

## CV

### CHU-CHUN-LIN Singfat

Completed O and A levels in Mauritius

Secondary school Maths teacher in Mauritius: Jan 1980-Aug 1981

BSc, First Class Honours in Statistics, Queen's University, Canada, 1985

PhD in Business Statistics, UBC Sauder School, 1991; Dissertation Title:  
Statistical Analysis with the State Space Model; Supervisor: Prof Piet de Jong

NUS Business School: Lecturer (1992) Associate Professor with tenure (2003)

#### 1. Achievements in Education

NUS Outstanding Educator Award Finalist 2005 (Did not participate thereafter)

NUS Annual Teaching Excellence Award [2001](#) and [2003](#)

Teaching Commendations & Faculty Outstanding Educator Awards since 1994

#### ➤ Courses (Years Taught, Student Level, Lifetime Average Student Score)

BK1004 Statistics, 1992-99, BBA1, 4.10/5

BK2005 Applied Statistics, 1995-97, BBA2, 4.37/5

BH3216 Forecasting for Managers, 2002-04, BBA3, 4.38/5

DSC4213 Analytical Tools for Consulting, 2006-12, BBA(Hons), 4.67/5

MBA5002 Statistics, 1997-2000, MBA, 4.35/5

BMA5002 Analytics for Managers, since 2001, MBA, 4.47/5 (Consistently  
among Top MBA Teachers)

BME5003 Decision-Making using Information-Age Technologies / Business  
Analytics for Decision Makers (since 2003), EMBA, 4.50/5 (among Tops)

BMS5205 Business Analytics, [CEMS Master Program](#), Sem 1 2018-9

Executive Education "Winning with Analytics" day course within the General  
Management Program, since 1998 with high Overall Satisfaction rating.

➤ **Case Studies Publications**

13 Cases written with EMBA & MBA students, published via Ivey-NUS Business School collaboration and cross-market on Harvard Business Review Store. **Sales across 35+ countries till end March 2018 was 16,033 but internal usages have not been properly recorded.**

1. [Swiggy Food Delivery: Optimizing Cash Burn](#) (2018) with [Venkata Praneeth Tammiraju](#) (Semester 1 2017-8 MBA Student)  
*Learning: How can a start-up food delivery optimise its cash burn and thereby its survival chances till the next fund raising round?*
2. [SIKA: Optimizing the APAC Epoxy Flooring Supply Chain](#) (2018) with [Bruno Oehy](#)  
*Learning: The case investigates the gain in financial and resource efficiencies in switching from a decentralized supply chain to a centralized one.*
3. [CATERPILLAR INC.: Aftermarket Parts Freight Optimization](#) (2018) with [Ramya Subramanian](#)  
*Learning: How to decide objectively among competing freight forwarders who compete on several dimensions including price, promised delivery time and actual on-time performances?*
4. [LUX\\* Resorts & Hotels: Optimal Room Mix Marketing Decisions](#) (2017) with [Nitesh Pandey](#)  
*Learning: How does a hotel chain figure out the room mix to market to (1) its main overseas clients in order to achieve an earning target and (2) sell leftover capacity at a discount to local residents with the goal of maximizing revenue for CSR initiatives?*
5. [APLO: Optimal Supply of Street Lights](#) (2016) with Nicole Lo, Clark Hsu, Masahiro Okumura, R.J. Guzman, Lisa Santoso  
*Learning: How to define the objective in a “showcase” street lightning project in Indonesia that involves a 5-year manufacturer warranty?*
6. [TRIAS: Decision on Cable Ladder Production](#) (2016) with [Leo Hermanto](#)  
*Learning: Decision Tree Analysis on choosing the better supplier of steel for a mega order of cable ladder at an Indonesian firm.*
7. [GlaxoSmithKline: Rebalancing Excessive Workloads](#) (2014) with [Ronald Kleer](#)  
*Learning: Long working hours, the root cause of staff fatigue and decreasing productivity, often occur due to poor workload planning. The case considers a multiple days end-of-month account exercise and develops an optimization template which makes the longest working day as short a possible by balancing the workload.*

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8. [Precena Strategic Partners](#): Staff Relocation Cost Minimization (2014) with [Takahisa Takada](#)  
*Learning: Minimize staff relocation costs in Singapore for a Japanese company.*
9. [Denka Chemicals](#) (2014) with [Elly Chia](#)  
*Learning: Optimise revenue in a Singapore chemical plant afflicted with product manufacturing transition losses.*
10. [EU Holidays](#) (2013) with [YH Wong](#)  
*Learning: Maximize customer satisfaction across group tours conducted by a Singapore travel firm.*
11. [Healthway Medical](#) (2013) with [Noel Yeo](#)  
*Learning: Simulate revenue streams and profitability at a nursing home in Singapore.*
12. [IEC in Sports](#) (2012) with [Josh Burack](#)  
*Learning: Simulate uncertain broadcast renewal revenues ahead of contract renewal.*
13. [DHL Supply Chain](#) (2012) with [David Ringrose](#)  
*Learning: Minimize Co2 emission in a Supply Chain pertaining to TV production at select factories and transportation to a Distribution Centre in Shanghai.*

### In Progress

- IHG Hotel Redevelopment Decision with [Oomar Paurobally](#) (AY 2017 EMBA student)  
*Learning: A Decision Tree is developed to decide between 3 branding options for re-developing an aging hotel property. Probabilistic revenue distributions at the critical Year 2 and Year 5 junctions in the expected 10-year life cycle underlie the analytics.*

### ➤ Educational Journal Publications. I was the solo author in all these papers.

14. [Some Initiatives in a Business Forecasting Course](#), (2007), Journal of Statistics Education, 15(2)  
*Learning: Perking up the learning in a forecasting course via student empowerment*
15. [Using Soccer Goals to Motivate the Poisson Process](#) (2003), INFORMS Transaction on Education, 3(2)  
*Learning: Goals scored in the quadrennial World Cup tournament motivate the Poisson and Exponential probability distributions which underlie many queuing models.*

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16. [Pricing the C's of Diamond Stones](#) (2001), Journal of Statistics Education, 9(2)  
*Learning: Develop a multiple regression pricing model based on 4 Cs: carats, clarity, color and certification (e.g. do some certification bodies carry a price premium?).*
17. [Rendezvous of the Poisson and Exponential Distributions at the World Cup of Soccer](#) (1999), Teaching Statistics, An International Journal for Teachers, 21(2), 60–62  
*Learning: The number of goals scored in World Cup matches and the inter-goal duration are shown to follow the Poisson and Exponential probability distributions.*
18. [Diamond Ring Pricing using Linear Regression](#) (1996), Journal of Statistics Education, 4(3)  
*Learning: Using data from a newspaper advertisement in Singapore, a simple regression model is developed to link Carat to Price.*

## 2. Achievements in Research

**[Google Scholar](#): Citations 1139 (522 since 2014) ; Indices: h 13 (8 since 2014) & i10 15 (7 since 2014)**

➤ **Singapore's Vehicle Quota System.** Out of the 9 publications, 7 appeared in the [top 2 journals focusing on Transportation Policy](#). I was the sole author save for 2 papers.

1. Singapore's Vehicle Quota System and its impact on motorcycles (2018), [Transportation](#), 45(5), 1419-32  
*Impact: A VQS shortcoming is the one-way diversion of licenses from the motorcycle to the Open category resulting in lower quotas and all-time COE premium since 2014. The paper's recommendation to end the license diversion is exactly what was enacted in Feb 2017.*
2. Car restraint policies and mileage in Singapore, (2015), Transportation Research Part A: Policies and Practice, 77, 404-412  
*Impact: Analysis of a sample of some 8700 cars indicate higher mileage correlating positively with 3 extra costs of running a car in Singapore namely (1) the COE license premium (2) the ARF meant to deter old cars from circulation and (3) (the avoidance of evermore) ERP "tolls".*
3. Mitigating Supply and Price Volatilities in Singapore's Vehicle Quota System, (2014), Transportation, 41(5), 1119-1134  
*Impact: A smoothing of the roller-coaster cycle of quotas and auction premium of*

*scarce licenses is proposed through the concept of “borrowing” to guarantee a minimum quota and “reimbursement” or quota lowering when supply is high.*

4. Allocation Flexibility and Price Efficiency within Singapore's Vehicle Quota System, (2012), Transportation Research Part A, 46(10), 1541-1550  
*Impact: The empirical analyses between 1992 and 2011 indicate a socially desirable hierarchy in COE premiums according to engine size categories and license transferability option. This contrasts with Shanghai’s single category where such progressivity is absent and only the rich may be able to own cars in the future.*
5. Sealed v/s open bids for certificates of entitlement under the vehicle quota system in Singapore, (2011), Transportation, 38(2), 215-226  
*Impact: The shift from sealed to open bidding of COEs in 2001 is shown to be positive in flushing out “lucky dip” bids and despite the higher influence of competition on the premium, the latter’s volatility has reduced.*
6. Expectations Formation and Forecast of Demand: An Empirical Study of the Vehicle Quota System in Singapore, with Koh W and Tse YK (2004), Transportation Research Part A, 38(5), 367-381  
*Impact: The paper demonstrates the predictability of the COE premium based on past premiums and the number of unsuccessful bids.*
7. Auctioning Rights to Vehicle Ownership: Singapore's Experience with Sealed-Bid Tenders (2002), Transportation Research Part A, 36(6), 555-561  
*Impact: Based on partial bid range data, the paper constructs the distribution of bids relative to the previous premium and finds that to succeed, one generally had to bid higher. The paper also uncovers a sizeable proportion of “lucky dippers” hoping for a low COE premium.*
8. Bidding Efficiencies for Rights to Car Ownership in Singapore, (1998), Omega, 26(2), 297-306  
*Impact: DEA technology typically used to benchmark the relative efficiency of firms indicates the COE premiums in 5 car-centric COE categories were highly efficient when rated against a battery of 6 exogenous factors. Programmatic efficiency analyses provide support for the stated aims of social equity and progressivity in car ownership.*
9. The price of car ownership in Singapore: An empirical assessment of the COE scheme (1997) with Mark Goh, Intl Jnl of Transport Economics, Oct., 24(3)457-472  
*Impact: A regression model is developed to investigate economic factors which may influence COE premiums.*

### Submitted & In progress

- Public Transport Expansion and the competition for license quotas in Singapore  
*Impact: Does the provision of increased public transit conveniences associate with reduced competition for license quotas in force in Singapore?*
- Influence of Singapore's Vehicle Quota System on accident rates  
*Impact: Do the hefty vehicle ownership charges affect accident rates?*
- Effects of License Quotas and Model Popularity on Car Depreciation in Singapore, with (BBA Honours student) Chua Han Wee  
*Impact: It is shown that the formula underlying new car prices also applies to used cars after proper discounts are made for the residual COE and ARF components.*

### ➤ Hospital Management, Marketing and Finance

10. A Robust Optimization Model for Managing Elective Admission in a Public Hospital (2015), with Meng Fanwen, Qi J, Zhang M, Ang James and Sim Melvyn, *Operations Research*, 63(6)  
*Impact: Proposal of a robust methodology to reduce shortfall and patient dissatisfaction in elective admissions given the reality of emergency admissions.*
11. Brand Value Creation: Analysis of Interbrand-Business Week Brand Value Rankings (2006), with H.T. Keh, *Marketing Letters*, 17(4), 323-31  
*Impact: The influence of advertising, marketing promotions and R&D expenses on the brand value of firms.*
12. Efficiency, Effectiveness and Productivity of Marketing in Services (2006), with J. Xu and H.T. Keh, *European Journal of Operational Research*, 70(1), 265-76  
*Impact: Sort out within a chain of 49 hotels those which excel on efficiency, effectiveness and productivity of their marketing efforts.*
13. Retail productivity and scale economies at the firm level: A DEA approach (2003), with H.T. Keh, *Omega*, 31(2), 75-82  
*Impact: The Data Envelopment Analysis (DEA) tool is used to show that significant economies of scale accrue from larger stores within a grocery chain.*
14. Share performance and profit efficiency of banks in an oligopolistic market: evidence from Singapore (1998) with GH Lim, *Journal of Multinational Financial Management* 8 (2), 155-168  
*Impact: Singapore banks are found to be more cost than profit efficient. However, share prices correlate more with profit rather than cost efficiencies.*

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### ➤ Time Series Analysis

15. Smoothing with an unknown initial condition (2003) with P. De Jong (2003), Journal of Time Series Analysis, 24(2), 141-148  
*Impact: It is shown that the complex extended Kalman Filter needed for nonstationary state space models can be collapsed to a standard one after an initial number of recursions. This significantly li computational resources.*
  
16. Stationary and nonstationary state space models (1994) with P. De Jong (1994), Journal of Time Series Analysis, 15(2), 151-166  
*Impact: The precise initialization of the extended Kalman Filter for nonstationary state space models e.g. ARIMA (p,d,q) models.*
  
17. Fast likelihood evaluation and prediction for nonstationary state space models (1994), with P. De Jong (1994), Biometrika, 81(1), 133-142  
*Impact: An exact method is developed for estimating the pseudo-likelihood function of nonstationary state space models (e.g. those with unit roots) via an extended Kalman Filter.*

### 3. Achievements in Service

I have focussed my service contributions in 2 areas:

#### ➤ Singapore's Vehicle Quota System

I have contributed [articles](#) and [comments](#) to the media. I have also participated in discussions talks that [Land Transport Authority](#) has held with academics.

#### ➤ Education

I have been either a member or Chair of the Faculty Teaching Excellence Committee since 2005. I have always been a member of the departmental TEC wherein I participate or lead in the annual teaching evaluations of colleagues, in recruiting Education track and adjunct teaching talents. I also partake in MBA / EMBA student pre-selection interviews every year.