

DAFTAR PUSTAKA

- Adryana (2020) 'Rencana Pelaksanaan Pembelajaran'.
- Al-Ahmad, A. *et al.* (2018) 'Shift of microbial composition of peri-implantitis-associated oral biofilm as revealed by 16s rRNA gene cloning', *Journal of Medical Microbiology*, 67(3), pp. 332–340. doi: 10.1099/jmm.0.000682.
- An, M. R. *et al.* (2022) 'In-plane crushing response of a novel bidirectional re-entrant honeycomb with two plateau stress regions', *Thin-Walled Structures*, 170(September 2021), p. 108530. doi: 10.1016/j.tws.2021.108530.
- Anam, C., Sirojudin and Firdausi, K. S. (2007) *Analisis gugus fungsi pada sampel uji, bensin dan spiritus menggunakan metode spektroskopi FTIR*. Berkala Fisika.
- Baig, A. A. *et al.* (1999) 'Relationships among carbonated apatite solubility, crystallite size, and microstrain parameters', *Calcified Tissue International*, 64(5), pp. 437–449. doi: 10.1007/PL00005826.
- Balouiri, M., Sadiki, M. and Ibnsouda, S. K. (2016) 'Methods for in vitro evaluating antimicrobial activity: A review', *Journal of Pharmaceutical Analysis*, 6(2), pp. 71–79. doi: 10.1016/j.jpha.2015.11.005.
- Barralet, J., Best, S. and Bonfield, W. (1998) 'Carbonate substitution in precipitated hydroxyapatite: An investigation into the effects of reaction temperature and bicarbonate ion concentration', *Journal of Biomedical Materials Research*, 41(1), pp. 79–86. doi: 10.1002/(SICI)1097-4636(199807)41:1<79::AID-JBM10>3.0.CO;2-C.
- Berkovitz, B. and Shellis, P. (2018) *The teeth of mammalian vertebrates*, *The Teeth of Mammalian Vertebrates*. doi: 10.1016/C2014-0-02212-5.
- Bhang, S. H. *et al.* (2007) 'The behavior of neural stem cells on biodegradable synthetic polymers', *Journal of Biomaterials Science, Polymer Edition*, 18(2), pp. 223–239. doi: 10.1163/156856207779116711.
- Bigi, A., Boanini, E. and Gazzano, M. (2016) *Ion substitution in biological and synthetic apatites*, *Biomineralisation and biomaterials*. Elsevier Ltd. doi: 10.1016/B978-1-78242-338-6.00008-9.
- Bunaciu, A. A., Udriștioiu, E. gabriela and Aboul-Enein, H. Y. (2015) 'X-Ray Diffraction: Instrumentation and Applications', *Critical Reviews in Analytical Chemistry*, 45(4), pp. 289–299. doi: 10.1080/10408347.2014.949616.
- Burger, C. *et al.* (2008) 'Lateral packing of mineral crystals in bone collagen fibrils', *Biophysical Journal*, 95(4), pp. 1985–1992. doi:

10.1529/biophysj.107.128355.

- Chang, B. S. *et al.* (2000) 'Osteoconduction at porous hydroxyapatite with various pore configurations', *Biomaterials*, 21(12), pp. 1291–1298. doi: 10.1016/S0142-9612(00)00030-2.
- Chen, P. *et al.* (2018) 'Biomimetic composite scaffold of hydroxyapatite/gelatin-chitosan core-shell nanofibers for bone tissue engineering', *Materials Science and Engineering: C*, 97. doi: 10.1016/j.msec.2018.12.027.
- Chung, R. J. *et al.* (2006) 'Antimicrobial effects and human gingival biocompatibility of hydroxyapatite sol-gel coatings', *Journal of Biomedical Materials Research - Part B Applied Biomaterials*, 76(1), pp. 169–178. doi: 10.1002/jbm.b.30365.
- Cyster, L. A. *et al.* (2005) 'The influence of dispersant concentration on the pore morphology of hydroxyapatite ceramics for bone tissue engineering', *Biomaterials*, 26(7), pp. 697–702. doi: 10.1016/j.biomaterials.2004.03.017.
- Daculsi, G. (2016) *History of development and use of the bioceramics and biocomposites*, *Handbook of Bioceramics and Biocomposites*. doi: 10.1007/978-3-319-12460-5_2.
- Diekwisch, T. G. (2001) 'The developmental biology of cementum.', *The International journal of developmental biology*, 45(5–6), pp. 695–706.
- Dillon, G. P. *et al.* (1998) 'The influence of physical structure and charge on neurite extension in a 3D hydrogel scaffold', *Journal of Biomaterials Science, Polymer Edition*, 9(10), pp. 1049–1069. doi: 10.1163/156856298X00325.
- Dorozhkin, S. V. (2009) 'Calcium orthophosphates in nature, biology and medicine', *Materials*, 2(2), pp. 399–498. doi: 10.3390/ma2020399.
- Dorozhkin, S. V. (2010) 'Bioceramics of calcium orthophosphates', *Biomaterials*, 31(7), pp. 1465–1485. doi: 10.1016/j.biomaterials.2009.11.050.
- Dorozhkin, S. V. (2011) 'Calcium orthophosphates: occurrence, properties, biomineralization, pathological calcification and biomimetic applications.', *Biomatter*, 1(2), pp. 121–164. doi: 10.4161/biom.18790.
- Dumont, E. R. (1995) 'American Society of Mammalogists Enamel Thickness and Dietary Adaptation among Extant Primates and Chiropterans', *Source Journal of Mammalogy*, 76(4), pp. 1127–1136. Available at: <http://www.jstor.org/stable/1382604> %5Cnhttp://www.jstor.org/%5Cnhttp://www.jstor.org/action/showPublisher?publisherCode=asm.
- Edition, T. and Mitchell, T. G. (2019) *Jawetz Melnick & Adelbergs Medical Microbiology, Twenty-Eighth Edition*. 28th edn.
- Epp, J. (2016) *X-Ray Diffraction (XRD) Techniques for Materials Characterization, Materials Characterization Using Nondestructive Evaluation (NDE) Methods*. Elsevier Ltd. doi: 10.1016/B978-0-08-100040-

3.00004-3.

- Fard, G. G., Zhang, D. and Francisco, L. (2022) 'Honeycomb crystallography : comb formation under geometric frustrations', pp. 1–12.
- Fultz, B. and Howe, J. (2007) *Transmission Electron Microscopy and Diffractometry of Materials*. 3rd edn. Springer, Berlin, Heidelberg. doi: <https://doi.org/10.1007/978-3-540-73886-2>.
- Gautam, G., Kumar, S. and Kumar, K. (2021) 'Processing of biomaterials for bone tissue engineering: State of the art', *Materials Today: Proceedings*, (xxxx). doi: 10.1016/j.matpr.2021.09.459.
- George, N., Faoagali, J. and Muller, M. (1997) 'Silvazine® (silver sulfadiazine and chlorhexidine) activity against 200 clinical isolates', *Burns*, 23(6), pp. 493–495. doi: 10.1016/S0305-4179(97)00047-8.
- Gosheger, G. *et al.* (2004) 'Silver-coated megaendoprostheses in a rabbit model - An analysis of the infection rate and toxicological side effects', *Biomaterials*, 25(24), pp. 5547–5556. doi: 10.1016/j.biomaterials.2004.01.008.
- Graffney, J. S., Marley, N. A. and Jones, D. E. (2012) *Fourier Transform Infrared (FTIR) Spectroscopy. In Characterization of Materials*. John Wiley & Sons, Inc. doi: <https://doi.org/10.1002/0471266965.com107.pub2>.
- Groeneveld, E. H. J. *et al.* (1999) 'Mineralization processes in demineralized bone matrix grafts in human maxillary sinus floor elevations', *Journal of Biomedical Materials Research*, 48(4), pp. 393–402. doi: 10.1002/(SICI)1097-4636.
- Harris, L. D., Kim, B. and Mooney, D. J. (1998) 'Open pore biodegradable matrices formed with gas foaming', *Journal of Biomedical Materials Research*, 42(3), pp. 396–402. doi: 10.1002/(sici)1097-4636.
- Haryati, S. D., Darmawati, S. and Wilson, W. (2017) 'Perbandingan Efek Ekstrak Buah Alpukat (*Persea americana* Mill) Terhadap Pertumbuhan Bakteri *Pseudomonas aeruginosa* dengan Metode Disk dan Sumuran', *Prosiding Seminar Nasional Publikasi Hasil-Hasil Penelitian dan Pengabdian Masyarakat Universitas Muhammadiyah Semarang*, (September), pp. 348–352.
- Haswell, S. J. (1991) *Atomic Absorption Spectrometry: Theory, Design and Applications*. Amsterdam: Elsevier.
- Hayashi, K., Munar, M. L. and Ishikawa, K. (2020) 'Effects of macropore size in carbonate apatite honeycomb scaffolds on bone regeneration', *Materials Science and Engineering C*, 111(March), p. 110848. doi: 10.1016/j.msec.2020.110848.
- Heimbach, A. H. D. (1999) 'Causes of phosphate stone formation and the

importance of metaphylaxis by urinary acidification : a review', pp. 308–315.

- Hepburn, H. R., Pirk, C. W. W. and Duangphakdee, O. (2014) *Honeybee Nests, Honeybee Nests*. doi: 10.1007/978-3-642-54328-9.
- Holler, F. J. and Crouch, S. R. (2006) 'Fundamentals Of Analitical Chemistry', 1999(December), pp. 1–6.
- Hu, Y. *et al.* (2017) 'High internal phase emulsion-based porous scaffolds consisting of poly(ϵ -caprolactone)/bovine serum albumin/calcium alginate/hydroxyapatite for biomedical applications', *Journal of Controlled Release*, 259, pp. e165–e166. doi: 10.1016/j.jconrel.2017.03.329.
- Imani, S. M. *et al.* (2020) 'Short communication A novel modification for polymer sponge method to fabricate the highly porous composite bone scaffolds with large aspect ratio suitable for repairing critical-sized bone defects', *Vacuum*, 176(February), p. 109316. doi: 10.1016/j.vacuum.2020.109316.
- Ishikawa, K. *et al.* (2019) 'Fabrication of carbonate apatite honeycomb and its tissue response', *Journal of Biomedical Materials Research - Part A*, 107(5), pp. 1014–1020. doi: 10.1002/jbm.a.36640.
- Ivankovic, H. *et al.* (2009) 'Preparation of highly porous hydroxyapatite from cuttlefish bone', *Journal of Materials Science: Materials in Medicine*, 20(5), pp. 1039–1046. doi: 10.1007/s10856-008-3674-0.
- Jain, P. and Pradeep, T. (2005) 'Potential of silver nanoparticle-coated polyurethane foam as an antibacterial water filter', *Biotechnology and Bioengineering*, 90(1), pp. 59–63. doi: 10.1002/bit.20368.
- Jelinek, M. *et al.* (2013) 'Antibacterial, cytotoxicity and physical properties of laser - Silver doped hydroxyapatite layers', *Materials Science and Engineering C*, 33(3), pp. 1242–1246. doi: 10.1016/j.msec.2012.12.018.
- Jo, I. *et al.* (2009) 'Highly porous hydroxyapatite scaffolds with elongated pores using stretched polymeric sponges as novel template', *Materials Letters*, 63(20), pp. 1702–1704. doi: 10.1016/j.matlet.2009.05.017.
- Karunakaran, G. *et al.* (2020) 'Mesoporous Mg-doped hydroxyapatite nanorods prepared from bio-waste blue mussel shells for implant applications', *Ceramics International*, 46(18), pp. 28514–28527. doi: 10.1016/j.ceramint.2020.08.009.
- Khammissa, R. A. G. *et al.* (2012) 'Peri-implant mucositis and peri-implantitis: clinical and histopathological characteristics and treatment.', *SADJ: journal of the South African Dental Association = tydskrif van die Suid-Afrikaanse Tandheelkundige Vereniging*, 67(3), pp. 122,124-126.
- Khusnan and Salasia, S. (2006) 'Respon Neutrofil, Adesi pada Sel Epitel, Aglutinasi Eritrosit terhadap Staphylococcus aureus: Kajian Hidrofobisitas

In Vitro', *J. Saub Vet*, 24(1).

- Kolmas, J. *et al.* (2017) 'Effect of carbonate substitution on physicochemical and biological properties of silver containing hydroxyapatites', *Materials Science and Engineering C*, 74, pp. 124–130. doi: 10.1016/j.msec.2017.01.003.
- Komang Januariyasa, I. and Yusuf, Y. (2019) 'Synthesis of Carbonated Hydroxyapatite Derived from Snail Shells (*Pilla ampulacea*): Effect of Carbonate Precursor to the Crystallographic Properties', *IOP Conference Series: Materials Science and Engineering*, 546(4). doi: 10.1088/1757-899X/546/4/042015.
- Kulinets, I. (2015) *Biomaterials and their applications in medicine, Regulatory Affairs for Biomaterials and Medical Devices*. Woodhead Publishing Limited. doi: 10.1533/9780857099204.1.
- Kwon, Y.-D., Yang, D. H. and Lee, D.-W. (2015) 'A Titanium Surface-Modified with Nano-Sized Hydroxyapatite and Simvastatin Enhances Bone Formation and Osseointegration.', *Journal of biomedical nanotechnology*, 11(6), pp. 1007–1015. doi: 10.1166/jbn.2015.2039.
- Landi, E. *et al.* (2003) 'Carbonated hydroxyapatite as bone substitute', 23, pp. 2931–2937. doi: 10.1016/S0955-2219(03)00304-2.
- Laonapakul, T. (2015) 'Synthesis of Hydroxyapatite from Biogenic Waste', *KKU Engineering Journal*, 42(3), pp. 269–275.
- Lenhert, S. *et al.* (2005) 'Osteoblast alignment, elongation and migration on grooved polystyrene surfaces patterned by Langmuir-Blodgett lithography', *Biomaterials*, 26(5), pp. 563–570. doi: 10.1016/j.biomaterials.2004.02.068.
- Léon Y León, C. A. (1998) 'New perspectives in mercury porosimetry', *Advances in Colloid and Interface Science*, 76–77, pp. 341–372. doi: 10.1016/S0001-8686(98)00052-9.
- Leslie, C. (1998) *Topley Wilson's Microbiology and microbial infection: Systematic bacteriology 9th ed.* New York: Oxford University Press, Inc.
- Li, M. *et al.* (2006) 'Elastin Blends for Tissue Engineering Scaffolds', *Journal of Biomedical Materials Research Part A*, 79(4), pp. 963–73. doi: 10.1002/jbm.a.
- Lim, P. N., Chang, L. and Thian, E. S. (2015) 'Development of nanosized silver-substituted apatite for biomedical applications: A review', *Nanomedicine: Nanotechnology, Biology, and Medicine*, 11(6), pp. 1331–1344. doi: 10.1016/j.nano.2015.03.016.
- Lozeman, J. J. A. *et al.* (2020) 'Spectroelectrochemistry, the future of visualizing electrode processes by hyphenating electrochemistry with spectroscopic techniques', *Analyst*, 145(7), pp. 2482–2509. doi: 10.1039/C9AN02105A.

- Mao, F. Y. *et al.* (2017) 'Tooth enamel microstructures of three Jurassic euharamiyidans and implications for tooth enamel evolution in allotherian mammals', *Journal of Vertebrate Paleontology*, 37(2). doi: 10.1080/02724634.2017.1279168.
- Mawuntu, V. J. and Yusuf, Y. (2018) 'Porous-structure engineering of hydroxyapatite-based scaffold synthesized from Pomacea canaliculata shell by using polyethylene oxide as polymeric porogen', *IOP Conference Series: Materials Science and Engineering*, 432(1). doi: 10.1088/1757-899X/432/1/012045.
- Mawuntu, Vicky Julius and Yusuf, Y. (2018) 'Porous-structure engineering of hydroxyapatite-based scaffold synthesized from Pomacea canaliculata shell by using polyethylene oxide as polymeric porogen Porous-structure engineering of hydroxyapatite-based scaffold synthesized from Pomacea canaliculata'. doi: 10.1088/1757-899X/432/1/012045.
- Mawuntu, V. J. and Yusuf, Y. (2019) 'Porous structure engineering of bioceramic hydroxyapatite-based scaffolds using PVA, PVP, and PEO as polymeric porogens', *Journal of Asian Ceramic Societies*, 7(2), pp. 161–169. doi: 10.1080/21870764.2019.1595927.
- Moradian-oldak, J. (2012) 'Center for Craniofacial Molecular Biology, University of Southern California, Ostrow School of Dentistry, 2250 Alcazar St. Los Angeles, CA, 90033 USA', *BioScience*, pp. 1996–2023.
- Murugan, R. and Ramakrishna, S. (2007) 'Development of cell-responsive nanophase hydroxyapatite for tissue engineering', *American Journal of Biochemistry and Biotechnology*, 3(3), pp. 118–124. doi: 10.3844/ajbbsp.2007.118.124.
- Nagai, H. *et al.* (2015) 'Effects of low crystalline carbonate apatite on proliferation and osteoblastic differentiation of human bone marrow cells.', *Journal of materials science. Materials in medicine*, 26(2), p. 99. doi: 10.1007/s10856-015-5431-5.
- Nagpal, D. B., S., A. and Nagpal, A. (2016) *Structure of Bone*.
- Nascimento, C. do *et al.* (2014) 'Bacterial adhesion on the titanium and zirconia abutment surfaces', *Clinical Oral Implants Research*, 25(3), pp. 337–343. doi: 10.1111/clr.12093.
- Nazarov, R., Jin, H. and Kaplan, D. L. (2004) 'Porous 3-D Scaffolds from Regenerated Silk Fibroin', pp. 718–726.
- Ningsih, R. P., Wahyuni, N. and Destiarti, L. (2014) 'SINTESIS HIDROKSIAPATIT DARI CANGKANG KERANG KEPAH (Polymesoda erosa) DENGAN VARIASI WAKTU PENGADUKAN 1', 3(1).
- Ogata, K. *et al.* (2005) 'Comparison of osteoblast responses to hydroxyapatite and

hydroxyapatite/soluble calcium phosphate composites', *Journal of Biomedical Materials Research - Part A*, 72(2), pp. 127–135. doi: 10.1002/jbm.a.30146.

Otabil, A. and Gbologah, Y. H. (2018) 'Synthesis of Hydroxyapatite from Eggshells Through Hydrothermal Process', *Ejur*, 2(July), pp. 105–112.

Othmani, M. *et al.* (2016) 'Synthesis and characterization of hydroxyapatite-based nanocomposites by the functionalization of hydroxyapatite nanoparticles with phosphonic acids', *Colloids and Surfaces A: Physicochemical and Engineering Aspects*, 508, pp. 336–344. doi: 10.1016/j.colsurfa.2016.08.078.

Palakurthy, S., P, A. A. and K, V. R. (2019) 'In vitro evaluation of silver doped wollastonite synthesized from natural waste for biomedical applications', *Ceramics International*, 45(18), pp. 25044–25051. doi: 10.1016/j.ceramint.2019.03.169.

Palmer, L. C. *et al.* (2008) 'Biomimetic systems for hydroxyapatite mineralization inspired by bone and enamel', *Chemical Reviews*, 108(11), pp. 4754–4783. doi: 10.1021/cr8004422.

Parija, S. C. (2006) *Textbook of Microbiology and Immunology*, Gurgaon: Elsevier.

Patty, D. J. *et al.* (2022) 'Dual functional carbonate-hydroxyapatite nanocomposite from Pinctada maxima and egg-white for bone tissue engineering', *Journal of Biomaterials Science, Polymer Edition*, 33(8), pp. 1043–1062. doi: 10.1080/09205063.2022.2036934.

Pecsok, R. L. *et al.* (1978) *Modern Methods of Chemical Analysis*. Second edi. New York: John Wiley & Sons, Inc.

Peetsch, A. *et al.* (2013) 'Silver-doped calcium phosphate nanoparticles: Synthesis, characterization, and toxic effects toward mammalian and prokaryotic cells', *Colloids and Surfaces B: Biointerfaces*, 102, pp. 724–729. doi: 10.1016/j.colsurfb.2012.09.040.

Permatasari, H. A. *et al.* (2019) 'Characteristics of abalone mussel shells (*Halioitis asinina*) with calcination temperature variations as a basic material for synthesis of carbonated hydroxyapatite', *Key Engineering Materials*, 818 KEM, pp. 31–36. doi: 10.4028/www.scientific.net/KEM.818.31.

Pieters, I. Y. *et al.* (2010) 'Carbonated apatites obtained by the hydrolysis of monetite: Influence of carbonate content on adhesion and proliferation of MC3T3-E1 osteoblastic cells', *Acta Biomaterialia*, 6(4), pp. 1561–1568. doi: 10.1016/j.actbio.2009.11.002.

Pratiwi, L. C. (2012) 'DIINKUBASI EKSTRAK KELOPAK BUNGA ROSELLA (*Hibiscus sabdariffa* L.)'.

- Quirynen, M. and Bollen, C. M. L. (1995) 'The influence of surface roughness and surface-free energy on supra- and subgingival plaque formation in man: A review of the literature', *Journal of Clinical Periodontology*, pp. 1–14. doi: 10.1111/j.1600-051X.1995.tb01765.x.
- Rahyussalim, A. J. *et al.* (2016) 'The Needs of Current Implant Technology in Orthopaedic Prosthesis Biomaterials Application to Reduce Prosthesis Failure Rate'. doi: 10.1155/2016/5386924.
- Ratnayake, J. T. B., Mucalo, M. and Dias, G. J. (2016) 'Review Article Substituted hydroxyapatites for bone regeneration : A review of current trends', pp. 1–15. doi: 10.1002/jbm.b.33651.
- Reverchon, E. and Cardea, S. (2012) 'Supercritical fluids in 3-D tissue engineering', *Journal of Supercritical Fluids*, 69, pp. 97–107. doi: 10.1016/j.supflu.2012.05.010.
- Reverchon, E., Cardea, S. and Rapuano, C. (2008) 'A new supercritical fluid-based process to produce scaffolds for tissue replacement', *Journal of Supercritical Fluids*, 45(3), pp. 365–373. doi: 10.1016/j.supflu.2008.01.005.
- Rizkayanti, Y. and Yusuf, Y. (2019) 'Optimization of the temperature synthesis of hydroxyapatite from indonesian crab shells', *International Journal of Nanoelectronics and Materials*, 12(1), pp. 85–92.
- Rokaya, D. *et al.* (2020) 'Peri-implantitis Update: Risk Indicators, Diagnosis, and Treatment', *European Journal of Dentistr*, 14. doi: 10.1055/s-0040-1715779.
- Roveri, N. *et al.* (2008) 'Synthetic Biomimetic Carbonate-Hydroxyapatite Nanocrystals for Enamel Remineralization', 50, pp. 821–824. doi: 10.4028/www.scientific.net/AMR.47-50.821.
- Rujitanapanich, S., Kumpapan, P. and Wanjanoi, P. (2014) 'Synthesis of hydroxyapatite from oyster shell via precipitation', *Energy Procedia*, 56(C), pp. 112–117. doi: 10.1016/j.egypro.2014.07.138.
- Salgado, A. J., Coutinho, O. P. and Reis, R. L. (2004) 'Bone tissue engineering: State of the art and future trends', *Macromolecular Bioscience*, 4(8), pp. 743–765. doi: 10.1002/mabi.200400026.
- Sambou, C., Wibowo, A. and Taurhesia, S. (2017) 'Rimpang Temulawak (*Curcuma xanthorrhiza* Roxb.) Sebagai Antibakteri Penyebab Jerawat (*Propionibacterium acne* dan *Staphylococcus epidermidis*)', *Pharmacon*, 6(4), pp. 225–265.
- Sánchez-Salcedo, S., Arcos, D. and Vallet-Regí, M. (2008) 'Upgrading Calcium Phosphate Scaffolds for Tissue Engineering Applications', *Key Engineering Materials*, 377, pp. 19–42. doi: 10.4028/www.scientific.net/kem.377.19.

- Sari, M. *et al.* (2021a) 'Bioceramic hydroxyapatite-based scaffold with a porous structure using honeycomb as a natural polymeric Porogen for bone tissue engineering', *Biomaterials Research*, 25(1), pp. 1–13. doi: 10.1186/s40824-021-00203-z.
- Sari, M. *et al.* (2021b) 'Porous structure of bioceramics carbonated hydroxyapatite-based honeycomb scaffold for bone tissue engineering', *Materials Today Communications*, 26(February), p. 102135. doi: 10.1016/j.mtcomm.2021.102135.
- Sepulveda, P. *et al.* (2000) 'Properties of highly porous hydroxyapatite obtained by the gelcasting of foams', *Journal of the American Ceramic Society*, 83(12), pp. 3021–3024. doi: 10.1111/j.1151-2916.2000.tb01677.x.
- Setyono, D. E. . (2004) 'Abalone (*Halioitis asinina*) Induction of Spawning', *Jurnal Oseana*, 29(3).
- Shah, H. N. and Collins, M. D. (1988) 'Proposal for reclassification of *Bacteroides asaccharolyticus*, *Bacteroides gingivalis*, and *Bacteroides endodontalis* in a new genus, *Porphyromonas*', *International Journal of Systematic Bacteriology*, 38(1), pp. 128–131. doi: 10.1099/00207713-38-1-128.
- Siddiqi, S. A. and Azhar, U. (2019) *Carbonate substituted hydroxyapatite, Handbook of Ionic Substituted Hydroxyapatites*. Elsevier Ltd. doi: 10.1016/B978-0-08-102834-6.00006-9.
- Simchi, A. *et al.* (2011) 'Recent progress in inorganic and composite coatings with bactericidal capability for orthopaedic applications', *Nanomedicine: Nanotechnology, Biology, and Medicine*, 7(1), pp. 22–39. doi: 10.1016/j.nano.2010.10.005.
- Singh, B. *et al.* (2011) 'In vitro biocompatibility and antimicrobial activity of wet chemically prepared $\text{Ca}_{10-x}\text{Ag}_x(\text{PO}_4)_6(\text{OH})_2$ ($0.0 \leq x \leq 0.5$) hydroxyapatites', *Materials Science and Engineering C*, 31(7), pp. 1320–1329. doi: 10.1016/j.msec.2011.04.015.
- Smith, N. A. and Turkyilmaz, I. (2014) 'Evaluation of the sealing capability of implants to titanium and zirconia abutments against *Porphyromonas gingivalis*, *Prevotella intermedia*, and *Fusobacterium nucleatum* under different screw torque values', *Journal of Prosthetic Dentistry*, 112(3), pp. 561–567. doi: 10.1016/j.prosdent.2013.11.010.
- Sola, A. *et al.* (2019) 'Materials Science & Engineering C Development of solvent-casting particulate leaching (SCPL) polymer sca ff olds as improved three-dimensional supports to mimic the bone marrow niche', *Materials Science & Engineering C*, 96(October 2017), pp. 153–165. doi: 10.1016/j.msec.2018.10.086.
- Stanić, V. *et al.* (2011) 'Synthesis of antimicrobial monophasic silver-doped hydroxyapatite nanopowders for bone tissue engineering', *Applied Surface*

Science, 257(9), pp. 4510–4518. doi: 10.1016/j.apsusc.2010.12.113.

- Sulistiyani, N. *et al.* (2016) ‘Aktivitas Antibakteri Infusa Daun Lidah Buaya (*Aloe barbadensis* Miller)’, 1999(December), pp. 1–6.
- Surbakti, A., Oley, M. and Prasetyo, E. (2017) ‘Perbandingan antara penggunaan karbonat apatit dan hidroksi apatit pada proses penutupan defek kalvaria dengan menggunakan plasma kaya trombosit’, *JURNAL BIOMEDIK (JBM)*, 9. doi: 10.35790/jbm.9.2.2017.16359.
- Suseno, J. E. and Firdausi, K. S. (2008) *Rancang Bangun Spektroskopi FTIR (Fourier Transform Infrared) untuk Penentuan Kualitas Susu Sapi*. Berkala Fisika.
- Sygnatowicz, M., Keyshar, K. and Tiwari, A. (2010) ‘Antimicrobial properties of silver-doped hydroxyapatite nano-powders and thin films’, *Jom*, pp. 65–70. doi: 10.1007/s11837-010-0111-x.
- Teughels, W. *et al.* (2006) ‘Effect of material characteristics and/or surface topography on biofilm development’, *Clinical Oral Implants Research*, 17(SUPPL. 2), pp. 68–81. doi: 10.1111/j.1600-0501.2006.01353.x.
- Tripathi, G. and Basu, B. (2012) ‘A porous hydroxyapatite scaffold for bone tissue engineering: Physico-mechanical and biological evaluations’, *Ceramics International*, 38(1), pp. 341–349. doi: 10.1016/j.ceramint.2011.07.012.
- Vukomanović, M. *et al.* (2015) ‘Is Nano-Silver Safe within Bioactive Hydroxyapatite Composites?’, *ACS Biomaterials Science and Engineering*, 1(10), pp. 935–946. doi: 10.1021/acsbiomaterials.5b00170.
- Wang, W. *et al.* (2014) ‘Preparation of 3D interconnected macroporous hydroxyapatite scaffolds by PVA assisted foaming method’, *Ceramics International*, 40(1 PART B), pp. 1789–1796. doi: 10.1016/j.ceramint.2013.07.079.
- Wang, X. *et al.* (2005) ‘Chitosan- metal complexes as antimicrobial agent: Synthesis, characterization and Structure-activity study’, *Polymer Bulletin*, 55(1–2), pp. 105–113. doi: 10.1007/s00289-005-0414-1.
- Wati, R. and Yusuf, Y. (2019) ‘Effect of sintering temperature on carbonated hydroxyapatite derived from common cockle shells (*Cerastoderma edule*): Composition and crystal characteristics’, *Key Engineering Materials*, 818 KEM, pp. 37–43. doi: 10.4028/www.scientific.net/KEM.818.37.
- White, S. N. *et al.* (2001) ‘Biological organization of hydroxyapatite crystallites into a fibrous continuum toughens and controls anisotropy in human enamel’, *Journal of Dental Research*, 80(1), pp. 321–326. doi: 10.1177/00220345010800010501.
- Wiley, J. and Sanderson, F. (2002) ‘instrumental methods of analysis 5th edition reviews’, *Biological Conservation*, 107, pp. 259–260.

- Wilson, V. (2013) 'An Insight into Peri-Implantitis: A Systematic Literature Review', *Primary dental journal*, 2, pp. 69–73. doi: 10.1308/205016813806144209.
- Yamamoto, Tsuneyuki *et al.* (2016) 'Histology of human cementum: Its structure, function, and development', *Japanese Dental Science Review*, 52(3), pp. 63–74. doi: 10.1016/j.jdsr.2016.04.002.
- Yang, W. H. *et al.* (2013) 'Comparison of Crystal Structure Between Carbonated Hydroxyapatite and Natural Bone Apatite with Theoretical Calculation', *Asian Journal of Chemistry*, 25(7), pp. 3673–3678.
- Yıldırım, S. *et al.* (2018) 'Preparation of polycaprolactone/graphene oxide scaffolds: A green route combining supercritical CO₂ technology and porogen leaching', *Journal of Supercritical Fluids*, 133(October 2017), pp. 156–162. doi: 10.1016/j.supflu.2017.10.009.
- Yu, L. M. Y., Leipzig, N. D. and Shoichet, M. S. (2008) 'Promoting neuron adhesion and growth', *Materials Today*, 11(5), pp. 36–43. doi: 10.1016/S1369-7021(08)70088-9.
- Yusuf, Y. *et al.* (2019) *Hidroksiapatit Berbahan Dasar Biogenik*. 1st edn. Edited by Ifan. Yogyakarta: Gadjah Mada University Press.
- Yusuf, Y. *et al.* (2021) *Karbonat Hidroksiapatit dari Bahan Alam*. 1st edn. Edited by Moulidvi. Yogyakarta: Gadjah Mada University Press.
- Zhao, F. *et al.* (2002) 'Preparation and histological evaluation of biomimetic three-dimensional hydroxyapatite / chitosan-gelatin network composite scaffolds', 23, pp. 3227–3234.