

Chia-Yen Lee (李家岩)

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Associate Professor

Institute of Manufacturing Information and Systems
National Cheng Kung University (NCKU), Taiwan

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Tainan City 701, Taiwan

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Research Interests

Operations Research (作業研究)/ Management Science (管理科學)

Intelligent Manufacturing Systems (智慧型製造系統)

Data Science in Manufacturing (製造數據科學)/ Data Mining (資料探勘)

Productivity and Efficiency Analysis (生產力與效率分析)

Stochastic Programming (隨機規劃)

Multi-Criteria Decision Analysis (多準則決策分析)

Application (應用領域):

Semiconductor Manufacturing/ Assembly and Testing/ TFT-LCD Manufacturing

Energy, Environment, and Sustainability/ Coal-fired Power Plant

Education

Texas A&M University (TAMU), Texas, USA 2009-2012

Ph.D. in Industrial and Systems Engineering (ISE)

National Tsing Hua University (NTHU), Hsinchu, Taiwan 2004-2006

M.S. in Industrial Engineering and Engineering Management (IEEM)

Management College, National Defense University, Taipei, Taiwan 2002-2003

Army Affairs and Information Administration

National Chengchi University, Taipei, Taiwan 1998-2002 (**211 credits** in 4 years)

Double Major in B.S. in Mathematical Sciences and

B.B.A. in Management Information Systems (MIS)

Work Experience

2016-Now: **Associate Professor**, Institute of Manufacturing Information and Systems, NCKU

2016-Now: **Associate Professor**, Dept. of Computer Science and Information Engineering, NCKU

2016-Now: **Associate Professor**, Engineering Management Graduate Program, NCKU

2016-Now: **Co-PI**, Semiconductor Technologies Empowerment Partners Consortium 「IC 產業同盟」

2016-Now: **Associate Editor**, Flexible Services and Manufacturing Journal.

2012-2016: **Assistant Professor**, Institute of Manufacturing Information and Systems, NCKU

2009-2012: **Instructor and Research Assistant**, Dept. of Industrial & Systems Eng., TAMU

2006-2008: **IE Engineer**, Taiwan Semiconductor Manufacturing Company

2004-2006: **Research/ PC Lab/Teaching/On-Site Assistant**, Dept. of IEEM, NTHU

2002-2004: **Information Officer/Lieutenant**, Infantry Command Division, Army, Taiwan

Publications (* indicates corresponding author)

- [17] **Lee, Chia-Yen***, 2016. Nash-Profit Efficiency: A Measure of Changes in Market Structures. *European Journal of Operational Research*, 255 (2), 659-663. (MOST103-2221-E-006-122-MY3)
- [16] Huey-Wen Chou, **Chia-Yen Lee**, Huey-Kuo Chen*, Mon-You Tsai, 2016. Evaluating Airlines with Slack-Based Measures and Meta-Frontiers. Accepted in *Journal of Advanced Transportation*. (<http://dx.doi.org/10.1002/atr.1390>)
- [15] Wang, Ke, **Chia-Yen Lee**, Jieming Zhang, and Yi-Ming Wei*, 2016. Operational Performance Management of the Power Industry: A Distinguishing Analysis Between Effectiveness and Efficiency. Accepted in *Annals of Operations Research*. (MOST103-2221-E-006-122-MY3) (<http://dx.doi.org/10.1007/s10479-016-2189-1>)
- [14] **Lee, Chia-Yen*** and Ming-Chien Chiang, 2016. Aggregate Demand Forecast with Small Data and Robust Capacity Decision in TFT-LCD Manufacturing. *Computers & Industrial Engineering*. (MOST103-2221-E-006-122-MY3 and MOST103-2218-E-007-023) (<http://dx.doi.org/10.1016/j.cie.2016.02.013>)
- [13] **Lee, Chia-Yen***, 2016. Most Productive Scale Size versus Demand Fulfillment: A Solution to the Capacity Dilemma. *European Journal of Operational Research*, 248 (3), 954–962. (MOST103-2221-E-006-122-MY3)
- [12] **Lee, Chia-Yen*** and Peng Zhou, 2015. Directional Shadow Price Estimation of CO₂, SO₂ and NO_x in the United States Coal Power Industry 1990-2010. *Energy Economics*, 51, 493-502. (MOST103-2221-E-006-122-MY3)
- [11] **Lee, Chia-Yen***, and A. L. Johnson, 2015. Effective Production: Measuring of the Sales Effect using Data Envelopment Analysis. *Annals of Operations Research*, 235 (1), 453–486. (NSC101-2218-E-006-023)
- [10] **Lee, Chia-Yen***, 2015. Distinguishing Operational Performance in Power Production: A New Measure of Effectiveness by DEA. *IEEE Transactions on Power Systems*, 30 (6), 3160-3167. (NSC102-2410-H-006-055, NCKU RCETS)
- [9] **Lee, Chia-Yen**, and A. L. Johnson*, 2015. Measuring Efficiency in Imperfectly Competitive Markets: An Example of Rational Inefficiency. *Journal of Optimization Theory and Applications*, 164 (2), 702-722. (NSC101-2218-E-006-023, NCKU RCETS)
- [8] **Lee, Chia-Yen***, 2014. Meta-Data Envelopment Analysis: Finding a Direction Towards Marginal Profit Maximization. *European Journal of Operational Research*, 237 (1), 207-216. (NSC102-2410-H-006-055)
- [7] **Lee, Chia-Yen** and C.-F. Chien*, 2013. Stochastic Programming for Vendor Portfolio Selection and Order Allocation under Delivery Uncertainty. *OR Spectrum*, 36 (3), 761-797. (NSC102-2622-E-007-013) (NSC102-2622-E-007-013)
- [6] **Lee, Chia-Yen**, C.-H. Chen, and C.-F. Chien*, 2013. A Simulation Analysis for Evaluating

- TFT-LCD Fab Capacity Expansion with a Distant Transportation Problem. *International Journal of Production Research*, 52 (6), 1868-1885. (2012 Impact Factor: 1.460) (NSC100-2628-E-007-017-MY3)
- [5] **Lee, Chia-Yen** and A.L. Johnson*, 2013, "Proactive Data Envelopment Analysis: Effective Production and Capacity Expansion under Stochastic Environment", *European Journal of Operational Research*, 232 (3), 537-548. (NSC101-2218-E-006-023)
- [4] **Lee, Chia-Yen**, A. L. Johnson*, E. Moreno-Centeno, and T. Kuosmanen, 2013, "A More Efficient Algorithm for Convex Nonparametric Least Squares", *European Journal of Operational Research*, 227 (2), 391-400.
- [3] **Lee, Chia-Yen** and A.L. Johnson*, 2012, "Two-dimensional Efficiency Decomposition to Measure the Demand Effect in Productivity Analysis", *European Journal of Operational Research*, 216 (3), 584-593.
- [2] **Lee, Chia-Yen** and A.L. Johnson*, 2011, "A Decomposition of Productivity Change in the Semiconductor Manufacturing Industry", *International Journal of Production Research*, 49 (16), 4761-4785.
- [1] Chien, C.*, **Chia-Yen Lee**, Y. Huang, and W. Wu (2009), "An efficient computational procedure for determining the container loading pattern", *Computers & Industrial Engineering*, 56 (3), 965-978. (NSC95-2221-E-007-126)

Submitted Papers

- [5] **Lee, Chia-Yen***, Bo-Syun Chen, 2016, "MECE Feature Selection Scheme", submitted to *Applied Soft Computing*.
- [4] **Lee, Chia-Yen***, Ho-Chien Chang, 2016, "The Case of Taiwan's TFT-LCD Industry: Roadmap for a Successful Grand Alliance", submitted to *International Journal of Production Research*.
- [3] Ke Wang, Yujiao Xian, **Chia-Yen Lee**, Yi-Ming Wei*, Zhimin Huang, 2016, "On selecting directions for directional distance functions in a non-parametric framework: A review", submitted to *Annals of Operations Research*.
- [2] **Lee, Chia-Yen***, 2015, "Robust Capacity Expansion Model Integrating the Perspectives of Production Economics and Capacity Regret", submitted to *Annals of Operations Research*. Available at SSRN: <http://ssrn.com/abstract=2348983>
- [1] **Lee, Chia-Yen***, 2015, "Directional Marginal Productivity of Efficient Frontier in Data Envelopment Analysis", submitted to *Journal of the Operational Research Society*. Available at SSRN: <http://ssrn.com/abstract=2227565>

Book Chapters

- [4] Johnson, A. L. and **Chia-Yen Lee**, 2016, "Predictive Efficiency Analysis: A Study of U.S. Hospitals", book chapter edited in: Kaoru Tone (Editor), *Advances in DEA Theory and Applications with Extensions to Forecasting Models*, 1st Edition, Chapter 26, Wiley Press. (forthcoming)
- [3] **Lee, Chia-Yen** and A. L. Johnson, 2013, "[Operational Efficiency](#)", book chapter edited in:

- Badiru, A. B. (Editor), [*Handbook of Industrial and Systems Engineering*](#), 2nd Edition, 17-44, CRC Press.
- [2] **Lee, Chia-Yen**, 2012. Demand Effects in Productivity and Efficiency Analysis. Ph.D. Dissertation in Texas A&M University, USA.
- [1] **Lee, Chia-Yen**, 2006. Constructing A Portfolio Optimization Model for Vendor Selection and Order Allocation under Delivery Uncertainty (建構交貨不確定下廠商評選與訂單配置之最佳化模式). Master Thesis in National Tsing Hua University, Taiwan.

Patent

- [1] **Lee, Chia-Yen** and Bo-Syun Chen, 2015. Mutually-Exclusive and Collectively-Exhaustive (MECE) Feature Selection Method (互斥與完備集合的特徵選擇方法), 中華民國專利申請中。

Research and Industry Grants

- [21] **Lee, Chia-Yen (PI)**, (2016), Wire Bond Predictive Maintenance Analysis. (打線機台預測保養分析模組建立) Collaborator: ASE Group (日月光半導體製造股份有限公司)
- [20] **Lee, Chia-Yen (PI)**, (2016), Production Process Analysis and Supply-Demand Balance Optimization for the Moth Orchid Plant Factory. (蝴蝶蘭植物工廠生產流程分析與產銷平衡最佳化) Collaborator: Lung Ting Life Sciences CO., LTD. (龍鼎生命科學股份有限公司) (科技部產學合作研究計畫-應用型) (MOST105-2622-E-006-026 -CC3)
- [19] **Lee, Chia-Yen (PI)**, (2016), Student Academic Competition Grants, NCKU, Taiwan.
- [18] **Lee, Chia-Yen (PI)**, (2016), Intelligent Production Automation: Data Mining for Yield Improvement of Color Filter in TFT-LCD Manufacturing. (生產智慧自動化平台先導計畫-以資料探勘技術改善 TFT-LCD 彩色濾光片製程之良率) Collaborator: Etu (知意圖股份有限公司) and Innolux (群創光電股份有限公司)
- [17] **Lee, Chia-Yen (PI)**, (2015), Data Mining for Printing Forecast and Decision in Educational Publisher (以資料探勘技術建構教育出版業印量預測模型之決策架構). Collaborator: HAN LIN PUBLISHING CO.(翰林教育文化出版事業股份有限公司) (科技部產學合作研究計畫-應用型) (MOST104-2622-E-006-026-CC3, A1041N0001)
- [16] **Lee, Chia-Yen (PI)**, (2015), SPC Big Data: Data Mining for Delamination Diagnosis in the Semiconductor Assembly Process (SPC Big Data: 以資料探勘改善半導體封裝製程良率於脫層現象分析). Collaborator: ASE Group (日月光半導體製造股份有限公司) (B104-K17)
- [15] **Lee, Chia-Yen (PI)**, (2015), Hybrid Fault Detection and Classification Technique for Time Series Pattern (複合式在製品缺陷分類技術). Collaborator: Industrial Technology Research Institute (工業技術研究院) (B200-104 AN1, B104-D02)
- [14] **Lee, Chia-Yen (Co-PI)**, (2014-2015), Semiconductor Technologies Empowerment Partners Consortium: Big Data Analytics and Optimization Technologies (IC 產業同盟：大數據分析與最佳化技術, 科技部深耕工業基礎技術專案計畫) (MOST103-2218-E-007-023)
- [13] **Lee, Chia-Yen (PI)**, (2014), Implementation of Multi-Objective Job-Shop Scheduling System (多目標生產排程系統). Collaborator: Industrial Technology Research Institute (工業技術研

究院)/ ROC Spicer Ltd. (台惟工業股份有限公司)

- [12] **Lee, Chia-Yen (PI)**, (2014-2017), Advanced Research on Marginal Productivity: Marginal-Profit-Oriented Efficiency, Shadow Prices of Air Pollutants, and Robust Capacity Planning (邊際生產力之前瞻研究: 邊際利潤導向之效率分析、空氣汙染之影子價格及穩健產能規劃). (Outstanding Young Scholar Award of Ministry of Science and Technology 科技部優秀年輕學者研究計畫) (MOST103-2221-E-006-122-MY3)
- [11] **Lee, Chia-Yen (PI)**, (2014, 2015), Rising Star Award (「明日之星」研究獎助計畫), NCKU 國立成功大學邁向頂尖大學計畫, Taiwan.
- [10] **Lee, Chia-Yen (PI)**, (2014), Palm Biofuel Regional Economy and Supply Chain Optimization (棕櫚生質能源之經濟效益分析與供應鏈設計最佳化), NCKU Research Center for Energy Techology and Strategy (成功大學能源科技與策略研究中心), Taiwan.
- [9] **Lee, Chia-Yen (PI)**, (2013), Job-Shop Scheduling Methodology and its Decision Support Prototyping System (零工式生產排程技術與其決策支援系統). Industrial Technology Research Institute (工業技術研究院), Taiwan.
- [8] **Lee, Chia-Yen (PI)**, (2013), Multi-product Marginal Productivity Estimation on Non-differentiable Efficient Frontier (估計多產出邊際生產力於不可微分之效率前緣), National Science Council, Taiwan. (NSC102-2410-H-006-055)
- [7] **Lee, Chia-Yen (PI)**, (2013, 2015), High Quality Paper Grants, NCKU, Taiwan.
- [6] **Lee, Chia-Yen (PI)**, (2013-2014), Second Language Teaching Grants, NCKU, Taiwan.
- [5] **Lee, Chia-Yen (Co-PI)**, (2013-2015), Manufacturing Intelligence and Data Mining for Virtual Vertical Integration and Yield Enhancement in Semiconductor Manufacturing (製造智慧與資料挖礦以促進半導體供應鏈之虛擬垂直整合), 102 年度補助產學技術聯盟合作計畫(產學小聯盟), National Science Council, Taiwan. (Accept rate: 18.54%) (NSC102-2622-E-007-013)
- [4] **Lee, Chia-Yen (Co-PI)**, (2013), Research and Teaching Enhancement at IMIS, NCKU, Taiwan.
- [3] **Lee, Chia-Yen (PI)**, (2012-2014), Mentor Plan for New Faculty, NCKU, Taiwan.
- [2] **Lee, Chia-Yen (PI)**, (2012), Measure the demand effects in productive efficiency by data envelopment analysis (以資料包絡分析法衡量需求變異下之生產效率). National Science Council, Taiwan. (NSC101-2218-E-006-023)
- [1] **Lee, Chia-Yen**, (2012), Research grant for distinguished new faculty 補助優秀新進教師暨研究人員研究計畫, NCKU Office of Research and Development, Taiwan.

Honors and Awards

- [23] Certificate of Outstanding Reviewer in the journal- Computers & Industrial Engineering, Elsevier. (Nov. 2015)
- [22] **High Quality Paper Grant** (高品質論文獎助), National Cheng Kung University. (May 2015)
- [21] **Rising Star Research Grants** (「明日之星」研究獎助), National Cheng Kung University. (Mar. 2015)
- [20] **Best Paper Award** of Optimization Modelling, 2014 Chinese Institute of Industrial Engineers (CIIE) Conference. (Dec. 2014)
- [19] **Outstanding Young Scholar Grants** (科技部優秀年輕學者研究計畫), Ministry of Science

and Technology, Taiwan. (Aug. 2014)

- [18] **Rising Star Award**, National Cheng Kung University. (Mar. 2014)
- [17] **Best Paper Award**, 2013 Chinese Institute of Industrial Engineers (CIIE) Conference & Annual Meeting. (Dec. 2013)
- [16] NCKU **Special Outstanding Talent Award** (延攬、留住及獎勵特殊優秀人才), National Cheng Kung University. (Nov. 2013) (Acceptance rate: 48%, only one assistant prof.)
- [15] **High Quality Paper Grant** (高品質論文), National Cheng Kung University. (Jun. 2013)
- [14] **Summa Cum Laude** of the national INFORMS Student Chapter Annual Award by Chapters/Fora Committee (Nov. 2012)
- [13] **Appreciation Award** from INFORMS Student Chapter at TAMU (Apr. 2012)
- [12] **Who's Who** Among Students in American Universities and Colleges for 2011-2012 recognized by Texas A&M University (April 2012) (**2012 美國大學學生名人錄, 10 selected from 10,000 graduate students at TAMU**)
- [11] Nominated for Distinguished Graduate Student Award for **Excellence in Research** by the Dept. of Industrial and Systems Engineering, Texas A&M University. (Mar. 2012)
- [10] Certificate of Appreciation from INFORMS Student Chapter at TAMU (Dec. 2011)
- [9] Certificate of Appreciation from Taiwan Student Association at TAMU (May 2010)
- [8] **Texas Engineering Experiment Station (TEES) Fellowship** (2009-2012)
- [7] **Innovation Award** (third place) from Corporate Planning Organization at Taiwan Semiconductor Manufacturing Company (Jan. 2008)
- [6] 2007 **Top 10%** Outstanding Annual Performance at Industrial Engineering Division of Taiwan Semiconductor Manufacturing Company (Jan. 2008)
- [5] Honorary Award given by Army Reserved Forces of Taiwan (Oct. 2007)
- [4] **Master Thesis Award** of 2006 Chinese Institute of Industrial Engineers (CIIE) (Dec. 2006)
- [3] **Master Thesis Award** (2nd place) of Operations Research Society of Taiwan (Nov. 2006)
- [2] DHL Worldwide Express **Master Thesis Award** in Supply Chain Management (Oct. 2006)
- [1] **Magna Cum Laude** (third place) of Mathematical Sciences Department at National Chengchi University (June 2002)

Student Honors

- [9] Liang, Chia-Lung (梁家隆)- Master Thesis Award at Empirical Study Session in Chinese Institute of Industrial Engineers (CIIE) (June 2016)
- [8] Lin, Yung-Lun (林永倫)- Master Thesis Award at Production System Session in Chinese Institute of Industrial Engineers (CIIE) (June 2016)
- [7] Wu, Min-You (吳民友)- Master Thesis Award at Operations Research Session in Chinese Institute of Industrial Engineers (CIIE) (June 2016)
- [6] Zeng, Jun-Hua (曾俊樺), Shao-Yen Hung (洪紹巖), Zhao-Hong Dong (董昭宏), Ji-Hong Lee, Chin-Yi Tseng- Honorable Mention, 2015 Big Data Analytics for Semiconductor Manufacturing (Jan. 2016)
- [5] Sun, Wei-Chun (孫維君)- Best Paper Award of Supply Chain Management, Chinese Institute of

Industrial Engineers (CIIE) Conference (Dec. 2015)

- [4] Chen, Bo-Syun (陳柏勳)- Best Paper for Modeling & Decisions by International Symposium on Semiconductor Manufacturing Intelligence (Aug. 2014)
- [3] Lin, Shu-Hung (林書弘), Best Master Thesis Award of Supply Chain Management recognized by Chinese Management Association (Oct. 2013, coadvise with professor Taho Yang)
- [2] Liu, Wei-Yi (劉韋億), Honorable Mention of Master Thesis Award of Chinese Institute of Industrial Engineers (CIIE) (Jun. 2013, coadvise with professor Taho Yang)
- [1] Lin, Shu-Hung (林書弘), Winner of Master Thesis Award of Chinese Institute of Industrial Engineers (CIIE) (Jun. 2013, coadvise with professor Taho Yang)

Teaching Experience

Operations Research Applications*, Spring 2016/ Graduate. Teaching Evaluation: **4.875** / 5.0

Productivity and Efficiency Analysis*, Spring 2016/ Graduate. Teaching Evaluation: **5.0** / 5.0

Data Mining, Spring 2016/ Graduate. Teaching Evaluation: **4.75** / 5.0

Intelligent Manufacturing Systems*, Fall 2015/ Graduate. Teaching Evaluation: **4.900** / 5.0

Operations Research, Fall 2015/ Undergraduate. Teaching Evaluation: **4.733** / 5.0

Data Mining, Spring 2015/ Graduate. Teaching Evaluation: **5.0** / 5.0

Mind of the Strategist, Spring 2015/ Graduate. Teaching Evaluation: **4.818** / 5.0

Operations Research Applications, Spring 2015/ Graduate. Teaching Evaluation: **4.8** / 5.0

Supply Chain Management, Fall 2014/ Graduate. Teaching Evaluation: **5.0** / 5.0

Intelligent Manufacturing Systems*, Fall 2014/ Graduate. Teaching Evaluation: **4.833** / 5.0

Operations Research, Fall 2014/ Undergraduate. Teaching Evaluation: **4.769** / 5.0

Data Mining, Spring 2014/ Graduate. Teaching Evaluation: **5.0** / 5.0

Mind of the Strategist, Spring 2014/ Graduate. Teaching Evaluation: **4.907** / 5.0

Stochastic Optimization Theory, Spring 2014/ Graduate. Teaching Evaluation: **5.0** / 5.0

Intelligent Manufacturing Systems*, Fall 2013/ Graduate. Teaching Evaluation: **4.857** / 5.0

Operations Research, Fall 2013/ Undergraduate. Teaching Evaluation: **4.857** / 5.0

Supply Chain Management, Spring 2013/ Graduate. Teaching Evaluation: **5.0** / 5.0

Operations Research Applications*, Spring 2013/ Graduate. Teaching Evaluation: **4.75** / 5.0

Intelligent Manufacturing Systems, Fall 2012/ Graduate. Teaching Evaluation: **5.0** / 5.0

Productivity and Efficiency Analysis*, Fall 2012/ Graduate. Teaching Evaluation: **4.75** / 5.0

Economic Analysis of Engineering Projects*, Fall 2011 at TAMU. Teaching Evaluation **4.23** / 5.0

Guest Lecturer, Engineering Economic Analysis, Summer 2011 at TAMU

Tutor, Decision Analysis and Data Mining, 2007–2008 at TSMC

Teaching Assistant, Production and Operations Mgmt. (Executive MBA), Fall 2005 at NTHU

Team Mentor, Decision Analysis, Fall 2004 at NTHU

Teaching Officer, Information Security/ Network Structure, 2002–2004 at Taiwan Army

***: taught in English**

Professional Service

Journal Associate Editor: Flexible Services and Manufacturing Journal (Jan. 2016 - now)

International Scientific Committee, [Data Envelopment Analysis International Conference: Methodology Advances and Applications in Governance and Management](#), Nanjing Audit University (NAU), Nanjing, China. (July 2-5, 2016)

Journal Reviewer: European Journal of Operational Research, Journal of Productivity Analysis, Energy Economics, Annals of Operations Research, OR Spectrum, Journal of the Operational Research Society, Managerial Finance, Resources, Conservation and Recycling, OMEGA- The International Journal of Management Science, International Journal of Electrical Power and Energy Systems, Applied Mathematical Modelling, International Journal of Production Research, Flexible Services and Manufacturing Journal, Computers & Industrial Engineering, International Journal of Information Technology & Decision Making, Mathematical Problems in Engineering, International Transactions in Operational Research, Asian Journal of Industrial and Systems Engineering, The Data Envelopment Analysis Journal, Journal of Industrial and Production Engineering, International Journal of Industrial Engineering, etc.

Conference Reviewer: 17th Asia Pacific Industrial Engineering and Management Systems (APIEMS) Conference, 2015 Chinese Institute of Industrial Engineers (CIIE) Conference, 16th Asia Pacific Industrial Engineering and Management Systems (APIEMS) Conference, IEEE International Conference on Automation Science and Engineering. (IEEE CASE 2014)

General Chair, Productivity and Data Envelopment Analysis Workshop (生產力與資料包絡分析研習會) (July 2014)

Organization Chair: International Symposium on Semiconductor Manufacturing Intelligence, Aug. 16-18, Taipei, Taiwan. (ISMI, 2014)

Award Organizing Chair: International Symposium on Semiconductor Manufacturing Intelligence, National Tsing Hua University, Hsinchu, Taiwan. (Aug. 7-10, 2016)

Exhibition Co-Chair: IEEE International Conference on Automation Science and Engineering. (IEEE CASE 2014)

Local Arrangement, 2015 Big Data Analytics for Semiconductor Manufacturing (第二屆半導體大數據分析競賽) (Aug. 2015), Local Arrangement, 2014 Big Data Analytics for Semiconductor Manufacturing (第一屆半導體大數據分析競賽) (Sept. 2014)

Session Chair: 2012 Chinese Institute of Industrial Engineers Conference (CIIE 2012)

Co-Chair: Session of Quantitative Methods in Semiconductor Manufacturing, IEEE International Conference on Automation Science and Engineering. (IEEE CASE 2015)

Professional Affiliations

NSC Semiconductor Technologies Empowerment Partners Consortium (NSC STEP)

Institute of Electrical and Electronics Engineers (IEEE)

Production and Operations Management Society (POMS)

Institute for Operations Research and the Management Sciences (INFORMS)

Institute of Industrial Engineers (IIE)

Chinese Institute of Industrial Engineers (CIIE)

Leadership, Service and Community Activities

National Cheng Kung University, Taiwan

CSIE 學術委員會委員 (Aug. 2015–)

CSIE 學生事務會議導師代表 (Aug. 2015–)

IMIS 所照坤精密儀器大樓管委會 (Aug. 2015–)

IMIS 製造所自我評鑑小組 (Aug. 2014–)

IMIS Examiner for graduate admission examination (Aug. 2013–)

IMIS Recruiting Promotion Director (Aug. 2012–)

IMIS Institute Library Director (Aug.2012– Jul.2013, Aug. 2014–Jul.2015)

Texas A&M University, College Station, TX

Vice President for Academic Events, INFORMS Student Chapter (2011–2012)

Activity Director, TAMU Taiwan Student Association (2009–2010)

Army, Taiwan

Company Associate Commander, Army Reserved Forces (Oct. 2007)

National Chengchi University, Taipei, Taiwan

Activity Director, Department Association of Mathematical Sciences (Sept. 2000–Aug. 2001)

Certificates

[3] Teaching Assistant Training and Evaluation Program of TAMU Graduate Teaching Academy, TX (Aug. 2011)

[2] ERP Planner of Chinese Enterprise Resource Planning Society, Taiwan (July 2004)

[1] Trader to Negotiable Securities of Securities & Futures Institute, Taiwan (Aug. 2001)

Invited Talk

[22] **Lee, Chia-Yen** (July 26, 2016). A First Course in Manufacturing Data Science 製造資料科學的第一堂入門課. Taiwan Industry 4.0 台灣製造業轉型工業 4.0 研習會, TechOrange (科技報橘), Taipei, Taiwan.

[21] **Lee, Chia-Yen** (July 15, 2016). Data Science in Manufacturing (製造數據科學). School of Management and Economics (管理與經濟學院). Beijing Institute of Technology (北京理工大學), Beijing, China.

[20] **Lee, Chia-Yen** (July 12, 2016). Data Envelopment Analysis for Effectiveness Measure and Marginal Abatement Cost Estimation in the Power System Industry. Center for Energy & Environmental Policy Research (能源與環境政策研究中心), Beijing Institute of Technology (北京理工大學), Beijing, China.(News)

[19] **Lee, Chia-Yen** (May. 20, 2016). Think Like a Data Scientist 資料科學思考術. Taipei Municipal Daan Vocational High School. 臺北市立大安高級工業職業學校, Taipei, Taiwan.

[18] **Lee, Chia-Yen** (May. 12, 2016). Directional Marginal Abatement Cost of Air Pollutants in the Coal-Fired Power Industry (燃煤電廠污染排放物之方向性邊際減排成本). The 2nd Workshop on Frontier Modeling of Energy & Environment (FMEE) 第二屆能源環境前沿建

模論壇, College of Economics and Management, Nanjing University of Aeronautics and Astronautics (NUAA) 南京航空航天大學, Jiangsu, China.

- [17] **Lee, Chia-Yen** (May. 5, 2016). Logical Thinking for Graduates 研究生思考的技術. Institute of Project Management (專案管理研究所). National Chin-Yi University of Technology 國立勤益科技大學, Taichung, Taiwan.
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- [35] Johnson, A. L., and **Chia-Yen Lee**, 2015. Predictive Efficiency Analysis: A study of U.S. Hospitals. Workshop 2015 -Advances in DEA Theory and Applications with Extensions to Forecasting Models (Dec. 1, 2015), National Graduate Institute for Policy Studies (GRIPS), Japan.
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- [32] Lin, Yung-Lum (林永倫) and **Chia-Yen Lee**, 2015. Optimal Computing Budget Allocation for Virtual Material Quality Investigation (以最佳模擬預算分配法發展虛擬物料品質檢測系統). 2015 Chinese Institute of Industrial Engineers (CIIE) Conference & Annual Meeting, Taichung, Taiwan. (榮獲 2016 全國工業工程與管理碩士論文競賽 生產系統組 優勝)
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- [21] Liu, Wei-Yi, **Chia-Yen Lee**, T. Yang, J.-C. Lu (Sept. 2013). Simulation Model and Multi-Criteria Decision Making for Layout Design of Cellular Manufacturing in a Solar Cell Manufacturer. Joint Symposium of e-Manufacturing & Design Collaboration (eMDC) and International Symposium on Semiconductor Manufacturing (ISSM), Hsinchu, Taiwan. (2013 工業工程學會碩士論文競賽生產系統組佳作)
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- [12] **Lee, Chia-Yen** and A. L. Johnson (Nov. 2011), "Proactive Data Envelopment Analysis: Effective Production in Stochastic Environments", Decision Sciences Institute 42nd Annual Meeting, Boston, Massachusetts.
- [11] **Lee, Chia-Yen**, A. L. Johnson, E. Moreno-Centeno, and T. Kuosmanen (Nov. 2011), "An Efficient Algorithm for Convex Nonparametric Least Squares", INFORMS Annual Meeting, Charlotte, North Carolina.
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- [3] **Lee, Chia-Yen**, Chen-Fu Chien, C. Chen, E. Chiang, C. Chien, F. Tseng, C. Lin, W. Chou and S. Wang (Dec. 2005), "Modeling and Simulation Analysis for Capacity Planning Evaluation for

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