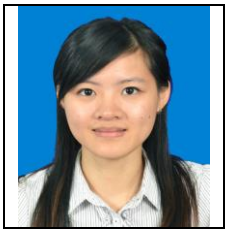
CURRICULUM VITAE



A. BUTIR-BUTIR PERIBADI *(Personal Details)*			
Nama Penuh *(Full Name)*	TAN SIN TEE		Gelaran *(Title):* Dr.
No. MyKad / No. Pasport *(Mykad No. / Passport No.)* 881112045178	Warganegara *(Citizenship)* MALAYSIAN	Bangsa *(Race)* CHINESE	Jantina *(Gender)* FEMALE
Jawatan *(Designation)* SENIOR LECTURER		Tarikh Lahir *(Date of Birth)*	12 NOVEMBER 1988

Alamat Semasa *(Current Address)*	Jabatan/Fakulti *(Department/Faculty)*	E-mel dan URL *(E-mail Address and URL)*
2C, JALAN DUNGAI BESI INDAH 3/7, TAMAN SUNGAI BESI INDAH, 43300, SERI KEMBANGAN, SELANGOR. Tel: 03-89427694	PHYSICS DEPARTMENT, FACULTY OF SCIENCE, UNIVERSITY PUTRA MALAYSIA, 43400 UPM SERDANG Tel: 03-89432508 Fax:-	E-mail: tansintee@upm.edu.my URL: N/A H/P: 010-4281371

B. KELAYAKAN AKADEMIK *(Academic Qualification)*			
Nama Sijil / Kelayakan *(Certificate / Qualification obtained)*	Nama Sekolah Institusi *(Name of School / Institution)*	Tahun *(Year obtained)*	Bidang pengkhususuan *(Area of Specialization)*
DOCTORAL OF PHILOSPHY	UKM, MALAYSIA	2014	PHYSICS
BACHELOR OF SCIENCE	UKM, MALAYSIA	2011	PHYSICS

C. KEMAHIRAN BAHASA *(Language Proficiency)*					
Bahasa / *Language*	Lemah *Poor (1)*	Sederhana *Moderate (2)*	Baik *Good (3)*	Amat Baik *Very good (4)*	Cemerlang *Excellent (5)*
English				/	
Bahasa Melayu				/	
Chinese				/	
Lain-lain *(other):*				-	

D. PENGALAMAN SAINTIFIK DAN PENGKHUSUSAN
(Scientific experience and Specialisation)

Organization	*Position*	*Start Date*	*End Date*	*Expertise*
Universiti Putra Malaysia	Senior Lecturer	16 July 2018	Current	Academic &Researcher
Nanyang Technological University, Singapore	Research Fellow	11 November 2017	15 July 2018	Researcher
Universiti Kebangsaan Malaysia	Postdoctoral Researcher	1 November 2014	1 November 2017	Researcher
Department of Materials Chemistry, Kyoto University	Research Scholar	September 2012	October 2012	Researcher

E. PEKERJAAN *(Employment)*

Majikan */ Employer*	Jawatan */ Designation*	Jabatan / *Department*	Tarikh lantikan / *Start Date*	Tarikh tamat / *Date Ended*
NTU, SIngapore	RESEARCH FELLOW	DEPARTMENT OF MATERIAL SCIENCE AND ENGINEERING	NOV.2017	JULY.2018
UKM	POSTDOCTORAL RESEARCHER	FACULTY OF SCIENCE, UKM	NOV.2014	NOV.2017

F. ANUGERAH DAN HADIAH *(Honours and Awards)*

Name of awards	*Title*	*Award Authority*	*Award Type*	*Year*
Academic Awards	**Award** **International/ National** 1. Gold Medal in Putra Innocreative Competition, Participant, Universitiy Putra Malaysia, National, 2019 2. Gold Medal in Materials Technology Challenges 2019, Presenter, MASS Malaysia & Universiti Putra Malaysia, National, 2019 3. Putra Innocreative Awards: Best Inoocreative Educator in Immersive Learning Experience-Blended Immersive Learning Experience, Participants, University Putra Malaysia, National, 2019 4. Anugerah Perkhidmatan Cemerlang, Universiti Putra Malaysia, National, 2018 5. Outstanding Reviewer Awards in International Peer Review Journal-Sensor & Actuators:B and Journal of Alloys and Compounds, Elsevier publisher, 2017 6. Recipient in University Postdoctoral Fellowship, Universiti Kebangsaan Malaysia, 2017 7. Selected Young Scientist in Baden-Wurtermberf Post Conference Program, Ministry of Education of Germany, 2016 8. Selected Young Scientists in 66th Lindau Nobel Laureates Meeting, Council of Nobel Laureates and Academic Patner-Academic Science of Malaysia, 2016 9. Recipient in University Postdoctoral Fellowship, Universiti Kebangsaan Malaysia, 2016 10. Recipient in Travel Grant for International Workshop on Advanced Materials (IWAM), Royal Minister of Ras Al Khaimah Center for Advanced Materials, 2015 11. Consolation awards in :UKM Research and Inovation Congress" Pitching Competition, Center of Research Center, UKM, 2105 12. Outstanding Reviewer Awards in International Peer Review Journal- Materials Letters, Elsevier publisher, 2015 13. Best Poster Awards in "Seminar on Advanced Materials Characterization Technique in Research, Industry and Nuclear Application 2015, MNS-XAPP Malaysia, 2015 14. Recipient in University Postdoctoral Fellowship, Universiti Kebangsaan Malaysia, 2015 15. Recipient in Research University Fellowship, Universiti Kebangsaan Malaysia, 2011-2014 16. Dean's Honors List, Universiti Kebangsaan Malaysia, 2008-2011 17. Principal awards for best student, College Burhanurdin Universiti Kebangsaan Malaysia, 2008			
Recognitions	1. Journal Reviewer in Sn Applied Science, Elsevier Publisher, International, 2020 2. Journal Reviewer in Materials Letters, Elsevier Publisher, International, 2015-2019 3. Journal Reviewer in Journal of Alloys and Compound, Elsevier Publisher, International, 2016-2019 4. Journal Reviewer in Pakistan Journal of Analytical & Environmental Chemistry, National Centre of Excellence in Analytical Chemistry, International, 2019 5. Journal Reviewer in IOP conference series: Materials Science and Engineering (MSE), IOP Science,			

	International, 2019 6. Journal Reviewer in Baghdad Science Journal , International, 2015-2019 7. Journal Reviewer in Scientific Report, Nature Publisher, International, 2015-2019 8. Journal Reviewer in Physica E: Low-dimensional Systems and Nanostructure, Elsevier Publisher, International, 2019

G. SENARAI PENERBITAN (Sila masukan nama pengarang, tajuk, nama jurnal, jilid, muka surat dan tahun diterbitkan) *(List of publications – author (s), title, journal, volume, page and year published)*	
Journal	**ISI Journal Articles** ***Corresponding Author** 1. FS Lim, **ST Tan**, Y Zhu, JW Chen, B Wu, H Yu, JM Kim, RT Ginting, KS Lau, CH Chia, H Wu, M Gu, WS Chang, Tunable Plasmon-induced Charge Transport and Photon Absorption of Bimetallic Au-Ag Nanoparticles on ZnO Photoanode for Photoelectrochemical Enhancement Under Visible Light, 2020 2. CH Hak, KH Leong, YH Chin, P aravanan, **ST Tan**, WC Chong, LC Sim, Water hyacinth derived carbon quantum dots and g-C3N4 composites for sunlight driven photodegradation of 2,4-dichlorophenol, SN Applied Science, Cited by 1, 2020,2,1-14 3. KS Lau, **ST Tan**, RT Ginting, PS Khiew, SX Chin, CH Chia, A mechanistic study of silver nanostructure incorporating reduced graphene oxide via a flow synthesis approach, New Journal of Chemistry, Non-Cited, 3.069, 2020 4. KS Lau, RT Ginting, **ST Tan**, SX Chin, S Zakaria, CH Chia, Sodium cholate as efficient green reducing agent for graphene oxide via flow reaction for flexible supercapacitor electrodes, Journal of Materials Science: Materials in Electronics, Cited by 3, 2.195, 2019, 30 (21), 19182-19188 5. KS Lau, SX Chin, **ST Tan**, FS Lim, WS Chang, CC Yap, MHH Jumali, S Zakaria, CH Chia, Silver nanowires as flexible transparent electrode: Role of PVP chain length, Journal of Alloys and Compounds, Cited by 2, 4.175, 2019, 803, 165-171 6. KJ Hong, **ST Tan*,** KK Chong, CC Yap, MHH Jumali, YL Loo, Numerical analysis with experimental verification to predict outdoor power conversion efficiency of inverted organic solar devices, Renewable energy, Cited by 1, 5.439, 2019, 135, 589-596 7. EY Salih, MFM Sabri, **ST Tan**, K Sulaiman, MZ Hussein, SM Said, CC Yap, Preparation and characterization of ZnO/ZnAl2O4-mixed metal oxides for dye-sensitized photodetector using Zn/Al-layered double hydroxide as precursor, Journal of Nanoparticle Research, Cited by 1, 2.009, 2019, 21 (3), 55 8. Abdellah.A, **Tan, S. T***., Yap, C. C*., Lee, H. B., Tan, C. H., Jumali, M. H. H. & Ginting, R. T. 2018. Surface Engineering of ZnO Nanorod for Inverted Organic Solar Cell. Material Science and Engineering B. (Elsevier, IF=3.32) 9. Hong, K. J., **Tan, S. T***., Ginting, R. T., Lee, H. B., Tan, C. H., Jumali, M. H. H. & Yap, C. C. 2018. Synergy Study on Charge Transport Dynamics in Hybrid Organic Solar Cell: Photocurrent Mapping and Performance Analysis under Local Spectrum. Current Applied Physics (Elsevier, IF=2.12) 10. Oleiwi, H. F., Zakaria, A., Yap, C. C., **Tan, S. T***., Lee, H. B., Tan, C. H., ... & Talib, Z. A. 2018. Surface modification of ZnO nanorods with CdS quantum dots for application in inverted organic solar cells: effect of deposition duration. *Journal of Materials Science: Materials in Electronics*, *29*(4), 2601-2609. (Springer, IF= 2.02) 11. **Tan, S. T*.,** Ginting, R. T., Lee, H. B., Tan, C. H., Jumali, M. H. H. & Yap, C. C. 2018. Self-Assembled Crystalline Mesoporous Bi-ZnO Nanoflower: An Efficacious Visible Light-Driven Photocatalysts. ACS Catalysis (ACS, IF=9.31) 12. **Tan, S. T*.,** Ginting, R. T., Lee, H. B., Tan, C. H., Jumali, M. H. H. & Yap, C. C. 2018. Pt/ZnO Nanoarchitecture and Photocatalysts Design for Hydrogen Generation. Nanoscale (ACS, IF=7.40) 13. Muslimin, M., Jumali,M.H., **Tan, S.T**., Lee, H. B., Tan, C. H. & Tap, C.C. 2018. Influence of Zr doping on structure and morphology of TiO_2 nanorods prepared using hydrothermal method. AIP Conference Proceeding, 1940 (1), 020002 14. Hui, T. C., **Tan, S. T*.,**_Yi, C. W., Chin, Y. C., Umar, A. A., Titian, G. R., Beng, L. H., Sing, L. K., Yahaya, M. & Salleh, M. M., 2017, Automated Room Temperature Optical Absorbance CO Sensor based on In-doped ZnONanoord. *Sensors and Actuators B: Chemical*. (Elsevier, IF=4.80) 15. Lee, H. B., Ginting, R. T., **Tan, S. T*.,** Jumali, M. H. H., Yap, C. C., & Tan, C. H. 2017. Controlled Defect of Fluorine-incorporated ZnO Nanorods for Photovoltaic Enhancement. *Scientific Reports*. *6* (Nature Publishing Group, IF= 5.22) 16. Oleiwi, H. F., Zakaria, A., Yap, C. C., **Tan, S. T**., Lee, H. B., Tan, C. H., ... & Talib, Z. A. 2017. Enhanced photovoltaic performance of CdS-sensitized inverted organic solar cells prepared via a successive ionic layer adsorption and reaction method. AIP Conference Proceeding, 1838 (1), 020007 17. **Tan, S. T*.,** Hui, T. C., Yi, C. W., Chin, Y. C., Umar, A. A., Titian, G. R., Beng, L. H., Sing, L. K., Yahaya, M. & Salleh, M. M., 2017, Microwave-assisted hydrolysis preparation of highly crystalline ZnO nanorod array for room temperature photoluminescence-based CO gas sensor. *Sensors and Actuators B: Chemical* **2,** *227*, 304-312. (Elsevier, IF=4.80) 18. Oleiwi, H. F., Zakaria, A., Yap, C. C., **Tan, S. T***., Lee, H. B., Tan, C. H., ... & Talib, Z. A. 2016. Two-

	dimensional CdS intercalated ZnO nanorods: a concise study on interfacial band structure modification. RSC Advances, 57(6), 52395-52402. (RSC, IF= 3.82) 19. Abdellah.A, **Tan, S. T***., Yap, C. C*., Lee, H. B., Tan, C. H., Jumali, M. H. H. & Ginting, R. T. 2016. A Novel Hydrothermal Approach to Functionalize Self-Oriented Twin ZnO Nanotube Arrays for Inverted Organic Solar Cell. Materials Letters. 165, 75-78. (Elsevier, IF=2.49) 20. **Tan, S. T**., Umar, A. A. & Salleh, M. M., 2016, Synthesis of defect-rich (001) faceted-ZnO nanorod on a FTO substrate as efficient photocatalysts for dehydrogenation of isopropanol to acetone. Journal of Physics and Chemistry of Solids. 93, 73-78. (Elsevier, IF=1.89) 21. Lee, H. B., Ginting, R. T., **Tan, S. T*.**, Jumali, M. H. H., Yap, C. C., & Tan, C. H. 2016. Tailoring the photovoltaic performance of inverted hybrid solar cells by replacing PEDOT:PSS with V_2O_x as hole-extraction layer. AIP Conference Proceeding, 1784 (1), 040020 22. Hui, T. C., **Tan, S. T*.,**_Yi, C. W., Chin, Y. C., Umar, A. A., Titian, G. R., Beng, L. H., Sing, L. K., Yahaya, M. & Salleh, M. M., 2016. Growth concentration effect on oxygen vacancy induced band gap narrowing and optical CO gas sensing properties of ZnO nanorods. AIP Conference Proceeding, 1784 (1), 040021 23. Ginting, R. T., Lee, H. B., **Tan, S. T***., Tan, C. H., Jumali, M. H. H. & Yap, C. C., 2015. A Simple Approach Low-Temperature Solution Process for Preparation of Bismuth Doped-ZnO Nanorods and Its Application in Hybrid Solar Cells. The Journal of Physical chemistry C (ACS, IF=4.78) 24. Lee, H. B., Jumali, M. H. H., Ginting, R. T., **Tan, S. T***., Yap, C. C., & Tan, C. H. 2015. Mechanistic study on highly crystalline (002) plane bounded ZnO nanofilms prepared via direct current magnetron sputtering. Materials Letters. 161, 83-88 (Elsevier, IF=2.49) 25. **Tan, S. T**., Umar, A. A. & Salleh, M. M. 2015. (001)-faceted hexagonal ZnO nanoplate thin film synthesis and the heterogeneous catalytic reduction of 4-Nitrophenol characterization. Journal Alloy and Compound. 650, 299-304. (Elsevier, IF=2.99) 26. **Tan, S. T**., Umar, A. A., Balouch, A., Yahaya, M., Yap, C. C., Salleh, M. M. & Oyama, M. 2014. ZnO nanocubes with (101) basal plane photocatalyst prepared via a low-frequency ultrasonic assisted hydrolysis process. Ultrasonics Sonochemistry 21(2): 754-760. (Elsevier,ISI, IF=4.05) 27. **Tan, S. T**., Umar, A. A., Balouch, A., Nafisah, S., Yahaya, M., Yap, C. C., Salleh, M. M., Kityk, I. V. & Oyama, M. 2014. Ag-ZnO nanoreactor grown on FTO substrate exhibiting high heterogeneous photocatalytic efficiency. ACS Combinatorial Science 16(7): 314-320. (ACS, ISI, IF=3.40) 28. **Tan, S. T**., Alzayed, N. S., Lakshminarayana, G., Naumar, F., Umar, A. A., Oyama, M., Myronchuk, G. & Kityk, I. V. 2014. Laser stimulated electrooptics in the Ag-ZnO nanorods. Physica E: Low-Dimensional Systems and Nanostructures 61: 23-27. (Elsevier,ISI,IF=1.44) 29. Ali Umar, A., Nafisah, S., Md Saad, S. K., **Tan, S. T**., Balouch, A., Mat Salleh, M. & Oyama, M. 2014. Poriferous microtablet of anatase TiO2 growth on an ITO surface for high-efficiency dye-sensitized solar cells. Solar Energy Materials and Solar Cells 122: 174-182. (Elsevier,ISI,IF=5.47) 30. Balouch, A., Umar, A. A., **Tan, S. T**., Nafisah, S., Md Saad, S. K., Salleh, M. M. & Oyama, M. 2013. Fibrous, ultra-small nanorod-constructed platinum nanocubes directly grown on the ITO substrate and their heterogeneous catalysis application. RSC Advances 3(43): 19789-19792. (RSC, ISI, IF=3.70) 31. Reshak, A., **Tan, S. T**., Naumar, F. Y., Umar, A., Oyama, M., Alahmed, Z., Kamarudin, H. & Kityk, I. 2014. Photoinduced Nonlinear Optical Second–Order Optical Effects in the Ag-ZnO Nanorods. International Jounal of Electrochemical Science 9: 6352-6358. (ESG, ISI, IF=1.96) 32. **Tan, S. T**., Umar, A. A., Yahaya, M., Salleh, M. M., Yap, C. C., Nguyen, H. Q., Dee, C. F., Chang, E. Y. & Oyama, M. 2013. Formation of a multi-arm branched nanorod of ZnO on the Si surface via a nanoseed-induced polytypic crystal growth using the hydrothermal method. Science of Advanced Materials 5(7): 803-809. (ASP, ISI, IF=2.91) 33. **Tan, S. T**., Yahaya, M., Tan, C.H., Yap, C. C., Umar, A. A. & Salleh, M. M. 2014. Fabrication of ZnO nanorod for room temperature NO gas sensor. Advanced Materials Research 1043:96-100 34. Yahaya, M., **Tan, S. T**., Umar, A. A., Yap, C. C.& Salleh, M. M. 2014. Synthesis of ZnO nanorod arrays by chemical solution and microwave method for sensor application. Key Engineering Materials 605:585-588. 35. **Tan, S. T**., Umar, A., Yahaya, M., Yap, C. & Salleh, M. 2013. Ultrafast formation of ZnO nanorods via seed-mediated microwave assisted hydrolysis process. Journal of Physics: Conference Series 431(1): 012001. 36. **Tan, S. T**., Umar, A. A., Umar, M. I. A., Ginting, R. T., Yahaya, M., Yap, C. C., Salleh, M. M., Majlis, B. Y. & Naumar, F. Y. 2013. Preparation of patterned graphene-ZnO hybrid nanoflower and nanorods on ITO surface. AIP Conference Proceedings 1571: 54-58. 37. Naumar, F. Y., Umar, A. A., Rahman, M. Y. A., Salleh, M. M., Umar, M. I. A., Nafisah, S., Saad, S. K. M. & **Tan, S. T.** 2013. Preparation and characterization of TiO2 nanowire - Cu2O nanocube composite thin film. Material Science Forum 756: 37-42. 38. **Tan, S. T.**, Umar, A. A., Yahaya, M., Yap, C. C. & Salleh, M. M. 2012. Effect of ZnO nanoseed structure on the growth orientation of vertical array ZnO nanorods via hydrothermal process. Applied Mechanics and Materials 229-231: 239-242.
Conferences, Workshop & Seminar	**Invited Speaker** 1. Invited Lecturer for 3 days Workshop Photoluminescence and UV-VIS-NIR: Instrumentation and data

	interpretation. International, 2020 2. Invited Speaker in "Program Pemantapan Skor A Fizik STPM 960 Bersama Mahasiswa UPM", National, 2019 3. Invited Speaker in Workshop on X-ray Diffraction (Advanced XRD Technique), National, 2019 4. Invited Guest Speaker in Nano surfaces analysis & characterization Symposium, National, 2019 5. Physics Lecture Series No1- Metal Oxides for Optoelectronic Devices, Universiti Putra Malaysai, 28th September 2018. 6. The Basic of XRD Theory and Sample Analysis, UPHA Pharmaceutical Mfg (M) Sdn Bhd, 8th August 2018. 7. Introduction of Spectroscopy Photoluminescence and Data Interpretation, UniversitI Kebangsaan Malaysia, September 2016 8. Introduction to Photoluminescence Spectroscopy, Center of Research and Instrumentation Management (CRIM), Universiti Kebangsaan Malaysia, December 2015 9. Understanding UV-vis-NIR Spectroscopy and Data Analysis, Center of Research and Instrumentation Management (CRIM), Universiti Kebangsaan Malaysia, August 2015 **Oral/Poster Presenter** 1. The 1st UKM-ISESCO-COMSATS International Workshop on Nanotechnology for Young Scientists (IWYS), Hotel Bangi-Putrajaya, 25th November 2016 (Poster) 2. 66th Lindau Nobel laureates Meeting (LIN06), Lindau Island, Germany, 26th – 30th June 2016 (Oral) 3. 8th Annual International Worshop on Advanced Materials (IWAM), Ras Al Khaimah Center for Advanced Materials, Dubai, 21th – 23th February 2016 (Poster) 4. The 13th Postgraduate Colloquium Faculty Science and Technology, Universiti Kebangsaan Malaysia, July 2013 (Oral) 5. The 3rd ISESCO International Workshop and Conference on Nanotechnology (IWCN), Universiti Kebangsaan Malaysia, December 2012 (Oral) 6. International Conference on Nanomaterials and Electronics Engineering (ICNEE), Kuala Lumpur, Malaysia, July 2012 (Oral)

H. PROJEK PENYELIDIKAN *(Research Project)*

Project No.	*Project Title*	*Role*	*Year*	*Source of fund*	*Status*
GP-IPM/2019/9673800	Surface Modification of V2OX as Hole Transporting Layer for Efficient Solar Driven Water Splitting Devices	Project Leader/Chairman	2019	UPM-IPM	On-Going
FRGS/1/2019.STG07/UPM/02/5	Metal-doped MnO2 Nanowires Electrode for Flexible Supercapacitor Applications	Project Leader/Chairman	2019	MOHE	On-Going
IPSR/RMC/UTARSRF/ PROGRAMME 2018-C1/001	Research on high performance hybrid perovskite-organic solar cell on stretchable substrate with the band gap tunable to indoor and local spectral irradiances	Co-researcher	2019	UTAR-SRF	On-Going
FRGS/1/2017/SG07/UKM/02/4	Quantum Dot 3d Metal Modified TiO2 Nnaostructure for Visible Light Plasmonic Photocatalysts	Co-researcher	2017	MOHE	On-Going
DIP-2016-027	Tailoring the Electronic Band Structure of Metal Oxide for Solar Driven Water Splitting Devices	Co-Researcher	2016	UKM	Completed
FRGS/1/2013/SG02/UKM/01/1	ZnO Nanoporous Structure for High Sensitivity CO Gas Sensor and Its Mechanism	Co-researcher	2013	MOHE	Completed

I. Projek Perundingan *(Consultancy Project)*

Project Title	*Role*	*Year*
Organic Solar Photovoltaics-From Sunlight to Electricity	Professional Consultant	2019

XRD Characterisation and Data Analysis-UPHA Pharmaceutical Sdn Bhd	Professional Consultant	2018-2019
XRD Characterisation and Data Analysis-Y.S.P Industries (M) Sdn Bhd	Professional Consultant	2019

J. Penyeliaan (Supervision of Graduate Students)

Category of Graduate Student	*Role*	*Name of Student*	*Year Expected Graduated*
Master in Science	Chairman	Nur Amalini Binti Zulkifli	2020
Master in Science	Chairman	Lim Jun Yan	2022
Master in Science	Co-member	Anne Tham	2020
Master in Science	Co-member	Dharshini A/P Parmal @ Perumal	2020
Doctor of Philosophy in Science (UTAR)	Co-member	Hong Kai Jeat	2023
Doctor of Philosophy in Science (UKM)	Co-member	Nour Attallah Abdelrahem Issa	2021
Doctor of Philosophy in Science (UPM)	Co-member	Tan Huey Jing	2021
Doctor of Philosophy in Science (UPM)	Co-member	Shamsu Abubakar	2021