

# Benchawan Wiwatanapataphee

## Associate Professor, PhD

Curtin University  
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ORCID	<a href="https://orcid.org/0000-0003-1875-6984">https://orcid.org/0000-0003-1875-6984</a>
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GOOGLE SCHOLAR	<a href="https://scholar.google.com/citations?user=td86cJcAAAAJ&amp;hl=en">https://scholar.google.com/citations?user=td86cJcAAAAJ&amp;hl=en</a>
LINKEDIN PROFILE	<a href="https://www.linkedin.com/in/benchawan-wiwatanapataphee-28560011a/">https://www.linkedin.com/in/benchawan-wiwatanapataphee-28560011a/</a>
GITHUB PROFILE	<a href="https://ben-wiwat.github.io">https://ben-wiwat.github.io</a>

HIGHEST ACADEMIC DEGREE	1998	Ph.D. in Applied Mathematics Curtin University
	Dissertation:	<a href="#">Mathematical modeling of fluid flow and heat transfer in the continuous steel casting</a>

EMPLOYMENT HISTORY	2015 – Now	<b>Associate Professor</b> <a href="#">Mathematics and Statistics</a> <a href="#">School of Electrical Engineering, Computing, and Mathematical Science</a> <a href="#">Curtin University</a>
	2014 – 2011	<b>Professor</b> Department of Mathematics Mahidol University
	2000 – 2011	<b>Associate Professor</b> Department of Mathematics Mahidol University
	1998 – 2000	<b>Assistant Professor</b> Department of Mathematics Mahidol University

THAI ROYAL ORDERS AND DECORATIONS	Oct 2019	Chakrabarti Mala Medal - Medal for Long Service and Good Conduct (Civil)
	Dec 2010	Knight Grand Cross (First Class) of the Most Exalted Order of the White Elephant
	Dec 2007	Knight Grand Cross (First Class) of the Most Noble Order of the Crown of Thailand
	Dec 2004	Knight Commander (Second Class) of the Most Exalted Order of the White Elephant

PRIZES, HONOURS AND AWARDS	2016	Prize in most cited Mathematics articles - Scopus from 2010 to 2016 from Mahidol University, Thailand, THB 100,000
	2010	The best research in Applied Mathematics from Mahidol University, Thailand, THB 100,000
	2007	Prize of the Best Research in Mathematical Sciences from the National Research Council of Thailand, for the seminal research on “Mathematical Modelling of Blood flow in the Coronary Artery Bypass Graft”, THB 100,000
	2007	Australia Endeavour Research Fellowship from the Ministry of Education, Australia, AUD 25,000
	2005	Endeavour Australia Cheung Kong Award from the Ministry of Education, Australia, AUD 25,000
	1999	Third World Academy of Science Award for Young Scientists in Thailand in the field of Mathematical Sciences by National Research Council THAILAND (NRCT) and the Third World Academy of Sciences (TWAS), THB 100,000

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**RESEARCH GRANTS**

2018 - 2021	<a href="#">2.56ARC Improving Road Network Operations under Non-recurrent Events (LP170100341), AUD228,000</a>	Australian Research Council (ARC)
2012 - 2014	Leap research grant for the project entitled "Optimal control of disease transmission in Thailand", THB2,400,000	Faculty of Science, Mahidol University
2012 - 2014	Research grant (RG-1-53-09-2) for the project entitled "Spreading Dynamics of Epidemic Model on Adaptive Social Network", THB1,600,000	Centre Excellent in Mathematics, CHE, Ministry of Education
2008 - 2011	Empowering research grant (RMU5080070) for university lecturers for the project entitled "Modelling of Blood Flow and Drug Delivery through the Stenosed Coronary Artery with Magnetic Field", THB1,060,000	Commission on Higher Education (CHE), Ministry of Education & Thailand Research Fund
2006 - 2008	Focused research grant (MATH-MU-2549) for the project entitled "Optimal Control and Design of Coronary Arterial Bypass", THB 1,301,100	Faculty of Science, Mahidol University, Bangkok, Thailand
2007 - 2011	Research grant (PHD/0148/2548) for the project entitled "Simulation and Analysis of Blood Flow in Tumour-Induced Coronary Artery and Capillary Networks" THB 2,152,000	Thailand Research Fund: The Royal Golden Jubilee Ph.D. Program
2008 - 2012	Research grant (PHD/0212/2549) for the project entitled "Mathematical model for fluid flow and heat transfer in continuous casting process" THB 1,195,000	Thailand Research Fund: The Royal Golden Jubilee Ph.D. Program
2002 - 2004	Research grant (MT-B-45-MET-14-102-G) for the project entitled "Computational Techniques for Heat Transfer and Solidification in the Continuous Casting Machine", THB 1,363,560	MTEC National Science and Technology Development Agency, Thailand
2001 - 2002	Research grant (MT-S-42-MET-14-078-G) for the project entitled "Modelling Investigation and Control of the Formation of Oscillation Marks in the Continuous Casting of Steel", THB 200,000	MTEC National Science and Technology Development Agency, Thailand

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**LEADERSHIP EXPERIENCE**

2017 - Now	Deputy to the Postgraduate Course Coordinator in Mathematics and Statistics, Curtin University, responsible for the master programs including MSc (Math Sci) and MSc (IE). The MSc (IE) was ranked top 7 in the field of Industrial and Operations Management in the <a href="#">2023 Eduniversal Best Masters Ranking</a>
2017 - Now	Coordinator for the Mahidol - Curtin articulation Program
2019 - Now	Project Manager for the ARC linkage project <a href="#">LP170100341</a> responsible for assisting the project leader with quarterly research reports and organizing quarterly meetings with industrial partners (MRWA and Roads and Maritime Services NSW)
2012 - 2014	Member of the Academic Promotion Committee for the Thailand Higher Education Commission (OHEC), MOE, Thailand
2005 - 2012	Deputy Head of the Department of Mathematics, Mahidol University
2000 - 2004	PhD Program Chair, Department of Mathematics, Mahidol University
2004 - 2008	Member of the University Research Grant Committee, Mahidol University
2012 - 2014	Member of the Faculty of Science Screening Committee for Academic Promotion, Mahidol University
2000 - 2014	Evaluation Committee for Staff Performance, Department of Mathematics and Statistics, Mahidol University

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## RESEARCH INTEREST

- Applied and Computational Mathematics
- Modelling and Optimisation in Industrial Management
- Approximation theory and asymptotic methods
- Numerical solution of differential and integral equations
- Computational Finance
- Computational Statistics and Data Analysis

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## TEACHING EXPERIENCES

- **Curriculum Development**
  - Strategic development of the [BSc \(Financial Mathematics\)](#) course at Curtin University, which now attracts many international students and has led to the establishment of several articulation agreements with Universities in China.
  - Strategic establishment of the [BSc \(Actuarial Science\)](#) program at Mahidol University as the then Deputy Department Head. Currently, the program attracts over 50 students each year, and some of them will complete their final three semesters of study at Curtin based on a Curtin-Mahidol agreement.
- **UG and PG units taught or coordinated at Curtin University**
  - Computational Mathematics (UG)
  - Industrial Engineering Project (UG)
  - Applied Mathematical Modelling (UG) and Applied Mathematics Topics (PG)
  - Advanced Numerical Analysis (PG)
  - Supply Chain Modelling and optimisation (UG and PG)

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## OTHER PROFESSIONAL AND ACADEMIC SERVICES

- **Grant Assessment**
    - The Australian Research Council (ARC)
    - Thailand Research Funds (TRF)
    - National Science and Technology Development Agency (NSTDA)
    - National Research Council of Thailand (NRCT)
  - **Journal Editing**
    - A Special Issue of the International Journal of Differential Equations (Current)
    - Cogent Mathematics (Comp. Sci. section)
    - A Special Issue of Mathematical Problems in Engineering
    - Abstract and Applied Analysis special issue: Nonlinear Functional Analysis of Complex Boundary Value Problems
    - A Special Issue of Dynamics of Discrete, Continuous and Impulsive System B
  - **Journal Review Service**
    - Computer and Mathematics with Application
    - Nonlinear Analysis - Theory Methods and Applications
    - Advances in Differential Equations, Applied Mathematical Modelling
    - The Songklanakarin Journal of Science and Technology
    - Meccanica (MECC)
    - Applied Bionics and Biomechanics
    - Mathematical Biosciences and Engineering (MBE)
  - **PhD Thesis Examination**
    - BASR University Of Karachi, Pakistan
    - Visvesvaraya Technological University, Karnataka state, India
    - Chulalongkorn University, Thailand
    - Silpakorn University, Thailand
    - Thammasat University, Thailand
    - King Mongkote Institute, Thailand
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**PROJECT &  
DISSERTATION  
SUPERVISION  
STATS**

Current  
PhD 3  
Honours 1

Graduated  
32  
2

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**CURRENT PHD  
STUDENT**

2023 – Now Shaofan Yao  
2022 – Now Afnan Almuhaysh  
2021 – Now Liyuan Zhang

Co-supervisor  
Co-supervisor  
Co-supervisor

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**GRADUATED  
PHD  
STUDENTS  
(CURTIN)**

2023 [Amani Ahmed Otaif](#)  
[Fahad Aljuaydi](#)  
2022 [ChuanYe Gu](#)  
[Yu Yang](#)  
Rui Li  
Na Wei  
2019 [Shican Liu](#)  
[Muhammad Kamran](#)  
2018 YS Jiang  
2017 [Phang Piau](#)  
[Elayaraja Aruchunan](#)

Jazan University, Saudi Arabia  
Prince Sattam Bin Abdulaziz University, Saudi Arabia  
Guangzhou University, China  
University of Electronic Science and Technology of China  
  
Zhongnan University of Economics and Law, China  
Zhongnan University of Economics and Law, China  
Deakin College, Australia  
Zhongnan University of Economics and Law, China  
Universiti Malaysia Sarawak  
The University of Malaya and Industrial Consultancy

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**GRADUATED  
PHD  
STUDENTS  
(MAHIDOL)**

2019 [Kamonchat Trachoo](#)  
[Din Prathumwan](#)  
2018 [Pearanat Chuchard](#)  
[Akapak Charoenloedmongkhon](#)  
2017 [Benjamas Chimmalee](#)  
2012 [Ujjwal KumarDeb](#)  
[Burasakorn Nuntadilok](#)  
2011 [Suthiwat Tongnak](#)  
2010 [Theeradech Mookum](#)  
[Warium Chuayjan](#)  
2009 [M.M. Touhid Hossain](#)  
[Wanika Jumpen Sawangtong](#)  
[Sakda Noinang](#)  
[Phattharawadee Hadkaew](#)  
2008 [Supachara Kongnuan](#)  
[Daungkamon Poltems](#)  
[Sineenard Srimongkol](#)  
[Permyos Ruengsakulrach](#)  
2004 [Jutathip Achapitak Sillabutra](#)  
[Bundit Unyong](#)

Maharakham University, Thailand  
Khon Kean University, Thailand  
Ramkhamhang University, Thailand  
King Mongkut's University of Technology North Bangkok  
Sisaket Rajabhat University, Thailand  
University of Chittagong, Bangladesh  
Maejo University, Thailand  
Thaksin University, Thailand  
Mae Fah Luang University, Thailand  
Thaksin University, Thailand  
Khulna University of Engineering & Technology  
Mahidol University, Thailand  
Ubon Ratchathani University, Thailand  
IPST, Thailand  
Thammasat University, Thailand  
Burapha University, Thailand  
Burapha University, Thailand  
Bangkok Hospital, Thailand  
Mahidol University, Thailand  
Phuket Rajabhat University, Thailand

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**PATENT**

3 Jan 2022 B Wiwatanapataphee, T Siriapisith, and YH Wu. [Computer model of the coronary system with and with no bypass grafts](#). Patent number: 85480. Application number: 0901004239. Publisher URL <https://patentservice.ipthailand.go.th/ecert/qr/256401028835211>

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**BOOKS**

YH Wu, B.Wiwatanapataphee, [Numerical Methods: Theories and Algorithms](#). Physics Center Press Limited Partnership, Bangkok, Thailand, 2007, ISBN: 978-974-434-897-5

YH Wu, B. Wiwatanapataphee, [Finite Element Method and Applications](#). MisterKopy Publishing Company, Bangkok, Thailand, 2006, ISBN: 974-94652-8-8

B. Wiwatanapataphee, [Program Design: C++/Fortran 95/MATLAB](#). MisterKopy Publishing Company, Bangkok, Thailand, 2006, ISBN: 974-94652-7-X

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**REFEREED  
JOURNAL  
PAPERS**

1. X Zhang, P Chen, YH Wu, B Wiwatanapataphee 2023 A necessary and sufficient condition of the existence of entire large solutions for a  $k$ -Hessian system, *Applied Mathematics Letters*, 108745.
2. F Aljuaydi, B Wiwatanapataphee, YH Wu 2023 Multivariate machine learning-based prediction models of freeway traffic flow under non-recurrent events, *Alexandria engineering journal* 65: 151-162.
3. X Zhang, H Tian, YH Wu, B Wiwatanapataphee 2023 Existence of positive solutions for third-order semipositone boundary value problems on time scales, *Nonlinear Analysis: Modelling and Control* 28, 1-19
4. C Gu, C Wu, YH Wu, B Wiwatanapataphee 2022 Distributionally robust ramp metering under traffic demand uncertainty, *Transportmetrica B: Transport Dynamics* 10 (1), 652-666.
5. X Zhang, H Tian, YH Wu, B Wiwatanapataphee 2022 The radial solution for an eigenvalue problem of singular augmented Hessian equation, *Applied Mathematics Letters* 134, 108330.
6. N Chuchalerms, W Sawangtong, B Wiwatanapataphee, T Siriapisith 2022 Study of Non-Newtonian blood flow-heat transfer characteristics in the human coronary system with an external magnetic field, *Mathematical Biosciences and Engineering* 19 (9), 9550-9570.
7. H Tian, X Zhang, YH Wu, B Wiwatanapataphee 2022 Existence of Positive Solutions for a Singular Second-Order Changing-Sign Differential Equation on Time Scales, *Fractal and Fractional* 6 (6), 315.
8. X Zhang, D Kong, H Tian, YH Wu, B Wiwatanapataphee 2022 An upper-lower solution method for the eigenvalue problem of Hadamard-type singular fractional differential equation, *Nonlinear Analysis: Modelling and Control* 27, 1-14.
9. X Zhang, P Xu, YH Wu, B Wiwatanapataphee 2022 The uniqueness and iterative properties of solutions for a general Hadamard-type singular fractional turbulent flow model, *Nonlinear Analysis: Modelling and Control* 27 (3), 428-444.
10. Y Yang, S Liu, YH Wu. 2021 B Wiwatanapataphee, Pricing of volatility derivatives in a Heston-CIR model with Markov-modulated jump diffusion, *Journal of Computational and Applied Mathematics* 393, 113277
11. X Zhang, L Liu, YH Wu, B Wiwatanapataphee. 2021 Multiple solutions for a modified quasilinear Schrödinger elliptic equation with a nonsquare diffusion term, *Nonlinear Analysis: Modelling and Control* 26 (4), 702-717
12. X Zhang, L Liu, YH Wu, B Wiwatanapataphee, Y Cui. 2021 Solvability and asymptotic properties for an elliptic geophysical fluid flows model in a planar exterior domain, *Nonlinear Analysis: Modelling and Control* 26 (2), 315-333
13. X Zhang, J Jiang, Y Wu, B Wiwatanapataphee. 2021 Iterative properties of solution for a general singular  $n$ -Hessian equation with decreasing nonlinearity, *Applied Mathematics Letters* 112, 106826
14. M Ratchagit, B Wiwatanapataphee, D Nur. 2020 On Parameter Estimation of Stochastic Delay Difference Equation using the Two -delay Autoregressive Coefficients, *IEEE, ISRITI*: 310-314.

15. Y Yang, YH Wu, B Wiwatanapataphee. 2020 Time-consistent mean-variance asset-liability management in a regime-switching jump-diffusion market, *Financial Markets and Portfolio Management* 34 (4), 401-427
16. S Liu, B Wiwatanapataphee, YH Wu, Y Yang. 2020 Variance Swap Pricing under Hybrid Jump Model, *EAST ASIAN JOURNAL ON APPLIED MATHEMATICS* 10 (3), 594-619
17. G Keady, B Wiwatanapataphee. 2020 Variational approximations for steady unidirectional slip flows in microchannels, *Journal of Fluids Engineering* 142 (7), 074501
18. N Chuchalerm, B Wiwatanapataphee, W Sawangton. 2020, Pressure-Driven Thermal Slip Flow in the Elliptical Channel with Radial Oscillatory Wall, *Journal of Applied Mathematics* 2020
19. L Liu, YH Wu, B Wiwatanapataphee. 2020 Multiple solutions for a modified quasilinear Schrödinger elliptic equation with a non-square diffusion term, *Authorea Preprints*
20. M Ratchagit, B Wiwatanapataphee, N Dokuchaev. 2020 The m-delay Autoregressive Model with Application, *CMES-Computer Modeling in Engineering and Sciences* 122 (2), 487-504
21. Y Zhang, YH Wu, B Wiwatanapataphee, F Angkola. 2020 Asset liability management for an ordinary insurance system with proportional reinsurance in a CIR stochastic interest rate and Heston stochastic volatility framework, *Journal of Industrial & Management Optimization* 16 (1), 71
22. S Chomcheon, N Khajohnsaksumeth, B Wiwatanapataphee, X Ge, Modeling and simulation of air pollutant distribution in street canyon area with Skytrain stations, *Advances in Difference Equations* 2019 (1), 1-13
23. S Pothipphan, N Khajohnsaksumeth, B Wiwatanapataphee. 2019 Effects of the wind speeds on heat transfer in a street canyon with a skytrain station, *Advances in Difference Equations* 2019 (1), 258 N
24. N Bunkluarb, W Sawangtong, N Khajohnsaksumeth, B Wiwatanapataphee. 2019 Numerical simulation of granular mixing in static mixers with different geometries, *Advances in Difference Equations* 2019 (1), 238
25. B Wiwatanapataphee, W Sawangtong, N Khajohnsaksumeth, YH Wu, Oscillating PressureDriven Slip Flow and Heat Transfer Through an Elliptical Microchannel, *Advances in Difference Equations* (INPRESS)
26. M Kamran, B Wiwatanapataphee. 2018 Chemical reaction and Newtonian heating effects on steady convection flow of a micropolar fluid with second order slip at the boundary, *European Journal of Mechanics - B/Fluids*, vol. 71, pp. 138--150, doi:10.1016/j.euromechflu.2018.04.005
27. P Sawangtong, K Trachoo, W Sawangtong, B Wiwatanapataphee. 2018 The Analytical Solution for the Black-Scholes Equation with Two Assets in the Liouville-Caputo Fractional Derivative Sense, *Mathematics*, vol. 6, no. 8, pp. 129, doi:10.3390/math6080129
28. G Keady, B Wiwatanapataphee. 2018 Inequalities for the fundamental Robin eigenvalue for the Laplacian on N-dimensional rectangular parallelepipeds, *Mathematical Inequalities & Applications*, pp. 911--930, doi:10.7153/mia-2018-21-62
29. G Keady, N Khajohnsaksumeth, B Wiwatanapataphee. 2018 On functions and inverses, both positive, decreasing and convex: And Stieltjes functions, *Cogent Mathematics and Statistics*, vol. 5, no. 1, doi:10.1080/25742558.2018.1477543
30. M Kaewbumrung, S Orankitjaroen, P Boonkrong, B Nuntadilok, B Wiwatanapataphee. 2018 Numerical Simulation of Dispersed Particle-Blood Flow in the Stenosed Coronary Arteries, *International Journal of Differential Equations*, vol. 2018, pp. 1--16, doi:10.1155/2018/2593425
31. M Kamran, B Wiwatanapataphee. 2018 Radiative magneto-micropolar fluid flow over a stretching/shrinking sheet with slip flow model, *Journal of Physics: Conference Series*, vol. 1123, pp. 012034, doi:10.1088/1742-6596/1123/1/012034
32. M Kamran, B Wiwatanapataphee and K Vajravelu. 2018 Hall current, Newtonian heating and second-order slip effects on convective magneto-micropolar fluid flow over a sheet, *International Journal of Modern Physics C*, vol. 29, no. 09, pp. 1850090, doi:10.1142/s0129183118500900
33. S Liu, Y Zhou, B Wiwatanapataphee, YH Wu, X Ge. 2018 The Study of Utility Valuation of Single-Name Credit Derivatives with the Fast-Scale Stochastic Volatility Correction, *Sustainability*, vol. 10, no. 4, pp. 1027, doi:10.3390/su10041027
34. Y Zhang, YH Wu, B Wiwatanapataphee, F Angola. 2017 'Asset liability management for an ordinary insurance system with proportional reinsurance in a CIR stochastic interest rate and Heston stochastic volatility framework, *Journal of Industrial & Management Optimization*, vol. 13, no. 5, pp. 1--31, doi:10.3934/jimo.2018141

35. P Chuchard, S Orankitjaroen, B Wiwatanapataphee. 2017 Study of pulsatile pressure-driven electroosmotic flows through an elliptic cylindrical microchannel with the Navier slip condition, *Advances in Difference Equations*, vol. 2017, no. 1, doi:10.1186/s13662-017-1209-z
36. P Phang, B Wiwatanapataphee, YH Wu. 2017 'Social and economic influences on human behavioural response in an emerging epidemic, *Journal of Physics: Conference Series*, vol. 893, pp. 012017, doi:10.1088/1742-6596/893/1/012017
37. M Kaewbumrung, B Wiwatanapataphee, S Orankitjaroen, T Siriapisith. 2017 Numerical Simulation of Turbulent Blood Flow in the System of Coronary Arteries with Stenosis, *Journal of Biometrics & Biostatistics*, vol. 08, no. 02, doi:10.4172/2155-6180.1000344
38. G Xie, YH Wu, S Nardini, B Wiwatanapataphee, N Gui, Y Zhao. 2016 Advanced approaches of modeling and measurement for turbulence and heat transfer, *Advances in Mechanical Engineering*, vol. 8, no. 8, pp. 168781401666374, doi:10.1177/1687814016663743
39. X Zhang, L Liu, YH Wu, B Wiwatanapataphee. 2017 Nontrivial solutions for a fractional advection dispersion equation in anomalous diffusion, *Applied Mathematics Letters*, vol. 66, pp. 1--8, doi:10.1016/j.aml.2016.10.015
40. Y Zhang, YH Wu, S Li, B Wiwatanapataphee. 2017 Mean-Variance Asset Liability Management with State-Dependent Risk Aversion, *North American Actuarial Journal*, vol. 21, no. 1, pp. 87-106, doi:10.1080/10920277.2016.1247719
41. J Wu, X Zhang, L Liu, YH Wu, B Wiwatanapataphee. 2016 Iterative algorithm and estimation of solution for a fractional order differential equation, *Boundary Value Problems*, vol. 2016, no. 1, doi:10.1186/s13661-016-0608-5
42. A Charoenloedmongkhon, B Wiwatanapataphee, W Sawangtong, N Khajohnsakumeth, L Giannini. 2016, Numerical simulation of air-bulk solid flows in a silo with inserts, *Advances and Applications in Fluid Mechanics*, vol. 19, no. 3, pp. 643--667, doi:10.17654/fm019030643
43. B Chimmalee, W Sawangtong, B Wiwatanapataphee. 2016 The effects of community interactions and quarantine on a complex network, *Cogent Mathematics*, vol. 3, no. 1, doi:10.1080/23311835.2016.1249141
44. X Zhang, L Liu, YH Wu, B Wiwatanapataphee. 2015 The Spectral Analysis for a singular Fractional Differential Equation with a Signed Measure, *Applied Mathematics and Computation*, 257, 252-263.
45. B Wiwatanapataphee, YH Wu, S Suharsono. 2014 Transient Flows of Newtonian Fluid through a Rectangular Microchannel with Slip Boundary, *Abstract and Applied Analysis*.
46. Q Sun, YH Wu, L Liu, B Wiwatanapataphee. 2014 Solution of Time Periodic Electroosmosis Flow with Slip Boundary, *Abstract and Applied Analysis*.  
<https://www.hindawi.com/journals/aaa/2014/789147/abs/>
47. X Zhang, L Liu, B Wiwatanapataphee, YH Wu. 2014 The eigenvalue for a class of Singular pLaplacian fractional differential equations involving the Riemann-Stieltjes integral boundary condition. *Applied Mathematics and Computation* 235, 412-422.
48. N Bunkluarb, B Wiwatanapataphee, W Jumpen. 2014 Numerical Simulation of Blood Flow in the Right Coronary Artery with particle Chain, *Electronics, Computer and Applications*, 2014 IEEE Workshop on, 813-817.
49. S Li, Y Zhou, X Ruan, B Wiwatanapataphee. 2014 Pricing of American Put Option under a Jump Diffusion Process with Stochastic Volatility in an Incomplete Market. *Abstract and Applied Analysis*. <https://www.hindawi.com/journals/aaa/2014/236091/abs/>
50. C Phang, YH Wu, B Wiwatanapataphee. 2014 Analysis Solution for the Spread of Epidemic Diseases in Community Clustered Network, *International Journal of Pure and Applied Mathematics* 94 (2) 2014, 133-154.
51. N Khajohnsakumeth, B Wiwatanapataphee, YH Wu. 2013 The effect of boundary slip on the transient pulsatile flow of a modified second-grade fluid, *Abstract and Applied Analysis* 2013.
52. Q Sun, YH Wu, L Liu, B Wiwatanapataphee. 2013 Study of a Newtonian through Circular Channels with Slip Boundary Taking into Account Electrokinetic Effect. *Abstract and Applied Analysis* at <https://www.hindawi.com/journals/aaa/2013/718603/abs/>
53. J Jiang, X. Ge, B. Wiwatanapataphee and X. Ge. 2013 Nonexistence results for the SchrodingerPoisson equations with spherical and cylindrical potentials in  $R^3$ , *Abstract and Applied Analysis* 2013. <https://www.hindawi.com/journals/aaa/2013/890126/abs/>
54. C Phang, YH Wu, B.Wiwatanapataphee. 2013 Computation of Domain of Attraction for the Suboptimal Immunity Epidemic Models using the Maximal Lyapunov Function Method ,

- Abstract and Applied Analysis, 2013, 1-7, article id 508794 (top Quartile in Appl Maths – ISI web of Knowledge)
55. Y Zhou, YH Wu, X Ge, B Wiwatanapataphee. 2013 A Robust Weak Taylor Approximation Scheme for Solutions of jump-diffusion Stochastic Differential Delay Equations , Abstract and Applied Analysis, 2013, 1-8, article id 750147(top Quartile in Appl Maths – ISI web of Knowledge)
  56. B Nuntadilok, J Poulter, P Boonkrong, B Wiwatanapataphee. 2013 Numerical Study of Pulsatile Blood Flow in the Coronary System with the RCA Bypass Graft. Journal of Pure and Applied Mathematics: Advances and Applications 9 (2), 81-106.
  57. B Wiwatanapataphee, YH Wu, T Siriapisith, B Nuntadilok. 2012 Effect of branchings on blood flow in the system of human coronary arteries. Mathematical Biosciences and Engineering 9(1) , pp. 199-214 (B band)
  58. B Wiwatanapataphee, YH Wu. 2012 Mathematical study of blood flow in the real model of the right coronary artery - Bypass graft system. Dynamics of Continuous, Discrete and Impulsive Systems Series B: Applications and Algorithms 19(4-5) , pp. 621-635. (B band)
  59. X Zhang,, L Liu, B Wiwatanapataphee, YH Wu. 2012 Positive solutions of eigenvalue problems for a class of fractional differential equations with derivatives. Abstr. Appl. Anal. 2012, Art. ID 512127, 16 pp (top Quartile in Appl Maths – ISI web of Knowledge)
  60. B Wiwatanapataphee, T Mookum, YH Wu. 2011 Numerical simulation of two-fluid flow and meniscus interface movement in the electromagnetic continuous steel casting process. Discrete and Continuous Dynamical Systems - Series B 16(4), pp. 1171-1183 (A band).
  61. SY Lai, B Wiwatanapataphee. 2011 The asymptotics of global solutions for semilinear wave equations in two space dimensions. Dyn. Contin. Discrete Impuls. Syst. Ser. B Appl. Algorithms 18(5), 647-657. 35L71 (B band)
  62. K Kaorapapong, S Amornsamankul, I Tang, B Wiwatanapataphee. 2011 Heat transfer in cemented hip replacement process, International Journal of Mechanics 5(3), 202-209.
  63. W Jumpen, S Orankitjaroen, P Boonkrong, B Wiwatanapataphee. 2011 SEIQR-SIS epidemic network model and its stability 2011 International Journal of Mathematics and Computers in Simulation 5(4), 326-333.
  64. T Mookum, B Wiwatanapataphee, YH Wu. 2010 Modeling of two-fluid flow and heat transfer with solidification in continuous steel casting process under electromagnetic force. 2010. Int. J. Pure Appl. Math 63(2), 183-195.
  65. S Amornsamankul, K Kaorapapong, B Wiwatanapataphee. 2010 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), 171-178.
  66. W Chuayjan, S Pothipphan, B Wiwatanapataphee, YH Wu. 2010 Numerical simulation of granular flow during filling and discharging of a silo. Int. J. Pure Appl. Math. 62(3), 347- 364. 76T25 (76M10)
  67. B Wiwatanapataphee, YH Wu, M Hu, K Chayantrakom. 2009 A study of transient flows of Newtonian fluids through micro-annuls with a slip boundary. J. Phys. A 42 (6), article number 065206, 14 pp. (A band).
  68. B Wiwatanapataphee. 2008 Modelling of non-Newtonian blood flow through stenosed coronary arteries. Dyn. Contin. Discrete Impuls. Syst. Ser. B Appl. Algorithms 15 (5), 619-634. 76Z05 ( B band)
  69. YH Wu, B Wiwatanapataphee, M Hu. 2008 Pressure-driven transient flows of Newtonian fluids through microtubes with slip boundary. Physica A: Statistical Mechanics and its Applications 387(24) , pp. 5979-5990. (A band)
  70. S Lai, YH Wu, B Wiwatanapataphee. 2008 On exact travelling wave solutions for two types of nonlinear  $K(n,n)$  equations and a generalized KP equation. J. Comput. Appl. Math. 212 (2) 291-299. (A band)
  71. L Liu, P Kang, YH Wu, B Wiwatanapataphee. 2008 Positive solutions of singular boundary value problems for systems of nonlinear fourth order differential equations. Nonlinear Analysis: Theory, Methods & Applications. 68 (3), 485-498. (A band)
  72. P Hadkaew, B Wiwatanapataphee, YH Wu. 2008 Project-based Learning Model for the Study of Blood Flow in the Human blood Circulatory System, The International Journal of Learning, 15, 195-202 (B band)
  73. B Wiwatanapataphee, YH Wu, S Amornsamankul, B Novapruteep. 2008 Simulation of transient blood flows in the artery with an asymmetric stenosis, ANZIAM Journal 48, C1006-1020 (B band)



74. P Ruengsakulrach, AK Joshi, S Fremes, S Foster, J Butany, B Wiwatanapataphee, Y Lenbury. 2008 Wall shear stress and atherosclerosis: numerical blood flow simulations in the mouse aortic arch, WSEAS Transactions on Fluid Mechanics 2, 90-100.
  75. X Zhang, L Liu, B Wiwatanapataphee, YH Wu. 2007 Singular higher-order semipositone nonlinear eigenvalue problems. Dyn. Contin. Discrete Impuls. Syst. Ser. A Math. Anal. 14 (4), 565-576.
  76. YH Wu, B Wiwatanapataphee. 2007 Modelling of turbulent flow and multi-phase heat transfer under electromagnetic force, Discrete and Continuous Dynamical Systems - Series B 2007(3), 695-706.
  77. W Yuan, B Wiwatanapataphee, YH Wu. 2007 On normal criteria of meromorphic functions. Int. J. Math. Sci. 6(1), 29-36.
  78. CF Tang, R Jiang, QS Wu, B Wiwatanapataphee, YH Wu. 2007 Mixed traffic flow in Anisotropic continuum model, Transportation research record, 1999(2007), 13 -22 .
  79. T Hon, YH Wu, B Wiwatanapataphee, C X Yang. 2007 Mathematical analysis of the effect of tectonic stress on the stability of underground tunnels, ANZIAM Journal, 47 (2007) C858-827.
  80. B Wiwatanapataphee, K Chayantrakom, YH Wu. 2007 Mathematical modelling and numerical simulation of fluid-magnetic particle flow in a small vessel, International Journal of Mathematical Models and Methods in Applied Sciences 1, 205-215.
  81. D Poltem, B Wiwatanapataphee, YH Wu, Y Lenbury. 2006 A numerical study of non-Newtonian blood flow in stenosed coronary artery bypass with grafts, ANZIAM Journal, 47, C-277-291.
  82. S Srimongkol, B Wiwatanapataphee, YH Wu. 2006 Computer simulation of polymethymethacrylate bone cement flow through femoral canal and cancellous bone, ANZIAM Journal, 47, C355-369.
  83. B Wiwatanapataphee, S Amornsamankul, YH Wu, Y Lenbury. 2006 Simulation of transient blood flow through stenosed coronary arteries, WSEAS Transactions on Fluid Mechanics, 1, 771-778.
  84. B Wiwatanapataphee, S Kongnual, YH Wu. 2006 Finite element analysis of turbulent flow of molten steel in tundish vessels. Int. J. Pure Appl. Math. 26 (3), 409-422.
  85. B Wiwatanapataphee, D Poltem, YH Wu, Y Lenbury 2006 Simulation of pulsatile flow of blood in stenosed coronary artery bypass with graft. Math. Biosci. Eng. 3 (2), 371-383.
  86. S Amornsamankul, B Wiwatanapataphee, YH Wu, Y Lenbury. 2006 Effect of Non-Newtonian Behaviour of blood on Pulsatile Flows in Stenotic Arteries, International journal of Biomedical Sciences, 1, 42-46.
  87. K Chayantrakom, B Wiwatanapataphee, YH Wu, QS Wu. 2005 Continuum modelling of granular flows. East-West J. Math. Spec. 2005, 243-252.
  88. B Wiwatanapataphee, D Poltem, YH Wu, Y Lenbury. 2005 Unsteady state blood flow in stenosed coronary artery bypass grafts. East-West J. Math. Spec. 2005, 59-67..
  89. YH Wu, ZH Tang, B Wiwatanapataphee. 2005 A computational method for simulation and control of fluid flow in porous media. East-West J. Math. Spec. 2005, 23-30.
  90. YH Wu, B Wiwatanapataphee, X Yu. 2004 An enthalpy control volume method for transient mass and heat transport with solidification. Int. J. Comput. Fluid Dyn. 18 (7), 577-584.
  91. B Wiwatanapataphee, YH Wu, J Archapitak, PF Siew, B Unyong. 2004 A numerical study of the turbulent flow of molten steel in a domain with a phase-change boundary, Journal of Computational and Applied Mathematics 166 (1), 307-319. .
  92. J Archapitak, B Wiwatanapataphee, YH Wu, IM Tang. 2004 A finite element scheme for the determination of electromagnetic force in continuous steel casting. Int. J. Comput. Numer. Anal. Appl. 5(1), 81-95.
  93. JB Song, YH Wu, B Wiwatanapataphee. 2000 Probability distribution of random wave forces in weakly nonlinear random waves, Ocean Engineering 27 (12), 1391-1405.
  94. YH Wu, B Wiwatanapataphee, R Collinson, G Zhang. 2000 An exponentially fitted enthalpy control volume algorithm for coupled fluid flow and heat transfer. ANZIAM J. 42C, C1580C1598.
  95. JM Hill, YH Wu, B Wiwatanapataphee. 1999 Analysis of flux flow and the formation of oscillation marks in the continuous caster. Journal of Engineering Mathematics 36 (4), 311-326.
  96. IM Tang, S Varamit, B Wiwatanapataphee. 1999 Local field fluctuations in the mixed spinel ferrite, Ni<sub>1-x</sub>Zn<sub>x</sub>Fe<sub>2</sub>O<sub>4</sub>, Modern Physics Letters B 13 (6-7), 209-214.
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