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National Cheng Kung University (NCKU)

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Taiwan

# EDUCATION

2003 Ph.D. in Industrial Engineering, ISyE, GA Tech, U.S.A.

1996 M.S. in Operations Research, OR Center, M.I.T., U.S.A.

1991 B.S. in Aeronautical & Astronautical Engineering, NCKU, Taiwan

# EMPLOYMENT

2014.8 - Professor, Department of Industrial & Information Management, NCKU, Taiwan

2007.8- 2014.7 Associate Professor, Department of Industrial & Information Management, NCKU, Taiwan

2003.8- 2007.7 Assistant Professor, Department of Industrial & Information Management, NCKU, Taiwan

1996.4- 1997.3 Foreign Researcher, Fujitsu Research Lab. L.T.D., Kawasaki, Japan

# RESEARCH INTERESTS

Network Optimization, Integer Programming, Algorithm Design, Scheduling, Logistics, Shared Mobility

# PUBLICATIONS

1. **Journal Papers**

• 20 papers published in 2005-2020 on the following journals and topics:

***Applied Mathematics and Computation*** (2011): bioinformatics, haplotype inference

***Asia-Pacific Journal of Operational Research*** (2008): new shortest path algorithm

***Computers & Industrial Engineering*** (2011): asset management optimization, pavement project

***Flexible Services and Manufacturing*** (2013): semiconductor manufacturing, scheduling

***IEEE Transactions on Electronics Packaging Manufacturing*** (2006): reverse logistics, network design

***International Journal of Integrated Supply Management*** (2008): motorcycle courier system, city logistics

***International Journal of Operations Research*** (2018, 2018, 2020): multicommodity network flow; UAV routing

***International Journal of Reliability and Quality Performance*** (2009): manufacturing network optimization

***Journal of Industrial and Management Optimization*** (2006, 2009, 2016): manufacturing network optimization

***Journal of Intelligent Manufacturing*** (2012): semiconductor manufacturing, scheduling

***Mathematical Biosciences*** (2011): bioinformatics, haplotype inference

***Numerical Algebra, Control, and Optimization*** (2021): shared mobility, bicycle sharing, repositioning

***Operations Research*** (2013): shared mobility, bicycle sharing, repositioning

***Pacific Journal of Optimization*** (2014): manufacturing network optimization

***Transportation Research Part C*** (2016): electric vehicle logistics system

***Transportation Science*** (2005): new shortest path algorithms

**B. Conference Papers**

• 29 International Conference papers outside T.W. (APIEMS, APMC, C.I.E., INFORMS, MLOG, TLOG)

• 30 International Conference papers inside T.W. (APIEMS, Automation, EAWIE, ICLS, ICTPA, I.P.O.)

• 43 Domestic Conference papers inside T.W. (CIIE, C.I.T., ORSTW)

# HONORS AND AWARDS

1. **Personal Awards**

• 7 awards in INFORMS Railway Application Section Problem Solving Competition:

1st Place (2017); 2nd Place (2014, 2016, 2019); 3rd Place (2011); Honorable Mentions (2010, 2013)

• Lu Feng-Chang Medal in Management, 2013, by the Chinese Management Association

• Young Researcher Innovated Research Competition, 2013, the honorable mentions (top 3 in Social Science), by the Taiwan Comprehensive University System

• 3 Best Research Project Poster Awards by National Science Council (NSC/MOST) in 2009, 2016, 2018,

1. **Thesis or Paper Awards with Students**

• 24 Thesis or Paper Awards by the Chinese Industrial Engineering Society

• 16 Thesis or Paper Awards by the Operations Research Society of Taiwan

• 19 Thesis or Paper Awards by other organizations

# PROJECT GRANTS

1. **Grants by the National Science Council (NSC/MOST) of Taiwan & NCKU**

• 2003-04: Multiple Pairs Shortest Paths Algorithms

• 2004-05: New column generation and partitioning methods for multicommodity network flow problems

• 2005-06: New nonnegative least squares primal-dual methods for network optimization problems

• 2006-07: On solving the minimum distribution cost flow and maximum distribution flow problems

• 2007-08: Haplotyping population by optimization theorems and algorithms (I)

• 2008-09: Haplotyping population by optimization theorems and algorithms (II)

• 2009-11: A Study on Reliability for Distribution Networks with Multi-state Capacitated Arcs

• 2011-13: A Study on the Network Design and Bike Repositioning for Urban Bike Sharing Systems

• 2013-16: Design and Repositioning Strategies for the Public Bike and E-scooter Sharing

• 2016-19: On scheduling multi-mode restoration tasks for networks of broken nodes or arcs in humanitarian logistics

• 2019-20: Optimal Coordinated Deployment and Route Planning for Searching and Patrolling by Multiple Unmanned Vehicles (I)

• 2020-21: Optimal Coordinated Deployment and Route Planning for Searching and Patrolling by Multiple Unmanned Vehicles (II)

1. **Grants by Other Organizations**

• 2008: Flexible Scheduling Algorithms for Semiconductor Manufacturing, by TSMC

• 2012: Strategic Design of Bicycle Sharing Systems in Tainan City, by Tainan City Government

• 2013: Strategic Design and Tactical Management for Metropolitan Public Bike Sharing Systems by   
Sumitomo Foundation (2012 GRANT FOR JAPAN-RELATED RESEARCH PROJECTS)   
住友財団の2012年度「アジア諸国における日本関連研究助成」

2015: Chicken Slaughterhouse Demand Forecasting and Inventory Planning, by DaChan Co.

• 2016: Evaluation of the Introduction of Industry 4.0 to the Textile Industry, by Everest Textile

• 2016: Design of Mathematical Optimization Models for Demand Response, by ITRI

• 2017-19: Strategic Design of E-car Sharing Systems, by Kaison Green Energy Technology Co.

• 2019-20: Optimal W.I.P. Allocation and Scheduling for Smart Manufacturing, by Innolux Co.

• 2020-21: Smart Energy Storage System Management, by Far Eas Ton Co.

# COURSES TAUGHT

**Undergraduate courses**

• Data Structure, Discrete Mathematics, Computer Programming and Application

**Graduate courses**

• Supply Chain Management, Network Optimization, Optimization Models and Applications

# PROFESSIONAL SERVICES

**Area Editor** *Computers and Industrial Engineering,* 2013 - now

**Associate Editor** *Journal of Industrial and Production Engineering*, 2011 - now

**Associate Editor** *International Journal of Operations Research*, 2012 - now

# PROFESSIONAL AFFILIATIONS

*INFORMS* (Institute for Operations Research and the Management Sciences)

*CIIE* (Chinese Institute of Industrial Engineering)

*ORSTW* (Operations Research Society of Taiwan)

*C.I.T.* (Chinese Institute of Transportation)

*C.M.A.* (Chinese Management Association)