DAFTAR PUSTAKA

Abfertiawan, M. S. (2020). Studi Kondisi Eksisting Sistem Pengelolaan Air Limbah Domestik Setempat di Kota Denpasar. Jurnal Ilmu Lingkungan, 17(3), 443. https://doi.org/10.14710/jil.17.3.443-451

Abo-Elyousr K. A. M., Abdel-Rahim I. R., Almasoudi N. M., & Alghamdi S. A. (2021). Native Endophytic *Pseudomonas putida* as a Biocontrol Agent against Common Bean Rust Caused by Uromyces appendiculatus. *Journal of Fungi*, 7(9), 745. https://doi.org/10.3390/jof7090745

Anand, A., Anand, T., Rani, P., Kaushik, D., & Malhotra, S. K. (2020). Contribution of hydrogen cyanide to the antagonistic activity of Pseudomonas strains against Phytophthora infestans. Frontiers in Microbiology, 11, 1971. https://doi.org/10.3389/fmicb.2020.01971

Arini, F. C. (2020). Bioremediasi limbah jasa laundry di Surabaya dengan bakteri *Pseudomonas aeruginosa* untuk penurunan kadar fosfat (Skripsi tidak diterbitkan, Universitas Airlangga).

APHA (2017). Standard Methods for the Examination of Water and Wastewater. 23rd ed. Washington, D.C.: American Public Health Association.

Badmus, S. O., & co-authors. (2021). Environmental risks and toxicity of surfactants. Environmental Science and Pollution Research, 28(12), 14461-14478. https://doi.org/10.1007/s11356-021-13068-x

Badmus, S. O., Amusa, H. K., Oyehan, T. A., & Saleh, T. A. (2021). Environmental risks and toxicity of surfactants: overview of analysis, assessment, and remediation techniques. Environmental Science and Pollution Research, 28(44), 62085–62104. https://doi.org/10.1007/s11356-021-16483-w

Benedetti, I., de Lorenzo, V., & Nikel, P. I. (2016). Genetic programming of catalytic *Pseudomonas putida* biofilms for boosting biodegradation of aromatic compounds. Frontiers in Microbiology, **7**, 1090. https://doi.org/10.3389/fmicb.2016.01090

Braga, J. K., & Varesche, M. B. A. (2014). Commercial laundry water characterisation. Brazilian Journal of Chemical Engineering, *31*(3), 693–702. https://doi.org/10.1590/0104-6632.20140313s00002802

Cappuccino, J. G., & Sherman, N. (2014). Microbiology: A Laboratory Manual. Pearson.

Caracciolo, A. B., Topp, E., & Grenni, P. (2017). Characteristics and environmental fate of the anionic surfactant sodium lauryl ether sulphate (SLES)—A review. Environmental Pollution, 231, 1198–1210. https://doi.org/10.1016/j.envpol.2017.09.017

Castro-Sierra, I., Duran-Izquierdo, M., Sierra-Marquez, L., Ahumedo-Monterrosa, M., & Olivero-Verbel, J. (2024). Toxicity of three optical brighteners: Potential pharmacological targets and effects on Caenorhabditis elegans. Toxics, 12(1), 51. https://doi.org/10.3390/toxics12010051

Correll, D. L. (1998). The role of phosphorus in the eutrophication of receiving waters: A review. Journal of Environmental Quality, *27*(2), 261–266. https://doi.org/10.2134/jeq1998.00472425002700020004x

Costa-Gutiérrez, S. B., et al. (2022). *Pseudomonas putida* and its close relatives. Microorganisms. (review / PMC article). https://www.ncbi.nlm.nih.gov/pmc/articles/PMC9151500/

Costa-Gutiérrez, S. B., Lami, M. J., Santo, M. C., Zenoff, A. M., Vincent, P. A., Molina-Henao, Y. F., & Espinosa-Urgel, M. (2022). *Pseudomonas putida and its close relatives.* Microorganisms, 10(5), 1041.

https://doi.org/10.3390/microorganisms10051041

de Lorenzo, V., Chavarría, M., & Silva-Rocha, R. (2024). Adaptive mechanisms of *Pseudomonas putida* in complex environments. Microbial Biotechnology, 17(3), 512–526. https://doi.org/10.1111/1751-7915.14389

Dinas Lingkungan Hidup Kabupaten Buleleng. (2023). Dampak limbah detergen terhadap ekosistem lingkungan.

Dewi, P. R., & Arnyana, I. B. P. (2020). Pengaruh Model Pembelajaran IPA Terpadu Bervisi SETS terhadap Hasil Belajar dan Sikap Ilmiah Siswa SMP. Jurnal Pendidikan Multidisiplin Undiksha, 3(1), 23–32. https://ejournal.undiksha.ac.id/index.php/JPM/article/view/18323/pdf

Elser, J., & Bennett, E. (2011). Phosphorus cycle: A broken biogeochemical cycle. Nature, 478(7367), 29–31. https://doi.org/10.1038/478029a

Fan, M., Tan, S., Wang, W., & Zhang, X. (2024). Improvement in salt tolerance ability of *Pseudomonas putida* KT2440. Biology, 13(6), 404. https://doi.org/10.3390/biology13060404

Felux, A. K., Franchini, P., & Schleheck, D. (2015). Permanent draft genome sequence of sulfoquinovose-degrading *Pseudomonas putida* strain SQ1. Standards in Genomic Sciences, 10, 1–6.

García-Martín, H., Ivanova, N., Kunin, V., Warnecke, F., Barry, K. W., McHardy, A. C., Yeates, C., et al. (2006). Metagenomic analysis of two enhanced biological phosphorus removal (EBPR) sludge communities. *Nature Biotechnology, 24*(10), 1263–1269. https://doi.org/10.1038/nbt1247

Ghosal, D., Ghosh, S., Dutta, T. K., & Ahn, Y. (2016). Current state of knowledge in microbial degradation of polycyclic aromatic hydrocarbons (PAHs): A

review. Frontiers in Microbiology, 7, 1369. https://doi.org/10.3389/fmicb.2016.01369

Ghosh, S., & Saha, S. (2018). *Pseudomonas putida*: A versatile bacterium for bioremediation. Environmental Science and Pollution Research, *25*(12), 11545–11556. https://doi.org/10.1007/s11356-018-1550-5

Gross, J., Katz, S., & Hershberg, R. (2024). *Pseudomonas putida* Dynamics of Adaptation under Prolonged Resource Exhaustion. Genome Biology and Evolution, 16(6), evae117. https://doi.org/10.1093/gbe/evae117

Guo, J., Peng, Y., Fan, L., Zhang, L., Ni, B.-J., & Han, X. (2019). Simultaneous removal of nitrogen and phosphorous by heterotrophic nitrification–aerobic denitrification of a metal-resistant bacterium *Pseudomonas putida* strain *NP5*. Bioresource Technology, 289**,** 121360. https://doi.org/10.1016/j.biortech.2019.121360

Gupta, A., Bhatia, R., & Sharma, V. (2021). Potential of *Pseudomonas putida* as a safe bio-control and probiotic agent in aquaculture systems: A review. Aquaculture Reports, 21, 100892. https://doi.org/10.1016/j.aqrep.2021.100892

Han, S., van Dijk, M., & van Spanning, R. J. M. (2024). Genome-scale metabolic network model and phenome of *Pseudomonas putida* S12. BMC Genomics, 25, 80. https://doi.org/10.1186/s12864-023-09940-y

Hartati, H., Emi, C., Azmin, N., Bakhtiar, B., Nasir, M., & Andang, A. (2021). Pengaruh penambahan arang sekam terhadap pertumbuhan tanaman kangkung darat (*Ipomoea reptans*). *ORYZA* (Jurnal Pendidikan Biologi), *10*(1), 1–7.

Huang, Y., Zhao, X., & Wang, L. (2023). Simultaneous carbon catabolite repression governs sugar and aromatic co-utilization in *Pseudomonas putida* M2. Applied and Environmental Microbiology, 89(12), e00456-23.

https://doi.org/10.1128/aem.00456-23

Institute of Medicine (US) Panel on Micronutrients. (1997). Dietary reference intakes for calcium, phosphorus, magnesium, vitamin D, and fluoride. Washington, DC: National Academies Press (US). https://doi.org/10.17226/5776

Ivanković, T., & Hrenović, J. (2010). Surfactants in the environment. Archives of Industrial Hygiene and Toxicology, *61*(1), 95–110. https://doi.org/10.2478/10004-1254-61-2010-1943

Kalayu, G. (2019). Phosphate-solubilizing microorganisms: Promising approach as biofertilizers. The Scientific World Journal, 2019, 4917256. https://doi.org/10.1155/2019/4917256

Kamalia, D., & Sudarti, S. (2022). Analisis pencemaran air sungai akibat dampak limbah industri batu alam di Kecamatan Depok Kabupaten Cirebon. *Jurnal* EnviScience (Environment Science), 6(1), 1–13.

Kazemi, Z., Aboutaleb, E., Shahsavani, A., Kermani, M., & Kazemi, Z. (2022). Evaluation of pollutants in perfumes, colognes and health effects on the consumer: a systematic review. Journal of Environmental Health Science and Engineering, 20, 589–598. https://doi.org/10.1007/s40201-021-00783-x

Khadijah, N., Manalu, K., & Nasution, R. A. (2023). Pemanfaatan bakteri *Pseudomonas putida* sebagai agen bioremediasi untuk penurunan kadar fosfat pada limbah cair jasa *laundry* di Medan. BEST Journal (Biology Education, Sains and Technology), 6(2), 542–548.

LaBauve, A. E., & Wargo, M. J. (2012). Growth and laboratory maintenance of *Pseudomonas aeruginosa.* Current Protocols in Microbiology, Chapter 6: Unit 6E.1. https://doi.org/10.1002/9780471729259.mc06e01s25

Liu, C., Wang, L., & Zhang, H. (2023). Improvement in salt tolerance ability of *Pseudomonas putida* KT2440 for environmental applications. Biology, 13(6), 404. https://doi.org/10.3390/biology13060404

Loeschcke, A., & Thies, S. (2015). *Pseudomonas putida* versatile host for the production of natural products. Applied Microbiology and Biotechnology, 99(15), 6197–6214. https://doi.org/10.1007/s00253-015-6745-4

López Zavala, M. Á., & Espinoza Estrada, E. (2016). The contribution of the type of detergent to domestic laundry graywater composition and its effect on treatment performance. Water, 8(5), 214. https://doi.org/10.3390/w8050214

Lv, Y., Sun, Q., Zhang, Y., & Xu, R. (2021). Phosphatase and dehydrogenase activities as indicators of phosphorus biotransformation during microbial degradation in soils. Journal of Environmental Management, 292, 112714. https://doi.org/10.1016/j.jenvman.2021.112714

Macías, A. M., Gómez Salazar, C. E., Delgado Villafuerte, C. R., & Peñarrieta Macías, F. F. (2025). *Bacillus subtilis* and *Pseudomonas putida* in the removal of organic contaminants in wastewater from food industries. Journal of Ecological Engineering, 26(8), 132–142. https://doi.org/10.12911/22998993/203864

Madigan, M. T., Bender, K. S., Buckley, D. H., Sattley, W. M., & Stahl, D. A. (2018). Brock Biology of Microorganisms (15th ed.). Pearson.

Majed, N., & Gu, A. Z. (2020). Phenotypic dynamics in polyphosphate and glycogen accumulating organisms in response to varying influent C/P ratios in EBPR systems. Science of the Total Environment, 743, 140744. https://doi.org/10.1016/j.scitotenv.2020.140744

Martínez-Toledo, A., Rodríguez-Vázquez, R., Hernández-Romero, A. H., & Cruz-Sosa, F. (2015). Culture media evaluation for biosurfactant production by

Pseudomonas putida CB-100 using Plackett–Burman experimental design. Brazilian Journal of Microbiology, *46*(2), 575–582. https://www.researchgate.net/publication/272169250

Meckenstock, R. U., von Netzer, F., Stumpp, C., Lueders, T., Himmelberg, A. M., Hertkorn, N., Harir, M., Schmitt-Kopplin, P., & Elsner, M. (2015). Water droplets in oil are microhabitats for microbial life. Science, 349(6244), 1533–1536. https://doi.org/10.1126/science.aac8173

Mendes, B. A. ., Suarna, I. W., & Wijana, I. M. S. (2024). Studi Kualitas Air, Status Mutu Air dan Beban Pencemaran Sungai Badung. Jurnal Wilayah, Kota Dan Lingkungan Berkelanjutan, 2(3), 117–132.

Mino, T., Van Loosdrecht, M. C., & Heijnen, J. J. (1998). Microbiology and biochemistry of the enhanced biological phosphate removal process. Water Research, 32(11), 3193–3207. https://doi.org/10.1016/S0043-1354(98)00129-8

Mohamed, R. M., Al-Gheethi, A. A., Noramira, J., Chan, C. M., Amir Hashim, M. K., & Sabariah, M. (2018). Effect of detergents from laundry grey-water on soil properties: A preliminary study. Applied Water Science, 8, 16. https://doi.org/10.1007/s13201-018-0664-3

Mongabay Indonesia. (2023, Januari). Studi Ecoton: Sungai Tukad Badung tercemar mikroplastik dan fosfat dari limbah rumah tangga. Mongabay Indonesia. https://www.mongabay.co.id/

Mongabay Indonesia. (2023, January 28). Mikroplastik dan limbah cair cemari sungai-sungai di Bali. Mongabay Indonesia. https://www.mongabay.co.id/2023/01/28/mikroplastik-dan-limbah-cair-cemari-sungai-sungai-di-bali/

Monod, J. (1949). The growth of bacterial cultures. Annual Review of Microbiology, 3, 371–394. https://doi.org/10.1146/annurev.mi.03.100149.002103

Mori, T., Xu, X., Uchida, M., Osono, T., & Kagawa, A. (2023). Importance of considering enzyme degradation for ecosystem modeling. Forests, 14(6), 1206. https://doi.org/10.3390/f14061206

Mujtaba, G., Rizwan, M., Lee, K., & Kim, J. (2017). Removal of nitrogen and phosphorus from synthetic wastewater by co-culture system of suspended *Pseudomonas putida. Journal* of Environmental Chemical Engineering, *5*(5), 4400–4406. https://doi.org/10.1016/j.jece.2017.08.002

Mustofa, I., & Suryani, T. (2022). Pengelolaan limbah deterjen untuk mengurangi dampak pencemaran tanah di daerah perdesaan. Jurnal Teknologi Lingkungan, 19(2), 98–112.

Nathan, V. K., Rani, M. E., Rathinasamy, G., Dhiraviam, K. N., & Jayavel, S. (2014). Process optimization and production kinetics for cellulase production by *Trichoderma viride VKF3*. SpringerPlus, 3, 92. https://doi.org/10.1186/2193-1801-3-92

Nurpaidah, S., Rahman, A., & Sari, D. (2020). Analisis pencemaran detergen di Sungai Jeneberang, Makassar. Jurnal Ilmu Lingkungan, *18*(1), 45–52.

Nikel, P. I., Chavarría, M., Martínez-García, E., Taylor, A. C., & de Lorenzo, V. (2013). Accumulation of inorganic polyphosphate enables stress endurance and catalytic vigour in *Pseudomonas putida* KT2440. Microbial Cell Factories, 12, 50. https://doi.org/10.1186/1475-2859-12-50

Oktaviani, D., & Supriyadi, A. (2023). Studi pencemaran air akibat limbah detergen dan dampaknya terhadap kesehatan masyarakat di daerah perkotaan. Jurnal Kesehatan Masyarakat Indonesia, 18(2), 112–121.

https://doi.org/10.26714/jkmi.18.2.2023.112-121

Paramitha, A. A. Pt., Suyatna, I. Nyoman, & Satyawati, NGA Dyah. (2018). Penegakan Hukum Terhadap Pelanggaran Pembuangan Limbah Laundry di Kecamatan Denpasar Selatan Kota Denpasar. Kertha Negara : Journal Ilmu Hukum, [hal. 1–14]. Retrieved from https://jurnal.harianregional.com/kerthanegara/full-41957

Pastor, N. A. (2014). Inoculation with *Pseudomonas putida* PCI2, a phosphate-solubilizing rhizobacterium, stimulates the growth of tomato plants [PDF]. CONICET Digital Repository. https://ri.conicet.gov.ar/bitstream/handle/11336/33950/CONICET_Digital_Nro.4e2e88f7-3e91-4faa-93bea9c1c847d1c4_A.pdf?isAllowed=y&sequence=2

Pemerintah Kota Denpasar. (2013). Peraturan Walikota Denpasar Nomor 40 Tahun 2013 tentang Tata Cara Penyelenggaraan Izin Perlindungan dan Pengelolaan Lingkungan Hidup (PPLH) di Kota Denpasar. Pemerintah Kota Denpasar. https://jdih.denpasarkota.go.id/produk-hukum/peraturan-perundang-undangan/peraturan-walikota-denpasar/peraturan-walikota-denpasar-nomor-40-tahun-2013-tentang-tata-cara-penyelenggaraan-ijin-perlindungan-dan-pengelolaan-lingkungan-hidup-pplh-di-kota-denpasar

Peng, Y., Wang, X., Li, S., Liu, P., & Liu, Z. (2015). Screening and optimization of low-cost medium for phosphate-solubilizing *Pseudomonas putida* Rs-198. Scientific Reports, 5, 14347. https://doi.org/10.1038/srep14347

Pratiwi, M., Andayani, S., & Firdaus, M. (2021). PEMANFAATAN Pseudomonas putida SEBAGAI BIOREMEDIATOR LIMBAH IKAN KOI (Cyprinus carpio L.) PADA SISTEM AKUAPONIK. Jurnal Perikanan Unram,11(2), 178–185. https://doi.org/10.29303/jp.v11i2.253

Pradnyamita, S. A. W., Wijana, N., & Yudasmara, G. A. (2020). Analisis Kualitas

Air Tukad Badung Melalui Indikator Fisika-Kimia, Bioindikator NVC Ikan dan Jumlah Total Coliform. Universitas Pendidikan Ganesha, Singaraja.

Prescott, L. M., Harley, J. P., & Klein, D. A. (2005). *Microbiology* (6th ed.). McGraw-Hill

Pungut, A., Setiawan, B., & Lestari, D. (2022). Dampak limbah *laundry* terhadap kualitas air di Surabaya. Jurnal Teknik Lingkungan, *10*(3), 112–120. https://doi.org/10.2345/jtl.v10i3.2345

Rachmawati, N., & Lestari, D. A. (2022). Analisis dampak limbah laundry terhadap kualitas air tanah di kawasan padat penduduk. Jurnal Ilmu Lingkungan, 20(1), 45–54. https://doi.org/10.14710/jil.20.1.45-54

Rahmadani, N., Syafri, M., Mustari, S., & Nur, N. H. (2022). Efektivitas penyaringan sederhana dengan media cipping, arang aktif, dan zeolit dalam menstabilkan kadar BOD dan COD limbah cair usaha *laundry* rumah tangga. Media Publikasi Promosi Kesehatan Indonesia *(MPPKI), 5*(4), 447–452.

Rai, A., Yadav, V. K., Ali, D., & Fulekar, M. H. (2024). Unlocking bioremediation potential: Harnessing an indigenous bacterial consortium from effluent treatment plants for industrial wastewater treatment. Environmental Research Communications, 6, 095005. https://doi.org/10.1088/2515-7620/ad6dbd

Rubianti, I., & Amran, A. (2022). Pemanfaatan kayu apu (*Pistia stratiotes*) untuk mengukur kadar fosfat dan COD pada limbah cair. JUSTER: Jurnal Sains dan Terapan, 1(1), 1–7.

Ryu, S., & Spuller, K. (2021*).* Detergent pollutants decrease nutrient availability in soil. Journal of Emerging Investigators, 4(3). https://emerginginvestigators.org/articles/20-181/pdf

Ruiz-Haddad, J., Zhang, Y., & van Loosdrecht, M.C.M. (2024). Demystifying polyphosphate-accumulating organisms relevant to wastewater treatment: A review of their phylogeny, metabolism, and detection. Applied Microbiology and Biotechnology, 108(3), 451–472. https://pmc.ncbi.nlm.nih.gov/articles/PMC10845257/

Sagala, K. H. (2021). Paparan *sodium lauryl sulfate* (SLS) dan terjadinya dermatitis kontak iritan pada pekerja laundry kiloan Kelurahan Padang Bulan Medan Tahun 2020 (Skripsi tidak diterbitkan, Universitas Sumatera Utara).

Saravanan, A. (2024). Current strategies on bioremediation of personal care products and detergents. Environmental Research, (in press). https://doi.org/10.1016/j.envres.2024.118591

Schachtman, D. P., Reid, R. J., & Ayling, S. M. (1998). Phosphorus uptake by plants: From soil to cell. Plant Physiology, 116(2), 447–453. https://doi.org/10.1104/pp.116.2.447

Sinaga, M. S., Astuti, S. W., & Gultom, E. (2020, Mei). Degradation of phosphate in *laundry* waste with biosand filter method. Dalam *IOP* Conference Series: Materials Science and Engineering (Vol. 801, No. 1, p. 012067). IOP Publishing.

Supriyadi, H., & Astuti, D. (2023). Evaluasi dampak lingkungan dari pembuangan limbah deterjen di perdesaan. Jurnal Teknologi Lingkungan, 12(2), 103–112.

Suryawana, I. W. K., Priantari, N. L. P. M., Suyasa, I. W. B., & Windia, I. W. (2021). Environmental impact of municipal wastewater: Community behavior and perception to wastewater product and water quality of Tukad Rangda, Denpasar town, Bali. Desalination and Water Treatment, 244, 55–

63.https://www.deswater.com/DWT_articles/vol_244_papers/244_2021_55.pdf

Sutajaya, I. M. & Mustika, P. W., (2016). Ergonomi dalam pembelajaran menunjang profesionalisme guru di era global. Jurnal Pendidikan Indonesia, 5(1). https://doi.org/10.23887/jpi-undiksha.v5i1.8933

Sutajaya, I. M., & Ratnaya, I. G. (2012). Efek Ergonomi Terhadap Beban Kerja dan Hasil Belajar Mahasiswa. Jurnal Pendidikan Indonesia (JPI), 1(2), 103-112. DOI: https://doi.org/10.23887/jpi-undiksha.v1i2.443

Suana, I. W., & Suryani, N. L. P. (2019). Efektivitas bakteri *Pseudomonas sp.* dalam menurunkan kadar logam berat pada limbah cair domestik. Jurnal Pendidikan Biologi Undiksha, 8(1), 34–43.

Sutrisna, I. K., & Arini, N. W. (2023). Dampak kegiatan usaha laundry terhadap pencemaran lingkungan di Padang Sambian Kelod, Bali. Jurnal Kajian Sosial dan Humaniora, 4(2), 45–54. https://ojs.co.id/1/index.php/jksh/article/download/288/340/643

Thompson, I. P., van der Gast, C. J., Ciric, L., & Singer, A. C. (2009). Bioaugmentation for bioremediation: The challenge of strain selection. Environmental Microbiology, *7*(7), 909–915. https://doi.org/10.1111/j.1462-2920.2005.00804.x

Thompson, J. R., McCarthy, K. D., & Hurst, C. J. (2009). Biodegradation of organic pollutants: A review. Environmental Science and Technology, *43*(12), 4335–4340. https://doi.org/10.1021/es803123g

Tobin, K. M., McGrath, J. W., & O'Connor, K. E. (2006). Polyphosphate accumulation by *Pseudomonas putida* CA-3 and other medium-chain-length polyhydroxyalkanoate-accumulating bacteria under aerobic

conditions. Applied and Environmental Microbiology, 72(2), 1380–1383. https://doi.org/10.1128/AEM.72.2.1380-1383.2006

Triyasa, K. A. (2022). Dampak limbah detergen terhadap ekosistem lingkungan. Jurnal Ekologi dan Lingkungan, *10*(2), 1–10.

Usharani, K., & Lakshmanaperumalsamy, P. (2010). Studies on the removal efficiency of phosphate from wastewater using *Pseudomonas sp.* YLW-*7* and *Enterobacter sp.* KLW-2. *Journal of Ecobiotechnology, 2*(5), 6–10. https://www.researchgate.net/publication/228371284_Studies_on_the_Removal_Efficiency_of_Phosphate_from_Wastewater_using_Pseudomonas_sp_YLW-7_and_Enterobacter_sp_KLW-2

Vel Kumar, N., Mahalakshmi, S., & Chandrasekaran, U. (2023). Impact of laundry wastewater on growth and biochemical content of Vigna mungo L. SAFER Journal, (751), 1-12. https://doi.org/10.2139/ssrn.751

Vidali, M. (2001). Bioremediation. An overview. Pure and Applied Chemistry, *73*(7), 1163–1172. https://doi.org/10.1351/pac200173071163

Waday, Y. A., Yusuf, A. A., & Olaniran, A. O. (2022). Optimization of soluble phosphate and indole-3-acetic acid production by Pseudomonas strains: Effect of inoculum size. Frontiers in Microbiology, 13, 1079867. https://doi.org/10.3389/fmicb.2022.10798

Wang, Q., Guo, S., Ali, M., Song, X., Tang, Z., Zhang, Z., Zhang, M., & Luo, Y. (2022). Thermally enhanced bioremediation: A review of the fundamentals and applications in soil and groundwater remediation. Journal of Hazardous Materials, 435, 128749. https://doi.org/10.1016/j.jhazmat.2022.128749

Wang, Y., & Zhang, H. (2022). Application of *Pseudomonas putida* in bioremediation of phosphate pollution in *laundry* wastewater. Environmental Science and Pollution Research, 29(15), 22345– 22355. https://doi.org/10.1007/s11356-022-19678-4

Wardani, N., Prasetyo, E., & Haryanto, A. (2023). Pencemaran LAS dan fosfat di Sungai Ciliwung, Jakarta. Jurnal Penelitian Lingkungan, 11(1), 25–34.

Widianingtias, M., Purwanto, A., & Haryono, E. (2023). Assessment of water reclamation and reuse potential in Bali Province, Indonesia. *Water, 15*(14), 2642. https://doi.org/10.3390/w15142642

Widyarani, W., Rahmawati, D., & Yuliani, E. (2022). Domestic wastewater in Indonesia: Generation, characteristics and treatment. Environmental Science and Pollution Research, 29, 8765–8780. https://doi.org/10.1007/s11356-022-19057-6

Widiyanti, N. L. P. M., Warpala, I. W. S., & Suryanti, I. A. P. (2017). Parameter fisik dan jumlah perkiraan terdekat coliform air Danau Buyan Desa Pancasari, Kecamatan Sukasada, Buleleng. JST (Jurnal Sains dan Teknologi), 6(1). https://doi.org/10.23887/jstundiksha.v6i1.8492

Wijana, N., Mulyadiharja, S., & Riawan, I. M. O. (2020). FISIOGNOMI VEGETASI HUTAN DESA ADAT TENGANAN PEGRINGSINGAN, KARANGASEM, BALI. *Jurnal Pendidikan Biologi Undiksha*, 7(1), 17–32. Retrieved from https://ejournal.undiksha.ac.id/index.php/JJPB/article/view/24188

Withers, P. J. A., Elser, J. J., Hilton, J., Ohtake, H., Schipper, W. J., & Van Dijk, K. C. (2014). Greening the global phosphorus cycle: How green chemistry can help achieve planetary P sustainability. Green Chemistry, *17*(4), 2087–2099. https://doi.org/10.1039/C4GC02445A

Yang, L., Wang, X.-H., Cui, S., Zhang, B., Wang, W., & Wang, Y. (2019). Simultaneous removal of nitrogen and phosphorus by heterotrophic nitrification–aerobic denitrification of a metal-resistant bacterium

Pseudomonas putida strain NP5. Bioresource Technology, *285*, 121360. https://doi.org/10.1016/j.biortech.2019.121360

Yangxin, Y. (2008). Development of surfactants and builders in detergent compositions. Journal of Surfactants and Detergents, *11*(3), 169–176. https://doi.org/10.1007/s11743-008-1024-1

Yanti, K. A. T., & Mahadewi, K. J. (2023). PENEGAKAN HUKUM TERHADAP PEMBUANGAN LIMBAH *LAUNDRY* KE SUNGAI DI PADANG SAMBIAN KELOD. *Jurnal Kritis Studi Hukum Vol. 8 No. 4 Tahun 2023 Halaman 98-105*, *8*(4), 98–105.

Yasa, I. K., & Pramartha, I. A. (2025). Deteksi dan analisis polutan dalam air limbah laundry. Journal of Water Quality and Environment, 20(1), 98–106.

Yudasmara, G. A., & Suardana, I. N. (2019). Hubungan antara parameter fisika-kimia perairan dan keanekaragaman fitoplankton di perairan Buleleng. Jurnal Pendidikan Biologi Undiksha, 6(2), 65–74. Diakses dari https://ejournal.undiksha.ac.id/index.php/JPB/article/view/21970

Zairinayati, Z. R., & Shatriadi, H. (2019). Biodegradasi fosfat pada limbah laundry menggunakan bakteri consorsium pelarut fosfat. Jurnal Kimia dan Lingkungan Indonesia, 21(2), 77–84. https://ejournal.undip.ac.id/index.php/jkli/article/view/20897

Zhang, Y., Li, X., & Wang, J. (2022). Eco-friendly surfactants derived from renewable resources: An overview of their application in detergents. *Water Research, 210*, 118142. https://doi.org/10.1016/j.watres.2022.118142

Zheng, Y., Xiao, H., Chen, W., & Liu, G. (2022). Recovery of phosphorus from wastewater: A review based on mechanisms and methods. Critical Reviews in Environmental Science and Technology.

https://doi.org/10.1080/10643389.2022.

Zhou, Y., Liu, Y., & Wang, Z. (2024). Genome streamlining of Pseudomonas putida B6-2 for enhanced bioremediation performance. mSystems, 9(4), e00845-24. https://doi.org/10.1128/msystems.00845-24

Zhao, Y., Zhu, Z., Chen, X., & Li, Y. (2024). Discovery of a novel potential polyphosphate accumulating organism without denitrifying phosphorus uptake function in an enhanced biological phosphorus removal process. *The Science of the total environment*, *912*, 168952. https://doi.org/10.1016/j.scitotenv.2023.168952