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STAFF HANDBOOK

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| Name | Maulana Malik, S.Si., M.Si | | |
| Expertise | Nonlinear Optimization | | |
| Academic career | | Institution | Year |
| | Undergraduate degree | Universitas Indonesia | 2005-2009 |
| | Master degree | Universitas Indonesia | 2012-2014 |
| | Doctoral degree | Universiti Sultan Zainal Abidin Malaysia | 2019-now |
| | Post-doctoral | - | - |
| Employment | Position | Employer | Period |
| | Lecturer | Universitas Indonesia | 2016-2021 |
| | Assistant Professor | Universitas Indonesia | 2021-now |
| Research and development projects over the last 5 years | - | | |
| Industry collaborations over the last 5 years | - | | |
| Patents and proprietary rights | - | - | - |
| Important publications over the last 5 years | <p style="text-align: center;">Selected recent publications</p> <ol style="list-style-type: none"> 1. A.B. Abubakar, P. Kumam, M. Malik, A.H. Ibrahim, A hybrid conjugate gradient based approach for solving unconstrained optimization and motion control problems, <i>Mathematics and Computers in Simulation</i>, 2021. 2. A.M. Awwal, I.M. Sulaiman, M. Malik, M. Mamat, P. Kumam, K. Sitthithakerngkiet, A Spectral RMIL+ Conjugate Gradient Method for Unconstrained Optimization with Applications in Portfolio Selection and Motion Control, <i>IEEE Access</i>, 9, pp. 75398-75414, 2021. 3. M. Malik, M. Mamat, S.S. Abas, I.M. Sulaiman, Sukono, Performance Analysis of New Spectral and Hybrid Conjugate Gradient Methods for Solving Unconstrained Optimization Problems, <i>IAENG International Journal of Computer Science</i>, 48(1), pp. 66-79, 2021. 4. A.B. Abubakar, P. Kumam, M. Malik, P. Chaipunya, A.H. Ibrahim, A hybrid FR-DY conjugate gradient algorithm for unconstrained optimization with application in portfolio selection, <i>AIMS Mathematics</i>, 6(6), pp. 6506-6527, 2021. 5. B.A. Hassan, M. Malik, I.M. Sulaiman, A variant of Dai-Yuan conjugate gradient method for unconstrained optimization and its application in portfolio selection, <i>Journal of Mathematical and Computational Science</i>, 11(4), pp. 4155-4172, 2021. 6. S. Devila, M. Malik, W. Giyarti, A New Hybrid PRP-MMSIS Conjugate Gradient Method and Its Application in Portfolio Selection, <i>Jurnal Riset dan Aplikasi Matematika</i>, 5(1), pp. 47-59, 2021. | | |

7. I.M. Sulaiman, M. Mamat, M.Y. Waziri, M.A Alomari, A.O Umar, **M. Malik**, S.H. Yuningsih, An Accelerated Shamanskii-like Scheme for Some Conservative problems, *IOP Conference Series: Materials Science and Engineering*, 1115(1), 012006, 2021.
8. I.M. Sulaiman, M. Mamat, M.Y. Waziri, U.Y. Abbas, **M. Malik**, The Performance Analysis of a New Modification of Conjugate Gradient Parameter for Unconstrained Optimization Models, *Mathematics and Statistics*, 9(1), pp. 16-23, 2021.
9. I.M. Sulaiman, M. Mamat, M.Y. Waziri, U.Y. Abbas, **M. Malik**, The convergence properties of a new hybrid conjugate gradient parameter for unconstrained optimization models, *International Conference on Recent Trends in Applied Research (ICoRTAR) 2020*, 1734(1), pp. 1-9, 2021.
10. **M. Malik**, S.S. Abas, M. Mamat, A. Prabowo, Optimal Reinsurance and Investment Strategy Under CEV Model with Fractional Power Utility Function, *Engineering Letters*, 28(4), pp. 1041-1046, 2020.
11. **M. Malik**, M. Mamat, S.S. Abas, I.M. Sulaiman, Sukono, A.T. Bon, Optimal Reinsurance and Investment Problem under Fractional Power Utility Function, *Proceedings of the 5th NA International Conference on Industrial Engineering and Operations Management Detroit, Michigan, USA*, 2020(10), pp. 2606-2615, 2020.
12. **M. Malik**, M. Mamat, S.S. Abas, I.M. Sulaiman, Sukono, A.T. Bon, Comparison of Conjugate Gradient Method on Solving Unconstrained Optimization Problems, *Proceedings of the 5th NA International Conference on Industrial Engineering and Operations Management Detroit, Michigan, USA*, 2020(10), pp. 2486-2495, 2020.
13. **M. Malik**, M. Mamat, S.S. Abas, I.M. Sulaiman, Sukono, A.T. Bon, Solving Unconstrained Minimization Problems with a New Hybrid Conjugate Gradient Method, *Proceedings of the 5th NA International Conference on Industrial Engineering and Operations Management Detroit, Michigan, USA*, 2020(10), pp. 2468-2477, 2020.
14. **M. Malik**, M. Mamat, S.S. Abas, I.M. Sulaiman, Sukono, A New Coefficient of the Conjugate Gradient Method with the Sufficient Descent Condition and Global Convergence Properties, *Engineering Letters*, 28(3), pp. 704-714, 2020.
15. **M. Malik**, M. Mamat, S.S. Abas, I.M. Sulaiman, Sukono, A new spectral conjugate gradient method with descent condition and global convergence property for unconstrained optimization, *Journal of Mathematical and Computational Science*, 10(5), pp. 2053-2069, 2020.
16. **M. Malik**, M. Mamat, S.S. Abas, I.M. Sulaiman, Sukono, A New Modification of NPRP Conjugate Gradient Method for Unconstrained Optimization, *Advances in Mathematics: Scientific Journal*, 9(7), pp. 4955-4970, 2020.
17. I. M. Sulaiman, M. Mamat, A.E. Owoyemi, P.L. Ghazali, M. Rivaie, **M. Malik**, The convergence properties of some descent conjugate gradient algorithms for optimization models, *Journal of mathematics and computer science*, 22(3), pp. 204-215, 2021.
18. **M. Malik**, M. Mamat, S.S. Abas, Sukono , I.M. Sulaiman, A New Hybrid Conjugate Gradient Method with Global Convergence Properties, *International Journal of Advanced Science and Technology*, 29(5), pp. 199-210, 2020.

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| | <p>19. M. Malik, M. Mamat, S.S. Abas, Sukono, Convergence Analysis of a New Coefficient Conjugate Gradient Method Under Exact Line Search, <i>International Journal of Advanced Science and Technology</i>, 29(5), pp. 187-198, 2020.</p> <p>20. M. Mamat, I.M. Sulaiman, M. Malik, Z.A. Zakaria, An efficient spectral conjugate gradient parameter with descent condition for unconstrained optimization, <i>Journal of Advanced Research in Dynamical and Control Systems</i>, 12(2), pp. 2487-2493, 2020.</p> <p>21. R.A. Kafi, S. Mardiyati, M. Malik, Forecasting mortality rates of elderly in Indonesia using the first generalized Cairns-Blake-Dowd model, <i>AIP Conference Proceedings</i>, 2184(1), 040013, 2019.</p> <p>22. N.P Aji, S. Mardiyati, M. Malik, Forecasting Indonesian mortality rates using by Lee-Carter model and Regression Linear model, <i>AIP Conference Proceedings</i>, 2168(1), 020041, 2019.</p> <p>23. Y.R Safitri, S. Mardiyati, M. Malik, The Cairns-Blake-Dowd model to forecast Indonesian mortality rates, <i>AIP Conference Proceedings</i>, 2168(1), 020039, 2019.</p> <p>24. F. Setyani, M. Novita, M. Malik, Optimal Portfolio Selection with Regime-Switching Hamilton-Jacobi-Bellman (HJB) Equation and Maximum Value-at-Risk (MVaR) Constraint, <i>Journal of Physics: Conference Series</i>, 1108(1), 012070, 2018.</p> <p>25. M. Malik, M. Larasati, D. Aldila, Mathematical modeling and numerical simulation of tuberculosis spread with diabetes effect, <i>Journal of Physics: Conference Series</i>, 1108(1), 012061, 2018.</p> <p>26. D. Aldila, R.R. Aprilliani, M. Malik, Understanding HIV spread with vertical transmission through mathematical model, <i>AIP Conference Proceedings</i>, 2014(1), 020142, 2018.</p> <p>27. I.M Sayekti, M. Malik, D. Aldila, One-prey two-predator model with prey harvesting in a food chain interaction, <i>AIP Conference Proceedings</i>, 1862(1), 030124, 2017.</p> | | |
| Scholar UI ID | https://scholar.ui.ac.id/en/persons/maulana-malik | | |
| Activities in specialist bodies over the last 5 years | Organization | Role | Period |
| | The Indonesian Mathematical Society | Member | 2018-now |
| | International Association of Engineers | Member | 2019-now |