Simulasi Kekuatan Mekanis Femoral Stem dengan Struktur Pori Triply Periodic Minimal Surface (TPMS)
Lattice
Alfensa Dinda Gestara Febrananda, Dr. Ir. Budi Arifvianto, S.T., M.Biotech; 3. Ir. Rini Dharmastiti, M.Sc., Ph.D. IPM.,
Universitas Gadjah Mada, 2024 | Diunduh dari http://etd.repository.ugm.ac.id/

DAFTAR PUSTAKA

Al-Ketan, O., Lee, D. W., Rowshan, R., & Abu Al-Rub, R. K. (2020). Functionally graded and multi-morphology sheet TPMS lattices: Design, manufacturing, and mechanical properties. *Journal of the Mechanical Behavior of Biomedical Materials*, *102*(August 2019), 103520. https://doi.org/10.1016/j.jmbbm.2019.103520

Alkhatib, S. E., Mehboob, H., & Tarlochan, F. (2019). Finite Element Analysis of Porous Titanium Alloy Hip Stem to Evaluate the Biomechanical Performance During Walking and Stair Climbing. *Journal of Bionic Engineering*, *16*(6), 1103–1115. https://doi.org/10.1007/s42235-019-0122-4

Anandarajah, A. (2010). Erosive osteoarthritis. *Discovery Medicine*, *9*(48), 468–477. https://doi.org/10.53347/rid-38609

Babaniamansour, P., Ebrahimian-Hosseinabadi, M., & Zargar-Kharazi, A. (2017). Designing an Optimized Novel Femoral Stem. *Journal of Medical Signals and Sensors*, *7*(3), 170–177. https://doi.org/10.4103/jmss.JMSS_1_17

Fan, Z., Yan, L., Liu, H., Li, X., Fan, K., Liu, Q.,Wang, B. (2023). The prevalence of hip osteoarthritis: a systematic review and meta-analysis. *Arthritis Research and Therapy*, *25*(1), 1–11. https://doi.org/10.1186/s13075-023-03033-7

Gibson, L. J., & Editor, G. (2003). *Cellular Solids*. (APRIL), 270–274.

UNIVERSITAS GADJAH MADA
Simulasi Kekuatan Mekanis Femoral Stem dengan Struktur Pori Triply Periodic Minimal Surface (TPMS) Lattice
Alfensa Dinda Gestara Febrananda, Dr. Ir. Budi Arifvianto, S.T., M.Biotech; 3. Ir. Rini Dharmastiti, M.Sc., Ph.D. IPM.,
Universitas Gadjah Mada, 2024 | Diunduh dari http://etd.repository.ugm.ac.id/

Guo, X., Ding, J., Li, X., Qu, S., Song, X., Fuh, J. Y. H., Zhai, W. (2022). Enhancement in the mechanical behaviour of a Schwarz-Primitive periodic minimal surface lattice structure design. *International Journal of Mechanical Sciences*, *216*(November 2021), 106977. https://doi.org/10.1016/j.ijmecsci.2021.106977

Han, S. C., Choi, J. M., Liu, G., & Kang, K. (2017). A microscopic shell structure with schwarz's D-Surface. *Scientific Reports*, *7*(1), 1–8. https://doi.org/10.1038/s41598-017-13618-3

He, Y., Burkhalter, D., Durocher, D., & Gilbert, J. M. (2018). *Solid-Lattice Hip Prosthesis Design: Applying Topology and Lattice Optimization to Reduce Stress Shielding From Hip Implants*. 6–10. https://doi.org/10.1115/dmd2018-6804

Jagota, V., Sethi, A. P. S., & Kumar, K. (2013). Finite element method: An overview. *Walailak Journal of Science and Technology*, *10*(1), 1–8.

Mehboob, H., Tarlochan, F., Mehboob, A., Chang, S. H., Ramesh, S., Harun, W. S. W., & Kadirgama, K. (2020). A novel design, analysis and 3D printing of Ti-6Al-4V alloy bio-inspired porous femoral stem. *Journal of Materials Science: Materials in Medicine*, *31*(9). https://doi.org/10.1007/s10856-020-06420-7

Nguyen, C. H. P., Kim, Y., & Choi, Y. (2021). Design for Additive Manufacturing of Functionally Graded Lattice Structures: A Design Method with Process Induced Anisotropy Consideration. *International Journal of*

UNIVERSITAS GADJAH MADA
Simulasi Kekuatan Mekanis Femoral Stem dengan Struktur Pori Triply Periodic Minimal Surface (TPMS) Lattice
Alfensa Dinda Gestara Febrananda, Dr. Ir. Budi Arifvianto, S.T., M.Biotech; 3. Ir. Rini Dharmastiti, M.Sc., Ph.D. IPM.,
Universitas Gadjah Mada, 2024 | Diunduh dari http://etd.repository.ugm.ac.id/

Precision Engineering and Manufacturing - Green Technology, *8*(1), 29–45. https://doi.org/10.1007/s40684-019-00173-7

Oshkour, A. A., Osman, N. A. A., Bayat, M., Afshar, R., & Berto, F. (2014). Three-dimensional finite element analyses of functionally graded femoral prostheses with different geometrical configurations. *Materials and Design*, *56*(December), 998–1008. https://doi.org/10.1016/j.matdes.2013.12.054

Pan, C., Han, Y., & Lu, J. (2020). Design and Optimization of Lattice Structures: A Review. *Applied Sciences*, *10*(18), 6374. https://doi.org/10.3390/app10186374

Perwiraputra, R. D., Priambodo, A., Julianti, H. P., & Arthroplasty, T. H. (2017). Hubungan Jenis Total Hip Arthroplasty Terhadap Derajat Fungsional Panggul Dan Kualitas Hidup Pada Pasien Fraktur Collum Femoris. *Diponegoro Medical Journal (Jurnal Kedokteran Diponegoro)*, *6*(2), 1116–1125.

Rahmat, N., Kadkhodapour, J., & Arbabtafti, M. (2023). Study of cellular femoral stem for stress shielding and interface stability. *International Journal of Artificial Organs*, *46*(6), 370–377. https://doi.org/10.1177/03913988231168158

Ramos, H., Santiago, R., Soe, S., Theobald, P., & Alves, M. (2022). Response of gyroid lattice structures to impact loads. *International Journal of Impact Engineering*, *164*(July 2021), 104202. https://doi.org/10.1016/j.ijimpeng.2022.104202

UNIVERSITAS GADJAH MADA
Simulasi Kekuatan Mekanis Femoral Stem dengan Struktur Pori Triply Periodic Minimal Surface (TPMS) Lattice
Alfensa Dinda Gestara Febrananda, Dr. Ir. Budi Arifvianto, S.T., M.Biotech; 3. Ir. Rini Dharmastiti, M.Sc., Ph.D. IPM.,
Universitas Gadjah Mada, 2024 | Diunduh dari http://etd.repository.ugm.ac.id/

Singh, J. A., Chen, J., Inacio, M. C. S., Namba, R. S., & Paxton, E. W. (2017). An underlying diagnosis of osteonecrosis of bone is associated with worse outcomes than osteoarthritis after total hip arthroplasty. *BMC Musculoskeletal Disorders*, *18*(1), 1–9. https://doi.org/10.1186/s12891-016-1385-0

Tan, S., Zhang, X., Wang, Z., Ding, L., Chen, W., & Zhang, Y. (2022). Characterization of triply periodic minimal surface structures obtained using toolpath-based construction design. *Materials Science in Additive Manufacturing*, *1*(3). https://doi.org/10.18063/msam.v1i3.17

Vaishya, R., Chauhan, M., & Vaish, A. (2013). Bone cement. *Journal of Clinical Orthopaedics and Trauma*, *4*(4), 157–163. https://doi.org/10.1016/j.jcot.2013.11.005

Varacallo, M. A., Herzog, L., Toossi, N., & Johanson, N. A. (2017). Ten-Year Trends and Independent Risk Factors for Unplanned Readmission Following Elective Total Joint Arthroplasty at a Large Urban Academic Hospital. *Journal of Arthroplasty*, *32*(6), 1739–1746. https://doi.org/10.1016/j.arth.2016.12.035

Yan, C., Hao, L., Yang, L., Hussein, A. Y., Young, P. G., Li, Z., & Li, Y. (2021). Design of TPMS structures. *Triply Periodic Minimal Surface Lattices Additively Manufactured by Selective Laser Melting*, (September), 27–38. https://doi.org/10.1016/b978-0-12-824438-8.00002-9

Zoubi, N. F. Al, Tarlochan, F., & Mehboob, H. (2022). Mechanical and Fatigue

UNIVERSITAS
GADJAH MADA
Simulasi Kekuatan Mekanis Femoral Stem dengan Struktur Pori Triply Periodic Minimal Surface (TPMS) Lattice
Alfensa Dinda Gestara Febrananda, Dr. Ir. Budi Arifvianto, S.T., M.Biotech; 3. Ir. Rini Dharmastiti, M.Sc., Ph.D. IPM.,
Universitas Gadjah Mada, 2024 | Diunduh dari http://etd.repository.ugm.ac.id/

Behavior of Cellular Structure Ti-6Al-4V Alloy Femoral Stems: A Finite Element Analysis. *Applied Sciences (Switzerland)*, *12*(9), 13–15. https://doi.org/10.3390/app12094197

Safitri, P. N., Amelia, Asmaria, T., Rahma, O. N., Rahyussalim, A. J., Aurellia, S., & Kartika, I. (2022). Stem Geometry Recommendation for Total Hip Replacement Planning Using Computed Tomography Data Analysis. *Journal of Biomimetics, Biomaterials and Biomedical Engineering*, *55*(March), 23–34. https://doi.org/10.4028/p-kz8jrp