FACULTY OF COMPUTER SCIENCE AND MATHEMATICS

STOCHASTIC AND FINANCIAL ANALYSIS (SOFIA)

# DR. MUKMINAH DARUS

## LECTURER

Mukminah is a lecturer at Universiti Malaysia Terengganu (UMT), specializing in stochastic modeling and financial mathematics. Her current research focuses on integrating stochastic differential equations (SDEs) with machine learning to enhance interest rate forecasting and risk management. With a deep interest in financial systems, she explores the role of SDEs in financial forecasting, decision-making, and risk management.

## RESEARCHER PROFILE


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## EDUCATION

- PhD in Mathematical Sciences, Universiti Malaysia Terengganu
- Master in Mathematical Sciences, Universiti Malaysia Terengganu
- BSc. in Financial Mathematics, Universiti Malaysia Terengganu

## AREAS OF EXPERTISE

- Stochastic Modelling
- Financial Mathematics
- Machine Learning in Finance


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## SELECTED RESEARCH PROJECTS

- Talent and Publications Enhancement Research Grant (TAPE-RG). Integrating Generative Machine Learning and Stochastic Processes in Forecasting Interest Rate and Risk Management. (2024-2026). RM20,000

## SELECTED PUBLICATIONS


- **Darus, M.** and Taib, C. M. I. C (2022). Modelling Temperature Using CARMA Processes With Stochastic Speed of Mean Reversion for Temperature Insurance Pricing. Malaysian Journal of Mathematical Sciences. 16(2), pp 273– 288.
- **Darus, M.** and Taib, C. M. I. C (2019). Temperature Modelling and Pricing of Temperature Index Insurance. Japan Journal of Industrial and Applied Mathematics. 36(3), pp 791– 808.
- Taib, C. M. I. C, and **Darus, M.** (2018). Spatial Temporal Modelling of Temperature Index Insurance, Asia-Pacific Financial Markets, Springer. Association of Financial Economics and Engineering , 26(1), pp 87 – 106.
- **Darus, M.** and Wahab, A. F, (2013). Future value with type-1 fuzzy interest rate. Proceedings of the 20th National Symposium on Mathematical Sciences: Research in Mathematical Sciences: A Catalyst for Creativity and Innovation. AIP Conference Proceedings, 1522, pp 354–361.


*"Keep learning, keep growing, and keep inspiring"*