

**Curriculum Vitae**

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**PERSONAL DETAILS**

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**Name** : TAY MENG GUAN  
**Office address** : Faculty of Resource Sciences and Technology, Universiti Malaysia Sarawak, 94300 Kota Samarahan, Sarawak, Malaysia.  
**Position** : Senior Lecturer  
**E-mail Address** : mgtay@frst.unimas.my  
**Telephone** : +6082 - 582983

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**ACADEMIC QUALIFICATION**

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**Ph.D Degree**

**University** : Durham University, Durham, UK  
**Duration** : Aug. 2006 – May 2010  
**Qualification obtained** : Ph.D in Inorganic Chemistry

**Master Degree**

**University** : Universiti Sains Malaysia (USM), Penang, Malaysia  
**Duration** : June 1999 – June 2001  
**Qualification obtained** : MSc. in Environmental Chemistry

**Bachelor degree**

**University** : Universiti Sains Malaysia (USM), Penang, Malaysia  
**Qualification obtained** : BSc. (Hons) in Chemistry  
**Grade** : Second upper (CGPA 3.10)

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**WORKING EXPERIENCE**

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May 02 – present : Lecturer  
Universiti Malaysia Sarawak, Malaysia  
Apr. – Nov. 01 : Lecturer  
INTI College Malaysia, Malaysia

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**REGISTRATION WITH PROFESSIONAL ORGANISATION**

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2011 - present : The Malaysian Institute of Chemistry (IKM)  
Membership: Associate member  
Membership no.: A/3243/6055/11  
Position: Honorary Treasurer (Sarawak Branch)

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**POSTGRADUATE STUDENT SUPERVISED**

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2011 - present : Tiong Mee Hing, *Structural modifications on organic compounds containing  $\alpha,\beta$ -conjugated keto-enol group and Schiff base for the photophysical properties investigation.* (Master student, main supervisor)  
2011 - present : Emelia Enggie, *Synthesis and Characterization of a Novel Chalcone and Schiff Base Derivatives towards Their Two Photo Absorption*

- Investigation.* (Master student, main supervisor)
- 2012 – present : Chia Ying Ying, *Design, synthesis and characterization of ruthenacycle complexes, and their photophysical properties investigation.* (Ph.D student, main supervisor)
- 2013 – present : Suzie Kuan Hui Chin, *Catalyst study of palladium(II) diimine complexes in Sonogashira reaction.* (Ph.D student, main supervisor)

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### RESEARCH GRANTS

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- Dec 2010 – Jun 2013 : *Structural modification of chalcone and Schiff base derivatives for investigating the photophysical properties and two-photon absorption cross section values.* Fundamental Research Grant Scheme (FRGS), Ministry of Higher Education (MOHE), Project leader, RM 40000.00, Grant No.: FRGS/02(27)/770/2010(51).
- Dec 2011 – Dec 2012 : *Syntheses and characterizations of novel Ru(II) metallacycle complexes, and the investigation of their photophysical properties.* Malaysian Toray Science Foundation (MTSF), TORAY Group, Project leader, RM 20000.00
- Jun 2012 – Present : *Development of a generalized signal processing software for analysis of large Gas Chromatography Mass Spectrometry (GC-MS) and Fourier Transform Infrared (FTIR) datasets.* Fundamental Research Grant Scheme (FRGS), Ministry of Higher Education (MOHE), Collaborator, RM 44600.00.
- June 2013 – Present : *Design, synthesis and characterization of novel luminescent metallacycle complexes for further exploring their advanced photophysical properties.* Exploratory Research Grant Scheme (ERGS), Ministry of Education, Project leader, RM 150000.00, Grant No.: ERGS/STG01(01)/1021/2013(01)
- Dec 2013 – present : *Synthesis and characterization of novel bis-2-hydroxychalcone derivatives and their complexes for the application in solar cell devices.* Fundamental Research Grant Scheme (FRGS), Ministry of Education, Project leader, RM 110000.00.
- Jan 2014 – Dec 2014 : *Isolation and characterization of bacterial pigments for dye-sensitized solar cell (DSSC) applications.* Malaysian Toray Science Foundation (MTSF), TORAY Group, Co-researcher, RM 20000.00

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### AWARDS

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- 18 May 2013 : *SHELL INTER-VARSITY STUDENT PAPER PRESENTATION CONTEST 2013 (S-SPEC 2013) – Fueling Sustainable Green Energy.* 1<sup>st</sup> runner up – Paper Presentation (Postgraduate)

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### CONSULTATION WORKS

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- Jan. 2011 : *Environmental Impact Assessment (EIA) Project of the Paddy Granary Area in Lingga/Banting, Sri Aman Division, Sarawak, Malaysia.* (Consultant, Water Quality Part)
- Dec. 2011 : *EIA Project of the Micro-hydro power system in Kampung Semulung Ulu, Sri Aman Division, Sarawak, Malaysia.* (Consultant, Water Quality Part)
- March 2012 : *EIA Project of the Micro-hydro power system in Ulu Sengaih, Pakan, Julau Sarawak, Malaysia.* (Consultant, Water Quality Part)

Jan – Dec 2012 : *The study on the applications and the environmental safety of the Slag from the Asia Minerals Ltd. manganese smelting plant, (Consultant, Chemical analysis)*

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#### ADMINISTRATION WORKS

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June 2012 – present : Employed as an internal auditor by the vice chancellor of *Universiti Malaysia Sarawak, Prof. Datuk Dr. Kamaruddin Ab Hamid*

Nov 2012 - present : Employed as an internal auditor by the dean of Faculty of Resource Science and Technology, Universiti Malaysia Sarawak, *Associate Prof. Dr. Mohd. Hasnain Mohd. Hussain* in the application of MQA accreditation for postgraduate programs in the faculty

Mac 2013 – Feb 2015 : Employed as program coordinator by the dean of Faculty of Resource Science and Technology, Universiti Malaysia Sarawak, *Associate Prof. Dr. Mohd. Hasnain Mohd. Hussain* in Master of Environmental Science Program in Sustainable Land Use and Natural Resource Management (SLUSE-M)

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#### EDITORIAL BOARDS

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Dec. 2011 – Present : Member of the Technical Editorial Board of “*Current Research in Chemistry*”

Dec. 2011 – Present : Member of the Technical Editorial Board of “*International Journal of Chemical Technology*”

Dec. 2011 - Present : Member of the Technical Editorial Board of “*Journal of Environmental Science and Technology*”

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#### EXAMINED POST GRADUATE THESES

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2011 : Internal examiner for the Master thesis of Norhasnan Sahari  
Thesis title: “*Synthesis and Characterization of Chalcone and Schiff’s Base Derivatives, Investigation on Chalcone’s Liquid Crystal Phase and Biological Activities Properties*”  
Supervisor: Assoc. Prof. Dr. Zainab Ngaini

: Internal examiner for the Master thesis of Dyg Halimatulzahrah Bt Abang Kamaluddin  
Thesis title: “*Synthesis and Characterization of Chalcone Glycosides Derivatives*”  
Supervisor: Assoc. Prof. Dr. Zainab Ngaini

2012 : Internal examiner for the Master thesis of Dayang Norafizan Awang Chee  
Thesis title: “*Synthesis and Characterization and Biological Activities of Organotin(IV) Complexes with Hydrazone /Thiocarbohydrazone Ligands*”  
Supervisor: Assoc. Prof. Dr. Abu Affan

: Internal examiner for the Ph.D thesis of Md. Abdus Salam.  
Thesis title: “*Synthesis and Structural Characterization and Biological Activities of Novel Organotin(IV) Complexes with N(4)-Substituted Thiosemicarbazone/Hydrazone Ligands Containing NNS/ONS/ON*”

*Donor Atoms*

Supervisor: Assoc. Prof. Dr. Abu Affan

- : Internal examiner for the Master thesis of Kho Chui Ping  
Thesis title: “*Modeling the Impacts of Agriculture on the Water Quality of Serin River Using WASP*”  
Supervisor: Assoc. Prof. Dr. Ling Teck Yee
- : Internal examiner for the Master thesis Angeline Limok Ak. Mong  
Thesis title: “*Determination of Inorganic Arsenic [As(III) and As(V)] in Tasik Biru*”  
Supervisor: Prof. Dr. Lau Seng
- 2013 : Internal examiner for the Master thesis Kho Chui Ping  
Thesis title: “*Modeling the Impacts of Agriculture on the Water Quality of Serin River Using WASP*”  
Supervisor: Assoc. Prof. Dr. Ling Teck Yee
- : Internal examiner for the Master thesis Azzudin Shebli  
Thesis title: “*Environmental Fate of Heavy Metals and Hydrocarbons in Ash from Mukah Power Generation Plant*”  
Supervisor: Prof. Zaini Assim
- : Internal examiner for the Master thesis Aressa Azman  
Thesis title: “*Synthesis and Characterization of Starch and Starch Derivatives Nanoparticles*”  
Supervisor: Dr. Chin Suk Fun

**PUBLICATIONS**

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- Year 2004 : Ng, P.F., Sam, T.W., Feng, M.C., Yeoh, C.B. & **Tay, M.G.**, Synthesis and spectroscopic characterization of cholesteryl hydrogen phthalate and its derivatives, *Indian Journal of Chem., Sec. B*, 2004, **43B**, 1939
- Year 2010 : Steffen, A., **Tay, M.G.**, Batsanov, A.S., Howard, J.A.K., Beeby, A., Vuong, K.Q., Sun, X.-Z., George, M.W. & Marder, T.B., 2,5-Bis(*p*-R-Arylethynyl)-Rhodacyclopentadienes: Unprecedented Intense Fluorescence Denying the Presence of a Heavy Atom, *Angew. Chem. Int. Ed.*, 2010, **49**, 2349. (Impact factor: 13.7, 2012)
- Year 2013 : Rahamathullah, R., Khairul, W.M., Salleh, H., Adli, H.K., Isa, M.I.N. & **Tay, M.G.**, Synthesis, characterization and electrochemical analysis of V-shaped disubstituted thiourea-chlorophyll thin film as active layer in organic solar cells, *International Journal of Electrochemical Science*, 8, 3333- 3348. (Impact factor: 3.7, 2011)
- Thibault, M.-H., **Tay, M.G.**, Batsanov, A.S., Howard, J.A.K., & Marder, T.B., Oxidative addition of (bromoethynyl)benzene to  $\kappa^2$ -acetylacetonato bis(trimethylphosphine)rhodium(I), *Journal of Organometallic Chemistry*, 730, 104-107. (Impact factor: 2.0, 2012)
- : Khairul, W.M., Yusof, M.F., Rahamathullah, R., Daud, A.I., Jasmanm S.M., Hassan, M.F.A., Salleh, H., Adli, H.K. & **Tay, M.G.**, Single molecule thin film featuring disubstituted thiourea (TU) doped with
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chlorophyll as potential active layer in photovoltaic cell, *International Journal of Electrochemical Science*, 8, 8175- 8190 (Impact factor: 3.7, 2011)

- : **Tay, M.G.**, Ngaini, Z., Arif, M.A.M., Sarih, N.M., Khairul, W.M., Lau, S.P. & Enggie, E., Complexation of Bis-2-(benzylideneamino)phenol to Cobalt(II) and Zinc(II), and Their Spectroscopic Studies, *Borneo Journal of Resource Science and Technology*, 3, 26-34. (Indexed journal)
- : Ngaini, Z., Ho, D.A.H., Hasnain, H., Wan Zulkiplee, W.S.H., **Tay, M.G.**, Sahari, N., Nordin, N.S., Synthesis and Antibacterial Study of Aspirin-Chalcone Derivatives, *Borneo Journal of Resource Science and Technology*, 3, 52-57. (Indexed journal)

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### Proceedings

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| Title      | : | Synthesis and Spectroscopic Characterization of Indium(III) and Strontium(II) Complexes with Chalcones' Derivatives  |
| Seminar    | : | First USM LCRL-JAPAN Liquid Crystals Colloquium, (1 <sup>st</sup> – 2 <sup>nd</sup> Dec. 2005) USM, Penang, Malaysia.  |
| Title      | : | The Unique Photophysical Properties of Rhodacyclopentadienes and the Syntheses   |
| Symposium  | : | Universiti Malaysia Terengganu 10 <sup>th</sup> International Annual Symposium, UMTAS2011, (11 <sup>th</sup> – 13 <sup>th</sup> July 2011), Kuala Terengganu, Terengganu, Malaysia. PCO13, 89. |
| Title      | : | Palladium-Catalyzed Cross Coupling Reaction in the Synthesis of Diynes and Tetraynes   |
| Conference | : | 17 <sup>th</sup> Malaysian Chemical Congress (17 <sup>th</sup> MCC, 15 – 17 <sup>th</sup> Oct 2012), PWTC, Kuala Lumpur, Malaysia.   |
| Title      | : | V-shaped Disubstituted Thiourea-Chlorophyll as Potential Active Layer in Organic Solar Cells   |
| Conference | : | Advanced Materials Conference 2012, 12-13 Dec. 2012, Bayview Hotel Langkawi, Kedah, Malaysia.  |
| Title      | : | Biofuel and Wastewater Recovery from Palm Oil Mill Effluent (POME)   |
| Conference | : | International Conference on Green Chemical Engineering and Technology 2013, 14-15 Nov 2013, Holiday Inn Malacca, Malaysia.   |

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### Invited Lecture

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| 2012 | : | The unique photophysical properties of Rhodacyclopentadienes and the synthesis<br>Invited by Assoc. Prof. Dr. ZhiQiang Liu, State Key Laboratory Crystal Materials, Shandong University, 27 Nov 2012. |
|      | : | The unique photophysical properties of Rhodacyclopentadienes and the synthesis<br>Invited by Dr. Liu Chao, Green Catalyst Research Center, Wuhan University, 10 Dec 2012.                             |
| 2013 | : | Water Quality and Pollution<br>Invited by Assoc. Prof. Hugh Bigsby, Lincoln University, New   |

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Zealand, to give a lecture about water quality in STA building,  
Kuching, Sarawak on 9<sup>th</sup> Dec 2013.