

## DAFTAR PUSTAKA

- Ahmad, W., Ali, H., Shah, Z., & Azmat, S. (2022). A new generative adversarial network for medical images super resolution. *Scientific Reports*, *12*(9533), 1–20. <https://doi.org/10.1038/s41598-022-13658-4>
- Alifkalaila, A., Mitrayana, & Widyaningrum, R. (2021). Photoacoustic imaging system based on diode laser and condenser microphone for characterization of dental anatomy. *International Journal on Advanced Engineering Information Technology*, *11*(6), 2363–2368. <https://doi.org/10.18517/ijaseit.11.6.12902>
- Aquino-martinez, R., Rowsey, J. L., Fraser, D. G., Eckhardt, B. A., Khosla, S., Farr, J. N., & Monroe, D. G. (2020). LPS-induced premature osteocyte senescence : Implications in inflammatory alveolar bone loss and periodontal disease pathogenesis. *Bone*, *132*, 115220. <https://doi.org/10.1016/j.bone.2019.115220>
- Arabpou, S., Najafzadeh, E., Farnia, P., Ahmadian, A., Ghadiri, H., Sadegh, M., & Akhoundi, A. (2019). Detection of early stages dental caries using photoacoustic signals: the simulation study. *Frontiers in Biomedical Technologies*, *6*(1), 35–40. <https://doi.org/10.18502/fbt.v6i1.1101>
- Barbora, A., Bohar, O., Sivan, A. A., Magory, E., Id, A. N., & Id, R. M. (2021). Higher pulse frequency of near-infrared laser irradiation increases penetration depth for novel biomedical applications. *Plos One*, *1*(16), 1–11. <https://doi.org/10.1371/journal.pone.0245350>
- Basu, P. K., Mukhopadhyay, B., & Basu, R. (2016). *Semiconductor Laser Theory*. CRC Press.
- Beschastnov, Ryabkov, Pavlenko, Bagryantsev, Dezortsev, Kichin, Baleyev, Maslennikova, A., Orlova, A. G., Kleshnin, M. S., & Turchin, I. (2018). Current Methods for the Assessment of Oxygen Status and Biotissue Microcirculation Condition : Diffuse Optical Spectroscopy (Review). *CTM*, *10*(14), 183–192. <https://doi.org/10.17691/stm2018.10.4.22>
- Borges, J. S., Renato, L., Leite, G., Souza, D., Souza, F. De, Macedo, Í. De, Christian, C., Moura, G., Barbosa, P., & Soares, F. (2020). Does systemic oral administration of curcumin effectively reduce alveolar bone loss associated with periodontal disease? A systematic review and meta-analysis of preclinical in vivo studies. *Journal of Functional Foods*, *75*, 104226. <https://doi.org/10.1016/j.jff.2020.104226>
- Cheng, Zhou, Y., Chen, J., Li, H., Wang, L., & Lai, P. (2022). Photoacoustics high-resolution photoacoustic microscopy with deep penetration through learning. *Photoacoustics*, *25*(1), 1–12. <https://doi.org/10.1016/j.pacs.2021.100314>
- Chiang, C. ., Tsai, H. ., Chang, W. ., Chin, Y. ., Chang, W. ., Tu, H. ., Chiu, H. ., & Fu, E. (2016). A *Salvia miltiorrhiza* ethanol extract ameliorates tissue destruction caused by experimental periodontitis in rats. *Periodontal Research*, *51*, 133–139. <https://doi.org/10.1111/jre.12292>
- Chunweitian, Zhang, X., Lin, J. C.-W., Zuo, W., Zhang, Y., & Lin, C.-W. (2022). Generative Adversarial Networks for Image Super-Resolution: A Survey. *ACM Computing Surveys*, *1*(1), 1–31.
- Cooper, T. K., Meyerholz, D. K., Beck, A. P., Delaney, M. A., Piersigilli, A.,

- Southard, T. L., & Brayton, C. F. (2021). Research-Relevant Conditions and Pathology of Laboratory Mice , Rats , Gerbils , Guinea Pigs , Hamsters , Naked Mole Rats , and Rabbits. *ILAR Journal*, *62*(1), 77–132.
- Dahlstrand, U., Sheikh, R., Merdasa, A., Chakari, R., Persson, B., Cinthio, M., Erlöv, T., Gesslein, B., & Malmsjö, M. (2020). Photoacoustic imaging for three-dimensional visualization and delineation of basal cell carcinoma in patients. *Photoacoustics*, *18*(1), 1–7. <https://doi.org/10.1016/j.pacs.2020.100187>
- Daiwei, Humayun, L., Vienneau, E., Vu, T., & Yao, J. (2021). Seeing through the skin: photoacoustic tomography of skin vasculature and beyond. *JID Innovations*, *1*(1), 100039–100052. <https://doi.org/10.1016/j.xjidi.2021.100039>
- Dias, D. T., Sales, M. V. ., Nakamura, O., Oliveira, M. ., Szmazki, R. ., & Rosa, C. . (2018). Monitoring of dental plaque on tooth enamel applying phase-resolved photoacoustic method Monitoring of dental plaque on tooth enamel applying phase-resolved photoacoustic method. *Spectroscopy Letters*, *1*(1), 1–9. <https://doi.org/10.1080/00387010.2018.1425727>
- Dolgaleva, K. (2020). *Introduction to Optics I: Interaction of Light with Matter*. Morgan & Claypool.
- Duan, T., Peng, X., Chen, M., Zhang, D., Gao, F., & Yao, J. (2022). Photoacoustics Detection of weak optical absorption by optical-resolution photoacoustic microscopy. *Photoacoustics*, *25*, 100335. <https://doi.org/10.1016/j.pacs.2022.100335>
- Duong, C., Nguyen, V. T., Hung, T., Mondal, S., Park, S., Choi, J., Thu, T., Vu, H., Kim, C., & Oh, J. (2022). Full-view in vivo skin and blood vessels profile segmentation in photoacoustic imaging based on deep learning. *Photoacoustics*, *25*(1), 1–13. <https://doi.org/10.1016/j.pacs.2021.100310>
- El-sharkawy, Y. H., Badr, Y., Gadallah, M., & El-sherif, A. F. (2006). Diagnostic of human teeth using photoacoustic response. *Laser in Dentistry*, *6137*(613701), 1–9. <https://doi.org/10.1117/12.634879>
- English, N. (2017). *Space Telescopes Capturing the Rays og the Electromagnetic Spectrum*. Springer.
- Fu, L., Ling, C., Jin, Z., Luo, J., Palma-Chalvez, J., Wu, Z., Zhou, J., Zhou, J., Donovan, B., Qi, B., Mishra, A., He, T., & Jokerst, J. V. (2021). A more compact photoacoustic imaging system to detect periodontitis. *Optica Publishing Group*, *1*(1), 1–12. <https://doi.org/10.1101/2021.11.02.21265776>
- Fueldner, M. (2020). Microphones. In *Handbook of Silicon Based MEMS Materials and Technologies*. Elsevier Inc. <https://doi.org/10.1016/B978-0-12-817786-0.00048-7>
- Giannobile, W. v, Burt, B. A., & Genco, R. J. (2010). *Clinical Research in Oral Health*. John Willey & Sons, Inc.
- Godefroy, G., Arnal, B., & Bossy, E. (2021). Photoacoustics Compensating for visibility artefacts in photoacoustic imaging with a deep learning approach providing prediction uncertainties. *Photoacoustics*, *21*(June 2020), 100218. <https://doi.org/10.1016/j.pacs.2020.100218>
- Golbari, N., Kasraei, S., Afrasiabi, A., Mostajir, E., & Mojahedi, S. M. (2019).

- Effect of Diode Laser (810 nm) Irradiation on Marginal Microleakage of Multi-mode Adhesive Resins in Class V Composite Restorations. *Journal of Laser in Medical Sciences*, 10(4), 275–282. <https://doi.org/10.15171/jlms.2019.45>
- Grohl, J., Schellenberg, M., Dreher, K., & Maier-hein, L. (2021). Deep learning for biomedical photoacoustic imaging: A review. *Photoacoustics*, 22(November 2020), 100241. <https://doi.org/10.1016/j.pacs.2021.100241>
- Han, T., Yang, M., Yang, F., Zhao, L., Jiang, Y., & Li, C. (2021). Photoacoustics A three-dimensional modeling method for quantitative photoacoustic breast imaging with handheld probe. *Photoacoustics*, 21, 100222. <https://doi.org/10.1016/j.pacs.2020.100222>
- Hanna, J., Yücel, Y. H., Zhou, X., Kim, N., & Irving, H. (2021). Beta-adrenergic glaucoma drugs reduce lymphatic clearance from the eye: A sequential photoacoustic imaging study. *Experimental Eye Research*, 212(September), 108775. <https://doi.org/10.1016/j.exer.2021.108775>
- Hosseinaee, Z., Le, M., Bell, K., & Haji, P. (2020). Photoacoustics Towards non-contact photoacoustic imaging [review]. *Photoacoustics*, 20, 100207. <https://doi.org/10.1016/j.pacs.2020.100207>
- Hui, J., & Cheng, J. (2020). *Intravascular Photoacoustic Imaging of Lipid-Laden Plaques : From of Lipid-Laden Plaques : From Fundamental Concept Toward Clinical* (Issue January). Springer Singapore. <https://doi.org/10.1007/978-981-10-6307-7>
- Ji, S., & Choi, Y. (2020). Microbial and Host Factors That Affect Bacterial Invasion of the Gingiva. *Journal of Dental Research*, 99(9), 1013–1020. <https://doi.org/10.1177/0022034520922134>
- Jin, H., Liu, S., Zhang, R., Liu, S., & Zheng, Y. (2020). Frequency Domain Based Virtual Detector for Heterogeneous Media in Photoacoustic Imaging. *IEEE Transactions on Computational Imaging*, 6, 569–578.
- Kang, S., & Hwang, J. (2021). Tuning the characteristics of photoacoustic pressure in a laser-induced photoacoustic generator: A numerical study. *Applied Mathematical Modelling*, 94, 98–116. <https://doi.org/10.1016/j.apm.2020.12.029>
- Khah, M. A., & Tousi, R. R. (2021). Numerical solutions of the wave equation using time-independent shearlet coefficients. *Optik - International Journal for Light and Electron Optics*, 241(October 2020), 165914–165921. <https://doi.org/10.1016/j.ijleo.2020.165914>
- Khan, S. N., Shiakolas, P., & Rizwan, M. (2012). An Overview on Performance Characteristics of Laser In-Situ Keratomileusis Using Lasers and Identification of Challenges. *Micro and Nanosystems*, 4(April 2016), 1–13. <https://doi.org/10.2174/1876402911204040284>
- Khosroshahi, M. E., & Valizadeh, S. (2020). Measurement of pulse Nd: YAG laser-induced stress and analysis of dental tissue and amalgam plume using uniaxial polyvinylidene fluoride-based photoacoustic sensor and plasma spectroscopy. *Optics and Laser Technology*, 128(1), 1–11. <https://doi.org/10.1016/j.optlastec.2020.106239>
- Khrennikov, A. (2020). *Social Laser*. Jenny Stanford Publishing Pte. Ltd.

- Kosmas, P., & Crocco, L. (2019). Introduction to Special Issue on “Electromagnetic Technologies for Medical Diagnostics: Fundamental Issues, Clinical Applications and Perspectives.” *Diagnostics*, 9(19), 10–12. <https://doi.org/10.3390/diagnostics9010019>
- Kulikov, K., & Koshlan, T. (2018). *Laser Interaction with Heterogeneous Biological Tissue*. Springer.
- Kurniawan, E., Widyaningrum, R., & Mitrayana. (2017). Sistem Fotoakustik Sederhana Berbasis Laser Dioda dan Mikrofon Condenser Sistem Fotoakustik Sederhana untuk Pengukuran Konsentrasi Darah. *Risalah Fisika*, 1(January), 47–51.
- Lancaster, P., Brettle, D., Carmichael, F., & Clerehugh, V. (2017). In-vitro Thermal Maps to Characterize Human Dental Enamel and Dentin. *Frontiers in Physiology*, 8(July), 1–8. <https://doi.org/10.3389/fphys.2017.00461>
- Le, T. D., Kwon, S., & Lee, C. (2022). Segmentation and Quantitative Analysis of Photoacoustic Imaging : A Review. *Photonics*, 9(March), 176–193.
- Lee, D., Park, S., Noh, W.-C., Im, J.-S., & Kim, C. (2017). Photoacoustic imaging of dental implants in a porcine jawbone ex vivo. *Optics Letters*, 42(9), 1760–1763. <https://doi.org/10.1364/OL.42.001760>
- Li, X., Park, E., Kang, Y., Kwon, N., Yang, M., Lee, S., Kim, W. J., Kim, C., & Yoon, J. (2019). Supramolecular Phthalocyanine Assemblies for Improved Photoacoustic Imaging and Photothermal Therapy. *Angewandte Chemie*, 10, 1–7. <https://doi.org/10.1002/ange.201916147>
- Lin, C. Y., Chen, F., Hariri, A., Chen, C. J., Takesh, T., & Jokerst, J. V. (2017). Photoacoustic imaging for noninvasive periodontal probing depth measurements. *Journal of Dental Research*, 1(1), 1–8. <https://doi.org/10.1177/0022034517729820>
- Liu, C., Chen, J., Zhang, Y., Zhu, J., & Wang, L. (2022). Five-wavelength optical-resolution photoacoustic microscopy of blood and lymphatic vessels. *Advanced Photonics*, 3(May), 1–9. <https://doi.org/10.1117/1.AP.3.1.016002>
- Liu, N., Chen, X., Kimm, M., Stechele, M., Chen, X., Zhang, Z., Wildgruber, M., & Ma, X. (2021). In Vivo Optical Molecular Imaging of Inflammation and Immunity. *Journal of Molecular Medicine*, 99(7), 1385-1398. <https://doi.org/10.1007/s00109-021-02115-w>
- Moore, C., Bai, Y., Hariri, A., Sanchez, J. B., Lin, C. Y., Koka, S., Sedghizadeh, P., Chen, C., & Jokerst, J. V. (2018). Photoacoustic imaging for monitoring periodontal health: a first human study. *Photoacoustics*, 12(1), 67–74. <https://doi.org/10.1016/j.pacs.2018.10.005>
- Mozaffarzadeh, M., Moore, C., Golmoghani, E. B., Mantri, Y., Hariri, A., Jorns, A., Fu, L., Verweij, M. D., Orooji, M., Jong, N. De, & Jokerst, J. V. (2021). Motion-compensated noninvasive periodontal health monitoring using handheld and motor-based photoacoustic-ultrasound imaging systems. *Biomedical Optics*, 12(3), 1543–1558. <https://doi.org/10.1364/BOE.417345>
- Nesic, D., Marger, L., Mekki, M., Sailer, I., & Scherrer, S. S. (2020). Bioprinting Could 3D printing be the future for oral soft tissue regeneration ? *Bioprinting*, 20(September), e00100. <https://doi.org/10.1016/j.bprint.2020.e00100>
- Newman, M., Takei, H., Klokkevold, P., & Carranza, F. (2019). *Clinical*

- Periodontology* (11th ed.). Elsevier.
- Osgood, B. G. (2019). *Lectures on the Fourier Transform and Its Applications*. American Mathematical Society.
- Parker, S., Cronshaw, M., Anagnostaki, E., Mylona, V., Lynch, E., & Grootveld, M. (2020). Current Concepts of Laser-Oral Tissue Interaction. *Dentistry Journal*, 8(61), 1–16.
- Periyasamy, V., Rangaraj, M., & Pramanik, M. (2018). Photoacoustic imaging of teeth for dentine imaging and enamel characterization. *Laser in Dentistry*, 10473, 1047309–1. <https://doi.org/10.1117/12.2286733>
- Qin, W., Gan, Q., Yang, L., Wang, Y., Qi, W., Ke, B., & Xi, L. (2021). NeuroImage High-resolution in vivo imaging of rhesus cerebral cortex with ultrafast portable photoacoustic microscopy. *NeuroImage*, 238(January), 118260. <https://doi.org/10.1016/j.neuroimage.2021.118260>
- Rathi, N., Sinha, S., Chinni, B., Dogra, V., & Rao, N. (2020). Feasibility of quantitative tissue characterization using novel parameters extracted from photoacoustic power spectrum. *Biomedical Signal Processing and Control*, 57, 101719–101728. <https://doi.org/10.1016/j.bspc.2019.101719>
- Romandini, Baima, Antonoglou, Bueno, Figuero, & Sanz. (2021). Periodontitis, Edentulism, and Risk of Mortality: A Systematic Review with Meta-analyses. *Journal of Dental Research*, 100(1), 37–49. <https://doi.org/10.1177/0022034520952401>
- Sari, A. W., Widyaningrum, R., & Mitrayana. (2022). Photoacoustic Imaging for Periodontal Disease Examination. *Journal of Laser in Medical Sciences*, 13(37), 1–8. <https://doi.org/10.34172/jlms.2022.37>
- Seinost, G., Horina, A., Arefnia, B., Kulnik, R., Kerschbaumer, S., Quehenberger, F., Muster, V., Gütl, K., Zelzer, S., Gasser, R., Mangge, H., Aigner, R., Brodmann, M., & Wimmer, G. (2020). Periodontal treatment and vascular inflammation in patients with advanced peripheral arterial disease: A randomized controlled trial. *Atherosclerosis*, 313, 60–69. <https://doi.org/10.1016/j.atherosclerosis.2020.09.019>
- Setiawan, A., & Mitrayana. (2022). Invisible barcode method base on NDT photoacoustic imaging. *Journal of Instrumentation*, 17, 1–11.
- Setiawan, A., Setiaji, F. D., Gunawan, D., & Wibowo, N. A. (2019). Photoacoustic tomography system for roughly painted micro objects. *Journal of Electromagnetic Engineering and Science*, 19(3), 197–203. <https://doi.org/10.26866/jees.2019.19.3.197>
- Shubham, S., Seo, Y., Naderyan, V., Song, X., Ii, A. J. F., Thomas, J., Greenham, M., Silva, M., & Pedersen, M. (2022). A Novel MEMS Capacitive Microphone with Semiconstrained Diaphragm Supported with Center and Peripheral Backplate Protrusions. *Micromachines*, 13(22), 1–23.
- Sridhar, C., Pareek, P. K., Kalidoss, R., Jamal, S. S., Shukla, P. K., & Nuagah, S. J. (2022). Optimal Medical Image Size Reduction Model Creation Using Recurrent Neural Network and GenPSOWVQ. *Journal of Healthcare Engineering*, 2022(1), 1–8. <https://doi.org/10.1155/2022/2354866>
- Stenzel, O. (2022). *Light-Matter Interaction: A Crash Course for Students of Optics, Photonics and Materials Science*. Springer.

- Subbarao, K. C., Nattuthurai, G. S., Sundararajan, S. K., Sujith, I., Joseph, J., & Syedshah, Y. P. (2019). Gingival Crevicular Fluid: An Overview. *Journal of Pharmacy & Bioallied Sciences*, *11*, S135–S139.
- Takahashi, D. (2019). *Fast Fourier Transform Algorithms for Parallel Computers*. Springer.
- Tasmara, F. A., Mitrayana, M., Widyaningrum, R., & Setiawan, A. (2023). Photoacoustic imaging of hidden dental caries using visible – light diode laser. *Journal of Applied Clinical Medical Physics*, *1*(1), 1–8. <https://doi.org/10.1002/acm2.13935>
- Thread, T., Lima, E. De, Avanesyan, S., Chigarev, N., Hua, Z., Tournat, V., Gusev, V. E., Hurley, D. H., & Raetz, S. (2021). Photoacoustics Photoacoustic 3-D imaging of polycrystalline microstructure improved with transverse acoustic waves. *Photoacoustics*, *23*, 100286. <https://doi.org/10.1016/j.pacs.2021.100286>
- Vitruk, P. (2016). Oral soft tissue laser ablative and coagulative efficiencies spectra. *Implant Practice*, *7*, 1–7.
- Wallis, C., Milella, L., Colyer, A., Flynn, C. O., Harris, S., & Holcombe, L. J. (2021). Subgingival microbiota of dogs with healthy gingiva or early periodontal disease from different geographical locations. *BMC Veterinary Research*, *17*, 1–19.
- Wang, T., Gong, M., Yu, X., Lan, G., & Shi, Y. (2021). Acoustic-pressure sensor array system for cardiac-sound acquisition. *Biomedical Signal Processing and Control*, *69*, 102836–102844. <https://doi.org/10.1016/j.bspc.2021.102836>
- Widyaningrum, R., Agustina, D., Mudjosemedi, M., & Mitrayana. (2018). Photoacoustic for oral soft tissue imaging based on intensity modulated continuous-wave diode laser. *International Journal on Advanced Engineering Information Technology*, *8*(2), 622–627. <https://doi.org/10.18517/ijaseit.8.2.2383>
- Widyaningrum, R., Mitrayana, Gracea, R. S., Agustina, D., Mudjosemedr, M., & Silalahi, H. M. (2020). The influence of diode laser intensity modulation on photoacoustic image quality for oral soft tissue imaging. *Journal of Lasers in Medical Sciences*, *11*(1), S92–S100. <https://doi.org/10.34172/JLMS.2020.S15>
- Windra, A., Widyaningrum, R., & Setiawan, A. (2023). Recent development of photoacoustic imaging in dentistry : A review on studies over the last decade. *The Saudi Dental Journal*, *35*(5), 423–436. <https://doi.org/10.1016/j.sdentj.2023.05.013>
- Yang, C., Lan, H., Gao, F., & Gao, F. (2021). Review of deep learning for photoacoustic imaging. *Photoacoustics*, *21*, 100215. <https://doi.org/10.1016/j.pacs.2020.100215>
- Yang, Chen, Y., Xia, F., & Sawan, M. (2021). Photoacoustic imaging for monitoring of stroke diseases : A review. *Photoacoustics*, *23*(July), 100287.
- Yang, T., Chen, W., & Wang, P. (2020). A review of all-optical photoacoustic spectroscopy as a gas sensing method. *Applied Spectroscopy Reviews*, *1*, 1–28. <https://doi.org/10.1080/05704928.2020.1760875>
- Yeh, C., Huang, I. W., Tsai, Y. H., Hu, P. C., Liu, T. C., Lai, G. H., Tseng, S. H., & Kuan, Y. C. (2021). Enhancing Diagnosis of Gingivitis by Quantifying

Gingival Tissue Functional Parameters with Diffuse Reflectance Spectroscopy. *Biomedical Imaging and Sensing*. 11925(10), 1-15. <https://doi.org/10.1117/12.2615839>

Zhang, X., Liu, X., Guo, Y., Wu, F. G. (2020). Strategies for visualizing inflammation. *View*. 1(7). 1-23. <https://doi.org/10.1002/VIW.20200025>

Zhao, T., Desjardins, A. E., Ourselin, S., Vercauteren, T., & Xia, W. (2019). Minimally invasive photoacoustic imaging: current status and future perspectives. *Photoacoustics*, 16(1), 1-18. <https://doi.org/10.1016/j.pacs.2019.100146>