

## CURRICULUM VITAE

### Mohd Hanif Mohd Ramli

Faculty of Mechanical Engineering

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Date of birth: 27<sup>th</sup> May 1982

Gender: Male

Language: English and Malay

## EDUCATION

**PhD. Functional Control Systems, 2017**

**M. Eng. Mechanical Engineering (Control System), 2009**

**B.Eng. (Hons.) Mechanical Engineering, 2006**

## EXPERIENCE

### **Lecturer (December 2009 - present)**

Faculty of Mechanical Engineering, Universiti Teknologi MARA (UiTM) Shah Alam, Malaysia  
UiTM Shah Alam

### **Mechanical Engineer (Jan 2007-December 2007)**

TMR Urusharta (M) Sdn. Bhd., Damansara Utama, Selangor, Malaysia

### **Project Engineer (July 2006-December 2006)**

IAQ Technology (M) Sdn. Bhd., Kota Kemuning, Seksyen 31, Shah Alam, Malaysia

## PROFESSIONAL AFFILIATIONS

- Board of Engineers Malaysia (Graduate Engineer 65306A)
- IEEE Robotics and Automation Society (RAS)
- World Scientific and Engineering Academy and Society (WSEAS)

## COMPUTER KNOWLEDGE AND SKILLS

- *Computer programming languages*  
C++, Visual Basic, Processing, Arduino IDE
- *CAD/CAM applications*  
AutoCAD (2000), CATIA V5, Solidwork R2011

- *Technical computing, numerical, and Applications*  
MATLAB® & Simulink (R2013a), SciLAB (Ver. 5.3.1), Ansys (Ver. 12) Fortran 77

## **COURSES TAUGHT**

- System Identification
- Dynamics and Vibrations
- Control Engineering
- Engineers in Society
- Applied Mechanics Laboratory

## **CURRENT RESEARCH INTERESTS**

Motion and vibration control, modelling and control of systems and hystereses, unmanned aerial vehicles including autonomous navigation system, radio frequency communication for various applications such as first response system, 3D mapping platform and intelligent monitoring system.

## **FUNDED RESEARCH PROJECTS**

1. A New Robust Active Force Algorithm In High Precision motion Control, **RM40,000** – funded by Fundamental Research Grant Scheme (FRGS), Ministry of Higher Education Malaysia 2011 – 2013, Project Leader (PI)
2. An Active Force Control (AFC) Based Strategy In High Precision Motion System, **RM8,000** –funded by UiTM Seed Fund Grant by RMI, 2011 – 2012, Project Leader (PI)
3. High Resolution Optical Waveguide Tactile Sensing Principle, **RM80,000** – funded by Research Acculturation Grant Scheme (RAGS), Ministry of Higher Education Malaysia, 2012 – 2014, member
4. Modeling And Performance Characterization of A New Dynamic Ankle Foot Orthosis, **RM46,440** – funded by Fundamental Research Grant Scheme (FRGS), Ministry of Higher Education Malaysia, 2010 – 2013, member
5. Bovine Skin Bio-Mechanical Characterisation, **RM52,000** – Fundamental Research Grant Scheme (FRGS), Ministry of Higher Education Malaysia, 2012 – 2015, Member
6. New Approach using PD-active force control (PDAFC) of TRMS, **RM40,000** – Fundamental Research Grant Scheme (FRGS), Ministry of Higher Education Malaysia, 2010 – 2012, member
7. Suction-stretch Theory In Synthesising Composite Membrane Hyperelasticity, **RM80,000** – funded by Exploratory Research Grant Scheme (ERGS), Ministry of Higher Education Malaysia, 2012 – 2015, Member
8. Modeling And Performance Characterization Of A New Dynamic Ankle Foot Orthosis, **RM5,000** – funded by UiTM Seed Fund Grant by RMI, 2011 – 2012, Member

9. The Development of Fixed Base Driving Simulator, **RM32,000** – UiTM Research Initiative Fund (RIF), 2012 – 2014, Member
10. Finite Element Analysis To Determine The Mechanical Properties of Human Skin, **RM6,000** – UiTM Seed Fund Grant by RMI, 2010 – 2013, Member

## **CONSULTATION AND EXPERTISE SERVICES**

1. Technical expertise services – UAV Autonomous Navigation Demonstration, PDRM Bukit Aman, September 2013.
2. Technical expertise services - advise and monitor on development of multi-rotors system for use of aerial filming and conduct stability flight test and check of the platform for the company safe usage, EMOTION Sdn. Bhd., May 2013.
3. Hands on workshop on Mutirotor system – “Mentoring MRSM students: Platform assembly Methods and Configurations,” MyInvent Enterprise, February 2013.

## **ACADEMIC ADVISING**

### ***Graduate Student Advising***

Amiruddin Fikri Hj. Yaakob, MSc (Mechanical Engineering) (Co-supervisor **Masters** Student; graduated September 2014; Engineering Control)

*(Arm exoskeleton for rehabilitation following stroke by learning algorithm prediction)*

Tengku Lukman Tengku Mohammad, MSc (Mechanical Engineering) (Co-supervisor **Masters** Student; graduated December 2015; Engineering Control)

### ***Undergraduate Student Advising (Final Year Project Supervision)***

Mohammad Hazwan Bin Md Yunus (January 2014)

*(Experimental Analysis of Piezoelectric Based Energy Harvester)*

Mohamad Zahid Izzat Bin Zainudin (July 2013)

*(An Advanced Autonomous Aerial Vehicle (UAV) for Urban Search and Rescue)*

Muhammad Wildan Johari (July 2013)

*(Autonomous Watering System for Agriculture)*

Ku Ashraf Bin Ku Ishak (January 2013)

*(The Intelligent Hybrid Active Force Control in Identification of a Nonlinear MIMO System)*

Mohd Radzi Bin Rahmat (January 2013)

*(Computational Analysis of Low Cost Vibration Based Scavenging Energy Harvester (ScEH) Platform)*

Ahmad Zakwan Bin Zainal (January 2013)

*(Computational Analysis of Vibration Based Scavenging Energy Harvester Platform)*

Nabila Bt Mohd Napi (July 2012)

*(A Fundamental Study on The Essence of Proportional-Integral-Derivative Algorithm in Control System)*

Habib Noor Bin Abdul Halim (January 2012)

*(Computational Design and Analysis of a New Actuator System for Ankle Foot Orthosis (AFO))*

Nadiyah Binti Zulkapli (May 2011)

*(A New Robust Algorithm Based On Active Force Control In High Precision Motion)*

Norsyazwani Binti Abdul Wahid (May 2011)

*(A New Motion Control Algorithm for High Precision Orthopedic Surgery)*

Nasrullah Bin Mohamed (May 2011)

*(Modeling and Simulation of an Inchworm-like Microrobotic System using Intelligent Control Architecture)*  
Ahmad Syazwan Bin Kamaruzaman (May 2011)  
*(Performance Characterization of an Inchworm-like Microrobotic System using Intelligent Active Force Control based Algorithm)*

## **SCHOLARLY AND SYNERGISTIC ACTIVITIES**

### ***Event Organizer***

Organizing Committee – German-Malaysian Workshop Series 2013, “System Engineering for Advanced Mechatronics”, The German-Malaysian Workshop Series is the result of a fruitful collaboration of the Faculty of Mechanical Engineering of Universiti Teknologi MARA (UiTM) and the Project Group Mechatronic Systems Design of the Fraunhofer Institute for Production Technology (Fraunhofer IPT). August 2013 <http://gmw2013.wordpress.com/>

Vice Chairman – Joint Workshop Series: II 2013 Robotics in Medical Engineering, June 2013

Organizing Committee – 2012 International Symposium on Robotics and Intelligent Sensors (IRIS2012), September 2012

Organizing Committee – International Conference on Advances in Mechanical Engineering 2010 (ICAME2010), December 2010

### ***Technical Program Committee-Paper Review (TPC) and International Advisory Committee (IAC)***

TPC, 5<sup>th</sup> International Conference on Advances in Mechanical Engineering 2017 (ICAME2017)

TPC, Transaction of Industrial Electronics, Sliding Mode Control Section, 2017.

TPC, International Postgraduate Colloquium on Science and Technology 2014 (IPCOST), April 2014, UiTM Shah Alam, Selangor, Malaysia.

TPC, Colloquium on Administrative Science & Technology 2013 (CoAST2013), September 2013, Kuching, Sarawak, Malaysia.

TPC, 2013 IEEE Symposium on Industrial Electronics & Applications, (ISIEA2013), September 2013, Kuching, Sarawak, Malaysia.

TPC, IEEE Symposium on Humanities, Science and Engineering 2013 (SHUSER2013), June 2013, Penang, Malaysia

TPC, 2013 IEEE Conference on Clean Energy and Technology (CEAT2013), November 2013, Langkawi, Malaysia

TPC, 5th IEEE International Conference on Engineering Education (ICEED2013), December 2013, Kuala Lumpur Malaysia

TPC, 2013 IEEE Symposium on Business, Engineering and Industrial Applications (ISBEIA2013), September 2013, Kuching, Sarawak, Malaysia

TPC, 2012 International Symposium on Robotics and Intelligent Sensors (IRIS2012), September 2012, Kuching, Sarawak, Malaysia

TPC, 2012 IEEE International Conference on Power and Energy (PECON2012), December 2012, Kota Kinabalu, Malaysia

TPC, 2011 IEEE International Colloquium on Humanities, Social Science and Engineering (CHUSER2011), December 2011, Penang, Malaysia

TPC, 2011 IEEE International Symposium on Humanities, Social Science and Engineering (SHUSER2011), June 2011, Kuala Lumpur, Malaysia

TPC, 2011 IEEE International Symposium on Business, Engineering and Industrial Applications (ISBEIA2011), September 2011, Langkawi, Malaysia

### **CRITICAL FACULTY RESPONSIBILITIES**

Deputy Head, Mechatronics, Instrumentation and Control, Centre of Excellence, 2012 – 2013, FKM-UiTM

Panel judge, Knowledge Transfer Program' – KTP2012, UiTM level

Member, New Program Development – Bachelor of Mechanical Engineering (Bio-Mechanics), FKM-UiTM, 2011 – 2012

Course Coordinator, KJM497 (System Dynamics); KJM597 (Control System), FKM-UiTM, 2011 – 2012

Co-Course Coordinator, MEC522 (Control Engineering), 2011-2013, FKM-UiTM

### **NO OF PUBLICATIONS FROM 2010 – 2017;**

Over 25 proceedings and journals papers in various Conferences and publications, among the latest ones are as follow

1. M. H. M. Ramli and X. Chen (in press), "Modeling and control of piezoelectric actuators by a class of differential equations based hysteresis models", Int. J. of Advanced Mechatronic Systems.
2. M. H. M. Ramli and X. Chen, "Control fusion strategy via differential equations based hysteresis operator," 2016 IEEE International Conference on Mechatronics and Automation, ICMA2016, Harbin, 2016, pp. 1445-1450. doi: 10.1109/ICMA.2016.7558776.
3. M. H. M. Ramli and X. Chen, "An extended Bouc-Wen model based adaptive Control for micro-positioning of smart actuators", 2016 International Conference on Advanced Mechatronic Systems, ICAMechs2016, Melbourne, VIC, 2016, pp. 189-194. doi: 10.1109/ICAMechS.2016.7813445.
4. M. H. M. Ramli and X. Chen, "Nonlinear discrete prescribed performance control for Micro-Positioning of Smart Actuators", IEEE 4th International Symposium on Robotics and Intelligent Sensors, IRIS2016.