

Staff Handbook

Name	Prof. Dr. Dhoriva Urwatul Wutsqa, MS.		
Post	Statistics		
Academic career	Undergraduate Degree	Universitas Gadjah Mada	1989
	Master Degree	Institut Teknologi Bandung	1993
	Doctoral Degree	Universitas Gadjah Mada	2008
Employment	Position: Lecturer	Employer: UNY	Period: 2001-Present
Research and development projects over the last 5 years	1. Analisis Kemampuan Literasi Membaca pada Data PISA 2022 dengan Model Radial Basis Neural Network Ensemble Fuzzy Clustering Year: 2025 Partners: Amount of financing: Rp. 55.000.000,- Year: 2025 Partners: Indira Ihnu Brilliant, Luthfia Hanun Yuli Arini 2. Analisis Prestasi Matematika pada Data PISA 2022 dengan Model Fuzzy Radial Basis Neural Network Amount of financing: Rp. 18.000.000,- Year: 2025 Partners: Luthfia Hanun Yuli Arini, Nur Insani 3. Analisis Prestasi Belajar Matematika Siswa Dari Data PISA 2022 menggunakan Model Recurrent Neural Network Amount of financing: Rp 45.000.000,- Year: 2024 Partners: Indira Ihnu Brilliant, Karyati 4. Analisis tingkat kebahagiaan di Indonesia menggunakan Model Long-Short Term Memory pada Data Indonesian Family Life Surve Year: 2024 Partners: Rizky Nur'aini, Muhammad Fauzan Amount of financing: Rp 18.000.000,- 5. Practical Inquiry Model yang Berfokus Pada Muatan Kognitif, Kehadiran Kognitif, dan Bias Kognitif dalam Pembelajaran Matematika Year: 2024 Partners: Kana Hidayati Amount of financing: Rp 53.940.000,00 6. Analisis Profil Kepercayaan diri Mahasiswa Calon Guru Matematika Year: 2023 Partners: Husna Arifah, Djamilah Bondan Widjajanti Amount of financing: Rp. 15.000.000,00 7. Pemodelan Harga Obligasi Gempa Bumi di Indonesia Year: 2023 Partners: Ezra Putranda Setiawan		

	Amount of financing: Rp 40.000.000,- 8. Pengelompokan Saham dengan Singular Value Decomposition untuk Optimasi Portofolio Global Minimum Variance Year: 2023 Partners: Rosita Kusumawati, Indira Ihnu Brilliant Amount of financing: Rp 40.000.000,- 9. Penyelesaian Masalah Pemrograman Linear Bilangan Trapesium Tergeneralisir Dan Analisis Pasca Optimum Year: 2023 Partners: Karyati, Muhammad Fauzan Amount of financing: Rp 40.000.000,- 10. Pengembangan Model Perkuliahan Persamaan Diferensial Menggunakan Strategi Metakognitif yang Berorientasi pada Kemampuan Penalaran dan Kepercayaan Diri Mahasiswa Year: 2023 Partners: Husna Arifah, Djamilah Bondan Widjajanti Amount of financing: Rp. 50.700.000,00 11. Prediksi prestasi matematika siswa berdasarkan data PISA menggunakan Model Neural Network Amount of financing: Rp 12.000.000,- Year: 2023 Partners: Muhammad Fauzan 12. Pemodelan Radial Basis Function Neural Network pada Data Campuran Numerik-Kategorik dengan K-Means Ensemble Clustering Amount of financing: Rp 12.000.000,- Year: 2022 Partners: Muhammad Fauzan 13. Pengembangan Model Matematis Obligasi Bencana Alam sebagai Mekanisme Transfer Risiko Gempa Bumi Year: 2022 Partners: Agus Maman Abadi, Ezra Putranda Setiawan Amount of financing: 54.900.000,00 14. Multi-trait deep learning models for genome-enabled prediction of traits measured on heterogeneous scales in plant breeding Year: 2022 Partners: Kismiantini, Osval Antonio Montesinos-López (Universidad de Colima), Bayutama Isnaini Amount of financing: Rp 50.000.000,- 15. Analisis Profil Kemampuan Penalaran Mahasiswa Calon Guru Matematika Year: 2022 Partners: Husna Arifah, Djamilah Bondan Widjajanti Amount of financing: Rp 15.000.000,- 16. Analisis Kinerja Portofolio Black Litterman-Shariah Compliant Asset Pricing Model (BL-SCAPM) Year: 2022 Partners: Retno Subekti Amount of financing: Rp 15.000.000,- 17. Enhanced model of singular spectrum analysis in identifying temporal rainfall patterns in Special Region of Yogyakarta, Indonesia Year: 2021
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	Partners: Kismiantini, Ezra Putranda Setiawan, Shazlyn Milleana Shahrudin Amount of financing: Rp 50.000.000,- 18. Pemodelan Matematis Asuransi dengan Risiko Bencana Gempa Bumi di Indonesia Year: 2021 Partners: Agus Maman Abadi, Ezra Putranda Setiawan Amount of financing: Rp 90.100.000,00
Industry collaborations over the last 5 years	1. Workshop Pembelajaran dan Penyusunan Instrumen Literasi pada Topik Analisis Data Statistika Deskriptif Tingkat SMA/SMK Sederajat" Year: 2025 Partners: Dr. Dra. Mathilda Susanti, M.Si. Ezra Putranda Setiawan, S.Si., M.Sc. Luthfia Hanun Yuli Arini, S.Stat., M.Stat. Amount of financing: Rp 35.000.000,- Industry collaboration : MGMP SMA/SMK Kabupaten Kulon Progo 2. Pelatihan Statistika Dasar untuk Guru Pendamping Penelitian Siswa SMA/Sederajat Year: 2025 Partners: Nur Insani, S.Si., M.Sc., Ph.D Ezra Putranda Setiawan, S.Si., M.Sc. Rizky Nur'aini, S.Stat., M.Stat. Luthfia Hanun Yuli Arini, S.Stat Amount of financing: Rp 10.000.000,- Industry collaboration: MGPP SMA DIY 3. Pelatihan analisis data pendidikan dan ilmu sosial dengan program JASP (Education and social science data analysis training with the JASP program) Year: 2024 Partners: Andika Putri Ratnasari, Rizky Nur'aini Amount of financing: Rp 25.000.000,- Industry collaboration: Study Program of Mathematics Education, Universitas Sarjanawiyata Tamansiswa 4. Workshop Inferensi Statistik dengan Pendekatan Berbasis Simulasi (Statistical Inference Workshop with Simulation-Based Approach) Year: 2024 Partners: Retno Subekti, Indira Ihnu Brilliant, Andika Putri Ratnasari Amount of financing: Rp 8.000.000,- Industry collaboration: Study Program of Mathematics, Universitas Nusa Cendana 5. Workshop analisis data secara visual dengan program R (Visual data analysis workshop with the R program) Year: 2023 Partners: Dhoriva Urwatul Wutsqa, Rosita Kusumawati, Ezra Putranda Setiawan, Bayutama Isnaini, Indira Ihnu Brilliant Amount of financing: Rp 12.000.000,- Industry collaboration: Study Program of Mathematics Education, Universitas Mercu Buana Yogyakarta 6. Workshop visualisasi data untuk penelitian bidang pendidikan dan ilmu sosial (Data visualization workshop for research in education and social sciences)

	Year: 2022 Partners: Dhoriva Urwatul Wutsqa, Rosita Kusumawati, Ezra Putranda Setiawan, Bayutama Isnaini Amount of financing: Rp 10.000.000,- Industry collaboration: Study Program of Statistics, Universitas Halu Oleo 7. Workshop analisis perbandingan k populasi dengan pendekatan non parametrik untuk penelitian di bidang ilmu sosial dan pendidikan <i>(Workshop on comparative analysis of k populations with a non-parametric approach for research in the field of social sciences and education)</i> Year: 2021 Partners: Dhoriva Urwatul Wutsqa, Rosita Kusumawati, Muhammad Fauzan, Syarifah Inayati, Ezra Putranda Setiawan Amount of financing: Rp 9.000.000,- Industry collaboration: -	
Patents and proprietary rights	1. Analisis Data Bivariat: Pelengkap Bahan Ajar Matematika Untuk SMA/MA Sederajat	2025
	2. Manajemen Data dengan Program R	2024
	3. Visualisasi Data dengan Perangkat Lunak R <i>(Data Visualization with R Software)</i>	2023
	4. Worksheet Pembelajaran Matematika Materi Bentuk Aljabar Untuk Meningkatkan Kemampuan Pemahaman Konsep, Koneksi Matematis Siswa, Dan Self-efficacy Berbasis Scaffolding Dalam Pembelajaran Saintifik	2023
	5. Klasifikasi Biner: Regresi Logistik, Regresi Ridge Logistik, dan Regresi Lasso Logistik dengan Program R <i>(Binary Classification: Logistic Regression, Logistic Ridge Regression, and Logistic Lasso Regression with R Program)</i>	2023
	6. Analisis Perbandingan k Populasi dengan Pendekatan Nonparametrik (Menggunakan Program R) <i>(Comparative Analysis of k Populations with a Nonparametric Approach (Using the R Program))</i>	2022
	7. Analisis Regresi Logistik dengan Program R <i>(Logistic Regression Analysis with R Program)</i>	2021
Important publications over the last 5 years	International Journal Publications (Scopus/WoS Indexed) - Wutsqa, D. U., Prihastuti, P. P., Fauzan, M. ., & Listyani, E. . (2024). Radial Basis Function Neural Network with ensemble clustering for modeling mathematics achievement in Indonesia based on cognitive and non-cognitive factors. <i>Journal on Mathematics Education</i>, 15(3), 751–770. https://doi.org/10.22342/jme.v15i3.pp751-770 - Kismiantini, Shahrudin, S. M., Setiawan, E. P., Wutsqa, D.U., Basri, M. A. A., Mahdin, H., Mostafa, S. A. (2024). Prediction of rainfall trends using forecasting approaches based on singular spectrum analysis. <i>Journal of Intelligent Systems and Internet of Things</i>, 11(1), 29-43. doi: 10.54216/JISIoT.110104.	

3. **Dhoriva Urwatul Wutsqa, Agus Maman Abadi, and Nurhayadi, "Breast Cancer Classification using a Hybrid Model of Fuzzy and Neural Network," *IAENG International Journal of Computer Science*, vol. 49, no.2, pp550-557, 2022.**
https://www.iaeng.org/IJCS/issues_v49/issue_2/IJCS_49_2_30.pdf
4. Wutsqa, D. U., & Fauzan, M. (2022). The hybrid model of radial basis function neural network and principal component analysis for classification problems. *Industrial Engineering and Management Systems*, 21(3), 409–418. <https://doi.org/10.7232/iems.2022.21.3.409>
5. Wijaya, T.T.; Rahmadi, I.F.; Chotimah, S.; Jailani, J.; Wutsqa, D.U. A Case Study of Factors That Affect Secondary School Mathematics Achievement: Teacher-Parent Support, Stress Levels, and Students' Well-Being. *Int. J. Environ. Res. Public Health* **2022**, 19, 16247. <https://doi.org/10.3390/ijerph192316247>
6. Abadi, A. M., Wutsqa, D. U., & Ningsih, N. (2021). Construction of fuzzy radial basis function neural network model for diagnosing prostate cancer. *Telkomnika (Telecommunication Computing Electronics and Control)*, 19(4), 1273–1283. <https://doi.org/10.12928/TELKOMNIKA.v19i4.20398>
7. Wutsqa, D.U., Kurniawati, E., Andayani, S., & Kismiantini. (2021). Landslide susceptibility mapping using fuzzy c-means and fuzzy c-modes methods in Wonosobo regency, Indonesia. *Advances in Dynamical Systems and Applications [ADSA]*, 16(2), 639-656.
8. Kismiantini, Montesinos-López, O. A., Crossa, J., Setiawan, E. P., Wutsqa, D. U. (2021). Prediction of count phenotypes using high-resolution images and genomic data. *G3 Genes/Genomes/Genetics*, 11(2), jkab035. doi: 10.1093/g3journal/jkab035.
9. Dhoriva Urwatul Wutsqa , Martina Ayun Pamungkas , Retno Subekti (2021). Black-Litterman Model with Views Prediction Using Elman Recurrent Neural Network. *Universal Journal of Accounting and Finance*, 9(6), 1297 - 1311. DOI: 10.13189/ujaf.2021.090609.

International Journal Publications (Copernicus/Ulrich/EBSCO Indexed)

1. Setiawan, M., & Wutsqa, D. U. (2025). The Influence of Problem Based Learning Model with Scientific Approach on Junior High School Students' Mathematical Literacy Skills. *International Journal Of Mathematics And Computer Research*, 13(06), 5327-5334. <https://doi.org/10.47191/ijmcr/v13i6.07>
2. Saragih, D., & Wutsqa, D. U. (2025). The Effect of Two Stay – Two Stray (TS-TS) Model on Students' Mathematical Connection Ability and Self Efficacy. *International Journal Of Mathematics And Computer Research*, 13(3), 4975-4982. <https://doi.org/10.47191/ijmcr/v13i3.10>
3. Dewi, F. C., & Wutsqa, D. U. (2024). A Literature Review Regarding the Position of Adversity Quotient in Mathematics Learning. *International Journal Of Mathematics And Computer Research*, 11(8), 630-640 <http://dx.doi.org/10.18415/ijmmu.v11i8.6109>
4. Wati, O.K. and Wutsqa, D.U. (2024). Comparison of the Effectiveness of PBL and PjBL Learning Models in Terms of Self-Regulated Learning and Mathematical Reasoning. *International Journal of Scientific Research and Management (IJSRM)*. 12(8), 511–524. DOI:<https://doi.org/10.18535/ijrm/v12i08.m01>.

National Journal Publications (SINTA Indexed)

1. Wutsqa, D. U., Kismiantini, Kusumawati, R., Subekti, R., Setiawan, E. P., Isnaini, B. & Brilliant, I. I. (2024). Workshop analisis data secara visual dengan program R. *Jurnal Pengabdian Masyarakat MIPA dan Pendidikan MIPA*, 8(2), 74-82.
2. Wutsqa, D. U., Kismiantini, K., Kusumawati, R., Setiawan, E. P., & Isnaini, B. (2023). Workshop visualisasi data untuk penelitian ilmu sosial dan pendidikan. *Jurnal Pengabdian Masyarakat MIPA dan Pendidikan MIPA*, 7(1), 16-25. doi: 10.21831/jpmmp.v7i1.54412
3. Kusumawati, R., Wutsqa, D. U., Kismiantini, S., Inayati, S., Fauzan, M., Setiawan, E. P., & Isnaini, B. (2022). Workshop analisis perbandingan k populasi dengan pendekatan nonparametrik untuk penelitian ilmu sosial dan pendidikan. *Jurnal Pengabdian Masyarakat MIPA dan Pendidikan MIPA*, 6(2), 84-91.
4. Wutsqa, D. U., Kismiantini, Fauzan, M., Kusumawati, R., Sahid, & Inayati, S. (2021). Workshop analisis faktor untuk data penelitian ilmu sosial dan kependidikan. *Jurnal Pengabdian Masyarakat MIPA dan Pendidikan MIPA*, 5(1), 37-46. doi: 10.21831/jpmmp.v5i1.35218

National Journal Publications (Non-Indexed)

International Conference Proceedings (Scopus Indexed)

1. Wutsqa, D. U., Ningrum, S. D. F., Kismiantini, K., & Subekti, R. (2024, April). Social welfare mapping using the fuzzy C-means clustering algorithm in Bantul Regency. In *AIP Conference Proceedings* (Vol. 2622, No. 1). AIP Publishing.
2. Dhoriva Urwatul Wutsqa, Sarah Khairunnisa; Mapping of flood-susceptibility areas in Bantul Regency using the fuzzy clustering ensemble method. *AIP Conf. Proc.* 29 April 2024; 2622 (1): 110002. <https://doi.org/10.1063/5.0133690>
3. Ezra Putranda Setiawan, Dhoriva Urwatul Wutsqa, Agus Maman Abadi; Inter-occurrence probability models for pricing earthquake catastrophe bonds: A literature review. *AIP Conf. Proc.* 9 April 2024; 3095 (1): 070010. <https://doi.org/10.1063/5.0206603>
4. Ezra Putranda Setiawan, Dhoriva Urwatul Wutsqa, Agus Maman Abadi, Elsa Kusuma; Pricing Indonesian earthquake catastrophe bond based on depth and magnitude. *AIP Conf. Proc.* 27 January 2023; 2540 (1): 080025. <https://doi.org/10.1063/5.0106278>
5. Meinar Yuari Salsabil, Dhoriva Urwatul Wutsqa; The effectiveness of POGIL approach toward mathematical communication and self-efficacy. *AIP Conf. Proc.* 17 March 2023; 2556 (1): 050014. <https://doi.org/10.1063/5.0111143>
6. Ahmad Taufiq Abdulloh, Dhoriva Urwatul Wutsqa; Brain cancer classification using elman recurrent neural network with genetic algorithm optimization. *AIP Conf. Proc.* 8 December 2022; 2575 (1): 070001. <https://doi.org/10.1063/5.0107795>
7. Louis Prima Negara, Dhoriva Urwatul Wustqa; Prediction of crude palm oil production in Indonesia using nonlinear autoregressive exogenous neural network with genetic algorithm. *AIP Conf. Proc.* 8 December 2022; 2575 (1): 070002. <https://doi.org/10.1063/5.0107898>
8. Cinta Adi Kusumadewi, Dhoriva Urwatul Wutsqa; The students' errors in solving HOTS problems. *AIP Conf. Proc.* 8 December 2022; 2575 (1): 040002. <https://doi.org/10.1063/5.0108330>

Activities in specialist bodies over the last 5 years	<i>Organisation</i>	<i>Role</i>	<i>Period</i>
	<i>FORSTAT</i>	<i>member</i>	<i>2024-2026</i>
	<i>FORSTAT</i>	<i>member</i>	<i>2022-2024</i>