



Dr. Mohamad Firdaus Bin Basrawi  
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Google Scholar: <http://scholar.google.com/citations?user=sRkMqaAAAAAJ&hl=en>

### Academic Qualification

Dr. (Eng.) in Cold Region, Environment and Energy Engineering, Kitami Institute of Technology	2012
ME in Mechanical Engineering, Kitami Institute of Technology	2010
BE in Mechanical Engineering, Kitami Institute of Technology	2008

### Other Qualification

SIRIM certified Internal Auditor for ISO 9001:2008	2012
AEMAS Certified Energy Manager	2014
Grid Connected Photovoltaic- System Design (SPCPDN00269)	2016

### Working Experiences / Appointment

2012 April – Now: Senior Lecturer, University Malaysia Pahang

### Expert Area Keywords

Distributed Generation, Cogeneration System, Trigeration System, Hybrid Energy System, Biogas-fuelled Power Plant, Meliponine Engineering

### Research Interest

Energy System, Energy & Building, Renewable Energy, Meliponine Engineering

### Research Project / Grant

#### Project Leader

1. PPRN UIC16070: Stingless Bee Honey Pump System: MRSM Lenggong 15/12/2016-15/06/2017 (On Going) UMP.05.03/26.13/3/35(3)
2. Internal RDU1603111 Development of Portable Chassis Dynamometer for Battery Powered Motorcycle 25/06/2016 24/06/2018 (On Going) UMP.05/26.10/03/02/111(2)
3. Internal GRS150305 Development of Algorithm as a Dispatch Strategy for Micro-Gas Turbine Trigeration System and Photovoltaic based Hybrid Energy System 15/03/2015 14/03/2017 (On Going) UMP.05/26.10/03/02/1/5(2)
4. FRGS RDU130133 Development of algorithm as a Dispatch Strategy for Micro Gas Turbine-Trigeration and Photovoltaic based Hybrid Energy System 01/12/2013 30/11/2016 31/05/2017 (On Going) UMP.05/26.12/04/01/52(2)
5. Internal RDU1203101 Evaluation on the Performance of Solar Air Conditioning Systems by Adsorption Route: System Optimization for Various Buildings 15/12/2012 14/12/2014 (Completed) UMP.05/26.10/03/02/101(2)
6. Internal RDU150380 Development of Thermoelectric based power generation system for Hawkers application 01/10/2015 30/09/2017 (On Going) UMP.05/26.10/03/02/80(2)

#### Project Member

1. PPRN UIC160704 Portable Synthetic Rubber Sludge Waste Dewatering Machine and Solar Dryer 1/8/2016-1/2/2017 UMP.05.03/26.13/3/32
2. PPRN UIC160708 Portable Motorized Honey Extractor: Bee Park Pahang 15/12/2016-15/06/2017 UMP.05.03/26.13/3/36(4)
3. International Grant UIC161506 Study on Coating for Building Exterior, Solar Panel, and Automotive Application 1/9/2016-31/8/2018 UMP.05/26.14/1/16(4)
4. Internal UIC160907 Bee-Qx: Moulded Plastic Type Queen Excluder for Bee Hives 15/1/2017-14/1/2018 UMP.05/28.13/4/7(2)
5. FRGS RDU140119 Development Of Algorithm For A Hybrid Solar And Off-Peak Air Conditioning System 01/07/2014 30/06/2017 (On Going) UMP.05/26.12/04/01/87(2)
2. Internal RDU140355 Development of a Small-Scale Low Pressure Drop Fluidized Bed Combustor to Burn Agricultural Residues 25/04/2014 24/04/2016 24/10/2016 (Completed) UMP.05/26.10/03/02/55(2)

3. FRGS RDU160139 Tooth Bending Strength of Thin-rimmed Spur Gears with Variable Rim and Web Design 01/08/2016 31/07/2019 (On Going) UMP.05/26.12/04/01/39(2)
4. RAGS RDU151411 Investigation the effect of Nanolubricant on Energy Saving in Automobile Air-conditioning System 01/12/2015 30/11/2017 (On Going) UMP.05/26.10/03/08/51
5. ERGS RDU130620 An Exploratory Study on Tidal Energy for Electricity in Coastal Area 01/06/2013 31/05/2015 31/05/2016 (Completed) UMP.05/26.10/03/04/34(2)
6. FRGS RDU130132 Two Phase Flow and Heat Transfer Models in Microchannels of Different Geometry for Supercritical CO<sub>2</sub> Cooling 01/12/2013 30/11/2015 30/11/2016 (Completed) UMP.05/26.12/04/01/51(2)
7. Internal RDU130333 Design and Analysis of a Passive Cooling Earth-Air Heat Exchanger (EAHE) for a Small Community Building in Malaysia 15/06/2013 14/06/2015 (Completed)
8. Internal RDU160310 Parameters Study of Heat Pipe Based Heat Sink for Thermoelectric Power Generation in Automobile Application 05/04/2016 04/04/2018 (On Going) UMP.05/26.10/03/02/10(2)
9. Internal RDU150334 Thermal Exergy Analysis to System Optimization of Gas Turbine for Local Power Plant Industries 25/06/2015 24/06/2017 (On Going) UMP.05/26.10/03/02/34(2)
10. Internal RDU150386 Development of test equipment to study life, friction and wear performances for polymer gears in automotive applications 25/11/2015 24/11/2017 (On Going) UMP.05/26.10/03/0286(2)
11. Internal RDU121408 Nano Particle's Heat Transfer Characteristics in Refrigeration and Automotive Air Conditioning Systems for Reduction of Energy 15/12/2012-14/12/2014 (Completed) UMP.05/26.10/03/08/08(2)

### Professional Qualification / Membership / Affiliation / Experience

Board of Engineer Malaysia (BEM): 83593A  
 Japan Society of Mechanical Engineers (JSME): 0808938  
 Malaysian Energy Professional Association (MEPA): 321  
 Energy Institute, UK: 64376

### Management Experiences

2012-2013- Coordinator for Occupational Safety and Health for Faculty UMP/14.01/10.14/7 Jld4(152)  
 2012-2013 - Head of ISO Internal Audit Unit for the Faculty (SIRIM certified internal auditor) UMP.14.01/10.14/7 Jld 5(122), UMP.14.01/10.14/7 Jld4(97)  
 2012-2014 - Academic and Examination Coordinator for the Faculty UMP.14.01/10.14/7 Jld 5(48)  
 2012-2014 - CEO of Energy Sustainability Focus Group, FKM UMP.14.01/10.14/7 Jld 5 (168)  
 2014-2015- Member of Development and Technical Committee for Faculty UMP.14.01/10.14/7 Jld 6 (229)  
 2014-2015- Head of Quality Management System for the Faculty UMP.14.01/10.14/7 Jilid 7 (112)  
 2015-2016- Deputy Head of AQMS for the faculty UMP.14.01/10.14/7 Jilid 6 (300), UMP.14.01/10.14/7 Jilid 7 (57), UMP.14.01/10.14/7 Jilid 6 (284)  
 2015-2016- UMP Energy Saving/ Energy and Climate Change Kluster UMP.05/10.14/56 (8)  
 2015-2016- UMP Greening Campus Committee UMP.01/12.20/3 Jilid 14 (72)  
 2016-2017 Research Grant Evaluator for UMP UMP.01/12.20/3 Jilid 17 (35)  
 2016-2017 Taskforce for BHA Program Accreditation UMP.14.01/12.20/3 Jilid 8 (194)  
 2016-2017- Mentor for Energy Sustainability Focus Group for faculty UMP.13.01/10.14/7 Jilid 7 (181)  
 2016-2017- Research Coordinator for Commercialization for faculty UMP.14.01/10.14/7 Jld. 7 (157)  
 2017-2018- Mentor for Energy Sustainability Focus Group for faculty  
 2017-2018- Research Coordinator for Commercialization for faculty

### Teaching Experience

2012/2013 Semester 1: Thermodynamics 1, Mechanism Design, UMP.14.02/14.13/02 Jld 2(01495)  
 2012/2013 Semester 2: Thermodynamics 1, Power Plant Technology, UMP.14.02/14.13/02 Jld 2(01495)  
 2013/2014 Semester 1: Thermodynamics 1, Power Plant Technology, UMP.15.02/14.13/02 (01495), Environment and Regulatory Issues (Master) UMP.14.01/12.20/3 Jld 6(145), Japanese Language Intermediate UMP.11/12.11/2/1/4 Jld 3 (50)  
 2013/2014 Semester 2: Power Plant Technology UMP.15.02/14.13/02(01495)  
 2014/2015 Semester 1: Power Plant Technology, Environment and Regulatory Issues (Master by Course) UMP.15.02/14.13/02(01495)  
 2014/2015 Semester 2: Power Plant Technology, Efficient Energy Utilization (Master by Course) UMP.15.02/14.13/02(01495)  
 2015/2016 Semester 1: Efficient Energy Utilization, Power Plant Technology. UMP.15.02/14.13.02 (01495)  
 2015/2016 Semester 2: Engineering Mechanics Lab 1, Engineering Thermodynamics Lab, Power Plant Technology. UMP.15.02/14.13.02 (01495)

## Post Graduate Supervision

### Main Supervisor

PhD (on-going)- Ahmad Syazwan Bin Ramli PMM16008  
PhD (on-going)- Luqman Bin Abdul Halim PMM17013  
Master (on going)- Mohamad Rizdwan Bin Rashid Chand, UMP.20/13/13.10/1/15  
Master (on going)- Mohd Nazani Bin M Nazri UMP.20/13/13.10/1/  
Master (on going)- Siti Aishah Binti Safi

Master Dissertation (Completed)- Izwan Bin Ismail  
Master Dissertation (Completed)- Luqman Bin Abdul Halim

### Co-Supervisor

PhD (on going)- Ali El-Hade Amar El-Ghool (PMM14040) UMP.20/13/PMM14010  
Master (on going)- Dzulaika Nubailah Binti Noor UMP.20/13/MMM14010

## List of Publications

### (A) JOURNAL LIST

- 1) Thamir K Ibrahim, Marwah N Mohammed, Mohammed Kamil Mohammed, G Najafi, Nor Azwadi Che Sidik, **Firdaus Basrawi**, Ahmed N Abdalla, SS Hoseini  
Experimental study on the effect of perforations shapes on vertical heated fins performance under forced convection heat transfer.  
*International Journal of Heat and Mass Transfer*, 2018, 118, 832-846. (ISI Indexed- Q1)
- 2) Mohammed Kamil Mohammed, Omar I Awad, MM Rahman, G Najafi, **Firdaus Basrawi**, Ahmed N Abd Alla, Rizalman Mamat  
The optimum performance of the combined cycle power plant: A comprehensive review  
*Renewable and Sustainable Energy Reviews*, 2017, 79, 459-474. (ISI Indexed- Q1)
- 3) K Irshad, K Habib, MW Kareem, **F Basrawi**, BB Saha  
Evaluation of thermal comfort in a test room equipped with a photovoltaic assisted thermo-electric air duct cooling system  
*International journal of hydrogen energy*, 2017, 42 (43), 26956-26972. (ISI Indexed- Q1)
- 4) **F Basrawi**, TK Ibrahim, K Habib, T Yamada, DMND Idris  
Techno-economic performance of biogas-fueled micro gas turbine cogeneration systems in sewage treatment plants: Effect of prime mover generation capacity  
*Energy*, 2017 124, 238-248. (ISI Indexed- Q1)
- 5) Ahmad Syazwan Ramli, **Firdaus Basrawi**, Shahrani Anuar, Thamir Khalil Ibrahim  
A review of current tidal power technology: Optimization and improvement of mechanical design  
*International Journal of Advanced Research in Management, Architecture, Technology and Engineering* 2017, 10-19. (ESCI Indexed)
- 6) A Elghool, **F Basrawi**, TK Ibrahim, K Habib, H Ibrahim, DMND Idris  
A review on heat sink for thermo-electric power generation: Classifications and parameters affecting performance  
*Energy Conversion and Management*, 2017, 134, 260-277. (ISI Indexed- Q1)
- 7) K Irshad, K Habib, **F Basrawi**, BB Saha  
Study of a thermoelectric air duct system assisted by photovoltaic wall for space cooling in tropical climate  
*Energy*, 2017, 119, 504-522. (ISI Indexed- Q1)

- 8) Thamir K Ibrahim, **Firdaus Basrawi**, Omar I Awad, Ahmed N Abdullah, G Najafi, Rizlman Mamat, FY Hagos  
Thermal performance of gas turbine power plant based on exergy analysis  
*Applied Thermal Engineering*, 2017, 115, 977-985. (ISI Indexed- Q1)
- 9) MRR Chand, **F Basrawi**, H Ibrahim, MY Taib, A Zulkepli  
A study on energy consumption of a resort located in the east coast of Malaysia  
*International Journal of Advanced and Applied Sciences*, 2016, 3, 49-54. (ESCI Indexed)
- 10) Thamir K. Ibrahim, **Firdaus Basrawi**, Marwah Noori Mohammed, and Hassan Ibrahim  
Effect of Perforation Area on Temperature Distribution of the Rectangular Fins Under Natural Convection  
*ARPN Journal of Engineering and Applied Sciences*, 2016, 11, 6371-6375. (Scopus Indexed)
- 11) **Firdaus Basrawi**, Thamir K. Ibrahim, Khairul Habib, Takanobu Yamada  
Effect of operation strategies on the economic and environmental performance of a micro gas turbine trigeneration system in a tropical region  
*Energy*, 2016, 97, 262-272, (ISI Indexed- Q1)
- 12) TK Ibrahim, MM Rahman, MK Mohammed, **F Basrawi**  
Statistical analysis and optimum performance of the gas turbine power plant  
*International Journal of Automotive and Mechanical Engineering*, 2016, 13, 3215. (Scopus Indexed)
- 13) AN Oumer, NT Rao, **F Basrawi**, H Ibrahim  
Numerical Simulation on Flow and Heat Transfer Characteristics of Supercritical Fluids in Mini-Channels  
*Journal of Advances in Technology and Engineering Research*, 2016, 2 (3), 81-86 (Scopus Indexed)
- 14) Kashif Irshad, Khairul Habib, **Firdaus Basrawi**, Nagarajan Thirumalaiswamy, R. Saidur, Bidyut Baran Saha  
Thermal comfort study of a building equipped with thermoelectric air duct system for tropical climate  
*Applied Thermal Engineering*, 2015, 91, 1141-1155. (ISI Indexed- Q1)
- 15) **Firdaus Basrawi**, Thamir K. Ibrahim, Giok Chui Lee, Khairul Habib and Hassan Ibrahim  
Effect of Solar Fraction on the Economic and Environmental Performance of Solar Air-Conditioning by Adsorption Chiller in a Tropical Region  
*J. Sol. Energy Eng*, 2015, 137(6), 061009. (ISI Indexed- Q2)
- 16) **F. Basrawi**, K Habib, H. Ibrahim, GC Lee  
Effect of Solar Fraction on the Economic Performance of a Solar Air-Conditioning by an Adsorption Chiller  
*Jurnal Intelek*, (2015) 9, 14-20.
- 17) Firdaus Basrawi, Cindy Olin, Ahmmad Shukrie Md Yudin, Hassan Ibrahim  
A Study on a Higher Heating Value of Agricultural Waste in Malaysia  
*Australian Journal of Basic and Applied Sciences*, 2015, 9 (32), 191 - 196
- 18) KH Koo, MRR Chand, Hassan Ibrahim, Azizuddin Abd Aziz, **Firdaus Basrawi**  
Theoretical Analysis on the Effect of Operation Strategies on the Environmental Performance of Micro Gas Turbine Trigeneration System in Tropical Region  
*Journal of Mechanical Engineering and Automation*, 2015, 5, 19-25.
- 19) T.M. Yusof, A.M. Arshad, M.D. Suziyana, L.G. Chui1, **M.F. Basrawi**  
Experimental Study of a Domestic Refrigerator with POEA12O3 Nanolubricant  
*International Journal of Automotive and Mechanical Engineering (IJAME)*, 2015, 11, 2243-2252 (Scopus Indexed)
- 20) **F. Basrawi**, K. Habib, H. Ibrahim and G.C. Lee  
A Study on the Effect of Solar Fraction on the Environmental Performance of Solar Air-Conditioning by an Adsorption Chiller  
*Global Journal of Energy Technology Research Updates*, 2015, 1, 19-24
- 21) **Firdaus Basrawi**, Takanobu Yamada, Shin'ya Obara  
Economic and environmental based operation strategies of a hybrid photovoltaic–microgas turbine trigeneration system.

*Applied Energy*, 121, 2014, pp. 174-183. (ISI Indexed- Q1)

- 22) **Firdaus Basrawi**, Hassan Ibrahim Mohd Yusof Taib, Giok Chui Lee  
Optimum Thickness of Wall Insulations and Their Thermal Performance for Buildings in Malaysian Climate.  
*International Journal of Automotive and Mechanical Engineering (IJAME)*, 8, 2013, pp. 1204-1214. (Scopus Indexed)
- 23) **Firdaus Basrawi**, Takanobu Yamada, Shin'ya Obara  
Theoretical Analysis of Performance of a Micro Gas Turbine Co/Trigeneration System for Residential Buildings in a Tropical Region.  
*Energy and Buildings*, 67, 2013, pp. 108-117. (ISI Indexed- Q1)
- 24) **Firdaus Basrawi**, Takanobu Yamada, Kimio Nakanishi  
Evaluation of the Performance of a Micro Gas Turbine Cogeneration System in a Sewage Treatment Facility: Optimized Configuration Method of a Cogeneration System  
*Heat Transfer- Asian Research*, 42(6), 2013, pp. 556-568. (Scopus Indexed)
- 25) **Firdaus Basrawi**, Takanobu Yamada, Kimio Nakanishi  
Optimization of System Performance on a Biogas Cogeneration in a Sewage Treatment Center.  
*Transactions of the Japan Society of Mechanical Engineers. B*, 78 (789), 2012, pp. 111-115. [in Japanese] (Scopus Indexed)
- 26) **Mohamad Firdaus Bin Basrawi**, Takanobu Yamada, Kimio Nakanishi  
Analysis of the Performances of Biogas-fuelled Micro Gas Turbine Cogeneration Systems (MGT-CGSs) in Middle- and Small-Scale Sewage Treatment Plants: Comparison of Performances and Optimization of MGTs with Various Electrical Power Outputs.  
*Energy*, 38(1), 2012, pp. 291-304. (ISI Indexed- Q1)
- 27) **Firdaus Basrawi**, Takanobu Yamada, Kimio Nakanishi  
Analysis of the Performance of a Biogas Cogeneration System in a Sewage Treatment Plant in a Cold Region  
*Journal of Environment and Engineering*, 6(3), 2011, pp. 512-526.
- 28) **Firdaus Basrawi**, Takanobu Yamada, Kimio Nakanishi  
Effect of Ambient Temperature on the Performance of a Micro Gas Turbine with a Cogeneration System in a Cold Region  
*Applied Thermal Engineering*, 31(6-7), 2011, pp. 1058-1067. (ISI Indexed- Q1)
- 29) **Firdaus Basrawi**, Takanobu Yamada, Kimio Nakanishi  
Effect of Ambient Temperature on the Energy Balance of Anaerobic Digestion Plants  
*Journal of Environment and Engineering*, 5(3), 2010, pp. 526-538
- 30) **Firdaus Basrawi**, Takanobu Yamada, Kimio Nakanishi  
Performance Evaluation of a Micro Gas Turbine Cogeneration System at a Sewage Treatment Facility (2nd Report, Optimized Configuration Method of Cogeneration Systems)  
*Transactions of the Japan Society of Mechanical Engineers. B*, 77(774), 2011, pp. 344-352. [in Japanese] (Scopus Indexed)
- 31) **Firdaus Basrawi**, Takanobu Yamada, Kimio Nakanishi  
Performance Evaluation of a Micro Gas Turbine Cogeneration System at a Sewage Treatment Plant (Performance Analysis under Various Regions with Different Annual Average Temperatures).  
*Transactions of the Japan Society of Mechanical Engineers. B*, 76(770), 2010, pp. 1661-1670. [in Japanese] (Scopus Indexed)

## **(B) CONFERENCE PAPER LIST**

- 1) **F Basrawi**, I Ismail, TK Ibrahim, DMND Idris, S Anuar  
A study on the power generation potential of mini wind turbine in east coast of Peninsular Malaysia  
AIP Conference Proceedings 1826 (1), 020023, 2017

- 2) A Elghool, **F Basrawi**, H Ibrahim, T Ibrahim  
Investigation on the performance of a prototype of thermo-electric generation with heat pipe-heat sink  
MATEC Web of Conferences 131, 01005, 2017
- 3) AS Ramli, AH Luqman, **F Basrawi**, AN Oumer, AA Aziz, Z Mustafa  
A new cooling technique for stingless bees hive  
MATEC Web of Conferences 131, 03013, 2017
- 4) H Arshad, SA Sulaiman, Z Hussain, Y Naz, **F Basrawi**  
Microwave assisted pyrolysis of plastic waste for production of fuels: a review  
MATEC Web of Conferences 131, 02005, 2017
- 5) **F Basrawi**, AH Ahmad, DMND Idris, MRM Maarof, MRR Chand, AS Ramli  
Engineering economic analysis of meliponiculture in Malaysia considering current market price  
MATEC Web of Conferences 131, 04005, 2017.
- 6) **F Basrawi**, ARA Hamid, R Bahari, MNM Noordin, MH Yusof  
A Preliminary Study on the Thermal Performance of a Ventilated Honey Cassette for Stingless Bees  
MATEC Web of Conferences 131, 04001, 2017.
- 7) Ahmad Syazwan Ramli, **Firdaus Basrawi**, Daing Mohamad Nafiz Daing Idris, Mohd Hazwan bin Yusof, Thamir Khalil Ibrahim, Zulkifli Mustafa, Shaharin A Sulaiman  
A new dewatering technique for stingless bees honey  
MATEC Web of Conferences 131, 03014, 2017.
- 8) MRR Chand, H Ibrahim, Z Azran, A Arshad, **F Basrawi**  
Review on Recent Development Micro Gas Turbine-Trigeneration System and Photovoltaic Based Hybrid Energy System  
MATEC Web of Conferences 74, 00028, 2016.
- 9) A Zulkepli, H Ibrahim, A Alias, Z Azran, **F Basrawi**  
Review on the Recent Developments of Photovoltaic Thermal (PV/T) and Proton Exchange Membrane Fuel Cell (PEMFC) Based Hybrid System  
MATEC Web of Conferences 74, 00019, 2016.
- 10) Ahmad Syazwan Ramli, **Firdaus Basrawi**, Daing Mohamad Nafiz Daing Idris, Ahmmad Shukrie Md Yudin, Thamir Khalil Ibrahim  
A New Dewatering Technique for Stingless Bees Honey.  
1st International Meliponine Scientific Conference, Convention & Carnival., 16-18 May 2017 , Putrajaya, Malaysia. pp. 1-4. 2017. (Abstract Proceeding). Available at: <http://umpir.ump.edu.my/18402/>
- 11) AH Luqman, Basrawi Firdaus, Taib MY, A Shukrie, Chand MRR and Mustafa, Zulkifli  
A New Cooling Technique for Stingless Bee Hive.  
Proceedings of 1st Meliponine Scientific Conference, Convention and Carniva. 2017. (Abstract Proceedings). Available at: <http://umpir.ump.edu.my/18439/>
- 12) N Nazri, S Anuar, **F Basrawi**, A Shukrie, S Aishah  
Estimation of energy potential and power generation from tidal basin in coastal area of malaysia  
*MATEC Web of Conferences* , 2016, 38, 02008
- 13) DN Noor, A Arshad, Z Azran, H Ibrahim, **F Basrawi**  
A review on the recent development of solar absorption and vapour compression based hybrid air conditioning with low temperature storage  
*MATEC Web of Conferences* , 2016, 38, 02007
- 14) TK Ibrahim, MM Rahman, OM Ali, **F Basrawi**, R Mamat  
Optimum Performance Enhancing Strategies of the Gas Turbine Based on the Effective Temperatures  
MATEC Web of Conferences , 2016, 38, 01002

- 15) **F Basrawi**, MRR Chand, KH Koo, TK Ibrahim  
Theoretical Analysis on the Economic Performance of Micro Gas Turbine-Trigeneration System with Different Operation Strategies for Residential Building in a Tropical Region  
*MATEC Web of Conferences* , 2016, 38, 01003
- 16) A Zulkepli, LW Yong, MY Taib, Z Azran, **F Basrawi**  
Analysis on the Performance of Copper Indium Gallium Selenide (CIGS) Based Photovoltaic Thermal  
*MATEC Web of Conferences* , 2016, 38, 02004
- 17) **Firdaus Basrawi**, Hassan Ibrahim, Takanobu Yamada  
Optimal Unit Sizing of Biogas-Fuelled Micro Gas Turbine Cogeneration Systems in a Sewage Treatment Plant  
*Energy Procedia*, 2015, 75, 1052-1058. (ISI Indexed)
- 18) KH Koo, MRR Chand, Hassan Ibrahim, Azizuddin Abd Aziz, **Firdaus Basrawi**  
Theoretical Analysis on the Effect of Operation Strategies on the Environmental Performance of Micro Gas Turbine Trigeneration System in Tropical Region  
*World Conference on Engineering and Applied Sciences (WCEAS 2015)*
- 19) **Firdaus Basrawi**, Hassan Ibrahim, Takanobu Yamada  
Optimal Unit Sizing of Biogas-Fuelled Micro Gas Turbine Cogeneration Systems in a Sewage Treatment Plant  
*The 7th International Conference on Applied Energy – ICAE2015*
- 20) **F. Basrawi**, K Habib, H. Ibrahim, GC Lee  
Effect of solar fraction on the economic performance of a solar air-conditioning by an adsorption chiller  
*International Sciences, Technology and Engineering Conference (ISTEC 2014)*
- 21) LY Tan, Shahrani Anuar, Ahmmad Shukrie, **M Firdaus Basrawi**, M Mahendran  
Simulation Model to Assess Tidal Potential Energy in East Coast of Malaysia Using GIS  
*Applied Mechanics and Materials*, 679, 2014, 106-111 (Scopus Indexed)
- 22) **Firdaus Basrawi**, Hassan Ibrahim, Mohamad Redzuan Rashid Chan, Takanobu Yamada  
Effect of Operation Strategies on the Economic Performance of a Hybrid Photovoltaic-Micro Gas Turbine Trigeneration System  
*MATEC Web of Conferences*, 13, 2014, 02002 (ISI Indexed)
- 23) **Firdaus Basrawi**, H. Ibrahim, M.Y. Taib, G.C. Lee  
Optimum Thickness of Wall Insulations and Their Thermal Performance for Buildings in Malaysian Climate,  
*Proceeding of International Conference in Mechanical Engineering Research (ICMER 2103)*.
- 24) **Firdaus Basrawi**, Takanobu Yamada  
Energetic and Economic Analysis of a Micro Gas Turbine Cogeneration System in Residential Buildings in a Tropical Region,  
*Proceeding of Malaysian Technical Universities Conference on Engineering and Technology (MUCET), 2012, pp. 221-227.*
- 25) **M. Firdaus B. Basrawi**, Takanobu Yamada, Kimio Nakanishi  
Optimization of a Biogas-Fuelled Cogeneration System in a Sewage Treatment Plant,  
*Proceeding of ASME 2011 Power Conference. 2, 2011, pp. 393-402.*
- 26) **Firdaus Basrawi**, Takanobu Yamada, Kimio Nakanishi  
Performance Optimization of a Biogas Cogeneration Operated in a Sewage Treatment Plant  
*Proceeding of the Environment Symposium of Japan Society of Mechanical Engineers*, No. 10-15, 2011, pp. 276-279.[In Japanese]
- 27) Hideaki Katsumata, **Firdaus Basrawi**, Takanobu Yamada, Kimio Nakanishi  
Effect of the Size of Crushed Ice Particle on a Formation of Methane Hydrate  
*Proceedings of the 50th Hokkaido Branch of Japan Society of Mechanical Engineers*, No. 112-2, 2011, pp. 217-218.[In Japanese]



- 28) **Firdaus Basrawi**, Takanobu Yamada, Kimio Nakanishi  
Performance Analysis of a Biogas Cogeneration System  
*Proceeding of the Environment Symposium of Japan Society of Mechanical Engineers*, No. 10-15, 2010, pp. 285-287. [In Japanese]
- 29) **Firdaus Basrawi**, Takanobu Yamada, Kimio Nakanishi  
Performance Analysis of a Cogeneration System at a Sewage Treatment Plant of a Cold Region  
*Proceeding of the Annual Conference of Japan Society of Mechanical Engineers*, Vol.3, 2009, pp. 153-154.[In Japanese]
- 30) Soe Naing, Takanobu Yamada, Kimio Nakanishi, **Mohamad Firdaus**  
Analysis of Total Energy Efficiency with the Cogeneration System Arrangement of a Micro Gas Turbine  
*The 13th National Symposium on Power and Energy Systems (SPECS 2008)*, No. 08-8, 2008, pp. 199-202.
- 31) Soe Naing, Takanobu Yamada, Kimio Nakanishi, **Mohamad Firdaus**  
Performance Analysis with Optimized Arrangement of a Cogeneration System  
*Proceedings of the 2nd International Forum on Heat Transfer (IFHT2008)*, No. 230, 2008, pp. 1-4
- 32) **Mohamad Firdaus**, Jyunpei Kimura, Kenta Umetsu, Takanobu Yamada, Kimio Nakanishi  
Deicing Effect of a Heat Exchanger Element for a Residential Ventilation in a Cold Region  
*Proceeding of the 37th Japan Society of Mechanical Engineers Hokkaido Student Conference*, 2008, pp. 220-221.[In Japanese]
- 33) Kenta Umetsu, **Mohamad Firdaus**, Takanobu Yamada, Kimio Nakanishi  
Frozen-Melting Behavior of a Total Heat Exchanger Element under Cold Conditions  
*Proceeding of the Annual Conference of Japan Society of Mechanical Engineers*, Vol.3, 2008, pp. 19-20.[In Japanese]

#### List of Books

- 1) Editor: Proceedings of UTP-UMP Symposium on Energy Systems 2015 in MATEC WEB OF CONFERENCE
- 2) Firdaus Basrawi, Cindy Binti Olin, A study on fuel properties of agricultural waste in Malaysia, Lambert Academic Publishing. ISBN 978-3-659-91442-3
- 3) Firdaus Basrawi, Mohd Yusof Taib, Ahmad Nazri Mohamed Shukor, How to Build a Thermoelectric based Cup Holder with Heating/Cooling Functions, UMP Publisher 2016 (Accepted, Under Publication process)

#### List of Intellectual Property

- 1) PI 2016400019 FILED 29 DECEMBER 2016: A PROCESS FOR REDUCING MOISTURE CONTENT IN HONEY
- 2) Industrial Design 17-00237-0101 FILED 14 MAC 2017: A DEVICE FOR BEE REARING

#### List of Consultancy

- 1) 2018 Energy Audit and Reporting at The Zenith Hotel
- 2) 2018 Energy Audit and Reporting at Synztec Sdn Bhd
- 3) 2017 Energy Audit and Reporting at Kobelco Material Copper Tube Sdn Bhd and Crystal Clear Technology Sdn. Bhd
- 4) 2017 Analysis and Reporting for ECO24 Coating Project
- 5) 2016 Testing & Training of One Unit Steam Boiler at UniKL MITEC Pasir Gudang, Johor UMPH vot: UCT160109
- 6) 2016 Energy Audit and Monitoring of a residential house in Rawang, Selangor. UMPH vot: UCT 160154 UMP/PEN/PERUNDINGAN/2016(54)

#### List of Research / Project

- 1) Investigation on the performance and defrosting effect of a heat exchanger element for a residential ventilation system in a cold region.
- 2) Investigation on the potential of crushed ice made methane hydrate as a gas storage method.
- 3) Performance analysis and optimization of a biogas-fuelled cogeneration system in sewage treatment plants.
- 4) Energy Saving LED lighting installation project for jogging track in UMP Pekan.
- 5) Energy Saving Policy For UMP Pekan



## Communal Activities

### General Community

2017

- 1) Speaker of Workshop in 1st International Meliponine Scientific Conference, Convention & Carnival
- 2) Panel for Meliponine Engineering Chapter for Development of "Blueprint Kelulut Malaysia" by MoA
- 3) MoU between UMP and Persatuan Usahawan Kelulut Pahang (PUKP)
- 4) Panel for Final Year Project at POLISAS

2016

- 1) Repairing a stand alone wind-photovoltaic system at Dusun Nanding Farm Village Hulu Langat
- 2) Advise on the Efficient and Automatic Lamb Roasting Equipment for NASMENZ AGROFARM Enterprise.
- 3) Energy Audit For a Domestic House with high electricity bill. Jalan Ciku, Kemaman.
- 4) Letter of Intent between UMP Researcher and Company Humaira Honey

2015

- 1) Promoter for UMP at Matriculation College Career Fair UMP.02.03/22.12 Jld.21 (59)
- 2) Promoter for UMP at Johor Matriculation College Career Fair UMP.02.03/10.11/1 Jld.5 (32)

2014

- 1) Meeting with External Examiner and Industrial Panel for Academic Programs in Faculty UMP.14.01/12.20/3 Jld 7 (135)
- 2) Promoter and Secretariat for Innovation & Green Technology Exhibition (IGE2014) UMP.14.01/12.20/3 Jld 7 (83), UMP.14.01/12.20/3 Jld 6 (214)
- 3) Committee member for Semester Assessment Report Taskforce BMM and BMA Program UMP.14.01/12.20/3 Jld 6 (270)

2013

- 1) Promoter for UMP at Pahang Matriculation College Career Fair UMP.02.03/22.12 Jld.17 (37)

2012

- 1) Fasilitator for Finishing School Programme UMP.06.04/13.18 Jld4(94)
- 2) Member of Publicity & Website for 2<sup>nd</sup> International Conference on Mechanical Engineering Research (ICMER2013) UMP.14.01/12.20/03 Jld5(28)

### Research Community

2017

- 1) Editorial Board Member for Global Journal of Energy Technology Research Updates ([www.avantipublishers.com](http://www.avantipublishers.com))
- 2) Secretariat (VIVA-VOCE) For PhD Candidate UMP.20.02/14.12/10 (42)
- 3) Internal Examiner for (VIVA-VOCE) for PhD Candidate UMP
- 4) Reviewing Paper in Renewable Energy Journal (ID: RENE-D-16-02963, )
- 5) Reviewing Paper in Applied Thermal Engineering (ID: ATE\_2017\_2575\_Original\_V1)
- 6) Reviewing Paper in International Journal of Engineering Technology (ID: IJETS-2017-08-15)
- 7) Reviewing Paper in Symposium on Energy System 2017
- 8) Reviewing Paper in Propulsion Power Research (ID: PPR-2017-0019)
- 9) Reviewing Paper in Energy Journal (ID: EGY-D-17-01823, EGY-D-17-02801)

2016

- 4) Editorial Board Member for *Global Journal of Energy Technology Research Updates* ([www.avantipublishers.com](http://www.avantipublishers.com))
- 5) Reviewer of a book chapter Thermodynamics and Sustainable Development, UTM Press. UTM.J.09.18/18.10/27/7/218 Jld. 7(96)
- 6) Reviewer for Energy (Elsevier)  
Manuscript Number: EGY-D-15-04850, EGY-D-15-04850R1, EGY-D-15-05003, EGY-D-15-05003R1, EGY-D-16-00015, EGY-D-16-00015R1, EGY-D-16-00952, EGY-D-15-04850R1, EGY-D-16-02565, EGY-D-16-03093, EGY-D-16-02685
- 7) Reviewer for Renewable Energy (Elsevier)  
Manuscript Number: RENE-D-15-01895R1
- 8) Reviewer for Applied Energy (Elsevier)  
Manuscript Number: APEN-D-15-04606R1  
Reviewer for Jurnal Teknologi Manuscript Number: PUTM/ED/06/2

## 2015

- 1) Editorial Board Member for Global Journal of Energy Technology Research Updates (www.avantipublishers.com)
  - 1) Reviewer for National Conference for Postgraduate Research  
Manuscript Number: NCON-PGR-E02-020, NCON-PGR-E02-021
  - 2) Reviewer for International Conference on Mechanical Engineering Research 2015  
Manuscript Number: P014, 017, 025, 036, 015, 136, 139, 142, 149.
  - 3) Reviewer for Energy (Elsevier)  
Manuscript Number: EGY-D-14-04453, EGY-D-14-04453R1, EGY-D-14-04453R2, -D-14-04453R3, EGY-D-15-01972, EGY-D-15-02242, EGY-D-15-02242R1, EGY-D-15-02242R2
  - 4) Reviewer for Renewable Energy (Elsevier)  
Manuscript Number: RENE-D-15-01895
  - 5) Reviewer for Applied Energy (Elsevier)  
Manuscript Number: APEN-D-15-04606
  - 6) Co-Chair of UTP-UMP Symposium on Energy Systems 2015.

## 2014

- 1) LoU Between UIA Researcher and UMP Researcher UMP.14.01/22.10/4(90)
- 2) Chairman for Pre-Viva Session UMP.14.01/12.20/3 Jld 7 (72)
- 3) Internal Examiner for Viva Session UMP.20/14.14/14.12/09
- 4) Volunteer for Flood Disaster UMP.14.01/27.11(29)
- 5) Thesis Examiner for Master Candidate UMP.20/14.00/14/1/2, UMP.20/12/12.11/2/7
- 6) Editorial Board Member for *Global Journal of Energy Technology Research Updates* (www.avantipublishers.com)
- 7) Reviewer for Energy and Buildings (Elsevier)  
Manuscript Number: ENB-D-14-00306, ENB-D-14- 00522, ENB-D-00522R1, ENB-D-14-01217
- 8) Reviewer for Energy (Elsevier)  
Manuscript Number: EGY-D-14-00358, EGY-D- 13-03112R1, EGY-D-14-01885, EGY-D-14-04453
- 9) Reviewer for Journal of Electrical and Electronics Engineering Research  
Manuscript Number: 05.02.14.0496
- 10) Reviewer for Sustainable Energy Technologies & Assessments (Elsevier)  
Manuscript Number: SETA-D-14-00049
- 11) Reviewer for International Journal of Electrical Power and Energy Systems (Elsevier)  
Manuscript Number: IJEPES-D-13-01976
- 12) Reviewer for Environmental Engineering and Management Journal (ISI indexed)  
Manuscript Number: 997
- 13) Reviewer for British Journal of Applied Science & Technology  
Manuscript Number: 2014\_BJAST\_14772
- 14) Panel for Thesis and Viva Session for a Master Student in UMP (15<sup>th</sup> May 2014)
- 15) Chairman of Pre-Viva Session for a Master Student in UMP (21<sup>st</sup> May 2014).
- 16) Reviewer for International Workshp on Mechanical Engineering (Istanbul Turkey)  
Manuscript Number: 327, 328, 380
- 17) Reviewer for International Journal of Electrical Power & Energy Systems (Elsevier)  
Manuscript Number: IJEPES-D-13-01976
- 18) Reviewer for International Conference on Automotive Innovation and Green Energy Vehicle.  
UMP.14.04/20.11/2/20(4)  
Manuscript Number: P41, 78, 99, 100, 104, 106, 123, 153, 166.
- 19) Reviewer for IEEE Scored  
Manuscript Number: 1570015491, 1570029985

## 2013

- 1) LOU between UTP Researcher with UMP Researcher UMP.14.01/22.10/4(62)
- 2) Reviewer for Energy and Buildings (Elsevier)  
Manuscript Number: ENB-D-13-00212, ENB-D-13-00675, ENB-D-13-00212R1, ENB-D-13-01548
- 3) Reviewer for Energy (Elsevier)  
Manuscript Number: EGY-D-13-01558, EGY-D-13-01625, EGY-D-13-03112
- 4) Reviewer for International Journal of Automotive and Mechanical Engineering  
Manuscript Number: 1306084, 1306095, 1306097, 13060102, 13060113, 13060119, 13060120, 13060121
- 5) Reviewer for Journal of Mechanical Engineering and Sciences  
Manuscript Number: 1302082, 1302086, 1302095, 1302096, 1302099, 1302101, 1302104, 1302118
- 6) Reviewer for 2<sup>nd</sup> International Conference on Mechanical Engineering Research (ICMER 2013)  
RV1.14.01/20.11/2Jld7
- 7) Reviewer for 3<sup>rd</sup> International Conference and Exhibition on Sustainable Energy and Advanced Material 2013 (ICE-SEAM 2013)

Manuscript Number: 1569754981, 1569789825, 1569790783.

8) Chairman of Pre-Viva Session for a Master Student in UMP, UMP.14.01/12.20/3 Jld 6 (162)

### Awards / Research / Achievements

- |  |      |
|--|------|
| 1) Miura Award, Japan Society of Mechanical Engineers  | 2010 |
| 2) Excellent Award, Kitami Institute of Technology   | 2011 |
| 3) Cendekia Bitara Award (Journal), University Malaysia Pahang UMP.0522.12/cendekia2012(46)      | 2012 |
| 4) Graduate On Time Award, University Malaysia Pahang  | 2013 |
| 5) Cendekia Bitara Award (Journal Category), University Malaysia Pahang                          | 2013 |
| 6) Cendekia Bitara Award (Journal Category), University Malaysia Pahang UMP.05/21.19/ (81)       | 2014 |
| 7) Excellent Service Award (APC), University Malaysia Pahang UMP(S)02.01/12.25/1 Jld 4 (10)      | 2014 |
| 8) Cendekia Bitara Award (Journal Category), University Malaysia Pahang UMP.05/21.19             | 2015 |
| 9) Silver and Bronze Medal in Creation, Innovation, Technology & Research Exposition 2015 (UMP)  | 2015 |
| 10) Outstanding Reviewer Award by ENERGY JOURNAL (Elsevier)                                      | 2015 |
| 11) Bronze Medal in Creation, Innovation, Technology & Research Exposition 2016 (UMP)            | 2016 |
| 12) Outstanding Reviewer Award by APPLIED ENERGY JOURNAL (Elsevier)                              | 2016 |
| 13) Silver Medal in International Stingless Bees Conference & Workshop 2017                      | 2017 |
| 14) Cendekia Bitara Award (Journal Category), UMP  | 2017 |
| 15) Silver and Bronze Medal in Creation, Innovation, Technology & Research Exposition 2016 (UMP) | 2017 |