References

[1] S. Liu, J. Tian, L. Wang, H. Li, Y. Zhang, and X. Sun, “Stable Aqueous Dispersion of Graphene Nanosheets: Noncovalent Functionalization by a Polymeric Reducing Agent and Their Subsequent Decoration with Ag Nanoparticles for Enzymeless Hydrogen Peroxide Detection,” *Macromolecules*, vol. 43, no. 23, pp. 10078–10083, Dec. 2010, doi: 10.1021/ma102230m.

[2] G. K. Dimitrakakis, E. Tylianakis, and G. E. Froudakis, “Pillared Graphene: A New 3-D Network Nanostructure for Enhanced Hydrogen Storage,” *Nano Lett.*, vol. 8, no. 10, pp. 3166–3170, Oct. 2008, doi: 10.1021/nl801417w.

[3] M. S. Abed and Z. A. Jawad, “Nanotechnology for Defence Applications,” 2022, pp. 187–205. doi: 10.1007/978-981-16-6022-1_10.

[4] N. Ramli, M. Norkhairunnisa, Y. Ando, K. Abdan, and Z. Leman, “Advanced Polymer Composite for Aerospace Engineering Applications,” in *Advanced Composites in Aerospace Engineering Applications*, Cham: Springer International Publishing, 2022, pp. 1–21. doi: 10.1007/978-3-030-88192-4_1.

[5] S. S. Ray and R. Salehiyan, “Fundamental definition and importance of nanomaterials, nanostructured, and bulk nanostructured materials,” in *Nanostructured Immiscible Polymer Blends*, Elsevier, 2020, pp. 15–28. doi: 10.1016/B978-0-12-816707-6.00002-X.

[6] J. O. Oseh *et al.*, “Polymer nanocomposites application in drilling fluids: A review,” *Geoenergy Sci. Eng.*, vol. 222, p. 211416, Mar. 2023, doi:

10.1016/j.geoen.2023.211416.

[7] S. Behnam Hosseini, “Natural fiber polymer nanocomposites,” in *Fiber-Reinforced Nanocomposites: Fundamentals and Applications*, Elsevier, 2020, pp. 279–299. doi: 10.1016/B978-0-12-819904-6.00013-X.

[8] F. Sarker, N. Karim, S. Afroj, V. Koncherry, K. S. Novoselov, and P. Potluri, “High-Performance Graphene-Based Natural Fiber Composites,” *ACS Appl. Mater. Interfaces*, vol. 10, no. 40, pp. 34502–34512, Oct. 2018, doi: 10.1021/acsami.8b13018.

[9] A. Bledzki, “Composites reinforced with cellulose based fibres,” *Prog. Polym. Sci.*, vol. 24, no. 2, pp. 221–274, May 1999, doi: 10.1016/S0079-6700(98)00018-5.

[10] M. Boopalan, M. Niranjanaa, and M. J. Umapathy, “Study on the mechanical properties and thermal properties of jute and banana fiber reinforced epoxy hybrid composites,” *Compos. Part B Eng.*, vol. 51, pp. 54–57, Aug. 2013, doi: 10.1016/j.compositesb.2013.02.033.

[11] M. H. Islam, M. R. Islam, M. Dulal, S. Afroj, and N. Karim, “The effect of surface treatments and graphene-based modifications on mechanical properties of natural jute fiber composites: A review,” *iScience*, vol. 25, no. 1, p. 103597, Jan. 2022, doi: 10.1016/j.isci.2021.103597.

[12] F. Sarker, P. Potluri, S. Afroj, V. Koncherry, K. S. Novoselov, and N. Karim, “Ultrahigh Performance of Nanoengineered Graphene-Based Natural Jute Fiber Composites,” *ACS Appl. Mater. Interfaces*, vol. 11, no. 23, pp. 21166–21176, Jun.

2019, doi: 10.1021/acsami.9b04696.

[13] J. M. Mistry and P. P. Gohil, “Research review of diversified reinforcement on aluminum metal matrix composites: fabrication processes and mechanical characterization,” *Sci. Eng. Compos. Mater.*, vol. 25, no. 4, pp. 633–647, Jul. 2018, doi: 10.1515/secm-2016-0278.

[14] N. Eswara Prasad, Anil Kumar, and J. Subramanyam, “Ceramic Matrix Composites (CMCs) for Aerospace Applications,” 2017, pp. 371–389. doi: 10.1007/978-981-10-2134-3_16.

[15] C. Shao, S. Zhao, X. Wang, Y. Zhu, Z. Zhang, and R. O. Ritchie, “Architecture of high-strength aluminum–matrix composites processed by a novel microcasting technique,” *NPG Asia Mater.*, vol. 11, no. 1, p. 69, Dec. 2019, doi: 10.1038/s41427-019-0174-2.

[16] S. R. L. and M. K. M. Reinhart T.J., Dostal C.A., Woods M.S., Frissell H.J., Ronke A.W., Jenkins D.M., O’Keefe K.L., Pilarczyk K.L., “ASM International,” *Eng. Mater. Handb.*, vol. 1, 1987, [Online]. Available: https://scholar.google.com/scholar?hl=en&as_sdt=0%2C5&q=Reinhart+T.J.%2C+Dostal+C.A.%2C+Woods+M.S.%2C+Frissell+H.J.%2C+Ronke+A.W.%2C+Jenkins+D.M.%2C+O’Keefe+K.L.%2C+Pilarczyk+K.L.%2C+Stedfeld+R.L.+and+Mills+K.M.+%2C”Engineered+Materials+Handbook.+Volume+1

[17] P. D. A. M. L. A. E. MOHAMAD MIDANI, “Natural fiber composites – a practical guide for industrial utilization,” 2022, [Online]. Available: https://www.fiberjournal.com/natural-fiber-composites-a-practical-guide-for-

industrial-utilization/

[18] R. D. Leaversuch, “Wood-fiber composites build promising role in extrusion,” *Mod. Plast. 77.12*, pp. 56–58, 2000.

[19] J. Holbery and D. Houston, “Natural-fiber-reinforced polymer composites in automotive applications,” *JOM*, vol. 58, no. 11, pp. 80–86, Nov. 2006, doi: 10.1007/s11837-006-0234-2.

[20] A. E. Sorokin, S. N. Bulychev, and S. I. Gorbachev, “Environmental Impact of Polymer Composites,” *Russ. Eng. Res.*, vol. 41, no. 1, pp. 53–55, Jan. 2021, doi: 10.3103/S1068798X21010214.

[21] D. H. Mueller and A. Krobjilowski, “New Discovery in the Properties of Composites Reinforced with Natural Fibers,” *J. Ind. Text.*, vol. 33, no. 2, pp. 111–130, Oct. 2003, doi: 10.1177/152808303039248.

[22] K. Oksman, M. Skrifvars, and J.-F. Selin, “Natural fibres as reinforcement in polylactic acid (PLA) composites,” *Compos. Sci. Technol.*, vol. 63, no. 9, pp. 1317–1324, Jul. 2003, doi: 10.1016/S0266-3538(03)00103-9.

[23] E. Bodros, I. Pillin, N. Montrelay, and C. Baley, “Could biopolymers reinforced by randomly scattered flax fibre be used in structural applications?,” *Compos. Sci. Technol.*, vol. 67, no. 3–4, pp. 462–470, Mar. 2007, doi: 10.1016/j.compscitech.2006.08.024.

[24] E. Pollitt, “www.globalhemp.com/2011/02/automotive-composites.html,” *Automot. Compos.*, 2018.

[25] P. K. Pal, “Jute reinforced plastics: a low cost composite material,” *Plast. Rubber Process. Appl.*, pp. 215–219, 1984.

[26] M. S. R. Mubarak A. Khan and and J. M. M. I. Abdullah-Al-Jubayer, “Graft Copolymerization of Vinyl Monomers onto Cellulosic Cannabis indica Fibers,” in *Cellulose-Based Graft Copolymers*, CRC Press, 2015, pp. 166–185. doi: 10.1201/b18390-12.

[27] P. K. R. N. Chand, *Natural Fibers and Composites*. Periodical Experts Book Agency, 1994. [Online]. Available: https://www.cabdirect.org/cabdirect/abstract/19940607820

[28] A. Ç. Kılınç, C. Durmuşkahya, and M. Ö. Seydibeyoğlu, “Natural fibers,” in *Fiber Technology for Fiber-Reinforced Composites*, Elsevier, 2017, pp. 209–235. doi: 10.1016/B978-0-08-101871-2.00010-2.

[29] F. M. AL-Oqla and M. S. Salit, “Natural fiber composites,” in *Materials Selection for Natural Fiber Composites*, Elsevier, 2017, pp. 23–48. doi: 10.1016/B978-0-08-100958-1.00002-5.

[30] E. Gogna, R. Kumar, Anurag, A. K. Sahoo, and A. Panda, “A Comprehensive Review on Jute Fiber Reinforced Composites,” 2019, pp. 459–467. doi: 10.1007/978-981-13-6412-9_45.

[31] J. Gassan and A. K. Bledzki, “Effect of moisture content on the properties of silanized jute-epoxy composites,” *Polym. Compos.*, vol. 18, no. 2, pp. 179–184, Apr. 1997, doi: 10.1002/pc.10272.

[32] A. K. Rana, B. C. Mitra, and A. N. Bannerjee, “Effect of acetylation on dimensional stability, mechanical, and dynamic properties of jute board,” *J. Appl. Polym. Sci.*, vol. 72, no. 7, pp. 935–944, May 1999, doi: 10.1002/(SICI)1097-4628(19990516)72:7<935::AID-APP9>3.0.CO;2-W.

[33] K.-P. Mieck, A. Nechwatal, and C. Knobelsdorf, “Faser-Matrix-Haftung in Kunststoffverbunden aus thermoplastischer Matrix und Flachs, 2. Die anwendung von funktionalisiertem polypropylen,” *Angew. Makromol. Chemie*, vol. 225, no. 1, pp. 37–49, Feb. 1995, doi: 10.1002/apmc.1995.052250104.

[34] J. Gassan and A. K. Bledzki, “The influence of fiber-surface treatment on the mechanical properties of jute-polypropylene composites,” *Compos. Part A Appl. Sci. Manuf.*, vol. 28, no. 12, pp. 1001–1005, Jan. 1997, doi: 10.1016/S1359-835X(97)00042-0.

[35] M. A. Avella M, dell’Erba R, Martuscelli E, Pascucci B, Raimo M, Focher B, “Proceeding of the 9th International Conference on Composite Materials,” *Proceeding 9th Int. Conf. Compos. Mater.*, vol. 2, p. 864, 1993.

[36] Z. Z. Y. (Eds. . Y.W. Mai, “Woodhead Publishing, Cambridge,” *Polym. Nanocomposites*, 2006.

[37] R. Vaithylingam, M. N. M. Ansari, and R. A. Shanks, “Recent Advances in Polyurethane-Based Nanocomposites: A Review,” *Polym. Plast. Technol. Eng.*, vol. 56, no. 14, pp. 1528–1541, Sep. 2017, doi: 10.1080/03602559.2017.1280683.

[38] W. De Zhang, L. Shen, I. Y. Phang, and T. Liu, “Carbon Nanotubes Reinforced Nylon-

6 Composite Prepared by Simple Melt-Compounding," *Macromolecules*, vol. 37, no. 2, pp. 256–259, Jan. 2004, doi: 10.1021/ma035594f.

[39] Liu, I. Y. Phang, L. Shen, S. Y. Chow, and W.-D. Zhang, "Morphology and Mechanical Properties of Multiwalled Carbon Nanotubes Reinforced Nylon-6 Composites," *Macromolecules*, vol. 37, no. 19, pp. 7214–7222, Sep. 2004, doi: 10.1021/ma049132t.

[40] H. N. KE Geckeler, "John Wiley & Sons," *Adv. Nanomater.*, vol. 1, 2009, [Online]. Available: https://scholar.google.com/scholar?hl=en&as_sdt=0%2C5&q=K.E.+Geckeler%2C+H.+Nishide+%28Eds.%29%2C+Advanced+Nanomaterials%2C+John+Wiley+%26+Sons%2C+Weinheim%2C+2009&btnG=

[41] K. A. Abd-Elsalam, "Carbon nanomaterials: 30 years of research in agroecosystems," in *Carbon Nanomaterials for Agri-Food and Environmental Applications*, Elsevier, 2020, pp. 1–18. doi: 10.1016/B978-0-12-819786-8.00001-3.

[42] J. Debgupta, S. Mandal, H. Kalita, M. Aslam, A. Patra, and V. Pillai, "Photophysical and photoconductivity properties of thiol-functionalized graphene–CdSe QD composites," *RSC Adv.*, vol. 4, no. 27, p. 13788, 2014, doi: 10.1039/c3ra47420h.

[43] "https://speakerdeck.com/sobrinom/slidedeck-doctoral-defense-public?slide=45."

[44] D. Chen, H. Feng, and J. Li, "Graphene Oxide: Preparation, Functionalization, and Electrochemical Applications," *Chem. Rev.*, vol. 112, no. 11, pp. 6027–6053, Nov. 2012, doi: 10.1021/cr300115g.

[45] R. K. Upadhyay, N. Soin, and S. S. Roy, “Role of graphene/metal oxide composites as photocatalysts, adsorbents and disinfectants in water treatment: a review,” *RSC Adv.*, vol. 4, no. 8, pp. 3823–3851, 2014, doi: 10.1039/C3RA45013A.

[46] M.-Q. Yang, N. Zhang, and Y.-J. Xu, “Synthesis of Fullerene–, Carbon Nanotube–, and Graphene–TiO 2 Nanocomposite Photocatalysts for Selective Oxidation: A Comparative Study,” *ACS Appl. Mater. Interfaces*, vol. 5, no. 3, pp. 1156–1164, Feb. 2013, doi: 10.1021/am3029798.

[47] J. Andersons, J. Modniks, R. Joffe, B. Madsen, and K. Nättinen, “Apparent interfacial shear strength of short-flax-fiber/starch acetate composites,” *Int. J. Adhes. Adhes.*, vol. 64, pp. 78–85, Jan. 2016, doi: 10.1016/j.ijadhadh.2015.10.007.

[48] A. C. Milanese, M. O. H. Cioffi, and H. J. C. Voorwald, “Thermal and mechanical behaviour of sisal/phenolic composites,” *Compos. Part B Eng.*, vol. 43, no. 7, pp. 2843–2850, Oct. 2012, doi: 10.1016/j.compositesb.2012.04.048.

[49] S. lijima and T. Ichihashi, “Erratum: Single-shell carbon nanotubes of 1-nm diameter,” *Nature*, vol. 364, no. 6439, pp. 737–737, Aug. 1993, doi: 10.1038/364737d0.

[50] S. Park and R. S. Ruoff, “Chemical methods for the production of graphenes,” *Nat. Nanotechnol.*, vol. 4, no. 4, pp. 217–224, Apr. 2009, doi: 10.1038/nnano.2009.58.

[51] K. S. Ibrahim, “Carbon nanotubes-properties and applications: a review,” *Carbon Lett.*, vol. 14, no. 3, pp. 131–144, Jul. 2013, doi: 10.5714/CL.2013.14.3.131.

[52] Y. Zhang *et al.*, “Recent advanced thermal interfacial materials: A review of conducting mechanisms and parameters of carbon materials,” *Carbon N. Y.*, vol. 142,

pp. 445–460, Feb. 2019, doi: 10.1016/j.carbon.2018.10.077.

[53] A. Kumar, D. K. Chouhan, P. S. Alegaonkar, and T. U. Patro, “Graphene-like nanocarbon: An effective nanofiller for improving the mechanical and thermal properties of polymer at low weight fractions,” *Compos. Sci. Technol.*, vol. 127, pp. 79–87, Apr. 2016, doi: 10.1016/j.compscitech.2016.02.028.

[54] G. Mittal, K. Y. Rhee, V. Mišković-Stanković, and D. Hui, “Reinforcements in multi-scale polymer composites: Processing, properties, and applications,” *Compos. Part B Eng.*, vol. 138, pp. 122–139, Apr. 2018, doi: 10.1016/j.compositesb.2017.11.028.

[55] J. Chen, L. Yan, W. Song, and D. Xu, “Interfacial characteristics of carbon nanotube-polymer composites: A review,” *Compos. Part A Appl. Sci. Manuf.*, vol. 114, pp. 149–169, Nov. 2018, doi: 10.1016/j.compositesa.2018.08.021.

[56] Manoj Kumar Shukla and Kamal Sharma, “Effect of Carbon Nanofillers on the Mechanical and Interfacial Properties of Epoxy Based Nanocomposites: A Review,” *Polym. Sci. Ser. A*, vol. 61, no. 4, pp. 439–460, Jul. 2019, doi: 10.1134/S0965545X19040096.

[57] J. Chen, B. Liu, X. Gao, and D. Xu, “A review of the interfacial characteristics of polymer nanocomposites containing carbon nanotubes,” *RSC Adv.*, vol. 8, no. 49, pp. 28048–28085, 2018, doi: 10.1039/C8RA04205E.

[58] N. G. Sahoo *et al.*, “Improvement of mechanical and thermal properties of carbon nanotube composites through nanotube functionalization and processing methods,” *Mater. Chem. Phys.*, vol. 117, no. 1, pp. 313–320, Sep. 2009, doi:

10.1016/j.matchemphys.2009.06.007.

[59] A. S. Rahman, V. Mathur, and R. Asmatulu, “Effect of nanoclay and graphene inclusions on the low-velocity impact resistance of Kevlar-epoxy laminated composites,” *Compos. Struct.*, vol. 187, pp. 481–488, Mar. 2018, doi: 10.1016/j.compstruct.2017.12.054.

[60] C. Evci and M. Gülgeç, “An experimental investigation on the impact response of composite materials,” *Int. J. Impact Eng.*, vol. 43, pp. 40–51, May 2012, doi: 10.1016/j.ijimpeng.2011.11.009.

[61] H. Aghamohammadi, R. Eslami-Farsani, and A. Tcharkhtchi, “The effect of multi-walled carbon nanotubes on the mechanical behavior of basalt fibers metal laminates: An experimental study,” *Int. J. Adhes. Adhes.*, vol. 98, p. 102538, Apr. 2020, doi: 10.1016/j.ijadhadh.2019.102538.

[62] M. N. Kumar, M. Mahmoodi, M. TabkhPaz, S. S. Park, and X. Jin, “Characterization and micro end milling of graphene nano platelet and carbon nanotube filled nanocomposites,” *J. Mater. Process. Technol.*, vol. 249, pp. 96–107, Nov. 2017, doi: 10.1016/j.jmatprotec.2017.06.005.

[63] H. Tian *et al.*, “A Graphene-Based Resistive Pressure Sensor with Record-High Sensitivity in a Wide Pressure Range,” *Sci. Rep.*, vol. 5, no. 1, p. 8603, Aug. 2015, doi: 10.1038/srep08603.

[64] W.-H. Kim, C. S. Park, and J. Y. Son, “Nanoscale resistive switching memory device composed of NiO nanodot and graphene nanoribbon nanogap electrodes,” *Carbon N.*

Y., vol. 79, pp. 388–392, Nov. 2014, doi: 10.1016/j.carbon.2014.07.081.

[65] M. A. Câmara, J. C. C. Rubio, A. M. Abrão, and J. P. Davim, "State of the Art on Micromilling of Materials, a Review," *J. Mater. Sci. Technol.*, vol. 28, no. 8, pp. 673–685, Aug. 2012, doi: 10.1016/S1005-0302(12)60115-7.

[66] I. Arora, J. Samuel, and N. Koratkar, "Experimental Investigation of the Machinability of Epoxy Reinforced With Graphene Platelets," *J. Manuf. Sci. Eng.*, vol. 135, no. 4, Aug. 2013, doi: 10.1115/1.4024814.

[67] M. Mahmoodi, M. Arjmand, U. Sundararaj, and S. Park, "The electrical conductivity and electromagnetic interference shielding of injection molded multi-walled carbon nanotube/polystyrene composites," *Carbon N. Y.*, vol. 50, no. 4, pp. 1455–1464, Apr. 2012, doi: 10.1016/j.carbon.2011.11.004.

[68] S. Rawal, A. M. Sidpara, and J. Paul, "A review on micro machining of polymer composites," *J. Manuf. Process.*, vol. 77, pp. 87–113, May 2022, doi: 10.1016/j.jmapro.2022.03.014.

[69] U. Fasel, D. Keidel, L. Baumann, G. Cavolina, M. Eichenhofer, and P. Ermanni, "Composite additive manufacturing of morphing aerospace structures," *Manuf. Lett.*, vol. 23, pp. 85–88, Jan. 2020, doi: 10.1016/j.mfglet.2019.12.004.

[70] P. Parandoush and D. Lin, "A review on additive manufacturing of polymer-fiber composites," *Compos. Struct.*, vol. 182, pp. 36–53, Dec. 2017, doi: 10.1016/j.compstruct.2017.08.088.

[71] M. Heidari-Rarani, M. Rafiee-Afarani, and A. M. Zahedi, "Mechanical

characterization of FDM 3D printing of continuous carbon fiber reinforced PLA composites,” *Compos. Part B Eng.*, vol. 175, p. 107147, Oct. 2019, doi: 10.1016/j.compositesb.2019.107147.

[72] X. Peng, M. Zhang, Z. Guo, L. Sang, and W. Hou, “Investigation of processing parameters on tensile performance for FDM-printed carbon fiber reinforced polyamide 6 composites,” *Compos. Commun.*, vol. 22, p. 100478, Dec. 2020, doi: 10.1016/j.coco.2020.100478.

[73] H. L. Tekinalp *et al.*, “Highly oriented carbon fiber–polymer composites via additive manufacturing,” *Compos. Sci. Technol.*, vol. 105, pp. 144–150, Dec. 2014, doi: 10.1016/j.compscitech.2014.10.009.

[74] B. G. Compton and J. A. Lewis, “3D Printing: 3D-Printing of Lightweight Cellular Composites (Adv. Mater. 34/2014),” *Adv. Mater.*, vol. 26, no. 34, pp. 6043–6043, Sep. 2014, doi: 10.1002/adma.201470235.

[75] G. Sodeifian, S. Ghaseminejad, and A. A. Yousefi, “Preparation of polypropylene/short glass fiber composite as Fused Deposition Modeling (FDM) filament,” *Results Phys.*, vol. 12, pp. 205–222, Mar. 2019, doi: 10.1016/j.rinp.2018.11.065.

[76] P. Wang *et al.*, “Preparation of short CF/GF reinforced PEEK composite filaments and their comprehensive properties evaluation for FDM-3D printing,” *Compos. Part B Eng.*, vol. 198, p. 108175, Oct. 2020, doi: 10.1016/j.compositesb.2020.108175.

[77] “https://3dprintingindustry.com/news/three-unknown-facts-about-continuous-fiber-

3d-printing-from-anisoprint-ceo-fedor-antonov-173555/."

[78] P. WANG, B. ZOU, S. DING, L. LI, and C. HUANG, "Effects of FDM-3D printing parameters on mechanical properties and microstructure of CF/PEEK and GF/PEEK," *Chinese J. Aeronaut.*, vol. 34, no. 9, pp. 236–246, Sep. 2021, doi: 10.1016/j.cja.2020.05.040.

[79] "https://amfg.ai/2018/06/13/3d-printing-transforming-automotive-industry/."

[80] X. Tian, T. Liu, Q. Wang, A. Dilmurat, D. Li, and G. Ziegmann, "Recycling and remanufacturing of 3D printed continuous carbon fiber reinforced PLA composites," *J. Clean. Prod.*, vol. 142, pp. 1609–1618, Jan. 2017, doi: 10.1016/j.jclepro.2016.11.139.

[81] A. N. Dickson, J. N. Barry, K. A. McDonnell, and D. P. Dowling, "Fabrication of continuous carbon, glass and Kevlar fibre reinforced polymer composites using additive manufacturing," *Addit. Manuf.*, vol. 16, pp. 146–152, Aug. 2017, doi: 10.1016/j.addma.2017.06.004.

[82] H. Dou *et al.*, "Effect of Process Parameters on Tensile Mechanical Properties of 3D Printing Continuous Carbon Fiber-Reinforced PLA Composites," *Materials (Basel).*, vol. 13, no. 17, p. 3850, Aug. 2020, doi: 10.3390/ma13173850.

[83] X. Tian, T. Liu, C. Yang, Q. Wang, and D. Li, "Interface and performance of 3D printed continuous carbon fiber reinforced PLA composites," *Compos. Part A Appl. Sci. Manuf.*, vol. 88, pp. 198–205, Sep. 2016, doi: 10.1016/j.compositesa.2016.05.032.

[84] K. Chen, L. Yu, Y. Cui, M. Jia, and K. Pan, "Optimization of printing parameters of

3D-printed continuous glass fiber reinforced polylactic acid composites," *Thin-Walled Struct.*, vol. 164, p. 107717, Jul. 2021, doi: 10.1016/j.tws.2021.107717.

[85] G. W. Melenka, B. K. O. Cheung, J. S. Schofield, M. R. Dawson, and J. P. Carey, "Evaluation and prediction of the tensile properties of continuous fiber-reinforced 3D printed structures," *Compos. Struct.*, vol. 153, pp. 866–875, Oct. 2016, doi: 10.1016/j.compstruct.2016.07.018.

[86] Q. He, H. Wang, K. Fu, and L. Ye, "3D printed continuous CF/PA6 composites: Effect of microscopic voids on mechanical performance," *Compos. Sci. Technol.*, vol. 191, p. 108077, May 2020, doi: 10.1016/j.compscitech.2020.108077.

[87] E. Polyzos, A. Katalagarianakis, D. Van Hemelrijck, and L. Pyl, "Delamination analysis of 3D-printed nylon reinforced with continuous carbon fibers," *Addit. Manuf.*, vol. 46, p. 102144, Oct. 2021, doi: 10.1016/j.addma.2021.102144.

[88] M. A. Caminero, J. M. Chacón, I. García-Moreno, and G. P. Rodríguez, "Impact damage resistance of 3D printed continuous fibre reinforced thermoplastic composites using fused deposition modelling," *Compos. Part B Eng.*, vol. 148, pp. 93–103, Sep. 2018, doi: 10.1016/j.compositesb.2018.04.054.

[89] P. Sethu Ramalingam, K. Mayandi, V. Balasubramanian, K. Chandrasekar, V. M. Stalany, and A. Abdul Munaf, "Effect of 3D printing process parameters on the impact strength of onyx – Glass fiber reinforced composites," *Mater. Today Proc.*, vol. 45, pp. 6154–6159, 2021, doi: 10.1016/j.matpr.2020.10.467.

[90] T.-D. Ngo, "Introduction to Composite Materials," in *Composite and Nanocomposite*

Materials - From Knowledge to Industrial Applications, IntechOpen, 2020. doi: 10.5772/intechopen.91285.

[91] M. Raji, H. Abdellaoui, H. Essabir, C.-A. Kakou, R. Bouhfid, and A. el kacem Qaiss, “Prediction of the cyclic durability of woven-hybrid composites,” in *Durability and Life Prediction in Biocomposites, Fibre-Reinforced Composites and Hybrid Composites*, Elsevier, 2019, pp. 27–62. doi: 10.1016/B978-0-08-102290-0.00003-9.

[92] N. Geier *et al.*, “A critical review on mechanical micro-drilling of glass and carbon fibre reinforced polymer (GFRP and CFRP) composites,” *Compos. Part B Eng.*, vol. 254, p. 110589, Apr. 2023, doi: 10.1016/j.compositesb.2023.110589.

[93] F. Chegdani, B. Takabi, M. El Mansori, B. L. Tai, and S. T. S. Bukkapatnam, “Effect of flax fiber orientation on machining behavior and surface finish of natural fiber reinforced polymer composites,” *J. Manuf. Process.*, vol. 54, pp. 337–346, Jun. 2020, doi: 10.1016/j.jmapro.2020.03.025.

[94] C. Pereszlai, N. Geier, D. I. Poór, B. Z. Balázs, and G. Póka, “Drilling fibre reinforced polymer composites (CFRP and GFRP): An analysis of the cutting force of the tilted helical milling process,” *Compos. Struct.*, vol. 262, p. 113646, Apr. 2021, doi: 10.1016/j.compstruct.2021.113646.

[95] S. Abdur Rob and A. K. Srivastava, “Turning of Carbon Fiber Reinforced Polymer (CFRP) Composites: Process Modeling and Optimization using Taguchi Analysis and Multi-Objective Genetic Algorithm,” *Manuf. Lett.*, vol. 33, pp. 29–40, Sep. 2022, doi: 10.1016/j.mfglet.2022.07.012.

[96] B. O. P. Soepangkat, R. Norcahyo, M. K. Effendi, and B. Pramujati, "Multi-response optimization of carbon fiber reinforced polymer (CFRP) drilling using back propagation neural network-particle swarm optimization (BPNN-PSO)," *Eng. Sci. Technol. an Int. J.*, vol. 23, no. 3, pp. 700–713, Jun. 2020, doi: 10.1016/j.jestch.2019.10.002.

[97] G. Wilson, "Taguchi's techniques," in *Six Sigma and the Product Development Cycle*, Elsevier, 2005, pp. 107–178. doi: 10.1016/B978-0-7506-6218-5.50010-2.

[98] S. Liu, "Design of experiment," in *Bioprocess Engineering*, Elsevier, 2020, pp. 885–933. doi: 10.1016/B978-0-12-821012-3.00020-8.

[99] M. V. Mousavi and H. Khoramishad, "The effect of hybridization on high-velocity impact response of carbon fiber-reinforced polymer composites using finite element modeling, Taguchi method and artificial neural network," *Aerosp. Sci. Technol.*, vol. 94, p. 105393, Nov. 2019, doi: 10.1016/j.ast.2019.105393.

[100] K. Shiva Kumar and A. Chennakesava Reddy, "Investigation on mechanical properties and wear performance of Nylon-6/Boron Nitride polymer composites by using Taguchi Technique," *Results Mater.*, vol. 5, p. 100070, Mar. 2020, doi: 10.1016/j.rinma.2020.100070.

[101] Effect of Cutting Parameters on MRR and Surface Roughness in Turning of AISI 1018 and AISI P20 Using Taguchi Method, "Optimization Methods in Engineering," 2020, pp. 185–196.

[102] M. . Noordin, V. . Venkatesh, S. Sharif, S. Elting, and A. Abdullah, "Application of

response surface methodology in describing the performance of coated carbide tools when turning AISI 1045 steel," *J. Mater. Process. Technol.*, vol. 145, no. 1, pp. 46–58, Jan. 2004, doi: 10.1016/S0924-0136(03)00861-6.

[103] K. Panneerselvam, K. Pradeep, and P. Asokan, "Optimization of End Milling Parameters for Glass Fiber Reinforced Plastic (GFRP) Using Grey Relational Analysis," *Procedia Eng.*, vol. 38, pp. 3962–3968, 2012, doi: 10.1016/j.proeng.2012.06.453.

[104] A. Mayyas, A. Qasaimeh, K. Alzoubi, S. Lu, M. T. Hayajneh, and A. M. Hassan, "Modeling the Drilling Process of Aluminum Composites Using Multiple Regression Analysis and Artificial Neural Networks," *J. Miner. Mater. Charact. Eng.*, vol. 11, no. 10, pp. 1039–1049, 2012, doi: 10.4236/jmmce.2012.1110108.

[105] J. . Ghani, I. . Choudhury, and H. . Hassan, "Application of Taguchi method in the optimization of end milling parameters," *J. Mater. Process. Technol.*, vol. 145, no. 1, pp. 84–92, Jan. 2004, doi: 10.1016/S0924-0136(03)00865-3.

[106] S. K. Nayak, J. K. Patro, S. Dewangan, and S. Gangopadhyay, "Multi-objective Optimization of Machining Parameters During Dry Turning of AISI 304 Austenitic Stainless Steel Using Grey Relational Analysis," *Procedia Mater. Sci.*, vol. 6, pp. 701–708, 2014, doi: 10.1016/j.mspro.2014.07.086.

[107] N. R. Smalheiser, "ANOVA," in *Data Literacy*, Elsevier, 2017, pp. 149–155. doi: 10.1016/B978-0-12-811306-6.00011-7.

[108] K. Molugaram and G. S. Rao, "ANOVA (Analysis of Variance)," in *Statistical*

Techniques for Transportation Engineering, Elsevier, 2017, pp. 451–462. doi: 10.1016/B978-0-12-811555-8.00011-8.

[109] F. G. Boyaci San, I. Isik-Gulsac, and O. Okur, "Analysis of the polymer composite bipolar plate properties on the performance of PEMFC (polymer electrolyte membrane fuel cells) by RSM (response surface methodology)," *Energy*, vol. 55, pp. 1067–1075, Jun. 2013, doi: 10.1016/j.energy.2013.03.076.

[110] T. Wang, M. Li, X. Cai, Z. Cheng, D. Zhang, and G. Sun, "Multi-objective design optimization of composite polymerized asphalt emulsions for cold patching of pavement potholes," *Mater. Today Commun.*, vol. 35, p. 105751, Jun. 2023, doi: 10.1016/j.mtcomm.2023.105751.

[111] J. Naveen, M. Jawaid, A. Vasanthanathan, and M. Chandrasekar, "Finite element analysis of natural fiber-reinforced polymer composites," in *Modelling of Damage Processes in Biocomposites, Fibre-Reinforced Composites and Hybrid Composites*, Elsevier, 2019, pp. 153–170. doi: 10.1016/B978-0-08-102289-4.00009-6.

[112] R. M. Jones, *Mechanics of Composite Materials*. CRC Press, 2018. doi: 10.1201/9781498711067.

[113] W. Voigt, "Ueber die Beziehung zwischen den beiden Elasticitätsconstanten isotroper Körper," *Ann. Phys.*, vol. 274, no. 12, pp. 573–587, 1889, doi: 10.1002/andp.18892741206.

[114] A. Reuss, "Berechnung der Fließgrenze von Mischkristallen auf Grund der Plastizitätsbedingung für Einkristalle .," *ZAMM - Zeitschrift für Angew. Math. und*

Mech., vol. 9, no. 1, pp. 49–58, 1929, doi: 10.1002/zamm.19290090104.

[115] J. C. H. Affdl and J. L. Kardos, "The Halpin-Tsai equations: A review," *Polym. Eng. Sci.*, vol. 16, no. 5, pp. 344–352, May 1976, doi: 10.1002/pen.760160512.

[116] C. C. Chamis, "Mechanics of composite materials: past, present and future," *21st Annu. Meet. Soc. Eng. Sci.*, vol. (No. E-393, 1984.

[117] L. J. B. S.I. Krishnamachari, *Applied Stress Analysis of Plastics A Mechanical Engineering Approach*.

[118] F. An *et al.*, "Preparation and characterization of carbon nanotube-hybridized carbon fiber to reinforce epoxy composite," *Mater. Des.*, vol. 33, pp. 197–202, Jan. 2012, doi: 10.1016/j.matdes.2011.07.027.

[119] M. A. A. Saidi, M. Ahmad, R. Arjmandi, A. Hassan, and A. R. Rahmat, "The Effect of Titanate Coupling Agent on Water Absorption and Mechanical Properties of Rice Husk Filled Poly(vinyl Chloride) Composites," in *Natural Fibre Reinforced Vinyl Ester and Vinyl Polymer Composites*, Elsevier, 2018, pp. 197–210. doi: 10.1016/B978-0-08-102160-6.00010-X.

[120] D. S. Liu and D. Y. Chiou, "Modeling of inclusions with interphases in heterogeneous material using the infinite element method," *Comput. Mater. Sci.*, vol. 31, no. 3–4, pp. 405–420, Nov. 2004, doi: 10.1016/j.commatsci.2004.05.002.

[121] F. Daghia, A. Lagache, and L. Di Gennaro, "Validation of a new viscoelastic model for unidirectional polymer matrix composites by analytical and numerical homogenisation," *Eur. J. Mech. - A/Solids*, vol. 100, p. 104975, Jul. 2023, doi:

10.1016/j.euromechsol.2023.104975.

[122] H. DHAKAL, Z. ZHANG, and M. RICHARDSON, “Effect of water absorption on the mechanical properties of hemp fibre reinforced unsaturated polyester composites,” *Compos. Sci. Technol.*, vol. 67, no. 7–8, pp. 1674–1683, Jun. 2007, doi: 10.1016/j.compscitech.2006.06.019.

[123] R. N. Oosterbeek, X. C. Zhang, S. M. Best, and R. E. Cameron, “The evolution of the structure and mechanical properties of fully bioresorbable polymer-glass composites during degradation,” *Compos. Sci. Technol.*, vol. 218, p. 109194, Feb. 2022, doi: 10.1016/j.compscitech.2021.109194.

[124] R. Selvaraj, A. Maneengam, and M. Sathiyamoorthy, “Characterization of mechanical and dynamic properties of natural fiber reinforced laminated composite multiple-core sandwich plates,” *Compos. Struct.*, vol. 284, p. 115141, Mar. 2022, doi: 10.1016/j.compstruct.2021.115141.

[125] S. Iijima, “Helical microtubules of graphitic carbon,” *Nature*, vol. 354, no. 6348, pp. 56–58, Nov. 1991, doi: 10.1038/354056a0.

[126] and P. A. Collins, Philip G., “Nanotubes for Electronics,” *Sci. Am.*, vol. 283, no. 6, pp. 62–69, 2000.

[127] S. Abazari, A. Shamsipur, and H. R. Bakhsheshi-Rad, “Synergistic effect of hybrid reduced graphene oxide (rGO) and carbon nanotubes (CNTs) reinforcement on microstructure, mechanical and biological properties of magnesium-based composite,” *Mater. Chem. Phys.*, vol. 301, p. 127543, Jun. 2023, doi:

10.1016/j.matchemphys.2023.127543.

[128] V. Jamieson, "Carbon nanotubes roll on," *Phys. World*, vol. 13, no. 6, pp. 29–30, Jun. 2000, doi: 10.1088/2058-7058/13/6/25.

[129] M. S. P. Shaffer and A. H. Windle, "Fabrication and Characterization of Carbon Nanotube/Poly(vinyl alcohol) Composites," *Adv. Mater.*, vol. 11, no. 11, pp. 937–941, Aug. 1999, doi: 10.1002/(SICI)1521-4095(199908)11:11<937::AID-ADMA937>3.0.CO;2-9.

[130] D. Qian, E. C. Dickey, R. Andrews, and T. Rantell, "Load transfer and deformation mechanisms in carbon nanotube-polystyrene composites," *Appl. Phys. Lett.*, vol. 76, no. 20, pp. 2868–2870, May 2000, doi: 10.1063/1.126500.

[131] Y. Liu, N. Nishimura, and Y. Otani, "Large-scale modeling of carbon-nanotube composites by a fast multipole boundary element method," *Comput. Mater. Sci.*, vol. 34, no. 2, pp. 173–187, Sep. 2005, doi: 10.1016/j.commatsci.2004.11.003.

[132] A. Li, J. Wang, W. He, Z. Wei, X. Wang, and Q. He, "Enhancing mechanical property and thermal conductivity of fluororubber by the synergistic effect of CNT and BN," *Diam. Relat. Mater.*, vol. 134, p. 109790, Apr. 2023, doi: 10.1016/j.diamond.2023.109790.

[133] L. H. Shao, R. Y. Luo, S. L. Bai, and J. Wang, "Prediction of effective moduli of carbon nanotube–reinforced composites with waviness and debonding," *Compos. Struct.*, vol. 87, no. 3, pp. 274–281, Feb. 2009, doi: 10.1016/j.compstruct.2008.02.011.

[134] A. Pantano, G. Modica, and F. Cappello, "Multiwalled carbon nanotube reinforced

polymer composites," *Mater. Sci. Eng. A*, vol. 486, no. 1–2, pp. 222–227, Jul. 2008, doi: 10.1016/j.msea.2007.08.078.

[135] M.-F. Yu, O. Lourie, M. J. Dyer, K. Moloni, T. F. Kelly, and R. S. Ruoff, "Strength and Breaking Mechanism of Multiwalled Carbon Nanotubes Under Tensile Load," *Science (80-.).*, vol. 287, no. 5453, pp. 637–640, Jan. 2000, doi: 10.1126/science.287.5453.637.

[136] Z. Spitalsky, D. Tasis, K. Papagelis, and C. Galiotis, "Carbon nanotube–polymer composites: Chemistry, processing, mechanical and electrical properties," *Prog. Polym. Sci.*, vol. 35, no. 3, pp. 357–401, Mar. 2010, doi: 10.1016/j.progpolymsci.2009.09.003.

[137] A. Montazeri, J. Javadpour, A. Khavandi, A. Tcharkhtchi, and A. Mohajeri, "Mechanical properties of multi-walled carbon nanotube/epoxy composites," *Mater. Des.*, vol. 31, no. 9, pp. 4202–4208, Oct. 2010, doi: 10.1016/j.matdes.2010.04.018.

[138] M. Omidi, H. Rokni D.T., A. S. Milani, R. J. Seethaler, and R. Arasteh, "Prediction of the mechanical characteristics of multi-walled carbon nanotube/epoxy composites using a new form of the rule of mixtures," *Carbon N. Y.*, vol. 48, no. 11, pp. 3218–3228, Sep. 2010, doi: 10.1016/j.carbon.2010.05.007.

[139] F. Darıcık, A. Topcu, K. Aydın, and S. Çelik, "Carbon nanotube (CNT) modified carbon fiber/epoxy composite plates for the PEM fuel cell bipolar plate application," *Int. J. Hydrogen Energy*, vol. 48, no. 3, pp. 1090–1106, Jan. 2023, doi: 10.1016/j.ijhydene.2022.09.297.

[140] V. M. Kuriakose, P. Rohith Sai, M. Sanjaay Kumar, and V. M. Sreehari, “Influence of CNT fillers in the vibration characteristics of natural fiber reinforced composite plates,” *Compos. Struct.*, vol. 282, p. 115012, Feb. 2022, doi: 10.1016/j.compstruct.2021.115012.

[141] G. Formica, W. Lacarbonara, and R. Alessi, “Vibrations of carbon nanotube-reinforced composites,” *J. Sound Vib.*, vol. 329, no. 10, pp. 1875–1889, May 2010, doi: 10.1016/j.jsv.2009.11.020.

[142] J. M. Ferreira, C. Capela, J. Manaia, and J. D. Costa, “Mechanical Properties of Woven Mat Jute/Epoxy Composites,” *Mater. Res.*, vol. 19, no. 3, pp. 702–710, Apr. 2016, doi: 10.1590/1980-5373-MR-2015-0422.

[143] A. Wang, X. Wang, and G. Xian, “The influence of stacking sequence on the low-velocity impact response and damping behavior of carbon and flax fabric reinforced hybrid composites,” *Polym. Test.*, vol. 104, p. 107384, Dec. 2021, doi: 10.1016/j.polymertesting.2021.107384.

[144] G. Huang *et al.*, “Fabrication of multifunctional graphene decorated with bromine and nano-Sb2O3 towards high-performance polymer nanocomposites,” *Carbon N. Y.*, vol. 98, pp. 689–701, Mar. 2016, doi: 10.1016/j.carbon.2015.11.063.

[145] W. Wu, X. Cao, Y. Zhang, and G. He, “Polylactide/halloysite nanotube nanocomposites: Thermal, mechanical properties, and foam processing,” *J. Appl. Polym. Sci.*, vol. 130, no. 1, pp. 443–452, Oct. 2013, doi: 10.1002/app.39179.

[146] P. Wen *et al.*, “Synthesis of a Novel Triazine-Based Hyperbranched Char Foaming

Agent and the Study of Its Enhancement on Flame Retardancy and Thermal Stability of Polypropylene," *Ind. Eng. Chem. Res.*, vol. 52, no. 48, pp. 17015–17022, Dec. 2013, doi: 10.1021/ie401955n.

[147] G. Das and S. Biswas, "Physical, Mechanical and Water Absorption Behaviour of Coir Fiber Reinforced Epoxy Composites Filled With Al 2 O 3 Particulates," *IOP Conf. Ser. Mater. Sci. Eng.*, vol. 115, p. 012012, Feb. 2016, doi: 10.1088/1757-899X/115/1/012012.

[148] N. Saba, M. T. Paridah, K. Abdan, and N. A. Ibrahim, "Effect of oil palm nano filler on mechanical and morphological properties of kenaf reinforced epoxy composites," *Constr. Build. Mater.*, vol. 123, pp. 15–26, Oct. 2016, doi: 10.1016/j.conbuildmat.2016.06.131.

[149] B. M. Rudresh, B. N. Ravi Kumar, and B. V. Lingesh, "Fibridization Effect on the Mechanical Behavior of PA66/PTFE Blend Based Fibrous Composites," *Trans. Indian Inst. Met.*, vol. 70, no. 10, pp. 2683–2694, Dec. 2017, doi: 10.1007/s12666-017-1129-3.

[150] B. V. Lingesh, B. N. Ravikumar, B. M. Rudresh, and D. Madhu, "Hybridization Effect of Micro Fillers on Mechanical, Thermal and Morphological Behavior of PA66/PP Blend Based Hybrid Thermoplastic Composites," *Trans. Indian Inst. Met.*, vol. 71, no. 3, pp. 763–773, Mar. 2018, doi: 10.1007/s12666-017-1209-4.

[151] M. H. Wang, W. H. Ruan, Y. F. Huang, L. Ye, M. Z. Rong, and M. Q. Zhang, "A strategy for significant improvement of strength of semi-crystalline polymers with the aid of nanoparticles," *J. Mater. Chem.*, vol. 22, no. 11, p. 4592, 2012, doi:

10.1039/c2jm16097h.

[152] J. Wei, T. Vo, and F. Inam, "Epoxy/graphene nanocomposites – processing and properties: a review," *RSC Adv.*, vol. 5, no. 90, pp. 73510–73524, 2015, doi: 10.1039/C5RA13897C.

[153] H. Unal and A. Mimaroglu, "Mechanical and Morphological Properties of Mica and Short Glass Fiber Reinforced Polyamide 6 Composites," *Int. J. Polym. Mater.*, vol. 61, no. 11, pp. 834–846, Oct. 2012, doi: 10.1080/00914037.2011.610053.

[154] J. Z. Liang, "Mechanical Properties of PPS/PC/GF/Nano-CaCO 3 Hybrid Composites," *Polym. Plast. Technol. Eng.*, vol. 48, no. 3, pp. 292–296, Feb. 2009, doi: 10.1080/03602550802675629.

[155] J. Z. Liang, "Impact Toughness and Flexural Properties of PPS/GF/Nano-CaCO 3 Ternary Composites," *Polym. Plast. Technol. Eng.*, vol. 47, no. 12, pp. 1227–1230, Dec. 2008, doi: 10.1080/03602550802497164.

[156] Z. F. Zhang and X. Hu, "The Effect of Addition of SiO2 on the Mechanical Properties of PBO-Fiber-Filled HDPE Composites," *Mech. Compos. Mater.*, vol. 51, no. 3, pp. 377–382, Jul. 2015, doi: 10.1007/s11029-015-9508-5.

[157] T. K. Das, P. Bhawal, S. Ganguly, S. Mondal, and N. C. Das, "A facile green synthesis of amino acid boosted Ag decorated reduced graphene oxide nanocomposites and its catalytic activity towards 4-nitrophenol reduction," *Surfaces and Interfaces*, vol. 13, pp. 79–91, Dec. 2018, doi: 10.1016/j.surfin.2018.08.004.

[158] N. M. M. A. Rahman, A. Hassan, and R. Yahya, "Plasticisation Effect on Thermal,

Dynamic Mechanical and Tensile Properties of Injection-Moulded Glass-Fibre/Polyamide 6,6," *J. Sci. Technol.*, vol. 3, no. 1, 2011, [Online]. Available: https://penerbit.uthm.edu.my/ojs/index.php/JST/article/view/210

[159] S. H. Park and J. J. Kim, "Quality Engineering Using Robust Design and Analysis," 1997, pp. 3–15. doi: 10.1007/978-3-642-59268-3_1.

[160] J.-C. Lin, L. C. Chang, M. H. Nien, and H. L. Ho, "Mechanical behavior of various nanoparticle filled composites at low-velocity impact," *Compos. Struct.*, vol. 74, no. 1, pp. 30–36, Jul. 2006, doi: 10.1016/j.compstruct.2005.03.006.

[161] I. Taraghi, A. Fereidoon, and F. Taheri-Behrooz, "Low-velocity impact response of woven Kevlar/epoxy laminated composites reinforced with multi-walled carbon nanotubes at ambient and low temperatures," *Mater. Des.*, vol. 53, pp. 152–158, Jan. 2014, doi: 10.1016/j.matdes.2013.06.051.

[162] B. M. Rudresh, B. N. Ravi Kumar, and B. V. Lingesh, "Hybridization Effect on the Mechanical Behavior of Monophase Reinforced PA66/Teflon Blend Based Hybrid Thermoplastic Composites," *Trans. Indian Inst. Met.*, vol. 70, no. 9, pp. 2335–2346, Nov. 2017, doi: 10.1007/s12666-017-1095-9.

[163] Y. Hu *et al.*, "Comparison of impact resistance of carbon fibre composites with multiple ultra-thin CNT, aramid pulp, PBO and graphene interlayers," *Compos. Part A Appl. Sci. Manuf.*, vol. 155, p. 106815, Apr. 2022, doi: 10.1016/j.compositesa.2022.106815.

[164] V. Chenrayan *et al.*, "An experimental and empirical assessment of machining damage

of hybrid glass-carbon FRP composite during abrasive water jet machining," *J. Mater. Res. Technol.*, vol. 19, pp. 1148–1161, Jul. 2022, doi: 10.1016/j.jmrt.2022.05.042.

[165] S. Ajith Arul Daniel, R. Pugazhenthi, R. Kumar, and S. Vijayananth, "Multi objective prediction and optimization of control parameters in the milling of aluminium hybrid metal matrix composites using ANN and Taguchi -grey relational analysis," *Def. Technol.*, vol. 15, no. 4, pp. 545–556, Aug. 2019, doi: 10.1016/j.dt.2019.01.001.

[166] E. Salur, A. Aslan, M. Kuntoglu, A. Gunes, and O. S. Sahin, "Experimental study and analysis of machinability characteristics of metal matrix composites during drilling," *Compos. Part B Eng.*, vol. 166, pp. 401–413, Jun. 2019, doi: 10.1016/j.compositesb.2019.02.023.

[167] N. Mandal, B. Doloi, B. Mondal, and R. Das, "Optimization of flank wear using Zirconia Toughened Alumina (ZTA) cutting tool: Taguchi method and Regression analysis," *Measurement*, vol. 44, no. 10, pp. 2149–2155, Dec. 2011, doi: 10.1016/j.measurement.2011.07.022.

[168] N. R. D. George E. P. Box, "Response Surfaces, Mixtures, and Ridge Analyses," *John Wiley Sons Hoboken, NJ, USA*, vol. 649, p. 880, 2007, [Online]. Available: https://www.google.co.in/books/edition/Response_Surfaces_Mixtures_and_Ridge_Ana/pTb9PgbQAvYC?hl=en&gbpv=0

[169] J. J. H. & J. L. Spoormaker, "Fatigue fracture mechanisms and fractography of short-glassfibre-reinforced polyamide 6," *J. Mater. Sci.*, vol. 32, no. 14, pp. 3641–3651, 1997, doi: 10.1023/A:1018634530869.

[170] V. Alvarez, A. Vazquez, and C. Bernal, “Effect of Microstructure on the Tensile and Fracture Properties of Sisal Fiber/Starch-based Composites,” *J. Compos. Mater.*, vol. 40, no. 1, pp. 21–35, Jan. 2006, doi: 10.1177/0021998305053508.

[171] F. Van Der Klift, Y. Koga, A. Todoroki, M. Ueda, Y. Hirano, and R. Matsuzaki, “3D Printing of Continuous Carbon Fibre Reinforced Thermo-Plastic (CFRTP) Tensile Test Specimens,” *Open J. Compos. Mater.*, vol. 06, no. 01, pp. 18–27, 2016, doi: 10.4236/ojcm.2016.61003.

[172] N. Shakoori *et al.*, “An experimental investigation on tool wear behaviour of uncoated and coated micro-tools in micro-milling of graphene-reinforced polymer nanocomposites,” *Int. J. Adv. Manuf. Technol.*, vol. 113, no. 7–8, pp. 2003–2015, Apr. 2021, doi: 10.1007/s00170-021-06715-1.

[173] J. Samuel, A. Dikshit, R. E. DeVor, S. G. Kapoor, and K. J. Hsia, “Effect of Carbon Nanotube (CNT) Loading on the Thermomechanical Properties and the Machinability of CNT-Reinforced Polymer Composites,” *J. Manuf. Sci. Eng.*, vol. 131, no. 3, Jun. 2009, doi: 10.1115/1.3123337.

[174] J. Samuel, R. E. DeVor, S. G. Kapoor, and K. J. Hsia, “Experimental Investigation of the Machinability of Polycarbonate Reinforced With Multiwalled Carbon Nanotubes,” *J. Manuf. Sci. Eng.*, vol. 128, no. 2, pp. 465–473, May 2006, doi: 10.1115/1.2137753.

[175] and L. J. B. Krishnamachari, Sadagopa I., *Applied stress analysis of plastics: A mechanical engineering approach*. Springer Science & Business Media, 2013.

[176] christos c. Chamis, L. R. Center, and O. Cleveland, *Mechanics of Composite*

Materials: Past, Present, and Future. 1984.

[177] C.-H. Shen and G. S. Springer, “Moisture Absorption and Desorption of Composite Materials,” *J. Compos. Mater.*, vol. 10, no. 1, pp. 2–20, Jan. 1976, doi: 10.1177/002199837601000101.

[178] H. M. Akil, L. W. Cheng, Z. A. Mohd Ishak, A. Abu Bakar, and M. A. Abd Rahman, “Water absorption study on pultruded jute fibre reinforced unsaturated polyester composites,” *Compos. Sci. Technol.*, vol. 69, no. 11–12, pp. 1942–1948, Sep. 2009, doi: 10.1016/j.compscitech.2009.04.014.

[179] N. Nosbi, H. M. Akil, Z. A. Mohd Ishak, and A. Abu Bakar, “Degradation of compressive properties of pultruded kenaf fiber reinforced composites after immersion in various solutions,” *Mater. Des.*, vol. 31, no. 10, pp. 4960–4964, Dec. 2010, doi: 10.1016/j.matdes.2010.04.037.

[180] C. CHOW, X. XING, and R. LI, “Moisture absorption studies of sisal fibre reinforced polypropylene composites,” *Compos. Sci. Technol.*, vol. 67, no. 2, pp. 306–313, Feb. 2007, doi: 10.1016/j.compscitech.2006.08.005.

[181] C. Li and T.-W. Chou, “Failure of carbon nanotube/polymer composites and the effect of nanotube waviness,” *Compos. Part A Appl. Sci. Manuf.*, vol. 40, no. 10, pp. 1580–1586, Oct. 2009, doi: 10.1016/j.compositesa.2009.07.002.

[182] H. Cebeci, R. G. de Villoria, A. J. Hart, and B. L. Wardle, “Multifunctional properties of high volume fraction aligned carbon nanotube polymer composites with controlled morphology,” *Compos. Sci. Technol.*, vol. 69, no. 15–16, pp. 2649–2656, Dec. 2009,

doi: 10.1016/j.compscitech.2009.08.006.

[183] J. Che, W. Yuan, G. Jiang, J. Dai, S. Y. Lim, and M. B. Chan-Park, "Epoxy Composite Fibers Reinforced with Aligned Single-Walled Carbon Nanotubes Functionalized with Generation 0−2 Dendritic Poly(amidoamine)," *Chem. Mater.*, vol. 21, no. 8, pp. 1471–1479, Apr. 2009, doi: 10.1021/cm8023549.

[184] K. Lau, C. Gu, and D. Hui, "A critical review on nanotube and nanotube/nanoclay related polymer composite materials," *Compos. Part B Eng.*, vol. 37, no. 6, pp. 425–436, Jan. 2006, doi: 10.1016/j.compositesb.2006.02.020.

- **Narendra Kumar Jha***, Santosh Kumar, Srihari Dodla, **“3d Waviness Effect Of Carbon Nano Tube On Fundamental Natural Frequency And Modeling Of Resonance Of Nanocomposite Structure,** 11(2) (2022) 2150031. (Web of science, esci, scopus).

- **Narendra Kumar Jha***, Santosh Kumar, Amit Tyagi, Dhirendra Kumar Jha, Chandrashekhar Jha, **Finite Element And Micromechanical Analysis Of Glass/Epoxy Laminated Composite With Different Orientations**. Elsevier (Science Direct) (DOI:10.1016/j.matpr.2020.05.308) 28(3) (2020) 1899-1903. (Scopus).

- **Narendra Kumar Jha***, Santosh Kumar, Amit Tyagi, Dhirendra Kumar Jha, Chandrashekhar Jha, **Micromechanical Property And Stress Analysis Of Fiber Reinforced Composite Using Fe Analysis (simpsons Method)**. Elsevier (Science Direct) **(**https://doi.org/10.1016/j.matpr.2021.09.148) 50(5) (2022) 1671-1678. (Scopus).

- **Narendra Kumar Jha** & Santosh Kumar, “**Finite Element and Micromechanical Modeling for Investigating Effective Material Properties of Polymer–Matrix Composite and Generation of Water Absorption Profile Experimentally”** (DOI: 10.24247/ijmperdjun20207) 10(3) (2020) 71-86. (Scopus).

- **Narendra Kumar Jha***, Santosh Kumar, Srihari Dodla, **Effect of nano-fillers on impact behavior and machinability of glass-jute hybrid nano-composite** (Communicated).

- **Narendra Kumar Jha***, Santosh Kumar, Srihari Dodla, **Effect of build plate orientation on mechanical property and material removal rate of continuous fiber fabrication additive manufacturing technology** (Communicated).