Staff Handbook

Name	**Dr. Anna Rakhmawati, S.Si., M.Si.**		
Post	Associate Professor in Microbiology		
Academic career	Teaching staff	Dept. of Biology Education, Universitas Negeri Yogyakarta	2001
	Doctorate Degree (Biotechnology)	The Graduate School, Universitas Gadjah Mada	2017-2021
	Master Degree (Microbiology)	Faculty of Natural Sciences and Mathematics, Universitas Indonesia	2000-2004
	Bachelor degree (Biology)	Faculty of Biology, Universitas Gadjah Mada	1995-1999
Employment	**Position**	**Employer**	**Period**
	Teaching staff (Microbiology)	Ministry of Higher Education, Science, and Technology, Republic of Indonesia	2001-now

Research and development projects over the last 5 years	Year	Topic	Funding	
			Source	Amount (Rp.)
	Research Experiences			
	2020	Physiology and Molecular Basis of Lead (Pb) Tolerance in Thermophilic Bacteria	Indonesia Endowment Fund for Education	65.000.000
	2021	Potential of Thermophilic Bacteria as Bioremediator Agents for Lead (Pb)	Universitas Gadjah Mada	60.000.000
	2022	Development of Indigenous Indonesian Bacteria for Biodegradation of Mask Waste	Ministry of Higher Education, Science, and Technology, Republic of Indonesia	123.000.000
	2022	Bioremediation of Environments Contaminated with Organophosphate Pesticides Using Indigenous Indonesian Bacteria	Universitas Negeri Yogyakarta	24.000.000
	2022	Antibacterial and Antibiofilm Potential of Sambiloto (*Andrographis paniculata*) Leaf Extract as a Preventive Measure Against Pathogenic Bacterial Resistance to Antibiotics	Universitas Negeri Yogyakarta	20.000.000
	2022	Molecular Characterization of Polyethylene-Degrading Bacterial Consortium from the Digestive Tract of Plastic-Eating Insect Larvae	Universitas Negeri Yogyakarta	20.000.000

	2022	Exploration of Gold Hyperaccumulator Plant Species with Potential as Phytomining Agents on Former Gold Mine Sites	Universitas Negeri Yogyakarta	50.000.000
	2022	Management of Vegetable, Fruit, and Livestock Waste through the Production of Liquid Organic Fertilizer Based on Local Microorganisms	Universitas Negeri Yogyakarta	50.000.000
	2022	Identification of Heavy Metal Chromium (Cr) in Three Rivers Flowing Through Yogyakarta City and Its Phytoremediation Potential	Universitas Negeri Yogyakarta	20.000.000
	2022	Volatile Organic Compound Analysis of Durian Infected by Phytophtera palmivora as Early Detecting Method Approach	Universitas Negeri Yogyakarta and Islamic International University Malaysia	50.000.000
	2023	Marine Bacterial Colonization on Various Types of Plastic Polymers: Initial Efforts for Plastic Waste Processing in the Ocean	Universitas Negeri Yogyakarta	24.000.000
	2023	Discrimination of Volatile Organic Compounds with Different Invasive Severities and Soil Profiles in Durian Infected with Phytophthora palmivora. 2023.	Universitas Negeri Yogyakarta and Islamic International University Malaysia	50.000.000
	2023	Bioleaching on Refractory Gold Mining Tailings in Ratatotok, North Sulawesi Using Local Bacteria	Ministry of Higher Education, Science, and Technology, Republic of Indonesia	112.900.000
	2023	Analysis of the Role of Rhizosphere Bacteria in *Pteris vittata* L. as a Potential Hyperaccumulator Plant for Phytomining Agents on Former Gold Mine Sites	Universitas Negeri Yogyakarta	50.000.000
	2023	Bioprospection of Densely Fermented Legumes by Superior Isolates of *Monascus purpureus* Inacc F1 and InaCC F147 as Protease Enzyme Producers and Nutrasetical Food Source	National Research and Innovation Agency	55.000.000
	2024	Characterization of Plastisphere Fungi with Potential as Degradative Agents of Mask Waste	Universitas Negeri Yogyakarta	45.000.000

	2024	Utilization of Local Microorganisms from Market Organic Waste for the Production of Environmentally Friendly Solid and Liquid Fertilizers	Universitas Negeri Yogyakarta	30.000.000
	2024	Utilization of Adaptive Laboratory Evolution Method in Monitoring Resistance Trends of Pathogenic Microbes to Jackfruit Leaf Extract, Silver Nanoparticles, and Antibiotics	Universitas Negeri Yogyakarta, Universitas Airlangga, Institut Teknologi Bandung	250.000.000
	2024	Utilization of Indigenous Indonesian Bacteria for Mask Waste Management	National Research and Innovation Agency and Indonesia Endowment Fund for Education	109.000.000
	2024	Development of Indigenous Indonesian Plastisphere Fungi Producing Esterase for Diisobutyl Phthalate Degradation	Ministry of Higher Education, Science, and Technology, Republic of Indonesia	131.400.000
	2024	Conversion of Organic Waste from Coastal Areas and Small Islands into Biogas to Meet Domestic Energy Needs	Ministry of Higher Education, Science, and Technology, Republic of Indonesia	138.890.000
	2024	Bioleaching of Refractory Gold Mining Tailings in the Ratatotok Area, North Sulawesi Using Local Bacteria	Ministry of Higher Education, Science, and Technology, Republic of Indonesia	119.970.000
	2024	Toxicity Assessment And Biodegradation of Diisobutyl Phthalate Using Laccase Produced By Marine Plastisphere Fungi	Universitas Negeri Yogyakarta and Chulalongkorn University Thailand	60.000.000
	2025	Effect of Inducing Different Rhizobacteria Species on the Capability of *Pteris vittata* L. as a Potential Hyperaccumulator Plant for	Universitas Negeri Yogyakarta	30.000.000

		Gold Phytomining on Former Mine Sites		
	2025	Development of Indigenous Indonesian Plastisphere Fungi with Potential as Plastic Waste Degrading Agents	Universitas Negeri Yogyakarta and Delft University	52.000.000
	2025	Utilization of Indigenous Indonesian Bacteria for Mask Waste Management	National Research and Innovation Agency and Indonesia Endowment Fund for Education	111.000.000
	2025	Induction of Rhizobacteria and Compost Fertilizer in Phytomining of Low-Grade Ore in Gold Mining Areas Using Local Plants	Ministry of Higher Education, Science, and Technology, Republic of Indonesia	138.750.000
	Community Services Experiences			
	2022	Training on Compost and Handicraft Production as an Effort to Optimize the Processing of Leaf Waste from Ecoprint Residues in Bugel Village, Panjatan District, Kulonprogo	Universitas Negeri Yogyakart	8.000.000
	2022	Training on the Production of Various Processed Chili and Shallot Products as an Effort to Increase the Market Value of Agricultural Products and Empower Housewives in Bugel Village, Panjatan District, Kulonprogo, Yogyakarta Special Region	Universitas Negeri Yogyakarta	7.500.000
	2023	Training on Food Hygiene and Sanitation as an Effort to Improve Public Health in Bugel Village, Panjatan District, Kulonprogo, Yogyakarta Special Region	Universitas Negeri Yogyakarta	8.000.000
	2024	Workshop on Identifying Potential Food Hazards as an Effort to Support the SDGs for Healthy and Prosperous Lives	Universitas Negeri Yogyakarta	25.000.000
	2024	Maggot Farming Training to Improve Community Skills in Household Organic Waste Management and Create Business Opportunities in Umbulmartani Village, Ngemplak, Sleman, Yogyakarta Special Region	Universitas Negeri Yogyakarta	8.000.000

	2025	Application of Environmental Microbiology for Conservation and Waste Management in the Sendang Sombomerti Tourism Area	Universitas Negeri Yogyakarta	10.000.000
Industry collaborations over the last 5 years	Project title : - Partners : -			
Patents and proprietary rights	**Title**			**Year**
	Method for Making Antibacterial Suede Lambskin			2020
	Method for Making Stain-Resistant and Antibacterial Polyester Fabric			2020
	Artistic Design of Pottery Ornament Motifs Based on Ecoprint Waste			2023
	The Dynamics of COVID-19 in the Fields of Agriculture, Communication, Education, Economy, and Health			2023
	Student Worksheet for Project-Based Learning Based on the Local Potential of the Gandong River on Water Pollution Material for Senior High School Students, Phase E			2023
	Student Worksheet (LKPD) for Problem-Based Learning (PBL) on Water Pollution Material for Senior High School Students, Phase E			2024
	Video of Chemical Contamination Testing on Food Materials			2024
	Biodegradation Process of Mask Waste Using Local Bacteria in Mangrove Sediment			2024
	Pocket Book on Maggot Farming for Kitchen Waste Management			2025
	Guidebook on Plastisphere Fungi from Indonesian Coastal Areas: Isolation Techniques and Macroscopic and Microscopic Identification			2025
Important publications over the last 5 years	**International Conventions/Workshops/Seminars**			
	Preliminary Evaluation of The Face Masks Degradation in Seawater and Mangrove Water (Authors: Anna Rakhmawati, Bernadetta Octavia, Siti Marwati)		2025	AIP Conf. Proc. 3186, 010002
	Publications in International Journals			
	Enhancement Antifungal Activity And Mechanical Properties Of Pickle Leather Composited with Silver Nanoparticle (Authors: Eli Rohaeti, Carissa Ayu Susiana, Kun Sri Budiasih, Anna Rakhmawati, Emiliana Kasmudjiastuti, Eko Nuraini) http://sersc.org/journals/index.php/IJAST/article/view/26111		2020	International Journal of Advanced Science and Technology, Vol. 29, No. 8, pp.3914-3924 ISSN: 2005-4238 (Print)
	The use of Cyprinus kyllinga extract in synthesis of silver nanoparticle to enhance quality of goat leather (Authors: Eli		2020	Periodico Tche Quimica,

	Rohaeti, Nur Isna Melati Putri, Kun Sri Budiasih, Anna Rakhmawati) http://www.deboni.he.com.br/Periodico36.pdf		2020, vol 17 no 36, ISSN: 1806-0374
	Formulation and Antifungal Activities of Syzygium Aromaticum Essential Oil Contained in Natural Bath Soap (Authors: Sri Handayani, Susila Kristianingrum, Anna Rakhmawati, Melati Khairuddean) http://dx.doi.org/10.26452/ijrps.v11iSPL4.4354	2020	Int. J. Res. Pharm. Sci., 2020, 11 (SPL4), 1663-1669
	Potential application of thermophilic bacterium *Aeribacillus pallidus* MRP280 for lead removal from aqueous solution (Authors: Anna Rakhmawati, Endang Tri Wahyuni, Triwibowo Yuwono) https://doi.org/10.1016/j.heliyon.2021.e08304	2021	Heliyon, 2021,Volume 7, Issue 11, e08304. ISSN 2405-8440
	Thermophilic bacteria isolated from Mount Merapi, Java, Indonesia as a potential lead bioremediation agent (Authors: Anna Rakhmawati, Endang Tri Wahyuni, Triwibowo Yuwono) https://doi.org/10.13057/biodiv/d220612	2021	Biodiversitas, Vol. 22 No.6 ISSN 1412-033X
	Lead uptake capacity of thermophilic bacteria *Aeribacillus pallidus* strains isolated from Merapi volcano, Indonesia (Authors: Anna Rakhmawati, Endang Tri Wahyuni, Triwibowo Yuwono) https://doi.org/10.7845/kjm.2021.1018	2021	Korean Journal of Microbiology, Vol. 57 no. 2 pISSN 0440-2413, eISSN 2383-9902
	Antimicrobial Activity and Chemical Composition Analysis of *Jasminum sambac* L and *Plumeria alba* L Flowers (Author: Anna Rakhmawati) http://www.doi.org/10.26538/tjnpr/v1i4.5	2022	Tropical Journal of Natural Product Research, Vol: 6 No.: 3 ISSN/ISBN: ISSN: 2616-0684 (Print) ISSN: 2616-0692 (Online)
	Low-density polyethylene sheet biodegradation by *Tenebrio molitor* and *Zophobas morio* larvae and metagenome studies on their gut bacteria (Authors: Bernadetta Octavia, Anna Rakhmawati, Suhartini, Luthfia Dwi Rachmani, Titan Dwikama Putra) https://smujo.id/biodiv/article/view/13059/6543	2023	Biodiversitas, Vol 24 No 21412-033X, E-ISSN: 2085-4722

	Lithogeochemical characteristics and potential hyperaccumulator identification as phytomining agent at the Ratatotok gold mine, Indonesia (Authors : Tien Aminatun, Anna Rakhmawati, Arifudin Idrus, Doly Simbolon, Sri Atun) https://doi.org/10.15243/jdmlm.2024.112.5251	2024	Journal of degraded and mining lands management Vol. 11, Number 2 , 5251-5261, ISSN: 2339-076X (p); 2502-2458 (e)
	Characteristics of rhizobacteria in potential hyperaccumulator vegetation and their resistance to gold mine tailing stress (Authors: Tien Aminatun, Anna Rakhmawati, Sri Atun, Arifudin Idrus, Doly Risdo Simbolon, Laode Restele) https://doi.org/10.24425/jwld.2024.149122	2024	Journal of Water and Land Development, No. 60 (I–III): 209–218
	Bacterial Diversity of Discarded Face Masks from Landfills, Mangroves, and Beaches, in Java, Indonesia (Authors: Anna Rakhmawati, Bernadetta Octavia, Siti Marwati) https://doi.org/10.54319/jjbs/170117	2024	Jordan Journal of Biological Sciences, Vol.17, Number 1, ISSN 1995-6673: 173– 184
	Potency of Face Mask-Degrading Bacteria Isolated from Parangtritis Beach, Yogyakarta, Indonesia (Authors: Anna Rakhmawati, Bernadetta Octavia, Siti Marwati) https://ijs.uobaghdad.edu.iq/index.php/eijs/article/view/8880/6315	2024	Iraqi Journal of Science, Vol. 65, No. 11
	Bacterial profiling of mask waste from terrestrial and marine environment (Authors: Anna Rakhmawati, Bernadetta Octavia, Siti Marwati, Dita Kristanti) https://doi.org/10.22034/gjesm.2024.04.13	2024	Global Journal of Environmental Science and Management, 10(4): 1701-1718
	Role of plant growth promoting rhizobacteria on *Pteris vittata* L. as a potential hyperaccumulator plant for gold phytomining agent (Authors: Tien Aminatun, Anna Rakhmawati, Sri Atun, Arifudin Idrus, Arsyad Sujangka) https://doi.org/10.15243/jdmlm.2025.122.7217	2025	Journal of Degraded and Mining Lands Management, Vol. 12, Number 2
	Mapping the Diversity of Beach Fungal Plastisphere: Insights from Metagenomic Approaches (Authors : Anna Rakhmawati, Bernadetta Octavia, Tien Aminatun, Kun Sri Budiasih, Dita Ariyanti)	2025	Trends in Sciences, 2025, 22(5), 9575

	https://doi.org/10.48048/tis.2025.9575		
	Microbial Dynamics and Nutrient Transformation in Liquid Organic Fertilizer Produced from Organic and Manure Waste (Authors: Suhartini, Bernadetta Octavia, Anna Rakhmawati, Luthfia Dwi Rachmani ,Titan Dwikama Putra) https://doi.org/10.17957/IJAB/15.2375	2025	International Journal of Agriculture & Biology ISSN Print: 1560–8530; ISSN Online: 1814–9596 25–326/2025/ 34:340403
	Publications in National Journals		
	Organism Diversity in the Rhizosphere of Siam Weed in Volcanic, Coastal, and Karst Lands (Authors: Tien Aminatun, Siti Umniyatie, Anna Rakhmawati, Aji Suhandy, Nrangwesthi Widyaningrum, Kurnia Cahyani http://dx.doi.org/10.21831/jps.v26i1.38754	2021	Jurnal Penelitian Saintek, Vol. 26, Nomor 1, (1-16)p-ISSN 1412-3991e-ISSN 2528-7036
	Assessing soil bacterial community response to organophosphate pesticides in agricultural field of Yogyakarta, Java, Indonesia (Authors: Anna Rakhmawati, Bernadetta Octavia, Suhartini, Tien Aminatun) https://doi.org/10.24815/jn.v23i3.31263	2023	Jurnal Natural, Vol 23 No 3 ISSN: 1411-8513 (printed); 2541-4062 (online)
	Diversity of Earthworms in Rice Fields Contaminated with Pesticide Residues (Authors: Nur Rizki Putri Ramadhanti,Tien Aminatun, Anna Rakhmawati, Bernadetta Octavia, Suhartini) http://dx.doi.org/10.21831/jsd.v12i1.58953	2023	Jurnal Sains Dasar, Vol 12 No 1, Printed ISSN (p-ISSN): 2085-9872 Online ISSN (e-ISSN): 2443-1273
	Diversity of Bacteria with Potential as Degrading Agents for Polypropylene-Based Mask Waste Isolated from Parangtritis and Tanjung Pasir Beaches (Authors: Madda Nur Abidin, Anna Rakhmawati) http://dx.doi.org/10.21831/jsd.v12i2.66032	2023	Jurnal Sains Dasar, Vol 12 No 2Printed ISSN (p-ISSN): 2085-9872Online ISSN (e-ISSN): 2443-1273
	Training on Compost and Handicraft Production as an Effort to Optimize the Processing of Leaf Waste from Ecoprint Residues in Bugel Village, Panjatan District, Kulonprogo, Yogyakarta Special Region (Authors: Tien Aminatun, Kun Sri Budiasih,	2023	Jurnal Pengabdian Masyarakat MIPA dan Pendidikan

	Suhartini, Bernadetta Octavia, Anna Rakhmawati, Rizka Apriani Putri) http://dx.doi.org/10.21831/jpmmp.v7i1.56764		MIPA, Vol 7 No 2, pp 132-137
	Identification of Heavy Metal Chromium in Three Rivers Flowing Through Yogyakarta City and Its Phytoremediation Potential (Authors: Tien Aminatun, Anna Rakhmawati, Kun Sri Budiasih, Marfuatun, Baso Samsu Rijal, Abdullah Nashih Amin, David Meilana Nur Arifin, Ajeng Septiana Putri) https://doi.org/10.14710/jil.22.3.620-631	2024	Jurnal Ilmu Lingkungan, vol. 22, no. 3, pp. 620-631
	Website-Based Learning Media in High School Biology Learning on Genetic Substance Material (Authors: Ega Safitri, Anna Rakhmawati) https://doi.org/10.23887/jppp.v8i3.79445	2024	Jurnal Penelitian dan Pengembangan Pendidikan (JPPP), Volume 8, Number3, pp. 586-592P-ISSN: 1979-7109E-ISSN: 2615-4498
	Analysis the quality of critical thinking and creativity questions in high school biology subjects with the Rasch model (Authors: Tasya Novian Indah Sari, Anna Rakhmawati) https://doi.org/10.22219/raden.v4i1.3	2024	Research and Development in Education (RaDEn), 4(1), 602-616.
	Potential of Fungal Isolates from TPST Piyungan as Biodegraders of Low-Density Polyethylene (LDPE) Plastic Waste (Authors: Akhmad Taufiq, Alyaa Khairunisa Putri, Septiana Putri Harlinawati, Sidiq Bayu Setyawan, Anna Rakhmawati) https://doi.org/10.47349/jbi/20022024/141	2024	Jurnal Biologi Indonesia, Volume 20 Number 2 : 141-149P-ISSN 0854-4425 E-ISSN 2338-834X
	Maggot Farming Training to Enhance Community Skills in Household Organic Waste Management and Create Business Opportunities in Umbulmartani Village, Ngemplak, Sleman (Authors: Bernadetta Octavia, Anna Rakhmawati, Tien Aminatun, Suhartini,Fera Aulia) http://dx.doi.org/10.21831/jpmmp.v9i1.82730	2025	Jurnal Pengabdian Masyarakat MIPA dan Pendidikan MIPA, Vol 9 No 1, pp 132-137
	Effectiveness of PjBL Worksheet Based on Local Potential to Improve Critical and Creative Thinking Skills of Phase E High School Students (Authors: Tasya Novian Indah Sari, Anna Rakhmawati, Hanifa Rizky Rahmawati)	2025	Journal of Innovation in Educational and Cultural Research

	https://doi.org/10.46843/jiecr.v6i1.1836		(JIECR), Vol 6 issue 1 P-ISSN 2722-9688 | E-ISSN 2722-9696
	The Development Electronic Magazine Based on Contextual Teaching And Learning to Increase Logical Thinking Skills and Curiosity of Students on Body Defense System Learning Material (Authors: Elsa Ferella, Anna Rakhmawati, Adhan Efendi) https://dx.doi.org/10.24815/jpsi.v13i1.40832	2025	Jurnal Pendidikan Sains Indonesia (ndonesian Journal of Science Education), 13(1), p.14-35 e-ISSN: 2615-840X p-ISSN: 2338-4379
	Quality of Critical Thinking, Communication, Collaboration and Creativity Skills: Survey of High School Students in Biology Learning (Authors: Tasya Novian Indah Sari, Anna Rakhmawati, Dwi Ratnawati, Nunuk Purwanti, Yulianti) https://doi.org/10.32502/didaktikabiologi.v9i1.185	2025	Didaktika Biologi: Jurnal Penelitian Pendidikan Biologi, 2025, 9(1), 41–54.
Activities in specialist bodies over the last 5 years	Organisation Role Period Office of Environment and Forestry, Document Preparation Team for the Emergency Program on the Management of Hazardous and Toxic Substances (B3) and/or B3 Waste in East Nusa Tenggara Province (NTT), 2024 - - -		