



DEPARTMENT OF FOOD & AGRICULTURAL PRODUCT TECHNOLOGY

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STAFF HANDBOOK

Name	Dr.rer.nat. Lucia Dhiantika Witasari, S.Farm., Apt., M. Biotech.		
Post	Molecular Biotechnology in Food and Agricultural Product Applications		
Academic career	Doctoral Degree (Science)	Technische Universität München (TUM), Germany	2013-2019
	Master Degree (Biotechnology)	Universitas Gadjah Mada, Indonesia	2007-2009
	Undergraduate Degree (Pharmacy)	Universitas Gadjah Mada, Indonesia	2002-2006
Employment	Lecturer	Universitas Gadjah Mada, Indonesia	2015-present
Research and development projects over the last 5 years	No	Title of Research and Development Projects	
	1	Aflatoxin B1 degrading enzyme from <i>Aspergillus oryzae</i> KKB4: a comprehensive study from genomic, proteomic to function Period: 2024 Amount of Financing: 60 million rupiah Personnel: Lucia Dhiantika W , Retno I, FMC Sigit S	
	2	Enzymatic interesterification of red palm oil (RPO) using thermostable lipase for the formulation and production of zero trans shortening high in phytonutrients Period: 2024 Amount of Financing: 107.39 million rupiah Personnel: Lucia Dhiantika W , Retno I	
	3	Identification, cultivation, development, and bioprospection of Indonesian native edible mushrooms as an effort to preserve biodiversity and improve national food security and health Period: 2023 Amount of Financing: 65 million rupiah Personnel: Sari Darmasiwi, Lucia Dhiantika W	
	4	Expression, characterization, and 3D structural modeling of thermostable recombinant neutral protease (NPR) enzymes from the thermophilic bacterium <i>Geobacillus</i> sp. DS3 Period: 2022 Amount of Financing: 30 million rupiah	



		Personnel: Lucia Dhiantika W	
	5	Bioprospecting of termite fungus combs: antioxidant, antimicrobial, and anticancer activities of termite fungus combs Period: 2022 Amount of Financing: 50 million rupiah Personnel: Lucia Dhiantika W	
	6	Cloning of the thermostable beta-galactosidase enzyme gene from the indigenous thermophilic bacterium <i>Brevibacillus</i> sp. for lactose-free milk production Period: 2020, 2021 Amount of Financing: 75 million rupiah Personnel: Lucia Dhiantika W	
	7	Purification of glucomannan from porang flour (<i>Amorphophallus muelleri</i> Bl.) through enzymatic liquefaction using thermostable amylase Period: 2020 Amount of Financing: 15 million rupiah Personnel: Lucia Dhiantika W	
Industry collaborations over the last 5 years	No	Industry	Year
Patents and proprietary rights	No	Title	Year
	1	Encapsulation of Red Palm Oil (RPO) Using Porous Starch from Ganyong Tubers (<i>Canna Edulis</i> Kerr.)	2024
	2	Enzymatic interesterification of red palm oil using Lipozyme TL IM	2024
	3	Porous starch from arrowroot (<i>Maranta arundinacea</i> L.) and its manufacturing process	2023
	4	Porous starch from ganyong (<i>Canna edulis</i> Kerr.) and its manufacturing process	2023
	5	Technology for producing edible films based on porang glucomannan and sorbitol	2023
	6	Performing SDS-PAGE (Sodium dodecyl sulfate polyacrylamide gel electrophoresis)	2021
	7	DNA Cloning	2020
	8	Agarose Gel Electrophoresis	2020
	9	Recombinant <i>Escherichia coli</i> producing thermostable alpha-amylase enzyme from <i>Brevibacillus</i> sp.	2020
Important publications over the last 5 years	Selected recent publications		
	1	Witasari, L. D. , Nistrina, S., Yani, A. I. T., Heryadi, A. A., & Pranoto, Y. (2024). Characterization of porous starch produced from arrowroot (<i>Maranta arundinacea</i> L.) by enzymatic hydrolysis with α -amylase and glucoamylase.	



	Carbohydrate Polymer Technologies and Applications, 7:100445. https://doi.org/10.1016/j.carpta.2024.100445 .
2	Witasari, L. D. , Heryadi, A. A., Yani, A. I. T., Nisrina, S., Purwitasari, L., & Pranoto, Y. (2024). Characterization of porous starch produced from edible canna (<i>Canna edulis Kerr.</i>) via enzymatic hydrolysis using thermostable α -amylase and glucoamylase. Biocatalysis and Agricultural Biotechnology, 55, 102990. https://doi.org/10.1016/j.bcab.2023.102990 .
3	Hermawan, S., Jefferson, C., Hertanto, D. M., Sudiana, K., Hernugrahanto, K. D., Utomo, D. N., Budhiparama, N. C., Nurhan, A. D., Rahmadi, M., Nandika, D., Karlinasari, L., Arinana, Batubara, I., Witasari, L. D. , Rachmayanti, Y., Firmasyah, D., Karim, S. A., Ariffin, I. A., & Santoso, D. (2024). Ethyl acetate extract of fungus comb from Malayan termite (<i>Macrotermes gilvus</i> Hagen) mound modulates splenic inflammatory responses in mice. Open Veterinary Journal, 14(9): 2269-2279. https://doi.org/10.5455/OVJ.2024.v14.i9.15 .
4	Iskandar, N. F., Cahyono, L. B., Harmayani, E., & Witasari, L. D. (2024). High purity glucomannan after ultrasonic-assisted extraction and α -amylase liquefaction of porang (<i>Amorphophallus oncophyllus</i>) flour. Food Research, 8(3): 242-251. https://doi.org/10.26656/fr.2017.8(3).212 .
5	Tamimi, K. A., Hidayat, C., Utami, T., & Witasari, L. D. (2023). Flavor precursor formation of non-fermented forastero cocoa beans after flavourzyme® and glucose treatment. LWT, 184, 114910. https://doi.org/10.1016/j.lwt.2023.114910 .
6	Nandika, D., Arinana, Karlinasari, L., Batubara, I., Santoso, D., Witasari, L. D. , Rachmayanti, Y., Firmansyah, D., Sudiana, I. K., Hertanto, D. M., Hadi, Y. S., & Rahman, M. M. (2023). Efficacy of Fungus Comb Extracts Isolated from Indo-Malayan Termite Mounds in Controlling Wood-Decaying Fungi. Forests, 14(6), 1115. https://doi.org/10.3390/f14061115 .
7	Rachmayanti, Y., Firmansyah, D., Umma, R. R., Hertanto, D. M., Sudiana, I. K., Santoso, D., Nandika, D., Karlinasari, L., Arinana, Batubara, I., & Witasari, L. D. (2022). Antioxidant Activity of Fungus Comb Extracts Isolated from Indo-Malayan Termite <i>Macrotermes gilvus</i> Hagen (Isoptera: Termitidae). Indonesian Journal of Chemistry, 22(6). https://doi.org/10.22146/ijc.77227 .
8	Witasari, L. D. , Wahyu, K. W., Anugrahani, B. J., Kurniawan, D. C., Haryanto, A., Nandika, D., Karlinasari, L., Arinana, Batubara, I., Santoso, D., Rachmayanti, Y., Firmansyah, D., Sudiana, I. K., & Hertanto, D. M. (2022). Antimicrobial activities of fungus comb extracts isolated from Indomalayan termite (<i>Macrotermes gilvus Hagen</i>) mound. AMB Express, 12:14. https://doi.org/10.1186/s13568-022-01359-0 .
9	Phon, S., Ningrum, A., & Witasari, L. D. (2022). Purification and characterization of thermostable serine alkaline protease from <i>Geobacillus</i> sp. DS3 isolated from Sikidang crater, Dieng plateau, Central Java, Indonesia. Indonesian Journal of Biotechnology, 27(2): 73-79. https://doi.org/10.22146/ijbiotech.65822 .
10	Nandika, D., Karlinasari, L., Arinana, Batubara, I., Sitanggang, P. S., Santoso, D.,



		Witasari, L. D. , Rachmayanti, Y., Firmansyah, D., Sudiana, I. K., Hertanto, D. M. (2021). Chemical components of fungus comb from Indo-Malayan termite <i>macrotermes gilvus</i> hagen mound and its bioactivity against wood-staining fungi. <i>Forests</i> , 12(11), 1591. https://doi.org/10.3390/f12111591 .		
Activities in specialist bodies over the last 5 years	No	Organization	Role	Period
	1	Indonesian Association of Food Technologists (PATPI)	Promotion and Organization Division, Yogyakarta Branch	2024-2027