



Dr. Gan Leong Ming
Senior Lecturer
Faculty of Mechanical Engineering,
Universiti Malaysia Pahang,
26600 Pekan, Pahang,
MALAYSIA.
Tel: 609-424 6313, Fax: 609-424 6222
Email: ming@ump.edu.my

Academic Qualification

phD | Automotive | "Development of Dish-Stirling Concentrating Solar Thermal-Electric Energy Conversion System | 2012

M.Eng. | Automotive | "The Development of a New Blower Assisted Scavenging System for Two Stroke Petrol Engine" | Universiti Teknologi Malaysia | 2006

B. Eng. | Mechanical Engineering (Automotive) | Universiti Teknologi Malaysia | 2003

Brief Profile

Has been working in Faculty of Mechanical Engineering since 2008. Currently have 5 master degree students, working in the areas of renewable energy (biomass) and vehicle dynamics.

Working Experiences / Appointment

Design Engineer, IA Engineering Sdn. Bhd. (2003 to 2005)

Research Assistant, Faculty of Mechanical Engineering, Universiti Malaysia Pahang (April 2005)

Tutor, Faculty of Mechanical Engineering, Universiti Malaysia Pahang (May to September 2005)

Lecturer, Faculty of Mechanical Engineering, Universiti Malaysia Pahang (October 2005 till present)

Expert Area

Automotive, biomass

Research Interest

Internal Combustion Engine, Automotive Technology, **Stirling Engine**, Vehicle Dynamics, **Concentrating Solar Thermal Energy**, **Biomass Energy**, Hybrid & Electric Vehicle, Machine and System Prototyping

Research Project / Grant

Research ID	Research Title	Position
RDU131401	Development of ultrasonic superfine waste biomass particles pulverisation equipment for multiple energy conversion utilisation	Project leader
RDU130130	The influent of driving behaviour factors to road vehicle safety and accident reduction	Project leader
RDU120335	Development of plug in hybrid air motorcycles based on single cylinder small volumetric displacement 4 stroke engine compressor	Project leader
RDU110321	Experimental study on a novel six-stroke internal combustion	Project leader

	engine cycle with water injection for exhaust heat recovery	
RDU070303	The development of the electric energy management system for series hybrid electric vehicle	Project leader
RDU130319	Design online English language courses for staff development	Researcher
RDU1303127	Development of multi-axial fatigue modelling for lightweight automotive suspension components	Researcher
RDU1403110	Fundamental study of thermos-physical properties and forced convection heat transfer rate bioglycol based nanofluids coolant	Researcher
RDU130313	Development of fuel testing system on chassis dynamometer for compressed natural gas direct injection powered vehicle	Researcher
RDU120352	Development of plug in hybrid single cylinder four stroke motorcycle with alternative drivetrain	Researcher
RDU130391	Fundamental study of EG based nanofluids for application in automotive cooling system	Researcher
RDU090343	Experimental study of an energy performance of hybrid electrical vehicle system	Researcher
RDU140302	Experimental study on exhaust gas recirculation (EGR) with liquefied petroleum gas (LPG) on-board injection operating with a single cylinder diesel engine	Researcher
RDU130135	Concentrating solar thermal-powered biomass syngas modelling process for green electricity generation	Researcher
RDU140378	Turbocharger performance map and engine modelling for turbo engine	Researcher
RDU130303	Pembangunan kerusi boleh alih (X-axis, Y-axis dan Z-axis) untuk pelajar kenit Zulhanif Sekolah Menengah Kebangsaan Pekan	Researcher
RDU130134	The effect of steam injection on power and emission of hybrid air-diesel engine sing steam injector	Researcher
RDU130393	Characteristiction of engine oil with nano particle as an additives	Researcher
RDU1403130	Designing and evaluating the problem based learning in air conditioning and refrigeration module for group training course at UMP	Researcher
RDU090395	Development of water technology thermos explosive energy injector for alternative fuel application	Researcher
RDU030209	A new design of a 2-stroke modular engine for multipurpose usage with lean burn capabilities	Researcher

Professional Qualification / Membership / Affiliation / Experience

International Committee

Member for Society of Automotive Engineer

National Committee

Member for Board of Engineer Malaysia (Member number : 43727)

Teaching Experience

Degree - BMM 2513 – Thermodynamics 1 – Laboratory, Tutorial, Lectures (till 2005)

Degree - BMM 2523 – Thermodynamics 2 – Tutorial, Lecturers (till present)

Degree - BMA 4703 – Automotive Technology Laboratory, Lectures (till present)

Degree - BMA 4723 – Vehicle Dynamics, Laboratory, Lectures (till present)

Degree - BMA 4733 – Automotive Design & Styling, Laboratory, Lectures (till 2008)

Degree - BMM 4912 – Final Year Project 1 (till present)

Degree - BMM 4924 – Final Year Project 2 (till present)

Post Graduate Supervision

PHD

Muhammad Ehtesham UI Haque- Computational Fluid Dynamics (CFD) for flow patterns and heat transfer in air conditioning systems (Co-supervisor)

Faizil bin Wasbari- Development of air-compressed hybrid six stroke engine by combined compressed exhaust recovery and internal combustion engine (Co-supervisor)

Abdolbaqi Mohammed Khdher- Combustion and emission characteristic of internal combustion engine operating with oxygenated fuel (Co-supervisor)

MASTER DEGREE

Tanti Zanariah binti Shamshir Ali- Development of hybrid solar thermal energy storing system for modular concentrating solar thermal (Co-supervisor)

Teoh Sun Jie- Development of small volumetric displacement motorcycle plug in hybrid electric system using PID unit (Co-supervisor)

Mohd Farid bin Zainudin- Development of multiple-source heat supply small capacity Stirling engine (Co-supervisor)

Billy Anak Sup-Development of concentrating solar collector system for renewable energy generation (Main supervisor)

Norlida binti Jamil- Electromagnetic force generation for dynamic modal testing applications (Co- supervisor)

Zailini binti Mohd Ali- Experimental study of an energy performance of hybrid electrical (HEV) system (Main supervisor)

Zarina Amat Jafar- Development of plug-in hybrid air motorcycle based on single cylinder small volumetric displacement four stroke engine-compressor (Co-supervisor)

Teo Sir Hiang- Evaluation on the influence of driving behaviour mapping on human factor related road accident prevention (Main supervisor)

Tan Kee Voon- Development of solid briquette biomass downdraft gravity gasification for syngas generation (Main supervisor)

Yap Shin Yee- Development of automotive high technology hybrid electric vehicle competent technical skill-based training system for industry application (Main supervisor)

Gan Hui Leng- Experimental analysis of the grinding performance for multiple biomass waste resources (Main supervisor)

Law Hoon Chit- Experimental evaluation on the performance of waste biomass charcoal formation and combustion characteristics (Main supervisor)

Degree / Final Year Supervision

“Design, analysis and development of a swing arm type rear suspension system for in campus vehicle (IV)”, Shahril Bin Azizi, 2006.

“Development of the completed front suspension system for in campus vehicle (IV)”, Hazrin Bin Ab Dulhamid, 2006.

“Evaluation of Small Displacement Two-Stroke Engine Scavenging Flow Characteristic Using CFD Method”, Hazli Syah Bin A'Zib, 2007

“Stress Analysis Study on In Campus Vehicle (IV) Chassis Design”, Mohd. Hisham Fazlee Bin Sudin, 2007

- “Conceptual Design of the Genset Carburetor For Alcohol Application”, Mohd. Shahfril Mohd Apandi, 2007
- “Evaluation of Petrol Engine Performance Using Mathematical Approach”, Mohd. Huzairi Bin Rusli, 2007
- “Computational Fluid analysis on single cylinder four stroke engine gas exchange process”, Umar Bin Yunos, 2007
- “In Campus Vehicle Dynamics analysis Via Simulation Tool”, Abdul Hadi Bin Zakariah, 2007
- “Diesel engine performance analysis using mathematical approach”, Choo Kim Hock, 2007
- “Analysis of gas exchange process for single cylinder four stroke petrol engine”, Khaironi Binti Mat Jelani, 2007
- “In-cylinder Flow Modeling of 4-Stroke Gasoline Engine Using Computational Fluid Dynamics (CFD)”, Anis Amilah Bt Ab Rahman
- “Intake Valve Flow Optimization for Single Cylinder Four Stroke Petrol Engine”, Azzah Fadhilah Bt Ramly, 2008
- “Design and Development of Single Seater Electric Scooter for Short Distance Application”, Abdul Hafiz Bin Ramli, 2008
- “Design and Simulation of Front Air Dam for Proton Persona”, Ahmad Sapuan Bin Hasan, 2008
- “Development of 10cc volumetric displacement 4 stroke petrol model engine : main block and reciprocating parts” Muhammad Asyraf Bin Roslan, 2008
- “Development of 10cc volumetric displacement 4 stroke petrol model engine : stationary and reciprocating parts” Muhammad Jamil Bin Zakaria, 2008
- “Analysis of Proton Persona Side Door Impact Using Simulation Tools” Raja Ashrafuzzaim Bin Raja Zolkipli, 2008
- “Experimental Analysis on the Tire Slips Performance on the Straight Road Manuever” Tan Thang Wu, 2014
- “Evaluation of Water Quality of Variation of Flow Rate with Reduction of Nitrate in Water from Fish Pond” Tan Kee Voon, 2014
- “Damping Rate Compression for Passive and Semi-active Suspension System using Different Concentration of Magneto-rheological Fluid” Azirah bt Hazemi, 2014
- “Evaluation of Portable Aquaponics Unit: Performance of Gravity Flow Plantation System” Micheal Anak Jangi, 2014
- “Development of Pelton Wheel Powered Mechanical Water Pumping System” Tan Hong Boon, 2014
- “Experimental Anlaysia on the Performance of Waste Biomass Grinding Process” Gan Hui Leng, 2014
- “Experimental Anlaysia on the Performance of Waste Biomass Solid Fuel Combustion Characteristics” Law Hoon Chit, 2014
- “Experimental Evaluation of the Performance of Suspension System to Car Body Rotational Vibration Responses” Teoh Ing Hooi, 2014
- “Evaluation on the Influent of New to aged Road Roughness to Car Body Translational Vibration” Ahmad Bazli bin Abd Malek, 2014
- “Development and Performance Evaluation of the CNG Fuelling System” Mohd Shahmi bin Shahirin, 2014

- “Comparative Analysis for Electric Vehicle Battery Heat Management using Liquid-based and Air-based Cooling System” Yap Shin Yee, 2014
- “Performance of Solar-DC Pump System for Aquaponic” Muhammad Amirul Azwan bin Azmi, 2014
- “Experimental Analysis on the Influent of Road Roughness to Steering Vibration” Vincent Tiong Kung Yin, 2014
- “Computational Analysis on Stirling Engine Performance using Single Dimensional Approach” Teo Sir Hiang, 2014
- “Development of Four Wheels Space-frame Chassis for Hybrid Air Motorcycle” Mohammad Arshad bin Sani, 2014
- “Driving Behaviour Analysis: Influent of Driver’s Gender and Age Factor in Normal Road Maneuver” Nur Naqiaie Yuddin bin Nor Adzhar, 2014
- “Driving Behaviour Analysis: Influent of Driver’s Activities in Normal Road Maneuver” Siti Farahin binti Ismail, 2014
- “Experimental evaluation on the biomass briquette binding performance using high speed grinding and high pressure densifier” Mohd Shahrul Izuan bin Abd Rahman, 2015
- “Experimental analysis on the driving behavior: Rural, city and highway case study” Muhamad Syazwan bin Zolkafli, 2015
- “Development of small- size steam boiler for piston-powered small volumetric engine-electric generator” Khor Boon Huat, 2015
- “Experimental analysis on the driving behavior: age, gender and driving experience case study” Ellyza Syuhaida bt Mohd Zainuddin, 2015
- “Development of compressed air-driven and steam powered compatible small volumetric engine for electricity generation” Thong Keng Hern, 2015

List of Publications

- Rosli Abu Bakar, Chin Kok Leong, Mohd Fadzil Abd Rahim & Gan Leong Ming, “ Flow Analaysis of New Two Stroke Engine Desiign Using Computational Fluid Dynamic”, The 3rd International Conference on Numerial Analysis Engineering (NAE 2003), Batam, Indonesia,2003.
- Rosli Abu Bakar, Chiew Chen Wee & Gan Leong Ming, “Heat Transfer Analysis in Air Cooled Two Stroke Engine Prototype “, Engineering and Technology Conference 2003 (EnTech 2003), Serawak, Malaysia, 2003
- Rosli Abu Bakar, Mohd Fadzil Abd Rahim & Gan Leong Ming, “ Effect of Heat Transfer on Cylinder Wall During Cooling Process Using Computational Fluid Dynamic (CFD)”, Malaysian Science and Technology Congress (MSTC) 2003, Kuala Lumpur, 2003
- Rosli Abu Bakar, Devarajan Ramasamy & Gan Leong Ming, “ Design of Compressed Natural Gas (CNG) Mixer Using Computational Fluids Dynamics” , BSME-ASME International Conference on Thermal Engineering, Dhaka, 2004.
- Rosli Abu Bakar, Mohd Fadzil Abd Rahim & Gan Leong Ming, “ The Study On Using Statistical Method in Calibrating the Ignition Control System Spark Timings”, BSME-ASME International Conference on Thermal Engineering, Dhaka, 2004.
- Rosli Abu Bakar, Gan Leong Ming, Wong Hong Mun, Deverajan a/l Ramasamy, Mohd. Fazli Bin Ismail, “Intelligent Height and Reach Adjustable Electronic Chair for Children with Dwarfism (ZUMP)”, UMP Journal 2007

- Gan Leong Ming, Rosli Bin Abu Bakar, Mohd. Shahrir Bin Mohd. Sani, Muhammad Asyraf Bin Roslan, Muhammad Jami Bin Zakaria, "Development of 10cc Volumetric Displacement Four Stroke Model Engine", Costam 2008, KLCC
- Gan Leong Ming, Mohd. Shahrir Bin Mohd. Sani, Rosli Bin Abu Bakar, Mohd. Fazli Bin Ismail "Development of Alternate Hybrid Electric Vehicle (A-HEV) : Main Chassis Construction and Body Design" ICSTIE 2008, UITM, P.Pinang
- M.S.M.Sani, G.L.Ming, M.M.Rahman, A.S.Sulaiman, T.T.Mon, K.Kadirgama and M.M.Noor, "Dynamic Correlation Technique and Model Updating on Go-Kart Chassis Structure" ENCON 2008, Unimas, Sarawak
- Gan Leong Ming, Rosli Abu Bakar, Mohd. Shahrir Bin Mohd Sani, Umar Bin Yunos, Khaironi Binti Mat Jelani, A.F.R.Ramli, "Experimental and Computational Fluid Dynamics Analysis of 100cc Single Cylinder Petrol Engine Intake Air Flow, ENCON 2008, Unimas Sarawak
- Rosli Abu Bakar, Wong Hong Mun and Gan Leong Ming, "Scavenge Port to Promote Tumble Flow of New 2 Stroke Modular Engine", APCSEETE 2005, Hong Kong
- M.S.M.Sani, L.W.Tuck, G.L.Ming, M.Y.Taib and M.N.O.Zahid, "Investigation of Strength and Flexibility of UMP Go-Kart Chassis Design" MSTC 2008, KLCC
- Rosli Abu Bakar, Wong Hong Mun & Gan Leong Ming, "Simulaton Analysis of In Cylinder Scavenge Flow of New Stroke Modular Diesel Engine", 7th Asia Pacific International Symposium on Combustion and Energy Utilization, Hong Kong, 2004.
- Rosli Abu Bakar, Wong Hong Mun & Gan Leong Ming, "Scavenge Port to Promote Tumble Flow of New 2-Stroke Modular Engine", The 5th Asia Pacific Conference on Sustainable Energy and Environmental Technologies (APCSEET), New Zealand, 2005.
- Gan Leong Ming. "Conceptual Design of Photothermal Electrochemical Water Resonant Electrolysis", National Conference in Mechanical Engineering Research and Postgraduate Studies (2nd NCMER 2010), UMP Pekan, Pahang.
- Gan Leong Ming, Rosli Abu Bakar. "Development of Multi Duty Cycle Sequential Gated Pulse Frequency Generator for Resonant Electrolysis", National Conference in Mechanical Engineering Research and Postgraduate Studies (1st NCMER 2010), FKM Conference Hall, UMP, Pahang
- Teoh Sun Jie, Rosli Abu Bakar, Gan Leong Ming. "Computational Analysis on Plug-in Hybrid Electric Motorcycle Chassis", International Conference in Mechanical Engineering Research (ICMER2013), Bukit Gambang Resort City.
- Mohd Farid Zainudin, Rosli Abu Bakar, Gan Leong Ming, Tanti Zanariah Shamshir Ali, Billy Anak Sup. "Design and Stress Simulation of Crankshaft for Slider Crank-drive Stirling Engine", 3rd International Conference and Exhibition on Sustainable Energy and Advanced Material 2013 (ICE-SEAM 2013), Melaka International Trade Center (MITC).
- Tanti Zanariah Shamshir Ali, Rosli Abu Bakar, Gan Leong Ming, Billy Anak Sup, Mohd Farid Zainudin. "Investigation of Potential Waste Insulating Material Properties with Different Heat Transfer Fluid for Thermal Storage Application", International Conference in Mechanical Engineering Research (ICMER2013), Bukit Gambang Resort City.
- Akasyah M. Khathri, Rizalman Mamat, Abdul Adam Abdullah, Gan Leong Ming, Azri Alias. "Effect of Compression Ration on Compression Ignition Engine Performance Operating with Biofuel", International Conference on Automotive Innovation and Green Energy Vehicle, 2014, Kuantan, Pahang.

Gan L.M., Gan H.L. and Rosli A.B. "Development of newly designed combined grinding equipment" International Conference on Energy and Sustainability 2014.

Gan L.M., Law H.C. and Rosli A.B. "Development of a briquetting facility with the integration of a hydraulic system for biomass densification" International Conference on Energy and Sustainability 2014.

JOURNALS

Rosli Abu Bakar, Gan Leong Ming, Wong Hong Mun, Devarajan a/l Ramasamy, Mohd. Fazli Bin Ismail 2008 "Intelligent Height and Reach Adjustable Electronic Chair for Children with Dwarfism (ZUMP)" UMP Journal 2008

"Analysis of Injection Systems" American Journal of Applied Science 2005

"Diesel Engine Converted to Port Injection CNG Engine using Gaseous Injector Nozzle Multi Holes Geometries Improvement: A Review" American Journal of Applied Sciences 2008

"Computer Modelling for 4 Stroke Direct Injection Diesel Engine" Advanced Material Research 2008

"Simulation Investigation of Intake Static Pressure of CNG Engine" Jurnal International Review on Modelling and Simulations 2008

"Engine Cylinder P-V Diagram of Diesel Engine Converted to CNG Engine" Jurnal of Engineering and Applied Sciences 2008

"Combustion Temperature Effect of Diesel Engine Convert to CNG Engine", American Journal of Applied Sciences 2008

"Effect of Diesel Engine Converted to Compressed Natural Gas Engine on the Cylinder Pressure VS Crank Angle in Variation Engine Speeds" American Journal of Applied Sciences 2008

"A Technical Review of Compressed Natural Gas as an Alternative Fuel for Internal Combustion Engine" American Journal of Applied Sciences 2008

"Investigation of Torque Performance on the Sequential Injection CNG Engine Development" Jurnal of Engineering and Applied Sciences 2008

"Direct Torque Control for Matrix Converter-fed Three-phase Induction Motor with Hybrid PSO" Journal of Theoretical and Applied Information Technology 2010

"A Smart Energy Management System for Monitoring and Controlling Time of Power Consumption" Scientific Research and Essays 2011

"Issues of Matrix Converters Technical Review" International Journal of the Physical Science 2011

"Effect of Dry Ice Application in Fish Hold of Fishing Boat on the Fish Quality and Fishermen Income" Science Publication 2011

List of Books

"Automotive Technology", OUM, 2005

List of Consultancy

National Science project with Sekolah Menengah Kebangsaan Abdual Rahman Talib – Project Leader

Non Disclose Agreement on New Solar Power Technology Development : RM500,000.00 Year 2010 till now

List of Research / Project

Title	Design and Development of New Two-Stroke (80 to 125cc) Stratified- Charge, Lean-Burn Gasoline Engines
From	2002
To	2005
Position held	Researcher
Major output	New Design Two Stroke Engine

Title	New Design of a 2-Stroke Modular Engine for Multipurpose Usage with lean burn capability
From	2005
To	2006
Position held	Researcher
Major output	New Design of a modular two stroke diesel Engine

Title	Design and development of In campus vehicle (IV) for UMP application
From	2006
To	2007
Position held	Head of Project
Major output	New Design of an electric vehicle for campus utilisation

Title	Intelligent Height and Reach Adjustable Electronic Chair for Children with Dwarfism (ZUMP) (RDU07/03/33)
From	2006
To	2007
Position held	Researcher
Major output	New Design of a special classroom based electric chair for special community

Title	The development of the electric energy management system for series hybrid electric (RDU 07/03/03)
From	2007
To	2008
Position held	Head of Project
Major output	Improvement of Electric vehicle into hybrid electric

	vehicle
--	---------

Title	Development of FKM 660cc high speed buggy
From	2007
To	2008
Position held	Researcher
Major output	New Design of a local buggy with turbocharged 660cc engine

Title	Design and Development Simple Electric Wheelchair for Disable Community (ZUMP-3)
From	2008
To	2008
Position held	Researcher
Major output	New Design of a low cost electric wheelchair for disable community

Title	Little Mantis : The short mobility electric Scooter development
From	2008
To	2008
Position held	Head of Project
Major output	New Design of a low cost electric scooter

Title	Development of 10cc Volumetric Displacement Four Stroke Petrol Model Engine. Main Block and Reciprocating Parts
From	2008
To	2008
Position held	Head of Project
Major output	New Design of a 10cc mini engine

Title	Development Of Hydrogen Energy Conversion System For Green Power Generation
From	2008
To	2010
Position held	Researcher
Major output	New method for hydrogen fuel extraction

Title	The Development of The Electric Energy Management System for Series Hybrid Electric Vehicle (RDU070303)
From	2007
To	2010
Position held	Researcher
Major output	Control System
Title	Development of Water Technology Thermo Explosive Energy Injector for Alternative Fuel Application (RDU090935)
From	1 May 2009
To	31 Dec 2011
Position held	Researcher
Major output	Injector

Title	Experimental Study of an Energy Performance of Hybrid Electrical Vehicle System (RDU090343)
From	1 May 2009
To	31 Oct 2011
Position held	Researcher
Major output	-

Title	Experimental Study on a Novel Six-Stroke Internal Combustion Engine Cycle with Water Injection for Exhaust Heat Recovery (RDU110321)
From	1 July 2011
To	1 July 2013
Position held	Project Leader
Major output	Novel Six Stroke Engine

Title	Development of Plug In Hybrid Single Cylinder Four Stroke Motorcycle With Alternative Drivetrain (RDU120352)
From	1 Jun 2012
To	31 Mei 2014
Position held	Researcher
Major output	Two Wheel Hybrid Electric Motorcycle

Title	Development of Plug In Hybrid Air Motorcycles Based
-------	---

	in Single Cylinder Small Volumetric Displacement 4 Stroke Engine Compressor (RDU120335)
From	1 Jun 2012
To	28 Feb 2015
Position held	Project Leader
Major output	Hybrid air motorcycle

Title	Pembangunan Kerusi Boleh Alih (X-Axis, Y-Axis dan Z-Axis) Untuk Pelajar Kenit Zulhanif Sekolah Menengah Kebangsaan Pekan (RDU130303)
From	15 Feb 2013
To	31 July 2013
Position held	Researcher
Major output	Adjustable chair

Title	Development of Fuel Testing System on Chassis Dynanometer for Compressed Natural Gas Direct Injection Powered Vehicle (RDU130313)
From	15 May 2013
To	14 May 2015
Position held	Researcher
Major output	Fuel Testing System

Title	Design Online English Language Courses for Staff Development (RDU130319)
From	25 May 2013
To	24 May 2015
Position held	Researcher
Major output	Online courses

Title	Development of Ultrasonic Superfine Waste Biomass Particles Pulverisation Equipment for Multiple Energy Conversion Utilisation (RDU131401)
From	17 Sep 2013
To	16 Sep 2015
Position held	Project Leader
Major output	Comminution facility

Title	Fundamental Study of EG Based Nanofluids for
-------	--

	Application in Automotive Cooling System (RDU130391)
From	25 Nov 2013
To	24 Nov 2015
Position held	Researcher
Major output	Nanofluid properties

Title	Characteristiction of Engine Oil with Nano Particle as Additives (RDU130393)
From	25 Nov 2013
To	24 Nov 2015
Position held	Researcher
Major output	Engine oil properties

Title	The Effect of Steam Injection on Power and Emission of Hybrid Air-Diesel Engine using Steam Injector (RDU130134)
From	1 Dec 2013
To	30 Nov 2016
Position held	Researcher
Major output	-

Title	The Influent of Driving Behaviour Factors to Road Vehicle Safety and Accident Reduction (RDU130130)
From	1 Dec 2013
To	30 Nov 2016
Position held	Project Leader
Major output	-

Title	Concentrating Solar Thermal-Powered Biomass Syngas Modelling Process for Green Electricity Generation (RDU130135)
Title	Development of Multiaxial Fatigue Modelling for Lightweight Autootive Suspension Components(RDU1303127)
From	1 Dec 2013
To	30 Nov 2016
Position held	Researcher
From	25 Dec 2013
Major output	-
To	24 Dec 2015

Position held	Researcher
Major output	-

Title	Experimental Study on Exhaust Gas Recirculation (EGR) with Liquefied Petroleum Gas (LPG) on-board Injection Operating with a Single Cylinder Diesel Engine (RDU140302)
From	15 Jan 2014
To	14 Jan 2016
Position held	Researcher
Major output	-

Title	Turbocharger Performance Map and Engine Modelling for Turbo Engine (RDU140378)
From	5 Jun 2014
To	4 Jun 2016
Position held	Researcher
Major output	-

Title	Fundamental Study of Thermo-physical Properties and Forced Convection Heat Transfer Rate Bioglycol Based Nanofluids Coolant (RDU1403110)
From	25 Oct 2014
To	24 Oct 2016
Position held	Researcher
Major output	-

Title	Designing and Evaluating the Problem Based Learning
-------	---

	in Air Conditioning and Refrigeration Module ofr Group Training Course at UMP (RDU1403130)
From	15 Nov 2014
To	14 Nov 2016
Position held	Researcher
Major output	-

Awards / Research / Achievements

Title	Design and Development of Auxilliary Components for New Two Stroke, Stratified Charge, Lean-Burn Gasoline Engines (IRPA RM2,006,000.00)
From	2002
To	2005
Position held	Researcher
Major output	i. New Design Two Stroke Engine ii. Publication several papers in journals/proceedings
Achievement	Anugerah Penerbitan Naib Canselor 2002, UTM Anugerah Penerbitan Naib Canselor 2003, UTM Anugerah Inovasi FKM, UTM 2002

Title	Design and Development of New Two-Stroke (80 to 125cc) Stratified- Charge, Lean-Burn Gasoline Engines (IRPA RM3,900,000.00)
From	2002
To	2005
Position held	Researcher
Major output	New Design Two Stroke Engine
Achievement	

Title	Design of ZUMP Chair (RM20,000.00)
From	2005
To	2007
Position held	Researcher
Major output	New Design ZUMP Paper
Achievement	Bronze Medal , MTE KLCC, Kuala Lumpur, 2007

Title	Design and Development of New Modular Engine (ORGS KUKTEM) (RM 90,000.00)
From	2004
To	
Position held	Researcher
Major output	New Design Two Stroke Engine Paper
Achievement	Anugerah Projek Penyelidikan ke Dua Terbaik 2004, KUKTEM, 2004 Anugerah Projek Penyelidikan Terbaik 2005, KUKTEM Bronze at the 16th International Invention Innovation Industrial Design & Technology Exhibition (ITEX) 2005. Silver at the IPTA R&D EXPO 2005. Bronze Medal “New Design of a 2-Stroke Modular Engine for Multipurpose Usage with Lean Burn Capability “ at Salon International Des Inventions, Geneva 2006

Title	Hybrid Electric Vehicle Development Programme
From	2006
To	2007
Position held	Head of Project (UMP) (RM 30,000.00)
Major output	New Design of Hybrid Electric Vehicle Paper
Achievement	Silver Medal, Anugerah Projek Penyelidikan Terbaik UMP, 2007

Title	Perodua Eo-Challenge 2009
From	2009
To	2009
Position held	Advisor (UMP) (RM 10,000.00 + one unit of Perodua MyVi)
Major output	New Fuel Economy light weight vehicle
Achievement	First Runner Up, Perodua Eco-Challenge 2009
Title	Perodua Eo-Challenge 2010
From	2010
To	2010

Position held	Advisor (UMP) (RM 10,000.00 + one unit of Perodua Viva
Major output	New Fuel Economy light weight vehicle
Achievement	

Title	Perodua Eo-Challenge 2011
From	2011
To	2011
Position held	Advisor (UMP) (RM 17,400.00 + one unit of Perodua Viva Engine+gearbox
Major output	New Fuel Economy light weight
Achievement	Champion in design category

Title	Perodua Eo-Challenge 2012
From	2012
To	2012
Position held	Advisor (UMP) (RM 17,400.00 + one unit of Perodua Viva Engine+gearbox
Major output	New Fuel Economy light weight
Achievement	

Title	Multi- Patient DSP Based Arrhythmias Monitoring System Using a Reliable Wireless Sensor Protocol
Exhibition	Geneva 2009
Level	International
Award	Silver and equivalent

Title	Litter Mantis: Short Mobility Electric Scooter Development
Exhibition	MTE2009
Level	National
Award	Bronze and equivalent

Title	The Development of the Electric Energy Management System for Series Hybrid Electric Vehicle
Exhibition	ITEX 2008

Level	International
Award	Bronze and equivalent

Patents

- i. Design and Development of New Water-Cooled Two Stroke Engine, Vote No. 74516

List of Course / Conference Attended

Date	Program
29 June 2005	EMS Seminar at Shah Alam, VTRD Auditorium
01– 03 June 2005	Kursus P&P (Taxonomi Bloom)
13 – 25 May 2006	Kursus Induksi Modul Umum
09 – 11 May 2006	Kursus Induksi Modul Khusus Kumpulan Pengurusan & Professional dan Kumpulan Sokongan 1
12 – 16 June 2006	VPG Software Training (PJ)
11 – 16 December 2006	Latihan Rekabentuk & Styling Automotif
02 – 08 September 2007	Kursus R&D SLAB
24 – 25 January 2008	A Course on IELTS
03 – 06 June 2008	SMCT PLC1 –PROGRAMMABLE LOGIC CONTROLLERS 1
08-11 July 2008	SMCT PLC2 –PROGRAMMABLE LOGIC CONTROLLERS 2
12-13 December 2008	2 nd International Conference on Science and Technology (ICSTIE2008)
16-17 December 2008	Pembentangan kertas teknikal COSTAM di KLCC
18-20 December 2008	Present technical paper for ENCON2008 at UNiMAS
16 February 2012	Majlis Amanat Tahunan Naib Canselor 2012 dan Majlis Pelancaran Sambutan 10 Tahun UMP
12 September 2012	Syarahan Umum Peringkat Antarabangsa UMP
20-21 October 2012	Bengke Penyediaan Soalan Peperiksaan Akhir Berasaskan Bloom Taxonomy dan OBEI
31 January-	Bengkel Pemantapan Pengajaran, Pembelajaran dan

02 February 2013	Pentadbiran Berasaskan Focus Group
20 February 2013	Majlis Amanat Tahunan Naib Canselor 2013
19-20 July 2013	Bengkel Pembentangan dan Penilaian Kertas Kerja Penyelidikan Siri I 2013
30-31 July 2013	Bengkel Pemurnian Teaching Plan Fakulti Kejuruteraan Mekanikal
29 July 2013	Taklimat Penggunaan Sistem CPD Daripada Pihak BLPK
22-24 August 2013	Bengkel Akademik
27 August 2013	Training on new e-learning system (EDMODO)
20-21 August 2013	Workshop on Paper Writing for Publication in High Impact Journals
12 February 2014	Bengkel e-learning: Pengenalan kepada EDMODO
26-27 February 2014	Kursus Leadership and Management Training-Supervisory Skills
19 February 2014	Majlis Amanat Tahunan Naib Canselor 2014
10 April 2014	Awareness of OBE & EAC
28 August 2014	Townhall Program Kesedaran Audit Kesediaan Autonomi Staf UMP Pekan
19-20 August 2014	Workshop on Creating Learning Objects for MOODLE
26-28 September 2014	Bengkel Kemahiran Sidang Editor
4 December 2014	E-KALAM Training by CAIC
14 January 2015	Training IMS Setup Multiple PO
25 February 2015	Majlis Amanat Tahunan Naib Canselor 2015
2 March 2015	Seminar Taklimat Permohonan Geran KTP, Rolling Kes Tahun 2015

Exhibitions

- “ Design and Development of an Air Cooled Two Stroke Engine” , Industrial Art and Technology Exhibition , INATEX 2002/2003, UTM, Malaysia, 2003.
- “ Design and Development of an Water Cooled Two Stroke Engine”, Virtual Tech Consulting Sdn. Bhd & SIRIM Bhd, Exhibition 2003, SIRIM, Shah Alam, Malaysia, 2003.
- “New Design of a 2-Stroke Modular Engine for Multipurpose Usage with Lean Burn Capability “ at The Anugerah Projek Penyelidikan Terbaik 2004 Exhibition, KUKTEM, Pahang, Malaysia, 2004.

“New Design of a 2-Stroke Modular Engine for Multipurpose Usage with Lean Burn Capability “ at The Anugerah Projek Penyelidikan Terbaik 2005 Exhibition, KUKTEM, Pahang, Malaysia, 2005

“ New Design of a 2-Stroke Modular Engine for Multipurpose Usage with Lean Burn Capability “,Pameran Sains dan Teknologi Peringkat Negeri Pahang, 2005, Kuantan, Pahang, Malaysia, 2005.

“New Design of a 2-Stroke Modular Engine for Multipurpose Usage with Lean Burn Capability “,The 16th International Invention Innovation Industrial Design & Technology Exhibition (ITEX) 2005, PWTC, Kuala Lumpur, Malaysia, 2005.

“New Design of a 2-Stroke Modular Engine for Multipurpose Usage with Lean Burn Capability “ , The IPTA R&D EXPO 2005, Kuala Lumpur, Malaysia, 2005.

“New Design of a 2-Stroke Modular Engine for Multipurpose Usage with Lean Burn Capability “, The Automotive Fiesta Carnival Exhibition, Sepang, Kuala Lumpur, Malaysia, 2005.

ITEX 2005 Exhibition at PWTC. “New design of a two stroke diesel modular engine” (Bronze medal)

IPTA 2005 Exhibition at PWTC. “New design of a two stroke diesel modular engine” (Silver medal)

New Design of a 2-Stroke Modular Engine for Multipurpose Usage with Lean Burn Capability “, The Salon International Des Inventions Exhibitions, Geneva 2006. (Bronze medal)

AUTOMOTIVE FIESTA At Sepang

IP 2007 Exhibition at KLCC. “Intelligent Height and Reach Adjustable Electronic Chair for Children with Dwarfism (ZUMP)”

ITEX 2007 Exhibition at KLCC. “Intelligent Height and Reach Adjustable Electronic Chair for Children with Dwarfism (ZUMP)” (Bronze medal)

ITEX 2008 Exhibition at KLCC. “Design and Development of Alternate Electric and Series Hybrid Buggy (A-HEV)” (Silver medal)

ITEX 2008 Exhibition at KLCC. “Design and Development Simple Electric Wheelchair for Disable Community (ZUMP-3)”

Hari Quality UMP 2008 at UMP. “Hybrid Electric Vehicle Development Program” (Silver medal)

Hari Quality UMP 2008 at UMP. “Development of In-Campus Vehicle (IV) for UMP Application” (Bronze medal)

Malaysia Technology Exhibition, MTE 2009 at PWTC, “Little Mantis : The short mobility electric scooter development” (Bronze medal)

Memenangi Bitara 2008 untuk project A-HEV and 2009 untuk Little Mantis