

# Curriculum Vitae

## Pairote Satiracoo

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### Contact information

Dr. Pairote Satiracoo

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### Education

B.Sc. (Mathematics) 1<sup>st</sup> Class Hons. Mahidol University, Thailand 1998

- Major: Mathematics

M.Sc. (Mathematics) the University of Warwick, United Kingdom 1999

- Thesis: Real Bounds for Some Interval Maps and Their Use for Getting Rid of the Negative Schwarzian Derivative Assumption
- Advisor: Dr. Oleg Kozlovski and Prof. Sebastian van Strien
- Scholarship: Development of Promotion of Science and Technology Talent Project (DPST)

Ph.D. (Mathematics) the University of Warwick, United Kingdom 1999

- Thesis: Hausdorff Dimension of Attractors of Infinitely Renormalizable Maps
- Advisor: Dr. Oleg Kozlovski
- Scholarship: Development of Promotion of Science and Technology Talent Project (DPST)

M.Sc. (Actuarial Science) with distinction, Heriot-Watt University, United Kingdom 2017

- Scholarship: Support from Department of Mathematics, Faculty of Science, Mahidol University

### Areas of Expertise

Applied mathematics and actuarial mathematics

# Research

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## Current Research Interest and Activities:

- Mathematical modelling of complex systems – The objective is to develop mathematical models in the glucose absorption process. Qualitative analyses of nonlinear systems are the main tools for investigating in this study.
- Actuarial mathematics and related areas – Applied stochastic modelling in non-life and general insurance, longevity and mortality modelling

## Publications

1. Phat VN, Satiracoo P. Global stabilization of linear periodically time-varying switched systems via matrix inequalities. *J Control Theory Appl* Feb 2006;4(1):26-31
2. Phat Vu, Satiracoo P. Exponential stability of switched linear systems with time-varying delay. *Electron J Differential* 2007; 159:1-10.
3. Suebcharoen T, Satiracoo P. and Wake GC. Distributed delay logistic equations with harvesting. *Differential Integral Equations* 2009; vol. 22 no. 3-4, 321—337.
4. Baowan D, Chayantrakom K, Satiracoo P and Cox B.J. Mathematical modelling for equilibrium configurations of concentric gold nanoparticles as potential application in drug and gene delivery. *Journal of Mathematical Chemistry* 2011; 49, 1042-1053
5. Sukchom W, Chayantrakom K, Satiracoo P, and Baowan D. Three Possible Encapsulation Mechanics of TiO<sub>2</sub> Nanoparticles into Single-Walled Carbon Nanotubes. *Journal of Nanomaterials* 2011; vol. 2011.
6. Prathumwan D, Lenbury Y, Satiracoo P and Rattanakul C. Euler-Maruyama approximation and maximum likelihood estimator for a stochastic differential equation model of the signal transduction process. *International Journal of Mathematical Models and Methods in Applied Sciences* 2012; 6 (2), 323-331.
7. Sukchom W, Chayantrakom K, Satiracoo P and Baowan D. Penetration of Carbon nanocylinder through a lipid bilayer. *Southeast-Asian J. of Sciences: Vol. 2, No 1 (2013) pp. 87-100*
8. Satiracoo P, Chayantrakom K, and Baowan D. Modelling hydrogen storage inside fullerenes. *Southeast-Asian J. of Sciences: Vol. 2, No 1 (2013) pp. 11-18.*
9. Satiracoo P, Pokethitiyook P, Lenbury Y, Potivichayanon S, Agarwal R P. Development, experimental validation and sensitivity analysis of a mathematical model of biofiltration for hydrogen sulfide removal. *International Journal of Mathematical Models and Methods in Applied Sciences* 2013; 7, 657-665.
10. Oonsupwilai P, Satiracoo P. and Costa R. A. A. d. Analyzing the Dual Long Memory in Thailand Stock Market. *Proceedings of International Conference on Applied Statistics* 2015.
11. Yokrattanasak J, De Gaetano A, Panunzi S, Satiracoo P, Lawton WM, Lenbury Y. A simple, realistic stochastic model of Gastric Emptying. *PLoS ONE* 2016; Vol 11, Issue 4. Art No. e0153297.
12. Suksamran J, Lenbury Y, Satiracoo P, Rattanakul C. A model for porcine reproductive and respiratory syndrome with time-dependent infection rate: traveling wave solution. *Advances in Difference Equations* 2017.
13. Satiracoo P and De Gaetano A. Panunzi S. Parameter estimation of a simple, realistic stochastic model of gastric emptying of pellets under fasting conditions, Accepted.

14. Tshewang U, Satiracoo P and Yongwimon Lenbury. Survival Analysis of Cervical Cancer Patients: A Case Study of Bhutan. In progress.

## Conferences

1. Satiracoo P, Pokethitiyook P, Lenbury Y, Potivichayanon S, Agarwal R P. Development and Experimental Validation of a Model for Biofiltration for Odor Control: Effect of Biofilm Development. Franco- Thai Seminar in Pure and Applied Mathematics, Faculty of Science, Mahidol University, 2009.
2. Satiracoo P, Pokethitiyook P, Lenbury Y, Potivichayanon S, Agarwal R P. Development and Experimental Validation of a Model for Biofiltration for Odor Control: Effect of Biofilm Development. Recent Advances in Mathematics, Cambridge, MA, USA, 2013.
3. Satiracoo, P, Chayantrakom K, and Baowan D. Modelling hydrogen storage inside fullerenes. International Conference in Mathematics and Applications, 2013.
4. Satiracoo P, Lenbury Y, De Gaetano A, Panunzi S. Parameter Estimation of a Stochastic Model of Gastric Emptying. International Conference in Mathematics and Applications, 2018.
5. Sangngam R, Lenbury Y, Bunwong K, Satiracoo P, De Gaetano A and Panunzi S. A mathematical modeling of gastrointestinal tract: an influence of gastric emptying on glucose concentration. Proceeding of ICMA-MU 2018.
6. Ruengsakulrach P, Thupvong K, Pitiguagool V, Pamornsing P, Akanitthapichat S, Udomkusonsri J, Chudtong M, Satiracoo P. Mid and Long term outcome and factors influencing survival after off-pump coronary artery bypass grafting. 29<sup>th</sup> Congress of the World Society of Cardiovascular and Thoracic Surgeons, 2019.
7. Tshewang U, Satiracoo P and Unhapipat S. Cox model survival analysis based on cervical cancer treatments. Proceeding of ICMA-MU 2020.
8. Tipakornrojanakit K, Mantana C, Gareth WP and Satiracoo P. Covariance forecasting methods for dynamic asset allocation. Proceeding of ICMA-MU 2020.

## Teaching

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### Student Supervision

Ph.D.

1. Teeranush Suebcharoen (2009), Dynamic Population Models With Delay And Harvesting.
2. Jiraphat Yokrattanasak (2013), A Stochastic Model For Gastric Emptying.

M.Sc.

1. Jiraphat Yokrattanasak (2008), Experimental Validation And Parameter Sensitivity Of A Model For Biotrickling Filtration Of Hydrogen Sulfide.
2. Panupong Oonsupwilai (2015), A Dual Long Memory Model in Thailand Stock Index Returns and Volatility with Non-normal Distribution.
3. Rattana Sangngam (2017), A Mathematical Modelling Of Gastrointestinal Tract: An Effect Of Randomness In Gastric Emptying
4. Ugyen Tshewang (2021), Applications Of Survival Analysis: A Case Study On Cervical Cancer Patients In Bhutan. (M.Sc candidate)