DR. MOHD RASHIDI ABDULL MANAP

DEPARTMENT OF CHEMISTRY, FACULTY OF SCIENCE,
UNIVERSITI PUTRA MALAYSIA

PERSONAL INFO

Date of Birth	27th Dec 1985
Place of Birth	Johor, Malaysia
Nationality	Malaysian

LABORATORY ADDRESS

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EDUCATION

PHD IN CHEMISTRY • 2014-2019 • UNIVERSITY OF LINCOLN, LINCOLNSHIRE, ENGLAND

During my PhD, I studied reference standards of Novel Psychoactive Substances (NPS) and street samples using benchtop and portable Raman spectrometers. The study concluded that specific molecules associated to the NPS moiety of the synthetic cannabinoids can be identified with detailed molecular assignment and is supported with the fingerprint correlation and biased spectral clustering.

MSC IN ANALYTICAL CHEMISTRY • 2009-2012 • UNIVERSITI PUTRA MALAYSIA

Synthesis and characterization of a dansyl peptide was carried out using a solution phase method. The organic molecule was utilized as a chemosensor for the detection of the ionic species.

BSC WITH EDUCATION (HONS)-CHEMISTRY • 2004-2008 • UNIVERSITI PUTRA MALAYSIA

During my undergraduate study, I obtained fundamental knowledge in chemistry and instrumental skills. I was the president of the Chemistry Club. For my final year project in analytical chemistry, I separated an ionic species in palm oil using a solvent extraction method and finished with CGPA of 3.415.

GRANTED SCHOLARSHIPS

2004 UNTIL 2017

I received local scholarships including Federal Scholarship (Ministry of Education) for BSc, Bumiputera Academic Training Scheme (Ministry of Higher Education) for MSc and Universiti Putra Malaysia Scholarship for my PhD study.

MEMBERSHIP

Associate Member of The Royal Society of Chemistry since 2016 (534650).

SOFTWARE SKILLS

OPUS, DELTA NMR, Top Spin, GRAMS, PolySnap 3, KnowItAll, Gaussian, Gaussview, VEDA and Reaxys

TEACHING EXPERIENCE

2008 UNTIL NOW • UNIVERSITI PUTRA MALAYSIA

I taught undergraduate chemistry students by delivering scientific skills such as preparation of solutions, synthetic methodology, directed stimulating discussion, lab safety and data analysis. The chemistry subjects are CHM2000 (General Chemistry), CHM 3402 (Spectroscopy), CHM 3202 (Organic Chemistry II), CHM 3102 (Polymer Chemistry), CHM 3301 (Inorganic Chemistry I), CHM 3401 (Analytical Chemistry), CHM 2200 (General Chemistry), CHM 3201 (Organic Chemistry I), CHM 3101 (Physical Chemistry). Also for SBCH 4103 (Macromolecular & Industrial Chemistry) at OUM.

I delivered Chemistry Dry Lab sessions for my students between 2020-2021.

RESEARCH TRAINING

I developed my chromatography (GC and LC) skills at UPM and University of Strathclyde; actively participated with training and discussion with spectroscopist such as Mr. Zainal at UPM and Mr. James Christie at University of Strathclyde.

I had opportunity working with forensic samples donated by the UK's police. This led to start the of my PhD in Raman spectroscopy with Professor Ian Scowen. I was given training in using the portable and benchtop IR and Raman spectrometers. I have a good knowledge using spectroscopy softwares and hardwares from different manufactures (Thermo Scientific, Horiba, Bruker).

I also received research training in a few analytical methods including computational calculations, NMR (up to 2D), MS and microscopy.

My graduate training focused on vibrational and electronic spectroscopy. I can do prediction of vibrational spectra and geometry analysis of small molecule.

LANGUAGES

Malaysian	5/5
English	4/5

RESEARCH INTEREST

My research interests combine organic and spectroscopy methods to analyze and identify solid materials such as in street drug formulations, drugs of abuse and its excipients. I have a strong interest to study their chemical structures in solid and gas phase.

Vibrational spectroscopy (for novel psychoactive substances (NPS) of synthetic cannabinoids) and quantum chemistry has become my interest as a tool to validate experimental vibrational spectra.

The identity of the formulation of street samples in particular drug of abuse and its adulterants remain an interest. I am also developing a vibrational research group with other researchers at UPM and UKM.

I am also interested in developing a SERS substrate for the Mitragynine for quick screening in street formulation. I have the experience collecting Ketum leaves with the PDRM in Kedah.

ACHIEVEMENT/AWARD

Member for two Knowledge Transfer Grant Scheme (KTGS PTJ) and PI for one project:

1. Spectra@Tioman (RM 5k)-PI
2. Citizen Scientict @ Tioman (RM 5k)
3. uPlastic Hunter @Tioman (RM 5k)

Member for local university grant:

1. Pembinaan satu model baharu (modelling) untuk mengesan tembakan peluru menggunakan pistol tangan dan 9mm peluru ke atas struktur kayu. **GUP-2020-052**-UKM (RM 45k)

Leader for over RM 6k workshop/services income.

LIST OF CURRENT PROJECTS

1. Determination of heavy metal ions in E-Cigarettes formulation

2. “e cigarettes” on the net-Evaluation of Malaysia-based Websites, products and product information
3. Characterization of an indoles class of synthetic cannabinoid using Raman spectroscopy
4. Condom lubricant analysis: FTIR analysis of swabs
5. Development of IR spectral library of Petrol and cluster analysis using IR spectroscopy: A Malaysia Study
6. Contaminants study: A case study of non-biological samples in Tioman Island
7. *in-situ* FTIR spectroscopy for microplastic identification in Tioman Island

CITATION

Citations	8
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PUBLICATIONS

Thesis

1. M. Rashidi A Manap, Chemical and physical investigation of Novel Psychoactive Substances (NPS) with Raman spectroscopic methods. PhD Thesis, University of Lincoln, United Kingdom, **2019**.

2. M. Rashidi A Manap, Solution Phase Synthesis and Characterization Of Fluorescent Dipeptide Chemosensors For Pb(II) And As(III) Detection. MSc Thesis, Universiti Putra Malaysia, Malaysia, **2012**.

3. M. Rashidi A Manap, Solvent extraction of vanadium (V) using fatty hydroxamic acid synthesized from palm oil. BSc Thesis, Universiti Putra Malaysia, Malaysia, **2008**.

Journals

1. Manap, M. R. A.; Yusof, N. A.; Nor, S. M. M.; Faujan, B. Spectrofluorimetric determination of arsenic (III) using dansylated peptide. *Asian Journal of Chemistry* **. 2013***, 25*, 4195.
2. Abdull Manap, M. R.; Yusof, N. A.; Mohd Nor, S. M.; BH Ahmad, F. Synthesis and characterization of a fluorescent peptide, DANSYL ALA-VAL-OME by solution phase. *International Journal of Chemistry* **. 2013***, 1*, 241-246.
3. Shah, S. A.; BH Ahmad, F.; Abdull Manap, M. R. Aldol condensation of 2, 5-dimethoxybenzaldehyde with actone under basic conditions. *Oriental Journal of Chemistry* . **2010**, *26*, 11-14.

4. Manap, M. R. A.; Yusof, N.; Nor, S. M. M.; Ahmad, F. B. Recent development of amino acids and peptides in metal ions detection: An overview. *Oriental Journal of Chemistry* **. 2010***, 26*, 23-29.
5. Faudzi, Siti Munirah Mohd, et al. "Inhibition of nitric oxide and prostaglandin E2 production by pyrrolylated-chalcones: Synthesis, biological activity, crystal structure analysis, and molecular docking studies." *Bioorganic Chemistry* **.2020**, *94*, 103376.

Conferences

1. Putative metabolite profiling of *Mitragyna speciosa* using UHPLC-MS/MS, S. Abubakar Garba, K. Shaari, S. M. Mohd Faudzi, M. Rashidi Abdul Manap, S. Kumar Jayaram, S, Yee Lee. Presented at 11th International Fundamental Science Congress. Putrajaya, Malaysia., October 2019
2. Spectroscopy, chromatography and microscopic image of 3-(4-methoxyphenyl)-1-phenylprop-2-en-1-one (MNYAD_1539) crystals, Munshi, T.; Manap, A.; Rashidi, M.; Scowen, I.; Risdan, M. N.; Ariffin, S.; Ariffin, M. D.; Alkaf, A. D.; Abdul Aziz, N.; Ismail, M. F presented in part at the Industrial Chemistry Seminar (SKI) at the Bangi Resort Hotel, Malaysia., January 2019.
3. Preparation of chemically modified and hypercrosslinked microspheres of Poly (Acrylonitrile-co-Divinylbenzene-80-co-Vinylbenzylchloride) as sorbents to capture pharmaceutical residue, Subri, N. N. S.; Jamil, M.; Ain, S. N., et al. presented in part at the Monash Science Symposium (MSS), Monash University Malaysia, November, 2018.
4. Pyrrole-chalcone analogues as DNA binding agents, Munshi, T.; Scowen, I.; Manap, A., et al. presented in part at the Industrial Chemistry Seminar XXI, Selangor, May, 2018.
5. Beta-cyclodextrin (CD) inclusion complexes of disconnected synthetic cannabinoid molecules, Bradbury, A.; Manap, A.; Rashidi, M.; Munshi, T.; Scowen, I. presented in part at the CHM3006M conference, School of Chemistry University of Lincoln, May, 2017.
6. Performance evaluation of two Raman instruments for unknown forensic samples, Manap, A.; Rashidi, M.; Blagden, N.; Munshi, T.; Scowen, I. presented in part at the 7th Asian Forensic Sciences Network Annual Meeting & Symposium, Kuala Lumpur, November, 2015.

HOBBIES AND INTERESTS

Saltwater fishing, swimming and shopping.

Writing in Mass Media/Popular Magazine

1. Science in Food Safety, Issue 4, page 4, September-December 2020. (https://science.upm.edu.my/upload/dokumen/20210114092842e-SCIENCE_putra_Issue_4.pdf)

Thesis Supervision (Undergraduate)

1. CONTENT ANALYSIS OF E-LIQUID AEROSOL PRODUCED BY A COMPACT ATOMIZER, VANESSA ANAK JAMBON (182376) Jan 2020
2. SOLVENT EXTRACTION AND GCMS CHARACTERIZATION OF OILED SOIL SAMPLES, AZRI AZHAD AZMAN (192352) Feb 2021

WORK EXPERIENCE

2007. UNIVERSITI PUTRA MALAYSIA

I started working during my final year of study at UPM. I actively worked as enumerator for various projects in the Peninsular Malaysia including Road Safety Survey 2007 (Johor), Exposure of Methyl Mercury in Fish (Johor Bahru), Research on Customer Relationship Management Practices in the Hotel Industry (Kuala Lumpur), Household Food Consumption Survey: Developing Food Plan Standard (Kuala Lumpur), Attachment To National Ethos and Media Use of 15-25 Years Youth: Implication On Nation Building (Johor), The Psychological Well-Being and Academic Achievement of Early Adolescent Orphans from Widow Families (Kuala Lumpur and Kelantan), Estimation of heat contaminants in foods from food consumption (Selangor), Consumer Empowerment In Globalized Market (Kuala Lumpur), Development of Database on Halal Chocolate and Pastries in Malaysia (Kuala Lumpur). Between 2008 and 2012, I worked as a Demonstrator for QKS 2118 (Angling Course) at UPM.

2008• SERI PANTAI SECONDARY SCHOOL ,KG KERINCHI PANTAI DALAM, KUALA LUMPUR

I worked as a practical teacher for 3 months and was involved in the teaching of chemistry and physics. This short period had allowed me to learn about education in and outside the classroom.

2016 • UNIVERSITY OF LINCOLN
During my doctoral study, i served as associate lecturer for two years for CHM1006M (Intro to Synthetic Chemistry PS) and FRS 1050M (Intro to Analytical Chemistry). I assisted the students in conducting weekly experiments the chemistry laboratory.

CO-SUPERVISION EXPERIENCE

As a teaching assistant during my PhD candidature at UoL, i co-supervised international chemistry undergraduate students including Ms. Ashley Bradbury and Mr. Bradley Tyson. Ashley successfully investigated the complexation of β-cyclodextrin using vibrational spectroscopy and computational method. Ashley is working at De La Rue, England.

Meanwhile, Bradley underwent several crystallization experiments and used FTIR methods to characterize the co-crystal. He is continuing his PhD study at University of Leeds, UK. It was a pleasure to work with them in such as a great team.

In 2019, I supervised students from UTHM and UiTM for their internship in my lab.

I am working with Amilah on her post graduate research (Development of supramolecules (calixarene and beta-cyclodextrin) functionalized cellulose acetate nanofibers for the removal of Zn^{2+} and Pb^{2+} ions from wastewater.

PROFESSIONAL ACTIVITIES

2015
I organized a 2-week research trip for Professor Scowen to five local universities and Chemistry Department of Malaysia.

2017 UNTIL NOW
I am building up leadership skills in the activities organized at UPM. At the same time, i have made several engagement with local industry in Malaysia and doing scientific work in parallel. I also assisted the STEM projects at UPM in 2017 and 2019.

ADDITIONAL ACTIVITIES

I was the invited poster judge for several chemistry symposiums at UPM and public speaking facilitator for the Putra Toastmasters Club. I also participated in UPM promotion campaign during the career fair.

REFEREES

Professor Dr. Zulkarnain Zainal
Faculty of Science, Universiti Putra Malaysia.
zulkar@upm.edu.my

Professor Ian Scowen (Main PhD Supervisor)/Head of School of Chemistry at University of Lincoln, UK.
iscowen@lincoln.ac.uk

Dr. Tasnim Munshi (Second PhD Supervisor)/Deputy of School of Chemistry at University of Lincoln, UK.
tmunshi@lincoln.ac.uk

Professor Peter Vandenabeele at Ghent University, Belgium.
(external PhD examiner)
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Assistant Professor Lyudmila Turyanska at University of Nottingham
(PhD examiner)
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