

BRIEF CV



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Academic Qualification:

- Ph.D. in Materials Engineering, UPM, Malaysia. 2009
- MSc. in Structural Materials, UPM, Malaysia. 2002
- B.Eng. Mechanical & Materials Engineering, UKM, Malaysia 1998

Professional Qualification/ Membership/ Affiliation:

- Graduate Member Board of Engineers, Malaysia (BEM) Since 2002
- Member Institute of Material Malaysia (IMM) 2004-2009
- Member Persatuan Industri Komposit (PIK) 2011-to date
- Member The International Scientific Society of Food, Agriculture and Environment (ISFAE Working Group-sub section of Sustainable Agriculture) 2008- to date

Appointments:

- Aug 2012 – to date Associate Professor, Universiti Putra Malaysia
- March 2010- to date Head, Laboratory of Biocomposite Technology, INTROP, UPM
- June 2008 – July 2012 Senior Lecturer, Universiti Putra Malaysia
- Aug. 2003 - May 2008 Lecturer, Universiti Putra Malaysia
- Jan. 2000 - Jul. 2003 Tutor, Universiti Putra Malaysia
- Jan 1999- Dec 1999 Trainee, Proton Berhad

Area of interests :

Mechanical & Materials Engineering, Composite Materials

Research Topics (Project Leader);

- An experimental investigation on Banana pseudo-stem reinforced PVC composite, Young Lecturer Grant Scheme completed, 2006-2007
- Effect of kenaf nanofibers on strength and other properties of paper, FRGS, completed, 2010-2012
- Characterization and Development of Hybridized Composite Derived From Kenaf Fibers and Pineapple Leaf Fibre (PALF) Reinforced High Density Polyethylene, RUGS, ongoing, 2011-2013
- Optimum formulation and mechanical properties of kenaf fiber reinforced PVC injection molded composites, RUGS, ongoing, 2011-2013
- Experimental determination of fatigue/creep life of 316L stainless steel at high temperature, RUGS, ongoing, 2012-2013

Student Supervision

2 Ph.D. (main supervisor, 1 completed, 1 ongoing)

3 M.Sc. (main supervisor, 1 completed, 2 ongoing)

5 Ph.D. (co-supervisor, 2 completed, 3 ongoing)

6 M.Sc. (co-supervisor, 3 completed, 3 on-going)

Publications:

CIJ indexed

1. L. Yusriah, S.M. Sapuan, E.S. **Zainudin** and M. Mariatti. Exploring the potential of betel nut husk fiber as reinforcement in polymer composites: effect of fiber maturity. *Procedia Chemistry*, 4, pp 87-94, 2012. (Indexed in Thomson ISI)
2. Sahari, J, Sapuan, S.M., **Zainudin**, E.S., Maleque, M.A. A new approach to use *Arenga pinnata* as sustainable biopolymer: effects of plasticizers on physical properties. *Procedia Chemistry*, 4, pp 254-259, 2012. (Indexed in Thomson ISI)
3. Aji, I.S., **Zainudin**, E.S., Khalina, A., Sapuan, S.M., Khairul, M.D., Mechanical properties and water absorption behaviour of hybridized Kenaf/Palf-Reinforced HDPE Composites, *Journal of Composites Materials*, **in press**, 2012. **(IF 0.968)**
4. Aji, I.S., **Zainudin**, E.S., Khalina, A., Sapuan, S.M., Khairul, M.D., Study of Hybridized Kenaf/Palf-Reinforced HDPE Composites by Dynamic Mechanical Analysis, *Polymer Plastics Technology and Engineering*, **51** (2), pp146-153, 2012. **(IF 0.558)**
5. D. Bachtiar, S.M. Sapuan, A. Khalina, E. S. **Zainudin** and Z.D. Khairul, The Flexural, impact and thermal properties of un-treated short sugar palm fibre reinforced high impact polystyrene (HIPS) composites, *Polymer and Polymer Composites*, **20** (5), pp493-501, 2012. **(IF 0.45)**
6. D. Bachtiar, S.M. Sapuan, A. Khalina, E. S. **Zainudin** and Z.D. Khairul, Flexural and impact properties of chemically treated sugar palm fibre reinforced high impact polystyrene composites, *Fibers and Polymers*, **in press**, 2012 **(IF 0.832)**.
7. El-Shekeil, Y.A., Sapuan, S.M., Khalina, A., **Zainudin**, E.S., Al-Shuja'a, O.M. Influence of fiber content on the mechanical and thermal properties of Kenaf fiber reinforced thermoplastic polyurethane composites, *Materials and Design*, **40**, pp 299-303, 2012. **(IF 1.694)**
8. Lima, R.M., Ismarrubie, Z.N., **Zainudin**, E.S., Tang, S.H., Effect of length on crashworthiness parameters and failure modes of steel and hybrid tube made by steel and GFRP under low velocity impact, *International Journal of Crashworthiness*, vol 17(3), pp 319-325, 2012. **(IF 0.607)**
9. El-Shekeil, Y.A., Sapuan, S.M., Khalina, A., **Zainudin**, E.S., Al-Shuja'a, O.M. Effect of alkali treatment on mechanical and thermal properties of Kenaf fiber-reinforced thermoplastic polyurethane composite, *Journal of Thermal Analysis and Calorimetry*, in press, 2012. **(IF 1.752)**
10. Lima, R.M., Ismarrubie, Z.N., **Zainudin**, E.S., Tang, S.H., Energy absorption capability of hybrid tube made by mild steel and GFRP under Quasi-Static Loading, *Advanced Materials Research*, vol 383-390, pp 2741-2746, 2012 . (Indexed in Scopus)
11. Aji, I.S., **Zainudin**, E.S., Khalina, A., Sapuan, S.M., Khairul, M.D., Thermal property determination of hybridized kenaf/PALF reinforced HDPE composite by thermogravimetric analysis, *Journal of Thermal Analysis and Calorimetry*, 109(2), pp 893-900, 2012. **(IF 1.752)**
12. Sahari, J, Sapuan, S.M., **Zainudin**, E.S., Maleque, M.A. Sugar Palm Tree: A Versatile Plant and Novel Source for Biofibers, Biomatrices and Biocomposites. *Polymers from Renewable Resources*, 3(2), pp 33-50, 2012. (Indexed in Thomson ISI)

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13. L. Yusriah, S.M. Sapuan, E.S. **Zainudin** and M. Mariatti, Review on underutilized Malaysian agro-wastes as reinforcements in polymer composites, *Journal of Polymer Materials*, 29, no. 2, pp. 21-36, 2012 **(IF 0.435)**.
14. S. Aji, E.S. **Zainudin**, S. M. Sapuan, and A. Khalina, K.M.Z Dahlan, Electron Beam Cross-Linking Of Hybridized Kenaf/Pineapple Leaf Fiber-Reinforced High-Density Polyethylene Composite With And Without Cross-Linking Agents, *Journal of Reinforced Plastics and Composites*, **30**(21) 1827–1838, 2011. **(IF 0.823)**
15. I.S. Aji, E.S. **Zainudin**, A. Khalina and S.M. Sapuan, Studying the effect of fibre size and loading on the mechanical properties of hybridized kenaf/PALF HDPE composite, *Journal of Reinforced Plastics and Composites*, **30**, no. 6, pp. 546-553, 2011, Sage Publications Ltd. **(IF 0.763)**.
16. S. Aji, E.S. **Zainudin**, S. M. Sapuan, and A. Khalina, K.M.Z Dahlan, Studying the effect of fiber size and fiber loading on the mechanical properties of hybridized kenaf/PALF-reinforced HDPE composite, *Journal of Reinforced Plastics and Composites*, 30(6) 546–553, 2011. **(IF 0.823)**
17. S.D Mohieldin, E.S **Zainudin**, M.T Paridah and Z.M Ainun, Nanotechnology in Pulp and Paper Industries: A Review, *Key Engineering Materials Vols. 471-472 (2011) pp 251-256. (Indexed in Scopus)*
18. S. Aji, E.S. **Zainudin**, S. M. Sapuan, and A. Khalina, Optimizing Processing Parameters Of Hybridized Kenaf/Palf Reinforced HDPE Composite, *Key Engineering Materials Vols. 471-472 (2011) pp 674-679. (Indexed in Scopus)*
19. S. Aji, E.S. **Zainudin**, S. M. Sapuan, and A. Khalina, Effect Of Fibre Size And Fibre Loading On Tensile Properties Of Hybridized Kenaf/PALF Reinforced HDPE Composite, *Key Engineering Materials Vols. 471-472 (2011) pp 680-685. (Indexed in Scopus)*
20. Mohd Firdaus Abdrahman and E.S. **Zainudin**, Properties of Kenaf Filled Unplasticized Polyvinyl Chloride Composites, *Key Engineering Materials Vols. 471-472 (2011) pp 507-512. (Indexed in Scopus)*
21. Y. A. El-Shekeil, S.M. Sapuan, E.S. **Zainudin** and A. Khalina, Development of kenaf bast fiber reinforced thermoplastic polyurethane new composite, *BioResources*, 6, no. 4, pp. 4662- 4672, 2011 **(IF 1.418)**.
22. D. Bachtiar, S.M. Sapuan, E. S. **Zainudin**, A. Khalina and Z.D. Khairul, Effect of the alkaline treatment and compatibilising agent on tensile properties of sugar palm fibre reinforced high impact polystyrene (HIPS) composites, *BioResources*, 6, no. 4, pp. 4815- 4823, 2011 **(IF 1.418)**.
23. Sapuan, S.M., Kho, J.Y., **Zainudin**, E.S., Leman, Z., Ahmed Ali, B.A., Hambali, A. Materials selection for natural fiber reinforced polymer composites using analytical hierarchy process, *Indian Journal of Engineering and Materials Sciences*, 18(4), pp 255-267, 2011. **(IF 0.150)**
24. Lima, R.M., Ismarrubie, Z.N., **Zainudin**, E.S., Tang, S.H., Axial behavior of steel tube wrapped by composite as energy absorber under compressive load, ISBEIA 2011 - 2011 IEEE *Symposium on Business, Engineering and Industrial Applications*, pp 10-15, 2011. (Indexed in Scopus)
25. I.N Hanifawati, M.A Azmah Hanim, S.M Sapuan, E.S **Zainudin**, Tensile and Flexural Behavior of Hybrid Banana Pseudostem/Glass Fibre Reinforced Polyester Composites, *Key Engineering Materials Vols. 471-472 (2011) pp 686-69. (Indexed in Scopus)*
26. A.M Fairuz, S.M Sapuan and E.S **Zainudin**, Selection of polymeric based material composite for fiberglass boat components using expert system, *Key Engineering Materials Vols. 471-472 (2011) pp 1113-1117. (Indexed in Scopus)*
27. Y. A. El-Shekeil, S.M. Sapuan, E.S. **Zainudin**, Khalina Abdan, Optimizing Processing Parameters and Fiber Size for Kenaf Fiber Reinforced Thermoplastic Polyurethane Composite, *Key Engineering Materials Vols. 471-472 (2011) pp 297-302. (Indexed in Scopus)*
28. K. Abdan, E.S. **Zainudin**, A.R. Mohd. Faizal, H. Jalaluddin, A.H. Umar and W.N.W.N Syuhada, Development of Biocomposite Wall Cladding from Kenaf Fibre by Extrusion Molding Process, *Key Engineering Materials Vols. 471-472 (2011) pp 239-244. (Indexed in Scopus)*

29. Y. A. El-Shekeil, S.M. Sapuan, E.S. **Zainudin**, K. Abdan, Effect of Fiber Loading on the Mechanical Properties of Thermoplastic Polyurethane Reinforced Kenaf Fiber, *Key Engineering Materials Vols. 471-472 (2011) pp 1058-1063*. (Indexed in Scopus)
30. M.Y. Haris, D. Laila, E.S. **Zainudin**, F. Mustapha, R. Zahari and Z. Halim, Preliminary Review of Biocomposites Materials for Aircraft Radome Application, *Key Engineering Materials Vols. 471-472 (2011) pp 563-567*. (Indexed in Scopus)
31. Siti Nur Zafirah M. Zain, Z.N. Ismarrubie and E.S. **Zainudin**, The Effect of Aging Temperature on Mechanical Properties of Banana Pseudostem Fiber Reinforced Polymer Composite, *Key Engineering Materials Vols. 471-472 (2011) pp 444-448* (Indexed in Scopus)
32. A.Khalina, E.S. **Zainudin** and I. S. Aji, Rheological Behaviour of Polypropylene/Kenaf Fibre Composite: Effect of Fibre Size *Key Engineering Materials Vols. 471-472 (2011) pp 513-517*(Indexed in Scopus)
33. D.Bachtiar, S.M.Sapuan, **E.S. Zainudin**, A.Khalina and K.Z.M. Dahlan, The Tensile Properties of Single Sugar Palm (ArengaPinnata) Fibre, Institute of Physic: (*IOP Conf.Series:Materials Science and Engineering*) **11** (1), 2010, pp 012012
34. **E.S. Zainudin**, S.M. Sapuan, K. Abdan and M.T.M. Mohamad, Thermal degradation of banana pseudo-stem fibre reinforced unplasticized polyvinyl chloride composites, *Materials and Design*, **30** (3), pp 557-562, 2009. **(IF 1.518)**
35. **E.S. Zainudin**, S.M. Sapuan, K. Abdan and M.T.M.Mohamad, Dynamic mechanical behaviour of banana pseudo-stem filled unplasticized polyvinyl chloride composites, *Polymer and Polymer Composites*, **17** (1), pp55-61, 2009. **(IF 0.470)**
36. **E.S. Zainudin**, S.M. Sapuan, K. Abdan and M.T.M. Mohamad, The mechanical properties of compression molded banana pseudo-stem filled unplasticized polyvinyl chloride composites, *Polymer Plastics Technology and Engineering*, **48**, pp 97-101, 2009. **(IF 0.420)**
37. **E.S. Zainudin** and S.M. Sapuan, Impact modulus and hardness of banana pseudo-stem filled unplasticized PVC composites, *Multidiscipline Modelling in Materials and Structures*, vol 5, pp 277-282, 2009. (Indexed in Scopus)
38. R. Wirawan, **E.S. Zainudin**, and S.M. Sapuan, Review of natural fibre reinforced PVC composites, *Sains Malaysiana*, 38 (4), pp 509-513, 2009. (Indexed in Scopus)
39. Aji, I.S., Sapuan, S.M., **Zainudin**, E.S., Abdan, K Kenaf fibres as reinforcement for polymeric composites: A review, *International Journal of Mechanical and Materials Engineering*, 4(3), 2009, pp 239-248 (Indexed in Scopus)
40. **E.S. Zainudin**, J. P Siregar, A.A.A Rashdi and S.M. Sapuan, Design of an automatic egg cooker for boiled and poach eggs, *Journal of Food Science & Technology-Mysore*, **45**(2), 170–172, 2008. **(IF 0.221)**
41. S.S.S. Imihezri, S.M. Sapuan, M. M.H.M. Ahmad, S. Sulaiman and **E. S. Zainudin**, "Comparison of simulated and actual product and fabrication of polymer composite automotive clutch pedal", *International Journal of Mechanical and Materials Engineering*, **2** (1), pp 29-39, 2007 (Indexed in Scopus)
42. S.S.S. Imihezri, S.M. Sapuan, S.Sulaiman, M.M. Hamdan, **E.S. Zainudin**, M.R. Osman and M.Z. A. Rahman, Mould flow and component design analysis of polymeric based composite automotive clutch pedals, *Journal of Materials Processing Technology*, **171**, no. 3, pp. 358-365, 2006. **(IF 0.615)**
43. S.S.S. Imihezri, S.M. Sapuan, S. Sulaiman, M.M. Hamdan and **E.S. Zainudin**, "The simulation study of the effect of single and double gated molds on pressure and temperature in injection molding of polymeric composite clutch pedals", *Multidiscipline Modeling in Materials and Structures(MMMS)*, **2**(no.3), pp. 355-362, 2006. (Indexed in Scopus)
44. S.S.S. Imihezri, S.M. Sapuan, and **E.S. Zainudin**, "A review of the effect of moulding parameters in the performance of polymeric composite injection moulding process", *Turkish Journal of Engineering & Environmental Sciences*, **30**(1), pp. 23-34, 2006. (Indexed in Scopus)

45. A.M. Yaacob, S.M. Sapuan, **E.S. Zainudin**, M. Ahmad and K.Z.M. Dahlan, "An investigation on the effects of processing on the fiber length and mechanical properties of compression moulded glass fiber polypropylene composites", *Delta Journal of Science*, **29**, pp 1-9, 2006.
46. **E.S. Zainudin**, S.M. Sapuan, "A critical review of banana pseudo-stem fibre reinforced composites", *Papua New Guinea Journal of Agriculture, Forestry and Fisheries*, **48**, No 1&2, pp. 7-12, 2005 [Journal indexed/abstracted in ISI Thomson Scientifics, USA]
47. S. M. Sapuan, M.N.M. Zan, **E.S. Zainudin** and P.R. Arora,, "Tensile and flexural strengths of coconut spathe fibre reinforced composites", *Journal of Tropical Agriculture*, **43**, no. 1-2, pp. 63-65, 2005.
48. **E.S. Zainudin**, S.M. Sapuan, S. Sulaiman and M.M.H.M. Ahmad. "Fiber orientation of short fiber reinforced injection molded thermoplastic composites: A review", *Journal of Injection Molding Technology*, Vol. **6**(1): pp.1-10, 2002. (*Indexed in Scopus*)

Accepted

1. D. Bachtiar, S.M. Sapuan, E.S. **Zainudin**, A. Khalina and Z.H.M.D. Khairul, Study on mechanical properties of sugar palm fibre high impact polystyrene composites, *Polymer and Polymer Composites*, accepted, ISMITHER (Impact factor = 0.47).
2. D. Bachtiar, S.M. Sapuan, E.S. **Zainudin**, A. Khalina and K.Z.H.M. Dahlan, Characterization of alkali treated sugar palm fibre reinforced high impact polystyrene composites using thermogravimetric analysis, *Pertanika Journal of Science and Technology*, accepted.
3. I.S. Aji, E.S. **Zainudin**, M.D. Khairul, A. Khalina and S.M. Sapuan, Induced tensile strength with EB-crosslinking of hybridized kenaf/PALF reinforced HDPE composite, *Pertanika Journal of Science and Technology*, accepted.
4. Y. A. El-Shekeil, S.M. Sapuan, E.S. **Zainudin** and A. Khalina, Effect of pMDI isocyanate additive on mechanical and thermal properties of kenaf fiber reinforced thermoplastic polyurethane composite, *Bulletin of Materials Science*, accepted.
5. A.M., Fairuz, S.M. Sapuan and E.S. **Zainudin**, prototype expert system for material selection of polymeric-based composites for small fishing boat components, *Journal of Food, Agriculture and Environment*, accepted.

Non CIJ

1. Mohd Nizam Suddin, Mohd Sapuan Salit, Napsiah Ismail, Mohd Abd. Maleque and **E.S. Zainudin**, "Total design of polymer composite automotive bumper fascia", *Suranaree Journal Science Tecnology*, **12**(1): pp. 39-45, 2005.
2. **E.S. Zainudin**, S.M. Sapuan, S. Sulaiman and M.M.H.M. Ahmad, "Comparison of computational and experimental results on the fibre orientation distribution of short fibre reinforced injection moulded thermoplastic composites, *Ciencia & Tecnologia dos Materiais*, **16**, no. 4, pp. 57-60, 2004.
3. **E.S. Zainudin**, S.M. Sapuan, S. Sulaiman and M.M.H.M. Ahmad, "To Explore And Confirm The Validated Experimental Results In Short Fibre Reinforced Injection Moulded Polycarbonate Composite Disc Using MPI Technique", *Journal of Industrial Technology*, Vol. **13**(2): pp.13-19, 2004.
4. S.S.S. Imihezri, S.M. Sapuan, S. Sulaiman, M.M.Hamdan, M.R. Osman and **E.S. Zainudin**, "A simulation work to study the effect of increasing number of gates on air traps and weld line formation in injection moulded composite clutch pedal", *Journal of Applied Technology*, **2**, no. 2, pp. 105-109, 2004.

Conference Proceedings

1. Y.A. El-Shekeil, S.M. Sapuan, A. Khalina and E.S. **Zanudin**, Isocyanate chemical treatment on tensile properties of kenaf bast fibre reinforced thermoplastic polyurethane composite, Presented at *SAMPE Asia 2012 Conference and Exhibition*, Kuala Lumpur, Malaysia, 21st – 23rd February 2012.
2. W.H. Haniffah, S.M. Sapuan, A. Khalina and E.S. **Zainudin**, Degredation of kenaf polypropylene composites on cyclic immersion, Presented at *SAMPE Asia 2012 Conference and Exhibition*, Kuala Lumpur, Malaysia, 21st – 23rd February 2012.
3. E.S. **Zainudin**, S.M. Sapuan and A.H. Umar, Weathering of kenaf-HDPE composites, Presented at *SAMPE Asia 2012 Conference and Exhibition*, Kuala Lumpur, Malaysia, 21st – 23rd February 2012.
4. Y. A. El-Shekeil, S.M. Sapuan, A. Khalina, E.S. **Zainudin**, Effect of various treatments on tensile properties of kenaf fiber reinforced thermoplastic polyurethane composite, *Proceedings of the UPM-UniKL Symposium on Polymeric Materials and the Third Postgraduate Seminar on Natural Fibre Composites 2012*, Alor Gajah, Melaka, Malaysia, 2nd February 2012, pp. 23-29 (ISBN 978-983-2408-06-2).
5. D. Bachtiar, S.M. Sapuan, E.S. **Zainudin**, A. Khalina and K.Z.H.M. Dahlan, The electron beam irradiation on sugarpalm fibre reinforced high impact polystyrene composites, *Proceedings of the UPM-UniKL Symposium on Polymeric Materials and the Third Postgraduate Seminar on Natural Fibre Composites 2012*, Alor Gajah, Melaka, Malaysia, 2nd February 2012, pp. 30-35 (ISBN 978-983-2408-06-2).
6. A.H. Umar, E.S. **Zainudin** and S.M. Sapuan, Tensile properties of kenaf bast fibre reinforced polyethylene (KBF-HDPE) composite under artificial weather degradation, *Proceedings of the UPM-UniKL Symposium on Polymeric Materials and the Third Postgraduate Seminar on Natural Fibre Composites 2012*, Alor Gajah, Melaka, Malaysia, 2nd February 2012, pp. 44-51 (ISBN 978-983-2408-06-2).
7. L. Yusriah, S.M. Sapuan, E.S. **Zainudin**, M. Mariatti and J. Sahari, Development of woven fabric reinforcement from betel nut husk fiber: physical properties of BNH fiber, *Proceedings of the UPM-UniKL Symposium on Polymeric Materials and the Third Postgraduate Seminar on Natural Fibre Composites 2012*, Alor Gajah, Melaka, Malaysia, 2nd February 2012, pp. 60-67 (ISBN 978-983-2408-06-2).
8. J. Sahari, S.M. Sapuan, E.S. **Zainudin** and M.A.Maleque, Flexural properties of novel biopolymer derived from sugar palm strch, *Proceedings of the UPM-UniKL Symposium on Polymeric Materials and the Third Postgraduate Seminar on Natural Fibre Composites 2012*, Alor Gajah, Melaka, Malaysia, 2nd February 2012, pp. 78-83 (ISBN 978-983-2408-06-2).
9. B.A.A. Ali, S.M. Sapuan, M. Othman and E.S. **Zainudin**, Application development using Java based expert system for material selection of the natural fibre composite, *Proceedings of the UPM-UniKL Symposium on Polymeric Materials and the Third Postgraduate Seminar on Natural Fibre Composites 2012*, Alor Gajah, Melaka, Malaysia, 2nd February 2012, pp. 97-105 (ISBN 978-983-2408-06-2).
10. D.Bachtiar, S.M. Sapuan, E.S. Zainudin, A. Khalina and K.Z.H.M. Dahlan, The effect of irradiation beam on tensile properties of short sugar palm fibre reinforced high impact polystyrene composites, Presented at *International Conference on Innovation in Polymer Science and Technology 2011 (IPST2011)*, Bali, Indonesia, 28 Nov. – 1 Dec. 2011, p. 84 (Program and Abstract Book).
11. S. Aji, E.S. **Zainudin**, S. M. Sapuan, and A. Khalina, K.M.Z Dahlan, Variation in Tensile strength with EB-Crosslinking of Hybridized Kenaf/Palf Reinforced HDPE; Proceedings of International Seminar on Strengthening of Collaboration for Jute, Kenaf and Allied Fibres Research and Development, Dhaka, pp 240-243, 2011
12. Y. A. El-Shekeil, S.M. Sapuan, Khalina Abdan, E.S. **Zainudin** Effect of Alkali Treatment and pMDI Isocyanate Additive on Tensile Properties of Kenaf Fiber Reinforced Thermoplastic Polyurethane Composite, *2011 International Conference on Advanced Materials Engineering IPCSIT, vol.15, pp 21-25, 2011*

13. D. Bachtiar, S.M. Sapuan, E.S. **Zainudin** and K.Z.H.M. Dahlan, Characterization of sugar palm fibre reinforced high impact polystyrene composites using thermogravimetric analysis, Proceedings of UPM-Malaysian Nuclear Agency Symposium 2011, UPM - Malaysian Nuclear Agency Symposium 2011, pp 66-72
14. I.N Hanifawati, M.A Azmah Hanim, S.M Sapuan, E.S **Zainudin**, Z. Leman, A.M. Fairuz, The Effects on Tensile Properties of Hybrid Banana Pseudostem/Glass Fibre Reinforced Polyester Composites, 10th National Symposium on Polymeric Materials (NSPM2010)
15. A.H. Umar, Z. Leman, E.S. **Zainudin**, S.M. Sapuan and M.R. Ishak, The Effect of Water Absorption on the Impact Strength of Sugar Palm Fibre (*Arenga Pinnata*) Reinforced Polyester Composites, 10th National Symposium on Polymeric Materials (NSPM 2010)
16. A.M. Fairuz, A.Hambali, S.M.Sapuan, E.S.**Zainudin**, Development of Manufacturing Process Selection for Plastic Based Materials Using Analytical Hierarchy process, International Conference on Design and Concurrent Engineering (iDECON 2010), UTEm, Melaka
17. Umar, A.H, **Zainudin**, E.S, Sapuan, S.M, Fairuz,A.M, Various Tools of Materials Selection for Natural Fiber Composites, Proceedings of Conference on Advanced Processes and Materials at World Engineering Congress (WEC 2010)
18. Fairuz, A.M, Sapuan, S.M, E. S **Zainudin**, Development of natural fibre composite selection using expert system, Proceedings of Conference on Manufacturing and Technology Management at World Engineering Congress (WEC 2010)
19. D. Bachtiar, S.M. Sapuan, E.S. **Zainudin** and K.Z.H.M. Dahlan, The dynamic mechanical analysis of short sugar palm fibre reinforced high impact polystyrene (HIPS) composites, Presented at *SAMPE Asia Conference*, 18-20 January 2010, Kuala Lumpur.
20. D. Bachtiar, S.M. Sapuan, A. Khalina, E.S. **Zainudin** and H.M.D.K. Zaman, Characterization and performance of sugar palm fibre reinforced high impact polystyrene composites, *Proceedings of the 2nd Postgraduate Seminar on Natural Fibre Composites*, Serdang, Selangor, Malaysia, 18 – 19 February 2010, pp. 39-46, ISBN 978-983-2408-04-8.
21. Y.A. El-Shekeil, S.M. Sapuan, E.S. **Zainudin** and A. Khalina, Mechanical properties and environmental behavior of kenaf fibre reinforced thermoplastic polyurethane composites, *Proceedings of the 2nd Postgraduate Seminar on Natural Fibre Composites*, Serdang, Selangor, Malaysia, 18 – 19 February 2010, pp. 47-58, ISBN 978-983-2408-04-8.
22. I.S. Aji, E.S. **Zainudin**, S.M. Sapuan and A. Khalina, Effect of processing techniques on the mechanical properties of kenaf/polyethylene reinforced composites, *Proceedings of the 2nd Postgraduate Seminar on Natural Fibre Composites*, Serdang, Selangor, Malaysia, 18 – 19 February 2010, pp. 59-64, ISBN 978-983-2408-04-8.
23. I.N. Hanifawati, A.H.M. Arif, S.M. Sapuan and E.S. **Zainudin**, The mechanical and physical properties of hybrid banana pseudostem/glass fibre reinforced polyester composites, *Proceedings of the 2nd Postgraduate Seminar on Natural Fibre Composites*, Serdang, Selangor, Malaysia, 18 – 19 February 2010, pp. 65-72, ISBN 978-983-2408-04-8.
24. A.H. Umar, E.S. **Zainudin** and S.M. Sapuan, Accelerated weathering of kenaf/HDPE composites for outdoor application, *Proceedings of the 2nd Postgraduate Seminar on Natural Fibre Composites*, Serdang, Selangor, Malaysia, 18 – 19 February 2010, pp. 73-78, ISBN 978-983-2408-04-8.
25. A.M.M. Fairuz, S.M. Sapuan and E.S. **Zainudin**, Computer aided material selection for natural fibre polymer composites, *Proceedings of the 2nd Postgraduate Seminar on Natural Fibre Composites*, Serdang, Selangor, Malaysia, 18 – 19 February 2010, pp. 79-82, ISBN 978-983-2408-04-8.
26. A.R.M. Firdaus, E.S. **Zainudin** and S.M. Sapuan, Properties of extruded kenaf polymer composites, *Proceedings of the 2nd Postgraduate Seminar on Natural Fibre Composites*, Serdang, Selangor, Malaysia, 18 – 19 February 2010, pp. 131-140, ISBN 978-983-2408-04-8.

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2. M.I.H. Khamis, S.M. Sapuan, E.S **Zainudin**, R. Wirawan, B.T.H.T Baharuddin, Design And Fabrication Of Chair From Hybrid Banana Pseudo-Stem/Glass Fibre Reinforced Polyester Composite, PRPI 2009 Book of Abstract, pp 204
3. **E.S. Zainudin** and S.M. Sapuan, Tensile and flexural properties and influence of matrix modification on banana pseudo-stem filled unplasticized polyvinyl chloride composites, *the Second International Conference For Young Chemists, 2nd. USM Penang International Postgraduate Convention 2008*, Penang, Malaysia, 18-20 June 2008, pp. 408, ISBN 978-983-2700-69-2.
4. **E.S. Zainudin**, S.M. Sapuan, K. Abdan and M.T.M.Mohamad, Mechanical properties of banana pseudo-stem filled unplasticized polyvinyl chloride composites, *Kolokium Penyelidikan Pensyarah Lantikan Baharu 2006*, 20-21 August 2008, Serdang, Selangor, Malaysia (Abstract published in Book of Abstract, pp. 16) published by Research Management Centre, Universiti Putra Malaysia
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Awards & Recognitions:

	Title	Organization	Award	Year
1.	Mechanical properties of pultruded biocomposite	SAMPE Asia	2 nd poster winner	2012
2.	Properties of Kenaf Fiber Reinforced Thermoplastic Polyurethane Composite	SAMPE Asia	3 rd poster winner	2012
3.	Reduction Of Water Uptake Of Composite Through Hybridization	PRPI, UPM	Bronze Medal	2011
4.	Potential Of Pineapple Leaves Fibres As A Substitute To Glass Fibre Hybridized Composites	PRPI, UPM	Silver Medal	2011
5.	High Moisture Durability Of Moulded Biocomposite	PRPI, UPM	Silver Medal	2011
6.	Green Composite Derived From Unplasticized Polyvinyl Chloride Green Material For Industrial Building System	PRPI, UPM	Bronze Medal	2011
7.	Feasibility Of Biocomposite Processing In Manufacturing Industries	PRPI, UPM	Silver Medal	2011
8.	Green Material For Industrial Building System	PRPI, UPM	Bronze Medal	2011
9.	Volumetric Handling Solution Device	Malaysia Technology Expo (MTE)	Silver Medal	2011
10.	The Mechanical And Physical Properties Of Hybrid Banana Pseudostem/Glass Fiber Reinforced Polyester Composites	ICCST8	Best Poster	2011
11.	A Novel Method Of Handling Material	PRPI, UPM	Bronze Medal	2010
12.	Anugerah Kecemerlangan Dalam Pengajaran	Faculty Eng	Certificate	2010
13.	Design And Fabrication Of Chair From Banana Pseudostem Fibre Reinforced Polymer Composites	PRPI, UPM	Certificate	2009
14.	Anugerah Kecemerlangan Dalam Pengajaran	Faculty Eng	Certificate	2009
15.	Anugerah Perkhidmatan Cemerlang	UPM	Certificate	2009
16.	Natural Fibre Composites: Properties, Design & Fabrication	PRPI, UPM	Bronze Medal	2005

Professional Training Attended

- Innovative Thinking and Problem Solving Methodology TRIZ, UPM, April 2012
- Bengkel mengolah laporan penyelidikan kepada buku, Marriott Putrajaya, Penerbit UPM, 2012
- Tools for e-learning, iDEC UPM, CADe UPM, 2012
- Seminar on Engineered Wood In Malaysia: Standard, Design And Application, 2011
- Moving towards the commercialization of green composites for high technology applications, UPM, Mac 2011
- Workshop on composite material and structure by Prof J.N Reddy, Fakulti Kejuruteraan UPM, 20/12/2004
- Moldex software training, IME Trading Sdn Bhd, Petaling Jaya, 05-08/10/2004
- Kursus 'Towards Successful Research', Anjuran Pusat Pemajuan Profesional (PACE), UPM Serdang, 07-08/09/2004
- Problem-Based Learning (PBL) Towards Innovative and Creative Generations, Academic Development Centre, GSM, UPM Serdang, 18/03/2004
- Moldflow MPI/Flow & MPI/Fiber Training Course, Cad-It Consultants (Asia) Pte Ltd, Klana Jaya, 26-28/06/2001