

Masnawi Mustafa

Keywords

AIS, ADS-B, traffic monitoring, functional material, big data & data mining, photovoltaic, iot

Research ID

- Scopus ID: (<http://www.scopus.com/inward/authorDetails.url?authorID=57202659036&partnerID=MN8TOARS>)
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- Google Scholar ID (<https://scholar.google.com/citations?hl=en&user=c5kcN4MAAAAJ>)

Employment

- 1. Universiti Teknologi MARA: Shah Alam, Selangor, MY**
 - 2009 to present | Senior Lecturer (Faculty of Applied Sciences)
 - 1999 to 2009 | Lecturer (Faculty of Applied Sciences)
- 2. Institut Teknologi MARA: Shah Alam, Selangor, MY**
 - 1996-02 to 1999-06 | Lecturer (Jabatan Sains Kejuruteraan)
- 3. Malaysia Remote Sensing Centre (MACRES) , Kuala Lumpur, MY**
 - 1995-10 to 1996-01 | Research Officer

Education and Qualifications

- 1. Universiti Teknologi MARA, Shah Alam, Selangor, MY**
 - 2017-09-01 to present | Doctor of Philosophy(PhD) in Mechanical Engineering (Faculty of Mechanical Engineering)
- 2. Universiti Kebangsaan Malaysia, Bangi, Selangor, MY**
 - 1999 to 2001 | Master in IT (Fakulti Teknologi Sains Maklumat)
- 3. Fakulti Sains & Pengajian Alam Sekitar, Universiti Pertanian Malaysia, Serdang, Selangor, MY**
 - 1990 to 1994-01 | Bachelor Science (Hons.) Physics (Fakulti Sains & Pengajian Alam Sekitar Education)
- 4. Pusat Asasi Sains, Universiti Pertanian Malaysia, Serdang, Selangor, MY**
 - 1988 to 1990 | Matrikulasi Sains (Fizik)
- 5. Sekolah Tinggi Muar, Muar, Johor, MY**
 - 1983 to 1987
- 6. Sekolah Men. Tengku Mahmud Iskandar, Sungai Mati, Ledang, Johor, MY**
 - 1983
- 7. Sekolah Kebangsaan Serom 5, Sungai Mati, Ledang, Johor, MY**
 - 1977 to 1982

Membership, Service, Committee

- 1. International Association of Engineers (IAENG): Hong Kong, HK**
 - 2019-01 to present | Normal Member (Membership number is: 227793)
- 2. Infotech Office, Universiti Teknologi MARA: Shah Alam, Selangor, MY**
 - 2015-04 to 2017-07-31 | Head of Division
 - 2007-07-01 to 2015-03 | Coordinator
- 3. Universiti Teknologi MARA: Shah Alam, Selangor, MY**
 - 2015-04 to 2017-07-31 | Pengerusi (Jawatankuasa Penyelidikan & Pembangunan ICT/JPPICT UiTM)
 - 2015-04 to 2017-07-31 | Ahli (Jawatankuasa Penilaian dan Penggunaan Komputer /JPPK UiTM)

Funding / Grants

1. **STRUCTURAL AND ELECTRONIC PROPERTIES OF NORMAL SPINEL COBALT OXIDE DOPED CADMIUM GRAPHENE COMPOSITE ELECTRODES**
Ministry of Higher Education, Malaysia (Kuala Lumpur) | 2017-08 to 2019-08|Grant
GRANT_NUMBER: FRGS/1/2017/STG02/UITM/02/4
2. **FIRST PRINCIPLE COMPUTATIONAL STUDY OF MULTIFERROIC MATERIALS**
Ministry of Higher Education, Malaysia (Kuala Lumpur) | 2012-01 to 2014-06|Grant
GRANT_NUMBER: 600-RMI/DANA 5/3/CG (4/2012)
3. **PHOTOVOLTAIC MONITORING CENTRE (PVMC) UITM**
Pusat Tenaga Malaysia (Kuala Lumpur) | 2008-04 to 2010-04|Grant
GRANT_NUMBER: 600-IRDC/ST/DANA 5/3/DST (1/2008)
4. **DEVELOPMENT OF BIOMATERIAL BASED POLYMER ELECTROLYTES FOR ELECTROCHEMICAL SYSTEMS**
Ministry of Higher Education, Malaysia (Kuala Lumpur) | 2004-05 to 2007-07|Grant
GRANT_NUMBER: 100-IRDC/IRPA 16/6/2 (3/2004)

Publication

1. **First-Principles Study of Structural, Electronic and Thermoelectric Properties of Ni-Doped Bi₂Se₃**
Sains Malaysiana | (2020) | journal-article
DOI: 10.17576/jsm-2020-4911-21 | Part of ISSN: 0126-6039
2. **Prediction of Marine Traffic Density Using Different Time Series Model From AIS data of Port Klang and Straits of Malacca**
Transactions on Maritime Science | (2020) | journal-article
DOI: 10.7225/toms.v09.n02.006
3. **Enhanced mechanism of thermoelectric performance of Bi₂Se₃ using density functional theory**
Materials for Renewable and Sustainable Energy | 2020 | journal-article
DOI: 10.1007/s40243-020-00176-4
4. **Structural and Electronic Properties of Orthorhombic Phase Bi₂Se₃ Based on First-Principles Study**
Scientific Research Journal (SRJ) | 2019 | journal-article
DOI: <https://doi.org/10.24191/srj.v16i2.6359>
5. **Data Mining Analysis on Ships Collision Risk and Marine Traffic Characteristic of Port Klang Malaysia Waterways from Automatic Identification System (AIS) Data**
Proceedings of the International MultiConference ofnEngineers and Computer Scientists 2019
2019 | conference-paper
6. **Preliminary study on air traffic density of Peninsular Malaysia using visual flight path trajectories from Automatic Dependent Surveillance-Broadcast (ADS-B) data**
International Journal of Engineering and Technology(UAE) | 2018 | journal-article
EID: 2-s2.0-85056895121
7. **Understanding the electronic transition of normal spinel structure of Co₃O₄ using GGA+U calculations**
International Journal of Engineering and Technology(UAE) | 2018 | journal-article
DOI: 10.14419/ijet.v7i3.11.15943 | EID: 2-s2.0-85050297498
8. **Marine Traffic Density Over Port Klang, Malaysia Using Statistical Analysis Of AIS Data: A Preliminary Study**
Journal of ETA Maritime Science | 2016 | journal-article
DOI: 10.5505/jems.2016.60352
9. **Mapping Vessel Path of Marine Traffic Density of Port Klang, Malaysia using Automatic Identification System (AIS) Data**
International Journal of Science and Research (IJSR) | 2015 | journal-article
DOI: 10.21275/v4i11.NOV151099
10. **Solar Photovoltaic Monitoring System for the UiTM-PERHILITAN Research Station, Kuala Keniam**

Abstracts : UiTM-PERHILITAN Taman Negara Research Projects | 2010 | book
ISBN: 9789673630721

- 11. Development of Photovoltaic Monitoring System Web Portal**
Conference In Software Engineering & Computer Systems 2009 (ICSECS'09) | 2009 | conference-paper
- 12. Performance of Grid-interactive Inverters in the MBIPV Project: Case Study for the PTM-ZEO Building**
9th International Seminar in Sustainable Environment & Architecture (SENVAR2008) | 2009 | conference-paper
- 13. Performance of the Building Integrated Photovoltaic System at Monash University Malaysia**
INTERNATIONAL SYMPOSIUM & EXHIBITION IN SUSTAINABLE ENERGY & ENVIRONMENT 2008 (SENVAR 2008) | 2008-12-01 | conference-paper
- 14. Applying Renewable Energy Technology in Malaysia:Case Study for Building Integrated Photovoltaics**
9th International Seminar in Sustainable Environment & Architecture (SENVAR2008) | 2008 | conference-paper
DOI: 10.13140/RG.2.1.3076.2964
- 15. The Photovoltaic Monitoring Centre Portal: From Inception to Development and Maintenance.**
International Symposium & Exhibition in Sustainable Energy & Environment | 2008 | conference-paper
DOI: 10.13140/RG.2.1.5173.4485
- 16. Ionic conduction model in salted chitosan membranes plasticized with fatty acid**
Journal of Applied Sciences | 2006 | journal-article
DOI: 10.3923/jas.2006.1287.1291 EID: 2-s2.0-33845909977
- 17. XRD and surface morphology studies on chitosan-based film electrolytes**
Journal of Applied Sciences | 2006 | journal-article
DOI: 10.3923/jas.2006.3150.3154
EID: 2-s2.0-33845872808
- 18. Electrical properties of plasticized chitosan-lithium imide with oleic acid-based polymer electrolytes for lithium rechargeable batteries**
Ionics | 2005 | journal-article
DOI: 10.1007/BF02430267
EID: 2-s2.0-33645502082
- 19. Malaysian First Photovoltaic System Monitoring Portal**
Invention, Innovation & Design 2009 (IID2009) | 2009 | Gold Medal
- 20. <http://pvmc.uitm.edu.my> - Malaysia's First Photovoltaic Systems**
MALAYSIA TECHNOLOGY EXPO (MTE 2009) | 2009 | Bronze Medal

Teaching and Learning

- | | |
|------------|--|
| 1. PHY411 | Mechanics And Properties Of Matter |
| 2. PHY431 | Physics II |
| 3. PHY433 | Fundamental Physics:Mechanics And Heat |
| 4. PHY504 | Nondestructive Testing |
| 5. PHY534 | Waves And Optics |
| 6. PHY544 | Analog And Digital Electronics |
| 7. PHY547 | Analogue Electronics |
| 8. PHY548 | Digital Electronics |
| 9. PHY566 | Wireless-Sensor-Machine-Cloud Lab |
| 10. PHY575 | Astrophysic |
| 11. PHY584 | Electronics And Instrumentation Lab |
| 12. PHY630 | Thermal Physics |

Supervision

Degree (Selected)

- | | |
|---|--|
| 1. NURSYUHADAH BINTI ABDUL KADIR | Estimating Sea Height From Automatic Identification System Data |
| 2. MUHAMMAD MIRZAAHAAZIQ BIN MAHMUD | Modelling Aircraft Engine Gas Pollution Estimation Using Ads-B Data |
| 3. NOR AISYAH BINTI SAIM | High Tide And Low Tide Characteristic Of Sea Using Ais Data |
| 4. AINA FADHILAH BINTI SHAFFIEE | Aircraft Engine Gas Pollution Estimation Using Ads-B Data For Subang Airport |
| 5. MAIZATUL AMIRA BINTI HASAN | Aircraft Engine Noise Pollution Estimation Using Ads-B Data For Subang Airport |
| 6. SALINA HAIZAN BINTI MOHAMAD NOOR | Estimation Of Straits Of Malacca Tidal Wave Using Ais Data |
| 7. NOREZATI BINTI MOHD JAI | Estimation Of Straits Of Malacca Big Tidal Wave Using Ais Data |
| 8. NURKHALIDA BINTI MOHD MAZZALAN | Calculation Of Wave Height Of Straits Of Malacca From Ais Data |
| 9. NUR FARAHYAH BINTI MOHD ROSLAN | Estimation Of Exhaust Emission Of Airplane At Subang Airport Using Ads-B Data |
| 10. MUHAMMAD FARIS BIN AYOB | Clear Air Turbulance (Cat) From Ads-B Data |
| 11. AHMAD SAHIRUDIN BIN SUHAIMI | Clear Air Turbulance (Cat) From Ads-B Data |
| 12. NATASYA AMIRAH BINTI FARID | Estimation Of Noise Emission Of Airplane At Subang Airport Using Ads-B Data |
| 13. AKIM BIN RAMIN | Prediction Of Marine Traffic Density Using Different Time Series Model From Ais Data |
| 14. MOHAMAD ADIB AZIZI BIN BAHARUDDIN | Analysis Of Collision Risk Of Tanker Ship At Port Klang By Using Automatic Identification System (Ais) |
| 15. MOHAMMAD FARHAN BIN KAMAL ARIFFIN | Analysis Of Collision Risk Of Cargo Movement At Port Klang Using Automatic Identification System |
| 16. NUR IRDINA BINTI MOHD NASRI | Nox Calculation Of Ships Emissions From Ais Data |
| 17. NUR SYUHADAH BINTI SAPUAN | Exhaust Emission Calculation Of Airplane From Ads-B Data |
| 18. NASHWA BINTI MOHD IDRI | Co2 Calculation Of Ships Emissions From Ais Data |
| 19. MOHD HAFIZ BIN AWANG MAT HASSAN | Port Klang Marine Traffic Analysis Using Secondary Radar |
| 20. ABDULLAH HAKIM ALMANSHUR BIN MAT WAIJAR | Marine Traffic Pattern And Density Characteristics Using Automatic Identification System (Ais) Data Of Port Klang Malaysia |
| 21. MUHAMAD IKHWANUL HAKIM BIN MUHAMAD NASRUDIN | Characteristic Of Marine Traffic Pattern And Ship Collision Risk Off The Port Klang Coast Using Ais Data |
| 22. MOHD ASRAF HAFIZ BIN RADZI | Satellite Tracking Using Rtl Dongle Based On Software Define Radio (Sdr) |
| 23. NOOR HASNITA BINTI AHMAT | Mapping Vessel Path Of Marine Traffic Density Of Port Klang, Malaysia Using Automatic Identification System (Ais) Data |
| 24. RADHIAH BINTI MOHD NOR | Mapping Of Flight Path To Visualize The Air Traffic Density Over Peninsular Malaysia Using Automatic Dependent Surveillance Broadcast (Ads-B) Data |
| 25. MUNAWWARAH BINTI ABAS | Marine Traffic Density Over Port Klang Using Statistical Analysis Of Ais Data |

Post Graduate

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|---|---|
| 1. MUHAMMAD ZAMIR BIN MOHYEDIN (<i>Graduated</i>) | First-Principles Study Of Thermoelectric Performance Between Bi ₂ Se ₃ , Bi ₂ Te ₃ And Sb ₂ Te ₃ By Using Density Functional Theory |
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