DAFTAR PUSTAKA

Alsa, Asmadi., 2004, *Pendekatan Kuantitatif Kualitatif dalam Penelitian Psikologi,* Yogyakarta: Pustaka Pelajar.

Abdelaal, O.A., Darwish, S.M., 2011, Fabrication of Tissue Engineering Scaffolds Using Rapid Prototyping Technique", *World Academy of Science, Engineering and Technology*, 59.

Anggono, Juliana., 2005, "Mullite Ceramics: Its Properties, Structure, and Synthesis", *Jurnal Teknik Mesin*, 7(1). 1-10.

Aoki, H., 1991, "Science and Medical Applications of Hydroxyapatite", *Tokyo: Intitute for Medical and Dental Engineering*. Medical and Dental University.

Ashby, Michael F., 1999, *Material Selection in Mechanical Design Second Edition*, Oxford, Woburn: Butterworth-Heinemann.

Ashok, M., Kalkura, S. N., Sundaram, N. M., & Arivuoli, D., 2007, "Growth And Characterization of Hydroxyapatite Crystals By Hydrothermal Method", *Journal of Materials Science: Materials in Medicine*, 18(5). 895-898.

Barakat, N.A.M., Khalil K.A., Sheik, F.A., Omran, A.M., Gaihre, Babita., Khil, S.M., Kim, Hak Yong., 2008, "Physiochemical Characterizations of Hydroxyapatite Extracted from Bovine Bones by Three Different Methods: Extraction of Biologically Desirable HAp", *Materials Science and Engineering*, 28. 1381-1387.

Barsoum, Michel W., 2003, *Fundamental of Ceramics*, Bristol and Philadelphia: Institute od Physics Publishing Ltd,

Ben-Nissan, B., 2003, "Natural bioceramics: from coral to bone and beyond", *Current opinion in solid state and materials science*, 7(4). 283-288.

Bergmann, C.J.D., Odekerken, J.C.E., Welting, T.J.M., Jungwirth, F., Devine, D., Bouré, L., Zeiter, S., van Rhijn, L.W., Telle, R., Fischer, H., Emangs, P.J., 2014, "Calcium Phosphate Based Three-Dimensional Cold Plotted Bone Scaffolds for Critical Size Bone Defects", *BioMed Research International, Hindawi Publishing Corporation*, 2014.

Bibb, R., 2006, *In Medical Modelling: The Application of Advanced Design and Development Technique in Medicine*, Canbridge, England: Woodhead Publishing Limited

Bose, S., Roy, M., Bandyopadhyay, A., 2012, "Recent Advances in Bone Tissue Engineering Scaffolds", *Trends Biotechnol,* 30(10).546-554.

Bouler, JM., Trecant, M., Delecrin, J., Royer, J., Passuti, N., Daculsi, G., 1996, "Macroporous Biphasic Calcium Phosphate Ceramics: Influence of Five Synthesis Parameters on Compressive Strength." *J. Biomed Mater Res,* 32.603-609.

Bucholz, R.W., 2002, "Nonallograft Osteoconductive Bone Graft Substitutes", *Clin.Orthop Relat Res*. 395.44-52.

Cao, L. Y., Zhang, C. B., & Huang, J. F., 2005, "Synthesis of Hydroxyapatite Nanoparticles In Ultrasonic Precipitation", *Ceramics International*, 31(8).1041-1044.

Cordell, J.M., Volg, M.L., Johnson, A.J.W., 2009, "The Influence of Micropore Size on The Mechanical Properties of Bulk Hydroxyapatite and Hydroxyapatite Scaffolds", *Journal of The Mechanical Behavior of Biomedical Materials,* 2(2009).560-570.

Cullity, BD., Stock, SR., 2001, *Element of X-Ray Diffraction*, New Jersey: Prentice Hall.

Cunningham E, Dunne N, Clarke S, Choi SY, Walker G, et al., 2011, "Comparative Characterization of 3-D Hydroxyapatite Scaffolds Developed

Via Replication of Synthetic Polymer Foams and Natural Marine Sponges", *J. Tissue Sci Eng*, Doi:10.4172/2157-7552.S1-001.

Demers, C., Hamdy, C. R., Corsi, K., Chellat, F., Tabrizian, M., & Yahia, L. H., 2002, "Natural Coral Exoskeleton as a Bone Graft Substitute: a Review", *Bio-medical materials and engineering*, 12(1).15-35.

Engin, O.N., & Tas, A. C., 1999, "Manufacture of Macroporous Calcium Hydroxyapatite Bioceramics", *Journal of the European Ceramic Society*, 19(13).2569-2572.

Espalin, D., Acaute, K., Rodriguez, D., Mediana, F., Posner, M., and Wicker, R., 2010, "Fused Deposition Modelling of Patient-Specific Polymethylmethacrylate Implants", *Rapid Prototyping Journal*, 16(3).164-173.

Fang, Z., Starly, B., dan Sun, W., 2005, "Computer-Aided Characterization for Effective Mechanical Properties of Porous Tissue Scaffolds." *Computer-Aided Design*, 37(2005).65-72.

Feng, P., Wei, P., Shuai, C., Peng, S., 2014, "Characterization of Mechanical and Biological Properties of 3D Scaffold Reinforced with Zinc Oxide for Bone Tissue Engineering", *PLoS ONE*, 9(1).e87755.

Freed, LE.,Vunjak-Novakovic, G., Biron RJ., Eagles, DB., Lesnoy, DC., Barlow, SK., Langer, R., 1994, "Biodegradable Polymer Scaffold for Tissue Engineering", *Nature Biotechnology*, 12.689-693.

Hench, L.L., 1998, "Bioceramics", *J. Am. Ceram. Soc.*, 81.1705-28

Herliansyah, M. K., Pujianto, E., Hamdi, M., Ide-Ektessabi, A., Wildan, M. W., & Tontowi, A. E., 2006, "Preparation and characterization of natural hydroxyapatite: study of X-ray diffraction result from bovine bone hydroxyapatite and natural gypsum hydroxyapatite", In *Proceeding of International Conference on Product Design and Manufacture*.

Herliansyah, M. K., Nasution, D. A., Shukor, B. A., Hamdi, M., Ide-Ektessabi, A., Wildan, M. W., & Tontowi, A. E., 2007, "Preparation and characterization of natural hydroxyapatite: A comparative study of bovine bone hydroxyapatite and hydroxyapatite from calcite." In *Materials Science Forum*, 561.1441-1444.

Herliansyah, M.K., Hamdi, M., Ide-Ektessabi, A., dan Wildan, M.W., 2009, "The Influence of Sintering Temperature on the Properties of Compacted Bovine Hydroxyapatite". *Material Science and Engineering,* 29.674-1680.

Herliansyah, M.K., Muzafar, C., dan Tontowi, A.E., 2012, "Natural Bioceramics Bone Graft: A Comparative Study of Calcite Hydroxyapatite, Gypsum Hydroxyapatite, Bovine Hydroxyapatite and Cuttlefish Shell Hydroxyapatite". *Proceeding of the Asia Pacific Industrial & Management Systems Conference 2012 V. Kachitvichyanukul, H..T. Luong, and R. Pitakaso Eds.*

Hsu, YY., Gresser, JD., Trantolo, DJ., Lyon, CM., Gangadharam, PRJ., and Wise, DL., 1997, "Effect of Polymer Foam Morphology and Density on Kinetics of *in vitro* Controlled Release of Isoniazid from Compressed Foam Matrices", *Journal of Biomedical Material Research,* 35(1).107-116.

Jamison, Russ., 2003, Money-and Pain-Saving Artificial Bone Implant Created, Mandible Reconstruction Project (internet), ITG (Imaging Technology Group), Beckman Institute, University of Illinois at Urbana-Champaign < https://itg.beckman.illinois.edu/technology_development/mandible_reconstruction/> (diakses 15 Juni 2016).

Kalita, S.J., Bose, S., Hosick, H.L., Bandyopadhyay, A., 2003, "Development of Controlled Porosity Polymer-Ceramic Composite Scaffolds via Fused Deposition Modeling", *Material Science and Engineering,* 23(2003).611-620.

Kalita, S.J., Ferguson, M., 2006, "Fabrication of 3D Porous Mg/Zn doped Tricalcium Phosphate Bone-Scaffold via the Fused Deposition Modeling", *American Journal of Biochemistry and Biotechnology*, 2(2).57-60.

Karageorgiou, V., Kaplan, D., 2005, "Porosity of 3D Biomaterial Scaffolds and Osteogenesis", *Biomaterial*, 26.5474-5491.

Khan, Y., Yaszemski, MJ., Mikos, AG., Laurencin, CT., 2008, "Tissue Engineering of Bone: Material and Matrix Consideration", *The Journal of Bone and Joint Surgery*, 90.36-42.

Kolan, K.C.R., Leu, M.C., Hilmas, G.E., Velez, M., 2010, "Selective Laser Sintering of 13-93 Bioactive Glass Bone Scaffolds", *Proceedings of the 4th Annual ISC Research Symposium.*

Krishna, D.S.R., Chaitanya, C.K., Seshadri, S.K., & Kumar, T.S., 2002, "Fluorinated hydroxyapatite by hydrolysis under microwave irradiation", *Trends Biomater. Artif. Organs*, 16. 15-17.

Kuboki, Y., Takita, H., Kobayashi, D., Trusuga, E., Inoue, M., Murata, M., 1998, "BMP-Induced Osteogenesis on the Surface of Hydroxyapatite with Geometrically Feasible and Nonfeasible Structure: Topology of Osteogenesis," *J Biomed Mater Res*, 39(2).190-9.

Landers, R., Pfister, A., Hubner, U., John, H., Schmelzeisen, R., and Mulhaupt, R., 2002, "Fabrication of Soft Tissue Engineering Scaffolds by Means of Rapid Prototyping Techniques", *Journal of Materials Science*, 37(15).3107-3116.

Lane, J.M., dan Sandhu, H.S., 1987. "Current Approaches to Experimental Bone Grafting." *The Orthopedic Clinics of North America*, 18(2).213-25.

Leon y Leon, CA., 1998, "New Perspective in Mercury Porosimetry", *Adv Colloid Interface Sci*, 76-77.341-72.

Leukers, B., Gülkan, H., Irsen, S.H., Milz, C.T., Schieker, M., dan Seitz, H., 2005, "Hydroxyapatite Scaffolds for Bone Tissue Engineering Made by 3D Printing", *Journal of Materials Science: Materials in Medicine*. 16(2005).1121-1124.

Li, JP., de Wijn, JR., van Blitterswijk, CA., and de Groot, K., 2010, "The Effect of Scaffold Architecture on Properties of Direct 3D Fiber Deposition of Porous Ti6Al4V for Orthopedic Implants", *Journal of Biomedical Materials Research,* 92a(1).33-42.

Li, J., Zhang, L., Lv, S., Li, S., Wang, N., and Zhang, Z., 2011, "Fabrication of Individual Scaffold Based on a Patient-Specific alveolar Bone Defect Model", *Journal of Biotechnology*, 151(1).87-93.

Li, X., Li, D., Lu, B., and Tang., Y., 2005, "Design and Fabrication of CAP Scaffolds by Indirect Solid Free Form Fabrication", *Rapid Prototyping Journal*, 11(5). 312-318.

Lim, G. K., Wang, J., Ng, S. C., & Gan, L. M., 1996, "Processing of Fine Hydroxyapatite Powders Via an Inverse Microemulsion Route", *Materials letters*, 28(4).431-436.

Lim, G. K., Wang, J., Ng, S. C., Chew, C. H., & Gan, L. M., 1997, "Processing of Hydroxyapatite via Microemulsion and Emulsion Routes", *Biomaterials*, 18(21).1433-1439.

Lin, F. H., Liao, C. J., Chen, K. S., & Sun, J. S. ,1999. "Preparation of a Biphasic Porous Bioceramic By Heating Bovine Cancellous Bone with $Na_4P_2O_7 10H_2O$ Addition", *Biomaterials*, 20(5). 475-484.

Lin, FH., Liao, CJ., Chen, KS., Sun, JS., Lin, CY., 2000, "Preparation of beta-TCp/HAP Biphasic Ceramics with Natural Bone Structure by Heating Bovine Cancellous Bone with the Addition of (NH(4))(2)HPO(4)", *J. Biomed Mater Res,* 51.157-163.

Lindner, M., Hoeges, S., Meiners, W., Wissenbach, K., Smeets, S., Telle, R., Poprawe, R., and Fischer, H., 2011, "Manufacturing of Biomedical Materials Research", *Journal of Biomedical Materials Research*, 97a(4).466-471.

Lo, H., Ponticiello, MS., Leong, KW., 1995, "Fabrication of Controlled Release Biodegradable Foams by Phase Separation", *Tissue Engineering*, 1.15-28.

Lopes, M.A., Monteiro, F.J., dan Santos, J.D., 1999, "Glass-Reinforced Hydroxyapatite Composite: Fracture Toughness and Hardness Dependence on Microstructural Characteristics", *Biomaterials*, 20.2085-2090.

Makitie, AA., Yan, Y., Wang, X., Xiong, Z., Paloheimo, K-S., Tuomi, J., Paloheimo, M., Salo, J., and Renkonen, R., 2009, "*In Vitro* Evaluation of a 3D PLGA-TCP Composite Scaffold in an Experimental Bioreactor", *Journal of Bioactive and Compatible Polymers.* 24(1).75-83.

Mikos, AG., Thorsen, AJ., Czerwonka, LA., Bao, Y., Langer, R., 1994, "Preparation and Characterization of Poly(L-lactic Acid) Foams", *Polymer*, 35(5).1068-1077.

Montgomery, D.C. dan Runger, G.C., 2003, *Applied Statistics and Probability for Engineers*, New York: John Wiley & Sons, Inc.

Mooney, DJ., Baldwin, DF., Suh, NP., Vacanti, JP., Langer, R., 1996, "Novel Approach to Fabricate Porous Sponges of Poly (D,L-lactic-co-glycolic Acid) without the Use of Organic Solvents", *Biomaterial*, 17.1417-1422.

Murr, LE., Quinones, SA., Gaytan, SM., Lopez, MI., Rodela, A., Martinez, EY., Hernandez, DH., Martinez, E., Medina, F., and Wicker, RB., 2009, "Microstructure and Mechanical behavior of Ti-6Al-4V Produced by rapid-layer manufacturing, for Biomedical Application", *Journal of the Mechanical Behavior of Biomedical Materials*, 2(1).20-32.

Murugan, R. and Ramakrishna, S. 2005, "Aqueous Mediated Synthesis of Bioresorbable Nanocrystalline Hydroxyapatite." *Journal of Crystal Growth*, 274(1-2). 209-213.

Nuss, K.M.R., Brigitte von Rechenberg, 2008, "Biocompatibility Issues with Modern Implant in Bone – A Review for Clinical Orthopedics", *The Open Orthopedic Journal*, 2.66-78.

Oktar, FN., 2006, *Mater. Lett.* 60.2207.

Oktar, F. N., Agathopoulos, S., Ozyegin, L. S., Gunduz, O., Demirkol, N., Bozkurt, Y., & Salman, S., 2007, "Mechanical properties of bovine hydroxyapatite (BHA) composites doped with SiO2, MgO, Al2O3, and ZrO2", *Journal of Materials Science: Materials in Medicine*, 18(11).2137-2143.

Olszta, MJ., Cheng, X., Jee, SS., Kumar, R., Kim, YY., Kaufman, MJ., Douglass, EP., Gower, LB., 2007, "Bone Structure and Formation: A new Perspective", *Material Science and Engineering*, 58(3-5).77-116

Rocha, J. H. G., Lemos, A. F., Kannan, S., Agathopoulos, S., & Ferreira, J. M. F., 2005a, "Hydroxyapatite Scaffolds Hydrothermally Grown From Aragonitic Cuttlefish Bones", *Journal of Materials Chemistry*, 15(47).5007-5011.

Rocha, J. H. G., Lemos, A. F., Agathopoulos, S., Valério, P., Kannan, S., Oktar, F. N., & Ferreira, J. M. F., 2005b, "Scaffolds for Bone Restoration From Cuttlefish", *Bone*, 37(6). 850-857.

Ramesh, S., Tan, C. Y., Bhaduri, S. B., & Teng, W. D., 2007, "Rapid Densification of Nanocrystalline Hydroxyapatite For Biomedical Applications" *Ceramics international*, 33(7).1363-1367.

Rivera, E. M., Araiza, M., Brostow, W., Castano, V. M., Dıaz-Estrada, J. R., Hernandez, R., & Rodrıguez, J. R., 1999, "Synthesis of Hydroxyapatite From Eggshells", *Materials Letters*, 41(3).128-134

Safari, A., Danforth, SC., Allahverdi, M., and Venkataraman, N., 2001, *in Encyclopedia of Materials: Science and Technology*, Oxford: Elsevier p.7991.

Salgado, A. J., Coutinho, O. P., & Reis, R. L., 2004, "Novel starch-based scaffolds for bone tissue engineering: cytotoxicity, cell culture, and protein expression", *Tissue engineering*, 10(3-4).465-474.

Samsiah, R., 2009, "Karakterisasi Biokomposit Apatit-Kitosan dengan XRD (*X-Ray Diffraction*), FTIR (*Fourier Transform Infrared*), SEM (*Scanning Electron Microscopy*), dan Uji Mekanik" *Departemen Fisika, Fakultas MIPA, IPB*, Bogor.

Sasikumar, S., & Vijayaraghavan, R., 2006, "Low Temperature Synthesis of Nanocrystalline Hydroxyapatite From Egg Shells By Combustion Method", *Trends Biomater. Artif. Organs*, 19(2).70-73.

Shi, D. 2006, *Introduction to Biomaterials*, Beijing, Singapore, Tsinghua: University Press; World Scientific.

Shor, L., Güçeri, S., Wen, X., Gandhi, M., & Sun, W., 2007, "Fabrication Of Three-Dimensional Polycaprolactone/Hydroxyapatite Tissue Scaffolds and Osteoblast-Scaffold Interactions *In Vitro*", *Biomaterials*, 28(35).5291-5297.

Simon, J.L., Michna, S., Lewis, J.A., Rekow, E.D., Thompson, V.P., Smay, J.E., Yampolsky, A., Parsons, J.R., Ricci, J.L. 2007, "*In vivo* Bone Response to 3D Periodic Hydroxyapatite Scaffolds Assembled by Direct Ink Writing", *Wiley InterScience*, DOI: 10.1002/jbm.a.31329.

Song, J., Liu, Y., Zhang, Y., Jiao, L., 2011, "Mechanical Properties of Hydroxyapatite Ceramics Sintered from Powder with Different Morphologies", *Journal Material Science and Engineering A*, 528.5421-5427.

Stevens, M.M. and George, J.H., 2005, "Exploring and Engineering the Cell Surface Interface." *Science,* 350(5751).1135-8.

Story, BJ., Wagner WR., Gaisser DM., Cook SD., Rust-Dawicki, AM., 1998, "In vivo Performance of a Modified CSTi Dental Implant Coating." *Int J Oral Maxillofac Implants,* 13(6).749-57.

Tancred, D.C., McCormack, BA., Carr, A.J., 1998, "A Synthetic Bone Implant Macroscopically Identical to Cancellous Bone", *Biomaterial,* 19.2303-2311.

Tellis, B.C., Szivek, J.A., Bliss, C.L., Margolis, D.S., Vaidyanathan R.K., Calvert, P., 2008, "Trabecular Scaffolds Created Using MicroCT Guided Fused Deposition Modeling", *Materials Science and Engineering,* 28.171-178.

Thomson, RC., Yaszemski, MJ., Powers, JM., Mikos, AG., 1996, "Fabrication of Biodegradable Polymer Scaffold to Engineer Trabecular Bone", *Journal of Biomaterials Science,* 7.23-38.

Toriyama, M., Ravaglioli, A., Krajewski, A., Celotti, G., & Piancastelli, A., 1996, "Synthesis of hydroxyapatite-based powders by mechano-chemical method and their sintering", *Journal of the European Ceramic Society*, 16(4).429-436.

Turgeman, G., 2008, "Biomaterials and Biomedical Engineering", Chp.8, Switzerland: Trans Tech Publications Ltd.

Vaccaro, A. R., 2002, "The role of the osteoconductive scaffold in synthetic bone graft", *Orthopedics,* 25(5).S571.

Vallet-Regi, M., 2001, "Ceramic For Medical Applications", *J. Chem. Soc., Dalton Trans.,* 97-108

Vallet-Regí, M., & González-Calbet, J. M., 2004, "Calcium Phosphates as Substitution of Bone Tissues", *Progress in Solid State Chemistry*, 32(1).1-31.

Van de Velde, K. dan Kiekens, P., 2002, "Material Properties Biopolymers: Overview of Several Properties and Consequences on Their Applications", *Polymer Testing*, 21.433-442.

Vecchio, K. S., Zhang, X., Massie, J. B., Wang, M., & Kim, C. W., 2007, "Conversion Of Bulk Seashells To Biocompatible Hydroxyapatite For Bone Implants", *Acta biomaterialia*, 3(6).910-918.

Wang, M., 2003, "Developing Bioactive Caomposite Materials for Tissue Replacement", *Biomaterial*, 24.2133-2151

Wang, F., Shor, L., Darling, A., Khalil, S., Sun, W., Guceri, S., and Lau, A., 2004, "Precision Extruding Deposition and Characterization of Cellular Poly-ε-caprolactone Tissue Scaffolds", *Rapid Prototyping Journal*, 10.42-49.

Wang, Q., Ge, S., & Zhang, D., 2005, "Nano-Mechanical Properties And Biotribological Behaviors Of Nanosized HA/Partially-Stabilized Zirconia Composites", *Wear*, 259(7).952-957.

Wayonsky, J., Scott, C., Minnear, W., 1992, "Processing of Porous Ceramics", *MAm Ceram Soc Bull*, 71.1674-1682.

Whang, K., Thomas, CH., and Healy, KE., 1995, "A Novel Method to Fabricate Bioabsorbable Scaffolds", *Polymer*, 36(4).837-842.

Wiliams, DF., 2008, "On the Mechanisms of Biocompatibility", *Biomaterials*, 29.2941-2953.

Woodfield, TBF., Malda, J., de Wijn, J., Peters, F., Riesle, J., and van Blitterswijk, CA., 2004, "Design of Porous Scaffolds for Cartilage Tissue engineering Using a Three-Dimensional Fiber-Deposition Technique", *Biomaterials*, 25(18).4149-4161.

Xiong, Z., Yan, Y., Wang, S., Zhang, R., and Zhang, C., 2002, "Fabrication of Porous Scaffolds for Bone Tissue Engineering via Low-Temperature Deposition", *Scripta Materialia*, 46(11).771-776.

Xu, S., Dichen Li, Bingheng Lu, and Yipping Tang, 2007, "Fabrication of a Calcium Phosphate Scaffold with Three Dimensional Channel Network and its Application to Perfusion Culture of Stem Cells", *Rapid Prototyping Journal*, 13/2.99-106.

Yang, Y. C., & Chang, E., 2005, "Measurements of Residual Stresses In Plasma-Sprayed Hydroxyapatite Coatings on Titanium Alloy", *Surface and Coatings Technology*, 190(1).122-131.

Yeong, K. C. B., Wang, J., & Ng, S. C., 1999, "Fabricating densified hydroxyapatite ceramics from a precipitated precursor", *Materials Letters*, 38(3).208-213.

Yeong, WY., Chua, CK., Leong, KF., and Chandrasekaran, M., 2004, "Rapid Prototyping in Tissue Engineering: Challenges and Potential" *TRENDS in Biotechnology*, 22(12).

Yen, H.-J., Tseng, C.-S., Hsu, S.-H., and Tsai, C.-L., 2009, "Evaluation of Chondrocyte Growth in the Highly Porous Scaffolds Made by Fused Deposition Manufacturing (FDM) Filled with Type II Collagen", *Biomedical Microdevices*, 11(3).615-624.

Zhang, Shu-Xin, 1999, *An Atlas of Hystology*, Hal.35-43, New York: Springer Science Business Media New York.

Zhang, X., & Vecchio, K. S., 2007, "Hydrothermal synthesis of hydroxyapatite rods", *Journal of Crystal Growth*, 308(1). 133-140.

Zhou, Wenyou., 2007, "Selective Laser Sintering of Poly (L-Lactide)/Carbonated Hydroxyapatite Porous Scaffolds for Bone Tissue Engineering", *A Dissertation at The University of Hong Kong*, URL : http://hdl.handle.net/10722/51883.