

*Proud to be.....***Curriculum Vitae****I. AFFILIATION:**

ASSOC. PROFESSOR IR. DR. SIVARAO SUBRAMONIAN  
 PROFESSIONAL ENGINEER (MECHANICAL)  
 FACULTY OF MANUFACTURING ENGINEERING  
 UNIVERSITI TEKNIKAL MALAYSIA MELAKA (UTeM)  
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**II. MAIN RESEARCH INTERESTS:**

- Innovative System Engineering
- Advanced Mechanical & Manufacturing Design
- Intelligent Manufacturing Systems
- Process Modeling & Optimization
- Advanced Materials Processing

**III. INNOVATION & RESEARCH AWARDS:**

1. Design of production tooling based on recycled material and natural fiber composite by sand casting technique, **Gold Medal** – UTeM Innovation Exhibition (UTeMEX), 2012.
2. Supa Fast Grill Locking System, **Silver Medal** – UTeM Innovation Exhibition (UTeMEX), 2012.
3. Development of bearing removal for crank shaft at the conceptual design stage, **Silver Medal** – UTeM Innovation Exhibition (UTeMEX), 2012.
4. Blood Donor Scale With Real Time Optimizer System, **Gold Medal** - International Invention, Innovation & Technology Exhibition (ITEX), Kuala Lumpur Convention Center, 2011.
5. Novel approach for Single Display Traffic Light System With The Ability To Cater For Color Vision deficiency Drivers, **Gold Medal**, International Invention, Innovation & Technology Exhibition (ITEX), Kuala Lumpur Convention Center, 2011.
6. High End Security Lock With Green Technology, **Gold Medal** - The Belgian and International Trade Fair Technological Innovation, Brussels, year 2010.
7. Super Energy Saving Locking System, **National Champion Award & Cash** (Community Category) – The Malaysia Innovative Competition 2010 – awarded by **Prime Minister of Malaysia**.

8. Super Energy Saving Locking System, **Regional Champion Award & Cash** (Community Category) – The Malaysia Innovative Competition 2010.
9. Electro Mechanical Locking System, **Silver Medal** - Seoul International Invention Fair (SIIF 2010), Korea.
10. Automated Intelligent Storage Security and Alert System, **Gold Medal** - Seoul International Invention Fair (SIIF 2010), Korea
11. Traffic Light Electrical and Mechanical Fault Alert System Using Wireless Technology (WI-Traffic Light), **Gold Medal** - The Belgian and International Trade Fair Technological Innovation, Brussels, 2010
12. Traffic Light Electrical and Mechanical Fault Alert System Using Wireless Technology, **Gold Medal** - International Invention, Innovation & Technology Exhibition (ITEX 2010), Kuala Lumpur.
13. Energy Saving Door Security System (ESDoS), **Silver Medal** - The Invention and Innovation Competition, Malaysia Technology Expo, MTE2010.
14. Automatic Tire Pressure Controller (ATPC), **Cash Award** - Commercialization and business matching of researched and innovative Product, National conference of SMEs Bumiputra 2009, PWTC, Kuala Lumpur.
15. Exhaust Gas Operated Vacuum Cleaner (Ego-Vc), **Silver Medal** - International Product Design & Invention Competition, Geneva, Switzerland, 2007.
16. Smart Switching System (S3), **Silver Medal** - International Product Design & Invention Competition, Geneva, Switzerland, 2007.
17. Exhaust Gas Operated Vacuum Cleaner and Water Pump, **Bronze Medal** - International Invention, Innovation & Technology Exhibition (ITEX 2007), Kuala Lumpur.
18. Exhaust Gas Operated Vacuum Cleaner (EGO-VC), **Bronze Medal** - The Invention and Innovation Competition, Malaysia Technology Expo, MTE 2010.
19. Automatic Tyre Pressure Controller (ATPC), **Bronze Medal** - The Invention and Innovation Competition, Malaysia Technology Expo, MTE 2010.

#### IV. FILED INNOVATIVE INTELLECTUAL PROPERTIES:

1. Filed Patent : Automatic Tyre Pressure Controller (ATPC)  
PI Number : PI 2009003255
2. Filed Patent : Electro Mechanical Locking System  
PI Number : PI 2010003765
3. Filed Patent : Traffic Light Electrical and Mechanical Fault Alert System  
PI Number : PI 2010005339
4. Filed Patent : Distribution Board Alert System  
PI Number : PI 2010005310
5. Filed Patent : Tyre Pressure Sustaining system (T-PreSS)  
PI Number : PI 2012002728
6. Filed Patent : Super Fast Keyless Grill Locking System  
PI Number : PI 2012002778
7. Filed Patent : Automatic Tyre Inflating System (ATIS)  
PI Number : PI 2012002727
8. Filed Patent : Magnetic Airless Tyre (MAT)  
PI Number : PI 2012701282

9. Filed Patent : Hydro-gas Airless Tyre (HAT)  
PI Number : PI 2012701286

#### **V. FUNDED RESEARCH PROJECTS:**

1. Synthesizing Novel Nano-Structured Flowable Composite Sealant – For Automotive Tyre Application  
*Project Number :FRGS/2013/FKP/TK01/03/1/F00156*
2. Prototyping Full Scale Pressure Leak Replenishing System For Automobile Tyre Application Towards Saving Life, Environment & Energy  
*Project Number (Amount) : PRGS/2012/TK01/FKP/02/1/T0003*
3. Super Energy Saving Locking System  
*Project Number : GLuar/2012/FKP(1)/G00010 – Geran KTP*
4. Mechanism of Energy Regenerative Suspension System For Ground Vehicle Application  
*Project Number : ERGS/2012/FKM/TK08/02/1/E00007*
5. A Novel Study On The Effects Of Cutter Geometrical Feature In Component Failure For Machining Thin-Wall Low Rigidity Structural Component  
*Project Number : FRGS/2012/FKP/TK01/03/2/F00134*
6. New Product Development Through Concurrent Engineering Concept  
*Project Number : GLuar/2012/FKP(2)/G00011*
7. Ground Vehicle For Fire Fighting Purpose In Hazardous Environment  
*Project Number : PRGS/2012/TK01/FKM/02/1/T00004*
8. Stamp Forming Performance of Palm Fiber Composites  
*Project Number: PJP/2012/FKM(41A)/S010145*
9. E-Preventive Maintenance Warning System  
*Project Number: PJP/2012/FKP(9C)/S01012*
10. The Measurement And Validation Of Wireless Sensor Energy Harvesting System  
*Project Number: PJP/2012/CeTRI/Y0001*
11. OneBAJA–Next Generation Green and Economical Urea(Green Processing : Biodegradable Urea Granules)  
*Project Number : LRGS/2011/FKP/TK02/1 – R00001(Until 30/9/2016)*
12. Investigation of Transition Metal Nickel Chalcogenide Thin Films (X<sub>i</sub>X<sub>2</sub>) Being Photoelectrochemical/solar Cell Materials  
*Project Number: FRGS/2011/FKP/TK02/1 F00120*
13. An Alternative Approach In Synthesizing of Micro Laser Lathing for 3D Circular Stock  
*Project Number : FRGS/2010/FKP/TK02/3 – F0084 (Completed)*
14. Feasibility Study of Implementation and Management of Rapid Manufacturing in Malaysia automotive Industry  
*Project Number : FRGS/2007/FKP (13) - F00038(Completed)*
15. Development and Design of Mobile Shaft Alignment Solution System.  
*Project Number : FRGS/2007/FKP (10) - F00035(Completed)*
16. Precision Machining of Boiler Plate By Laser Technology  
*Project Number : PJP/2011/FKP (6C) S00873(Completed)*
17. Design of An Organic Battery For Residential Purpose Using Design For Sustainability Methodology and Rapid Prototyping  
*Project Number : PJP/2011/FKP (14A) S00881(Completed)*
18. Multiple Method Switching System For Domestic and Industrial Electrical appliances  
*Project Number : PJP/2011/FKEKK (19C) S00853(Completed)*

19. Design A Prototype Solar Powered Lake Cruiser  
*Project Number : PJP/2011/FKP (8A) S00875(Completed)*
20. Implementation of New Current Detection Techniques For Distribution Board Monitoring system  
*Project Number : PJP/2011/FKEKK (11C) S00845(Completed)*
21. Prototyping Solar Powered 'Green Bus Stop'  
*Project Number: PJP/2010/FKM (15A) S715(Completed)*
22. Design and Development of Circular Work Clamping system For Non-Contact Machining Application  
*Project Number: PJP/2010/FKP (11A) S669(Completed)*
23. Design and Analysis of car Heat Remover Based on Design for Sustainability Using Rapid Prototyping  
*Project Number: PJP/2010/FKP (4A) S662(Completed)*
24. Engineering of Mechanical Control Kit For Unmanned Grass Cutter  
*Project Number :PJP/2009/FKP (8A)–S536(Completed)*
25. Synthesis and Characterization of Transition Metal Chalcogenide Thin  
*Project Number: PJP/2009/FKP (18A) S608(Completed)*
26. Improve The Mechanical Properties of Intermetallic Aluminides for Automotive  
*Project Number : PJP/2009/FKP (23A) S628 (Completed)*
27. Design and Development of Non-Traditional Power Train System  
*Project Number :PJP/2007/FKP (26)–S374 (Completed)*
28. Advanced Machining of Industrial Graphite Electrodes  
*Project Number :PJP/2007/FKP/ (25)–S373 (Completed)*
29. Design and Development of Super Saving and Comfort Home Cooling System  
*Project Number :PJP/2007/FKP (27)–S375 (Completed)*
30. Quality and Performance Analysis of Laser Machining  
*Project Number :PJP/2007/FKP/ (24)–S372 (Completed)*
31. Design and Development of an Automobile Brake Lining Monitoring System  
*Project Number : PJP/2006/FKP (3)–S183 (Completed)*
32. Investigation of Rolled Steel Plate Machinability and Process Optimization  
*Project Number : PJP/2006/FKP (4)–S184 (Completed)*
33. Experimental Investigation of Burr Formation in Drilling  
*Project Number : PJP/2005/FKP/ (20)–S157 (Completed)*
34. Investigation of Laser Performance  
*Project Number :PJP/2005/FKP/ (12)–S149 (Completed)*

#### vi. **NON-FUNDED RESEARCH PROJECTS:**

1. Exhaust Gas Operated Vacuum Cleaner (Completed – Award winning project)
2. Smart Switching System (Completed – Award winning project)
3. Exhaust Gas Operated Fertilizer/Pesticide Dispensing System (Completed)
4. Perpetual Green Power Generator (Completed – Award winning project)
5. Cow manure based fire starter / igniting device (completed)



**VI. SELECTED PUBLICATIONS:****A. INTERNATIONAL BOOKS**

1. Sivarao, Peter Brevern, N.S.M. El-Tayeb, V.C.Vengkatesh, "Neural Network Multi Layer Perceptron Modeling for Surface Quality Prediction in Laser Machining", Application in Machine Learning, 51-61, In-Tech Publication-Austria, 2009. ISBN No.: 978-953-307-035-3.
2. Sivarao, Suhada.A, TJS Anand, Tire Inflation Technology; Existing and Evolution To Be – Advancements in tyre inflating technology, LA Publishing, Germany, 2010, ISBN. 978-3-8383-8502-0
3. Sivarao, Ismail.N, Fazel.F, Modeling of Laser Materials Processing by Artificial Neural Network Modeling and Experimental Validation – VDM Publishing, Mauritius, 2010, ISBN. 978-3-639-31529-5
4. Sivarao, Design and Development of Unmanned Grass Cutter, LA Publishing, Germany, 2010, ISBN. 978-3-8433-5267-3
5. Sivarao, Quality and Performance Analysis of CO2 Laser machining - A Complete Guide For Laser Machining Experimentation and Cut-Edge Quality Evaluation, LA Publishing, Germany, 2010, ISBN. 978-3-8433-8162-8
6. Sivarao, TJS Anand, Warikh, Characterization Of Calcium Carbonate Particulated Polyethylene, LA Publishing, Germany, 2010, ISBN 978-3-8433-8630-2

**B. INTERNATIONAL JOURNALS**

1. **Sivarao**, Kumar, N., Widodo, W.S. And Haeryip Sihombing, Hexane Economization In Palm Kernel Oil Plant: A Study After Process Design Improvement, Global Engineers & Technologists Review, Volume 2, No.12 (2012), pp.7-14.
2. **Sivarao**, Samsudin A.R, Tin S.L, Hasoalan, Taufik, Yuhazry, Abdul Alif, Robert K.M, Sivakumard, C.F. Tan., Promising Techniques Of Automotive Engine Lubrication Oil Monitoring System – A Critical Review Towards Enhancement, The International Journal of Engineering And Science (IJES), Volume 1, Issue 2 (2012), pp. 228-233. (ISSN: 2319 – 1813, ISBN: 2319 – 1805).
3. Taufik, R.S, Hirmanto, S., **Sivarao**, Hambali, A., and Tajul, A.A, Design of Jigs and Fixtures for Hydraulic Press Machine, Malikussaleh Industrial Engineering Journal Vol. 1, No.1 (2012), pp. 19-24
4. **Sivarao**, Abdul Alif, Taufik, Yuhazri, Haery Ian, Robert K. M., Tin S. L., Critical Review of Electro-Mechanical Door Locking System and Proposal Towards Development of Innovative Super Energy Saving Door Locking System, International Journal of Engineering and Innovative Technology (IJEIT), Volume 2, Issue 5, (2012), pp. 201-207 (ISSN: 2277-3754)
5. **Sivarao**, Robert K. M., Sivakumar D., Taufik, Yuhazri, C.F.Tan, Haery Ian, Alif, Tin S. L., An Exploratory Study - Critical Laser Processing of Composite Materials, International Journal of Engineering Research & Technology (IJERT), Vol. 1, Issue 10, (2012), pp 1-8, (ISSN: 2278-0181)
6. Taufik, R.S.\*, Tan, S.T., Hambali, A., Tajul, A.A and **Sivarao**, Design Optimization of Multi Vacuum Manifold for Semiconductor Industry, Malikussaleh Industrial Engineering Journal Vol. 1, No.1 (2012), pp. 5-10
7. **S.R. Subramonian**, A.Z. Khalim, Hussein, N. I. S, R. Izamshah, M. Amran and M. Hadzley, Transforming Linear Laser Cutting machine Into Laser Lathing – An Empirical Investigation & Evaluation of Roundness Quality, Journal of Current Engineering Research (JCER), Vol. 2, Issue 2 (2012), pp. 98-104.
8. **S.R. Subramonian**, A.Z Khalim, R. Izamshah, M. Amran, Hussein N. I. S, M. Hadzley, Taper Quality Evaluation Of A Laser Lathed Steel Rod Using Modified Flatbed CO2 Laser Cutting Machine, International Journal of Current Research and Review (IJCRR), Vol. 4, Issue 15 (2012), pp. 81-91.
9. **Sivarao**, Mohd Rizal Salleh, Kamely A, Tajul.A, Taufik, Mechanical Properties Modification of Polyethylene (PE) For CaCO3 Particulated Composites, Advanced Materials Research, Vols 9264-265 (2011), pp. 880-887.
10. **Sivarao**, Mohd Rizal Salleh, Kamely A, Tajul.A, Taufik, Characterizing Chicken Eggshell Reinforced Polypropylene

(PP), Advanced Materials Research, Vols 9264-265 (2011), pp. 871-879.

11. Taufik, S. Sulaiman, T.A.Abdullah, **Sivarao**, Design and Simulation on Compressor Metal Matrix Composite By Investment Casting, Advanced Materials Research, Vols 9264-265 (2011), pp. 403-408.
12. Taufik, S. Sulaiman, T.A.Abdullah, **Sivarao**, Design and Simulation on Cast Metal Matrix Composite By Investment Casting, Advanced Materials Research, Vols 9264-265 (2011), pp. 323-328.
13. K. Ganesh Kumar, **Sivarao**, T. Joseph SahayaAnand, (2011) "A Novel Intermetallic Nickel Aluminide (Ni3Al) as an Alternative Automotive Body Material", International Journal of Engineering & Technology IJET-IJENS Vol: 11 No: 01, pp. 274 – 282.
14. **Sivarao**, et al., DOE Based Statistical Approaches in Modeling of Laser Processing – Review & Suggestion, International Journal of Engineering & Technology, Vol.10 No.4, August 2010, pp.1-8
15. **Sivarao**, et al., Investigation of Chemical Composition on Widely Used Al 6061-T6511 Engineered Material: An XRD Analysis Towards Improvement of Mechanical Properties, International Journal of Basic & Applied Sciences, Vol.10 No.4, August 2010, pp.1-6
16. **Sivarao**, et al., Conceptual Designs towards Developing Mechanically Controlled Semi-Automated Grass Cutter, International Jour. of Mech. & Mechatronics Engineering, Vol.10 No.4, August 2010, pp.29-33
17. Siva kumar, **Sivarao**, Mazran, et al., Automated traffic light system for road user's safety in two lane road construction sites, WSEAS TRANSACTIONS on CIRCUITS and SYSTEMS, Issue 2, Volume 9, February 2010, pp.71-80.
18. **Sivarao**, et al., Investigation of Tangential Force, Horsepower and Material Removal Rate Associating HAAS CNC Milling, Al6061-T6511 Work Material &TiAlN Coated End Mill Tool, International Journal of Basic & Applied Sciences, Vol.10 No.4, August 2010, pp.23-28
19. **Sivarao**, et al., Stochastic Modeling and Optimization of Laser Machining by Response Surface Methodology, International Journal of Engineering & Technology, Vol.10 No. 04, August 2010, pp.13-21
20. **Sivarao**, et al., Review of Automated Machines towards Devising A New Approach in Developing Semi-Automated Grass Cutter, International Jour. of Mech. & Mechatronics Engineering, Vol.10 No. 4, August 2010, pp.1-5
21. **Sivarao**, et al., Design and Development of ANFIS Intelligent Model To predict Laser Processing Kerf Width, Journal of Advanced manufacturing Technology, vol.4, No.2 (special edition), 2010.
22. **Sivarao**, et al., Electrical & Mechanical Fault Alert Traffic Light System Using Wireless Technology, International Jour. of Mech. & Mechatronics Engineering, Vol.10 No.4, August 2010, pp.19-22
23. **Sivarao**, et al., Surface Quality Investigation of Al 6061- T6511 Using TiAlN Coated Milling Tool, International Journal of Basic & Applied Sciences, Vol.10 No.4, August 2010, pp.55-59
24. Siva kumar, **Sivarao**, Mazran, et al., Flood level indicator and risk warning system for remote location monitoring using Flood Observatory System, WSEAS TRANSACTIONS on SYSTEMS and CONTROL, Issue 3, Volume 5, March 2010, pp.153-163
25. **Sivarao**, et al., RSM Based Modeling for Surface Roughness Prediction in Laser Machining, International Journal of Engineering & Technology, Vol.10 No. 4, August 2010, pp.32-39.
26. Siva Kumar, VigneswaraRao, **Sivarao**, Abdul Hamid, "Flood level indicator and risk warning system for remote location monitoring using Flood Observatory System", WSEAS TRANSACTIONS on SYSTEMS and CONTROL, Issue 3, Volume 5, March 2010, pp. 153-163, ISSN: 1991-8763
27. Siva Kumar, VigneswaraRao, **Sivarao**, Abdul Hamid, "Automated traffic light system for road user's safety in two lane road construction sites" WSEAS TRANSACTIONS on CIRCUITS and SYSTEMS, Issue 2, Volume 9, February 2010, pp. 71-80, ISSN: 1109-2734
28. **Sivarao**, Peter Brevern, N.S.M. El-Tayeb&V.C.Vengкатesh "Modeling of Laser Processing Cut Quality by Adaptive Network-based Fuzzy Inference System (ANFIS)", Proc. IMechE, Part C: Journal of Mechanical Engineering Science, UK, Vol.223, No.10, 2369-2381, 2009.

29. **Sivarao**, Castilo, Tajul, "Surface Roughness Prediction in Deep Drilling by Fuzzy Expert System", International Journal of Mechanical & Mechatronics Engineering (IJMME), Vol.9, No.9, 331-335, 2009.
30. **Sivarao**, Peter Brevern, N.S.M. El-Tayeb&V.C.Vengkatesh , "GUI Based ANFIS Modeling: Back Propagation Optimization Method for CO2 Laser Machining", International Journal of Intelligent Information Technology Application, Vol.2 , No. 4, 191-198, 2009.
31. **Sivarao**, T.J.S. Anand, M.Warikh, "Engineering of Tire Pressure Controlling Device: An Invention Towards Successful Product Development", International Journal of Basic & Applied Sciences (IJBAS), Vol. 9, No. 9, 261-264, 2009.
32. **Sivarao**, Peter Brevern, N.S.M. El-Tayeb, V.C.Vengkatesh, "Modeling, Testing and Experimental Validation of Laser Machining Micro Quality Response by Artificial Neural Network", International Journal of Engineering & Technology (IJET) Vol.9, No.9, 161-166, 2009.
33. **Sivarao**, Peter Brevern, N.S.M. El-Tayeb, "A New Approach of ANFIS Modeling for Laser Processing – GUI Based", Journal of Computer Science, USA, Vol.5, No.10, 704-710, 2009.
34. **Sivarao**, Peter Brevern, N.S.M. El-Tayeb, "ANFIS Modeling of Laser Machining Responses by Specially Developed Graphical User Interface", International Journal of Mechanical & Mechatronics Engineering (IJMME), Vol.9, No.9, 181-189, 2009.
35. **Sivarao**, Md. Dan Palil, A.Kamely, "Fuzzy Expert System Modeling of Laser Processing" Issue of Special Edition, Journal of Advanced Manufacturing Technology (AMT), Vol.3, No.1, 35-43, 2009.
36. **Sivarao**, Castillo, Taufik, "Machining Quality Predictions: Comparative Analysis of Neural Network and Fuzzy Logic", International Journal of Electrical & Computer Sciences (IJECS), Vol.9, No.9, 451-456, 2009.
37. **Sivarao** and ThoguluvaVijayaram, "Determination Of Tensile, Flexural Properties And Microstructural Characterization of Calcium Carbonate Filler Reinforced Polypropylene Matrix Composites", Transactions of Indian Institute of Metals, Vol.62, No.3, 245-248, 2009.
38. **Sivarao**, M. Amarnath, M.S.Rizal, A.Kamely, "An Investigation Toward Development of Economical Brake Lining Wear Alert System", International Journal of Engineering & Technology (IJET), Vol.9, No.9, 251-256, 2009.
39. **Sivarao**, Peter Brevern, N.S.M. El-Tayeb, V.C.Vengkatesh, "GUI Based Mamdani Fuzzy Inference System Modeling To Predict Surface Roughness in Laser Machining", International Journal of Electrical & Computer Sciences (IJECS), Vol.9, No.9, 281-288, 2009.
40. ThoguluvaVijayaram and **Sivarao**, " Surface Finish Investigation on Anchor-Shaped Lead Casting" Indian Foundry Journal, Vol.54, No.6, 27-30, 2008.
41. **Sivarao P.S.** and C.W.Chin, "Comparison of Statistical and Mathematical Method for Tool Wear in Drilling" Journal of Mechanical Engineering, StrojnickýCasopis, vol. 55, 4, pp. 187-198, 2004, ISSN 0039-2472.
42. **Sivarao**, T.S.Lee and C.W.Chin, "Comparative Performance Analysis and Postulation Modeling of Tool Wear in Drilling" American Journal of Science and Engineering (AJSE), American International University of Bangladesh, Bangladesh, vol. 3, 1, pp. 75-82, 2004, ISSN 1608-3679.
43. C.W.Chin, T.S.Lee and **Sivarao**, "Comparative Analysis & Modeling of Surface Roughness in Drilling", International Journal of Applied Mechanics and Engineering, Poland, vol. 9, Special Issue: ITC 2004, pp. 305-311, 2004, ISSN 1425-1655.
44. C.W.Chin, T.S.Lee and **Sivarao**, "Comparative Performance Analysis & Modeling of Tool Wear in Drilling", International Journal of Applied Mechanics and Engineering, Poland, vol. 9, Special Issue: ITC 2004, pp. 33-38, 2004, ISSN 1425-1655.

### C. INTERNATIONAL PROCEEDINGS

1. T. Joseph Sahaya Ananad, **Sivarao**, K. Ganesh Kumar, Mechanical and Chemical Properties of Intermetallic Ni3Al for Automotive Body, Seminar Hasil Penyelidikan, Kementerian Pengajian Tinggi, November 2012, Akademi Kepimpinan Pengajian tinggi (AKEPT), 8-9 November 2012.



2. Haeryip Sihombing, Yuhazri Yaakob, Saifudin Hafiz Yahaya, **Sivarao Subramonian** and Muhammad Hannan Kamarzaman, The Measurement of Herzberg' Employees Satisfaction using Kano Method, International Conference on Design and Concurrent Engineering, iDECON2012, 15-16 October 2012, Melaka, Malaysia.
3. Mohd Amran Md Ali, Raja Izamshah Raja Abdullah, Mohd Hadzley Abu Bakar, Nur Izan Syahriah Hussein, **Sivarao Subramonian**, Shogo Nobukawa and Masayuki Yamaguchi, Mechanical Properties of Polypropylene Composites Containing Polymer Fibers, International Conference on Design and Concurrent Engineering, iDECON2012, 15-16 October 2012, Melaka, Malaysia.
4. Mohd Yunus, M.F., Hussein, N.I.S., Md Ali, M. A. and **Subramonian, S.**, Effect of CNC Ball Nose End Milling Process Parameters on Surface Roughness and Chip Length of Aluminium Alloy 6061, International Conference on Design and Concurrent Engineering, iDECON2012, 15-16 October 2012, Melaka, Malaysia.
5. Raja Izamshah, Mohd Hadzley Abu Bakar, Mohd Amran Md Ali and **Sivarao**, Effects of End Mill Clearance Angle on Surface Error for Machining Low Rigidity Aerospace Structure Component, International Conference on Design and Concurrent Engineering, iDECON2012, 15-16 October 2012, Melaka, Malaysia.
6. Mohd Yunus, M.F., Hussein, N.I.S., Md Ali, M. A., **Subramonian, S.**, Effect of CNC Ball Nose End Milling Process Parameters on Surface Roughness and Chip Length of Aluminium Alloy 6061, International Conference on Design and Concurrent Engineering, iDECON2012, 15-16 October 2012, Melaka, Malaysia.
7. Siva kumar, **Sivarao**, Mazran, et al., Safety Traffic Light System For Road Construction Site, 4th International Symposium on Broadband and Communication (ISBC2010), 11th - 14th July 2010, Melaka, Malaysia.
8. Suresh Kumar, **Sivarao**, et al., Influence of Wafer Probing Against Initial Bonding, 34th International Electronics Manufacturing Technology Conference (IEMT2010), 30th November - 2nd December 2010, Melaka, Malaysia.
9. Taufik, KeeKuoZhuan, TajulAriffin, **Sivarao**, Design Optimization On Rotary Draw Tube Bending Parameters Using FEA, International Conference on Design and Concurrent Engineering (iDECON 2010), 20th – 21st September 2010, Melaka, Malaysia.
10. Suresh Kumar, **Sivarao**, et al., Solving Eventual Bonding Quality To Enhance Adhesion For QFN Packages, 34th International Electronics Manufacturing Technology Conference (IEMT2010), 30th November - 2nd December 2010, Melaka, Malaysia.
11. Taufik, Tajul, **Sivarao**, et al., Design and analysis of long cylindrical workpiece fixtures, The 2nd International Conference on Engineering & ICT (ICEI2010), 18th-20th February 2010, Melaka, Malaysia.
12. Rahim, A.S., Hambali, A., Z.Marjom, **Sivarao**, Khairul, A.R., Optimization Design of a Portable Hose Reel Using Integrated Approach, International Conference on Design and Concurrent Engineering (iDECON 2010), 20th – 21st September 2010, Melaka, Malaysia.
13. Ganesh, **Sivarao**, Anand, An overview of Intermetallic Nickel Aluminides (Ni3Al) as an alternative Automotive Body Material, International Conference on Design and Concurrent Engineering (iDECON 2010), 20th – 21st September 2010, Melaka, Malaysia.
14. Taufik, Aman Shah, S., Abdullah, T.S, **Sivarao**, Design Rules for Sheet Metal working Based on Design for Manufacture (DFM) Methodology, International Conference on Design and Concurrent Engineering (iDECON 2010), 20th – 21st September 2010, Melaka, Malaysia.
15. Taufik, Tajul, **Sivarao**, et al., Design and analysis of multi LED fixtures by rapid prototyping, The 2nd International Conference on Engineering & ICT (ICEI2010), 18th-20th February 2010, Melaka, Malaysia.
16. **Sivarao**, A. Tajul, Taufik, "Design and development of Automatic Tyre Pressure Controller", International conference on Applications and Design in Mechanical (ICADME '09), Penang, Malaysia, 11-13 October 2009.
17. **Sivarao**, M.S.Rizal, A.Tajul, Taufik, "Development of Man-Machine Interface Using Matlab: An Adaptive Network-Based Fuzzy Inference System Modeling For Laser Machining", International Conference on Man Machine Systems (ICoMMS '09), Penang, Malaysia, 11-13 October 2009.
18. **Sivarao**, A.Tajul, Taufik, Micro sensor Embedded Brake Pad Monitoring System, International conference on Applications and Design in Mechanical (ICADME '09), Penang, Malaysia, 11-13 October 2009.

19. **Sivarao**, Azhar Shah, Mohd Rizal Salleh, Kamely A, Tajul.A, Taufik, "Mechanical Properties Modification of PolyEthylene for CaCo<sub>3</sub> Particulated Composites", The International Conference on Advances in Materials and Processing Technologies (AMPT '09), Kuala Lumpur, Malaysia, 26-29 October 2009.
20. **Sivarao**, Azhar Shah, Mohd Rizal Salleh, Kamely A, Tajul.A, Taufik, "Characterizing Chicken Egg Shell Reinforced PolyPropylene", The International Conference on Advances in Materials and Processing Technologies (AMPT '09), Kuala Lumpur, Malaysia, 26-29 October 2009.
21. Taufik, S.Sulaiman, T.A.Abdullah, **Sivarao**, "Design and Simulation on Cast Metal Matrix Composite By Investment Casting", The International Conference on Advances in Materials and Processing Technologies (AMPT '09), Kuala Lumpur, Malaysia, 26-29 October 2009.
22. Taufik, S.Sulaiman, T.A.Abdullah, **Sivarao**, "Design and Simulation on compressor Metal Matrix Composite By Investment Casting", The International Conference on Advances in Materials and Processing Technologies (AMPT '09), Kuala Lumpur, Malaysia, 26-29 October 2009.
23. Taufik, OngCheeShen, TajulAriffin Abdullah, **Sivarao**, "Design and Analysis of Multi LED Machine Fixture" International conference on Applications and Design in Mechanical (ICADME '09), Penang, Malaysia, 11-13 October 2009.
24. **Sivarao**, "Regression Model Development of Two Layer Control System Based on Engine RPM" Curtin University of Technology Science and Engineering International Conference 2008 (CUTSE 2008), Curtin University of Technology, Miri, Sarawak, Malaysia, 24 – 27 November 2008.
25. **Sivarao**, "Super Saving Cooling System: A New Design and Analysis for Home Air-Conditioning" Curtin University of Technology Science and Engineering International Conference 2008 (CUTSE 2008), Curtin University of Technology, Miri, Sarawak, Malaysia, 24 – 27 November 2008.
26. **Sivarao**, "New Approach to Replace Home Air-Conditioning: A Novel Design to Develop Natural Cooling System" International Conference On Science & Technology (icstie'08), Penang, Malaysia, 12-13 December 2008.
27. **Sivarao**, Sivasan Karan Nair, "Full Hydraulic Transmission System Design for Automobile Application" International Conference On Science & Technology (icstie'08), Penang, Malaysia, 12-13 December 2008.
28. **Sivarao**, Sivasan Karan Nair, "PV-Elite Based Design and Analysis of Pressure Vessel – Air Receiver for O&G Industry" International Conference On Science & Technology (icstie'08), Penang, Malaysia, 12-13 December 2008.
29. **Sivarao**, Sivasan Karan Nair, "Rapid Improvement of Duty Cycle: Re-engineering of a Portable Welding Machine Performance" International Conference On Science & Technology (icstie'08), Penang, Malaysia, 12-13 December 2008.
30. **Sivarao**, ThoguluvaVijayaram, IntanSharhida, ZurinaShamsudin, "Creep Characteristics of Calcium Carbonate particulatedPolyPropylene Matrix" International Conference On Science & Technology (icstie'08), Penang, Malaysia, 12-13 December 2008.
31. **Sivarao**, ThoguluvaVijayaram, Sivasan Karan Nair, "Automatic Cutting Fluid Control in Milling: Towards Improved Tribology and Economical Manufacturing Practice" International Conference On Science & Technology (icstie'08), Penang, Malaysia, 12-13 December 2008.
32. **Sivarao**, "Micro Quality Investigation Of Mn-Mo Pressure Vessel Plate In Laser Machining" World Engineering Congress (UPM - IEM), Penang, Malaysia, 5-9 August 2007.
33. **Sivarao**, "Back-Propagation Neural Network Predictive Modeling in Laser Machining", Regional Conference On Engineering Mathematics, Mechanics, Manufacturing & Architecture (Em3arc) 2007, University KebangsaanMalaysia, 27-28 November 2007.
34. **Sivarao**, Taufik, "Design and Development of an Automobile Brake Lining Monitoring System", International Conference on Engineering & ICT (ICEI'07), Equatorial Hotel, Melaka, Malaysia, 27-28 November 2007.
35. **Sivarao**, Rahim, Taufik, Ammar "Coating Characterization of TiN&TiAlN on Burr Formation in Drilling - Pragmatic Investigation", International Conference on Engineering & ICT (ICEI'07) Equatorial Hotel, Melaka, Malaysia 27-28 Nov. 2007.
36. **Sivarao**, Taufik "Comparative Quality Investigation of Rolled and Flat Carbon Steel Plates in Drilling", International

Conference On Engineering & ICT (ICEI'07) Equatorial Hotel, Melaka, Malaysia, 27-28 November 2007.

#### D. NATIONAL PROCEEDINGS

1. Taufik, Tajul Ariffin, **Sivarao**, Design and simulation of offshore wind power platform, Malaysia Technical Universities Conference on Engineering and Technology, 28th – 29th June 2010, Melaka, Malaysia.
2. Ganesh, **Sivarao**, T.J.S. Ananad, Mechanical Properties of Intermetallic Aluminides for Automotive Body Materials, National Conference on Advanced Manufacturing & Material Engineering 2010, Universiti Tun Hussein Onn Malaysia, Johor
3. **Sivarao**, “Automatic Tyre Pressure Controller (ATPC)”, National Conference on Bumiputra Small Medium (SME) Industries, Academy of Malaysian SMEs, Putra World Trade Centre (PWTC), 10-11 March, 2009.
4. **Sivarao**, M.S.Kasim, Sivasan, M.A.Sulaiman, A.R.M.Warikh, Taufik, Tajul.A, “Double Layer Control System Based on Engine RPM: A Regression Model Development & Practical Application”, Malaysian Technical Universities Conference on Engineering and Technology 2009 (MUCEET 2009), MS Garden Hotel, Kuantan, Pahang, Malaysia, 20-22 June 2009.
5. **Sivarao**, Taufik, M.S.Kasim, Sivasan, M.A.Kamely, A.R.M.Warikh, M.A.Sulaiman, Tajul.A, “Fully Automated Transmission System in Automobile Application: A Feasible Investigation”, Malaysian Technical Universities Conference on Engineering and Technology 2009 (MUCEET 2009), MS Garden Hotel, Kuantan, Pahang, Malaysia, 20-22 June 2009.
6. **Sivarao**, M.S.Kasim, Sivasan, N.I.S Hussein, A.R.M.Warikh, A.S.Rahim, Tajul.A, Taufik, “Preliminary Investigation of Developing Most Economical Cooling System Utilizing Underground Time-Delay Characteristics”, Malaysian Technical Universities Conference on Engineering and Technology 2009 (MUCEET 2009), MS Garden Hotel, Kuantan, Pahang, Malaysia, 20-22 June 2009.
7. Rusydah, Shahir, **Sivarao**, Rizal, “Experimental Investigation of Significance Parameters in Surface Grinding – Quality Evaluation” National Conference on Design & Concurrent Engineering 2008 (DECON2008), Avilion Legacy Hotel, Melaka, Malaysia, 28-29 March 2008.
8. **Sivarao**, Rahim, Hadzley, Taufik, “Micro Switch Embedment - Brake Lining Wear Limit Alert System”, Malaysian Technical Universities Conference on Engineering and Technology (MUCET'08), PutraPalace, Perlis, Malaysia, 8-10 March 2008.
9. Abdul Rahim, **Sivarao**, Hadzley, “Optimal Setting of Core Parameters in CO<sub>2</sub> Laser Machining Quality Investigation” Malaysian Technical Universities Conference on Engineering and Technology (MUCET'08), Putra Palace, Perlis, Malaysia, 8-10 March 2008.
10. Taufik, Shajahan, and **Sivarao**, “Study on Design Optimization in Designing of Sheet Metal Part” Malaysian Technical Universities Conference on Engineering and Technology (MUCET'08), Putra Palace, Perlis, Malaysia, 8-10 March 2008.
11. **Sivarao**, Rahim, Hadzley, Taufik, “Investigation of Embedding Brake Lining Wear Limit Sensor on Malaysian Made Proton Perdana V6 Using Brake Linings Manufactured in Malaysia” REACH, Quality Hotel, Kuala Lumpur, Malaysia, 2007.
12. **Sivarao**, BagasWardono, Rahim, Taufik, “Residual Effect on Quality of Rolled & Flat Steel Plates in Drilling” REACH, Quality Hotel, Kuala Lumpur, Malaysia, 2007.
13. Rahim and **Sivarao**, “Burr Formation Investigation with TiN&TiAlN Coated Twist Drills” REACH, Quality Hotel, Kuala Lumpur, Malaysia, 2007.
14. Rahim and **Sivarao**, “Effect of Pressure, Frequency and Duty Cycle on Laser Cut Surface” REACH, Quality Hotel, Kuala Lumpur, Malaysia, 2007.
15. Taufik, Shajahan, and **Sivarao**, “Design Rules Optimization in Designing of Sheet Metal Part” REACH, Quality Hotel, Kuala Lumpur, Malaysia, 2007.

16. **Sivarao**, "Linguistic Fuzzy Modeling In Laser Machining Quality Evaluation", Malaysian Science and Technology Congress (MSTC2007), Holiday Villa, Kuala Lumpur, Malaysia, 4-6 September 2007.

## **VII. CONSULTATION:**

### **A. University Consultation**

- i. 2010 - Innovation Essential Talk to Politeknik staff (co-organized by Ministry of Higher Education)
- ii. 2011 - MSc. project supervisor (MSc. 'off-shore' programme – Politeknik Johor Bahru, Johor)
- iii. 2011 - MSc. project presentation panel (MSc. 'off-shore' programme – Politeknik Kota Kinabalu, Sabah)
- iv. 2012 - MSc. project presentation panel (MSc. 'off-shore' programme – Politeknik Johor Bahru, Johor)

### **B. Private Consultation**

- i. 2008 – Design of fire fighting system for 5 storey building (M&E consultant, JB)
- ii. 2008 – Design of central air conditioning system for 10,000 m<sup>2</sup> occupancy building (M&E consultant, JB)
- iii. 2009 - Design of plumbing and sewage system for 10 storey apartment (M&E consultant, JB)
- iv. 2010 – Design of split air conditioning, sewage, and plumbing system for Chinese temple (M&E consultant, JB).
- v. 2010 – Design of 20' hydraulic ram for palm kernel shell hush loading (Premium Vegetable Oil, JB)
- vi. 2010 – Design of condensing system for hexane regain (Premium Vegetable Oil, JB)
- vii. 2011 – Design of motor transmission tracking system (Kara Eng., KL & JB)
- viii. 2011 – Design of a heat exchanger and piping (Entropy Eng., JB)
- ix. 2012 – System efficiency Improvement for Hexane regain (Premium Vegetable Oil, JB) - Ongoing

## **VIII. JUDGE/JURY/PANEL FOR INVENTION, INNOVATION & RESEARCH GRANT:**

- i. International Invention Innovation & Technology Exhibition (ITEX)
- ii. Grass Root Innovation Programme, Yayasan Inovasi Malaysia (YIM)
- iii. Private Sector Innovation Awarding Program (Educational Institution & Industries), Melaka
- iv. Science Fair For Young Children, Malacca State
- v. MyInovasi 2012 KPT Flagship programme Invited to speak as an Innovator
- vi. Malaysia Technology Expo (MTE) Innovative Product Screening, UTeM
- vii. Innovation and Technology Competition (INOTEK), UTeM
- viii. Pertandingan Inovasi Program Perkaya Inovasi Politeknik Merlimau Melaka
- ix. Design And Innovation Technology (DENOTECH) Exhibition, UTeM
- x. MAL Technical & Innovation Symposium, Infineon
- xi. Fundamental Research Grant Scheme (FRGS), UTeM
- xii. Short Term Research Grant (PJP), UTeM

xiii. Co-Founder of Persatuan Gerak Inovasi Malaysia (InoMa)

## **IX. REVIEWER & EDITORIAL BOARD MEMBER:**

- i. Journal of Engineering Manufacture (JEM) - Proceedings of the Institution of Mechanical Engineers (I. Mech. E) Part B, UK.
- ii. International Journal of Materials And Product Technology (IJMPT) – Special Issue on: “Intelligent Machining- Computational Methods and Optimization”
- iii. Journal of Mechanical Engineering Science (JMES) - Proceedings of the Institution of Mechanical Engineers (I. Mech. E), Part C, UK.
- iv. Journal of Engineering Science And Technology Review (JESTR), Lucas, Kavala, Greece.
- v. Journal of Electrical and Electronics Engineering Research (JEEER).
- vi. Journal of Engineering Science & Technology (JESTEC), School of Engineering, Taylor’s University, Malaysia.
- vii. International Journal of Artificial Intelligence and Soft Computing (IJASCI)
- viii. International Journal of Swarm Intelligence Research (IJSIR)
- ix. Journal of Reinforced Plastics and Composites (JRPC)
- x. Journal of Scientific Research and Reviews (JSRR)
- xi. African Journal of Biotechnology (AJB)
- xii. International Conference on Manufacturing Science and Technology (ICOMAST2006), Multimedia University, Malaysia.
- xiii. International Conference on Intelligent & Advanced Systems (ICIAS2007), Kuala Lumpur Convention Centre - UTP, Malaysia

## **X. ACADEMIC SUPERVISION**

- i. Doctor of Philosophy (PhD.) - Five (5)
- ii. Masters of Science (MSc.) - Twelve (12)
- iii. Final Year Project (FYP) – Seventy Two (72)
- iv. International Internship – One (1)

