

DR. CHONG NYUK SIAN

SENIOR LECTURER

Dr. Nyuk Sian Chong is working on mathematical modeling, with a focus on the epidemiology field. Her work primarily involves the development and analysis of epidemic models, that is, governed by nonlinear ordinary differential equations. She investigates the transmission dynamics of infectious diseases, aiming to better understand their spread, control, and potential intervention strategies, and provide valuable insights into public health strategies.



RESEARCHER PROFILE

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SELECTED RESEARCH PROJECTS

- ✔ Talent and Publication Enhancement-Research Grant (TAPE-RG) from Universiti Malaysia Terengganu. A Novel Deterministic Model for the Study of Epidemiology and Control of Rabies Disease. (2020 - 2024). RM20,000.

EDUCATION



- Ph.D. in Mathematics, University of Ottawa, Canada.
- Master of Science (Mathematics), Universiti Sains Malaysia, Malaysia.
- B. Sc. (Honors) (Mathematics), Universiti Sains Malaysia, Malaysia.

AREAS OF EXPERTISE

- Epidemiological modeling
- Nonlinear ordinary differential equations
- Disease transmission dynamics
- Stability analysis

SUPERVISION



SELECTED PUBLICATIONS

- ✔ Kaliapan, T., **Chong, N. S.**, Abdullah, I., Salleh, Z. and Labedin, J. (2024). A Compartmental Model for the Transmission Dynamics of Rabies Disease in Dog Population. *Sains Malaysiana*, 53(12), pp. 3425-3435.
- ✔ **Chong, N. S.**, Hardwick, R. J., Smith, S. R., Truscott, J. E. and Anderson, R. M. (2022). A prevalence-based transmission model for the study of the epidemiology and control of soil-transmitted helminthiasis. *PLoS ONE*, 17(8): e0272600.
- ✔ **Chong, N. S.**, Smith?, S. R., Werkman, M. and Anderson, R. M. (2021). Modelling the ability of mass drug administration to interrupt soil-transmitted helminth transmission: Community-based deworming in Kenya as a case study. *PLoS Negl Trop Dis*, 15(8): e0009625.
- ✔ Chen, C., **Chong, N. S.** and Smith?, R. (2018). A Filippov model describing the effects of media coverage and quarantine on the spread of human influenza. *Mathematical Biosciences*, 296, pp. 98-112.
- ✔ **Chong, N. S.**, Dionne, B. and Smith?, R. (2016). An avian-only Filippov model incorporating culling of both susceptible and infected birds in combating avian influenza. *J. Math. Biol.*, 73, pp. 751-784.

COLLABORATOR



"Creating healthier communities through innovative epidemic forecasting and intervention"