

# I-Lin Wang

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## EDUCATION

2003 Ph.D. in Industrial Engineering, ISyE, GA Tech, USA.  
1996 M.S. in Operations Research, OR Center, M.I.T., USA  
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 (富士通研究所). LTD, Kawasaki, Japan

## RESEARCH INTERESTS

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

## PUBLICATIONS

### A. Journal Papers

- 18 papers published in 2005-2018 on the following journals and topics:
  - Transportation Science* (2005) : new shortest path algorithms
  - Journal of Industrial and Management Optimization* (2006, 2009, 2016): manufacturing network optimization
  - IEEE Transactions on Electronics Packaging Manufacturing* (2006): reverse logistics, network design
  - International Journal of Integrated Supply Management* (2008): motorcycle courier system, city logistics
  - Asia-Pacific Journal of Operational Research* (2008): new shortest path algorithm
  - International Journal of Reliability and Quality Performance* (2009): manufacturing network optimization
  - Computers & Industrial Engineering* (2011): asset management optimization, pavement project
  - Mathematical Biosciences* (2011): bioinformatics, haplotype inference
  - Applied Mathematics and Computation* (2011) : bioinformatics, haplotype inference
  - Journal of Intelligent Manufacturing* (2012): semiconductor manufacturing, scheduling
  - Flexible Services and Manufacturing* (2013): semiconductor manufacturing, scheduling
  - 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
  - International Journal of Operations Research* (2018, 2018): multicommodity network flow

### B. Conference Papers

- 29 International Conference papers outside TW (INFORMS, APIEMS, TLOG, MLOG, CIE, APMC)
- 29 International Conference papers inside TW (ICLS, ICTPA, EAWIE, Automation)
- 39 Domestic Conference papers inside TW (CIIE, ORSTW, CIT)

## HONORS AND AWARDS

### A. Personal Awards

- 7 awards in INFORMS Railway Application Section Problem Solving Competition:
  - 1<sup>st</sup> Place (2017); 2<sup>nd</sup> Place (2014, 2016, 2019); 3<sup>rd</sup> 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,

## **B. Thesis or Paper Awards with Students**

- 19 Thesis or Paper Awards by the Chinese Industrial Engineering Society
- 15 Thesis or Paper Awards by the Operations Research Society of Taiwan
- 16 Thesis or Paper Awards by other organizations

## **PROJECT GRANTS**

### **A. 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)

### **B. 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 WIP Allocation and Scheduling for Smart Manufacturing, by Innolux 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)

*CIIIE* (Chinese Institute of Industrial Engineering)

*ORSTW* (Operations Research Society of Taiwan)

*CIT* (Chinese Institute of Transportation)

*CMA* (Chinese Management Association)

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