

DAFTAR PUSTAKA

- Al-Munajjed, A. A., Hien, M., Kujat, R., Gleeson, J. P., & Hammer, J. (2008). Influence of pore size on tensile strength, permeability and porosity of hyaluronan-collagen scaffolds. *Journal Material Science*, *19*, 2859–2864.
- Alghamdi, M. M., Awwad, N. S., Abdullah A Al-Karim Al-Shara, E., Abd-Rabboh, H. S. M., & Keshk, S. M. A. S. (2019). Physicochemical characterization of natural hydroxyapatite/ cellulose composite. *Indian Journal of Fibre & Textile Research*, *44*(March), 45–50.
- Alizadeh, M., Abbasi, F., Khoshfetrat, A. B., & Ghaleh, H. (2013). Microstructure and characteristic properties of gelatin/chitosan scaffold prepared by a combined freeze-drying/leaching method. *Materials Science & Engineering C*, *33*(7), 3958–3967.
- Alksne, M., Kalvaityte, M., Simoliunas, E., Rinkunaite, I., & Gendviliene, I. (2020). In vitro comparison of 3D printed polylactic acid / hydroxyapatite and polylactic acid / bioglass composite scaffolds : Insights into materials for bone regeneration. *Journal of the Mechanical Behavior of Biomedical Materials*, *104*(October 2019).
- Andrukhov, O., Huber, R., Shi, B., Berner, S., Rausch-fan, X., Moritz, A., Spencer, N. D., & Schedle, A. (2016). Proliferation, behavior, and differentiation of osteoblasts on surfaces of different microroughness. *Dental Materials*, *32*(11), 1374–1384.
- Azami, M., Tavakol, S., Samadikuchaksaraei, A., Hashjin, M. S., Nafiseh Baheiraei, Kamali, M., & Nourani, M. R. (2012). A Porous Hydroxyapatite/Gelatin Nanocomposite Scaffold for Bone Tissue Repair: In Vitro and In Vivo Evaluation. *Journal of Biomaterials Science, Polymer Edition*, *23*(18), 2353–2368.
- Bajpai, A.K., Bajpai, J., Saini, R.K., Agrawal, P., Tiwari, A. (2017) Smart Biomaterial Devices Polymers in Biomedical Sciences. Taylor & Francis Group. New York
- Balakrishnan, H., Hassan, A., Uzir, M., Yussuf, A. A., & Razak, S. B. A. (2010). Novel toughened polylactic acid nanocomposite: Mechanical, thermal and morphological properties. *Materials and Design*, *31*(7), 3289–3298.
- Baran, E. H., & Erbil, H. Y. (2019). Surface Modification of 3D Printed PLA Objects by Fused Deposition Modeling : A Review. *Colloids and Interfaces*.
- Birmingham, E., Niebur, G. L., McHugh, P. E., Shaw, G., Barry, F. P., Mcnamara, L. M., & Dame, N. (2012). Osteogenic Differentiation Of Mesenchymal Stem Cells is Regulated By Osteocyte and Osteoblast Cells in A Simplified Bone Niche. *European Cells and Materials*, *23*(353), 13–27.

- Bracaglia, L. G., Smith, B. T., Watson, E., Arumugasaamy, N., Mikos, A. G., & Fisher, J. P. (2017). 3D Printing for the design and fabrication of polymer-based gradient scaffolds. *Acta Biomaterialia*.
- Bruzauskaite, I., Bironait, D., Bagdonas, E., & Bernotien, E. (2015). Scaffolds and cells for tissue regeneration: different scaffold pore sizes—different cell effects. *Cytotechnology*.
- C.Pearce, E. (2009). *Anatomi dan Fisiologi untuk Paramedis*. PT Gramedia.
- C.Scanlon, V., & Sanders, T. (2007). *Essentials of Anatomy and Physiology* (Edisi 5). F.A. Davis Company.
- Cahyawati, T. D. (2018). Ameloblastoma. *Kedokteran Unram*, 7(1), 19–25.
- Carneiro, O. S., Silva, A. F., & Gomes, R. (2015). Fused deposition modeling with polypropylene. *Materials & Design*, 83, 768–776.
- Chakravarty, J., Rabbi, F., Chalivendra, V., & Brigham, C. J. (2019). Mechanical and biological properties of chitin/polylactide (PLA)/hydroxyapatite (HAP) composites cast using ionic liquid solutions. *International Journal of Biological Macromolecules*.
- Chao, S. ching, Wang, M.-J., Pai, N.-S., & Yen, S.-K. (2015). Preparation and characterization of gelatin – hydroxyapatite composite microspheres for hard tissue repair. *Materials Science and Engineering C*, 57, 113–122.
- Chen G, Li W, Zhao B, Sun K. A. (2009). Novel Biphasic Bone Scaffold: Beta Calcium Phospate & Amorpous Calcium Polyphosphate. *Journal of the American Ceramic Society*. 92(4): 948-945.
- Dallas, S. L., & Bonewald, L. F. (2010). Dynamics of the transition from osteoblast to osteocyte. *Annals of the New York Academy of Sciences*, 1192(1), 437–443.
- Deshmukh, K., Ahamed, M. B., Deshmukh, R. R., Pasha, S. K. K., Bhagat, P. R., & Chidambaram, K. (2017). Biopolymer Composites With High Dielectric Performance: Interface Engineering. *Biopolymer Composites in Electronics*, 27–128.
- Dorozhkin, S. V. (2010). Bioceramics of calcium orthophosphates. *Biomaterials*, 31, 1465–1485.
- Dressler, M., Dombrowski, F., Simon, U., Börnstein, J., Hodoroaba, V. D., Feigl, M., Grunow, S., Gildenhaar, R., & Neumann, M. (2011). Influence of gelatin coatings on compressive strength of porous hydroxyapatite ceramics. *Journal of the European Ceramic Society*, 31(4), 523–529.
- Drummer, D., Cifuentes-Cuellar, S., & Rietzel, D. (2012). Suitability of PLA/TCP for fused deposition modeling. *Rapid Prototyping Journa*, 18(6), 500–507.
- Dupret-Bories, A., Vergez, S., Meresse, T., Brouillet, F., & Bertrand, G. (2017).

- Contribution of 3D printing to mandibular reconstruction after cancer. *European Annals of Otorhinolaryngology, Head and Neck Diseases*, 7–10.
- Duval, R., Clarot, I., F, D.-C., Fontanay, S., & Marsura, A. (2012). Interest of designed cyclodextrin-tools in gene delivery. *Annales Pharmaceutiques Francaises*, 70(6), 360–369.
- El-hadi, A. M. (2017). Increase the elongation at break of poly (lactic acid) composites for use in food packaging films. *Scientific Reports*, 1–14.
- Fairag, R., Rosenzweig, D. H., Ramirez-Garcialuna, J. L., Weber, M. H., & Haglund, L. (2019). Three-Dimensional Printed Polylactic Acid Scaffolds Promote Bone- like Matrix Deposition in Vitro. *Acs Applied Materials & Interfaces*, 11, 15306–15315.
- Farah, S., G.Anderson, D., & Langer, R. (2016). Physical and mechanical properties of PLA , and their functions in widespread applications - A comprehensive review. *Advanced Drug Delivery Reviews*, 107, 367–392.
- Fawwaz, M., Wahyudin, E., & Djide, M. N. (2013). Identifikasi Genistein dan Efek Isoflavon Hasil Fermentasi Kedelai (*Glycine max* (L) Merrill) Terhadap Proliferasi Sel Osteoblast secara In Vitro. *JST Kesehatan*, 3(4), 395–402.
- Felfel, R. M., Zakir, K. M., Andrew, H., Rudd, C. D., & Ahmed, I. (2015). Accelerated in vitro degradation properties of polylactic acid/phosphate glass fibre composites. *Journal Material Science*, 50, 3942–3955.
- Florencio-Silva, R., Sasso, G. R. da S., Sasso-Cerri, E., Simões, M. J., Cerri2, P. S., & 1Department. (2015). Biology of Bone Tissue: Structure, Function, and Factors That Influence Bone Cells. *BioMed Research International*, 17.
- Franz-odendaal, T. A., Hall, B. K., & Witten, P. E. (2006). Buried Alive : How Osteoblasts Become Osteocytes. *Developmental Dynamics*, 235(1), 176–190.
- Gregor, A., Filová, E., Novák, M., Kronek, J., Chlup, H., Buzgo, M., Blahnová, V., Lukasova, V., Barto, M., Necas, A., & Hosek, J. (2017). Designing of PLA scaffolds for bone tissue replacement fabricated by ordinary commercial 3D printer. *Biological Engineering*, 11–31.
- Gremare, A., Guduric, V., Bareille, R., Heroguez, V., Latour, S., L'heureux, N., Fricain, J., Catros, S., & Nihouannen, D. Le. (2017). Characterization of printed PLA scaffolds for bone tissue engineering. *Biomedical Material Research Part A*.
- Grottkau, B. E., Hui, Z., Yao, Y., & Pang, Y. (2020). Rapid Fabrication of Anatomically-Shaped Bone Scaffolds Using Indirect 3D Printing and Perfusion Techniques. *International Journal of Molecular Science*, 21, 315.
- Hager, I., Golonka, A., & Putanowicz, R. (2016). 3D Printing of Buildings and Building Components as the Future of Sustainable Construction ? *Procedia Engineering*, 151, 292–299. <https://doi.org/10.1016/j.proeng.2016.07.357>

- Hamad, K., Kaseem, M., Yang, H. W., Deri, F., & Ko, Y. G. (2015). Properties and medical applications of polylactic acid: A review. *EXPRESS Polymer Letters*, 9(5), 435–455.
- Heibel, Alt, K. W., R.Wächte, & W.Bähr. (2001). Cortical thickness of the mandible with special reference to miniplate osteosynthesis. *Morphometric Analysis of Autopsy Material*, 5(4), 180–185.
- Henkel, J., Woodruff, M. A., Epari, D. R., Steck, R., Glatt, V., Dickinson, I. C., Choong, P. F. M., Schuetz, M. A., & Hutmacher, D. W. (2013). Bone Regeneration Based on Tissue Engineering Conceptions – A 21st Century Perspective. *Bone Research*, 1(3), 216–248.
- Heo, D. N., Castro, N. J., Lee, S.-J., Noh, H., Zhu, W., & Zhang, L. G. (2017). Enhanced bone tissue regeneration using a 3D printed microstructure incorporated with a hybrid nano hydrogel. *Nanoscale*, 9, 5055–5062.
- Herman. (2016). Efektivitas Kolagen Kulit Ikan Patin (*Pangasius sp.*) Sebagai Matriks Ekstraseluler Pada Kultur In Vitro Sel Tulang Tikus. *Skripsi*. Bogor: Fakultas Kedokteran Hewan, Institut Pertanian Bogor.
- Hoveizi, E., Nabiuni, M., Parivar, K., Rajabi-Zeleti, S., & Tavakol, S. (2013). Functionalisation and surface modification of electrospun polylactic acid scaffold for tissue engineering. *Cell Biology International*, 1–9.
- Hu, H., Hilton, M. J., Tu, X., Yu, K., Ornitz, D. M., & Long, F. (2005). Sequential roles of Hedgehog and Wnt signaling in osteoblast development. *Development*, 1(132), 49–60.
- Islam, S., & Todo, M. (2016). Effects of Sintering Temperature on the Compressive Mechanical Properties of Collagen/Hydroxyapatite Composite Scaffolds for Bone Tissue Engineering. *Materials Letters*.
- Jaidev, L. R., & Chatterjee, K. (2018). Surface functionalization of 3D printed polymer scaffolds to augment stem cell response. *Materials & Design*.
- Jem, K. J., Ph, D., Tan, B., & Ph, D. (2020). The Development and Challenges of Poly (lactic acid) and Poly (glycolic acid). *Advanced Industrial and Engineering Polymer Research*.
- Kanmani, P., & Rhim, J. (2013). Physical, mechanical and antimicrobial properties of gelatin based active nanocomposite films containing AgNPs and nanoclay. *Food Hydrocolloids*.
- Kentjono, W. A. (2004). Rekonstruksi mandibula pasca reseksi tumor di Laboratorium Telinga Hidung dan Tenggorok RSUD Dr. Soetomo Surabaya 1987 - 2003. *Majalah Otorhinolaryngologica Indonesiana*, XXXIV(2), 1–15.
- Kim, A. young, Kim, Y., Lee, S. H., Yoon, Y., Kim, W.-H., & Kweon, O.-K. (2017). Effect of Gelatin on Osteogenic Cell Sheet Formation Using Canine Adipose-Derived Mesenchymal Stem Cells. *Cell Transplantation*, 26(1),

115–123.

- Kouhi, E., Masood, S., & Morsi, Y. (2008). Design and fabrication of reconstructive mandibular models using fused deposition modeling. *Assembly Automation*, 28, 246–254.
- Lakatos, É., Magyar, L., & Bojtár, I. (2014). Material Properties of the Mandibular Trabecular Bone. *Journal of Medical Engineering*, 2014, 7.
- Lawrence, B. J., & Madihally, S. V. (2008). Cell colonization in degradable 3D porous matrices. *Cell Adhesion & Migration ISSN:*, 2(1), 9–16.
- Lerner, U. H. (2012). Osteoblasts, Osteoclasts, and Osteocytes: Unveiling Their Intimate-Associated Responses to Applied Orthodontic Forces. *Seminars in Orthodontics*, 18(4), 237–248.
- Lipski, M., Tomaszewska, I. M., Lis, G. J., & Tomaszewski, K. A. (2013). The mandible and its foramen: anatomy, anthropology, embryology and resulting clinical implications. *Folia Morphologica*, 72(4), 285–292.
- Luukkonen, J., Hilli, M., Nakamura, M., Ritamo, I., Valmu, L., & Kauppinen, K. (2019). Osteoclasts secrete osteopontin into resorption lacunae during bone resorption. *Histochemistry and Cell Biology*.
- Mahapatro, A., & Singh, D. K. (2011). Biodegradable nanoparticles are excellent vehicle for site directed in-vivo delivery of drugs and vaccines. *Journal of Nanobiotechnology*, 9, 55.
- Marquis, M.-E., Lord, E., Bergeron, E., Drevelle, O., Park, H., Cabana, F., Senta, H., Faucheux, N. (2009). Bone cells-biomaterials interactions. *Frontiers in Bioscience*, 14(1), 1023–1067.
- Martini, F. H., Timmons, M. J., & Tallitsch, R. B. (2012). *Human Anatomy* (B. Yien (ed.); seventh ed). Pearson education, Inc.
- Mondal, S., Mondal, B., & S.Mukhopadhyay, A. D. (2012). Studies on Processing and Characterization of Hydroxyapatite Biomaterials from Different Bio Wastes. *Journal of Minerals & Characterization & Engineering*, 11(1), 55–67.
- Nofar, M., Sacligil, D., Carreau, P. J., Kamal, M. R., & Heuzey, M. (2018). International Journal of Biological Macromolecules Poly (lactic acid) blends : Processing , properties and applications. *International Journal of Biological Macromolecules*, 125, 307–360.
- Noviyanti, A. R., Haryono, Pnadu, R., & Eddy, D. R. (2017). Cangkang Telur Ayam sebagai Sumber Kalsium dalam Pembuatan Hidroksiapatit untuk Aplikasi Graft Tulang. *Chimica et Natura Acta*, 5(3), 107–111.
- O'Brien, F. J. (2011). Biomaterials & scaffolds for tissue engineering. *Materials Today*, 14(3), 88–95. [https://doi.org/10.1016/S1369-7021\(11\)70058-X](https://doi.org/10.1016/S1369-7021(11)70058-X)

- Oliveira, M. T. F., Rocha, F. S., Batista, J. D., Moraes, S. L. C. de, & Zanetta-barbosa, D. (2013). Reconstruction of Mandibular Defects. *A Textbook*.
- Orozco-díaz, C. A., Moorehead, R., Reilly, G. C., Gilchrist, F., & Miller, C. (2020). Characterization of a composite polylactic acid-hydroxyapatite 3D-printing filament for bone-regeneration. *Biomedical Physics & Engineering Express*, 6.
- Pavia, F. C., Conoscenti, G., Greco, S., Carrubba, V. La, Ghersi, G., & Brucato, V. (2018). Preparation, characterization and in vitro test of composites polylactic acid/hydroxyapatite scaffolds for bone tissue engineering. *International Journal of Biological Macromolecules*, 119, 945–953.
- Purnama, E.Firman., Nikmatin,S., Langenati, R. (2006). Pengaruh Suhu Reaksi Terhadap Derajat Kristalinitas dan Komposisi Hidroksiapatit Dibuat dengan Media Air dan Cairan Tubuh Buatan (Synthetic Body Fluid). *Jurnal Sains Materi Indonesia*. 154-162.
- Rahayu, F., & Fithriyah, N. H. (2015). *Pengaruh Waktu Ekstraksi Terhadap Rendemen Gelatin dari Tulang Ikan Nila Merah*.
- Rammelt, S., Neumann, M., Hanisch, U., Reinstorf, A., Pompe, W., Zwipp, H., & Biewener, A. (2005). Osteocalcin enhances bone remodeling around hydroxyapatite / collagen composites. *Wiley InterScience*.
- Riss, T. L., Moravec, R. A., Niles, A. L., Duellman, S., Benink, H. A., Worzella, T. J., & Minor, L. (2016). Cell Viability Assays. *Assay Guidance Manual*, Md, 1–25.
- Ritz, U., Gerke, R., Götz, H., Stein, S., & Rommens, P. M. (2017). A New Bone Substitute Developed from 3D-Prints of Polylactide (PLA) Loaded with Collagen I: An In Vitro Study. *International Journal of Molecular Science*, 18(2569).
- Sarlabous, M., & Psutka, D. J. (2018). Treatment of Mandibular Ameloblastoma Involving the Mandibular Condyle: Resection and Concomitant Reconstruction With a Custom Hybrid Total Joint Prosthesis and Iliac Bone Graft. *The Journal of Craniofacial Surgery*, 00(00), 1–8.
- Seong, W.-J., Kim, U.-K., Swift, J. Q., Heo, Y.-C., Hodges, J. S., & Ko, C.-C. (2009). Elastic properties and apparent density of human edentulous. *International Journal of Oral & Maxillofacial Surgery*, 38, 1088–1093.
- Sharma, U., Pal, D., & Prasad, R. (2013). Alkaline Phosphatase : An Overview. *Clinical Biochemists of India*. <https://doi.org/10.1007/s12291-013-0408-y>
- Siregarr, F., & Hadijono, B. S. (2000). Uji Sitotoksitas dengan Esei MTT. *Jurnal Kedokteran Gigi Universitas Indonesia (Edisi Khusus)*, 7, 28–32.
- Silva, S.S., Caridade SG, Mano JF, Reis RL. (2013). Effect of Crosslinking in Chitosan/Aloe vera Based Membranes for Biomedical Applications.

- Carbohydrate Polymers*. 98(1): 588-581.
- Solechan, & Sugiantoro, B. (2015). Analisa Metode Ektruder untuk Pembuatan Scaffolds Rekonstruksi Mandibular dari Material Hidroksiapatit dan Pati Ketela. *Intuisi Teknologi Dan Seni*, 7(2), 32–38.
- Stošić, S. (2008). Mandibular reconstruction – state of the art and perspectives. *Vojnosanitetski Pregled*, 65(5), 397–403.
- Sukindar, N. A., Ariffin, M. K. A., Baharudin, B. T. H. T., Jaafar, C. N. A., & Ismail, M. I. S. (2016). Analyzing the effect of nozzle diameter in fused deposition modeling for extruding polylactic acid using open source 3D printing. *Jurnal Teknologi (Sciences & Engineering)*, 7(10), 7–15.
- Surange, V. G., & Gharat, P. V. (2016). Using Fused Deposition Modelling (FDM) Vinod. *International Research Journal of Engineering and Technology (IRJET)*, 3(3), 1403–1406.
- Toppo, S., Tajrin, A., & Al'amri, M. (2014). *Penatalaksanaan reseksi mandibula dengan pemasangan plat AO pada kasus ameloblastoma*. 3(5).
- Trisnawati, D. A., Sularsih., Widaningsih. (2019). Perbedaan *Compressive Strength Scaffold* Kombinasi Kitosan dan Ekstrak *Aloe Vera* dengan Pelarut Air dan Etanol. *Jurnal Kedokteran Gigi*.
- Valerga, A. P., M. Batista, S. R. F.-V., Gómez-Parra, A., & Marcos, M. (2016). Preliminary Study of the Influence of Manufacturing Parameters in Fused Deposition Modeling. *Proceedings of the 26th DAAAM International Symposium*, 1004–1008.
- Widianto, B., Rahmat, M., & Rahardjo. (2013). *Reseksi segmental dan rekonstruksi mandibula dengan mandibular positioner guidance sebagai perawatan ameloblastoma pada pasien edentulus total*.
- Widiastuti, M. G., Soesatya, M. H., Magetsari, R., Tontowi, A. E. (2016). Evaluasi Komplikasi Plate Exposure Pasca-Reseksi Ameloblastoma Mandibula dengan Rekonstruksi Pelat Titanium di RSUP Dr. Sardjito Yogyakarta. *Jurnal Teknosains*, 5(2), 81–89.
- Wurm, M. C., Möst, T., Bergauer, B., Rietzel, D., Neukam, F. W., Cifuentes, S. C., & Wilmowsky, C. Von. (2017). *In-vitro evaluation of Polylactic acid (PLA) manufactured by fused deposition modeling*. 1–9.
- Zandi, M., Mirzadeh, H., Mayer, C., Urch, H., Eslaminejad, M. B., Bagheri, F., & Mivehchi, H. (2009). Biocompatibility evaluation of nano-rod hydroxyapatite / gelatin coated with nano-HAp as a novel scaffold using mesenchymal stem cells. *Journal of Biomedical Materials Research Part A*.
- Zhang, H., Mao, X., Du, Z., Jiang, W., Han, X., Zhao, D., Han, D., & Li, Q. (2016). Three dimensional printed macroporous polylactic acid/hydroxyapatite composite scaffolds for promoting bone formation in a

critical-size rat calvarial defect model. *Science and Technology of Advanced Materials*, 17(1), 136–148.

Zhang, Q., Wu, W., Qian, C., Xiao, W., Zhu, H., Guo, J., Cui, W., Meng, Z., Zhu, J., & Ge, Z. (2019). Materials Science & Engineering C Advanced biomaterials for repairing and reconstruction of mandibular defects. *Materials Science & Engineering C*, 103, 0928–4931.

Zhang, Y., Ni, M., Zhang, M., & Ratner, B. (2003). Calcium Phosphate – Chitosan Composite Scaffolds for Bone. *Tissue Engineering*, 9(2), 337–345.