

MOHD MUSTAFA AWANG KECHIK



My research focuses on High Temperature Superconductor (HTS) materials through our research grants and through our collaborations with other universities, international laboratories and industries. My work mainly focuses on flux pinning properties in High HTS films and bulks. I am also a member of Institute of Physics, London, and Fellow of Malaysian Solid-State Science and Technology Society (FMASS).

RESEARCH PROFILE

Current Position : Associate Professor
Expert : Superconductor
H-Index : 18(Scopus) 21 (GS)
Total Citation : 1159-Scopus
1531-GS
updated 051125

CONTACT



Head,
Department of Physics, Faculty of
Science, Universiti Putra Malaysia
43400 UPM Serdang, Selangor
Malaysia



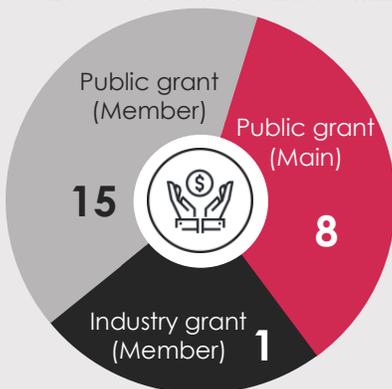
+603- 9769 6646



mmak@upm.edu.my

RESEARCH INPUT

24 Research Grant **RM 1.8 million**



Total Funding as Project Leader RM 680K

RESEARCH OUTPUT

132 Articles in a journal, 50 Senior authors,
42 Q1 & Q2 Journals.
2 Chapters in a Book

EDUCATION

Post Doctoral

University of Birmingham, UK

PhD (Superconductor)

University of Birmingham, UK

Master of Science (Superconductor)

The National University of Malaysia

Bachelor of Science (Hons.) in Physics

Universiti Putra Malaysia

ACHIEVEMENT & AWARDS

Guest Lecture Series 2024 & 2025

University of Sumatera Utara, Indonesia

Guest Lecture Program 2024

Institut Teknologi Sepuluh Nopember (ITS), Indonesia

Guest Lecture Series 2024

University of Padjajaran, Bandung, Indonesia

ERASMUS+KA17 EU International Credit Mobility Award 2022

University of Minho, Portugal

Excellent Service Award 2022

Universiti Putra Malaysia

Sakura Science Program, JST MEXX Japan 2020

Nagoya Institute of Technology, Japan

Gold Medal at International Putra InnoCreative Teaching & Learning 2020

Students' Soft Skills and Knowledge Development Through Mobility

Gold Medal at Materials Technology Challenges (MTC 2020)

The invention of The Effect of Graphene Nano Particle Addition on Bi-2223 Superconducting Properties Prepared via Co-Precipitation Method

Best InnoCreative Educator Award at International Putra InnoCreative Teaching & Learning PICTL 2019

Physics 5.0: Connecting The Dots Moulding Towards Functional Physics

Excellent Service Award 2017

Universiti Putra Malaysia

Postdoctoral Research Fellow 2014-2016

School of Electrical, Electronic & System Engineering, University of Birm, UK

REVIEWER/EDITOR

2016 Putrajaya International Built Environment, Technology and Engineering Conference

2016 Applied Superconductivity Conference, USA

2016 The 5th International Conference on Solid State Science and Technology (ICSSST 2015)

2018 Book of Physics, UPM Press

2018, 2022 ASM Science Journal

2019 International Journal of Nanoelectronics & Materials

2019 Journal of Physics and Chemistry of Solids

2020 Sains Malaysiana Journal

2020 Journal of Molecular Physics

2021 IEEE Transactions on Applied Superconductivity

2021 Ceramic International Journal

2022 Applied Sciences

2023 Materials

2024 Journal of Alloys and Compounds

2025 Journal of Scientific Reports

2025 The 10th International Conference on Solid State Science and Technology (ICSSST 2025)- Advisor

2025 Journal of Alloy and Compounds Communications- Editorial Board

2025 Journal of Materials and Radiation- Editorial Board

TEACHING EXPERIENCE

PHY3302 Digital Electronics

PHY3105 Modern Physics

PHY3103 Physics I

PHY2001 General Physics

PHY4206 Metal and Alloy

PHY4205 Ceramics and Polymer

PHY4402 Modern Optics

PHY4203 Materials Science

PHY3304 Principle of Measurement System

PHY3104 Physics II

PHY4204 Analytical Methods of Structure & Microstructure

PHY4208 Superconductor

FCE3204 Thinking Skills

PHY4903 Industrial Training,

PHY4207 Materials Tech Processing

PHY5203 Physics of Thin Films

CONFERENCES/SEMINAR (PRESENTED PAPERS/POSTERS)

M.M. Awang Kechik, S. H. Yap, F. Khoerunnisa, S.Humaidi, S.K. Chen, K. P. Lim, M.K. Shabdin & S.A. Halim Shaari. Superconductor: Methods and Applications. International Conference on Magnetism and Its Applications (ICMIA) 5-6 September 2024, Yogyakarta Indonesia.

M.M. Awang Kechik, S. H. Yap, F. Khoerunnisa, S.Humaidi, S.K. Chen, K. P. Lim, M.K. Shabdin & S.A. Halim Shaari. Superconducting Properties of YBCO Added Chitosan Extracted from Waste Marine Synthesis under Ambient Conditions. The 2nd International Conference on Physics and Applied Physics (ICP&AP USU) 18-19 Nov 2023, Sumatera, Indonesia

M. M. Awang Kechik, P. Mikheenko, J.S. Abell, I. A. Crisan, H. Baqiah, S.K. Chen, K.P. Lim and A. H. Shaari. Flux Pinning Mechanisms of YBCO thick films by BZO nano inclusion. World Congress on Applied Nanotechnology 24-26 Nov. 21 Erzurum, Turkey.

M. M. Awang Kechik, S.A. Halim, S. K. Chen and K. P. Lim. Increased critical current density and pinning force in YBa₂Cu₃O_{7-δ} thick films by BaZrO₃ nano inclusions. The International Conference Science Physics and Education 2021, 10-11 Sep. 2021 Lombok, Indonesia.

M. M. Awang Kechik, S.A. Halim, S. K Chen and K. P. Lim. Increased Critical Current Density and Pinning Force in YBa₂Cu₃O_{7-δ} Thin Films by Nano Inclusions. International Symposium on Superconducting, Magnetic and Energy Materials (ISSM 2020) 6-7 Oct. 2020 Tokyo, Japan

M. M. Awang Kechik, P. Mikheenko, J.S. Abell, I. A. Crisan, H. Baqiah, S.K. Chen, K.P. Lim and A. H. Shaari. Optimization of superconducting properties of YBa₂Cu₃O_{7-δ} films grown by pulsed laser deposition. 4th Padjadjaran International Physics Symposium 13-14 Nov 2019 Bandung, Indonesia.

M.M. Awang Kechik, S.A. Halim, S. K Chen and K. P. Lim. Application of Superconductor on Empowering Agriculture 4.0. Seminar on Agriculture and Green Technology, AgTech2019, 5th April 2019, Bandung, Indonesia.

M.M. Awang Kechik, P. Mikheenko, D. Cardwell, N.H. Babu, J.S. Abell, I.A. Crisan 2013. Increased critical current density and pinning force in YBCO thin films by Gd₂411 nano inclusions. Proceeding of International Conference on Nanoscale 2013, Sep. 2013, Istanbul, Turkey

M.M. Awang Kechik, P. Mikheenko, A. Sarkar, V. S. Dang, N. Hari Babu, D. A. Cardwell, J. S. Abell and A. Crisan. Increased pinning force in YBa₂Cu₃O_{7-δ} thin films by Gd₂Ba₄CuWO_y nano inclusions. 9th European Conference on Applied Superconductivity 2009, Dresden, Germany

M. M. Awang Kechik, P. Mikheenko, N. Hari Babu, D. A. Cardwell, P. Paturi, H. Huhtinen, J.S. Abell and A. Crisan. Artificial pinning centres in superconducting films induced by secondary phase nano-inclusions. European Summer School on Superconductivity, Grenoble, France 2009.

M. M. Awang Kechik, P. Mikheenko, N. Hari Babu, D. A. Cardwell, J.S. Abell & A. Crisan, Artificial Pinning Centres in YBa₂Cu₃O_{7-δ} Thin Films by Gd₂Ba₄CuWO_y Nano-Inclusions. International Conference on Superconductivity and Magnetism 2008, Ankara, Turkey (IOP,UK)

M. M. Awang Kechik, P. Mikheenko, N. Hari Babu, D. A. Cardwell, J.S. Abell & A. Crisan. Improvement of critical current density in YBa₂Cu₃O_x films deposited from a melt-grown target. Condensed Matter Material Physics 2008, Royal Holloway, London (IOP,UK)

CONSULTANCY PROJECT

- 2018-2022: Head of UPM-Anton Paar Interim Laboratory
- 2012-2013: British Aerospace Engineering Outreach Program