Science Teachers (SEARS-ST) for teacher professionalism in Science and Technology Education (STE): Lessons learnt and the way forward. Presentation in XVII International Organisation of Science, Technology Education (IOSTE) Symposium on 'STE for a peaceful and equitable world' organized by IOSTE and CIEC Institute of Education. 11-16 July, 2016 at University of Minho, Braga, Portugal.
- Ng, K. T., Mohd. Faizal, Z., Baharulnizam, B., Shamsul Azha, M.Y., Wong, L.C., Nur Jahan, A. & Corrienna, A.T. (2016). LeSMaT: A sustainable e-platform for Learning Science and Mathematics Together in the Borderless World. Project presented in Innovative Practices in Education and Industry Exhibition (I-PEINX 2016), 14 March at Dewan Sultan Iskandar, UTM, Johor, Malaysia.
- Ng, K. T., Thien, L. M., Hideo, N., Montecillo, P. L., Ng, J.H. & Ong, L.S. (2016). Promoting Science, Mathematics, Technology and Language Literacy using STEEEAMS Model: A Pedagogical Innovation. Project presented (Gold Award) in Innovative Practices in Education and Industry Exhibition (I-PEINX 2016), 14 March at Dewan Sultan Iskandar, Universiti Teknologi Malaysia (UTM), Johor, Malaysia.
- Ng, K.T., Thien, L.M., Mangao, D.D., Mohd. Johan, Z., Montecillo, P.L., Baharulnizam, B., Nur Jahan, A., Hideo, N. & Lay, Y.F. (2016). <u>Preparing sustainable platforms for professional development and networking: A reflective study towards stronger SEAMEO community</u>. Paper presented (Best Paper award) during the 3RCCS. 8<sup>th</sup> to 9<sup>th</sup> April,2016. Manila, Philippines: Adamson University.
- Ng, K.T., Baharulnizam, B., Suhaidah, T., Ch'ng, Y.S., Nur Jahan, A., Mohd. Sazali, K. & Hazura, A.B. (2015). *Development of borderless learning platforms for capacity building in sustainable campus.* Poster presented during the 2<sup>nd</sup> Regional Conference on Campus Sustainability 2014. 6<sup>th</sup> to 8<sup>th</sup> April, 2015. Sabah: UMS.
- Ng, K.T., Lay, Y.F., Hazura, A.B., Parahakaran, S., & Baharulnizam, B. (2015). *Rejuvenating science and mathematics learning culture through technology-enhanced Continuing Professional Development (CPD) programmes to promote values-based leaderships.* Symposium presented during the 6<sup>th</sup> International Conference on Science and Mathematics Education (CoSMEd). 16<sup>th</sup> to 19<sup>th</sup> November, 2015. Penang: SEAMEO RECSAM.
- Ng, K.T., Ng, S.B., Devadason, R.P. & Lay, Y.F. (2015). The development of Malaysian Science Teacher Quality Standards (MSTQS) from Southeast Asia Regional Standards for Science Teachers (SEARS-ST): How can this affect science teachers' performance to raise students' achievement in TIMSS and PISA? Seminar/Colloquium presentation (27/5/2015). Penang: SEAMEO RECSAM.
- Ng, K.T., Nur Jahan, A., Hazura, A.B., Annamalai, C., Baharulnizam, B., Somukawa, T. & Lay, Y.F. (2015). <u>Empowering lifelong skills development through blended-mode borderless learning platforms in sustainable</u> <u>campus including the underserved</u>. Paper presented (Best paper award) during the 2<sup>nd</sup> Regional Conference on Campus Sustainability. 6<sup>th</sup> to 8<sup>th</sup> April, 2015. Universiti Malaysia Sabah. Retrieved April 19, 2015 from URL: https://www.ums.edu.my/ecomc/index.php/en/sep-resources/m-publication/74-a-e-2rccsproceedingsvol1
- Ng, K.T., Parahakaran, S., & Thien, L.M. (2015). <u>Enhancing sustainable awareness through SSYS congress:</u> <u>Challenges and opportunities of e-platforms to promote values-based education</u>. Paper presented and compiled in the proceedings during the Asia Pacific Conference on Education, Society and Psychology (APCESP) organized by Higher Education Forum (HEF). 8<sup>th</sup> to 10<sup>th</sup> January, 2015. Seoul, Korea.

- Ng, K.T. (2014a). Building LAMS supported blended-learning communities: Challenges to promote thinking skills and attitudes for sustainable living through collaborative research. Presentation during the 'Seminar on collaborative research in Science and Mathematics for Teachers'. 16<sup>th</sup> to 17<sup>th</sup> December, 2014. Puchong, K.L.: Sathya Sai Primary School.
- Ng, K.T. (2014b). Introducing framework and philosophy of blended mode technology-enhanced learning. Presentation during the 'Seminar on collaborative research in Science and Mathematics for Teachers'. 16<sup>th</sup> to 17<sup>th</sup> Dec., 2014. Puchong, K.L.: Sathya Sai Primary School.
- Ng, K.T. (2014c). Values-based Astronomy Education (VaAsE): An extension to 'Human Values-based Water, Sanitation and Hygiene Education (HVWSHE) for the betterment of humankind!'. Presentation during the 'Seminar on collaborative research in Science and Mathematics for Teachers'. 16<sup>th</sup> to 17<sup>th</sup> Dec., 2014. Puchong, K.L.: Sathya Sai Primary School.
- Ng, K.T., Aligaen, J., Thien, L.M., & Hazura, A. B. (2014). Tracking milestones and the way forward: The roles of RECSAM in building sustainable campus integrating blended approaches. Paper presented during the 1<sup>st</sup> Regional Conference on Campus Sustainability 2014. 7<sup>th</sup> to 9<sup>th</sup> April, 2014. Malaysia: Universiti Malaysia Sabah.
- Ng, K.T., Baharulnizam, B., Suhaidah, T., Abdul-Talib, C., Ahmad, N.J. & Thien, L.M. (2014). Building sustainable campus with creative minds through networking and human resource development. Poster presented (Best poster award) during the 1<sup>st</sup> Regional Conference on Campus Sustainability 2014. 7<sup>th</sup> to 9<sup>th</sup> April, 2014. UMS, Sabah.
- Ng, K.T., Hazura, A.B., Mohd Johan, Z., Corrienna, A.T., Shamsul, A.M.Y., Suhaidah, T., Nur Jahan, A., Chong, H.Y. & Nurul Fatini, J. (2014). The sky is the limit: RECSAM's roles in promoting astronomy for all. Paper presented and compiled in the Proceedings for the first Astronomy-Falak Education Seminar, October 17 to 19, 2014 at Lecture Theatre A, Universiti Sains Malaysia.
- Ng, K.T., Parahakaran, S., Suhaidah, T., Toh, L., Ch'ng, Y.S. & Ng, J.H.(2014). An interactive learning tool to promote thinking skills through effective questioning in science/mathematics teaching (Design category)(Gold award). Abstract compiled in the programme book of International exposition on 'Syariah Compliant Idea, Invention, Innovation & Design' (SCIIID) 2014 held on 26-27 November at Dewan Sri Budiman UiTM Shah Alam.
- Ng, K.T., Toh, L., & Boey, M.L. (2014). Building LAMS supported blended-mode borderless learning communities: Challenges in promoting thinking skills and attitudes for sustainable living. Practitioner presentation in 9th International LAMS and Learning Design Conference with theme 'Innovation in Learning Design', November 26-27, 2014, hosted by the Lee Kong Chian School of Medicine, a partnership between Nanyang Technological University (NTU) and Imperial College London, at the main campus of NTU, Singapore.
- Ng, K.T. & Abdul-Talib, C. (2013). Information and Communication Technology (ICT) in Education: Lessons learnt and the way forward. Paper presented at the WorldSTE 2013 Conference organized by ICASE, 29 September to 3 October 2013 at UNIMAS, Sarawak. Paper was also selected for publication in STEMplanet 2014 volume 1. (SP20131231056). Retrieved July 2, 2014 from URL: http://stemstates.org/journal/log-in/securitypage/2014-vol-11/information-communication-technology-ict-in-science-education-lessons-learnt-and-the-wayforward.html
- **Ng, K.T.**, Aligaen, J.C. & Abdul-Talib, C. (2013). *Developing essential skills for sustainable living*. Seminar/Colloquium presentation (19/4/2013). Penang: SEAMEO RECSAM.
- Ng, K.T., Aligaen, J.C., Ab. Bakar, H., Abdul-Talib, C. & Ahmad, N.J. (2013). Developing blended mode Continuing Professional Development (CPD) programmers to promote Education for Sustainable Development. Paper presented at the International Seminar on Open and Distance Learning (ODL) and Partnership among Southeast Asian Educational Institutions towards Asean Community 2015 jointly organized by SEAMEO Regional Open Learning Centre (SEAMOLEC), Indonesia and Office of Vocational Education Commission (OVEC), Ministry of Education of Thailand, 10-11 September, 2013 at Aonang Nagapura Resort and Spa, Muang District. Krabi Province. Thailand. Retrieved October 11. 2013 from http://gbm2013.seamolec.org/?page id=139 and http://www.icde.org/en/icde news/news archive/2013/SEAMOLEC+Annual+International+Seminar+on+Open

+and+Distance+Learning.b7C\_wRbW4t.ips

Ng, K.T., Parahakaran, S., Febro, R., Weisheit, E., & Lee, T.L. (2013). <u>Promoting sustainable living in the borderless</u> world through blended learning platforms. Paper presented, awarded with "ICDE prize for innovation and best practices for 'Leadership' category" during the 25<sup>th</sup> ICDE World Conference with theme 'New Strategies for Global Open, Flexible and Distance Learning', 16<sup>th</sup> to 18<sup>th</sup> October, 2013 at Tianjin, China; also published in Open Praxis Volume 5, Issue 4 "ICDE Prizes for Innovation and Best Practice", 275-288. DOI: http://dx.doi.org/ 10.5944/openpraxis.5.4.103 Retrieved October 16, 2013 from URLs: http://www.openpraxis.org/index.php/OpenPraxis and http://www.icde.org/en/icde\_news/ ICDE+Prizes+for+Innovation+and+Best+Practice+awarded.b7C\_wRfS5C.ips

- Ng, K.T., Soon, S.T., Kim, P.L., Toh, L. & Lay, Y.F. (2013). Value-added science Problem-based Learning beyond the classroom with e-portal support: Evidence of its effects on secondary school students' enhanced motivation. Paper presented in the symposium on 'Learning Beyond the Classroom' during the fifth International Conference on Science and Mathematics Education (CoSMEd), November 11-14, 2013 at RECSAM, Penang.
- Ng, K.T. (2012a). Introduction to Inquiry-based investigation: Guided discovery learning. Plenary presentations at 'International Seminar on Science and Mathematics Education'. 9th to 11th March, 2012 at Baguio Convention Center, Baguio City; 16th to 18th March at Leyte National High School Tacloban City, Philippines; and May 8 to 10 at RECSAM.
- Ng, K.T. (2012b). Problem-based Learning (PBL) via Scaffolded Instruction (SI) integrating ICT with examplars on Climate Change issues. Plenary presentations at 'International Seminar on Science and Mathematics Education'. 9th to 11th March, 2012 at Baguio City; 16th to 18th March at Tacloban City, Philippines; and May 8 to 10 at RECSAM.
- Ng, K.T. (2012c). Enhancing lifelong science learning using technological tools. Keynote plenary presentation during the 3<sup>rd</sup> International Conference on Science Education and Teacher Professional Development organized by SEAMEO Regional Centre for Quality Improvement of Teachers and Education Personnel (QITEP) in Science, 16 to 19 September 2012 at Millennium Hotel, Jakarta.
- Ng, K.T. (2012d). <u>Promoting Education for All (EFA) through investigative research supported by e-portals: An experience of teacher development programme.</u> Paper presented in the XV 'International Organization for the Science and Technology Education' (IOSTE) International Symposium on 'Science and Technology Education for development, citizenship and social justice'. 29<sup>th</sup> October to 3<sup>rd</sup> Nov. 2012 at Yasmine Hammamet, Tunisia. [URL: http://www.ioste.org/symposia.htm]
- Ng, K.T. & Kim, P.L. (2012). Incorporating e-learning portals in Problem-based Learning (PBL) for science across disciplines to promote higher order thinking among secondary learners. Paper presented and compiled in the proceedings of the 'International Seminar in Science and Mathematics Education' (ISSME 2012) from 5<sup>th</sup> to 8<sup>th</sup> September, 2012 at Senate Hall, Universiti Teknologi Malaysia (UTM), Skudai, Johor Bahru, Malaysia organized by UTM and Association of Science and Mathematics Education of Johor.
- Ng, K.T., Rozhan, M.I., Toh, L., Boey, M.L. & Chin, C.K. (2012). Switching the mode: An experience from inservice programme to promote student-centred project/problem-based learning using support tool. Paper presented and compiled in the proceedings of the 'International Conference on Quality of Teaching and Learning' (ICQTL 2012) from 23<sup>rd</sup> to 24<sup>th</sup> October, 2012 at Primula Hotel, Kuala Trengganu, Malaysia organized by University Malaysia Trengganu (UMT).
- Ng, K.T. (2011a). Incorporating blended learning in transforming instructional practices: A cross-case analysis of the enhanced motivation among secondary learners participated in a Problem-based Learning (PBL) programme incorporating ICT. Paper presented in the 25<sup>th</sup> Annual Conference of Asian Association of Open Universities (AAOU)(with theme 'Transforming Asia through Open Distance Learning'), 28<sup>th</sup> to 30<sup>th</sup> September, 2011, Wawasan Open University (WOU), Penang, Malaysia.
- Ng, K.T. (2011b). Enhancing investigative skills via e-portals with capacity-building activities: A within-case analysis of secondary students participated in PBL via ICT. Paper presented in <u>24<sup>th</sup> ICDE World Conference</u> with theme 'Expanding horizons- New approaches to Open and Distance Learning (ODL)', 2<sup>nd</sup> to 5<sup>th</sup> October, 2011 at Bali, Indonesia.
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- Ng, K.T. (2011d). Technology in Educational Innovation. Plenary presentation at 'International Conference on Educational Innovation Leadership'. December 27 to 29, 2011 at Ateneo de Manila University, Quezon City, Philippines.
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- Tan, K.T., Jamaludin, Y., Ng, K.T., Dominador, D.M., & Suhaidah, T. (2015). Strategizing green school initiatives through 'PEACE' approach. Poster proposal presented in the 6<sup>th</sup> CoSMEd and Best Poster Award (Special Mention)(Digital category). Penang: SEAMEO RECSAM.
- Toh, L., Ch'ng, Y.S., Conner, L., Ng, K.T. & Lay, Y.F. (2015). *Monitoring students' conceptual understanding about energy through digital tools in blended learning platforms.* Poster (digital) proposal presented in the 6<sup>th</sup> CoSMEd. Penang: RECSAM.
- Aligaen, J., Thien, L.M. & Ng, K.T. (2014). Modelling a financial feasible rainwater harvesting system 2012-2013: A case study in SEAMEO RECSAM. Poster presented during the 1<sup>st</sup> Regional Conference on Campus Sustainability 2014. 7<sup>th</sup> to 9<sup>th</sup> April, 2014. Malaysia: Universiti Malaysia Sabah.
- Lay, Y. F., Areepattamannil, S., Ng, K. T., Karnasih, I. & Kaur, B. (2014). Teacher and classroom correlates of TIMSS 2011 Grade 8 mathematics achievement in Malaysia, Singapore, Indonesia and Thailand. Presentation in 2014 Annual Conference on Social Studies, Communication and Education. Higher Education Forum
- Lay, Y.F., Ng, K.T., & Hazura, A.B. (2014a). A comprehensive model to examine the interrelated issues for 'STEEEMS' education. 'Innovation' category (Bronze award) abstract (pg. 141) compiled in the Proceedings of Pertandingan Penyelidikan dan Rekacipta UMS (PEREKA) 2014. October 27 to 28, 2014 at Kompleks Dewan Kuliah Pusat Ke-2, Universiti Malaysia Sabah (UMS), Kota Kinabalu, Sabah.
- Lay, Y.F., Ng, K.T., & Hazura, A.B. (2014b). Development of an instrument to examine the relationship among humanistic, ego and eco/biocentric views with universal life values. 'Research' category (Bronze award) abstract (pg. 66) compiled in the Proceedings of Pertandingan Penyelidikan dan Rekacipta UMS (PEREKA) 2014. October 27 to 28, 2014 at Kompleks Dewan Kuliah Pusat Ke-2, Universiti Malaysia Sabah (UMS), Kota Kinabalu, Malaysia.
- Mohd. Johan, Z., Ng, K.T., Hazura, A.B., Corrienna, A.T., Nur Jahan, A. & Ng, J.H.(2014). Development of a model to promote 'Values-based Environmental Economy, Mathematics and Science/Social Science' (VEMS) Education among youths for financial management incorporating Islamic values (Innovation category)(Silver award). Abstract compiled in the programme book of International exposition on 'Syariah Compliant Idea, Invention, Innovation & Design' (SCIIID) 2014 held on 26-27 November at Dewan Sri Budiman UiTM Shah Alam.
- Nyunt, K.A.K., Ng, K.T., Baharulnizam, B., & Chockalingam, A. (2014). <u>Development of a hybrid system to enhance</u> <u>borderless learning: Challenges and opportunities for the underserved</u>. Paper presented at the 28th Annual Conference of the Asian Association of Open Universities (AAOU). 28-31 October 2014 at Hong Kong, China.
- Ab. Bakar, H., Ng, K.T., Abdul-Talib, C. & Ahmad, N.J. (2013). A survey on teachers' perspectives about Education for Sustainable Development. Brief paper presented during the fifth International Conference on Science and Mathematics Education (CoSMEd), November 11-14, 2013 at RECSAM, Penang, Malaysia.
- Abdul-Talib, C., Ng, K.T. & Ab. Bakar, H. (2013). *How well do teachers know about climate change*. Paper presented at the World Conference on Science and Technology Education (WorldSTE) 2013 Conference organized by

International Council for Associations of Science Education (ICASE), 29 September to 3 October 2013 at University Malaysia Sarawak (UNIMAS), Malaysia. Paper was also selected for publication in STEMplanet 2014 volume 1. (SP20131231062). Retrieved July 2, 2014 from URL: http://stemstates.org/journal/ log-in/security-page/2014-vol-11/how-well-do-teachers-know-about-climate-change.html

- Abdul-Talib, C., Ng, K.T., Hazura, Ab. Bakar, Nur Jahan, A., & Annand Kanniapan (2013). Experiences during a training workshop on Global Learning and Observations to Benefit the Environment (GLOBE) that needs to impact the classroom. Practitioner paper presented in the fifth International Conference on Science and Mathematics Education (CoSMEd), November 11-14, 2013 at RECSAM, Penang, Malaysia.
- Ahmad, N.J., Ab Bakar, H., Ng, K.T., & Abu Talib, Corrienna. (2013) Teachers' Preparedness in Classroom Teaching and Learning: A Descriptive Study of TIMSS 2011 for Indonesia, Malaysia, Singapore and Thailand, in TIMSS 2011 Report. Penang: RECSAM.
- Ahmad, N.J., Ng, K.T., Abdul-Talib, C., Shamsir, J., Parahakaran, S., Teh, K.H. & Ab. Bakar, H. (2013). The roles of tertiary institutions, governmental and non-governmental organizations in response to call for empowering students in values-based experiential learning. Paper presented during the symposium on 'Learning Beyond the Classroom' during the fifth International Conference on Science and Mathematics Education (CoSMEd), November 11-14, 2013 at RECSAM, Penang, Malaysia.
- Boey, M.L., Loo, S.L., Ch'ng, Y.S. & Ng, K.T. (2013). The roles of governmental and non-governmental organization to promote blended science and mathematics learning beyond classroom. Poster paper presented in the fifth International Conference on Science and Mathematics Education (CoSMEd), November 11-14, 2013 at RECSAM, Penang, Malaysia.
- Conner, L., Ng, K.T., Ahmad, N.J., Ab Bakar, Parahakaran, S. & Lay, Y.F. (2013). Evaluating students' performance for scientific literacy, reading and thinking skills in PISA 2009: Lessons learnt from New Zealand and Malaysia. Paper presented in the fifth International Conference on Science and Mathematics Education (CoSMEd) for CoSMEd 2013, November 11-14, 2013 at RECSAM, Penang, Malaysia.
- Mangao, D.D., Ng, K.T., Foo, L.K., Cheah, U.H., Devadason, R.P. & Baharum, B. (2013). The role of regional training centre in response to call for empowering students in experiential science and mathematics learning. Paper presented in the Symposium of the fifth International Conference on Science and Mathematics Education (CoSMEd) for CoSMEd 2013, November 11-14, 2013 at RECSAM, Penang, Malaysia.
- Toh, L., Ch'ng, Y.S., Parahakaran, S. & Ng, K.T. (2013). The roles of governmental and non-governmental organization to promote science and mathematics learning beyond classroom via values-based water education programme. Poster paper presented in the fifth International Conference on Science and Mathematics Education (CoSMEd), November 11-14, 2013 at RECSAM, Penang, Malaysia.
- Lay, Y.F., **Ng, K.T.**, & Corrienna, A.T. (2012). *An analysis of Malaysian secondary students' values and expectations in relation to their science and mathematics achievement*. Paper presented in the XV IOSTE International Symposium on 'Science and Technology Education for development, citizenship and social justice'. 29<sup>th</sup> October to 3<sup>rd</sup> November 2012 at Yasmine Hammamet, Tunisia.
- Mangao, D.D. & Ng, K.T. (2012). <u>Search for SEAMEO Young Scientists (SSYS) RECSAM's initiative in promoting public science education: The way forward</u>. Paper presented and compiled in refereed proceedings (also selected to be reviewed for refereed journal) in the International Conference on Science Education (ICSE 2012) with theme 'Science education: Policies and social responsibilities' organized by National Association for Science Education the Chinese Society of Education (CNASE) hosted by Institute of Education, Nanjing University, from 12 to 15 October 2012, held at Nanjing university, Nanjing, China.
- Chong, H.Y. & Ng, K.T. (2012). Exploring global 'Climate Change' issue incorporating knowledge in Science (especially Astronomy, Environmental Education) and Mathematics through Guided Discovery Learning and PBL-SI integrating ICT. Plenary presentation at 'International seminar on Science and Mathematics Education'. 9th-11th March, 2012 at Baguio Convention Center, Baguio City and 16th to 18th March at Leyte National High School, Tacloban City, Philippines.
- Febro, R., Ng, K.T., Koganezawa, T., Oikawa, Y., Pradhan, L., Yohanan, A., Pudasaini, R.B., & Pangeni, S.K. (2012). 'Disaster risk reduction/preparedness education' (DR RED) through telecollaboration by participants from 'Japan, Philippines, Malaysia, Indonesia and Nepal' (JaPhilMIN). Presentation of proposal and action plans during UNESCO APEID Telecollaboration workshop partly funded by Japan Funds-in-Trust (FIT) and Korean FIT (7<sup>th</sup> to 9<sup>th</sup> November 2012) at Imperial Queen's Park Hotel, Bangkok, Thailand. Retrieved November 12, 2012 from http://ict.unescobkk.org/groups/telecollaboration-of-teacher-educators/forum/topi`c/final-group-presentations/ and http://tinyurl.com/DRRBKK
- Chockalingam, Annamalai, Ng, K. T., Devadason, R. P., Pagunsan, M. A., & Mangao, D. (2011, November). <u>Does</u> learning science means doing science: An exploratory study on the role of ICT tools in science classroom anchored

on learner's efficiency model. Paper presented at the 3<sup>rd</sup> International Conference on Science and Mathematics Education, SEAMEO RECSAM, Penang, Malaysia.

- Devadason, R.P., Wahyudi, Ng, K.T., & Cheah, U.H. (2009). <u>Better science and mathematics animation for learning using 3D technology?</u> Paper presented at the Third International Conference on Science and Mathematics Education (CoSMEd 2009), SEAMEO RECSAM, Penang, Malaysia, 10-12 November 2009.
- Tan, K.A., Leong, C.K., & Ng, K.T. (2009). <u>Enhancing mathematics processes and thinking skills incorporating values-based water education</u>. Paper presented in CoSMEd 2009, 10 to 12 November, RECSAM.
- Toh, L., Devadason, R. P., & Ng, K. T. (2009). Promoting Continuing Professional Development (CPD) via lesson study approach: An experience of a research lesson for science learning via ICT integration. Paper presented at the Third International Conference on Science and Mathematics Education (CoSMEd 2009), SEAMEO RECSAM, Penang, Malaysia, November 10 to 12, 2009.
- Fong, S.F., Balakrishnan, M., Hanafi, A., Ng, K.T., & Fong, K.C. (2008). <u>Linking students globally through ICT Project-based Learning</u>. In Proceedings of World Conference on Educational Multimedia, Hypermedia and Telecommunications (<u>EDMEDIA</u>) 2008 (pp.90-93javascript:void(0)). Chesapeake, VA: AACE.
- Chockalingam, Annamalai & Ng, K.T. (2007, May). Exploring in-service teachers' opinions on e-Learning Management System and its implications towards on-line teaching and learning. Paper presented and compiled in the Proceedings of 12<sup>th</sup> International Conference on Education with conference theme "Changing Contours of Education: Future Trends". Conference held from 21<sup>st</sup> to 24<sup>th</sup> May at Sultan Hassanal Bolkiah Institute of Education, Universiti Brunei Darussalam (UBD), Brunei Darussalam.
- Ch'ng, Y.S., Tan, K.A., & Ng, K.T. (2007). <u>Incorporating human values-based water education in Mathematics lesson</u>. Paper presented in parallel session and compiled in the Proceedings for International Conference on Science and Mathematics Education (CoSMEd). Conference held from 13 to 16 November at RECSAM. ISSN: 967-930-012-9
- Tan, K.A., Ng, K.T., Ch'ng, Y.S. & Teoh, B.T. (2007). <u>Redefining mathematics classroom incorporating global</u> <u>project/problem-based learning programme</u>. Paper presented in parallel session CoSMEd 2007. Conference held from 13 to 16 November at RECSAM.
- Toh, L. & Ng, K.T. (2007). Combating water pollution towards the sustainable living of marine population. Research findings presented as plenary session speakers at AvH Conference or Av-Kolleg (conference) on "Aquatic Sciences cum Enhancement of the Agro-Industry" organized by Humboldt Club Malaysia and USM funded by AvH Foundation, Germany at USM from 26<sup>th</sup> to 29<sup>th</sup> October 2007.
- Toh, L., Yeap, C.H., Ng, K.T., & Isma, F. (2007). <u>Cross-curricular teaching incorporating human values: A collaborative research by reflective practitioners</u>. In Cheah, U.H., Wahyudi, Y., Devadason, R.P., Ng, K.T., Chavez, J.A., & Mangao, D. D. (Eds.), Proceedings (refereed) for CoSMEd 2007. Conference held from 13 to 16 November at RECSAM.
- Yeap, C. H., Ng, K.T., Wahyudi, Cheah, U. H. & Devadason, R. P. (2007). <u>Development of a Questionnaire to Assess</u> <u>Student's Perceptions In Values-Based Water Education</u>. Proceedings (Refereed) of the International Conference on Science and Maths Education 2007 (<u>CoSMEd 2007</u>) held in SEAMEO RECSAM, Penang from 13 – 16 November 2007.
- Chokalingam, A. & Ng, K.T. (2006). <u>Calculation of the change of percentage in Malaysia's population using</u> <u>Geographical Information Systems (GIS) and its implications for Science and Technology Education</u>. Paper presented and compiled in the Proceedings for Asia GIS 2006 International Conference. Conference held from 9th to 10th March at Universiti Teknologi Malaysia (UTM), Skudai, Johor, Malaysia.
- Fong, S.F., Hanafi, A. & Ng, K.T. (2006). International Workshop: Assessment, Measurement and Evaluation Training through Web-based Training Tools. Workshop presentation (13/2) during the third "International Conference on Measurement and Evaluation in Education. Interconnecting Teaching and Learning: Assessment, Evaluation and Measurement (ICMEE 2006)". Organized by USM from 12-14 February, 2006 at The Grand Plaza ParkRoyal Hotel, Batu Ferringhi, Penang. http://www.usm.my/education/icmee3/schedule.htm
- Kim, P.L., Ng, K.T., Hall-Rose, O. and Fong, S.F. (2006). Young Scientists' Network (YSN) and Innovative Educator: Rationale and sharing of practices. Workshop presentation (9/3/2006) held in conjunction with the fifth SSYS Congress (6<sup>th</sup> to 9<sup>th</sup> March 2006) at RECSAM.
- Sarmiento, C.Q.S., Ng, K.T., Cheah, U.H. & Wahyudi (2006). Content analysis of youth scientific programme: An RCE innovative and integrated approach for sustainable development among SEAMEO member countries. Paper presented and compiled in Proceedings of 10<sup>th</sup> APEID Int. Conference "Learning Together for Tomorrow: Education for Sustainable Development". 6<sup>th</sup> to 8<sup>th</sup> Dec. 2006, Imperial Queen's Park Hotel, Bangkok
- Ahmad, H.H., Arfah, K., Polyvine, N., Rungruangbangchan, N., Chanthabouly, K. & Ng, K.T. (2005). <u>Active learning approaches (ALAp) enhance students' interest in science learning using English as medium of instruction: An Action Research study</u>. Presentation compiled in Proceedings (refereed) for CoSMEd 2005. 6<sup>th</sup> to 8<sup>th</sup> December at RECSAM.

- Cutler, M. & Ng, K.T. (2005). 'Science Across the World' (SAW). Workshop presentation during Association of Science Education (ASE) annual conference, the University of Leeds, U.K.
- Fong S.F., Ng K.T., Sharifah, Ong,S.L., Lee,L.W., Leong,L.M., Kabilan (2005). Suvarnabumi: The 2D-3D Game Adventure. Presentation in Euro-Malaysia ICT Co-operation Event (EuroMalaysia2005) at Mandarin Hotel, Kuala Lumpur from 8 to 11 June, 2005 at the Mandarin Oriental Hotel in Kuala Lumpur. Sponsored by European Commission (DG Information Society and Media), coordinated by Sigma Consultants, Paris, France and Mimos Berhad, Malaysia.
- Raihan, A.R., Wong, S.H., Toh, L., Fong, S.F., & Ng, K.T. (2005). Exploring science locally and sharing insights globally with Science across the World (SAW) innovative web-based learning activities. Workshop presentation (5/12) during International Conference on Science and Mathematics Education (CoSMEd). 6<sup>th</sup> to 8<sup>th</sup> December at RECSAM.
- Toh, L. & Ng, K.T. (2005). Enhancing the Mastery of Conceptual Understanding of Electric Charges and Electric Fields in Physics among Form 5 Science students with moderate academic achievement via simulation. Presentation compiled in Proceedings (refereed) for CoSMEd 2005. 6<sup>th</sup> to 8<sup>th</sup> December at RECSAM.
- Aminordin, Che Lah, Ng,K.T., & Fong,S.F. (2004). Kesan Paparan Grafik Dalam Pembelajaran Fenomena Cuaca. Proceeding of the Educational Technology Convention (*Prosiding Konvensyen Teknologi Pendidikan Ke-17*), 17-20 September 2004, pp.249-255. ISBN: 983-2620-44-9
- Brachtl, Karl, Norjoharuddeen, M.N. & Ng, K.T. (2003). Exploring science locally, Sharing insights globally: Science across the World. Post-conference workshop presentation (12/4) during ICASE 2003 World Conference on Science and Technology Education, from 7-10 April, 2003 at The Hotel Equatorial and RECSAM.
- Kim, P.L., Ng, K.T. & Ong, E.T. (1998). Reflective Teacher: The Role of Action Research for Teachers and Teacher Educators Practising the Teaching of Science Process Skills and Cooperative Learning. Paper presented in MERA (Malaysian Educational Research Association) Inaugural Conference: "Visions of Educational Research: Past, Present and Future", 28-30 April, held at Ferringhi Beach Hotel, Penang.
- Kim, P.L., Gan, T.H., Ong, E.T. & Ng, K.T. (1997). Current Research and Future Concerns on Cooperative Learning in Teacher Education Context. Paper presented in plenary forum and compiled in the Proceedings for CLAC in Science and Mathematics Education. Conference held at 1-4 April, RECSAM.

#### Founder/Initiator/Executor/Coordinator, Pioneering Author and Proponent of Project/Programme

#### National/Regional/International Projects/Programmes

- Founder and executive secretary for the 1<sup>st</sup> to 5<sup>th</sup> as well as evaluator, Intellectual Property Right (IPR), forum and international networking coordinator for the 6<sup>th</sup> to 9<sup>th</sup> 'Search for SEAMEO Young Scientists' (SSYS), an international flagship programme of SEAMEO RECSAM [http://www.recsam.edu.my/ssys] that included biennially held regional congresses since 1997.
- Resource person for Human Values-based Water, Sanitation and Hygiene (HVWSHE) education in Bangkok (2005), Manila (2006) and Jakarta (2007)(Chapter writer of HVWSHE resource guide) who was also involved in the writing of proposal for the SEAMEO UN-HABITAT regional Training of Trainers (TOT) course (2007) and national echo-training workshop (2008).
- Proponent/editor/co-editor/author/co-founder for the following training programme/project/publication during her tenure as Acting Head of Science Division as well as Specialists (Training and R&D divisions):
  - (a) Proponent for the organization of the following forum and networking activities:
    - (i) 'Intellectual Property Right' (IPR) during the 7<sup>th</sup> SSYS 2010 with subsequent proposed guidelines for 'Branding' of RECSAM's educational services presented at centre in 2011.
    - (ii) 'Green innovation and creative lifestyle' during the 8<sup>th</sup> SSYS 2012 that was also promoted in blended mode through webinar with information disseminated using RECSAM SSYS Facebook group: https://www.facebook.com/events/307174492671091/
    - (iii) 'Disaster Risk Reduction' (DRR) for sustainable development during the 9<sup>th</sup> SSYS 2014 that was also promoted through https://www.facebook.com/events/1401275593457278/
  - (b) Malaysian Toray Science Foundation (MTSF) book to document winning entries of best practices since 1999 [contributed as co-editor (1999) and editor (2001, 2004, 2012).
  - (c) 'Southeast Asian Culture and Science Group'(SACAS)[contributed as chapter author of proceedings (2005) and paper presenter in the international conference with the article being selected for indexed journal publication (2006), URL: <u>http://www.kalbos.lt/archyvas2.html</u>]
  - (d) Enhancing Lesson Improvement Cycles for Inspirational Teaching (ELICIT): An in-service training model to elicit

teachers' innovative ideas for values-based water education in 2009.

- (e) 'Science across the World' (SAW) pre-conference workshops funded by GlaxoSmith Kline (GSK) during the CoSMEd 2005, 2007 and curriculum writing/editing workshops 1997, 2014.
- 'Enhancing Teachers' Continuing-professional-development with Higher-learning-opportunities (EnTeaCH) as Founder (since 2016)

## Blended-Learning Programme Coordinator/Director & Website/e-Forum Content Developer:

- 'Science Across Asia Pacific' (SAAP) as Regional Coordinator (1999-06)[http://www.scienceacross.org].
- 'Science Across the World' (SAW) in the Asia Pacific Region as Regional Director (2006-2014)
- Science Project/problem/programme-based Activities inCorporating Experiment MANagement' (SP3ACEMAN) as Founder and Website Content Developer (since 2008)[http://sp3aceman.net] for the webbased learning portals that promote science/mathematics investigation using blended approaches.
- 'South East Asia Regional Capacity-enhancement Hub' (SEARCH) [URL: http://www.recsam.edu.my/search] and its hyperlinked sub-portals as Founder and Website Content Developer (since 2008)[http://sp3aceman.net]
- 'Disaster Risk Reduction/preparedness EDucation' (DR RED) through telecollaboration by participants from 'Japan, Philippines, Malaysia, Indonesia and Nepal' (JaPhilMIN) as Founder and Co-project leader with presentation of proposal and action plans [by Febro, R., Ng, K.T., Koganezawa, T., Oikawa, Y., Pradhan, L., Yohanan, A., Pudasaini, R.B., & Pangeni, S.K. (2012).] during UNESCO APEID Telecollaboration workshop partly funded by Japan Funds-in-Trust (FIT) and Korean FIT (7<sup>th</sup> to 9<sup>th</sup> November 2012) at Imperial Queen's Park Hotel, Bangkok, Thailand. Retrieved November 12, 2012 from http://ict.unescobkk.org/groups/ telecollaboration-of-teacher-educators/forum/topi`c/final-group-presentations/ and http://tinyurl.com/DRRBKK
- Intel Teach webinar host (appointed by Intel Teach programme upon completion of Master Trainer and webinar host training courses) as well as UNESCO APEID Japan Funds-in-Trust (FIT) and Korean FIT ICT-pedagogy integration telecollaboration [URL: http://ict. unescobkk.org/] project team member and co-researcher, all of which integrating ODL approaches.
- Initiated the curriculum development of 'Values-based astronomy education' in collaboration with Sathya Sai school, planning for the first pilot activity in mid-December 2014 and more R&D activities in 2015 as a follow-up of the paper presented in the first Astro-Falak Education seminar (AFES) organized by Universiti Sains Malaysia Astronomi Kelab from 17-19 October 2014.
- 'SEAMEO Borderless School and Student Networking' as Project Coordinator (2012-2015), completed the first and second phases of pilot studies since 2013 as well as curriculum development workshops.
- 'Learning Science and Mathematics Together' (LeSMaT) in a BORDERLESS world as Founder and Website Content Developer (since 2015)

# Journal/Conference Editorial Board Member/Reviewer and Professional Affiliation

### Editorial Board Member (Chief Editor/Associate Editor/Review Editor/Guest Editor)

- Learning Science and Mathematics Online Journal (onging, as Chief Editor from 2017 to 2019) [http://www.recsam.edu.my/sub\_lsmjournal/index.php/editorial-board]
- Journal of Science and Mathematics Education in Southeast Asia (JSMESEA)(ongoing) [http://www.recsam.edu.my/sub\_jsmesea/]
- EURASIA Journal of Mathematics, Science and Technology Education (<u>JSMSTE)(2017-2019</u>) [http://www.ejmste.com/Integrating-Environmental-Education-and-ICT,651.html]
- 'Search for SEAMEO Young Scientists' (SSYS) publication 2006 (Chief editor, published 2012)
- Empowering the future generation through science education (CoSMEd science book series published 2014)
- 'Outdoor Learning Guide' (OLG) as part of 'Conservation and Wise Use of Resources' (ConWUR)(extracted as powerpoint video for LearnT-SMArET online course (2018-2019).

### Reviewer for Journal Article/Paper

- Journal of Educational Thinker (JET), Faculty of Psychology and Education, Universiti Malaysia Sabah (2018).
- Malaysian International Journal of Research in Teacher Education (MIJRTE)[an annual journal for Institut Pendidikan Guru (IPG) Kampus Pulau Pinang](Vol.1/2015 and 2/2016)
- Jurnal Pemikir Pendidikan (JPP), Universiti Malaysia Sabah (Jilid6, 2015)

- Open Praxis indexed journal, an official journal for ICDE (2014)
- Educational Research and Reviews (ERR)(22/11-4/12/2012 and 2014)[http://www.academicjournals.org]
- Education Research Journal (ERJ)(1-13/2/2012)
- Journal of Educational Research and Essays (ERE)(18/11-25/11/2012)

### Reviewer/Author for Conference Paper/Publication/Proceedings

- International Conference on Distance Learning: Research and Innovation for a Digital Society (1-3 August 2019) at Sukhthai Thammathirat Open University (STOU), Nonthaburi, Thailand
- 7<sup>th</sup> World Engineering Education Forum (WEEF)(13-17 November 2018) organized by Universiti Teknologi Malaysia (UTM)
- IJESR journal selected by APCESP conference (2015)(as lead writer for journal with impact factor 3.9678)
- E-book by Springer International Publishing, collaborataion of Myanmar/UMS professor (as co-author for Chapter 24 on 'Disposition and achievement in TIMSS2011' for e-book on 'Science Education in East Asia'
- 63<sup>rd</sup> Annual Conference International Council for Educational Media (ICEM 2013) that was held at Singapore;
- IOSTE 2012 conference that was held in Tunisia (29 October 3 November 2012)
- CoSMEd Practitioner Book 2014 for International Conference on Science and Mathematics (CoSMEd 2013)
- Review editor for CoSMEd 2015, 2017 and 2019.

### Professional Affiliation as Member of Organization/Institution involved in R&D or Networking Activities

Society for Research Development (SRD): Life member since ICRTSTMSD-2018, technical committee, Co-Chair for ICRTSTMSD-2018 conference held at Bali and Publicity Chair for iCon-MESSSH 2020 14-15 August conference to be held at RECSAM, Penang.

Association for Science and Mathematics Education Penang (ASMEP): Life member, judge for S&TL competition 2014, committee members (since 2016-2020)

Soka Gakkai Malaysia (SGM) part of SGI, Japan (life member since 1969)

WaterWatch Penang (WWP): member and judge for WWD (2009-2019)

SEAMEO 50x3 or networking schools advisor for selected schools at Penang and Kuala Lumpur (advisor)

International Society for Professional Innovation Management (ISPIM), Penang Regional Centre-Malaysian National Computer Confederation (PERC-MNCC), Geogebra international community and SPSS User Group: Participant/visitor/member for conference/workshop/seminar, etc. organized

Universiti Malaysia Sabah (UMS) co-researcher for the following collaborative projects under 'Skim Penyelidikan Pendidikan dan Psikologi (GPP) of UMS and others:

- (a) Modelling Malaysian students' reading, science and mathematics achievement in OECD-PISA: A comparative study between Malaysia and Singapore (2014)
- (b) Home and school correlates of TIMSS eighth graders' science and mathematics achievement: A comparison between urban and rural settings (2015)

Brainbuilder Dr. Fong's Singapore Mathematics (as chapter writer for Dr. Fong's Secondary Maths Module)

Universiti Pendidikan Sultan Idris (UPSI): chapter writer for handbook on research instrument, interviewee by educational research lab officer on the development of SEARS-ST/MSTQS, National Grant Research Scheme (NGRS), etc.

Universiti Sains Malaysia (USM) as co-researcher, workshop participant, exhibitor, etc.

- (a) 1st KGHL exhibition booth manageress (2015)
- (b) "BRAINetwork Workshop Series: No 2 Neural Works, CNS and Brain Plasticity: Implication to Education" on 21st -22<sup>nd</sup> February, 2005 at Auditorium1, Complex EUREKA, USM.
- (c) Economic and Equity" workshop group during Regional Workshop on Education for Sustainable Development (ESD) which was organized by Corporate Development Division, University Science of Malaysia and United Nations University/Institute of Advanced Studies (UNU/IAS), International Organizations Centre, held at Pesiban Agong Hall, School of Arts, USM from 11/4 to 13/4/2005.

(d) Brainstorming workshops to write "SuvarnaBumi : The 2D/3D Educational Gaming Adventure" (project leader : Dr. Fong Soon Fook) to be presented in EuroMalaysia Event (June and 23/7/2005)

Science across the World (Factworld and FB group as ex-regional coordinator)

Socio-Economic and Environmental Research Institute (SERI): Mesyuarat Jawatankuasa 'Program Penggalakan Sains dan Teknologi ' (PPST)(2/2005)

Vision Academy (M) Sdn. Bhd.: 'Advisor for Magnificent Advancement of Young Scientists' (MAAYS)

### **R&D/ICT Proficiency/Programmes** (e.g. Skills in statistical analysis, web content development, etc.)

#### Research methodologies and proficiency in social sciences statistical analysis/software and digital tools:

- (1) Mixed-methods Research with experience/proficiency in:
  - (a) Quantitative Data Analysis
    - [e.g. Descriptive and Inferential Statistics (SPSS 22.0); Covariance-based 'Structural Equation Modeling' (SEM)(Basic & Advance level)(AMOS 22.0); Item Analysis; etc.]
  - (b) Qualitative Data Analysis
    - [e.g. Framework Analysis, Focus Group, Case Analysis, Grounded Theory, SPSS Text Analysis, etc.]
- (2) Action Research reflective studies and Lesson Study

#### Proficiency or skills incorporating digital tools:

- Digital tools and Social Learning Platforms: Edmodo, WebEx, Facebook, Telegram, WhatsApp, Instagram, etc. Concept mapping (Inspiration Software); 'Learning Activities Management Systems' (LAMS); Web-based learning incorporating Project-based Activities (PBA) and Problem-based Learning (PBL);
- Piano: Theory and practical with certificates from Royal College of Music, London
- Brass band: Percussion and brass instruments player in school band

#### **Other R&D Experience** (with Research Projects, Course/Congress Reports, etc.)

#### Research officer/assistant with research projects/reports completed:

- Research officer for "Achievement Test Report for Arts Education Stage II in The New Primary School Curriculum (KBSR)" (1989-90)
- Research officer for "Achievement Test Report for Preparation and Implementation of Music Education (KBSR)(1990)
- Research officer for "A Report on Case Study of KBSR School Climate" (1990-91)
- Research officer for "The Dropout Study Revisited" (funded by UNESCO) (1991)
- Research officer and co-writer of "The Overall KBSR Summary Report" (1991)
- Research assistant for "Modelling and Resourcing for Social Services and Policies" (IRPA project in School of Social Sciences, USM) (1995)

#### Researcher and/or project leader with other research/project/programme reports completed:

- (1) Researcher on: (a) Effects of Less Structured Guided Discovery (LSGD)(Penang, 1997); (b) An investigation into the introduction of technology in New Zealand schools with recommendations for RECSAM (Auckland, 1996); Development of monitoring/evaluation tools for 'Human Values-based Water, Sanitation and Hygiene Education' (HVWSHE)(Penang, 2007-08); SEAMEO RECSAM as a regional training hub to promote South-South Cooperation: A research fellowship report for CRICED (Tsukuba, 2010)
- (2) As Co-researcher on: (a) Scientific Creativity : The Problem-Solving Behaviour in Scientific Investigatory Projects of Secondary Students in Penang, Malaysia (1996-97); (b) The interest, trend and readiness of elementary science teachers toward the use of computer software (1996-1997); (c) Identifying critical factors in the successful implementation of SAAP (Science Across Asia Pacific): A Malaysian Pilot Study (1997-99; (d) Reflective Teacher : The Role of Action Research for Teachers and Teacher Educators Practising the Teaching of Science Process Skills and Cooperative Learning (1998); (e) Integrating Science Learning Using ICT : A Reflective Study (2002); (f) The use of LCD projectors for teaching and learning in Malaysian schools: A survey research

(2004); (g) Girls' interest and participation in Science and Mathematics: Cases in Indonesia, Malaysia and Myanmar (2005); (h) The EUREKA research project (2009); (i) Similarities and differences: A Malaysian and Australian research study (2011); (j) Children's connectedness to nature: A research report (2013).

- (3) Researcher on use of blended learning tools in 'South East Asia Regional Capacity-enhancement Hub' (SEARCH)
- (a) Development of OERs and portals in SEARCH for science and mathematics researchers supported through sub-portal 'Science Project/problem/programme-based Activities inCorporating Experiment MANagement' (SP3ACEMAN): [Ng, K.T. (2011). Going global in SEARCH for science and mathematics researchers for a sustainable future through development of e-learning resource materials. Final report for 'Reorienting teacher education towards EFA and ESD' funded by UNESCO APEID and Japan/KOREAN Funds-in-Trust.]
   Ng, K.T. (2012). Going global in SEARCH for science and mathematics researchers: A report of the launching of on-line learning hub and workshop to promote ESD and EFA (21st to 27th June 2011). Penang: SEAMEO RECSAM.
   Ng, K.T. (2013). Promoting investigative research through blended learning with development of instructional materials. Phase 2 SEARCH project and workshop (17th to 22nd May 2012) report funded by RECSAM's short-term research grant. RECSAM.
- (b) 'Search for SEAMEO Young Scientists' (SSYS) executive secretary and coordinator with reports completed. [Ng, K.T. (Ed.)(1997-98). Final Report on the Preparation and Implementation of Regional Congress on "Search for SEAMEO Young Scientists" (SSYS)(20-22 October 1997). SEAMEO RECSAM.
  Ng, K.T. (Ed.)(1999-2000). Final Report on the Preparation and Implementation of Second SSYS (5-7 July 1999). Pg: RECSAM.
  Ng, K.T. (Ed.)(2002). Final Report on the Preparation and Implementation of Third SSYS (4-6 March 2002). SEAMEO RECSAM.
  Ng, K.T. (Ed.) (2004). Final Report on the Preparation and Implementation of Fourth SSYS (8-10 March 2004). SEAMEO RECSAM.
  Ng, K.T. (Ed.) (2006). Final Report on the Preparation, Implementation and Evaluation of Fifth SSYS (6-9 March 2006). RECSAM.
  Ng, K.T. (Ed.) (2012b). Journey to investigative research: A compilation of student research projects presented during the 5<sup>th</sup> SSYS congress (6-9 March 2006). 'Sustainable development for a better world': SSYS projects. RECSAM. ]
- (c) 'Special Project to promote ESD/EFA'(SpecP2E2): 'Human Values-based Water, Sanitation, Hygiene Education(HVWSHE) [Ng,K.T., Azian, A., Cheah, U.H., & Devadason, R.P. (Eds.)(2007). HVWSHE regional Training of Trainers course Final Report. May 16 to May 25, 2007. Penang: SEAMEO RECSAM.
   Ng, K.T., Azian, A., Cheah, U.H., Tan, K.A. & Toh, L. (Eds.) (2008). National Echo Training Course on HVWSHE Final Report. January 29 to 31, 2008. Penang: SEAMEO RECSAM.]
- (d) 'Science Across the World' (SAW) programme coordinator and regional director with report(s) completed: [Ng, K.T. (1997). Report on School Visits at Washington, D.C. in United States. SEAMEO RECSAM.
  Ng, K.T. & Abdul Rahman, H.B.(1999). Science Across Asia Pacific (SAAP) : 1997-98 Report and Planning for 1999-2000. Report presented at Science Across Europe (SAE) Annual Meeting, 7-9 May, 1999 at Athens, Greece..
  Ng, K.T., Selamat, A.R., et al. (1999). RECSAM's Roles in Enhancing STL: SAAP and Regular Courses. Presented at UNESCO-ICASE Workshop, 10-14 May at RECSAM]
- (4) Researcher for postgraduate degrees on:
- (a) "A Study of the Primary Science Teaching Learning Processes in British National Curriculum and Its Implication on Malaysian Primary Science Education" (M.Ed.dissertation for Brunel University, UK (1993)
- (b) 'Evaluative studies on problem-solving curriculum with development and validation of tools for scaffolding in managing project/problem/programme-based learning (P<sup>3</sup>BL)[Doctoral thesis for WIU,US (2008)]
- (c) 'The effect of PBL-SI on secondary students' motivation and higher order thinking' [Doctoral thesis for OUM, Malaysia (2012)]
- (5) Researcher/co-researcher for transdisciplinary science education, PBA/PBL integrating ICT, etc. with reports

Lead author/editor (by year of publication with the most recent on top)

- Ng, K.T. (2019a). Preparation and dissemination of LeSMaTcurriculum through blended-mode activities including preparation of digital resources for the conduct of e-training programme entitled 'LearnT-SMArET with enhancement of scientific/mathematical, problem-solving and computational thinking skills' as one of the SEAMEO Education Agenda and Virtual Programme (November-December 2019). Proposal presented at Research fund meeting and approved for CSF8/2019, SEAMEO RECSAM.
- Ng, K.T. (2019b). LeSMaT(Borderless) project executive report for accreditation of co-curriculum marks [Laporan eksekutif projek LeSMaT(Borderless) bagi tujuan akreditasi markah PAJSK]. Project report sent to Ministry of Education Co-curriculum division, Putrajaya, Malaysia.
- Ng, K.T. (2018a). Creative writing and publishing output of LeSMaT(Borderless) including preparation of digital resources for the conduct of online training programme entitled 'LearnT-SMArET through championinguse of digital tools and e-platforms' as one of the SEAMEO Education Agenda and Virtual Programme (November-December 2018). Proposal presented at Research fund meeting and approved for CSF5/2018, SEAMEO RECSAM.

Ng, K.T. (2018b). Promoting STEM literacy through non-formal and informal education. Draft presented at RECSAM.

- Ng, K.T. et al.(Eds.)(2017). LeSMaT 'Conservation and Wise Use of Resources (ConWUR) incorporating 'Telecare and Healthy Lifestyle' (TeleHeal). 'Climate Awareness and Disaster Risk Reduction EDucation' (CADRRED). Open and Distance Learning (ODL) Module for Education for Sustainable Living (ESL) compiled in CD-ROM.
- Ng, K.T., Lay, Y.F., & Zoraini, W.A. (Eds.)(2017). Integrating Environmental Education and ICT. In EURASIA Journal of Mathematics, Science and Technology Education – Special Issue, Modestum. (Ongoing) http://www.ejmste.com/Integrating-Environmental-Education-and-ICT,651.html
- Ng, K.T. et al.(Eds.)(2017a). 'Conservation and Wise Use of Resources (ConWUR) incorporating 'Telecare and Healthy Lifestyle' (TeleHeal). Open and Distance Learning (ODL) Module for Education for Sustainable Living.
- Ng, K.T. et al.(Eds.)(2017b). 'Climate Awareness and Disaster Risk Reduction EDucation' (CADRRED). Open and Distance Learning (ODL) Module for Education for Sustainable Living (ESL) compiled in CD-ROM.

Co-authorship/Co-editorship (by year of publication with the most recent on top)

- Fong, S.F., Lay, Y.F., Ng, G.W., Mad Noor, M., Rodrigues, K.F., Aznan, C.A., V.Chandra Shakaran, V.V.M., Chin, P.Y., Salmie Jemon, S.,& Ng, K.T. (2019-2020). Design, development and impact study of different Technology Enabled Learning (TEL) modalities on learning: The impact of MOOCs on undergraduate students' academic attainment and attitudes towards e-learning at Universiti Malaysia Sabah. Universiti Malaysia Sabah (UMS): Skim Geran Penyelidikan Dana Khas (SDK) [SDKUMS: SDK0063-2018](In progress)(010119-311220).
- Lay, Y.F., Ng, K.T., & Khoo, C.H. (2019). Home and school correlates of TIMSS eighth graders' science and mathematics achievement: A comparison between urban and rural settings. Universiti Malaysia Sabah: Skim Geran Penyelidikan [Skim Geran Penyelidikan (SGP) - SGPUMS\_UPPLB: SBK0261-SSI-2016](Finalisation).
- Lay, Y.F., Ong, E.T., Ng, K.T., Khoo, C.H. & Han, C.G.K. (2019-2020). The Integration of 5E instructional model in enhancing rural primary pupils' knowledge and attitudes towards learning STEM. Universiti Malaysia Sabah: Skim Geran Penyelidikan Dana Khas (SDK) [SDKUMS: SDK0026-2018] (In progress) (010318-290220).
- Lay, Y.F., Ng, K.T., & Khoo, C.H. (2018-19). Home and school correlates of TIMSS eighth graders' science and mathematics achievement: A comparison between urban and rural settings. Universiti Malaysia Sabah: Skim Geran Penyelidikan [Skim Geran Penyelidikan (SGP) UMS\_UPPLB: SBK0261-SSI-2016](Finalisation).
- Lay, Y.F., Ng, K.T., & Khoo, C.H. (2018). *Revalidation of the Malaysian Relevance of Science Education* (<u>MROSE</u>) *questionnaire* [Axis Communication and Marketing: GLS0011-2018](151217-141218)
- Lay, Y.F., Ong, E.T., Ng, K.T., Khoo, C.H. & Han, C.G.K. (2018). The Integration of 5E instructional model in enhancing rural primary pupils' knowledge an attitudes towards learning STEM. [SGP Dana Khas-SDKUMS: SDK0026-2018](In progress)(010318-290220).
- Parahakaran, S., Ng, K.T., & Arathai, D.E. (2018). Human values-based language teaching using Higher Order Thinking Skills for teaching for secondary schools students using the Dhall and Tehseen Model. Research Grants (SEAQIL REGRANT) 2018 awarded by SEAMEO QITEP in Language (SEAQIL) at West Jakarta. Retrieved December 8, 2018 from http://web.giteplanguage.org/wp-content/uploads/ 2018/07/recipients\_regrants\_2018.pdf
- Lay, Y.F., Ng, K.T., Areepattamannil, S., Mohd. Zaki, I., Sabariah, S., Chin, K.E. & Han, C.G.K.(2017). Modeling Malaysian students' reading, science and mathematics achievement in OECD-PISA: A comparative study between Malaysia and Singapore. UMS: Skim Geran Penyelidikan Psikologi dan Pendidikan (Completed).
- Lay, Y.F., Ng, K.T., & Khoo, C.H. (2017). The predictive effects of student-level factors on TIMSS grade 8 students' science achievement: A comparative study between Malaysia & Singapore. Pg: Shingo Academy (Completed).
- Lay, Y.F., Ng, K.T., & Khoo, C.H. (2016-18). Home and school correlates of TIMSS eighth graders' science and mathematics achievement: A comparison between urban and rural settings. Universiti Malaysia Sabah: Skim Geran Penyelidikan [SGPUMS\_UPPLB](Ongoing).
- Lay, Y.F., Ong, E.T., Ng, K.T., Khoo, C.H. & Han, C.G.K. (2017). The Integration of 5E instructional model in enhancing rural primary pupils' knowledge an attitudes towards learning STEM. [SGPUMS\_UPPLB](Ongoing).
- Lay, Y.F., Ong, E.T., Han, C.G.K., Ng, K.T., & Khoo, C.H. (2017). Secondary students' interest, attitudes, values and priorities in science an technology-related issues: Evidence from the Malaysian Relevance of Science Education (ROSE) study [SGPUMS\_UPPLB](Ongoing).

### Secretariat/Chairperson in Congress/Conference/Symposium/Seminar/Workshop/Exhibition

#### International level

- (1) Society for Research Development (SRD):
  - (a) Co-Chair for ICRTSTMSD-2018 conference held at Bali and
  - (b) Publicity Chair for iCon-MESSSH 2020 14-15 August conference held at RECSAM, Penang.

- (2) The Global Learn Asia Pacific (2010) Global Conference on Learning and Technology organized by Association for the Advancement of Computing in Education (AACE) (17-20 May, 2010) as (1) Chairperson/presider and (2) Paper presenter at Penang, Malaysia.
- (3) The International Conference on 'Language, Culture and Technologies' (19-21 May 2006) at Kaunas University of Technology, Lithuania as (i) Chairperson and (ii) Paper presenter.

#### **Regional level**

- (1) 'Karnival Gaya Hidup Lestari' (KGHL) exhibition organized by Regional Sejahtera ESD Network (RSEN) and Regional Centre of Expertise (RCE) held from 27-29 Nov. 2015 at Dewan Utama Pelajar, USM as exhibition booth manageress to set-up booth, prepare duty roster and supervise the CSR event.
- (2) 1st Symposium on PISA: Critical Review on the findings and Mapping the Action, SEAMEO RECSAM Penang, 13-15 Oct 2014. (i) Chief Rapporteur; (ii) PISA Data Analyses Workshop Participant
- (3) First Seminar/Colloquium (1/2015) entitled 'The development of Malaysian Science Teacher Quality Standards (MSTQS) from Southeast Asia Regional Standards for Science Teachers (SEARS-ST): How can this affect science teachers' performance to raise students' achievement in TIMSS and PISA?' as chairperson and speaker.
- (4) 'Search for SEAMEO Young Scientists' (SSYS) as chairperson for forum and networking session on the following:
  - (a) 'Malaysian Academy of the Advancement of Young Scientists' (MAAYS) network and innovative educator workshop as chairperson.
  - (b) 'Intellectual Property Right' (IPR)(5th March 2010) during the 7th SSYS (3-6/3/2010) as chairperson.
  - (c) 'Green innovation and creative lifestyle' (9th March 2012) during the 8th SSYS (6-9/3/2012) as chairperson.
  - (d) 'Disaster Risk Reduction (DRR) for sustainable development (7th March 2014) during the 9th SSYS (3-7/3/2014)
  - (e) 'Preparing young entrepreneurs for innovative invention meeting societal needs for sustainable living' (11<sup>th</sup> March 2016) during the 10<sup>th</sup> SSYS congress (7-11 March 2016) with theme 'Youth Innovation for Sustainability' as chairperson.
  - (f) International networking coordinator during 11th SSYS (2018) and 12th SSYS (2020).
- (5) 'SEAMEO Science Olympiad' (SEASO) as Quiz questions developer, also coordinator for the preparation of composite report on LeSMaT, SSYS and SEASO to be submitted for the application of international cocurriculum marks.
- (6) International Conference on Science and Mathematics Education (CoSMEd), Penang, Malaysia:
  - (a) 1<sup>st</sup> to 4<sup>th</sup>: (i) Secretariat member; (ii) Paper presenter; (iii) Reviewer.
  - (b) 5th (11-14 Nov 2013): (i) Chairperson for Pre-conference Seminar for Student Researchers' Group; (ii) Chairperson for Symposium entitled 'Learning Beyond Classroom"; (iii) Paper presenter; and (iv) Brief paper reviewer
  - (c) 6<sup>th</sup> (16-19 Nov 2015): (i) Chairperson for Symposium on 'Blended Learning' and Poster (digital and nondigital category) presentations; (ii) Coordinator for Poster Competition; and (iii) Paper presenter
  - (d) 7<sup>th</sup> (13-17 November 2017) and 8<sup>th</sup> (11-15 November 2019) (i) Secretariat member; (ii) Paper presenter; (iii) Reviewer.

### Experience as Teacher/Academic Facilitator/Trainer/Tutor/Supervisor/Lecturer/Senior Lecturer

Involved in teaching more than 100 in-service training courses (e.g. Regular, Special Mounted, Customized, In-country) also as course supervisor. The following are some examples of reports written for courses and CPD programmes:

#### Reports for Regular/Customized/Regional Training of Trainers (TOT) courses, report of research projects, etc.:

- Ng, K.T. & Khairiree, K. (1996). Course Report PB-514. SEAMEO RECSAM.
- Ng, K.T. & Ong, E.T. (1996). Course Report PS-106. SEAMEO RECSAM.
- Binadja, A. & Ng, K.T. (1996). Course Report SS-515. SEAMEO RECSAM.
- Ng, K.T. & Abdul Rahman, Hajira B. (1997). Course Report PS-103. SEAMEO RECSAM.
- Ng, K.T. & Abdul Rahman, Hajira B. (1998). Course Report SS-106. SEAMEO RECSAM.
- Ng, K.T. (1998). Laporan Kursus PS-B1 Kohot 1. SEAMEO RECSAM.
- Ng, K.T. (1998). Laporan Kursus SS-B1 Kohot 2. SEAMEO RECSAM.

- Ng, K.T. (1999). Course Report PS-102. SEAMEO RECSAM.
- Ng, K.T. (1999). Laporan Kursus PS-B1 Kohot 3. SEAMEO RECSAM.
- Ng, K.T. (1999). Laporan Kursus SS-B1 Kohot 4. SEAMEO RECSAM.
- Ng, K.T. (1999). Laporan Kursus PS-B1 Kohot 5. SEAMEO RECSAM.
- Ng, K.T. (2000). Laporan Kursus SS-B1 Kohot 6. SEAMEO RECSAM.
- Ng, K.T. (2000). Course Report PS-0607. SEAMEO RECSAM.
- Ng, K.T. (2000). Laporan Kursus SS-B1 Kohot 7. SEAMEO RECSAM.
- Ng, K.T. (2001). Course Report PS-1303. SEAMEO RECSAM.
- Ng, K.T. (2001). Laporan Kursus SS-WB5. SEAMEO RECSAM.
- Ng, K.T. (2001). Laporan Kursus SS-WB7. SEAMEO RECSAM.
- Ng, K.T. (2001). Laporan Kursus PS-WB8. SEAMEO RECSAM.
- Ng, K.T. (2002). Course Report PS-0500. SEAMEO RECSAM.
- Ng, K.T. (2002). Laporan Kursus PS-WB10. SEAMEO RECSAM.
- Ng, K.T. & Abdullah, A.T.S. (2002). Course Report CCWB-BPG(S). SEAMEO RECSAM.
- Ng, K.T. (2003). Course Report SS-0607. SEAMEO RECSAM.
- Ng, K.T., Abdullah, A. & Ramli, A. (2003). Course Report CC-Aceh. SEAMEO RECSAM
- Ng, K.T. (2004). Course Report AS-1018. SEAMEO RECSAM.
- Ng, K.T. (2004). Course Report SS-0500. SEAMEO RECSAM.
- Ng, K.T., Abdul Rani, R. & Foo, L.K. (2004). Course Report CC-Aceh. SEAMEO RECSAM
- Ng, K.T. (2005). Course Report PS-4120. SEAMEO RECSAM.
- Ng, K.T. & Abdul Rani, R. (2005). Course Report SS-1100(Aceh). SEAMEO RECSAM.
- Ng, K.T. (2006). Course Report SS-6384 (Designing and implementing project/problem/ programme-based learning in secondary science). 20/2-17/3/2006. SEAMEO RECSAM.
- Ng, K.T. (2006). Evaluation report for Regular Course (3-28 July 2006) and Australian Trainee Teachers' Practicum (3-16 July 2006). RECSAM
- Ng, K.T. (2007). Course Report *HVWSHE regional Training of Trainers* (TOT) course on HVWSHE. SEAMEO-UN HABITAT. May 16 to May 25, 2007. Penang: SEAMEO RECSAM.
- Ng, K.T. (2008). Course Report National echo training course on HVWSHE. SEAMEO-UN HABITAT. January 29 to 31, 2008. Penang: SEAMEO RECSAM.
- Ng, K.T. (2008). Course Report AS-7100. SEAMEO RECSAM.
- Ng, K.T. (2011). Going global in SEARCH for science and mathematics researchers for a sustainable future through development of e-learning resource materials. Final report for 'Reorienting teacher education towards EFA and ESD' funded by UNESCO APEID and Japan/KOREAN Funds-in-Trust.
- Ng, K.T. (2012). Going global in SEARCH for science and mathematics researchers: A report of the launching of online learning hub and workshop to promote ESD and EFA (21st to 27th June 2011). Penang: SEAMEO RECSAM.
- Ng, K.T. (2013). Promoting investigative research through blended learning with development of instructional materials. Phase 2 SEARCH project and workshop (17<sup>th</sup> to 22<sup>nd</sup> May 2012) report funded by RECSAM's short-term research grant. RECSAM.
- Ng, K.T. (2014). South East Asia Regional Standards for Science Teachers (SEARS-ST). Information Paper (IP) for 45<sup>th</sup> Governing Board Meeting (GBM). Malaysia.
- Ng, K.T. (2015a). SEAMEO Borderless School Project. Presentation for 46<sup>th</sup> Governing Board Meeting (GBM). 28-30 September at Medan, Indonesia.
- Ng, K.T. (2015b). Update Report on the SEAMEO Borderless School Project Initiative. Working Paper (WP1) for Centre Director Meeting (CDM) No. 15. 8-10 June, Sukhumvit Hotel, Bangkok, Thailand.
- Ng, K.T. (2015c). Update on SEAMEO Borderless School Project Initiative. Working Paper for 38th High Officials Meeting (HOM). 29 November-1 December, Dusit Thani, Bangkok, Thailand.
- Ng, K.T. (Ed.)(2017d). Update report on SEAMEO 'Learning Science and Mathematics Together' In a Borderless World [LeSMaT (Borderless)]. Working Paper (WP) presented in the 49th SEAMEC Conference. 25-26 July, 2017 at Jakarta, Indonesia.
- Ng, K.T. (Ed.)(2017e). Update report on SEAMEO 'Learning Science and Mathematics Together' In a Borderless World [LeSMaT (Borderless)]. Working Paper (WP) presented in the SEAMEO Centre Directors Meeting (CDM). 26-28 July, 2017 at Jakarta, Indonesia.
- Ng, K.T. (2017f). SEAMEO RECSAM's Virtual/ E-Learning Programmes. Presentation (4/9) during Workshop on 'Capacity Building (CB) for SEAMEO Centres (Theme: SEAMEO Education Agenda and Virtual Programmes) conducted from 4 to15 September, 2017 at Bangkok, Thailand: SEAMEO Secretariat Office.

- Ng, K.T. (2017g). *LearnT-SMArET through Championing Use of Digital Tools and E-Platform*. Presentation (8/9) during Workshop on 'Capacity Building (CB) for SEAMEO Centres (Theme: SEAMEO Education Agenda and Virtual Programmes) conducted 4 to15 September, 2017 at Bangkok, Thailand: SEAMEO Secretariat Office.
- Ng, K.T. (2017h). Action Plan for Virtual Learning (VL) activities in next six months and more for LeSMaT(Borderless),etc.. Presentation (13/9) during Workshop on 'Capacity Building (CB) for SEAMEO Centres (Theme: SEAMEO Education Agenda and Virtual Programmes) conducted from 4 to15 September, 2017 at Bangkok, Thailand: SEAMEO Secretariat Office.
- Ng, K.T. (20175i). Action Plan for 'Build your Augmented Reality Schedule (ICC-CB online programme). First draft prepared (14/9) during Workshop on 'Capacity Building (CB) for SEAMEO Centres (Theme: SEAMEO Education Agenda and Virtual Programmes) from 4 to15 September, 2017 at Bangkok, Thailand: SEAMEO Secretariat Office.
- Ng, K.T. (Ed.)(2017j). Report on SEAMEO Learning Science and Mathematics Together (LeSMaT) In a Borderless World. Information Paper (IP) 7 presented in the 48<sup>th</sup>Governing Board Meeting (GBM). 26-27 September, 2017. Penang: SEAMEO RECSAM.
- Ng, K.T. (Ed.)(2018a). Progress report on SEAMEO 'Learning Science and Mathematics Together' (LeSMaT) In a Borderless World. Presentation during 18<sup>th</sup> SEAMEO Centre Directors' Meeting (CDM). 26-28 July, 2018. Bangkok.
- Ng, K.T. (Ed.)(2018b). Report on SEAMEO 'Learning Science and Mathematics Together' (LeSMaT) In a Borderless World. Information Paper No. 5 (IP-5) presented in the 49<sup>th</sup> Governing Board Meeting (GBM). 25-27 September, 2018 at Ho Chi Minh City, Vietnam.
- Ng, K.T. (2019a). Preparation and dissemination of LeSMaTcurriculum through blended-mode activities including preparation of digital resources for the conduct of e-training programme entitled 'LearnT-SMArET with enhancement of scientific/mathematical, problem-solving and computational thinking skills' as one of the SEAMEO Education Agenda and Virtual Programme (November-December 2019). Proposal presented at Research fund meeting and approved for CSF8/2019, SEAMEO RECSAM.
- Ng, K.T. (2019b). LeSMaT(Borderless) project executive report for accreditation of co-curriculum marks [Laporan eksekutif projek LeSMaT(Borderless) bagi tujuan akreditasi markah PAJSK]. Project report sent to MoR Co-curriculum division, Putrajaya, Malaysia.

The following are selected topics taught at various levels involving as facilitator, teacher, classroom support teacher, tutor, lecturer, senior lecturer, supervisor, etc. at educational institutions both in Malaysia and abroad:

### At Regional Centre for Science and Mathematics (RECSAM)

- As coordinator/facilitator for SEAMEO Education Agenda online training programmes from 2017 to 2019:
  - (1) 'The Real World of Immersive Augmented Reality' (9 October to 30 November 2017)(Guide to prepare project proposal)
  - (2) 'LearnT-SMArET through championing use of digital tools and e-platforms' online training course' (5/11-10/12/2018). Introduction to LearnT-SMArET: What, Who, Where, Why, How, When; Enhancing thinking, technology and life (work/survival/entrepreneurship) skills through transdisciplinary science/mathematics education: Exemplary project/issue-based learning; Registering Edmodo with guide from LeSMaT(Borderless) official FB group as exemplary digital tool and e-platform to promote LearnT-SMArET; Guide to prepare project proposal and/or final assignments; etc.
  - (3) 'LearnT-SMArET with promotion of scientific/mathematical, problem-solving and computational thinking skills' (7/11-12/12/2019). Introduction. Familiarisation with digital tools for online training and communication: WebEx and Telegram; Introduction to LearnT-SMArET: What, Who, Where, Why, How, When; Registering Edmodo with guide from LeSMaT(Borderless) official FB group as exemplary digital tool and e-platform to promote LearnT-SMArET; Enhancing thinking, technology and life (work/survival/ entrepreneurship) skills through transdisciplinary science/mathematics education: Exemplary project/issue-based learning; Guide to prepare project proposal and/or final assignments; etc.
- As facilitators/trainers/coordinator/supervisor in Regular/Customized/In-country Courses and training workshops teaching, e.g. 'Pedagogical Content Knowledge (PCK) on Physics/ Chemistry/ Biology/Mathematics, Blended learning, Development of e-learning resource materials using 'Learning Activities Management Systems' (LAMS), Technology-enhanced Project-based Activities (PBA), Problem-based Learning (PBL), Active and Cooperative Learning, Constructivist approaches, Mixed-methods Research, Action Research, Lesson Study, Contextual learning, Values-based education for sustainable living, Lab management, etc.'

- As co-supervisor for Action Research facilitating courses, e.g. 'Enhancing teaching in primary and secondary science (AS-7100)(31/3-25/4/2008); Assessment in a constructivist environment for teaching and learning in secondary science (SS-5265)(5/4-30/4/2010);
- Corporate Social Responsibility (CSR)(2013): 'Juicing science' workshop for Pos Dipang indigenous primary school (Visit and science camp at RECAM)(2013)
- Corporate Social Responsibility (CSR)(2014): 'Astronomy camp and tuition' for Kelas Bimbingan Akademik Program Tanggungjawab Sosial Korporat RECSAM dan Persatuan Melayu Pulau Pinang (PEMENANG)

#### At tertiary education (university/institutes/training centre) levels

- Educational Psychology, Sociology, History of Education, Educational Technology [Undergraduate degree for School of Educational Studies, Universiti Sains Malaysia (USM): 1989-1991]
- Educational Psychology [Undergraduate degree for School of Social Sciences, USM: 1995]
- Child health and nutrition; First Aid; Child and society [Dip.for Learning Montessori Centre (LMC): 1995-2006]
- Research methodologies for M.Ed. programme [Universiti Kebangsaan Malaysia (UKM): 2006]
- Overview of Trends and issues in Quality Early Childhood Education (ECE); Introducing blended mode of learning and brain science in ECE, Use of ICT tools for continuing lifelong learning, Developing scientific literacy in ECE and understanding the interrelationships of STES, Developing children's HOTS, CCT in scientific investigative activities, Using the most current technology-enhanced learning programme(s) involving web-portals and OER for teaching and assessment in ECE, ME5112 course summary and evaluation [MA-ECE for International Buddhist College (IBC): 2009-2011]
- Curriculum theory and design; Educational Leadership; Ethics in Ed.; M.Ed. Education project supervision; Teaching Practicuum supervision (Maths, Science); The arts for children in language learning; Grammar and usage; Teaching Literature in ESL Contexts [Under-Postgrad for Wawasan Open University (WOU): 2012-16]
- Academic Writing; Introduction to Technology and Children; Fundamentals of Instructional Technology [Diploma/Advanced Diploma and M.Ed. for Asia e-University (AeU): 2014-2016]

### Master thesis supervised and completed (x4):

(1) Investigation of factors in preparing instructors to face challenges in EFL; (2) Factors that motivate learners to pursue postgraduate studies: An empirical assessment; (3) Developing thinking skills among ESL learners through blended approach; (4) Examining factors contributing to effective blended learning to improve primary students' language proficiency: Cases of exemplary practices.

**Doctoral thesis supervised and completed** (x1): Sustainability factors of Private Higher Education Institutions in Saudi Arabia

#### At secondary and primary education levels

- Secondary science, Physics and secondary mathematics (1 school in Parit Buntar, Perak and 1 school in Penang: 1987-1988; 1 school in Penang: 1989)
- Secondary science/mathematics, English and music (1 school in London, UK: 1994)
- Primary science/mathematics, language subjects and music (2 schools in Penang: 1984)

### **Continuing Professional Development**

Selected most recent Continuing Professional Development (CPD) programmes involved.

#### 1. International/Regional Level

2017-2019

- Pre-conference workshop during iSTEM 2019 (22-24 January) conference organized by School of Educational Studies at Eureka building, USM.
- 2<sup>nd</sup> International Conference on SDGs (ISDG2019) with educational visit to Green building at SPICE opposite Olive Tree hotel, Penang.
- Training workshop on Computer Science Education (1-5 July 2019) organized by ISTIC and in collaboration with LAMAP at Kuala Lumpur.

2014-2016

- Participated in the Malaysia/UNESCO-IBE needs assessment workshop for strengthening STEM curricuclar for girls in Africa and Asia and the Pacific (Phase 1)(18-20 January 2016) at RECSAM.
- Participated/Coordinated in Southeast Asia Regional Standards for Mathematics/Science Teachers (SEARS-MT/SEARS-ST), 1<sup>st</sup> and 2<sup>nd</sup> Workshop for the development of Framework of Practice for (a) Mathematics Teacher, 12-14 March 2013 and 2-5 July 2013; (b) Science Teacher, 20-22 Jan and 16-18 June 2014 at RECSAM, Penang.
- Participated/Coordinated in workshop on Development of Malaysian Mathematics /Science Teachers Quality Standards (MMTQS and MSTQS) using Southeast Asia Regional Standards for Mathematics/Science Teachers (SEARS-MT/SEARS-ST) (a) 12-13 June 2014; (b) 26-27 May 2015 at RECSAM, Penang.
- Participated in the 7<sup>th</sup> Asia Pacific RCE meeting and international symposium: A decade of Regional Centre of Expertise on ESD: Reflections and advances in Asia-Pacific (26-28 August 2014) at USM, Penang.
- Participated in 1<sup>st</sup> Symposium on PISA: Critical review on the findings and mapping the actions 'Understanding PISA and its impact on educational effectiveness and policy initiatives' (13-15 October 2014) at RECSAM.
- Participated in South East Asia (SEA) online course development workshop organized by SEAMOLEC (26/4-30/4/2015) at Jakarta.
- Attended (a) STEM-teacher mindset workshop (27/2,2/3); (b) research implementation meeting for teachers' readiness to teach (16/6); (c) STEM Education for 21<sup>st</sup> century skills seminar, 14-15 May 2015, RECSAM, Penang.
- Participated in Regional Consultative Meetings on SEAMEO Basic Education Standards (SEA-BES) and Southeast Asia Primary Learning Metrics (SEA-PLM), 4-5 Nov 2014, SEAMEO RECSAM, Penang.
- Participated in the 9<sup>th</sup> International LAMS and Learning Design Conference and Workshop (Innovation in Learning Design) (26-27 November 2014) as paper presenter and workshop participant.
- Participated/Coordinated e-learning workshops on (1) FROG VLE (9-10/2/15); (2) LAMS (11/2/2015) at RECSAM
- Participated in workshops (1-9) to develop SEAMEO Basic Education Standards (SEA-BES)(2015-2016), SEAMEO RECSAM, Penang
- Participated in workshop on Test Item Construction for Assessing Socio-scientific Issue (SSI), 4-6 August 2015, SEAMEO RECSAM, Penang.
- Participated in workshop on 'Learning science through games, simulations and electronic/mobile devices' by Dr. Janchai Yingprayoon (8/6-9/6/2015) at RECSAM.
- Participated in (a) Colloquium and (b) workshop (8-9/7/2015) entitled 'critical thinking skills in the 21<sup>st</sup> century' by Assoc. Prof. David R. Cole, Centre for Educational Research, University of Western Sydney, Australia.
- Participated in Professional Learning Community (PLC) Programme: Symposium on Lesson Study Creating Challenging Problems to Stimulate Children's Thinking, 17 August 2015, SK Minden Height, Penang, a collaboration among Malaysian Teacher Training Division, RECSAM, Univ. of Tsukuba, Japan.
- Coordinated Critical Success Factor (CSF) workshop to develop ICT plan for borderless blended learning platforms (26/11/2015) at RECSAM.
- Participated in Team building activities 1<sup>st</sup> batch (31/7-1/8/2015) at D'Punchak Tasik Beris Resort, Sik.
- Participated in Bengkel 'Transformasi ilmu dan kaedah-kaedah baru dalam pengajaran dan pembelajaran Fizik' (2/9-4/9/2015) in Maths/ICT laboratory, RECSAM
- Participated in RECSAM's Five-Year Development Plan Workshops (a) 10<sup>th</sup> Five-year plan: 9-11 June 2014, SEAMEO RECSAM, Penang

### 2001-2013

• Participated in the Telecollaboration workshop on reorienting teacher education towards EFA and ESD (7-9 November 2012) organized by UNESCO and Japan Funds-in-Trust at Bangkok, Thailand.

### 2. National/University Level

2016-2019

- Workshop on Enhancing Critical and Computational thinking through Design-based approach in STEM context: Challenge to transform STEM education to Artificial Intelligence (AI)-Generation Education (26 to 28 March 2019) at RECSAM.
- Useful '10 minutes teaching aids' using local materials for effective teaching and learning of science (8-9 April 2019) at RECSM.
- Nah Pah Thai Culinary Art programme at the Royal Cliff Hotels group organized as pre-UIA roundtable event at Pattaya Cholburi, Thailand.
- Writing and publishing a Web of Science and Scopus journal article workshop (20 July 2019) organized by ACE Learning Excellence and Innovation at University of Malaya.
- Participated in 'Total Qualilty Management' (TQM) workshop organized by RECSAM (2016) at RECSAM.

#### 2014-2015

- Attended public/professorial talk: or exhibition: (a) Seminar tahunan pengajaran dan pembelajaran USM 2014 "The Global Classroom" organized by CDAE (20/8/2014). (b) 'Wacana Bersama Penerima Anugerah Akademik Negara' (22/11/14) organized by Pusat KecemerlanganAkademik & Penasihatan dan Pembangunan Belajar (CDAE) at USM.
   (c) 'Everything you treasure for a world free from nuclear weapons' organized by SGI and ICAN. (d) Nobel laureate lecture by Prof. Makoto Kobayashi on 'Matter and antimatter' (violation of CP symmetry)(30/11/2015) at USM.
- Attended forum on 'Future of learning: Emerging trends, opportunities and challenges' (8/5/2014) organized by Taylor University, Lakeside Campus.
- Participated in Seminar Pendidikan Astronomi-Falak (17-19 October 2014) organized by Astro Falak Edu Sem, Astronomy Club USM and Mufti, Kearajaan Negeri P.P. as workshop participant and presenter at USM, Penang..
- Participated in Research and Innovation Competition (PEREKA), Universiti Malaysia Sabah, 27-28 Oct 2014 and 9-10 December 2015.

#### 2001-2013

- Participated in 'Emerging technologies: Internet, Medical Imaging and Special Education' seminar (15/9/2011) organized by Malaysian National Computer Federation at Traders Hotel, Penang.
- Participated in 'Total Quality Management' (TQM) workshop organized by Malaysia Productivity Corporation (MPC) (19-20/8/2009) at SEAMEO RECSAM.
- Participated/Coordinated in 'Intel Teach to the Future' (ITTF) Master facilitator's course (3-17 July 2001) with workshops on training of 106 teachers thereafter organized by Intel Education at RECSAM, Penang.
- Participated in the Intel Teach Program Essentials Course with 32 hours of Professional Development for qualification as certified Master Facilitator (25-29 January 2010) at RECSAM.