

Curriculum Vitae



1. BASIC PROFILE

Name : Muhd Firdaus Bin Kasim

Faculty/Institute : 1. Faculty of Applied Sciences
2. Centre for Nanomaterials Research
Institute of Science
Universiti Teknologi MARA
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2. SERVICES

Appointments	Date/Year of Appointment
Lecturer DM51	2/10/2015

3. EDUCATION RECORD

School/ College/ University	Qualification	Year
Sek. Men. Keb. (A) Falahiah	SPM	2005
Perak Matriculation College	Matriculation	2006
Universiti Teknologi MARA (UiTM)	B.Sc (hons) Chemistry (Forensic Analysis)	2010
Universiti Teknologi MARA (UiTM)	Ph.D (Solid State Physics/ Chemistry)	2015

4. OTHER QUALIFICATIONS/ TRAINING

Qualification/Training	Year
Embalming Course	21 April 2010
The 5 th Workshop on X-ray Diffraction 2010: Theory and Application	15 December 2010
Crystallography & Structure Determination Workshop	6 – 10 June 2011
Kursus Keselamatan Makmal Sains	20 June 2011
Advanced Materials Characterization by Multitechnique XPS	22 nd April 2013
Recent Advances and Application in Microscopy	March 2014
Seminar Keselamatan dan Kesihatan Pekerjaan (JKKP)	8 April 2014
Seminar dan Workshop Series 2016 Materials for Energy Storage	2 February 2016
Lithium-ion Battery Training and Workshop – 1 st Series	7-10 October 2014
Lithium-ion Battery Training and Workshop –2 nd Series	16 – 19 March 2015
Application of XPS and Nanoparticles in Industry	20 Ogos 2015
Lithium-ion Battery Training and Workshop –3 rd Series	26 -29 July 2016
Workshop on Advances characterization techniques; New Horizons for Microscopy and Elemental Analysis.	29-30 March 2017
Workshop on Qualitative & Quantitative analysis: The proper way of doing search and match and Rietveld refinement.	23-25 th Jan 2018

5. LIST OF CONFERENCES

Conferences	Year
International Conference on Materials Science and Technology ICMST 2012	2012
4 th International Conference on Solid State Science and Technology (ICSSST 2012)	2012

International Conference on Nanomaterials: Science, Technology and Applications (ICNM '13')	2013
International conference on Materials for Advanced Technologies (ICMAT) 2013	2013
International Tin Chemical and Solder Conference and Exhibition (ITCSCE)	2015
6 th International Conference on Solid State Science and Technology & Workshop on Advanced Materials and Technology: Growth and characterisation (ICSSST)	2017

6. TEACHING EXPERIENCE

Details	Year
1. Foundation Chemistry I and II (CHM092/CHM096)	2016
2. Laboratory classes for Foundation Chemistry I and II (CHM092/CHM096), Organic Chemistry II (CHM556)	2015-2016
4. Supervised Final Year Project students (2 students)	2015-present
5. Co-supervised 2 MSc students	2015-present
6. Main supervised 2 MSc students	2017-present

7. EXPERIENCE

Details	Year
Replacement Teacher	2010
Research Assistant	2011-2013

8. RESEARCH AREA

Research Area	Year
Nanomaterials and nanostructures	2011- present
Li-ion batteries	2016-present

9. GRANTS

Grants	Leader/ Member	Year
Materials Characterization and Electrochemical Performance of $\text{LiMn}_{(2-x)}\text{Ti}_x\text{O}_4$ (LESTARI)	Member	July 2016-2018
Structural Stability of Partial Substitutional Ti in LiMn_2O_4	Member	September 2016-2018

Cathode Materials (BESTARI)

Enhancing The performance of SnO ₂ Anodes with Graphene Additives in Li-ion Cells (PRGS)	Member	October 2016-2018
Preparation of Biochar Solid Acid Catalyst For Low Cost Biodiesel Production from Palm Fatty Acid Distillate (LESTARI)	Member	Julai 2017-June 2019
The Crystal Structure of LiCo _{0.3} Ni _{0.3} Mn _{0.3} Ti _(1-x) Sn _x O ₂ Cathode Materials. (FRGS)	Member	August 2017-July 2019
Synthesis, Characterization and Band Gaps of ZnO and Zn _(1-x) Mn _x O Nanomaterials (LESTARI)	Leader	Julai 2017-June 2019
Studies of charge-discharge properties LiCo _{0.3} Ni _(0.7-x) Ti _x O ₂ cathode materials and their chemical configuration. (FRGS)	Leader	August 2017-July 2019

10. MEMBERS OF PROFESSIONAL BODIES/SOCIETIES

University/Research Institution/Industry	National/International	Year
1. Centre of Nanomaterials (CNR), Institute of Science, UiTM (Fellow member)	National	2015
2. Microscopy Society of Malaysia (MSM)-(Life member)	National	2012-present
3. The Malaysian Solid State Science & Technology Society (MASS)-(Life member)	National	2017-present

11. AWARDS/EXHIBITIONS

Name of Award	Details	Year
Competition & Exhibition Invention, Innovation and Design Expo IDEX 2013 (Gold Award)	Commercialization of ZnO nanorods and Cu and Mn doped ZnO Nanostructures"	2013
Competition & Exhibition Invention, Innovation and Design Expo IDEX 2013 (Silver Award)	MEH-PPV for electrical and optical Applications	2013
Competition & Exhibition Invention, Innovation and Design Expo IDEX 2014 (Gold Award)	Zn _(1-x) Cu _x O and Zn _(1-x) Fe _x O and ZnO nanostructures for photovoltaic applications	2014
Invention, Innovation and Design Expo IDEX 2016 (Gold Award)	Modified Zn _(1-x) Cu _x O Novel Materials for Solar Cell Application	2016
Invention, Innovation and Design Expo IDEX 2017 (Silver Award)	High Energy Densities of Nano Cathode Materials for Li-ion Rechargeable Batteries	2017
Invention, Innovation and Design Expo IDEX 2017 (Bronze Award)	Palm Waste to Hydrogen as Renewable Energy for Fuel Cell Car	2017

12. PUBLICATIONS

1. **Muhd Firdaus Kasim**, Roshidah Rusdi, Suraya Ahmad Kamil and Norlida Kamarulzaman, "The effect of annealing temperature on the band gap of ZnO nano materials", *Advanced Materials Research* Vol. 545 (2012) pp 165-168
2. **Muhd Firdaus Kasim**, Norlida Kamarulzaman and Suraya Ahmad Kamil, "Investigation of phase, purity, morphology and particle size of $Zn_{(1-x)}Cu_xO$ materials via X-ray diffraction (XRD) and microscopic techniques", *Advanced Materials Research* Vol. 895 (2014) pp 343-346
3. **Muhd Firdaus Kasim**, Norlida Kamarulzaman and Suraya Ahmad Kamil, "Crystal structural studies of ZnO nanorods and their band gaps", *Advanced Materials Research* Vol. 938 (2014) pp 71-75
4. **M. F. Kasim**, N. Kamarulzaman and R. Rusdi, "Effect of gelling agent on ZnO nanostructures and their characteristics", *Malaysian Journal of Microscopy* Vol. 9 (2013) pp 96-98
5. D. T. Mustafa, N. Kamarulzaman, A. –B. Ibrahim, and **M. F. Kasim**, "Band gap energies studies of nanostructured ZnO using the complimentary techniques of Microscopy, XRD and First principle studies", *Malaysian Journal of Microscopy* Vol. 9 (2013) pp 10-12
6. Norlida Kamarulzaman, **Muhd Firdaus Kasim** and Roshidah Rusdi, "Band gap narrowing and widening of ZnO nanostructures and doped materials", *Nanoscale research Letters*, (2015) 10:346. **Impact Factor: 2.584, Q2**
7. N. Kamarulzaman, **M.F. Kasim**, N.F. Chayed, "Elucidation of the highest valence band and lowest conduction band shifts using XPS for ZnO and $Zn_{0.99}Cu_{0.01}O$ band gap changes", *Results in Physics*, Vol 6 (2016) pp 217–230. **Impact Factor: 1.337, Q2**
8. N. Kamarulzaman, N. F. Chayed, N. Badar, **M. F. Kasim**, D. T. Mustaffa, K. Elong, R. Rusdi, T. Oikawa and H. Furukawa, "Band Gap Narrowing of 2-D Ultra-Thin MgO Graphene-Like Sheets" *ECS Journal of Solid State Science and Technology*, Vol 5 (11) (2016) pp Q3038-Q3045. **Impact Factor: 1.650, Q2**
9. Norlida Kamarulzaman, Nurhanna Badar, Nor Fadilah Chayed and **Muhd Firdaus Kasim**, "Band gap widening and quantum tunnelling effects of Ag/MgO/p-Si MOS structure", *Mater. Res. Express* 3 (2016) 106401 doi:10.1088/2053-1591/3/10/106401. **Impact Factor: 1.068, Q3**
10. Norlida Kamarulzaman, Azira Azahidi, Kelimah Elong, **Muhd Firdaus Kasim**, Roshidah Rusdi, Nurul Atikah Mohd Mokhtar, Nor Diyana Abd Aziz and Zurina Osman, "Characteristics of Ti and Fe doped $LiCo_{0.6}Ni_{0.4}O_2$ cathode materials for Li-ion rechargeable batteries", *Mater. Res. Express* (2017). **Impact Factor: 1.068, Q3**
11. M.S. Mastuli, N. Kamarulzaman, **M.F. Kasim**, S. Sivasangar, M.I. Saiman, Y.H. Taufiq-Yap, "Catalytic gasification of oil palm frond biomass in supercritical water using MgO supported Ni, Cu and Zn oxides as catalysts for hydrogen production", *International Journal of Hydrogen Energy* (2017). **Impact Factor: 3.582, Q2**
12. N.F.S.M Fauzi, N.Kamarulzaman, **M.F.Kasim**, N.F.Chayed, N.D.A.Aziz, "Preparation of Tin Oxide Quantum Dots", *AIP Conf. Proc.* 1877 (2017)

Publication Overview

No	Details	Total
1.	Impact factor journal	4 (Q2=4, Q3=2)
2.	H-Index	4
3.	Citation	40

13. CONTRIBUTIONS TO UNIVERSITY

A) Administration / Etc.

No.	Details
1.	Secretariat - International Conference on the Advancement of Materials and Nanotechnology 2010
3.	Secretariat – Crystallography & Structure Determination Workshop 2011
4.	Secretariat - Li-ion Battery and Training Workshop 2014 (Series 1)
5.	Secretariat - Li-ion Battery and Training Workshop 2015 (Series 2)
6.	Secretariat - Li-ion Battery and Training Workshop 2016 (Series 3)
7.	Assessors – Program Pembentangan Latihan Industri Fakulti Sains Gunaan Dis 2015
8.	Secretariat- International Nuclear Science, Technology & Engineering Conference 2016 (NUSTEC 2016) (AJK Publisiti)
9.	Committee member – Misi Akademik (2015-2017)
10.	Secretariat - International Conference on the Advancement of Materials and Nanotechnology IV 2016 (AJK Sponsor)
11.	Academic advisor – Centre of Foundation Studies (2016-2017)

14. CONTRIBUTIONS TO SOCIETY

No.	Details
1.	Penggubal Soalan Olympiad Matematik dan Sains Anjuran Gagasan Pendidikan Melayu Malaysia (GAGASAN) bersama Kementerian Pendidikan Malaysia (KPM)
2.	Pelantikan sebagai Juri pertandingan Olympiad Matematik dan Sains Anjuran Gagasan Pendidikan Melayu Malaysia (GAGASAN)