CURRICULUM VITAE

Assoc. Prof. Dr. Edi Syams bin Zainudin
Department of Mechanical & Manufacturing Engineering
Faculty of Engineering, Universiti Putra Malaysia
43400 UPM Serdang, Selangor, MALAYSIA
Tel: +603-9769 6317
Fax: +603-9769 7122
edisyam@upm.edu.my

Areas of interest:

Mechanical & Materials Engineering, Composite Materials

Education and Academic Qualifications

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

Academics Appointments

- Aug 2012 - to date Assoc. Professor, Universiti Putra Malaysia
- June 2008 – July 2012 Senior Lecturer, Universiti Putra Malaysia
- Aug. 2003 - May 2008 Lecturer, Universiti Putra Malaysia
- Jan. 2000 - July 2003 Tutor, Universiti Putra Malaysia

Other admin appointments and responsibilities

1.	Position	Department/Faculty/Other Institution	Year
2.	Penyelaras Siswazah, Jabatan Kejuruteraan Mekanikal	Faculty of Engineering, UPM	2019-2021
3.	Penyelaras Penyelidikan Jabatan Kejuruteraan Mekanikal	Faculty of Engineering, UPM	2016-2017
4.	Visiting Lecturer	Fac. of Eng., Brunel University, UK	2013-2014
5.	Head, Laboratory of Biocomposite Technology	Institute of Tropical Forestry and Forest Products (INTROP), UPM	2010-to 2013
6.	Program Manager Hybrid Biocomposite	INTROP, UPM	2010-2011
7.	JKK Penubuhan Pusat Gentian Semulajadi, INTROP	Committee Member, INTROP, UPM	2011-2013
8.	Pengerusi, Jawatankuasa Hubungan Industri & Pengantarabangsaan, INTROP	INTROP, UPM	2011-2013
9.	AJK Jawatankuasa Pengurusan, Penyelidikan Dan Siswazah INTROP	INTROP, UPM	2011-2013
10.	Committee Curriculum development Master Advanced Composite	Faculty of Engineering, UPM	2011-2012
11.	AJKK Semakan Kurikulum Jabatan, Jabatan Kejuruteraan Mekanikal	Faculty of Engineering, UPM	2009-2010
12.	Penyelaras Makmal Gunasama Termodinamik	Faculty of Engineering, UPM	2009-2011
13.	Final Year Project Coordinator KMP Department	Faculty of Engineering, UPM	2009-2010
14.	Associate Researcher	ITMA, UPM	2008-2010
15.	Associate Researcher	INTROP, UPM	2008-to date

Research grants

No	Title	Role	Period (Year)	Sponsor /Grant & Amount (RM)	Status (Completed /Ongoing
1.	An experimental investigation on Banana pseudo-stem reinforced PVC composite,	**Main Researcher**	2006-2007	Young Lecturer Grant Scheme/UPM/10K	Completed
2.	Effect of kenaf nanofibers on strength and other properties of paper	**Main Researcher**	2010-2012	FRGS/KPT/42K	Completed
3.	Characterization and Development of Hybridized Composite Derived From Kenaf Fibers and Pineapple Leaf Fibre (PALF) Reinforced High Density Polyethylene	**Main Researcher**	2011-2013	RUGS/100K	Completed
4.	Optimum formulation and mechanical properties of kenaf fiber reinforced PVC injection moulded composites.	**Main Researcher**	2011-2013	RUGS/11K	Completed
5.	Compatibilization of Polyolefin/polysaccharides biocomposites with non-ionic and ionic surfactants	**Main Researcher**	2013-2015	ERGS/81K	Completed
6.	Experimental determination of fatigue/creep life of 316L stainless steel at high temperature	**Main Researcher**	2012-2013	RUGS/15K	Completed
7.	Numerical Simulation and Experimental Studies on the Fatigue Limit and Fatigue Strength in High Temperature of Type 316L Stainless Steel	**Main Researcher**	2014-2015	Sciencefund/125K	Completed
8.	Green Nano-Zinc Oxide Superhydrophobic Bamboo Paper: The Biosynthesis, Characterization and Surface Interaction	**Main Researcher**	2015-2017	FRGS/73K	Completed
9.	Characterization of Fatigue Crack Propagation Of Kenaf Fiber Reinforced Polyester Composite Under Constant Amplitude Loading	**Main Researcher**	2017-2019	GP IPS/20K	Completed
10.	Numerical and Experimental Investigation of Fibre Reinforced Injection-Moulded Thermoplastic Composites	Co-Researcher	2001-2002	UPM/RM10K	Completed
11.	Thermo-mechanical Properties of sugarcane bagasse reinforced UPVC composites	Co-Researcher	2007-2009	RUGS/77K	Completed
12.	Fiber Reinforced Plastic Composites & Process Enhancement of Injection Molding	Co-Researcher	2007-2010	EPU/180K	Completed
13.	Increased production Efficiency in Smallholder Kenaf Production Systems For Specific Industrial application; *Kenaf Decortication, Bioretting and Mechanization*	Co-Researcher	2009-2012	UNIDO/417K	Completed
14.	Increased production Efficiency in Smallholder Kenaf Production Systems For Specific Industrial application; *in-field Mechanization*	Co-Researcher	2009-2012	UNIDO/435K	Completed
15.	Mechanical and Environmental Properties of Kenaf Fibre Reinforced Thermoplastic Polyurethane Composites	Co-Researcher	2010-2012	FRGS/KPT/43K	Completed
16.	Studies on Biodegradable Mulch Film Derived from Cocoa Pod Husk (CPH) Filled Poly (Lactic Acid) Biocomposites	Co-Researcher	2011-2013	RUGS/120K	Completed

17.	Glass and Sugar Palm Fibre Reinforced Polypropylene Hybrid Composite For Automotive Side Door Impact Beam	Co-Researcher	2016-2018	GP IPS/20K	Completed
18.	Repair of Damaged E-Glass Fiber Reinforced Pipe Joints Due To Pressure Impact by Using S-2 Glass Composites	Co-Researcher	2017-2019	GP IPS/20K	Completed
19.	Characterization and development of novel biopolymer and its biocomposites derived from sugar palm tree	Co-Researcher	2013-2015	ERGS/96K	Completed
20.	Thermal Modification of Oil Palm (Elaeis Guineensis) and Bamboo (Gigantocloa Schortechnii) in Buffer Mediums and the Effect on Their Physical Mechanical and Durability Properties	Co-Researcher	2012-2013	RUGS/182K	Completed
21.	Application of hydrophilic, hydrophobic ionic liquids and their mixture for improving physical properties of PE/Natural fiber biocomposite	Co-Researcher	2014-2016	Sciencefund/142K	Completed
22.	Wave Absorption Characterization of Renewable Resource Green Materials as Bio-Substrates at RF and Microwave Frequencies	Co-Researcher	2014-2016	FRGS/98K	Completed
23.	Effect of In-situ Biosynthesis Condition on Zinc Oxide Nanoparticles Distribution in Pulp Slurry	Co-Researcher	2018-2020	GP IPS/25K	Ongoing
24.	Development of Oil Palm Empty Fruit Bunch/Sugarcane Bagasse Fibre Based Hybrid Composites Insulation Board for Construction Application	Co-Researcher	2018-2020	GP Putra Impak/150K	Ongoing
25.	Development and characterization of corn/kenaf fiber reinforced corn starch hybrid composites	Co-Researcher	2019-2021	GP Putra Impak/99K	Ongoing
26.	Manufacturing of Full Scale Prototype Anti Roll Bar Composites for a Commercial Sedan Car	Co-Researcher	2019-2021	PRGS/145K	Ongoing

PUBLICATIONS

H-index of 29 (Scopus) with 2834 citations

Latest 5 years (2016-2020) papers.

Year 2020

1. RA Ilyas, SM Sapuan, R Ibrahim, H Abral, MR Ishak, ES **Zainudin** etc. (2020). Sugar palm (Arenga pinnata [Wurmb.] Merr) starch films containing sugar palm nanofibrillated cellulose as reinforcement: Water barrier properties, Polymer Composites 41 (2), 459-467
2. FNM Padzil, ZMA Ainun, NA Kassim, SH Lee, CH Lee, H Ariffin, E.S **Zainudin** (2020). Chemical, Physical and Biological Treatments of Pineapple Leaf Fibres, in edited book "Pineapple Leaf Fibers", 73-90
3. MSA. Bakar, MS. Salit, MZM. Yusoff, ES. **Zainudin**, HH. Ya, (2020). The crashworthiness performance of stacking sequence on filament wound hybrid composite energy absorption tube subjected to quasi-static compression load, Journal of Materials Research and Technology 9 (1), 654-666.
4. SAN Mohamed, ES **Zainudin**, SM Sapuan, MD Azaman, AMT Arifin, (2020). Energy behavior assessment of rice husk fibres reinforced polymer composite. Journal of Materials Research and Technology 9 (1), 383-393.

5. MIJ Ibrahim, SM Sapuan, ES **Zainudin**, MYM Zuhri, (2020). Preparation and characterization of cornhusk/sugar palm fiber reinforced Cornstarch-based hybrid composites. Journal of Materials Research and Technology 9 (1), 200-211

2019

1. Naveen, J., Jawaid, M., **Zainudin**, E.S., Sultan, M.T.H., Yahaya, R. (2019). Evaluation of ballistic performance of hybrid Kevlar®/Cocos nucifera sheath reinforced epoxy composites, Journal of the Textile Institute, 110(8), pp. 1179-1189
2. Bobba, S., Leman, Z., Sapuan, S.M., **Zainudin**, E.S., (2019). Analysis on the impact behaviors of e and S-glass composite elbow pipe joints exposed to impact loading followed by axial compression: Analysis on impact and compression of elbow joints, International Journal of Manufacturing, Materials, and Mechanical Engineering, 9(3), pp. 14-25
3. Naveen, J., Jawaid, M., **Zainudin**, E.S., (...), Yahaya, R., Abdul Majid, M.S., (2019). Thermal degradation and viscoelastic properties of Kevlar/Cocos nucifera sheath reinforced epoxy hybrid composites, Composite Structures, 219, pp. 194-202
4. Noryani, M., Sapuan, S.M., Mastura, M.T., Zuhri, M.Y.M., **Zainudin**, E.S. (2019). Material selection of natural fibre using a stepwise regression model with error analysis, Journal of Materials Research and Technology, 8(3), pp. 2865-2879
5. Ilyas, R.A., Sapuan, S.M., Ibrahim, R., **Zainudin**, E.S (...), Norrrahim, M.N.F., Jumaidin, R. (2019). Sugar palm (Arenga pinnata (Wurmb.) Merr) cellulosic fibre hierarchy: A comprehensive approach from macro to nano scale, Journal of Materials Research and Technology, 8(3), pp. 2753-2766
6. Alaaeddin, M.H., Sapuan, S.M., Zuhri, M.Y.M., **Zainudin**, E.S., AL-Oqla, F.M. (2019). Photovoltaic applications: Status and manufacturing prospects, Renewable and Sustainable Energy Reviews, pp. 318-332
7. Ilyas, R.A., Sapuan, S.M., Ishak, M.R., **Zainudin**, E.S. (2019). Sugar palm nanofibrillated cellulose (Arenga pinnata (Wurmb.) Merr): Effect of cycles on their yield, physic-chemical, morphological and thermal behavior, International Journal of Biological Macromolecules, 123, pp. 379-388
8. Mohamed, S.A.N., **Zainudin**, E.S., Sapuan, S.M., Deros, M.A.M., Arifin, A.M.T. (2019). Integration of Taguchi-Grey relational analysis technique in parameter process optimization for rice husk composite, BioResources, 14(1), pp. 1110-1126
9. Bobba, S., Leman, Z., **Zainudin**, E.S., Sapuan, S.M..(2019). Hoop tensile strength behaviour between different thicknesses E-glass and S-glass FRP rings, AIMS Materials Science, 6(3), pp. 315-327
10. Ramlee, N.A., Jawaid, M., **Zainudin**, E.S., Yamani, S.A.K. (2019). Modification of Oil Palm Empty Fruit Bunch and Sugarcane Bagasse Biomass as Potential Reinforcement for Composites Panel and Thermal Insulation Materials, Journal of Bionic Engineering, 16(1), pp. 175-188
11. Alaaeddin, M.H., Sapuan, S.M., Zuhri, M.Y.M., **Zainudin**, E.S., Al-Oqla, F.M. (2019). Polyvinyl fluoride (PVF); Its Properties, Applications, and Manufacturing Prospects, IOP Conference Series: Materials Science and Engineering, 538(1), 012010
12. Naveen, J., Jawaid, M., **Zainudin**, E.S., Sultan, M.T.H., Yahaya, R. (2019). Improved mechanical and moisture-resistant properties of woven hybrid epoxy composites by graphene nanoplatelets (GNP), Materials, 12(8), 1249
13. Naveen, J., Jawaid, M., **Zainudin**, E.S., Sultan, M.T.H., Yahaya, R. (2019). Effect of graphene nanoplatelets on the ballistic performance of hybrid Kevlar/Cocos nucifera sheath-reinforced epoxy composites, Textile Research Journal, *Article In Press*
14. Kassim, N.A., Mohamed, A.Z., **Zainudin**, E.S., Zakaria, S., Azman, S.K.Z., Abdullah, H.H., (2019). Isolation and characterization of macerated cellulose from pineapple leaf, BioResources, 14 (1), pp. 1198-1209.
15. Khairul, M.A., Sapuan, S.M., Al-Oqla, F.M., **Zainudin**, E.S., (2019). Experimental investigation and numerical prediction for the fatigue life durability of austenitic stainless steel at room temperature, Engineering Solid Mechanics, 7 (2), pp. 121-130.
16. Naveen, J., Jawaid, M., **Zainudin**, E.S., Sultan, M.T.H., Yahaya, R. (2019). Mechanical and moisture diffusion behaviour of hybrid Kevlar/Cocos nucifera sheath reinforced epoxy composites, Journal of Materials Research and Technology, 8 (1), pp. 1308-1318.
17. S. Bobba, Z. Leman, SM. Sapuan, ES. **Zainudin**, (2019). Fluid flow and static structural analysis of E-glass versus S2-glass fiber/epoxy reinforced pipe joints. Agricultural Engineering International: CIGR Journal 21 (4), 56-63
18. ABM. Supian, SM. Sapuan, MYM. Zuhri, ES. **Zainudin**, HH Ya. (2019). Crashworthiness performance of hybrid kenaf/glass fiber reinforced epoxy tube on winding orientation effect under quasi-static compression load. Defence Technology, *in press (corrected proof*)
19. MH Zin, K Abdan, N Mazlan, ES **Zainudin**, KE Liew, MN Norizan, (2019). Automated spray up process for Pineapple Leaf Fibre hybrid biocomposites, Composites Part B: Engineering 177, 107306
20. M Noryani, SM Sapuan, MT Mastura, MYM Zuhri, ES **Zainudin**, (2019). Material Selection of a Natural Fibre Reinforced Polymer Composites using an Analytical Approach. Journal of Renewable Materials 7 (11), 1165-1179.
21. MH Alaaeddin, SM Sapuan, MYM Zuhri, ES **Zainudin**, FM Al-Oqla, (2019). Polymer matrix materials selection for short sugar palm composites using integrated multi criteria evaluation method. Composites Part B: Engineering 176, 107342
22. MH Alaaeddin, SM Sapuan, MYM Zuhri, ES **Zainudin**, FM Al-Oqla, (2019). Physical and mechanical properties of polyvinylidene fluoride-short sugar palm fiber nanocomposites. Journal of Cleaner Production 235, 473-482.

23. MIJ Ibrahim, SM Sapuan, ES **Zainudin**, MYM Zuhri, (2019). Potential of using multiscale cornhusk fiber as reinforcing filler in cornstarch-based biocomposites. International journal of biological macromolecules 139, 596-604.
24. MSN Atikah, RA Ilyas, SM Sapuan, MR Ishak, ES **Zainudin**, R Ibrahim, ...(2019). Degradation and physical properties of sugar palm starch/sugar palm nanofibrillated cellulose bionanocomposite. Polimery 64 (10), 680-89 9
25. RA Ilyas, SM Sapuan, R Ibrahim, H Abral, MR Ishak, ES **Zainudin**, ...(2019). Effect of sugar palm nanofibrillated cellulose concentrations on morphological, mechanical and physical properties of biodegradable films based on agro-waste sugar pal. Journal of Materials Research and Technology 8 (5), 4819-4830.
26. J Naveen, M Jawaid, ES **Zainudin**, MTH Sultan, R Yahaya, (2019). Improved Interlaminar Shear Behaviour of a New Hybrid Kevlar/Cocos Nucifera Sheath Composites with Graphene Nanoplatelets Modified Epoxy Matrix. Fibers and Polymers 20 (8), 1749-1753.
27. NA Ramlee, M Jawaid, ES **Zainudin**, SAK Yamani, (2019). Tensile, physical and morphological properties of oil palm empty fruit bunch/sugarcane bagasse fibre reinforced phenolic hybrid composites. Journal of Materials Research and Technology 8 (4), 3466-3474.
28. N Jesuarockiam, M Jawaid, ES **Zainudin**, M Thariq Hameed Sultan, (2019). Enhanced thermal and dynamic mechanical properties of synthetic/natural hybrid composites with graphene nanoplateletes. Polymers 11 (7), 1085.
29. S Bobba, Z Leman, SM Sapuan, ES **Zainudin**, (2019). Analysis on the Impact Behaviors of E and S-glass Composite Elbow Pipe Joints Exposed to Impact Loading Followed by Axial Compression: Analysis on Impact and Compression. International Journal of Manufacturing, Materials, and Mechanical Engineering (IJMMME) 9(3)
30. MIJ Ibrahim, SM Sapuan, ES **Zainudin**, MYM Zuhri, (2019). Extraction, Chemical Composition, and Characterization of Potential Lignocellulosic Biomasses and Polymers from Corn Plant Parts. BioResources 14 (3), 6485-6500.
31. MIJ Ibrahim, SM Sapuan, ES **Zainudin**, MYM Zuhri, A Edhirej (2019). Corn (maize)–its fibers, polymers, composites, and applications. Biodegradable Composites: Materials, Manufacturing and Engineering 10, 13.
32. Z Leman, ES **Zainudin**, SM Sapuan, (2019). Study Of Interior Temperature Distribution And Implementation Of Smart Materials In The Truck Cabin During Summer Conditions. Materials Today: Proceedings 18, 361-374.
33. MH Alaaeddin, SM Sapuan, MYM Zuhri, ES **Zainudin**, F M AL-Oqla, (2019). Development of Photovoltaic Module with Fabricated and Evaluated Novel Backsheet-Based Biocomposite Materials. Materials 12 (18), 3007
34. MH Alaaeddin, SM Sapuan, MYM Zuhri, ES **Zainudin**, F M AL-Oqla (2019). Lightweight and durable PVDF–SSPF composites for photovoltaics backsheet applications: Thermal, optical and technical properties. Materials 12 (13), 2104
35. MIJ Ibrahim, SM Sapuan, ES **Zainudin**, MYM Zuhri, (2019). Physical, thermal, morphological, and tensile properties of cornstarch-based films as affected by different plasticizers. International Journal of Food Properties 22 (1), 925-941
36. RA Ilyas, SM Sapuan, MN Norizan, MSN Atikah, MRM Huzaifah, ES **Zainudin**, etc. (2019). Potential of natural fibre composites for transport industry: a review. Prosiding Seminar Enau Kebangsaan 2019, 2-11.
37. I Mukhtar, Z Leman, ES **Zainudin**, MR Ishak (2019). Hybrid and Nonhybrid Laminate Composites of Sugar Palm and Glass Fibre-Reinforced Polypropylene: Effect of Alkali and Sodium Bicarbonate Treatments. International Journal of Polymer Science, *in press (corrected proof)*

2018

1. Ilyas, R.A., Sapuan, S.M., Ishak, M.R., **Zainudin**, E.S. Development and characterization of sugar palm nanocrystalline cellulose reinforced sugar palm starch bionanocomposites, (2018) Carbohydrate Polymers, 202, pp. 186-202.
2. Alaaeddin, M.H., Sapuan, S.M., Zuhri, M.Y.M., **Zainudin**, E.S., Al-Oqla, F.M. Properties and Common Industrial Applications of Polyvinyl fluoride (PVF) and Polyvinylidene fluoride (PVDF), (2018) IOP Conference Series: Materials Science and Engineering, 409 (1), art. no. 012021, .
3. Ilyas, R.A., Sapuan, S.M., Ishak, M.R., **Zainudin**, E.S. Water transport properties of bio-nanocomposites reinforced by sugar palm (arenga pinnata) nanofibrillated cellulose, (2018) Journal of Advanced Research in Fluid Mechanics and Thermal Sciences, 51 (2), pp. 234-246.
4. Naveen, J., Jawaid, M., **Zainudin**, E.S., Sultan, M.T.H., Yahaya, R.B. Selection of natural fiber for hybrid kevlar/natural fiber reinforced polymer composites for personal body armor by using analytical hierarchy process, (2018) Frontiers in Materials, 5, art. no. 52, .
5. Supian, A.B.M., Sapuan, S.M., Zuhri, M.Y.M., Zainudin, E.S., Ya, H.H. Hybrid reinforced thermoset polymer composite in energy absorption tube application: A review, (2018) Defence Technology, 14 (4), pp. 291-305.
6. Sobri, Z., Ainun, Z.M.A., **Zainudin**, E.S. Distribution of zinc oxide nanoparticles on unbleached and bleached bamboo paper via in-situ approaches, (2018) IOP Conference Series: Materials Science and Engineering, 368 (1), art. no. 012046, .
7. Mukhtar, I., Leman, Z., Ishak, M.R., **Zainudin**, E.S. Thermal and physicochemical properties of sugar palm fibre treated with borax (2018) IOP Conference Series: Materials Science and Engineering, 368 (1), art. no. 012038, .

8. Ilyas, R.A., Sapuan, S.M., Ishak, M.R., **Zainudin**, E.S. Sugar palm nanocrystalline cellulose reinforced sugar palm starch composite: Degradation and water-barrier properties, (2018) IOP Conference Series: Materials Science and Engineering, 368 (1), art. no. 012006, .
9. Zin, M.H., Abdan, K., Mazlan, N., **Zainudin**, E.S., Liew, K.E. The effects of alkali treatment on the mechanical and chemical properties of pineapple leaf fibres (PALF) and adhesion to epoxy resin, (2018) IOP Conference Series: Materials Science and Engineering, 368 (1), art. no. 012035, .
10. Noryani, M., Sapuan, S.M., Mastura, M.T., Zuhri, M.Y.M., **Zainudin**, E.S. Material selection criteria for natural fibre composite in automotive component: A review (2018) IOP Conference Series: Materials Science and Engineering, 368 (1), art. no. 012002, .
11. Fairuz, A.M., Sapuan, S.M., **Zainudin**, E.S., Jaafar, C.N.A. The effect of pulling speed on mechanical properties of pultruded kenaf fiber reinforced vinyl ester composites, (2018) Journal of Vinyl and Additive Technology, 24, pp. E13-E20.
12. Noryani, M., Sapuan, S.M., Mastura, M.T., Zuhri, M.Y.M., **Zainudin**, E.S. A Statistical Framework for Selecting Natural Fibre Reinforced Polymer Composites Based on Regression Model, (2018) Fibers and Polymers, 19 (5), pp. 1039-1049.
13. Mukhtar, I., Leman, Z., **Zainudin**, E.S., Ishak, M.R. Effectiveness of Alkali and Sodium Bicarbonate Treatments on Sugar Palm Fiber: Mechanical, Thermal, and Chemical Investigations, (2018) Journal of Natural Fibers, . Article in Press.
14. Naveen, J., Jawaid, M., **Zainudin**, E.S., Sultan, M.T.H., Yahaya, R. Evaluation of ballistic performance of hybrid Kevlar®/Cocos nucifera sheath reinforced epoxy composites, (2018) Journal of the Textile Institute, . Article in Press.
15. Yahaya, R., Sapuan, S.M., Jawaid, M., Lemanb, Z., **Zainudin**, E.S. Review of kenaf reinforced hybrid biocomposites: Potential for defence applications, (2018) Current Analytical Chemistry, 14 (3), pp. 226-240.
16. Ilyas, R.A., Sapuan, S.M., Sanyang, M.L., Ishak, M.R., **Zainudin**, E.S.Nanocrystalline cellulose as reinforcement for polymeric matrix nanocomposites and its potential applications: A review, (2018) Current Analytical Chemistry, 14 (3), pp. 203-225.

2017

17. Ilyas, R.A., Sapuan, S.M., Ishak, M.R., **Zainudin**, E.S. Effect of delignification on the physical, thermal, chemical, and structural properties of sugar palm fibre, (2017) BioResources, 12 (4), pp. 8734-8754.
18. Sudari, A.K., Shamsuri, A.A., **Zainudin**, E.S., Tahir, P.M. Exploration on compatibilizing effect of nonionic, anionic, and cationic surfactants on mechanical, morphological, and chemical properties of high-density polyethylene/low-density polyethylene/cellulose biocomposites, (2017) Journal of Thermoplastic Composite Materials, 30 (6), pp. 855-884.
19. Aridi, N.A.M., Sapuan, S.M., **Zainudin**, E.S., Al-Oqla, F.M. A review of rice husk bio-based composites, (2017) Current Organic Synthesis, 14 (2), pp. 263-271.
20. Sahari, J., Sapuan, S.M., **Zainudin**, E.S., Ishak, M.R., Maleque, M.A., Zuhri, M.Y.M., Akhtar, R. Nanoindentation and the low velocity impact response of biofibre, biopolymer and its biocomposite derived from sugar palm tree, (2017) Current Organic Synthesis, 14 (2), pp. 227-232.
21. Khairul, M.A., Sapuan, S.M., AL-Oqla, F.M., **Zainudin**, E.S., Rababah, M.M. Continuum damage analysis, experimental and simulation for investigating the fatigue life performance of 316L steel at high temperatures, (2017) International Journal of Materials and Structural Integrity, 11 (4), pp. 175-192.
22. SaifulAzry, S.O.A., Chuah, T.G., Paridah, M.T., Aung, M.M., **Zainudin**, E.S. Green nanocomposites from cellulose nanowhiskers and Jatropha oil-based polyurethane, (2017) Cellulose-Reinforced Nanofibre Composites: Production, Properties and Applications, pp. 391-400.

2016

23. Aridi, N.A.M., Sapuan, S.M., **Zainudin**, E.S., AL-Oqla, F.M. Investigating morphological and performance deterioration of injection-molded rice husk–polypropylene composites due to various liquid uptakes, (2016) International Journal of Polymer Analysis and Characterization, 21 (8), pp. 675-685.
24. Yahaya, R., Sapuan, S.M., Jawaid, M., Leman, Z., **Zainudin**, E.S. Water absorption behaviour and impact strength of Kenaf-Kevlar reinforced epoxy hybrid composites, (2016) Advanced Composites Letters, 25 (4), pp. 98-102.
25. Yusriah, L., Sapuan, S.M., **Zainudin**, E.S., Mariatti, M., Jawaid, M. Thermo-physical, thermal degradation, and flexural properties of betel nut husk fiber reinforced vinyl ester composites, (2016) Polymer Composites, 37 (7), pp. 2008-2017.

26. Fairuz, A.M., Sapuan, S.M., **Zainudin**, E.S., Jaafar, C.N.A. Effect of filler loading on mechanical properties of pultruded kenaf fibre reinforced vinyl ester composites, (2016) Journal of Mechanical Engineering and Sciences, 10 (1), pp. 1931-1942.
27. Aridi, N.A.M., Sapuan, S.M., **Zainudin**, E.S., AL-Oqla, F.M. Mechanical and morphological properties of injection-molded rice husk polypropylene composites (2016) International Journal of Polymer Analysis and Characterization, 21 (4), pp. 305-313.
28. Yahaya, R., Sapuan, S.M., Jawaid, M., Leman, Z., **Zainudin**, E.S. Effect of fibre orientations on the mechanical properties of kenaf–aramid hybrid composites for spall-liner application, (2016) Defence Technology, 12 (1), pp. 52-58.
29. Yahaya, R., Sapuan, S.M., Jawaid, M., Leman, Z., **Zainudin**, E.S. Investigating ballistic impact properties of woven kenaf-aramid hybrid composites, (2016) Fibers and Polymers, 17 (2), pp. 275-281.
30. Mukhtar, I., Leman, Z., Ishak, M.R., **Zainudin**, E.S. Sugar palm fibre and its composites: A review of recent developments, (2016) BioResources, 11 (4), pp. 10756-10782.
31. Yahaya, R., Sapuan, S.M., Jawaid, M., Leman, Z., **Zainudin**, E.S. Measurement of ballistic impact properties of woven kenaf-aramid hybrid composites (2016) Measurement: Journal of the International Measurement Confederation, 77, pp. 335-343.

Thesis supervisor/examiner/viva chair

Category	SUPERVISOR						EXAMINER					
	Current Student			Graduate			Current Student			Graduate		
	PhD	Master	Total	PhD	Master	Total	PhD	Master	Total	PhD	Master	Total
Chairman	1	0	**1**	2	5	**7**	1	0	**1**	11	6	**17**
Member	5	0	**5**	19	7	**26**	9	2	**11**	30	14	**44**
Total	**6**	**0**	**6**	**21**	**12**	**33**	**10**	**2**	**12**	**41**	**20**	**61**

CV UPDATED ON APRIL 2020