

BRIEF CV



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Areas of interest: Mechanical Engineering,
Stress Analysis, Automotive Engineering Vehicle
Body, Finite Element Method.

Academic Qualification:

University of Nottingham, 1984, Ph.D. Mechanical Engineering, Stress Analysis.
University of Nottingham, 1981, B.Sc. (Hons), First Class, Mechanical Engineering.

Professional Qualification/ Membership/ Affiliation:

1. Ahli Pengurusan Majlis Profesor Negara Kluster Kejuruteraan dan Teknologi, 2012 – 2015.
2. Corporate Member, Institution of Engineer, Malaysia (MIEM), No. M11435
3. Registered Professional Mechanical Engineer, Board of Engineers, Malaysia (P.Eng), No. IJM 7409.
4. Member, Asia Pacific Natural Gas Vehicle Association, ANOVA, 2005-date
5. Ahli Panel Penilai Agensi Kelayakan Malaysia (MQA) – 2011 – kini
6. Ahli Jawatankuasa Kerja Teknikal Standard untuk NGV, SIRIM, Malaysia – 2009 – kini
7. Pengadil untuk Kenaikan Pangkat Profesor dan Profesor Madya, UTM , UKM – 2002 - kini

Appointments:

1. Ahli Jawatankuasa Penilaian Patent, UPM, 2010-2013
2. Ahli Jawatankuasa Pemilihan Pameran, UPM, 2010-2013
3. Pengerusi Jawatankuasa Timbangtara , UPM, 2010 -2011
4. Ahli Jawatankuasa Pemilih (Guru), UPM – 2003 - kini
5. Ahli Senat, UPM – 2006 - 2011
6. Director, Institut Teknologi Maju (ITMA), Universiti Putra Malaysia, 4 September 2006 to 3 September 2009.
7. Head, Advanced Automotive Technology Laboratory, Institute of Advanced Technology, 1 November 2002 to 31 October 2005
8. Deputy Dean (Research), Faculty of Engineering, Universiti Putra Malaysia 1 January 1999 to 30 September 2002
9. Acting Deputy Dean (HEP), Faculty of Engineering, Universiti Putra Malaysia, 1 October 1989 to 31 December 1989.
10. Head of Department of Mechanical and Manufacturing Engineering, UPM, in February 1988 to October 1993.

Area of interests :

1. Mechanical Engineering, Stress Analysis, Automotive Engineering Vehicle Body, Finite Element Method.

Research Topics (Project Leader);

- 1 2010 –Computationally Fuel Efficient Concept Car –Sub-Project Leader for Crash Cluster RM 666,800.00 (November 2009 – November 2011) – Technofund under UKM – ongoing.
- 2 2002 - CNGDI Engine And Transmission Program– Program Head. IRPA under UPM. RM28,836,318.00. (September 2002 – March 2007) – Successful completion.
- 3 2002 – Vehicle Architecture and Integration – Project Head for Engine And Transmission Program IRPA under UPM. RM28,836,318.00. (September 2002 – March 2007) – Successful completion

- 4 2010 – Development of resorption model for the prediction of stress shielding effect of femoral bone. Project Head. FRGS, MOHE, RM 55040.00, October 2010 – September 2012. On going
- 5 CNG/DI Engine and Transmission – IRPA Prioritised Research Program Started September 2002 – 31 December 2006, RM28,836,318.00, HEAD OF PROGRAM, End of Project Report Submitted on 31/3/2007.
- 6 VEHICLE BODY AND INTEGRATION, – IRPA Prioritised Research Project Started September 2002 – 31 December 2006, RM 2,682,500.00, HEAD OF PROJECT, COMPLETED, END OF PROJECT REPORT SUBMITTED ON 31/3/2007. 2 vehicle body, 6 patents of body components, 1 journal paper, 6 conference papers, 4 MS graduates.
- 7 Finite element analysis of integral push fit elastomeric spigot and socket steel pipe joints. Supported by IRPA 1997 - 2000, End of Project Report Submitted. 2 MS graduates. 2 conference papers.
- 8 Finite Element Analysis for Stress, Thermofluid and Vibration Analyses”, IRPA, RM500,000.00, Ministry of Science, Technology and Environment, Malaysia for 1991 – 1995, HEAD OF PROJECT. 2 Conference papers.
- 9 Development, testing, verification and application of finite element package for stress and field analysis”, IRPA, RM 300,000.00, Sponsored by MPKSN. 1986 – 1990

Student Supervision

Ph.D

1. Marjan Bahrami Nesab, “Total knee replacement”, on going.
2. Mohd Salehuddin Shuib, “Total hip replacement”, submitted 2012
3. Saeed Eslamian, “Fretting fatigue of Al2024”, on going
4. Mohsen Sarraf, “Metallic glass using APLD method”, 2012
5. Mehdi Bayat, “Analysis of functionally graded materials (FGM) axially symmetrical rotating discs”, 2009.
6. Saad A. Mutasher, “Evaluation of mechanical properties of hybrid aluminium/fibre-reinforced composites”, 2006.
7. El Sadig Mehdi Ahmad, “Crash characteristics of glass fibre/epoxy and carbon fibre/epoxy conical shells”, 2001.
8. Asad A Khalid, “Crash behaviour of glass fibre/epoxy composite cones”, 1989.

M.S.

1. Mai Nursherida Jalaludin, “Crash analysis of pedestrian injury”, 2012.
2. Siti Marhainis Abu Mansor, “Stress induced vibration of vehicle body”, 2010
3. M. Mujahid Azni Crash analysis of 3 tank NGV platform, 2009.
4. Norfaizah Mohd Arsad, Crash and fatigue analysis of 3 tank NGV platform, 2008.
5. Fatigue crack life of aluminium tube subjected to steady internal pressure and cyclic axial load, Azim, 2007
6. Norwazan Abd. Rahim Crash analysis of 4 tank NGV platform, 2006
7. Haifaa Aziz Ameen, Axial and circumferential loading effect on crushing of composite cylinders, 2003
8. Anizah Kalam, Fatigue analysis of oil palm fruit bunch and carbon fibre/epoxy composites, 2003
9. Faeiza Abd. Aziz, Experimental investigation of integral push fit elastomeric spigot and socket steel pipe joints. 2001
10. Finite element analysis of integral push fit elastomeric spigot and socket steel pipe joints. Nuraini Abd. Aziz, 2000.
11. Experimental and Finite Element assessment of Tubular Joints, Abdalla F Hamed, 1999.
12. Mohabattul Zaman B. SNS Bukhari, The Development of a No-Clean Solder for Radio Frequency Power Modules. 1997.
13. El-Sadiq Mahdi Ahmed, Filament wound natural fibre reinforced composites., 1997.

Research Products/ patent:

1. “Body Structure for Natural Gas Vehicles” PI 2005 3472
2. “Front Floor Natural Gas Vehicles Platforms Structure” MY-140261-A
3. “Mounting Bracket” MY-139061-A
4. “Backbone structure of Front Vehicle” PI 2005 3474

5. "Tank Mounting Structure" PI 2005 3655
6. "Rear Floor Natural Gas Vehicles Platform" MY-138462-A

Publications:

2012

1. M. Bayat, B. B. Sahari, M. Saleem (2012), The Effect Of Ceramic In Combination Of Two Sigmoid Functionally Graded Rotating8 Disks With Variable Thickness, *International Journal Of Computational Methods*, Vol. 9, No. 2 (2012) 1240029 (22 Pages), Doi: 10.1142/S0219876212400294
2. Mai Nursherida Jalauddin, Aidy Ali, Barkawi Sahari, Nuraini Abdul Aziz (2012), Performance of Automotive Composite Bumper Beams and Hood Subjected to Frontal Impacts, *Composite Testing*, 54 (2012), 1 pp 19-25

2011

3. Abdalla, F.H., Sapuan, S.M., Hamdan, M.M., Sahari, B.B. (2011), Stress-Strain Distributions through the thickness of thick Walled Filament Wound Polymer Composite Tube under Internal Pressure Loading, *J. Polym. Mater.* Vol.28, No. 3, 475-504.
4. Salwani, M.S., Ali, A., Sahari, B.B., Nuraini, A.A. (2011), Crash of automotive side member subjected to oblique loading, *International Journal of Physical Sciences* 6 (31), pp. 7125-713.
5. Bahraminasab, M., Sahari, B.B., Roshdi Hassan, M., Arumugam, M., Shamsborhan, 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 and Artificial Organs* 25 (3), pp. 95-100
6. Mai Nursherida, J., Sahari, B.B., Nuraini, A.A. (2011), Parametric study of automotive composite bumper beams subjected to frontal impacts *Key Engineering Materials* 471-472, pp. 484-489.
7. Eslamian, S., Sahari, B.B., Ali, A., Mahdi, E.-S., Hamouda, A.M. (2011), Microscopic study of 5083-H321 aluminium alloy under fretting fatigue condition *IOP Conference Series: Materials Science and Engineering* 17 (1), art. no. 012026
8. Bayat, M., Sahari, B.B., Saleem, M., Dezvareh, E., Mohazzab, A.H. (2011), Analysis of functionally graded rotating disks with parabolic concave thickness applying an exponential function and the mori-tanaka scheme *IOP Conference Series: Materials Science and Engineering* 17 (1), art. no. 012005.
9. Zaroog, O.S., Ali, A., Sahari, B.B., Zahari, R. (2011), Modeling of residual stress relaxation of fatigue in 2024-T351 aluminium alloy *International Journal of Fatigue* 33 (2), pp. 279-285
10. Oshkour, A.A., Sahari, B.B., Ali, A. (2011), Variation of stress intensity factor through the thickness of plate *IOP Conference Series: Materials Science and Engineering* 17 (1), art. no. 012004
11. Afshar, R., Ali, A., Sahari, B.B., Bayat, M. (2011), Axial crush of the tubular structure with various cee-shaped cross-sections *IOP Conference Series: Materials Science and Engineering* 17 (1), art. no. 012039
12. Zaroog, O.S., Ali, A., Sahari, B.B. (2011), Prediction of residual stress relaxation of shot peened 2024-T351 aluminum alloy: Part 1 *Key Engineering Materials* 462-463, pp. 1355-1360
13. Zaroog, O.S., Ali, A., Sahari, B.B. (2011), Prediction of residual stress relaxation of shot peened 2024-T351 aluminum alloy: Part 2 *Key Engineering Materials* 462-463, pp. 1349-1354
14. Afshar, R., Ali, A., Sahari, B.B., Bayat, M. (2011), Auto adjust masses of automotive structures with desired centre of gravity *Key Engineering Materials* 462-463, pp. 812-816
15. Mohammad, K.A., Ali, A., Oshkour, A., Sahari, B.B., Abdullah, S. (2011), Investigation of creep fatigue crack propagation in aluminium tube *Key Engineering Materials* 462-463, pp. 541-546
16. Zaroog, O.S., Ali, A., Sahari, B.B. (2011), Characterization of shot peened 2024-T351 aluminum alloy *Key Engineering Materials* 462-463, pp. 912-917
17. Zaroog, O.S., Ali, A., Sahari, B.B., Zahari, R. (2011), Micro-hardness and residual stress relaxation of 2024 T351 aluminum alloy *Key Engineering Materials* 462-463, pp. 343-348
18. Ng, S.C., Ismail, N., Ali, A., Sahari, B., Yusof, J.M., Chu, B.W. (2011), Non-destructive inspection of multi-layered composite using ultrasonic signal processing *IOP Conference Series: Materials Science and Engineering* 17 (1), art. no. 012045.

2010

19. Shahzamanian, M.M., Sahari, B.B., Bayat, M., Ismarrubie, Z.N., Mustapha, F. (2010). Transient and thermal contact analysis for the elastic behavior of functionally graded brake disks due to mechanical and thermal loads. *Materials and Design* 31 (10), pp. 4655-4665
20. Zaroog, O.S., Ali, A., Sahari, B.B., Zahari, R. (2010). Residual stress relaxation and surface hardness of a 2024-t351 aluminium alloy. *Materialpruefung/Materials Testing* 52 (9), pp. 632-639
21. Aidy Ali, Maryam Hosseini, Barkawi Sahari, (2010). Continuum damage mechanics modeling for fatigue life of elastomeric materials, *Internal Journal of Structural Integrity*, Vol. 1, No. 1, pp. 63-72
22. Ali, A., Hosseini, M., Sahari, B.B. (2010). A review and comparison on some rubber elasticity models. *Journal of Scientific and Industrial Research* 69 (7), pp. 495-500

23. Zadeh, M., Ali, A., Golestaneh, A.F., Sahari, B.B. (2010). Analysis of fatigue crack growth in friction stir welded joints of 2024 Al alloy. *Proceedings of the ASME International Design Engineering Technical Conferences and Computers and Information in Engineering Conference 2009, DETC2009* 3, pp. 703-710.
24. Shahzamanian, M.M., Sahari, B.B., Bayat, M., Mustapha, F., Ismarrubie, Z.N.(2010). Finite element analysis of thermoelastic contact problem in functionally graded axisymmetric brake disks. *Composite Structures* 92 (7), pp. 1591-1602.
25. Marjan Bahrami Nasab, Mohd Roshdi Hassan, Barkawi Bin Sahari, (2010), *Metallic Biomaterials of Knee and Hip – A Review*, Trends Biomater. Artif. Organs, Vol 24(2), pp 69-82.
26. Bayat, M., Mohazzab, A.H., Sahari, B.B., Saleem, M. (2010), Exact solution of functionally graded variable thickness rotating disc with heat source, *Proc. IMechE*, Vol. 224, Part C: J. Mechanical Engineering Science. Pp-2316-2331.
27. Bayat, M., Sahari, B.B., Saleem, M., Ali, A., Wong, S.V. , (2009), Bending analysis of a functionally graded rotating disk based on the first order shear deformation theory, *Applied Mathematical Modelling* 33 (11), pp. 4215-4230
28. Zadeh, M., Ali, A., Golestaneh, A.F., Sahari, B.B. (2009), Three dimensional simulation of fatigue crack growth in friction stir welded joints of 2024-T351 Al alloy, *Journal of Scientific and Industrial Research* 68 (9), pp. 775-782
29. Hamed, A.F., Sapuan, S.M., Hamdan, M.M., Sahari, B.B. (2009), Theoretical stress and strain distribution across thick - Walled filament wound composite, *Polimery/Polymers* Volume 54, Issue 7-8, 2009, Pages 559-563
30. Bayat, M., Sahari, B.B., Saleem, M., Hamouda, A.M.S., Reddy, J.N. , (2009), Thermo elastic analysis of functionally graded rotating disks with temperature-dependent material properties: uniform and variable thickness, *International Journal of Mechanics and Materials in Design*, pp. 1-17
31. Reza Afshar, Aidy Ali, B.B. Sahari, (2009), Auto generation of the centre of gravity of tubular structure during crush deformation, *International Journal of Computational Method*, Vol. 6, No. 2 (2009) 333–34.
32. A.A. Nuraini, B. B. Sahari, (2009), “Performance of Dual Lips Elastomeric Seal for Spigot-Socket Push Fit Joint using Finite Element Method”, *European Journal of Scientific Research*, ISSN 1450-216X Vol.32 No.1 (2009), pp.67-77
33. Bayat, M., Saleem, M., Sahari, B.B., Hamouda, A.M.S., Mahdi, E. (2009), Mechanical and thermal stresses in a functionally graded rotating disk with variable thickness due to radially symmetry loads, *International Journal of Pressure Vessels and Piping* 86 (2009) 357–372
34. Bayat, M., Sahari, B.B., Saleem, M., Ali, A., Wong, S.V. (2009), Thermoelastic solution of a functionally graded variable thickness rotating disk with bending based on the first-order shear deformation theory , *Thin-Walled Structures* 47 (5), pp. 568-582
35. Sahari ,Siti Marhainis Abu Mansor, S. V. Wong, A.M. Hamouda, Mohd. Fauzy Ahmad, JasmiAbd. Rahman and Y. A. Khalid, (2009), Static Stiffness and Stress Distribution Of Gasoline And Natural Gas Vehicle Platforms Subjected to Torsion Loads. *European Journal of Scientific Research*, ISSN 1450-216X Vol.30 No.2 (2009), pp.272-281
36. R. Daghigh, N.M. Adam and B.B. Sahari, (2009), Ventilation Parameters and Thermal Comfort of Naturally and Mechanically Ventilated Offices, *Indoor and Built Environment* 2009; 18; 113
37. Daghigh, R., Adam, N.M., Sopian, K., Sahari, B.B. (2009), Thermal comfort of an air-conditioned office through different windows-door opening arrangements, *Building Services Engineering Research and Technology* 30 (1), pp. 49-63.
38. B. Sahari, HamzahAdlan, S. V. Wong, A. M. Hamouda, (2009), Gear Ratios Strategy of PROTON Waja CNG-DI Vehicle for Improved Performance, *Modern Applied Science*, Vol. 3, No. 8, pp 63-71
39. M.M. Shahzamanian, B.B. Sahari, M. Bayat, F. Mustapha, Z.N. Ismarrubie, (2009), Finite element analysis of thermoelastic contact problem in functionally graded axisymmetric brake disks, *Composite Structures*, (article in press)
40. Omar SulimanZaroog, Aidy Ali, B. B. Sahari and Rizal Zahari, (2009), Relaxation of compressive residual stress. Part 1: Relaxation of stage I, *Journal of Scientific & Industrial Research*, Vol. 68, December 2009, pp. 1035-1037
41. Omar SulimanZaroog, Aidy Ali, B.B. Sahari and Rizal Zahari, (2009), Relaxation of Residual Stress Part 2: Relaxation of Stage 2, *American J. of Engineering and Applied Sciences* 2 (4): 759-763, 2009.
42. LuqmanChuah, JoliusGimbun, A. Fakhru'l-Razi, B. S. Barkawl and Thomas S. Choong, (2009), prediction of co and n ox abatement incatalytic converter of a compressed natural gas vehicle (CNGV) cold-start engine, *Journal of Nature Science and Sustainable Tecnology* Volume 3, Issue 3, 195-210
43. RoonakDaghigh, Nor Mariah Adam and BarkawiSahari , (2009), The Effect of Air Exchange Rate on Human Thermal Comfort in an Air-Conditioned Office Under Different Opening Arrangements, *European Journal of Scientific Research*, Vol. 25, 2, 174-191.

44. B. Sahari, M. MujahidAzni, S. V. Wong, Mohd. Fauzy Ahmad, Y. A. Khalid, A. M. Hamouda, "Finite element lateral crash analysis of front Natural Gas Vehicle platform with tank mounting structure", *Int. J. Vehicle Safety*, Vol. 2, No. 3, 2008
45. Abdalla F. H., Sapuan, S.M., Hamdan, M.M., Sahari, B., "Internal pressure carrying capacity for different loading modes of filament-wound pipes from glass fiber-reinforced epoxy composites", *Polymer-Plastics Technology and Engineering*, Vol. 47, 8, 2008, pp 802-808
46. Mehdi Bayat, M. Saleem, B.B. Sahari, A.M.S. Hamouda, E. Mahdi, "Analysis of Functionally Graded Rotating Disks with Variable Thickness", *Mechanics Research Communications*, 9, 2008, pp 283-309
47. R.Daghigh, N.M.Adam, B.B.Sahari, "Ventilation Parameters and Thermal Comfort of Naturally and Mechanically Ventilated Office", *Indoor Built Environment*, 17, 3, 2008, pp 1-13
48. Mehdi Bayat, M. Saleem, B.B. Sahari, A.M.S. Hamouda, E. Mahdi, "On the Stress Analysis of Functionally Graded Gear Wheels with Variable Thickness", *International Journal of Computational Methods in Engineering Science and Mechanics*, 9, 2, 2008, pp 121-137
49. Abdalla F. Hamed, M.H. Megat, S.M. Sapuan, B.B. Sahari, "Theoretical analysis for calculation of the through thickness effective constants for orthotropic thick filament wound tubes", *Polymer-Plastics Technology and Engineering*, Vol. 47, 10, 2008, pp 1008-1015
50. Abdalla F. Hamed, M.H. Megat, S.M. Sapuan, B.B. Sahari, "Determination of volume fraction values of filament wound glass and carbon fiber reinforced composites", *ARP Journal of Engineering and Applied Sciences*, Vol. 3, No. 4, 2008, pp 7-11.
51. R.Daghigh, N.M.Adam, B.B.Sahari, K. Sopian, M.A. Alghoul, "Influences of air exchange effectiveness and its rate on thermal confort: naturally ventilated office", *Journal of Building Physics*, Vol. 32, No. 2, 2008, pp 175-193.
- 2007
52. S.A. Mutasher, B.B. Sahari, A.M.S. Hamouda, and S.M. Sapuan, Static and dynamic characteristics of a hybrid aluminium/composite drive shaft, *Proc. IMechE Vol 221 Part L: J. Materials: Design and Applications*, 2007, 63-75.
53. B.B. Sahari, A.R. Norwazan, A.M. Hamouda, Y.A. Khalid, S.V. Wong, The effect of bulge height and length on the lateral crash behaviour of front platform of a compressed natural gas vehicle, *Int. J. Vehicle Safety*, Vol. 2, No. 3, 2007, 278-287.
54. Mehdi Bayat, M. Saleem, B.B. Sahari, A.M.S. Hamouda, E. Mahdi, Thermo Elastic Analysis Of A Functionally Graded Rotating Disk With Small And Large Deflections, *Thin Walled Structures*, 45 (2007), 677-691.
55. F.H. Abdalla, S.A. Mutasher, Y.A. Khalid, S.M. Sapuan, A.M.S. Hamouda, B.B. Sahari and M.M. Hamdan, Design and fabrication of low cost filament winding machine, *Materials & Design*, Volume 28, Issue 1, 2007, 234-239.
56. Y.A. Khalid, S.A. Mutasher, B.B. Sahari and A.M.S. Hamouda, Bending fatigue behaviour of hybrid aluminium/composite drive shafts., *Materials & Design*, Volume 28, Issue 1, 2007, 329-334.
57. F. Tarlochan, A.M.S. Hamouda, E. Mahdi, .B.B. Sahari, Composite sandwich structures for crashworthiness, *Proceedings of the Institution of Mechanical Engineering, Journal of Materials, Design and Applications*, Volume 221, Number 2, 2007, 121-130.
58. S.A. Mutasher, B.B. Sahari, A.M.S. Hamouda, S.M. Sapuan. Static and dynamic characteristics of a hybrid drive shaft., *Proceedings of the Institution of Mechanical Engineering, Journal of Materials, Design and Applications*, Volume 221, Number 2, 2007, 63-75.
59. Hamed A F; Khalid Y A; Sapuan S M; Hamdan M M; Younis T S; Sahari B B., Effects of winding angles on the strength of filament wound composite tubes subjected to different loading modes. *Polymers and Polymer Composites*, Volume 15, No. 3, 2007 199-206.
60. Barkawi Sahari, Alouysius, Nor Mariah Adam,, Active noise control algorithms for air conditioning systems. *IEM Buletin*, 2007.
- 2006
61. E. Mahdi, O.M.S Alkoles, , A. M. S. Hamouda, B. B. Sahari, R. Yunos, G. Goudah, "Light composite elliptic springs for vehicle suspension", *Composite Structures* 75 (2006) 24 – 28
62. E. Mahdi, O.M.S Alkoles, , A. M. S. Hamouda, B. B. Sahari, "Ellipticity ratio effects in the energy absorption of laterally crushed", *Adv. Composite Materials*, Vol. 15, No. 1, pp. 95 -113 (2006)
63. S. A. Mutasher, B. B. Sahari, A. M. S. Hamouda, S. M. Sapuan, "Torsion Transmission Capacity of a Hybrid Aluminium/Composite Driveshaft", *Polymer and Polymer Composites*, Vol. 14, No. 2, 2006
64. BarkawiSahari, "Automotive Research Focus in Malaysia," *Jurutera, Institution of Engineers Malaysia*, Bil. 2006, No. 3, pp 6-15, 2006.
- 2005
65. AnizahKalam, B. B. Sahari, Y. A. Khalid, S. V. Wong, "Fatigue behaviours of oil palm fruit bunch fibre/epoxy and carbon fibre/epoxy composites", *Journal of Composite Structures*, 71 (2005) 34-44.
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68. Y. A. Khalid, S. A. Mutasher, B. B. Sahari, A. M. S. Hamouda, "Bending fatigue behavior of hybrid aluminium/composite drive shafts", *Jnl. Materials and Design* (2005) (in Press).
- 2004
69. Y.A. Khalid, C.L. Chan, b.B. Sahari, A.M.S. Hamouda , "Bending Behaviour of Corrugated web beams", *Jnl. Of Materials Processing Technology*, 150 (2004) 242-254
70. A.M. Elgalai, E. Mahdi, A.M.S. hamouda, B.B. Sahari , "Crushing response of composite corrugated tubes to quasi-static axial loading", *Composite Structures* 66 (2004) 665-671.
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- 2003
72. O.M.S. Alkoles, E. Mahdi,, A.M.S. Hamouda, B.B. Sahari "Ellipcity ratio effects in the energy absorption of axially crushed composit tubes", *Applied Composite Materials* 10: 339-363, 2003.
73. E. Mahdi, A.M.S. Hamouda, B.B. Sahari, Y.A. Khalid, "Experimental quasi-static axial crushing of cone-tube-cone composite systems", *Composites: Part B* 34 285-302 2003.
74. E. Mahdi, A.M.S. Hamouda, B.B. Sahari, Y.A. Khalid, "On the collapse of cotton/epoxy tubes under axial static loading", *Applied Composite Materials* 10: 67-84, 2003.
75. E. Mahdi, A.M.S. Hamouda, B.B. Sahari, Y.A. Khalid, "Effect of residual stresses in filament wound laminated conical shell", *Journal of Materials and Processing Technology* 6642 1-6 2003.
76. E. Mahdi, B.B. Sahari, Y.A. Khalid, A.M.S. Hamouda, "Effect of hybridisation on crushing behaviour of carbon/glass fibre/epoxy circular cylindrical shells", *Journal of Materials and Processing Technology* 132(1-3) 49-57 2003.
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81. E. Mahdi; A. M. S. Hamouda; B. B. Sahari. "Axial and lateral crushing of the filament wound laminated composite curved compound system." *Jnl. Advanced Composite Materials*; Volume 11 Number 2; 171-192 (2002).
- 2001
82. A. F. Hamed, Y.A. Khalid, B B. Sahari, M. M Hamdan, "Finite Element And Experimental Analysis For Elliptical Chord Shape On T-Tubular Joints Strength", *Proc. Inst. Mech. Engrs. Vol 215 Part E*, pp 123-131, 2001.
83. Assad A. Khalid, B. B. Sahari, Yousif A. Khalid "Moisture Content Effect On The Progressive Crushing Of Cotton And Glass Fiber/Epoxy Composite Cones" *Pakistan Journal Of Applied Sciences* 1 (2): 155-160, 2001.
84. Yousif A. Khalid, Barkawi B. Sahari, Megat M. Hamdan And Abdalla F. Hamed "Deformation Of Circular And Elliptical T-Tubular Joint Chords Under Different Loading Modes" *Pakistan Journal Of Applied Sciences* 1 (1): 33-38, 2001.
85. E. Mahdi, B.B. Sahari, A.M.S. Hamouda, Y.A. Khalid, "An Experimental Investigation Into Crushing Behaviour Of Filament Wound Laminated Cone-Cone Intersection Composite Shells", *Journal Of Composite Structures*, Vol. 51, No. 3, Pp 211-219, 2001.
- 2000
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- 1999
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Awards & Recognitions:

Successfully manage IRPA CNG/DI Engine and Transmission – IRPA Prioritised Research Program. The program is a multi-institutional and the institution involved UPM, UKM, UM, UTM, UTP, UiTM, PROTON and PETRONAS. It consisted of 7 projects and 89 researchers. It started September 2002 and completed in 31 December 2006 with a prototype Proton Waja vehicle with 1.6 litre Campro CNGDI Engine successfully developed and prototype CNG refuelling technology also successfully developed. The Grant received for MOSTI amount to RM28,836,318.00.

2011 – PRPI – SILVER – Tank mounting structure for NGV

- 2011 – PRPI – SILVER – Development of Signal Processin Algorithm for Effective Ultrasonic NDE on Multi-Layered Composite Materials (Member)
- 2010 –IENA - GOLD MEDAL – INTERNATIONAL TRADE FAIR, IDEAS –INVENTIONS – NEW PRODUCTS, 2010 – CRASHWORTHY AND SAFE NATURAL GAS VEHICLE FRONT PLATFORM.
- 2009 – MTE09 - BRONZE MEDAL – MALAYSIAN TECHNOLOGY EXHIBITION, PWTC 2009– CRASHWORTHY AND SAFE NATURAL GAS VEHICLE FRONT PLATFORM
- 2006 - EUREKA2 GOLD MEDALS AND SPECIAL PRIZE FROM THE ASSOCIATION OF POLISH INVENTORS IN EUREKA EXHIBITION, BRUSSEL, BELGIUM FOR THE CNGDI ENGINE AND TRANSMISSION PROGRAM.
- 2006 –ITEX06 GOLD MEDAL AND HENRY GOH SPECIAL AWARD FOR BEST INVENTION FOR ENVIRONMENT, FOR THE CNGDI ENGINE AND TRANSMISSION PROGRAM.

Professional Training Attended