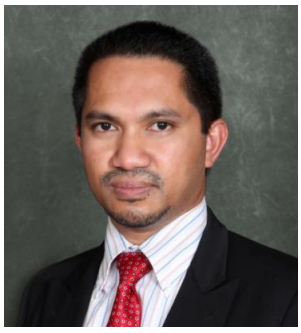
BRIEF CV



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E-mail : morhas@eng.upm.edu.my
Areas of interest: Smart Material, Shape Memory Alloys, Composites, Algae Biofuel

Academic Qualification:

- Phd in Mechanical Engineering**,** University of Sheffield, UK, 2006
- Msc In Mechanical Engineering, Universiti Kebangsaan Malaysia, Malaysia, 2002
- B. Eng (Hons) Mechanical Engineer, University of Northumbria at Newcastle, UK, 1996
- Diploma in Mechanical Engineering, Universiti Teknologi Mara, Shah Alam Malaysia, 1994

Professional Qualification/ Membership/ Affiliation:

- Director, Space Tourism Society Malaysia Chapter (STSMC)
- Director, Society of Advance Material and Processing Engineering (SAMPE) Malaysia Chapter
- Senior Member American Institute of Aeronautics and Astronautics (AIAA)
- Member Malaysian Board of Engineering
- Member Institute of Material Mineral and Mining
- Member Auxetic Material Network

Appointments:

2012-	Coordinator Program Joint Award Research Degree UPM-Sheffield
2011-2012	Group Chief Technology Officer, Composite Technology Research Malaysia Sdn Bhd
2011-2012	General Manager (R&D), Aerospace Malaysia Innovation Centre (Founding Member)
2010-2011	Technical Consultant (AMIC), MIGHT-Meteor Advanced Manufacturing Sdn Bhd.
2009-2011	Head of Programme, Advance Material at Institute of Advance Technology UPM
2008 -	Senior Lecturer, Mechanical and Manufacturing Engineering Department, Faculty of Engineering, UPM
2006 - 2008	Research Associate, Rolls Royce UTC, Department of Mechanical, The University of Sheffield, UK
1998 – 2006	Tutor, Mechanical and Manufacturing Engineering Department, Faculty of Engineering, UPM
1997 - 1998	Resident Engineer, Pespec Prime (M) Sdn Bhd (Contractor Firm)
1996 - 1997	M&E Engineer, Perunding Hashim & Neh (Consultant Firm)

Area of interests :

Experimental work related to Shape Memory Alloys
Carbon Fibre Composite manufacturing
Algae Biofuel

Teaching:

EMM 4206 – Thermal Power
EMM 3504 – Mechanic of Machine
EMM 3510 – Mechanical Measurement and Instrumentation
EMM 3490 – Strength of Material 1

Supervision:

1. Haslinawati binti Besar Sa'aid	- PhD JARD (Main Supervisor)	
2. Najihah bte Mohd Tamyis	- PhD JARD (Main Supervisor)	
3. Babak Ganjeh	- PhD (Main Supervisor)	
4. Yong Thian Haw	- Master (Main Supervisor)	
5. Bahador Dastorian Jamnani	- Master (Main Supervisor)	
6. Muhammad Ibrahim-Nadiir Bheekhun	- Master (Co Supervisor)	
7. Khairul Manami binti Kamarudin	- PhD JARD (Co Supervisor)	
8. Lee Ching Hao	- PhD JARD (Co Supervisor)	
9. Mehdi Salehi Dezfouli	- Master (Main Supervisor)	- Completed
10. Marjan Bahrami Nasab	- Master(Main Supervisor)	- Completed
11. Rajdave Singh	- Master(Co Main Supervisor)	- Completed

Research Products:

Shape Memory Alloys Honeycomb
Smart Chiral Honeycomb

Publications:

Journal

Mohamed N.A., **Hassan, M.R** , 2002, The study of vibration mode of smart plate made from thermoplastic natural rubber and shape memory alloys, Journal of The Institute of Materials Malaysia, Vol. 3(2) p.91-109.

Remillat, C., **Hassan, M. R.,** Scarpa, F., 2006, Small Amplitude Dynamic Properties of $Ni_{48}Ti_{46}Cu_6$ SMA Ribbons - Experimental Results and Modelling, Journal of Engineering Materials and Technology, Volume 128, Issue 3, pp. 260-267

Hassan, M.R., Scarpa, F., Ruzzene, M., Mohamed, N.A, 2008, Smart Shape Memory Alloys Chiral Honeycomb, Materials Science & Engineering A, Volumes 481-482, Pages 654-657.

Hassan, M.R., Scarpa, F., Mohamed, N.A, Ruzzene,M, 2008, In-plane tensile properties of shape memory alloy hexagonal chiral honeycombs, Physica Status Solidi B, Wiley Publication. Vol 245, No. 11, Pages 2440–2444

Hassan, M.R., Scarpa, F., Mohamed, N.A., 2009, In plane tensile behaviour of shape memory alloys hexagonal Honeycomb. Journal of Intelligent Material Systems and Structures, Sage Publication. Vol 20 , pages 897-905

Nasab M.B, **Hassan, M.R.,** 2010, Metallic Biomaterials of Knee and Hip - A Review,Trends in Biomaterials & Artificial Organs, Vol 24(1), pp 69-82

Sidhu, R.S., Ali. A., **Hassan M.R.,** 2011, Experimental Determination of Automotive Jounce Bumper, Key Engineering Material, Trans Tech Publication, Vol. 462-463, pp 634-638

Nasab, M.B., Sahari, B. B., **Hassan, M.R.,** Arumugam, M., 2011, Finite element analysis of the effect of shape memory alloy on the stress distribution and contact pressure in total knee replacement, Trends in Biomaterials & Artificial Organs, Vol 25, No 3.

Ganjeh, B., **Hassan, M.R.,** 2013, Cost-Efficient composite processing techniques for aerospace applications - A review, Applied Mechanics and Materials, Vol 325-326, pp 1465-1470,Trans Tech Publications.

Hassan, M.R., Mehrpouya,M., Emamian,S., Sheikholeslam, M.N., 2013, Review of Self-healing effect on Shape Memory Alloy (SMA) structures, Advanced Materials Research, Vol. 701, pp 87-92, Trans Tech Publications.

Mehdi, S.Z., **Hassan, M.R.,** Abdan, K., 2012, Design and Fabrication of Smart Composite Plate with Embedded Piezoelectric Patch for Identify Impact Location, Accepted in Asian Journal of Applied Sciences, Article No. 27268-AJAPS-KR

Yahya, M.H.M., Ahmad, M. R. , Ahmad, W.Y.W., Salleh, J., Hassim, N., **Hassan, M. R**., 2013, Production of Shape Memory Alloy Core-Sheath Friction Yarns, Accepted in FIBRES & TEXTILES in Eastern Europe, Article no. JMAD-D-12-03295

Conference

Hassan, M.R., Nik Abdullah, N.M. 2000. Vibration analysis of an active smart plate with Shape Memory Alloy. Proceeding Of ICAST 2000 Putrajaya editted by Wan Ramli et.al. 1: p. 645-653

Hassan, M.R., Scarpa, F.L., Mohamed, N.A., 2004, Shape memory alloys honeycomb: design and properties Proc. SPIE Int. Soc. Opt. Eng. 5387, 557

Scarpa, F.L., Ruzzene, M., **Hassan, M.R**., 2004, Spectral element formulation for SMA beams under random vibration excitation Proc. SPIE Int. Soc. Opt. Eng. 5387, 286

Remillat, C., **Hassan M. R.,** Scarpa, F**.,** A master-curve approach with fractional derivative for the frequency-temperature relation of SMA ribbon. International Workshop on Damping of Shape Memory Alloy and Composites, Metz, 13-14 October 2004, France(Invited Paper).

Hassan, M.R., Scarpa, F., Mohamed, N.A., 2005, Conventional and Auxetic SMA Cellular Structures, IMECE2005-81075, ASME International Mechanical Engineering Congress and Exposition, Florida USA

Scarpa, F.L., **Hassan, M.R**., Ruzzene, M., 2006, Modelling and testing of shape memory alloy chiral honeycomb structures, Proc. SPIE Int. Soc. Opt. Eng. Smart Structures and Materials 2006: Active Materials: Behavior and Mechanics, Vol. 6170, Edited Armstrong

Hassan, M.R., Scarpa, F., Ruzzene,M, 2007, Deployable antenna based on Shape Memory Alloys Chiral Honeycomb configuration, 29th ESA Antenna Workshop on Multiple Beams and Reconfigurable Antennas, 18-20 April 2007, Noordwijk, The Netherlands.

Zakaria, N.R., Othman, J., **Hassan, M.R**., Esa, M., Adam, N.M., Malakan, R., 2008, Commercial suborbital spaceflight as an effective promotion of the sense of self-belonging of space travel activities in the third world, ISU's 12th Annual Symposium at ISU, Strasbourg, France, 20-22 February 2008

Zakaria, N.R., Mettauer, A., Abu, J., **Hassan, M. R.,** Anwar Taufeek Ismail, T. A., Othman, J., Shaari, C. Z., Nasron, N., 2010, Human factors engineering in desigining the passengers cockpit of Malaysian commercial suborbital spaceplane, 4th International Association for the Advancement of Space Safety conference on 19-21 May, 2010 in Huntsville, US.

Boucher, M A, Smith C W, Scarpa, FL, Miller W., **Hassan M R.,**2010, 'Damping capacity in shape memory alloy honeycomb structures', Smart Structures and Materials + NDE 2010, San Diego, CA, 2010.

Ahmad, M.R., Yahya, M.H.M., **Hassan, M.R.,** Salleh, J., Ahmad, W.Y.W., Hassim, N., 2012, Some Studies on Shape Memory Alloy Friction Spun Yarn, Business, Engineering and Industrial Applications Colloquium (BEIAC2012), 2012 IEEE Conference Publications, pp. 216 - 219,

Report

Hassan, M. R , 2002, The study of vibration reduction of smart plate made from thermoplastic natural rubber and shape memory alloys, Msc Thesis, Universiti Kebangsaan Malaysia, Malaysia

Hassan, M. R , 2006, Design, Manufacturing and Testing of SMA-Based Smart and Cellular Structures, PhD Thesis, University of Sheffield, UK

Rongong, J., Daniel, M., **Hassan, M.R.,** Morton, L., Webster, D., Clarke, J., 2008, **Variable Area Nozzle,** Deliverable for EU Funded Strep 6 - Development of Advanced Actuation Concepts To Provide A Step Change In Technology Used In Future Aero-Engine Control Systems, ADVACT_WP7_D7.4, European Project Report.

Rongong, J., Daniel, M., **Hassan, M.R.,** Morton, L., Webster, D., Clarke, J., 2008, **Morphing Guide Vane,** Deliverable for EU Funded Strep 6 - Development of Advanced Actuation Concepts To Provide A Step Change In Technology Used In Future Aero-Engine Control Systems, ADVACT_WP7_D7.5, European Project Report.

Newspaper articles

Hassan, M.R., **Perbaiki kehidupan melalui R&D**, Utusan Malaysia, 31 May 2006

Hassan, M.R., **Strategi industri pesawat**, Utusan Malaysia, 23 June 2006

Hassan, M.R., **Sediakan panduan modal insan,** Utusan Malaysia, 11 Julai 2006

Hassan, M.R, **Mengejar ranking terbaik,** Utusan Malaysia, 9 Oktober 2006

Hassan, M.R,, **Angkasawan Malaysia perlu bawa misi dunia**, Utusan Malaysia,1 Dec. 2006

Hassan, M.R,, **Bersedia ceburi teknologi angkasa lepas**, Utusan Malaysia, 18 Dec. 2006

Hassan, M.R,, **Kehidupan di angkasa lepas**, Utusan Malaysia, 28 Dec. 2006

Hassan, M.R,, **Industri penerbangan rangsang sektor pelancongan**, Utusan Malaysia, 9 January 2007

Hassan, M.R,, **LCC Mengubah gaya hidup**, Utusan Malaysia, 16 Januari 2007

Hassan, M.R,, **Kapal Terbang Plastik**, Utusan Malaysia, 30 Januari 2007

Hassan, M.R,, **Dunia semakin mengecil**, Utusan Malaysia, 5 Februari 2007

Hassan, M.R,, **Meninjau keuntungan industri pesawat dunia**, Utusan Malaysia, 13 Februari 2007

Hassan, M.R,, **Potensi industri pesawat**, Utusan Malaysia, 20 Februari 2007

Hassan, M.R,, **Bersedia bina pesawat tempur**, Utusan Malaysia, 28 Februari 2007

Hassan, M.R,, **Pengajaran dari krisis Airbus**, Utusan Malaysia, 31 March 2007

Hassan, M.R,, **Bersaing menguasai ruang udara**, Utusan Malaysia, 6 April 2007

Hassan, M.R, **Mempopularkan perkhidmatan kereta api**, Utusan Malaysia, 12 April 2007

Hassan, M.R,, **Menjadikan KLIA sebagai hab dunia**, Utusan Malaysia, 8 May 2007

Hassan, M.R,, **Menjaga keselamatan ketika penerbangan**, Utusan Malaysia, 17 May 2007

Hassan, M.R,, **Menjayakan misi universiti bertaraf dunia**, Utusan Malaysia, 6 June 2007

Hassan, M.R,, **Manfaatkan pembelian pesawat baru**, Utusan Malaysia, 13 June 2007

Hassan, M.R,, **Daya baru industri udara**, Utusan Malaysia, 27 June 2007

Hassan, M.R, **Pesawat berkuasa 'kipas'**, Utusan Malaysia, 6 July 2007

Hassan, M.R,, **Boeing 787 saingi Airbus**, Utusan Malaysia, 11 July 2007

Hassan, M.R.**, Dunia kini di hujung jari** , 18 Julai 2007

Hassan, M.R,, **Meninjau helikopter ganti Nuri**, Utusan Malaysia, 25 July 2007

Hassan, M.R,, **Keperluan kapal terbang senyap**, Utusan Malaysia, 9 August 2007

Hassan, M.R,, **Membina tamadun sendiri,** Utusan Malaysia, 25 Ogos 2007

Hassan, M.R **, Pembentukan pemikiran kreatif melalui hobi,** Utusan Malaysia, 19 september 2007

Hassan, M.R, **Pastikan kesinambungan program angkasawan**, Utusan Malaysia, 2 October 2007

Hassan, M.R,, **Manfaatkan Program Angkasawan Negara**, Utusan Malaysia, 8 October 2007

Hassan, M.R,, **Mendidik rakyat berfikiran negara maju**, Utusan Malaysia, 25 October 2007

Hassan, M.R**, Cara negara maju hadapi krisis minyak** Utusan Malaysia 22 November 2011

Hassan, M.R, **Kekalkan momentum angkasawan**, Utusan Malaysia, 29 November 2007

Hassan, M.R, **Mengimpikan anugerah Nobel, Utusan Malaysia,** Utusan Malaysia, 13 Disember 2007

Hassan, M.R, **Memartabatkan Kumpulan Saintis** , Utusan Malaysia, 4 Januari 2008

Hassan, M.R,, **Membina pesawat angkasa suborbital sendiri**, Utusan Malaysia, 3 April 2008

Hassan, M.R, **Menukar pasir, logam menjadi emas**, Utusan Malaysia, 14 April 2008

Hassan, M.R, **Dari pohon getah ke angkasa lepas**, Utusan Malaysia, 3 Julai 2008

Member / Committee:

1. Sub-panel of Green Technology for SME Innovation Award 2012
2. Exco Member Persatuan Kakitangan Akademik UPM since 2009
3. Member of SIRIM Technical Committee for Plastic Tank MS 1225 : 2012
4. Member of Committee for GreenTech COE UPM-Malaysia Green Tech. Corp 2011.
5. Member of Steering Committee Jointly Awarded research Degree UPM-Sheffield
6. Member of SIRIM Technical Committee for Plastic Tank MS 1390 : 2009

7. Member of SIRIM Technical Committee for Plastic Tank MS 1241 : 2011
8. Member of SIRIM Working Group Committee for FRP Tank MS 1418 : 2011

Awards & Recognitions:

1. **Second lieutenant** of Malaysian Reserve Army Unit in 1994
2. **Secretary** Sekolah Melayu Sheffield 2001-2002
3. **Selected** to present research related to Shape Memory Alloys Auxetic Honeycomb to **The Celebration of UK Engineering Research and Innovation** organised by The Royal Academy of Engineering and the Engineering and Physical Sciences Research Council (EPSRC) in London 2004
4. **Third Prize** of poster presentation titled 'Smart SMA cellular structures' at International Conference on Deformation and Fracture of Composites (DFC-8) and Experimental Techniques and Design in Composite Materials (ETDCM-7), Sheffield on 3-6th April 2005.
5. **Honorary Visiting Scholar** to Aerospace Engineering Bristol University from May 2007 to May 2008.
6. **Columnist** for "Nota Dari Sheffield" in **Utusan Malaysia** discussing any issue related to science and technology.
7. **Advisor** to Space Tourism Society Malaysia Chapter (STS-MC) 2006 - 2010.
8. **Visiting Researcher** to Aerospace Engineering Sheffield University in 2009
9. Awarded **"Specialist Scheme"** under Ministry of Human Resources, Malaysia 2008
10. **Second Prize** for **MyTRIZ** competition 2012 (Lead Putra-MIAT team).

Professional Training Attended

1. Holistic Gas Turbine, Rolls Royce, Derby, December 2006
2. Gas Turbine Material, Rolls Royce, Derby, October 2007
3. Toward Successful Research, UPM, Putra Jaya, December 2005
4. S&T Management Training Course for Researcher in OIC Countries, Akademi Sains Malaysia, Kuala Lumpur, Oct 2008
5. High Performance Organization, UPM, Port Dickson, May 2011
6. Innovative Thinking and Problem Solving Methodology TRIZ, MDEC,UPM, April 2012
7. Innovation Masterclass, Alexander Blass International, Shah Alam, July 2012
8. TRIZ Workshop, The International TRIZ Association (MATRIZ), Penang, November 2012
9. TRIZ , Theory of Inventing Problem Solving, Practitioner Level 2, MDEC, April 2013