Reference list

[1] R. Salvado, C. Loss, R. Gonçalves, and P. Pinho, "Textile materials for the design of wearable antennas: a survey," *Sensors,* vol. 12, pp. 15841-15857, 2012.

[2] C. Cochrane, V. Koncar, M. Lewandowski, and C. Dufour, "Design and development of a flexible strain sensor for textile structures based on a conductive polymer composite," *Sensors,* vol. 7, pp. 473-492, 2007.

[3] H. Chen, K. Lee, J. Lin, and M. Koch, "Comparison of electromagnetic shielding effectiveness properties of diverse conductive textiles via various measurement techniques," *Journal of Materials Processing Technology,* vol. 192, pp. 549-554, 2007.

[4] F. Dabirian and S. Hosseini, "Novel method for nanofibre yarn production using two differently charged nozzles," *Fibres Text. East. Eur,* vol. 17, pp. 45-47, 2009.

[5] M. Yousefzadeh, M. Latifi, W. E. Teo, M. Amani-Tehran, and S. Ramakrishna, "Producing continuous twisted yarn from well-aligned nanofibers by water vortex," *Polymer Engineering & Science,* vol. 51, pp. 323-329, 2011.

[6] B. Wu, B. Zhang, J. Wu, Z. Wang, H. Ma, M. Yu, *et al.*, "Electrical switchability and dry-wash durability of conductive textiles," *Scientific reports,* vol. 5, p. 11255, 2015.

[7] B. Kim, V. Koncar, and C. Dufour, "Polyaniline-coated PET conductive yarns: Study of electrical, mechanical, and electro-mechanical properties," *Journal of Applied Polymer Science,* vol. 101, pp. 1252-1256, 2006.

[8] V. Beachley and X. Wen, "Polymer nanofibrous structures: Fabrication, biofunctionalization, and cell interactions," *Progress in polymer science,* vol. 35, pp. 868-892, 2010.

[9] A. Subramanian, U. M. Krishnan, and S. Sethuraman, "Axially aligned electrically conducting biodegradable nanofibers for neural regeneration," *Journal of Materials Science: Materials in Medicine*, vol. 23, pp. 1797-1809, 2012.

[10] R. Sarvari, B. Massoumi, M. Jaymand, Y. Beygi-Khosrowshahi, and M. Abdollahi, "Novel three-dimensional, conducting, biocompatible, porous, and elastic polyaniline-based scaffolds for regenerative therapies," *RSC Advances,* vol. 6, pp. 19437-19451, 2016.

[11] M. Montazer and Z. K. Nia, "Conductive nylon fabric through in situ synthesis of nano-silver: Preparation and characterization," *Materials Science and Engineering: C,* vol. 56, pp. 341-347, 2015.

[12] T. Linz, C. Kallmayer, R. Aschenbrenner, and H. Reichl, "Embroidering electrical interconnects with conductive yarn for the integration of flexible electronic modules into fabric," in *Ninth IEEE International Symposium on Wearable Computers (ISWC'05)*, 2005, pp. 86-89.

[13] T. Dias, *Electronic textiles: Smart fabrics and wearable technology*: Woodhead Publishing, 2015.

[14] Y. Wu, L. Wang, B. Guo, and P. X. Ma, "Interwoven aligned conductive nanofiber yarn/hydrogel composite scaffolds for engineered 3D cardiac anisotropy," *Acs Nano,* vol. 11, pp. 5646-5659, 2017.

[15] L. A. Buechley, "An investigation of computational textiles with applications to education and design," University of Colorado at Boulder, 2007.

[16] G.-S. Chung, D.-h. Lee, and J. S. An, "Process and system for producing digital yarns using metal filaments for info-communications and digital yarns produced by said process," ed: Google Patents, 2010.

[17] A. Schwarz, I. Kazani, L. Cuny, C. Hertleer, F. Ghekiere, G. De Clercq, *et al.*, "Electro-conductive and elastic hybrid yarns–The effects of stretching, cyclic straining and washing on their electro-conductive properties," *Materials & Design,* vol. 32, pp. 4247-4256, 2011.

[18] X. Cai, M. Peng, X. Yu, Y. Fu, and D. Zou, "Flexible planar/fiber-architectured supercapacitors for wearable energy storage," *Journal of Materials Chemistry C,* vol. 2, pp. 1184-1200, 2014.

[19] D. De Rossi, A. Della Santa, and A. Mazzoldi, "Dressware: wearable hardware," *Materials Science and Engineering: C,* vol. 7, pp. 31-35, 1999.

[20] Y. Huang, H. Hu, Y. Huang, M. Zhu, W. Meng, C. Liu, *et al.*, "From industrially weavable and knittable highly conductive yarns to large wearable energy storage textiles," *ACS nano,* vol. 9, pp. 4766-4775, 2015.

[21] D. Yu, S. Mu, L. Liu, and W. Wang, "Preparation of electroless silver plating on aramid fiber with good conductivity and adhesion strength," *Colloids and Surfaces A: Physicochemical and Engineering Aspects,* vol. 483, pp. 53-59, 2015.

[22] G. S. Sandhu and T. T. Doan, "Pulsed plasma enhanced CVD of metal silicide conductive films such as TiSi2," ed: Google Patents, 1994.

[23] Y. Dietzel, W. Przyborowski, G. Nocke, P. Offermann, F. Hollstein, and J. Meinhardt, "Investigation of PVD arc coatings on polyamide fabrics," *Surface and Coatings Technology,* vol. 135, pp. 75-81, 2000.

[24] S. Schaefers, L. Rast, and A. Stanishevsky, "Electroless silver plating on spin-coated silver nanoparticle seed layers," *Materials Letters,* vol. 60, pp. 706-709, 2006.

[25] B. Adhikari and S. Majumdar, "Polymers in sensor applications," *Progress in polymer science,* vol. 29, pp. 699-766, 2004.

[26] H. Bai and G. Shi, "Gas sensors based on conducting polymers," *Sensors,* vol. 7, pp. 267-307, 2007.

[27] S. Roth, H. Bleier, and W. Pukacki, "Charge transport in conducting polymers," *Faraday Discussions of the Chemical Society,* vol. 88, pp. 223-233, 1989.

[28] D. Kumar and R. Sharma, "Advances in conductive polymers," *European polymer journal,* vol. 34, pp. 1053-1060, 1998.

[29] K. M. Molapo, P. M. Ndangili, R. F. Ajayi, G. Mbambisa, S. M. Mailu, N. Njomo*, et al.,* "Electronics of conjugated polymers (I): polyaniline," *International Journal of Electrochemical Science,* vol. 7, pp. 11859-11875, 2012.

[30] U. Salzner, J. Lagowski, P. Pickup, and R. Poirier, "Comparison of geometries and electronic structures of polyacetylene, polyborole, polycyclopentadiene, polypyrrole, polyfuran, polysilole, polyphosphole, polythiophene, polyselenophene and polytellurophene," *Synthetic Metals,* vol. 96, pp. 177-189, 1998.

[31] Y.-J. Cheng, S.-H. Yang, and C.-S. Hsu, "Synthesis of conjugated polymers for organic solar cell applications," *Chemical reviews,* vol. 109, pp. 5868-5923, 2009.

[32] A. Hassan, T. Iqbal, M. Tahir, and S. Afsheen, "A review on copper vanadate-based nanostructures for photocatalysis energy production," *International Journal of Energy Research,* vol. 43, pp. 9-28, 2019.

[33] K. Mahesh, S. Karpagam, and K. Pandian, "How to Design Donor–Acceptor Based Heterocyclic Conjugated Polymers for Applications from Organic Electronics to Sensors," *Topics in Current Chemistry,* vol. 377, p. 12, 2019.

[34] N. Yamazoe, "Toward innovations of gas sensor technology," *Sensors and Actuators B: Chemical,* vol. 108, pp. 2-14, 2005.

[35] P. Harrey, B. Ramsey, P. Evans, and D. Harrison, "Capacitive-type humidity sensors fabricated using the offset lithographic printing process," *Sensors and Actuators B: Chemical,* vol. 87, pp. 226-232, 2002.

[36] S. Yun and S. T. Oyama, "Correlations in palladium membranes for hydrogen separation: a review," *Journal of membrane science,* vol. 375, pp. 28-45, 2011.

[37] L. Ghasemi-Mobarakeh, M. P. Prabhakaran, M. Morshed, M. H. Nasr-Esfahani, H. Baharvand, S. Kiani, *et al.*, "Application of conductive polymers, scaffolds and electrical stimulation for nerve tissue engineering," *Journal of tissue engineering and regenerative medicine,* vol. 5, pp. e17-e35, 2011.

[38] N. K. Guimard, N. Gomez, and C. E. Schmidt, "Conducting polymers in biomedical engineering," *Progress in polymer science,* vol. 32, pp. 876-921, 2007.

[39] D. D. Zhou, X. T. Cui, A. Hines, and R. J. Greenberg, "Conducting polymers in neural stimulation applications," in *Implantable Neural Prostheses 2*, ed: Springer, 2009, pp. 217-252.

[40] R. Ravichandran, S. Sundarrajan, J. R. Venugopal, S. Mukherjee, and S. Ramakrishna, "Applications of conducting polymers and their issues in biomedical engineering," *Journal of the Royal Society Interface,* vol. 7, pp. S559-S579, 2010.

[41] L. Ghasemi-Mobarakeh, M. P. Prabhakaran, M. Morshed, M. H. Nasr-Esfahani, and S. Ramakrishna, "Electrical stimulation of nerve cells using conductive nanofibrous scaffolds for nerve tissue engineering," *Tissue Engineering Part A,* vol. 15, pp. 3605-3619, 2009.

[42] A. Kaynak, L. Rintoul, and G. A. George, "Change of mechanical and electrical properties of polypyrrole films with dopant concentration and oxidative aging," *Materials Research Bulletin,* vol. 35, pp. 813-824, 2000.

[43] J. Zhang, K. Qiu, B. Sun, J. Fang, K. Zhang, E.-H. Hany*, et al.*, "The aligned core–sheath nanofibers with electrical conductivity for neural tissue engineering," *Journal of Materials Chemistry B*, vol. 2, pp. 7945-7954, 2014.

[44] M. T. Cortés and J. C. Moreno, "Artificial muscles based on conducting polymers," *e-Polymers,* vol. 3, 2003.

[45] J. Y. Wong, R. Langer, and D. E. Ingber, "Electrically conducting polymers can noninvasively control the shape and growth of mammalian cells," *Proceedings of the National Academy of Sciences,* vol. 91, pp. 3201-3204, 1994.

[46] X. Liu, K. J. Gilmore, S. E. Moulton, and G. G. Wallace, "Electrical stimulation promotes nerve cell differentiation on polypyrrole/poly (2-methoxy-5 aniline sulfonic acid) composites," *Journal of neural engineering,* vol. 6, p. 065002, 2009.

[47] G. Shi, M. Rouabhia, Z. Wang, L. H. Dao, and Z. Zhang, "A novel electrically conductive and biodegradable composite made of polypyrrole nanoparticles and polylactide," *Biomaterials,* vol. 25, pp. 2477-2488, 2004.

[48] G. Wallace and G. Spinks, "Conducting polymers–bridging the bionic interface," *Soft Matter,* vol. 3, pp. 665-671, 2007.

[49] J. Pelto, S. Haimi, E. Puukilainen, P. G. Whitten, G. M. Spinks, M. Bahrami-Samani*, et al.*, "Electroactivity and biocompatibility of polypyrrole‐hyaluronic acid multi‐walled carbon nanotube composite," *Journal of Biomedical Materials Research Part A: An Official Journal of The Society for Biomaterials, The Japanese Society for Biomaterials, and The Australian Society for Biomaterials and the Korean Society for Biomaterials,* vol. 93, pp. 1056-1067, 2010.

[50] V. Gilja, K. Novaković, J. Travas-Sejdic, Z. Hrnjak-Murgić, M. Kraljić Roković, and M. Žic, "Stability and synergistic effect of polyaniline/TiO2 photocatalysts in degradation of azo dye in wastewater," *Nanomaterials,* vol. 7, p. 412, 2017.

[51] W. E. Teo and S. Ramakrishna, "A review on electrospinning design and nanofibre assemblies," *Nanotechnology,* vol. 17, p. R89, 2006.

[52] J. F. Cooley, "Apparatus for electrically dispersing fluids," ed: Google Patents, 1902.

[53] J.-H. He, Y. Liu, and L. Xu, "Apparatus for preparing electrospun nanofibres: a comparative review," *Materials Science and Technology,* vol. 26, pp. 1275-1287, 2010.

[54] A. M. Afifi, S. Nakano, H. Yamane, and Y. Kimura, "Electrospinning of continuous aligning yarns with a 'funnel'target," *Macromolecular Materials and Engineering,* vol. 295, pp. 660-665, 2010.

[55] U. Ali, Y. Zhou, X. Wang, and T. Lin, "Direct electrospinning of highly twisted, continuous nanofiber yarns," *Journal of the Textile Institute,* vol. 103, pp. 80-88, 2012.

[56] Z. Xie, H. Niu, and T. Lin, "Continuous polyacrylonitrile nanofiber yarns: preparation and dry-drawing treatment for carbon nanofiber production," *RSC Advances,* vol. 5, pp. 15147-15153, 2015.

[57] E. Yang, Z. Xu, L. K. Chur, A. Behroozfar, M. Baniasadi, S. Moreno*, et al.*, "Nanofibrous smart fabrics from twisted yarns of electrospun piezopolymer," *ACS applied materials & interfaces,* vol. 9, pp. 24220-24229, 2017.

[58] L. Fan, Q. Ma, J. Tian, D. Li, X. Xi, X. Dong*, et al.*, "Novel nanofiber yarns synchronously endued with tri-functional performance of superparamagnetism, electrical conductivity and enhanced fluorescence prepared by conjugate electrospinning," *RSC Advances,* vol. 7, pp. 48702-48711, 2017.

[59] L. Chen, D. Li, L. Chen, P. Si, J. Feng, L. Zhang, *et al.*, "Core-shell structured carbon nanofibers yarn@ polypyrrole@ graphene for high performance all-solid-state fiber supercapacitors," *Carbon,* vol. 138, pp. 264-270, 2018.

[60] T. Yan, Z. Wang, Y.-Q. Wang, and Z.-J. Pan, "Carbon/graphene composite nanofiber yarns for highly sensitive strain sensors," *Materials & Design,* vol. 143, pp. 214-223, 2018.

[61] J. Li, L. Tian, N. Pan, and Z. j. Pan, "Mechanical and electrical properties of the PA6/SWNTs nanofiber yarn by electrospinning," *Polymer Engineering & Science,* vol. 54, pp. 1618-1624, 2014.

[62] S. Wu, P. Liu, Y. Zhang, H. Zhang, and X. Qin, "Flexible and conductive nanofiber-structured single yarn sensor for smart wearable devices," *Sensors and Actuators B: Chemical,* vol. 252, pp. 697-705, 2017.

[63] X. Wang, H. Hu, Z. Yang, L. He, Y. Kong, B. Fei, *et al.*, "Smart hydrogel-functionalized textile system with moisture management property for skin application," *Smart materials and structures,* vol. 23, p. 125027, 2014.

[64] A. Lendlein and R. Langer, "Biodegradable, elastic shape-memory polymers for potential biomedical applications," *Science,* vol. 296, pp. 1673-1676, 2002.

[65] X. Kang, J. Wang, H. Wu, I. A. Aksay, J. Liu, and Y. Lin, "Glucose oxidase–graphene–chitosan modified electrode for direct electrochemistry and glucose sensing," *Biosensors and Bioelectronics,* vol. 25, pp. 901-905, 2009.

[66] Q. Meng, J. Hu, K. Ho, F. Ji, and S. Chen, "The shape memory properties of biodegradable chitosan/poly (L-lactide) composites," *Journal of Polymers and the Environment,* vol. 17, p. 212, 2009.

[67] A. Sugunan, C. Thanachayanont, J. Dutta, and J. Hilborn, "Heavy-metal ion sensors using chitosan-capped gold nanoparticles," *Science and Technology of Advanced Materials,* vol. 6, p. 335, 2005.

[68] A. Kaushik, P. R. Solanki, A. A. Ansari, G. Sumana, S. Ahmad, and B. D. Malhotra, "Iron oxide-chitosan nanobiocomposite for urea sensor," *Sensors and Actuators B: Chemical,* vol. 138, pp. 572-580, 2009.

[69] L. H. Chen, T. Li, C. C. Chan, R. Menon, P. Balamurali, M. Shaillender, *et al.*, "Chitosan based fiber-optic Fabry–Perot humidity sensor," *Sensors and Actuators B: Chemical,* vol. 169, pp. 167-172, 2012.

[70] J. Zeng, X. Xu, X. Chen, Q. Liang, X. Bian, L. Yang, *et al.*, "Biodegradable electrospun fibers for drug delivery," *Journal of controlled release,* vol. 92, pp. 227-231, 2003.

[71] H. Yoshimoto, Y. Shin, H. Terai, and J. Vacanti, "A biodegradable nanofiber scaffold by electrospinning and its potential for bone tissue engineering," *Biomaterials,* vol. 24, pp. 2077-2082, 2003.

[72] Y. Z. Cai, G. R. Zhang, L. L. Wang, Y. Z. Jiang, H. W. Ouyang, and X. H. Zou, "Novel biodegradable three-dimensional macroporous scaffold using aligned electrospun nanofibrous yarns for bone tissue engineering," *Journal of Biomedical Materials Research Part A,* vol. 100, pp. 1187-1194, 2012.

[73] Y. Tokiwa and T. Suzuki, "Hydrolysis of polyesters by lipases," *Nature,* vol. 270, p. 76, 1977.

[74] M. A. Woodruff and D. W. Hutmacher, "The return of a forgotten polymer—Polycaprolactone in the 21st century," *Progress in polymer science,* vol. 35, pp. 1217-1256, 2010.

[75] V. Sinha, K. Bansal, R. Kaushik, R. Kumria, and A. Trehan, "Poly-ϵ-caprolactone microspheres and nanospheres: an overview," *International journal of pharmaceutics,* vol. 278, pp. 1-23, 2004.

[76] A. A. Shah, F. Hasan, A. Hameed, and S. Ahmed, "Biological degradation of plastics: a comprehensive review," *Biotechnology advances,* vol. 26, pp. 246-265, 2008.

[77] T.-K. Chua, M. Tseng, and M.-K. Yang, "Degradation of Poly (ε-caprolactone) by thermophilic Streptomyces thermoviolaceus subsp. thermoviolaceus 76T-2," *AMB Express,* vol. 3, p. 8, 2013.

[78] C. V. Benedict, J. Cameron, and S. J. Huang, "Polycaprolactone degradation by mixed and pure cultures of bacteria and a yeast," *Journal of Applied Polymer Science,* vol. 28, pp. 335-342, 1983.

[79] J. G. Sanchez, A. Tsuchii, and Y. Tokiwa, "Degradation of polycaprolactone at 50° C by a thermotolerant Aspergillus sp," *Biotechnology Letters,* vol. 22, pp. 849-853, 2000.

[80] D.-M. Abou-Zeid, R.-J. Müller, and W.-D. Deckwer, "Degradation of natural and synthetic polyesters under anaerobic conditions," *Journal of biotechnology,* vol. 86, pp. 113-126, 2001.

[81] D.-M. Abou-Zeid, R.-J. Müller, and W.-D. Deckwer, "Biodegradation of aliphatic homopolyesters and aliphatic− aromatic copolyesters by anaerobic microorganisms," *Biomacromolecules,* vol. 5, pp. 1687-1697, 2004.

[82] K.-E. Jaeger and F. Rosenau, "Overexpression and secretion of Pseudomonas lipases," in *Pseudomonas,* ed: Springer, 2004, pp. 491-508.

[83] Y. Tokiwa, B. P. Calabia, C. U. Ugwu, and S. Aiba, "Biodegradability of plastics," *International journal of molecular sciences,* vol. 10, pp. 3722-3742, 2009.

[84] D. H. Reneker and I. Chun, "Nanometre diameter fibres of polymer, produced by electrospinning," *Nanotechnology,* vol. 7, p. 216, 1996.

[85] N. Bhardwaj and S. C. Kundu, "Electrospinning: a fascinating fiber fabrication technique," *Biotechnology advances,* vol. 28, pp. 325-347, 2010.

[86] S. Shao, S. Zhou, L. Li, J. Li, C. Luo, J. Wang, *et al.*, "Osteoblast function on electrically conductive electrospun PLA/MWCNTs nanofibers," *Biomaterials,* vol. 32, pp. 2821-2833, 2011.

[87] F. Yang, R. Murugan, S. Wang, and S. Ramakrishna, "Electrospinning of nano/micro scale poly (L-lactic acid) aligned fibers and their potential in neural tissue engineering," *Biomaterials,* vol. 26, pp. 2603-2610, 2005.

[88] X. Ma, J. Ge, Y. Li, B. Guo, and P. X. Ma, "Nanofibrous electroactive scaffolds from a chitosan-grafted-aniline tetramer by electrospinning for tissue engineering," *Rsc Advances,* vol. 4, pp. 13652-13661, 2014.

[89] M. Li, Y. Guo, Y. Wei, A. G. MacDiarmid, and P. I. Lelkes, "Electrospinning polyaniline-contained gelatin nanofibers for tissue engineering applications," *Biomaterials,* vol. 27, pp. 2705-2715, 2006.

[90] S. H. Bhang, S. I. Jeong, T. J. Lee, I. Jun, Y. B. Lee, B. S. Kim, *et al.*, "Electroactive Electrospun Polyaniline/Poly [(L-lactide)-co-(ε-caprolactone)] Fibers for Control of Neural Cell Function," *Macromolecular bioscience,* vol. 12, pp. 402-411, 2012.

[91] S. Aznar-Cervantes, M. I. Roca, J. G. Martinez, L. Meseguer-Olmo, J. L. Cenis, J. M. Moraleda, *et al.*, "Fabrication of conductive electrospun silk fibroin scaffolds by coating with polypyrrole for biomedical applications," *Bioelectrochemistry,* vol. 85, pp. 36-43, 2012.

[92] T. J. Rivers, T. W. Hudson, and C. E. Schmidt, "Synthesis of a novel, biodegradable electrically conducting polymer for biomedical applications," *Advanced Functional Materials,* vol. 12, pp. 33-37, 2002.

[93] N. Li, Q. Zhang, S. Gao, Q. Song, R. Huang, L. Wang, *et al.*, "Three-dimensional graphene foam as a biocompatible and conductive scaffold for neural stem cells," *Scientific reports,* vol. 3, p. 1604, 2013.

[94] A. Kotwal and C. E. Schmidt, "Electrical stimulation alters protein adsorption and nerve cell interactions with electrically conducting biomaterials," *Biomaterials,* vol. 22, pp. 1055-1064, 2001.

[95] S. H. Ku, S. H. Lee, and C. B. Park, "Synergic effects of nanofiber alignment and electroactivity on myoblast differentiation," *Biomaterials,* vol. 33, pp. 6098-6104, 2012.

[96] K. Low, N. Chartuprayoon, C. Echeverria, C. Li, W. Bosze, N. V. Myung*, et al.*, "Polyaniline/poly (ε-caprolactone) composite electrospun nanofiber-based gas sensors: optimization of sensing properties by dopants and doping concentration," *Nanotechnology,* vol. 25, p. 115501, 2014.

[97] Y. Li, X. Li, R. Zhao, C. Wang, F. Qiu, B. Sun*, et al.*, "Enhanced adhesion and proliferation of human umbilical vein endothelial cells on conductive PANI-PCL fiber scaffold by electrical stimulation," *Materials Science and Engineering: C,* vol. 72, pp. 106-112, 2017.

[98] S. Chung, A. K. Moghe, G. A. Montero, S. H. Kim, and M. W. King, "Nanofibrous scaffolds electrospun from elastomeric biodegradable poly (L-lactide-co-ε-caprolactone) copolymer," *Biomedical Materials,* vol. 4, p. 015019, 2009.

[99] D. Kai, M. P. Prabhakaran, G. Jin, and S. Ramakrishna, "Polypyrrole-contained electrospun conductive nanofibrous membranes for cardiac tissue engineering," *Journal of biomedical materials research Part A,* vol. 99, pp. 376-385, 2011.

[100] J. Y. Lee, C. A. Bashur, A. S. Goldstein, and C. E. Schmidt, "Polypyrrole-coated electrospun PLGA nanofibers for neural tissue applications," *Biomaterials,* vol. 30, pp. 4325-4335, 2009.

[101] M.-C. Chen, Y.-C. Sun, and Y.-H. Chen, "Electrically conductive nanofibers with highly oriented structures and their potential application in skeletal muscle tissue engineering," *Acta biomaterialia,* vol. 9, pp. 5562-5572, 2013.

[102] Y. Liu, H. Cui, X. Zhuang, Y. Wei, and X. Chen, "Electrospinning of aniline pentamer-graft-gelatin/PLLA nanofibers for bone tissue engineering," *Acta biomaterialia,* vol. 10, pp. 5074-5080, 2014.

[103] L. Wang, Y. Wu, B. Guo, and P. X. Ma, "Nanofiber yarn/hydrogel core–shell scaffolds mimicking native skeletal muscle tissue for guiding 3D myoblast alignment, elongation, and differentiation," *ACS nano,* vol. 9, pp. 9167-9179, 2015.

[104] A. Uhlir Jr, "The potentials of infinite systems of sources and numerical solutions of problems in semiconductor engineering," *Bell System Technical Journal,* vol. 34, pp. 105-128, 1955.

[105] J. Greene, "Biodegradation of Biodegradable and Compostable Plastics under Industrial Compost, Marine and Anaerobic Digestion," *Ecology, Pollution and Environmental science,* vol. 1(1): 13-18, 2018.

[106] S. M. Willerth and S. E. Sakiyama-Elbert, "Approaches to neural tissue engineering using scaffolds for drug delivery," *Advanced drug delivery reviews,* vol. 59, pp. 325-338, 2007.

[107] L. Huang, X. Zhuang, J. Hu, L. Lang, P. Zhang, Y. Wang, *et al.*, "Synthesis of biodegradable and electroactive multiblock polylactide and aniline pentamer copolymer for tissue engineering applications," *Biomacromolecules,* vol. 9, pp. 850-858, 2008.

[108] V. Ka, "l, M. Eskandani, Y. Omidi, H. Nazamiyeh and J. Barar," *RSC Adv,* vol. 5, pp. 18041-18051, 2015.

[109] S. Agarwal, J. H. Wendorff, and A. Greiner, "Chemistry on electrospun polymeric nanofibers: merely routine chemistry or a real challenge?," *Macromolecular rapid communications,* vol. 31, pp. 1317-1331, 2010.

[110] X. Qi, X. Yao, S. Deng, T. Zhou, and Q. Fu, "Water-induced shape memory effect of graphene oxide reinforced polyvinyl alcohol nanocomposites," *Journal of Materials Chemistry A,* vol. 2, pp. 2240-2249, 2014.

[111] S. T. McGovern, G. M. Spinks, and G. G. Wallace, "Micro-humidity sensors based on a processable polyaniline blend," *Sensors and Actuators B: Chemical,* vol. 107, pp. 657-665, 2005.

[112] V. G. Kulkarni, "Processing of polyanilines," in *Intrinsically conducting polymers: an emerging technology,* ed: Springer, 1993, pp. 45-50.

[113] S. Bhandari, "Polyaniline: Structure and Properties Relationship," in *Polyaniline Blends, Composites, and Nanocomposites,* ed: Elsevier, 2018, pp. 23-60.

[114] J. Santos Jr, J. Malmonge, A. C. Silva, A. d. J. Motheo, Y. P. Mascarenhas, and L. Mattoso, "Characteristics of polyaniline electropolymerized in camphor sulfonic acid," *Synthetic Metals,* vol. 69, pp. 141-142, 1995.

[115] F. Cataldo and P. Maltese, "Preparation of polyaniline conductive composites with diene-rubber or polyphenylacetylene," *Polymers for Advanced Technologies,* vol. 12, pp. 293-299, 2001.

[116] G. Eda, "Effects of solution rheology on electrospinning of polystyrene," 2006.

[117] P. H. Picciani, E. S. Medeiros, Z. Pan, W. J. Orts, L. H. Mattoso, and B. G. Soares, "Development of conducting polyaniline/poly (lactic acid) nanofibers by electrospinning," *Journal of Applied Polymer Science,* vol. 112, pp. 744-753, 2009.

[118] E. Tavakkol, H. Tavanai, A. Abdolmaleki, and M. Morshed, "Production of conductive electrospun polypyrrole/poly (vinyl pyrrolidone) nanofibers," *Synthetic Metals,* vol. 231, pp. 95-106, 2017.

[119] W. Lowrie and A. Fichtner, *Fundamentals of geophysics*: Cambridge university press, 2019.

[120] J. Han, K. Lu, Y. Yue, C. Mei, C. Huang, Q. Wu*, et al.*, "Nanocellulose-templated assembly of polyaniline in natural rubber-based hybrid elastomers toward flexible electronic conductors," *Industrial crops and products,* vol. 128, pp. 94-107, 2019.

[121] S. Yao, Y. Li, Z. Zhou, and H. Yan, "Graphene oxide-assisted preparation of poly (vinyl alcohol)/carbon nanotube/reduced graphene oxide nanofibers with high carbon content by electrospinning technology," *RSC Advances,* vol. 5, pp. 91878-91887, 2015.

[122] Y. Qi, Z. Tai, D. Sun, J. Chen, H. Ma, X. Yan*, et al.*, "Fabrication and characterization of poly (vinyl alcohol)/graphene oxide nanofibrous biocomposite scaffolds," *Journal of applied polymer science,* vol. 127, pp. 1885-1894, 2013.

[123] Y. Liu, M. Park, H. K. Shin, B. Pant, J. Choi, Y. W. Park*, et al.*, "Facile preparation and characterization of poly (vinyl alcohol)/chitosan/graphene oxide biocomposite nanofibers," *Journal of Industrial and Engineering Chemistry,* vol. 20, pp. 4415-4420, 2014.

[124] A. R. Hernández, O. C. Contreras, J. C. Acevedo, and L. G. N. Moreno, "Poly (ε-caprolactone) degradation under acidic and alkaline conditions," *Am. J. Polym. Sci,* vol. 3, p. 70, 2013.

[125] A. Haryńska, J. Kucinska-Lipka, A. Sulowska, I. Gubanska, M. Kostrzewa, and H. Janik, "Medical-Grade PCL Based Polyurethane System for FDM 3D Printing—Characterization and Fabrication," *Materials,* vol. 12, p. 887, 2019.

[126] Y. Wang, Z. Iqbal, and S. Mitra, "Rapidly functionalized, water-dispersed carbon nanotubes at high concentration," *Journal of the American Chemical Society,* vol. 128, pp. 95-99, 2006.

[127] M. J. Kim, J. Lee, D. Jung, and S. E. Shim, "Electrospun poly (vinyl alcohol) nanofibers incorporating PEGylated multi-wall carbon nanotube," *Synthetic Metals,* vol. 160, pp. 1410-1414, 2010.

[128] F. F. Garrudo, C. A. Chapman, P. R. Hoffman, R. W. Udangawa, J. C. Silva, P. E. Mikael*, et al.*, "Polyaniline-polycaprolactone blended nanofibers for neural cell culture," *European Polymer Journal,* vol. 117, pp. 28-37, 2019.

[129] B. Lubentsov, O. Timofeeva, S. Saratovskikh, V. Krinichnyi, A. Pelekh, V. Dmitrenko, *et al.*, "The study of conducting polymer interaction with gaseous substances IV. The water content influence on polyaniline crystal structure and conductivity," *Synthetic Metals,* vol. 47, pp. 187-192, 1992.

[130] P. S. d. Freitas, "Síntese da polianilina em escala piloto e seu processamento," 2000.

[131] E. Scherr, A. MacDiarmid, S. Manohar, J. Masters, Y. Sun, X. Tang, *et al.*, "Polyaniline: oriented films and fibers," *Synthetic Metals,* vol. 41, pp. 735-738, 1991.

[132] B. Massoumi, M. Ramezani, M. Jaymand, and M. Ahmadinejad, "Multi-walled carbon nanotubes-g-[poly (ethylene glycol)-b-poly (ε-caprolactone)]: synthesis, characterization, and properties," *Journal of Polymer Research,* vol. 22, p. 214, 2015.

[133] S. Maity and A. Chatterjee, "Preparation and characterization of electro-conductive rotor yarn by in situ chemical polymerization of pyrrole," *Fibers and Polymers,* vol. 14, pp. 1407-1413, 2013.

[134] H. Higashimura, K. Fujisawa, S. Namekawa, M. Kubota, A. Shiga, Y. Moro-Oka, *et al.*, "Coupling selectivity in the radical-controlled oxidative polymerization of 4-phenoxyphenol catalyzed by (1, 4, 7-triisopropyl-1, 4, 7-triazacyclononane) copper (II) complex," *Journal of Polymer Science Part A: Polymer Chemistry,* vol. 38, pp. 4792-4804, 2000.

[135] S. Fedorova and J. Stejskal, "Surface and precipitation polymerization of aniline," *Langmuir,* vol. 18, pp. 5630-5632, 2002.

[136] G. Odian, "Principles of Polymerization, John Wiley& Sons," *Inc.: Hoboken, NJ,* 2004.

[137] N. Y. Abu-Thabit, "Chemical oxidative polymerization of polyaniline: A practical approach for preparation of smart conductive textiles," *Journal of Chemical Education,* vol. 93, pp. 1606-1611, 2016.

[138] H. Bai, L. Zhao, C. Lu, C. Li, and G. Shi, "Composite nanofibers of conducting polymers and hydrophobic insulating polymers: preparation and sensing applications," *Polymer,* vol. 50, pp. 3292-3301, 2009.

[139] H.-D. Zhang, C.-C. Tang, Y.-Z. Long, J.-C. Zhang, R. Huang, J.-J. Li, *et al.*, "High-sensitivity gas sensors based on arranged polyaniline/PMMA composite fibers," *Sensors and Actuators A: Physical,* vol. 219, pp. 123-127, 2014.

[140] J. Hong, Z. Pan, M. Yao, and X. Zhang, "Preparation and properties of continuously produced conductive UHMWPE/PANI composite yarns based on in-situ polymerization," *Synthetic Metals,* vol. 193, pp. 117-124, 2014.

[141] A. R. Hernández, O. C. Contreras, J. C. Acevedo, and L. Moreno, "Poly (ε-caprolactone) degradation under acidic and alkaline conditions," *Am. J. Polym. Sci,* vol. 3, p. 70, 2013.

[142] M. A. C. Mazzeu, L. K. Faria, A. d. M. Cardoso, A. M. Gama, M. R. Baldan, and E. S. Gonçalves, "Structural and morphological characteristics of polyaniline synthesized in pilot scale," *Journal of Aerospace Technology and Management,* vol. 9, pp. 39-47, 2017.

[143] W. Łużny and K. Piwowarczyk, "Hydrogen bonds in camphorsulfonic acid doped polyaniline," *Polimery,* vol. 56, pp. 652-656, 2011.

[144] L. Yue, Y. Xie, Y. Zheng, W. He, S. Guo, Y. Sun*, et al.*, "Sulfonated bacterial cellulose/polyaniline composite membrane for use as gel polymer electrolyte," *Composites Science and Technology,* vol. 145, pp. 122-131, 2017.

[145] F. Lefebvre, C. David, and C. Vander Wauven, "Biodegradation of polycaprolactone by micro-organisms from an industrial compost of household refuse," *Polymer degradation and stability,* vol. 45, pp. 347-353, 1994.

[146] L. Huang, J. Hu, L. Lang, X. Wang, P. Zhang, X. Jing*, et al.*, "Synthesis and characterization of electroactive and biodegradable ABA block copolymer of polylactide and aniline pentamer," *Biomaterials,* vol. 28, pp. 1741-1751, 2007.

[147] T. H. Qazi, R. Rai, and A. R. Boccaccini, "Tissue engineering of electrically responsive tissues using polyaniline based polymers: A review," *Biomaterials,* vol. 35, pp. 9068-9086, 2014.

[148] S. Agarwal, J. H. Wendorff, and A. Greiner, "Progress in the field of electrospinning for tissue engineering applications," *Advanced Materials,* vol. 21, pp. 3343-3351, 2009.