

DAFTAR PUSTAKA

- Achak M. L., Mandi, N., Ouazzani. 2009. Removal of Organic Pollutants and Nutrients from Olive Mill Waste Water. *Journal of Environmental Management* 90, p: 2771-2779
- Andersson, S, 2009, Characterization of Bacterial Biofilms for Wastewater Treatment, Royal Institute of Technology School of Biotechnology Stockholm, Royal Institute of Technology School of Biotechnology Division of Environmental Microbiology Alba Nova University Center SE-106 91 Stockholm Sweden Printed by Universitets Service US-AB Drottning Kristinas Vag 53B SE-100 44 Stockholm Sweden ISBN 978-91-7415-255-5 TRITA-BIO Report 2009:3 ISSN 1654-2312
- Annachhatre A., dan Amatya P. 2000. UASB Treatment of Tapioca Starch Wastewater. *J. Environ. Eng.*, 126 (12), p:1149-1152
- Azizi, S., Valipour, A., and Sithebe, T., 2013, Evaluation of Different Wastewater Treatment Processes and Development of A Modified Attached Growth Bioreactor as A Decentralized Approach for Small Communities, *The Scientific World Journal*, Hindawi Publishing Corporation, Article ID 156870, Vol 2013
- Azza I. H., Maaly A. K., Osman. R. M. 2012. Flax Retting Wastewater Part 1: Anaerobic Treatment by Using UASB Reactor. *Natural Resources*, 3 p: 191-200.
- Babaei A. A., Azadi R., Jaafarzadeh. N., dan Alavi. N. 2013. Application and Kinetic Evaluation of Upflow Anaerobic Biofilm Reactor for Nitrogen Removal from Wastewater by Anammox Process. *Iranian Journal of Environmental Health Sciences & Engineering*, p:10-20
- Badan Lingkungan Hidup. 2013. Hasil Analisa Kualitas Air Sungai di Kota Semarang. Laporan Hasil Pengujian No. 660.3/217/IV/2013 Bidang Pengkajian Dampak Lingkungan BLH Kota Semarang Jawa Tengah.
- Balai Pengkajian Teknologi Pertanian (BPTP). 2011. Pembuatan Pupuk Organik Menggunakan MOL. Kalimantan Tengah.
- Bitton G, 2005, *Wastewater Microbiology*, 3rd Edition, New Jersey: John Wiley & Sons, inc., ISBN 0-471-65071-4
- Brault, J.L., 1991, *Water Treatment Handbook*, Publisher: Lavoisier, ISBN 9782950398413, Publication date: 06/01/1991, 6th English Edition, Page: 592.
- Cheerawit R, Thunwadee T. S, Duangporn K, Tanwat R. and Wichuda. 2012. Biogas Production from Co-digestion of Domestic Wastewater and Food Waste., *Health and the Environmental Journal*, 2012, Volume 3, No. 2
- Chaudhary. D. S, Vigneswaran. S, Ngo. H. H, Shim Dan Moon. H. 2003. Biofilter in Water and Wastewater Treatment. *Korean J. Chem. Eng.*, 20(6), 1054-1065
- Chyan. J. M, Delia-B. Senoro, Chien-Jung Lin, Po-Jai Chen, I-Ming Chen. 2013. A Novel Biofilm Carrier for Pollutant Removal in A Constructed Wetland Based on Waste Rubber Tire Chips. *International Biodeterioration & Biodegradation* 85, p: 638-645
- Díaz. J. C. L, López-López. C, Pascual. J.M, Muñío. M. M, Poyatos. J. M. 2015. Kinetic Study of The Combined Processes of a Membrane Bioreactor and a Hybrid Moving Bed Biofilm Reactor-Membrane Bioreactor with Advanced Oxidation Processes as A

- Post-Treatment Stage for Wastewater Treatment. *Chemical Engineering and Processing* 91, p: 57-66
- Ding, D., Feng, C., Jin, Y. X., Hao, C., Zhao, Y. X., Suemura, T., 2011, Domestic Sewage Treatment in a Sequencing Batch Biofilm Reactor (SBBR) with An Intelligent Controlling System, *Desalination*, Vol. 276, P: 260-265,
- Ding. D, Chuanping Feng, Yun Xiao Jin, Chunbo Hao, Ying Xin Zhao, Takashi Suemura. 2011. Domestic Sewage Treatment in A Sequencing Batch Biofilm Reactor (SBBR) With An Intelligent Controlling System. *Desalination*, 276, P: 260-265
- Direktorat Jenderal Cipta Karya Kementerian Pekerjaan Umum. 2012. Materi Bidang Air Limbah, Diseminasi dan Sosialisasi Keteknikan Bidang PLP Jakarta.
- Dogan Karadag, Oguz Emre Köroglu, Bestami Ozkaya, Mehmet Cakmakci. (2015). A Review on Anaerobic Biofilm Reactors for the Treatment of Dairy Industry Wastewater. *Process Biochemistry* 50 (2015) 262–271.
- Donian. 2002. Biofilms: Microbial Life on Surfaces. *Emerging Infectious Diseases*. 8 p: 881-890.
- El-shafai S, Zahid.W. M. 2013. Performance of Aerated Submerged Biofilm Reactor Packed With Local Scoria for Carbon and Nitrogen Removal from Municipal Wastewater. *Bioresource Technology* 143, p: 476-482
- EPA 832-F-00-015, 2000, Wastewater Technology Fact Sheet Trickling Filter Nitrification. Office of Water Washington, D.C., September 2000.
- Fitch MW, Pearson N, Richard G, Burken JG, 1998, Biological Fixed Film System, *Water Environment Research*, Vol. 70, pp 495–518
- Golestani H. A, Mousavi M, Borghei M. 2011. Treatment of Welding Electrode Manufacturing Plant Wastewater Using Coagulation Flocculation-Nanofiltration As A Hybrid Process *Braz. J. Chem. Eng.* Vol.28 No.1 Sao Paulo Januari-Maret.
- Hampannavar, U. S, Shivayogimath, C. B. 2010. Anaerobic Treatment of Sugar Industry Wastewater by Upflow Anaerobic Sludge Blanket Reactor At Ambient Temperature. *International Journal of Environmental Sciences* Volume 1, No. 4 ISSN 0976-4402
- Hao. R, Li. S, Li. H, Meng. C. 2013. Denitrification of Simulated Municipal Wastewater Treatment Planteffluent Using A Three-Dimensional Biofilm-Electrode Reactor: Operating Performance and Bacterial Community. *Bioresource Technology* 143: 178-186.
- Hariyadi, R. D. 1997. Pembentukan Biofilm Bakteri Pada Permukaan Padat. *Buletin Teknogi dan Industri Pangan*. Volume VIII, Andersson. S. 2009. Characterization of Bacterial Biofilms For Wastewater Treatment, Royal Institute of Technology Stockholm
- Herlambang. A, Prasetyo. J, Said. N. I. 2002. *Teknologi Pengolahan Limbah Cair Industri*. BPPT Jakarta
- Herlambang. A. 2010. Penyisihan Amoniak dalam Upaya Meningkatkan Kualitas Air Baku PDAM-IPA Bojong Renged Dengan Proses Biofiltrasi Menggunakan Media Plastik Tipe Sarang Tawon. *Jurnal Air Indonesia*, Volume 6. No.1
- Ikhlax N. 2014. Penurunan COD Limbah Cair Tapioka Dengan Teknologi Biofilm Menggunakan Media Biofilter Susunan *Honeycomb* Potongan Bambu dan Penambahan

Effective Microorganism (EM-4). Laporan Tugas Akhir Departemen Teknik Lingkungan Universitas Diponegoro

- Ilyas, N. I. 2013. Penurunan Kadar TDS pada Limbah Tahu dengan Menggunakan Teknologi Biofilm Media Biofilter Kerikil Hasil Letusan Gunung Merapi dalam Bentuk Random, e-Journal Teknik Lingkungan. undip.ac.id
- Ingmar Nopens, Carlo Capalozza and Peter A. Vanrolleghem July 2001. Stability Analysis of A Synthetic Municipal Wastewater. Department of Applied Mathematics, Biometrics and Process Control. Coupure Links 653, B-9000 Gent, Belgium
- Jeong, S, Bae, H, Naidu. 2013. Bacterial Community Structure in a Biofilter Used as A Pretreatment for Seawater Desalination. Ecological Engineering Journal.
- Jumhana Luthfi. 2018. Akibat Air Limbah Kiriman dan Limbah Domestik, Kali Bekasi Bakal Terus Tercemar. [http:// Indopos.co.id](http://Indopos.co.id).
- Kalavrouziotis I.K., 2015, The Reuse of Municipal Wastewater in Soils, Global NEST Journal, Vol. 17, No. 3, pp 474-486, Global NEST Printed in Greece.
- Keputusan Kementerian Lingkungan Hidup Nomor 112 Tahun 2003 Tentang Baku Mutu Air Limbah Domestik
- Keputusan Menteri Negara Lingkungan Hidup Nomor 112 Tahun 2003 Tentang Baku Mutu Air Limbah Domestik Pasal 1 Ayat 1.
- Kodera H, Hatamoto. M, Abe. K, Kindaichi T, Ozaki. N, Ohashi.A. 2013. Phosphate Recovery as Concentrated Solution from Treated Wastewater by A PAO-Enriched Biofilm Reactor. Water Research 47, p: 2025-2030
- Kushwah R.K, Avinash Bajpai and Suman Malik. 2011. Characteristics of Wastewater in Sewage Treatment Plant of BHOPAL, (India). J. Chem. Pharm. Res., 2011, 3(6):766-771.
- Lai, P, Zhao. H, Zeng. M, Ni. J. 2009. Study on Treatment of Cooking Wastewater by Biofilm Reactors Combined With Zero-Valent Iron Process. Journal of Hazardous Materials 162: 1423-1429
- Laspidou. C. S, Spyrou. L. A, Aravas. N, Rittmann. B. E. 2014. Material Modeling of Biofilm Mechanical Properties. Mathematical Biosciences 251, p: 11-15
- Lee, M.C., Lin, Y. H., Yu, H.W., 2014, Kinetics of Nitrification in a Fixed Biofilm Reactor Using Dewatered Sludge-Fly Ash Composite Ceramic Particle as a Supporting Medium, Biodegradation, Vol. 25, pp 849-865
- Li. C, Li .Y, Cheng X, Feng. L, Xi. C, Zhang. Y. 2013. Immobilization of *Rhodococcus rhodochrous* BX2 (an acetone nitrile degrading bacterium) with Biofilm-Forming Bacteria for Waste Water Treatment. Bioresource Technology 131: 390-396.
- Li. X, Xing. M, Yang. J, Lu. Y. 2013. Properties of Biofilm in a Vermifiltration System for Domestic Wastewater Sludge Stabilization. Chemical Engineering Journal 223, p: 932-943
- Liu. M, Zhao. Y, Xi. B, Hou. L, Xia. X. 2014. Performance of A Hybrid Anaerobic-Contact Oxidation Biofilm Baffled Reactor for the Treatment of Decentralized Molasses Wastewater. Front. Environ. Sci. Eng. 8(4): 598-606, DOI 10.1007/s11783-013-0576-2

- Liua. X, Chunjuan Dongc. 2011. Simultaneous COD and Nitrogen Removal in A Micro-Aerobic Granular Sludge Reactor for Domestic Wastewater Treatment. Systems Engineering Procedia. International Conference on Risk and Engineering Management (REM) 1, p: 99-105.
- Maier, R. M. 2009. Environmental Microbiology, Academic Press of Elsevier, USA
- Matsumoto S, Terada A, Tsuneda. S. 2007. Modeling of Membrane Aerated Biofilm: Effects of C/N Ratio Biofilm Thickness and Surface Loading of Oxygen on Feasibility of Simultaneous Nitrification and Denitrification Biochemical Engineering Journal 37, p: 98-107.
- Mayara. A. 2018. Proses, Penyebab dan Dampak dari Eutrofikasi. Mayara30.wordpress.com
- Metcalf dan Eddy. 2003. Wastewater Engineering : Treatment and Reuse, Fourth Edition, International Edition, McGraw-Hill, New York.
- Metcalf dan Eddy. 1991. Wastewater Engineering : Treatment, Disposal, and Reuse. 3th Edition, Revised by George Tchobanoglous and Franklin. L. Burton, McGraw-Hill, New York
- Monroe D. 2007. Looking for Chinks in The Armor of Bacterial Biofilms. Biol 5(11): 307.10.1371/journal.pbio.0050307
- Munoz. A.J, Francisco Espinola, Encarnacion Ruiz. Removal of Pb(II) in A Packed-bed Column by A *Klebsiella sp.* 3S1 Biofilm Supported on Porous Ceramic Raschig Rings. Journal of Industrial and Engineering Chemistry 40 (2016) 118–127
- Nabavi, B. F. Nikaeen. M, Amin, M. M, Farrokhzadeh, A. 2013. Biological Treatment of Polychlorinated Biphenyls (PCBs) Contaminated Transformer Oil by Anaerobic-Aerobic Sequencing Batch Biofilm Reactors. Journal International Biodeterioration & Biodegradation 85 p: 451-457.
- Nadayil, J., Mohan, D., Dileep, K., Rose, M. and Parambi, R.R.P., 2015, A Study on Effect of Aeration on Domestic Wastewater, International Journal of Interdisciplinary Research and Innovations, ISSN 2348-1226 (online), Vol. 3, Issue 2, pp: 10-15, Month: April - June 2015
- Ning Y. F, Chen.Y. P, Shen Y, Zeng N, Liu S.Y, Guo J. S, Fang F. 2014. A new Approach for Estimating Aerobic-anaerobic Biofilm Structure in Wastewater Treatment via Dissolved Oxygen Micro Distribution. Chemical Engineering Journal 255, p:171-177
- Nogueira R, Lazarova V, Manem J, Melo LF, 1998, Influence of Dissolved Oxygen on the Nitrification Kinetics in A Circulating Bed Biofilm Reactor, Bioprocess Eng., Vol. 19, p: 441–449
- Nopens, I., Capalozza, C., and Vanrolleghem, P.A., 2001. Stability Analysis of A Synthetic Municipal Wastewater, Technical Report, Department of Applied Mathematics, Biometrics and Process Control. Coupure Links 653, B-9000 Gent, Belgium, p: 1-22
- Oskar W, Hermann J. E, Morgenroth. E, Noguera. D.R, Picioreanu. C, Rittmann. B.E, Mark C.M. van Loosdrecht. 2006. Mathematical Modeling of Biofilms. IWA
- Peraturan Daerah Provinsi Jawa Tengah No 5 Tahun 2012 Tentang Perubahan Atas Peraturan Daerah Provinsi Jawa Tengah No. 5 Tahun 2004 Tentang Baku Mutu Air Limbah untuk Kegiatan Industri.

- Peraturan Daerah Provinsi Jawa Tengah Nomor 5 Tahun 2012 Tentang Perubahan Atas Peraturan Daerah Provinsi Jawa Tengah Nomor 10 Tahun 2004 Tentang Baku Mutu Air Limbah
- Peraturan Menteri Lingkungan Hidup dan Kehutanan Nomor 68 Tahun 2016 Tentang Baku Mutu Limbah Domestik
- Peraturan Menteri Lingkungan Hidup Republik Indonesia Nomor 5 Tahun 2014 Tentang Baku Mutu Air Limbah
- Peraturan Menteri Pekerjaan Umum dan Perumahan Rakyat Republik Indonesia No. 04/PRT/M/2017 Tentang Penyelenggaraan Sistem Air Limbah Domestik
- Peraturan Menteri Pekerjaan Umum dan Perumahan Rakyat Republik Indonesia No. 04/PRT/M/ 2017 Tentang Penyelenggaraan Sistem Air Limbah Domestik
- Peraturan Menteri Pekerjaan Umum No. 16/PRT/M/2008 Tentang Kebijakan dan Strategi Nasional Pengembangan Sistem Pengelolaan Air Limbah Permukiman (KNSP-SPALP). Indonesia.
- Peraturan Presiden Nomor 2 Tahun 2015 Tentang Rencana Pembangunan Jangka Menengah Nasional 2015–2019
- Pipeline: Small Community Wastewater Issues Explained to the Public. 1997. Basic Wastewater Characteristics. Fall 1997, Volume 8 Nomor 4. Page: 1-8
- Pitriani, Anwar Daud, Nurhaedar Jafar. Efektivitas Penambahan EM4 pada Biofilter Anaerob-Aerob dalam Pengolahan Air Limbah RS.Universitas Hassanudin. Fakultas Kedokteran dan Ilmu Kesehatan Universitas Tadulako
- Posadas. E, García-Encinaa. P. A, Domínguezb. A, Díazb. I, Becaresc. E, Blancoc. S, Munoz. R. 2014. Enclosed Tubular and Open Algal-Bacterial Biofilm Photo Bioreactorsfor Carbon and Nutrient Removal from Domestic Wastewater. *Ecological Engineering* 67, p:156-164
- Priya. M, Meenambal. T, Balasubramanian. N, Perumal.B, 2015, Comparative Study of Treatment of Sago Wastewater Using HUASB Reactor in the Presence and Absence of Effective Microorganisms. *Procedia Earth and Planetary Science* 11(2015) 483-490. www.sciencedirect.com
- Puget F. P, Melo M.V, Massarani. G. 2000. Wastewater Treatment By Flotation. *Braz. J. Chem. Eng.* Vol.17 n.4-7 Sao Paulo Dec.
- Pulcini D. L. E, 2001, Bacterial Biofilms: A Review of Current Research, *Néphrologie*, vol. 22(8), p. 439-441
- Rahayu, S.S., Purwanto, P., Budiyo, 2015, Anaerobic Sequencing Batch Reactor in Pilot Scala for Treatment of Tofu Industry Wastewater, *AIP Conference Proceeding*, Volume 1699, Issue 1
- Rajabzadeh A. R, Legge R. L, Weber. K. P. 2015. Multiphysics Modelling of Flow Dynamics, Biofilm Development and Wastewater Treatment in a Subsurface Vertical Flow Constructed Wetland Mesocosm. *Ecological Engineering* 74, p: 107-116
- Rebah. F.B, Kantardjieff. A, Yezza. A, Jones. J.P, 2010. Performance of Two Combined Anaerobic-Aerobic Biofilters Packed with Clay or Plastic Media for the Treatment of Highly Concentrated Effluent. *Desalination* 253 (2010) 141–146

- Reynolds K. 2008. New Clues in Understanding Biofilm Formation. *Water Conditioning and Purification*.
- Rivas J, Prazeres A. R, Carvalho F and Beltrán F. 2010. Treatment of Cheese Whey Wastewater: Combined Coagulation-Flocculation and Aerobic Biodegradation. *J. Agri. Food Chem.* 58 (13) p: 7871-7877.
- Robio. J, Carrissimi. E, Rosa J. J. 2007. Flotation in Water and Wastewater Treatment and Reuse: Recent Trends in Brazil. *Int. J. Environment and Pollution*, Vol. 30, No. 2, p: 193
- Ruiz-Marín, A., Garcia, S.C., Loria, J.Z., Solana, F. and López, Y.P., 2009, Assessment of *Luffa cylindrica* as Support in Biofilms Reactors for the Biological Treatment of Domestic Wastewater, *Water Air Soil Pollutan*, Vol. 199, pp: 13–21
- Sabbah, K., Baransia, N. Massalmaa, A. Dawasa, I. Saadic, A. Nejidatd. 2013. Efficient Ammonia Removal from Wastewater by a Microbial Biofilm in Tuff-based Intermittent Biofilters. *Ecological Engineering* 53, p: 354-360
- Safwat M. Safwat, 2018. Performance of Moving Bed Biofilm Reactor Using Effective Microorganisms. *Journal of Cleaner Production*. PII: S0959-6526(18)30692-9.
- Said, N. I. 2008. Uji Performance Biofilter Anaerobik Unggun Tetap Menggunakan Media Biofilter Sarang Tawon Untuk Pengolahan Air Limbah Rumah Potong Ayam. *Jurnal Air Indonesia* Vol. 1.
- Salmani, M. H., Davoodi. M., Ehrampoush. M. H, Ghaneian M. T, Fallahzadah M. H. 2013. Removal of Cadmium (II) From Simulated Wastewater by Ion Flotation Technique. *Iranian J. Environ Health Sci Eng.* 10 (1): 16.
- Sastrawidana D. K dan Sukarta. I. N. 2013. Uji Coba Teknologi Biofilm Konsorsium Bakteri Pada Reaktor Semi Anaerob-Aerob Untuk Pengolahan Air Limbah di Industri Pencelupan Tekstil Skala Rumah Tangga. *Jurnal Sains dan Teknologi* ISSN: 2303-3142 Vol. 2, No. 1 Edisi April.
- Satmoko Y, dan Said N. I. 2006. Rancang Bangun Instalasi Pengolahan Air Limbah Rumah Potong Hewan (RPH) Ayam dengan Proses Biofilter. *Jurnal Air Indonesia* Vol. 2, No.1 Pusat Pengkajian dan Penerapan Teknologi Lingkungan Jakarta.
- Schlegel S. and Koester, H., 2007, Wastewater Treatment with Submerged Fixed Bed Biofilm Reactor System-Design Rules, Operating Experiences and on going Developments, *Water Sci. Technol*, Vol. 55, pp 83–89
- Shahmansouri, M. R., Taghipour, H., Bina, B., Movahedian, H, 2005, Biological Removal of Ammonia from Contaminated Air Streams Using Biofiltration System, *Iranian Journal Environmental Health Science Engineering*, Vol. 2, No. 2, pp.17-25
- Sheng C, Suna. D, Chunga. S. J. 2007. Treatment of Pesticide Wastewater by Moving-Bed Biofilm Reactor Combined With Fenton-Coagulation Pretreatment. *Journal of Hazardous Materials* 144, p: 577-584.
- Si X, Quan. X dan Wu. Y. 2015. A Small-molecule Norspermidine and Norspermidine-Hosting Polyelectrolyte Coatings Inhibit Biofilm Formation by Multi-Species Wastewater Culture. *Appl. Microbiol Biotechnol.* DOI 10.1007/s00253-015-6943-0, Edisi Agustus.

- Sihotang, R. 2012. Penurunan Kadar BOD Dan Amonia Dalam Limbah Domestik Dengan Teknologi Fito-Biofilm Menggunakan Tumbuhan Duckweed (*Lemna minor*) Dengan Media Biofilter Random. E- Journal Teknik Lingkungan. undip.ac.id
- SNI (Standar Nasional Indonesia) 06-6989.11-2004 Tentang Bagaimana mengukur derajat keasaman (pH) dengan menggunakan pH meter.
- SNI (Standar Nasional Indonesia) 06-6989.23-2005 Bagian 23 Tentang Bagaimana mengukur Suhu dengan Termometer.
- SNI ((Standar Nasional Indonesia) 06-6989.3-2004 Air dan Air Limbah Bagian 3 Tentang Bagaimana mengukur TSS dengan Gravimetri.
- SNI ((Standar Nasional Indonesia) 6989.2-2009 Air dan Air Limbah Bagian 3 Tentang Bagaimana mengukur COD dengan Spektrofotometer.
- SNI ((Standar Nasional Indonesia) 6989.59: 2008 Air dan Air Limbah Bagian 59 Tentang Bagaimana melakukan sampling air limbah.
- SNI ((Standar Nasional Indonesia) 6989.72.2009 Air dan Air Limbah Bagian 72 Tentang Bagaimana mengukur BOD pada air limbah.
- Sudarno, Samodra. G, Nugroho, H. 2013. Kajian Potensi Eutrofikasi Pada Waduk Pendidikan UNDIP. Laporan Penelitian Strategis Hibah Bersaing Fakultas Teknik UNDIP.
- Sudarno, U., Bathe, S., Winter, J., and Gallert, C., 2010, Nitrification in Fixed-Bed Reactors Treating Saline Wastewater, Appl Microbiol Biotechnol, Vol 85, p: 2017–2030
- Sukacova. K, Trilek M, Rataj. T. 2015. Phosphorus Removal Using A microalgal Biofilm in A new Biofilm Photobioreactor for Tertiary Wastewater Treatment. Water Research 71, p: 55-63
- Sumiyati. S, Sutrisno. E, Nurhayati O. D. 2012. Teknologi Fito-Biofilm Sebagai Pengolah Air Limbah Dalam Menunjang Air Perikanan di Pedesaan. Laporan Penelitian Teknologi Tepat Guna Hibah Bersaing Fakultas Teknik UNDIP.
- Sumiyati. S, Sutrisno. E, Sudarno. 2014. Karakteristik Biofilm Pada Pengolahan Limbah Tahu Dengan Kerikil Vulkanik Merapi. Prosiding Seminar Nasional Pengelolaan Sumber Daya Alam dan Lingkungan: Pembangunan Berkelanjutan dalam Perspektif Ketahanan Energi, Pengelolaan Lingkungan dan Pengelolaan Bencana. PS Ilmu Lingkungan Undip.
- Sumiyati. S, Sutrisno. E, Sudarno. 2014. Prosiding Seminar Nasional Teknologi Industri Hijau I: Litbangnya Untuk Mendukung Realisasi Industri Hijau. Grand Candi Semarang. Kementerian Perindustrian BBT PPI Jawa Tengah.
- Syafrudin. 2013. Pengolahan Air Limbah Domestik Tipe Grey Water Menggunakan Reaktor Upflow Anaerobic Sludge Blanket (UASB). E-Journal undip.ac.id
- Ukiwel. N, Ibeneme S. I, Duru C. E, Okolue B. N, Onyedika G. O, Nweze C. A. 2014. Chemical and Electrocoagulation Techniques in Coagulation-Flocculation in Water and Wastewater Treatment-A Review. IJRRAS 18 (3) March
- Undang-Undang Nomor 32 Tahun 2009 Tentang Perlindungan dan Pengelolaan Lingkungan Hidup. Indonesia.
- Undang-undang Nomor 23 Tahun 2014 Tentang Pemerintahan Daerah Indonesia

- Utomo Sudarno, Stephan Bathe, Josef Winter and Claudia Gallert. Nitrification in fixed-bed reactors treating saline wastewater. *Appl Microbiol Biotechnol* (2010) 85:2017–2030.
- Utomo. K. 2006. Penyisihan COD, BOD, TSS, Ammonia Menggunakan Proses Biofilter Tercelup Dengan Media Bioball Secara Aerob (Studi Kasus Air Limbah Domestik Waduk Setiabudi Jakarta Selatan). Laporan Tugas Akhir PS Teknik Lingkungan Undip.
- Warner. O, Eberl. H. J, Morgenroth. E, Noguera. D. R, Picioreanu. C, Rittmann. B. E, Loosdrecht. M. C. M. 2006. *Mathematical Modeling of Biofilm*. IWA-Publishing.
- Wei, Q, Zhiguan. G. 2008. Removing Nitrogen and Phosphorus Simulated Wastewater Using Algal Biofilm Technique. *Front. Environ. Sci. Engin. China*. 2008. 2(4) p: 446-451
- Wesley S. G, Satheesh S. 2009. Temporal Variability of Nutrient Concentration in Marine Biofilm Developed on Acrylic Panels. *Journal of Experimental Marine Biology and Ecology*. Volme 379, p: 1-7.
- Widayat, W. and Said, N.I., 2005, Application of Bioball for Biofilter Media Case Study of Jeans Laundry Waste Treatment. *JAI*, No. 1, Vol. 1, BPPT, Jakarta Indonesia
- Yahya, F. 2010. Studi Pengolahan Air Limbah Domestik Dengan Biofilter Aerasi Menggunakan Media Bioball dan Enceng Gondok. *Teknologi Lingkungan ITS Surabaya*
- Yetilmezsoy. K, Ilhan. F, Zengin Z. S, Sakar S, Gonullu M. T. 2009. Decolorization and COD Reduction of UASB Pretreated Poultry Manure Wastewater by Electrocoagulation Process: A Post-Treatment Study. *Journal of Hazardous Materials* 162 p: 120–132.
- Yettefti, K. I. Etahiri, S., Malamis, D., Assobhei .O. 2013. Slow Sandfiltration of Effluent from an Anaerobic Denitrifying Reactor for Tertiary Treatment: a Comparable Study, Using Three Moroccan Sands. *Carpathian Journal of Earth and Environmental Sciences*. Volume 8, Issue 3 p: 207-218.
- Zhang. W, Liu. Y.Y, Warren. A, Xu. H. 2014. Insights Into Assessing Water Quality Using Taxonomic Distinctness Based on a Small Species Pool of Biofilm-Dwelling Ciliate Fauna in Coastal Waters of the Yellow Sea, Northern China. *Marine Pollution Bulletin* 89, p: 121–127.