

# Ching-Hui Tang

Associate Professor

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- Research**
- Transportation
- Interests and Expertise**
- Airline/Airport Operations and Management
  - Transportation Network Design
  - Operations Research
  - Stochastic Programming
- Education**
- Ph.D., National Central University, Chung-Li, Taiwan, 2002/8 – 2006/7  
Transportation Engineering, Department of Civil Engineering  
Dissertation: A Solution Approach for Planning Problems under Stochastic Disturbances
  - M.S., National Central University, Chung-Li, Taiwan, 1998/8 – 2000/7  
Transportation Engineering, Department of Civil Engineering  
Thesis: Airport Common Use Check-in Counter Assignment Problems
  - B.A., Tamkang University, Tamsui, Taiwan, 1994/8 – 1998/7  
Department of Transportation Management
- Professional Experience**
- Associate Professor (2014/2-present)  
Department of Transportation Science, National Taiwan Ocean University
  - Assistant Professor (2012/2-2014/1)  
Department of Transportation Science, National Taiwan Ocean University
  - Associate Professor (2010/2-present)  
Department of Air Transportation, Kainan University
  - Assistant Professor (2007/8-2010/2)  
Department of Air Transportation, Kainan University
  - Assistant Professor (2006/8-2007/7)

Department of Aviation Service Management, Aletheia University on Matou campus

**Honors and Awards**

- MOST Distinguished Researcher Award (2015-present)  
Ministry of Science and Technology, Taiwan
- Best Master Theory Award (2019)  
Operations Research Society of Taiwan (ORSTW)
- Best Paper Award-Civil Aviation and Technology (2019)  
The 2019 International Conference and Annual Meeting of the Chinese Institute of Transportation
- Excellent Paper (Field of Air Transportation) (2018)  
2018 World Transport Convention (WTC ), Beijing
- Quality Master Theory Award (2016)  
Operations Research Society of Taiwan (ORSTW)
- Best Paper Award (2012)  
The 2012 International Conference and Annual Meeting of the Chinese Institute of Transportation
- Outstanding Teaching Award (2015)  
College of Maritime Management, National Taiwan Ocean University
- NSC Award for Excellent Junior Researcher ( 2008, 2009, 2010 )  
National Science Council, Taiwan
- Best Dissertation Award (2006)  
Operations Research Society of Taiwan (ORSTW)
- Presidential Scholarship (2005)  
National Central University, Taiwan
- Ph.D. Candidate Fellowship Award (2004)  
Sinotech Foundation for Research & Development of Engineering Sciences & Technologies, Taiwan
- Ph.D. Scholarship Fellowship Award (2003)  
Sinotech Engineering Consultant, Inc., Taiwan

**International Journal Papers**

1. Ching-Hui Tang (2019) Optimization for transportation outsourcing problems, *Computers & Industrial Engineering*, (Published online). (SCI)
2. Ching-Hui Tang\* and Chen-Yi Yen (2019) Airline unit load device

dispatching considering service level and violation days, *Journal of Air Transport Management*, Vol. 79 (Article 101685), pp. 1-14. (SSCI)  
\*Corresponding author

3. Ching-Hui Tang\* and I-Shan Hsu (2019) Manpower supply planning for aircraft line maintenance under stochastic incidents, *Journal of the Chinese Institute of Engineers*, Vol. 42 (4), pp. 333-345. (SCI) \*Corresponding author
4. Ching-Cheng Chao, Ching-Hui Tang\*, and Ya-Hsin Hsiao (2019) Planned gate and runway assignments considering carbon emissions and costs, *International Journal of Sustainable Transportation*, (Published online). (SSCI)  
\*Corresponding author
5. Ching-Hui Tang (2018) Two-stage stochastic modeling of transportation outsourcing plans for transshipment centers, *4OR-A Quarterly Journal of Operations Research*, Vol. 16 (1), pp. 67-94. (SCI)
6. Ching-Hui Tang\* and Yueh-Ling Hsu (2016) Airline flight scheduling for oligopolistic competition with direct flights and a point to point network, *Journal of Advanced Transportation*, Vol. 50 (8), pp. 1942–1957. (SCI)  
\*Corresponding author
7. Tang, Ching-Hui\* and Hsin-Ta Huang (2016) Integrating fleet replacement and pilot training schedules for airborne service helicopters, *Journal of the Chinese Institute of Engineers*, Vol. 39, 6, pp. 653-665 (SCI) \*Corresponding author
8. Huang, Shan-Huen, Ta-Hui Yang, and Ching-Hui Tang\*, (2014) “Fleet size determination of a truckload distribution center,” *Journal of Advanced Transportation*, Vol. 48, 5, pp. 377–389 (SCI). \*Corresponding author
9. Yan, Shangyao, Ching-Hui Tang\*, Jun-Hsiu Chen (2014), “Common-use check-in counter reassignments with a variable number of service lines and variable length of time window” *Journal of the Chinese Institute of Engineers*, Vol. 37, 5, pp. 643–658, (SCI) \*Corresponding author
10. Tang, Ching-Hui\* and Wei-Chung Wang (2013), “Airport gate assignments for airline-specific gates” *Journal of Air Transport Management*. Vol. 30 (July), pp. 10–16. (SSCI) \*Corresponding author
11. Tang, Ching-Hui (2013), “A replacement schedule model for airborne service helicopters”, *Computers & Industrial Engineering*. Vol. 64, 4, pp. 1061–1073 (SCI and EI)

12. Yan, Shangyao, Ching-Hui Tang\*, Yu-Zhou Hou (2011), "Airport gate reassignments considering deterministic and stochastic flight departure/arrival times," *Journal of Advanced Transportation*. Vol. 45, 4, pp. 304-320. (SCI)\*Corresponding author
13. Tang, Ching-Hui (2011), "A gate reassignment model for the Taiwan Taoyuan Airport under temporary gate shortages and stochastic flight delays," *IEEE Transactions on Systems, Man, and Cybernetics, Part A*. Vol. 41, 4, pp. 637-650. (SCI and EI)
14. Tang, Ching-Hui (2011), "A scenario decomposition-genetic algorithm method for solving stochastic air cargo container loading problems," *Transportation Research Part E*, Vol. 47, 4, pp. 520-531. (SSCI, SCI and EI)
15. Tang, Ching-Hui (2010), "A network model for airport common use check-in counter assignments," *Journal of the Operational Research Society*, Vol. 61, 11, pp.1607-1618. (SSCI and SCI)
16. Tang, Ching-Hui, Shangyao Yan, Yu-Zhou Hou (2010), "A gate reassignment framework for real time flight delays," *4OR*, Vol. 8, 3, pp. 299-318 (SCI)
17. Tang, Ching-Hui, Shangyao Yan, Chia-Wei Chang, (2009), "Short-term work team scheduling models for effective road repair and management," *Transportation Planning and Technology*, Vol. 32, 3, pp. 289-311. (SCI)
18. Yan, Shangyao and Ching-Hui Tang (2009), "Inter-city bus scheduling under variable market share and uncertain market demands," *Omega- The International Journal of Management Science*, Vol. 37, 1, pp. 178-192. (SSCI)
19. Yan, Shangyao, Chun-Ying Chen and Ching-Hui Tang (2009), "Gate Reassignment Following Temporary Airport Closures," *Transportmetrica*, Vol. 5, 1, pp. 25 - 41 (SSCI and SCI).
20. Tang, Ching-Hui, Shangyao Yan and Yu-Hsuan Chen,(2008),"An integrated model and solution algorithms for passenger, cargo, and combi flight scheduling," *Transportation Research Part E*, Vol. 44, 6, pp. 1004-1024. (SSCI, SCI and EI)
21. Yan, Shangyao and Ching-Hui Tang, (2008), "An integrated framework for inter-city bus scheduling under stochastic bus travel times," *Transportation Science* Vol. 42, 3, pp. 318-335 (SSCI, SCI and EI).
22. Yan, Shangyao, Ching-Hui Tang and Chun-Hao Chen (2008), "Reassignments of common-use checking counters following airport incidents," *Journal of*

- Operational Research Society*, Vol. 59, 8, pp.1100–1108 (SSCI, SCI)
23. Yan, Shangyao, Ching-Hui Tang and Tseng-Chih Fu, (2008), “An airline scheduling model and solution algorithms under stochastic demands,” *European Journal of Operational Research*, Vol. 190, 1, pp. 22-39. (SCI and EI)
  24. Yan, Shangyao, Yu-Jung Tung, and Ching-Hui Tang (2007), “An inter-city bus scheduling model incorporating variable market share,” *IEEE Transactions on Systems, Man, and Cybernetics, Part A*. Vol. 37, 6, pp. 921-932.(SSCI and EI)
  25. Tang, Ching-Hui and Shangyao Yan (2007), “A routing and scheduling framework incorporating real-time adjustments for inter-city bus carriers under stochastic travel times and demands” *Journal of the Chinese Institute of Engineers*, Vol. 30, 4, pp. 635-649. (SCI, EI)
  26. Yan, Shangyao and Ching-Hui Tang (2007) “A heuristic approach for airport gate assignments for stochastic flight delays,” *European Journal of Operational Research*, Vol. 180, 2, pp. 547-567. (SCI and EI)
  27. Yan, Shangyao, Ching-Hui Tang and Ming-Chei Lee (2007), “A flight scheduling model for Taiwan airlines under market competitions,” *Omega-The International Journal of Management Science*, Vol. 35, 1, pp. 61-74 (SSCI).
  28. Yan, Shangyao, Chin-Jen Chi, and Ching-Hui Tang (2006), “Inter-city bus routing and timetable setting under stochastic demands,” *Transportation Research A*, Vol. 40, 7, pp. 572-586. (SSCI, SCI and EI).
  29. Yan, Shangyao, Chin-Hui Tang and Chong-Nan Shieh (2005), “A simulation framework for evaluating airline temporary schedule adjustments following incidents,” *Transportation Planning and Technology*, Vol. 28, 3, pp.189-211. (SSCI, SCI and EI).
  30. Yan, Shangyao, Kai-Cheng Chang and Chin-Hui Tang (2005), “Minimizing inconsistencies in airport common-use checking counter assignments with a variable number of counters,” *Journal of Air Transport Management*, Vol. 11, 2, pp.107-116. (SSCI).
  31. Yan, Shangyao, Chin-Hui Tang and Miawjane Chen (2004), “A model and a solution algorithm for airport common use check-in counter assignments,” *Transportation Research Part A*, Vol 38, 2, pp.101-125. (SSCI, SCI and EI)

## Projects

1. Airline unit load device dispatching in planning and real-time Stages, Ministry of Science and Technology, Taiwan (MOST 108-2221-E-019 -005 -MY2), Principal Investigator, 2019/8-2021/7.
2. Optimization of numbers of self-run and outsourced trips for home delivery carrier considering stochastic demands and feasibility, Ministry of Science and Technology, Taiwan (MOST 106-2410-H-019 -021 -MY2), Principal Investigator, 2017/8-2019/7. ,
3. Short-term dispatching and scale problem for airline unit load device considering variable and stochastic demands, Ministry of Science and Technology, Taiwan (MOST 105-2410-H-019-017), Principal Investigator, 2016/8-2017/7.
4. The fleet scale model for low temporary home-delivery, Industrial Technology Research Institute, Principal Investigator, , 2014/10/20-2014/12/20
5. Airline manpower supply for aircraft line maintenance under stochastic demands, Ministry of Science and Technology, Taiwan (MOST 103-2410-H-019 -016 -MY2), Principal Investigator, 2014/8-2016/7
6. Airline ULD inventory and dispatch , Co-Investigator , China Airlines , 2013/9/12-2015/3/11 .
7. Dynamic Airline Scheduling considering Variations of Passenger Demands and Competitor Timetables, National Science Council, Taiwan (NSC 102-2410-H-019 -014), Principal Investigator, 2012/8-2013/7
8. Multiple-objective helicopter fleet planning considering pilot training scheduling , National Science Council, Taiwan (NSC 101-2410-H-019 -026), Principal Investigator, 2011/8-2012/7
9. Gate assignments following the trend towards airport privatization, National Science Council, Taiwan (NSC 100-2410-H-424 -016), Principal Investigator, 2011/8-2012/7
10. A scenario decomposition method for solving stochastic programming problems, National Science Council, Taiwan (NSC99-2410-H-424-013), Principal Investigator, 2010/8-2011/7  
(NSC Award for Excellent Junior Researcher)
11. Optimization of rescue helicopter fleet planning, National Science Council, Taiwan (NSC99-2410-H-424-015), Principal Investigator, 2010/8-2011/7
12. Integrated models and solution algorithms for gate assignments under

stochastic airport flight delays, National Science Council, Taiwan (97-2628-H-424-001-MY2), Principal Investigator, 2008/8-2010/7 (NSC Award for Excellent Junior Researcher)

13. An analysis of competition strategy on tourism-oriented casino in Taiwan, Council for Economic Planning and Development, Executive Yuan, (cepd97031), Researcher, 2008/8-2009/1
14. An optimization fleet planning model for national airborne service corps, National Airborne Service Corps, Ministry of Interior, (C-9706028), Co-Investigator, 2008/8-2008/12
15. Dynamic airport gate reassignments under stochastic flight delays, National Science Council, Taiwan (96-2415-H-424-003), Principal Investigator, 2007/8-2008/7
16. A network model for short-term airport common use check-in counter assignments with the minimization of the number of counters, Undergraduate Student Project, National Science Council, Taiwan (96-2815-C-156-004-H), 2007/7-2008/2
17. Optimization of gate reassignments for temporary gate shortages, Undergraduate Student Project, National Science Council, Taiwan (96-2815-C-156-001-E), 2007/7-2008/2
18. Real-time adjustments for aircraft short-term maintenances, Undergraduate Student Project, National Science Council, Taiwan (96-2815-C-156-005-H), 2007/7-2008/2

**Refereed  
Conference  
Papers**

1. Yu-Yang Chen , Ping-Hsuan Hsieh, and Ching-Hui Tang (2019) Airline unit load device re-dispatching under stochastic demands, Global Engineering & Applied Science Conference (GEASC) 2019, August 27-29, Tokyo.
2. Yun-Chia Hsieh, Pao-Ying Chu, and Ching-Hui Tang (2019) Airline unit load device dispatching considering SKYPOOLING platform, Global Engineering & Applied Science Conference (GEASC) 2019, August 27-29, Tokyo.
3. Ping-Hsuan Hsieh and Ching-Hui Tang (2019) Airline unit load device re-dispatching under stochastic demands, 10<sup>th</sup> International Forum on Shipping, Ports and Airports (IFSPA) 2019, May 20-24, Hong Kong.
4. Pao-Ying Chu, Ching-Hui Tang, Yueh-Ling Hsu, and Chen-Yi Yen (2018) Airline unit load device dispatching considering service level and violation

days, 2018 World Transport Convention 2018 (WTC), June 17-20, Beijing.

5. Ching-Hui Tang and Yi-Wen Wang (2017) Short-term transportation outsourcing plans for transshipment centers under stochastic demands, 12<sup>th</sup> EAST international conference for Eastern Asia Society for Transportation Studies, September 18-21, Ho Chi Minh, Vietnam.
6. I-Shan Hsu and Ching-Hui Tang, (2016), Manpower supply planning for aircraft line maintenance considering uncertain demands, LMS on One Belt One Road 2016, May 10-11, Hong Kong.
7. Chen-Yi Yen and Ching-Hui Tang, (2016), Daily dispatching and scale for airline ULDs under variable and stochastic demand, LMS on One Belt One Road 2016, May 10-11, Hong Kong.
8. Chia-Hao Hsu, Yueh-Ling Hsu, and Ching-Hui Tang, (2016), The intentions of customers who purchase flight tickets online through official website of airline, LMS on One Belt One Road 2016, May 10-11, Hong Kong.
9. Ching-Hui Tang, Chen-Yi Yen, I-Shan Hsu (2015) “A flight scheduling model and solution algorithm under oligopolistic competition,” 2015 Conference and Annual Meeting of Chinese Institute of Transportation, Keelung, Taiwan.
10. Tang, Ching-Hui and Yueh-Ling Hsu, (2015), An integrated framework for airline timetable planning considering competitors’ behavior and multiple travel times, 2015 ATRS World Conference, July 2 – 5, Singapore.
11. Tang, Ching-Hui 、I-Shan Hsu 、Wang Shau Yu (2014) 、Temporary manpower supply model for aircraft line maintenance considering uncertain demands, ORSTW 2014 Conference and Annual Meeting, Keelung, Taiwan.
12. Tang, Ching-Hui 、Yueh-Ling Hsu 、Wang Shau Yu (2014), Safety stock of airline unit load devices—integrating of ANOVA and sensitivity analysis, 2014 Conference and Annual Meeting of Chinese Institute of Transportation, Nantou, Taiwan. ◦
13. Tang, Ching-Hui 、I-Shan Hsu 、Wang Shau Yu (2014), A model for aircraft line maintenance manpower supply considering uncertain demands, 2014 Conference and Annual Meeting of Chinese Institute of Transportation, Nantou, Taiwan.
14. Yueh-Ling Hsu, Wen-Chin Li, Ching-Hui Tang (2013), The use of eye tracking in the study of airline cabin safety communication, 15th International Conference on Human-Computer Interaction (HCI International 2013), July



21-26, Las Vegas, USA

15. Ching-Hui Tang, Yu-Tung Kuan (2012), Airline timetable setting considering competitive behaviors, 2012 Conference and Annual Meeting of Chinese Institute of Transportation, Tainan, Taiwan.
16. Tang, Ching-Hui (2011), Rescue helicopter replacement scheduling in Taiwan, 2011 International Conference on Civil Engineering and Building Materials, July 23-25, Kunming, China.
17. Tang, Ching-Hui, Hsin- Ta Huang, and Wei-Chung Wang (2011), Yu Tung-Kuan  
“Rescue helicopter fleet planning considering pilot training,” ORSTW 2011 Conference and Annual Meeting, Taipei, Taiwan.
18. Tang, Ching-Hui, Hsin- Ta Huang, and Wei-Chung Wang (2010), “A optimization model for rescue helicopter fleet planning,” 2010 Conference and Annual Meeting of Chinese Institute of Transportation, Taichung, Taiwan.
19. Tang, Ching-Hui, Wei-Chung Wang, and Hsin- Ta Huang (2010), “Flight to gate assignments considering connecting flights,” 2010 Conference and Annual Meeting of Chinese Institute of Transportation, Taichung, Taiwan.
20. Tang, Ching-Hui, Shangyao Yan, Yu-Zhou Hou (2010), “A dynamic algorithm for gate assignments under varied flight delay information,” Proceeding of 2010 International Conference on Information and Applied Electronics ICIAE 2010, July 9-11, Chengdu, China. (EI)
21. Tang, Ching-Hui and Hsin-Wei Chang (2010), “Optimization of stochastic cargo container loading plans for air express delivery,” Proceedings of 2010 International Conference on Traffic and Logistic Engineering, April 23- 25, Bangkok, Thailand. (EI)
22. Sheu, Tsing-Shien and Ching-Hui Tang (2010), “A study of air cargo demand prediction of Taiwan Taoyuan Airport”, 2010 CJCUC Conference on Marine and Air Transportations, Tainan.
23. Tang, Ching-Hui (2009) “Real-time gate assignments under temporary gate shortages and stochastic flight delays,” Proceedings of 2009 IEEE International Conference on Service Operations, Logistics and Informatics, July 22 - 24, Chicago, IL, USA. (EI)
24. Tang, Ching-Hui and Shi-Yu Jian (2009), “A violation design for airport gate reassignments,” ORSTW 2009 Conference and Annual Meeting, Hsinchu,

Taiwan

25. Tang, Ching-Hui and Shi-Yu Jian (2009), "Flight gate rescheduling under temporary gate shortages and stochastic flight delays," 2009 Conference and Annual Meeting of Chinese Institute of Transportation, Taoyuan, Taiwan.
26. Tang, Ching-Hui and Shi-Yu Jian (2009) , Robust optimization of airport gate assignments , 7th Ten School Alliance Conference on Shipping Management and Logistic 2009, Taipei, Taiwan
27. Tang, Ching-Hui (2008), "The optimization of airport common use check-in counter assignments with the minimization of the number of counters," 2008 Conference and Annual Meeting of Chinese Institute of Transportation, Kaohsiung, Taiwan
28. Tang, Ching-Hui, Shangyao Yan , and Yu-Zhou Hou (2008) "A dynamic framework and model for airport gate reassignments under varied flights' departure/arrival times" International Conference on Modelling, Identification and Control, June 29 - July 2, 2008 Shanghai, China.
29. Tang, Ching-Hui (2007) "Minimum airport gate number assignments considering robust optimization" 2007 Conference on Aviation Innovation, Tainan, Taiwan
30. Tang, Ching-Hui and Shangyao Yan (2007) "An Integrated Framework for Airport Gate Assignments under Stochastic Flight Delays" 2007 Conference on Aviation Innovation, Tainan, Taiwan
31. Tang, Ching-Hui, Shangyao Yan , and Yu-Zhou Hou (2007) "A dynamic framework for gate reassignment under flight delays", ORSTW 2007 Conference and Annual Meeting, Hualien, Taiwan
32. Chen, Chun-Ying, Ching-Hui Tang and Shangyao Yan (2006) "A gate assignment model for temporary airport closure," INFORMS International Hong Kong 2006, Hong Kong.
33. Tang, Ching-Hui (2006) "A solution approach for planning problems under stochastic disturbances" ORSTW 2006 Conference and Annual Meeting, Taoyuan, Taiwan
34. Yan, Shangyao, Yu-Hsuan Chen, Ching-Hui Tang, and Yuping Tu (2005) "A model for airline passenger and cargo flight scheduling," 1st International Conference on Transportation Logistics, Singapore.
35. Yan, Shangyao, Ching-Hui Tang and Ming-Chei Lee (2004), "An optimization

- model for airline flight scheduling under variable demands,” Optimization 2004, Lisbon, Portugal.
36. Yan, Shangyao and Ching-Hui Tang (2004) , 「 Airport gate assignments under stochastic flight delays, 2004 Conference and Annual Meeting of Chinese Institute of Transportation, Tainan, Taiwan
  37. Yan, Shangyao, Chih-Hwang Tseng, Chin-Hui Tang, and Tseng-Chih Fu (2004) “An airline scheduling model and an evaluation method under stochastic demands” ORSTW 2004 Conference and Annual Meeting, Taipei, Taiwan
  38. Yan, Sangyao, Chin-Hui Tang, and Ming-Chei Lee (2004) “A network flow model for airline flight scheduling under market competitions,” International Conference on Analysis and its Applications, Changhua, Taiwan.
  39. Tang, Chin-Hui, Shangyao Yan, Ta-Hui Yang and Chong-Lan Shieh (2003), “A simulation framework for evaluating airline recovery scheduling,” 12th INFORMS/APS CONFERENCE, Beijing, China.
  40. Chen, Miawjane, Shangyao Yan, and Chin-Hui Tang (2003), “A model for optimizing airport common use check-in counter assignments,” 12th INFORMS/APS CONFERENCE, Beijing, China.
  41. Yan, Shangyao, Chin-Jen Chi, and Ching-Hui Tang (2003), “Inter-city bus routing and timetable setting under stochastic demands,” Proceeding of 2003 Conference and Annual Meeting of Chinese Institute of Transportation, Hsinchu, Taiwan, pp. 246-255.
  42. Yan, Shangyao, Ming-Chei Lee, and Ching-Hui Tang (2002), “Airline flight routing and timetable setting with variable market shares,” Proceeding of 2002 Conference and Annual Meeting of Chinese Institute of Transportation, Chiayi, Taiwan, pp. 145-155.
  43. Yan, Shangyao and Ching-Hui Tang (2001), “Airport common use check-in counter assignments,” Proceeding of 2001 Conference and Annual Meeting of Chinese Institute of Transportation, Taipei, Taiwan, pp. 793-802.