

## Curriculum Vitae



### 1. General Information

**First name** Somkid                      **Last Name** Amornsamankul  
**Date of Birth** 14 July 1968  
**Place of work** Department of Mathematics, Faculty of Science, Mahidol University,  
Rama 6 Rd., Bangkok 10400.    **Tel.** 02-201-5339    **Fax** 02-201-5343  
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### 2. Qualifications

B.Sc. (Mathematics) Kasetsart University, 1991.  
M.Sc. (Applied Mathematics) Mahidol University, 1995.  
PhD. (Mathematics) Curtin University of Technology, 2008.

### 3. Honours

1987-1995      DPST Scholarship  
1991              “Tab Nelaniti” Prize for B.Sc.(Mathematics) student.  
2003-2008      Royal Thai Government Scholarship

### 4. Experience

5 July 1995 – 11 October 2001	Lecturer, Department of Mathematics, Faculty of Science, Mahidol University.
12 October 2001 - Present	Asst. Prof., Department of Mathematics, Faculty of Science, Mahidol University.
20 April 2000 – 2 August 2003	Asst. Chairman, Department of Mathematics, Faculty of Science, Mahidol University.
February 2009 – September 2014	Asst. Dean for System Development and Technology, Faculty of Science, Mahidol University.
October 2014 – November 2015	Deputy Dean for Education, Faculty of Science, Mahidol University.
December 2015 – November 2019	Deputy Dean for Administration, Faculty of Science, Mahidol University.
November 2019 – Present	Assitant Director for Administration, Centre of Excellence in Mathematics.

January 2022 – Present                      Head, Department of Mathematics,  
Faculty of Science, Mahidol University.

## 5. List of Publications

1. **Amornsamankul, S.**, 1995, *Earth-moon-satellite problem with the Bulirsch-Stoer-Gragg method of rational extrapolation* : M.Sc. Thesis.
2. Lenbury, Y., Ratanakul, C., Pahupongsap, S., **Amornsamankul, S.** Analysis of Fast Kinetics Models for the Distribution of Polychlorinated Dibenzo-p-dioxins and Dibenzofurans in Humans. *J. Sci. Soc. Thailand.* **24** (1998) 205-214.
3. Lenbury, Y., Neamvong, A., **Amornsamankul, S.**, Puttapiban, P. Modelling Effects of High Product and Substrate Inhibition on Oscillatory Behavior in Continuous Bioreactors. *BioSystems.* **49** (1999) 191-203.
4. Lenbury, Y., Rattanamongkonkul, S., Tumrasvin, N., **Amornsamankul, S.** Predator-prey Interaction Coupled by Parasitic Infection: Limit Cycles and Chaotic Behavior. *Mathematical and Computer Modelling.* **30** (1999) 131-146.
5. Lenbury, Y., Ruktamatakul, S., **Amornsamankul, S.** Modeling Insulin Kinetics: Responses to a Single Oral Glucose Administration or Ambulatory-fed Condition. *BioSystems.* **59** (2001) 15-25.
6. **Amornsamankul, S.**, Wiwatanapataphee, B., Wu, Y.H., Lenbury, Y. Simulation of Blood Flow in the Lumen and Porous Medium Regions of Stenotic Arteries. *Contributions in Mathematics and Applicationsss :A special volume of East-West Journal of Mathematics.* (2005) 95-103.
7. **Amornsamankul, S.**, Wiwatanapataphee, B., Wu, Y.H., Lenbury, Y. Effect of Non-Newtonian Behaviour of Blood on Pulsatile Flows in Stenotic Arteries. *International Journal of Biomedical Sciences.* **1(1)** (2006) 42-46.
8. Wiwatanapataphee, B., **Amornsamankul, S.**, Wu, Y.H., Lenbury, Y. Simulation of Transient Blood Flow through Stenosed Coronary Arteries. *WSEAS Transactions on Fluid Mechanics.* **1(7)** (2006) 771-778.
9. Wiwatanapataphee, B., Wu, Y.H., **Amornsamankul, S.**, Novaprateeep, B. Simulation of Transient Blood Flows in the Artery with an Asymmetric Stenosis. *ANZIAM Journal.* 48 (2008) C1006-C1021.
10. **Amornsamankul, S.**, 2008, *Mathematical Modelling and Numerical Simulation of Blood Flow Through Stenotic Arteries* : PhD. Thesis

11. Kraipeerapun, P., **Amornsamankul, S.**, Fung, C.C., Nakkrasae, S. Applying Duo Output Neural Networks to Solve Single Output Regression Problem. *Lecture Notes in Computer Science*. 5863 (2009) 554-561.
12. Kraipeerapun, P., Nakkrasae, S., Fung, C.C., **Amornsamankul, S.** Solving regression problem with complementary neural networks and an adjusted averaging technique. *Memetic Computing*. 2 (4) (2010) 249-257.
13. Kraipeerapun, P., **Amornsamankul, S.** Ensemble of duo output neural networks for binary classification. *International Journal of Mathematics and Computers in Simulation*. 4 (4) (2010) 162-170.
14. **Amornsamankul, S.**, Kaorapapong, K., Wiwatanapataphee, B. Three-dimensional simulation of femur bone and implant in femoral canal using finite element method. *International Journal of Mathematics and Computers in Simulation*. 4 (4) (2010) 171-178.
15. Kraipeerapun, P., **Amornsamankul, S.** Neural network regression based on falsity input. *International Journal of Mathematical models and methods in applied sciences*. 5(5) (2011) 874-881.
16. **Amornsamankul, S.**, Promrak, J., Kraipeerapun, P., Solving multiclass classification problems using combining complementary neural networks and error-correcting output codes. *International Journal of Mathematics and Computers in Simulation*. 3(5) (2011) 266-273.
17. Kaorapapong, K., **Amornsamankul, S.**, Tang, I.-M., Wiwatanapataphee, B. Heat transfer in cemented hip replacement process. *International Journal of Mechanics*. 3(5) (2011) 202-209.
18. Nokkaew, A., Pimpunchat, B., Modchang, C., **Amornsamankul, S.**, Triampo, W., Triampo, D., Estimation of algae growth model parameters by a double layer genetic algorithm. *WSEAS Transactions on Computers*. 11(11) (2012) 377-386.
19. **Amornsamankul, S.**, Pimpunchat, B., Duangchai-Yoosook, S., Triampo, W., Applying genetic algorithm and fourier series to WQI of Tha Chin river in Thailand. *International Journal of Mathematics and Computers in Simulation*. 6(3) (2012) 333-340.
20. Nokkaew A., **Amornsamankul, S.**, Pimpunchat, B., Saengpayab, Y., Triampo, W., Simple stochastic model for random waste absorption of an algae cell: Analytic approach. *International Journal of Mathematical Models and Methods in Applied Sciences*. 9(7) (2013) 837-844.
21. Kongson, J., **Amornsamankul, S.**, A Model of the Signal Transduction Process under a Delay. *East Asian Journal on Applied Mathematics*, 7(4) (2017) 741-751.

22. Nokkaew, A., Modchang, C., **Amornsamankul, S.**, Lenbury, Y., Pimpunchat, B., Triampo, W. Mathematical modeling of infectious disease transmission in macroalgae, *Advances in Difference Equations*. 1(288) (2017) 1-8.
23. Sornnery, A., Pimpunchat, B., Tuntiwarasakul, D., Kitrunloadjanaporn, P., **Amornsamankul, S.**, Triampo, W. Using ANOVA to evaluate the effects of swine slaughterhouse wastewater conditions on algae growth. *International Journal of Simulation: Systems, Science and Technology*, 19(4) (2018) 14.1-14.8.
24. Thongthaisong, P., Triampo, W., **Amornsamankul, S.** A novel droop-logistic model for microorganism population studies. *International Journal of Simulation: Systems, Science and Technology*, 19(4) (2018) 15.1-15.6.
25. Sirimangkhala, K., Pimpunchat, B., **Amornsamankul, S.**, Triampo, W. Modelling greenhouse gas generation for landfill. *International Journal of Simulation: Systems, Science and Technology*, 19(4) (2018) 16.1-16.7.
26. Pipatsart, N., Modchang, C., Triampo, W., **Amornsamankul, S.** Network based model of infectious disease transmission in Macroalgae. *International Journal of Simulation: Systems, Science and Technology*, 19(5) (2018) 11.1-11.8.
27. Sutamas Satthong, Kritsana Saego, Pongpatai Kitrunloadjanaporn, Narin Nuttavut, **Somkid Amornsamankul** and Wannapong Triampo, Modeling the effects of light sources on the growth of algae, *Advances in Difference Equations*, 170 (2019) 1-6
28. Jiraporn Charoenpong, Busayamas Pimpunchat, **Somkid Amornsamankul**, Wannapong Triampo, Narin Nuttavut, A Comparison of Machine Learning Algorithms and their Applications, *International Journal of Simulation: Systems, Science and Technology*, 20(4) (2019) 8.1-8.17.
29. Sirimangkhala, K., Pimpunchat, B., **Amornsamankul, S.**, Nuttavut, N., Triampo, W., A Review of Modelling and Computer Simulation of Landfill Gas, *International Journal of Simulation: Systems, Science and Technology*, 20(4) (2019) 9.1-9.9
30. Satthong, S., Saego, K., Kitrunloadjanaporn, P., Nuttavut, N., **Amornsamankul, S.**, Triampo, W., Modeling the effects of light sources on the growth of algae, *Advances in Difference Equations*, 2019(1) (2019).

31. Narin Nuttavut, Darapond Triampo, **Somkid Amornsamankul**, Wannapong Triampo, STEM-based Learning Blended with Inquiry-based Learning for Medical Students through Forensic STEM Activities, *International Journal of Simulation: Systems, Science and Technology*, 21(1) (2020) 7.1-7.7.
32. Nicha Khathinhorm, Rungrod Samankitesakul, Wasakorn Laesanklang, **Somkid Amornsamankul**, Deep Learning and Image Processing for Disc Brake Pad Identification: A Case Study of Brake Pads Company, *Journal of Engineering and Digital Technology (JEDT)*, 10(2) (2022).
33. Chanitsara Phalawan, Tongjai Sathaphon, Suntaree Unhapipat, Banpot Horbanluekit, **Somkid Amornsamankul**, Enhancement of Brake Pads Production Planning with Time Management and Process Condition Using VBA on Microsoft Excel, *ENGINEERING ACCESS*, 9(1), (JANUARY-JUNE 2023) 62-69.
34. Suksamran, J., **Amornsamankul, S.**, Lenbuy, Y., Reaction-Diffusion-Integral System Modeling SARS-CoV-2 Infection-Induced versus Vaccine-Induced Immunity: Analytical Solutions and Stability Analysis, *IAENG International Journal of Applied Mathematics*, 54(2) (2024) 223 – 231.
35. Morrakotsriwan, Preeyanunt., Kaewlob, Kritsana., Unhapipat, Suntaree., Horbanluekit, Banpot., **Amornsamankul, Somkid.**, Enhancements to Human Resource and Data Resource Management Performance in the Development of Disc Brake Pad Products, *ENGINEERING ACCESS*, 10(2) (2024) 81-89.

## 6. Research work Presented in International Conferences

1. **Amornsamankul, S.**, Wiwatanapataphee, B., Wu, Y.H., Lenbury, Y. Simulation of Blood Flow in the Lumen and Porous Medium Regions of Stenotic Arteries. *International Conference in Mathematics and Applications*. Bangkok, Thailand. 15-17 December 2005.
2. **Amornsamankul, S.**, Wiwatanapataphee, B., Wu, Y-H., Lenbury, Y. Effect of Non-Newtonian Behaviour of Blood on Pulsatile Flows in Stenotic Arteries. *The 13th Biennial Computational Techniques and Applications Conference*. Townsville, Australia. 2-5 July 2006.
3. Wiwatanapataphee, B., **Amornsamankul, S.**, Wu, Y.H., Lenbury, Y. Non-newtonian Blood Flow through Stenosed Coronary Arteries. *The 2<sup>nd</sup> WSEAS International Conference on Applied and Theoretical Mechanics*. Venice, Italy. 20-22 November 2006.

4. **Amornsamankul, S.**, Wiwatanapataphee, B., Wu, Y.H., Lenbury, Y. Numerical Simulation of Blood Flow in the Stenosed Coronary Artery. *The 2<sup>nd</sup> Asian Simulation and Modeling 2007*. Chiang Mai, Thailand. 9-11 January 2007.
5. Kraipeerapun, P., Fung, C.C., Nakkrasae, S., **Amornsamankul, S.** Applying Complementary Neural Networks to Porosity Prediction in Well Log Data Analysis. *The 6<sup>th</sup> International Joint Conference on Computer Science and Software Engineering (JCSSE2009)*. Phuket, Thailand. 13-15 May 2009.
6. Kraipeerapun, P., Nakkrasae, S., **Amornsamankul, S.**, Fung, C.C. Complementary neural networks for regression problems. *Eighth International Conference on Machine Learning and Cybernetics*, Baoding, China. 12-15 July 2009.
7. Kraipeerapun, P., **Amornsamankul, S.**, Fung, C.C., Nakkrasae, S. Applying duo output neural networks to solve single output regression problem. *16th International Conference on Neural Information Processing (ICONIP 2009)*. Bangkok, Thailand. 1 - 5 December 2009.
8. Nakkrasae, S., Kraipeerapun, P., **Amornsamankul, S.**, Fung, C.C. Bagging of Complementary Neural Networks with Double Dynamic Weight Averaging. *2010 11th ACIS International Conference on Software Engineering, Artificial Intelligence, Networking and Parallel / Distributed Computing*. 9-11 June 2010.
9. **Amornsamankul, S.**, Kraipeerapun, P., Bagging of Duo Output Neural Networks for Single Output Regression Problem. *2010 3rd IEEE International Conference on Computer Science and Information Technology*. Chengdu, China. 7-10 July 2010.
10. Kraipeerapun, P., **Amornsamankul, S.** Using Duo Output Neural Network to Solve Binary Classification Problem. *ACS'10 Proceedings of the 10th WSEAS international conference on Applied computer science*. Iwate, Japan. 4-6 October 2010.
11. **Amornsamankul, S.**, Kaorapapong, K., Wiwatanapataphee, B. Three-Dimensional Simulation of the Femur Bone Using Finite Element Method. *ACS'10 Proceedings of the 10th WSEAS international conference on Applied computer science*. Iwate, Japan. 4-6 October 2010.
12. **Amornsamankul, S.**, Kraipeerapun, P., Applying Falsity Input to Neural Networks to Solve Single Output Regression Problems. *10<sup>th</sup> WSEAS Intewrnational Conference on Applied Computer and Applied Computational Science*. Venice, Italy. 8-10 March 2011.
13. Promrak, J., **Amornsamankul, S.**, Kraipeerapun, P. Combining complementary neural network and error-correcting output codes for multiclass classification problems. *10<sup>th</sup> WSEAS*

- International Conference on Applied Computer and Applied Computational Science*. Venice, Italy. 8-10 March 2011.
14. Kaorapapong, K., Jumpen, W., **Amornsamankul, S.**, Tang, I.-M., Wiwatanapataphee, B. Three Dimensional Simulation of Heat Transfer Problem after Cemented Hip Replacement. *4th WSEAS International Conference on Finite Differences - Finite Elements - Finite Volumes - Boundary Elements (F-and-B '11)*. Paris, France 28-30 April 2011.
  15. Pawalai Kraipeerapun and **Somkid Amornsamankul**. Using Stacked Generalization and Complementary Neural Networks to Predict Parkinson's Disease. *The 11th International Conference on Natural Computing (ICNC 2015)*, Zhangjiajie, China, 15-17 August 2015, pp. 1294-1298.
  16. Pawalai Kraipeerapun and **Somkid Amornsamankul**. Classification of Types of Forests Using Complementary Neural Networks and StackingC, *The 14th IASTED International Conference on Software Engineering (SE 2016)*, Innsbruck, Austria, 15-16 February 2016, pp. 289-293.
  17. Pawalai Kraipeerapun and **Somkid Amornsamankul**. Using Falsity Data in the Stacking Technique, *The International Conference on Computational Intelligence and Applications (ICCIA 2016)*, Jeju Island, Korea, 27-29 August 2016, pp. 1-5.
  18. Pawalai Kraipeerapun and **Somkid Amornsamankul**. Room Occupancy Detection using Modified Stacking, *The 9th International Conference on Machine Learning and Computing (ICMLC 2017)*, Singapore, Singapore, 24-26 February 2017.
  19. Pawalai Kraipeerapun and **Somkid Amornsamankul**. Using Cascade Generalization and Neural Networks to Select Cryotherapy method for Warts, *In Proceedings of the International Conference on Engineering, Science, and Industrial Applications (ICESI 2019)*, Tokyo, Japan, 22-24 August 2019, pp. 106-110.
  20. Wattanakasiwich, P., Suree, N., Chamrat, S., Saengsuwan, W., Suttharangsee, W., Panrat, T., Ruamcharoen, J., Triampo, W., **Amornsamankul, S.**, Laesanklang, W., Berglund, A., Chantawannakul, P., Investigating Challenges of Student Centered Learning in Thai Higher Education during the COVID-19 Pandemic, *2021 IEEE Frontiers in Education Conference (FIE 2021)*, Lincoln; United States, 13-16 October 2021.

21. Chatree Nilnumpetch, **Somkid Amornsamankul**, Pawalai Kraipeerapun. Cancer Prediction Using Cascade Generalization and Duo Output Neural Network, *Proceedings of the 2021 Sixth International Conference on Research in Intelligent and Computing, (ACSIS 2021)*, Vol. 27, pages 65–70.
22. Nilnumpetch, C., Amornsamankul, S., Kraipeerapun, P. Cascade Generalization and Complementary Neural Networks for Multiclass Classification, *2022 IEEE International Conference on Electrical, Computer, and Energy Technologies (ICECET 2022)*, Prague; Czech Republic, 20-22 July 2022.
23. Chatree Nilnumpetch, **Somkid Amornsamankul**, Pawalai Kraipeerapun. Health Data Classification using Applied Cascade Generalization, *2023 International Conference on Inventive Computation Technologies (ICICT)*, Lalitpur, Nepal, 26-28 April 2023.
24. Meesri, Sarawut., Amornsamankul, Somkid., Kraipeerapun, Pawalai., Rice Classification Using Three-Step Neural Network Integration, *2024 International Conference on System Science and Engineering (ICSSE)*, Hsinchu, Taiwan, 26-28 June 2024.

## 7. Research work Presented in Local Conferences

1. Nakkrasae, S., Kraipeerapun, P., **Amornsamankul, S.**, Fung, C.C. Porosity Prediction Using an Ensemble of Complementary Neural Networks with Average Error Adjusting. *The Conference on Knowledge and Smart Technologies (KST 2009)*. Chonburi, Thailand. 24-25 July 2009.