

Associate Professor

DR ABDULLAH BIN CHIK



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Professional Experience:

Internal Accessor for UniMAP Fundamental Research Grant Scheme Applications, from Ministry of Higher Education (MOHE), 2018

Internal Auditor for Malaysia Research Assessment instrument (MyRA), UniMAP, 2017-20

Internal Auditor for Diploma of Metallurgy Program, School of Diploma, 2017-20

Internal Accessor for University Teaching Evaluation, UniMAP, 2016-2018

Head of Reseach Group “Materials Modeliing”, Center of Excellence Frontier Materials, UniMAP 2018-

Researcher, Center of Excellence Frontier Materials, UniMAP 2017-

Researcher, Centre of Excellence Geopolymer & Green Technology (CeGeoGTech), UniMAP 2013-

Editorial Member for journal of electronics and nanomaterials, 2017-2019
Committee member for Internal Evaluation for Promotion Exercise for Lecturer Post to Senior Lecturer Post Grade DS52, UniMAP, 2015-2017
Deputy Dean, School of Materials Engineering, UniMAP, 2011-13
Assoc. Professor, School of Materials Engineering, UniMAP 2010-
Deputy Dean, School of Science and Technology, Universiti Malaysia Sabah, 2006-08
Assoc. Professor, School of Science and Technology, Universiti Malaysia Sabah, 2006-2010
Head of Physics with Electronic Programme, School of Science and Technology, Universiti Malaysia Sabah, 2005-06
Head of Physics with Education Programme, School of Science and Technology, Universiti Malaysia Sabah, 2004-05
Sr. Lecturer, School of Science and Technology, Universiti Malaysia Sabah, 2005-2006
Lecturer, , School of Science and Technology, Universiti Malaysia Sabah, 1996-2005
Physics Teacher, School of Physics, Universiti Sains Malaysia, 1992-1996
Physics Teacher, Mara Science College, Kulim, Kedah, 1990-1992
Operations Executive, Velosi (M) Sdn. Bhd.,1988-1989

Research Contributions:

My research interests are concerned mainly with the materials modelling, processing and characterisations of ceramic materials. First principle method are used alone or with experimental validation on researching the effect of dopant, vacancies etc. on structure, electrical, magnetic and thermoelectric properties of oxides. Current researches include:.

Extracting/harnessing silica from oil palm ash for zeolite production
Synthesis and characterization of Al doped ZnO based ceramics for thermoelectric applications
High power density supercapacitors
Study of effective coolant for Stone Clogging removal in grinding process
Thermoelectric properties of SrTiO₃ doped with Ta, Ho, Pm, Sm, Hf and V using DFT method
Effect of d and f block elements on thermoelectric properties of CaMnO₃ using first principles method

Effect of Ta, Ho, Pm, Sm, Hf and V on thermoelectric properties of KRhO_2 using first principles method

Teaching Contributions:

Courses taught are in the areas of : Fundamental of Physics, Semiconductor Physics and Technology, Mathematical Method for Physicist, Physics Computational and Modelling, Non Destructive Testing, Fundamental Ceramics, Advanced Packaging Engineering, Thermoelectric Materials, Electronic Materials Engineering, Statics, Dynamics, Mathematics 1 and Fluid Mechanics.

Current and Recent Researchers:

Current Research Students

Ruhiyuddin Mohd Zaki (PhD) - Thermoelectric properties of CaMnO_3 doped with d and f blocks elements on A site using first principle calculations

Shahrizam Saad (PhD) - Structural, Optical, and Electrical Properties of green glass from rice husk

Akeem Adekunle Adewale (PhD) - Thermoelectric properties of SrTiO_3 doped with Ho and Ta using DFT method

Some Recent Research Students

Asfaliza Abdullah (MSc) – Study of the dielectric properties and electrical conductivity of ternary zinc magnesium phosphate glass derived hydrogel

Lim Joon Hoong (PhD) – Thermal and electrical characterization of ZnO based pellets and thin films

Faizul Che Pa (PhD) – Organic acid leaching process for silica extracted from oil palm ash for zeolite applications

Syafiqah Hasni (MSc) – Effect of acid treatment for reducing pores clogging in polyvinyl alcohol grinding stone

Saturi Baco (MSc) - Studies of Mineral Properties in Kundasang, Sabah

Honours, Awards and Memberships:

2002 - Gold Medal, Fabrication of Granular GMR and CMR Films for Devices Application Using Sputtering and Laser Ablation Techniques, Exhibition of Invention & Research, UPM

2004 - Life Member of Malaysian Solid State Science and Technology Society (MASS)

2007 - Laudable Service Award (Anugerah Perkhidmatan Kepujian), Universiti Malaysia Sabah

2007 - Ten Years Services Special Award (Anugerah Khas Perkhidmatan 10 Tahun), 2007, Universiti Malaysia Sabah

2010 – Member of Malaysian Society for Engineering and Technology (MySET)

2011 - Excellence Service Award (Anugerah Perkhidmatan Cemerlang), Universiti Malaysia Perlis

2014 - Silver Medal, Ekspo Rekapipta dan Pameran Penyelidikan UniMAP 2014, OXAC –Coolant

2016 - Gold Medal, High Purity Silica From Organic Acid Leaching Treatment', 2016 Kaohsiung International Invention and Design EXPO, 9-11 December, Kaohsiung, Taiwan.

2016 - Thailand Award for International Invention, High Purity Silica From Organic Acid Leaching Treatment, Kaohsiung International Invention and Design EXPO, 9-11 December, Kaohsiung, Taiwan.

2016 - Anugerah Kecemerlangan Penyelidikan, UniMAP, High Purity Silica From Organic Acid Leaching Treatment

Research Funding:

Over the past five (5) years, extensive research funding has been received from the Ministry of Higher Education (MOHE) and also industries.

Some Recent Grants

FRGS - Fabrication and Characterization of ZnO/Cu₂O Heterojunction Solar Cells (2009—2011)

FRGS - Fundamental study on the structural, mechanical, optical and electrical properties of green glass composite from rice husk and palm ash formed at lower temperature (2013-2016)

UniMAP Seed Money - Study on the Magnetic Properties of LSMO (2012-2013)

RACE - Preparation of ultra low thermal conductivity RH Glass as a coating material developed from agricultural waste (2014-2016).
FRGS - Electromagnetic Wave Absorption in Recycled Glass Doped with Conductive Elements (2014-2016)
KOBEL Precision Technologies – Project On the Development of Grinding Technology Optimization and the Investigation of Aluminium Surface Oxidation (2013-2015)
FRGS - Enhanced Thermoelectric Properties of Rhodium Oxides, Strontium Titanates and Calcium Manganites Co doped with d and f block elements using first principle method (2016-2019).

Recent Consultations

Project “Vicalloy Research and Analysis” with Scenic Drive Sdn Bhd, 2018,

Selected Publications:

Hoong, L. J., Keat, Y. C., Chik, A., Leng T. P., “Band structure and thermoelectric properties of inkjet printed ZnO and ZnFe₂O₄ thin films”, *Ceramics International*, Vol 42, (2016) pp 12064 (IF 2.986)
Hoong, L. J., Keat, Y.C., Chik, A., Leng, T.P., ‘Optimization parameter for the thermoelectric properties of ZnO using response surface methodology’, *Malaysian Journal of Analytical Sciences*, Vol 20 (5) (2016) pp 1001-1010 (IF 0.035)
Lim, J.H., Yeoh, C.K., Chik, A., The, P.L, “Effect of Al excess on the band structure of ZnO using density functional theory”, *Materials Science Forum*, Vol 857 (2016), pp 106-110
Hasni, N.S, Jamil, N.H, Chik, A, Arif, W.I.W.M, Seong, H.E., “Effects of acid on the performance of polishing process”, *Key Engineering Materials*, Vol 700, (2016) pp 50-59,
Faizul Che Pa, Abdullah Chik, Md Fazlul Bari, “Palm Ash as an Alternative Source for Silica Production”, *MATEC Web on Conference*, Vol 78,(2016) p 01062
Khor, S.F., Md Yusoff, M.H.A., Cheng, E.M., Rojan, M.A., Johar, B, Chik, A., Talib, Z.A., Poobalan, B, “Dielectric spectroscopy on mixture of rice

husk, rice husk ash and rice bran from 4 Hz to 1Mhz”, International Journal of GEOMATE, Vol 11, (2016), pp 2150

N.S. Hasni, N.H.Jamil, A. Chik, W.W.Mohd Arif, H.E.Seong, “Study the properties of abrasive stone for aluminum grinding”, Applied Mechanics and Materials, Vol 754-755 (2015) pp 688,

A. Chik, S. Saad, C.K. Yeoh, R.M. Zaki and F. Che Pa, “Ab initio calculations of electronic and magnetic properties of AlMnO₃ perovskite manganites”, Applied Mechanics and Materials, Vol 754-755 (2015) pp 757,

A. Chik, S. Saad, R.M.Zaki, F. Che Pa and C.K. Yeoh, “Ab initio calculations of electronic properties of Al doped LaMnO₃ perovskite manganites”, Applied Mechanics and Materials, Vol 754-755 (2015) pp 762,

A. Chik, S. Saad, R.M.Zaki, F. Che Pa and C.K. Yeoh , “First principles calculations of magnetic properties of LaMnO₃ and La_{2/3} Al_{1/3} MnO₃ perovskite manganites”. Applied Mechanics and Materials, Vol 754-755 (2015) pp 766,

Faizul Che Pa, Abdullah Chik, MD. Fazlul Bari, “Synthesis of Zeolites from treated oil palm ash”, Applied Mechanics and Materials, Vol 754-755 (2015) pp 1035,

Che Mansor, M.F., Cheng, E.M., Zakaria, Z., Abdul Malek, M.F., Chik, A., Rojan, M.A., Zahid, L., Abu Bakar, S., Mohd Nasir., N.F., Khor, S.F., Beh, H.G. “Microwave absorption analysis on recycled glass doped with Ferum (II, III) Oxide (Fe₂O₃)”, International Journal of Mechanical and Mechatronics Engineering, Vol 15, (2015) pp 1,

Abdullah, N. A, Khor, S. F, Talib, Z. A., Chik, A., Abdul Malek, M.F., “The Structural Study of the Ternary Zinc Magnesium Phosphate Glass”, Advances in Environmental Biology, Vol 8(8),(2014), pp 2756-2759.,

Abdullah A., Saad S., Chik A, Abdullah M.M.A.B, Suffin A.Q.Z.A. Asas Seramik, Penerbit Universiti Malaysia Perlis, Kangar (2014) ISBN 978-967-5415-80-7

Saad S., Che Pa F., Chik A., Nor M.F.M, Pengenalan Kepada Pemprosesan Mineral, Penerbit Universiti Malaysia Perlis, Kangar (2013), ISBN 978-967-5415-64-7

Ruhuyuddin, M.Z., Chik,A., Rafezi Ahmad, K., “Preparation of colossal magnetoresistance polycrystalline via sol-gel technique: A short review”, Advanced Materials Research, Vol 795 (2013), pp 716-720.

Che Pa Faizul, C. Abdullah, B. Fazlul, “Extraction of silica from Palm Ash via Citric Acid leaching treatment”, Advances in Environmental Biology, Vol 7(12) October Special Issue (2013), pp 3690-3695.

Che Pa Faizul, C. Abdullah, B. Fazlul, “Extraction of silica from Palm Ash Using Citric Acid leaching treatment: Preliminary result”, Advanced Materials Research, Vol 795 (2013), pp 701-706,

Faizul Che Pa, Abdullah Chik, Fazlul Bari, Noorina Hidayu Jamil, “Extraction of Silica from Palm Ash Using Organic Acid Leaching Treatment', Key Engineering Materials, 626, (2013), 329,

Abdullah Chik, Nazli Ahmad Aini, Haider F. Abdul Amir , “Physical Characteristic of Zn Doped Soft Ferrites $M_x Zn_{1-x} Fe_2 O_4$ “, Key Engineering Materials, 594-595 (2013) 39,

Faizul Che Pa, Abdullah Chik, Fazlul Bari, “Review of Extraction of Silica from Agricultural Wastes using Acid Leaching Treatment”, Advanced Material Research, Vol 626 (2013) pp 997-1000.

Lim, J.H, Yeoh, C.K., Teh, P.L., Chik, A., Arif, W.M. , “The effect of Al doping concentration to the physical and thermoelectric properties of Zinc Oxide”, Australian Journal of Basic and Applied Sciences, vol 795 (2013), pp 21-25,

Lim, J.H, Yeoh, C.K., Teh, P.L., Chik, A., “The effect of sintering temperature to the properties of zinc oxide”, Advanced Materials Research, vol 795 (2013), pp 419-423,

H.F. Amir, A. Chik, “Neutron radiation effects on metal oxide semiconductor (MOS) devices”, Nucl. Instr. and Meth. in Phys. Res. B 267 (2009) 3032-3036. (IF = 1.109)