

CHIALIN CHEN

Associate Professor of Operations Management & Technology, Queen's School of Business

RESEARCH/TEACHING INTERESTS

- **Research:** New Product Design & Technology Innovation, Sustainable Operations Management, Supply Chain Management, Sustainable Performance Evaluation
- **Teaching:** New Product & Technology Innovation, Production & Operations Management, Supply Chain Management, Technology & Operations Strategy

ACADEMIC BACKGROUND

University of Illinois at Urbana-Champaign Champaign, IL

Ph.D., Department of Business Administration (2000)

- **Dissertation Title:** Models for Managing Green Product and Process Innovations
- **Advisors:** George E. Monahan (Operations Management), Dilip Chhajed (Operations Management), James D. Hass (Marketing), Michael J. Shaw (MIS)

Massachusetts Institute of Technology Cambridge, MA

M.S., Department of Civil & Environmental Engineering/Technology & Policy (1994)

- **Thesis Title:** Prospects for Automobile Recycling: An Integrated Approach of Systems Dynamics and Life-Cycle Assessment
- **Advisor:** John R. Ehrenfeld

National Taiwan University Taipei, Taiwan

B.S., Department of Mechanical Engineering (1989)

PROFESSIONAL TRAINING

The Executive Technique® Chicago, IL

Certificate in the Executive Skills of Verbal Business Communication (2006)

POSITIONS HELD

- Associate Professor with Tenure, Queen's School of Business, Queen's University (2009 – present)
- Visiting Scholar, Nanyang School of Business, Nanyang Technological University (2014)
- Visiting Associate Professor, Department of Business Administration, College of Management, National Taiwan University (2009 – 2010, 2012)
- Visiting Scholar, School of Economics & Management, Tongji University (2011, 2012, 2013)
- Visiting Scholar, School of Management, Fudan University (2009, 2011)
- Visiting Scholar, Department of Industrial Engineering and Logistics Management, Hong Kong University of Science & Technology (2010)
- Assistant Professor, Queen's School of Business, Queen's University (2003 – 2009)
- Adjunct Assistant Professor, Department of Management Sciences, University of Waterloo (2002 – 2003)

- Assistant Professor, School of Business & Economics, Wilfrid Laurier University (2000 – 2003)
- Sessional Instructor, Department of Business Administration, University of Illinois (1997 – 1998)
- Research Assistant, MIT Center for Technology, Policy, & Industrial Development (formerly Center for Policy Alternatives) (1993 – 1996)
- Assistant Researcher/Consultant, Architecture & Building Institute, Taipei, Taiwan (1991 – 1992)
- Personnel Officer, Army, Penghu, Taiwan (1989 – 1991)

ACADEMIC LEADERSHIP & HONORS

- Associate Editor, *OMEGA - The International Journal of Management Science* (2015 – 2018).
- Serve on the Editorial Board for *IEEE Transactions on Engineering Management* (2012 – present), *International Journal of Service & Operations Management* (2004 – present), and *International Journal of Operations Research and Information Systems* (2008 – present).
- Guest Editor, Special Issue on “New Research Frontiers in Sustainability,” *OMEGA - The International Journal of Management Science* (2014 – present).
- Invited Lead Speaker, 2013 IEEE Business Innovation & Technology Management Conference, Beijing China.
- Nominee for Tier II Canada Research Chair in Technology Commercialization and Intellectual Capital Creation (2010)
- Referee for the Natural Sciences and Engineering Research Council of Canada (NSERC) College and Community Innovation Grant (2014).
- Referee for the Natural Sciences and Engineering Research Council of Canada (NSERC) Strategic Project Grant (2013).
- Referee for the Social Sciences and Humanities Research Council of Canada (SSHRC) Insight Grant Competition (2012).
- Dean's Recognition of Teaching Excellence, School of Business & Economics, Wilfrid Laurier University (Winter 2001, Fall 2001, Winter 2002, Fall 2002)
- Richard D. and Anne Marie Irwin Fellowship, University of Illinois (1999 – 2000)
- Excellent Teacher Award, University of Illinois at Urbana-Champaign (1998)
- University of Illinois Fellowship (1996 – 1999)

RESEARCH GRANTS

- Funding Agency: Natural Sciences and Engineering Research Council of Canada (NSERC)
Grant Type: Discovery Grant
Role: Principal Investigator (Co-investigator: Jacqueline Corbett, Université Laval)
Program Title: Analyzing Smart Grid Systems Design Decisions with Dynamic Pricing, Innovation Diffusion, and Policy Control Mechanisms
Grant Amount: CND\$160,000, Funding Period: 2013 – 2018

- Funding Agency: National Natural Science Foundation of China (NSF China)
 Grant Type: Regular Research Grant
 Role: Co-investigator (Principal Investigator: Xu Li, Fudan University)
 Program Title: Research on the Path Dependence and Release Strategy in Green Innovation: A Process Perspective
 Grant Amount: CNY¥600,000, Funding Period: 2014 – 2018
- Funding Agency: Social Sciences and Humanities Research Council of Canada (SSHRC)
 Grant Type: Partnership Development Grant
 Role: Co-investigator (Principal Investigator: Yolande Chan, Queen's University)
 Program Title: Research Partnerships to Revitalize Rural Economies
 Grant Amount: CND\$238,610, Funding Period: 2011 – 2015
- Funding Agency: Natural Sciences and Engineering Research Council of Canada (NSERC)
 Grant Type: Discovery Grant
 Role: Single Investigator
 Program Title: Sustainable Product Design for Green Supply Chain Management
 Grant Amount: CND\$85,000, Funding Period: 2007 – 2012
- Funding Agency: Queen's School of Business
 Grant Type: Supplement Research Grant
 Role: Single Investigator
 Program Title: Green Design Performance Evaluation: Theoretical and Empirical Analyses
 Grant Amount: CND\$45,000, Funding Period: 2013 – 2016
- Funding Agency: National Natural Science Foundation of China (NSF China)
 Grant Type: Regular Research Grant
 Role: Co-investigator (Principal Investigator: Xu Li, Fudan University)
 Program Title: GRC Process Based Modeling Method and Its Application in Pollution Discharge Control of China
 Grant Amount: CNY¥270,000, Funding Period: 2011 – 2013
- Funding Agency: Economic Developer Council of Ontario (EDCO)
 Grant Type: Regional Research Grant
 Role: Co-investigator (Principal Investigator: Yolande Chan, Queen's University)
 Program Title: Research to Revitalize Rural Economies
 Grant Amount: CND\$30,000, Funding Period: 2010 – 2011
- Funding Agency: Queen's School of Business
 Grant Type: Research Initiative Grant
 Role: Single Investigator
 Grant Amount: CND\$60,000, Funding Period: 2003 – 2006
- Funding Agency: Natural Sciences and Engineering Research Council of Canada (NSERC)
 Grant Type: Discovery Grant
 Role: Single Investigator
 Program Title: Modeling Green Product and Process Innovations in Competitive Environments
 Grant Amount: CND\$81,000, Funding Period: 2002 – 2007

REFEREED PUBLICATIONS

- **Chialin Chen**, “Design for the Environment: A Quality-Based Model for Green Product Development,” *Management Science*, vol. 47, no. 2, 2001, pp. 250-263.
(Note: The paper has been used as a reading article in graduate courses at University of Wisconsin, Georgia Institute of Technology, University of Illinois, and University of Portland.)
- Fisher C. Chen & **Chialin Chen**, “The Effects of Strategic Alliances and Risk Pooling on the Load Factors of International Airline Operations,” *Transportation Research-Part E*, vol. 39, no.1, 2003, pp. 19-34.
- Hamid Noori & **Chialin Chen**, “Applying Scenario-Driven Strategy to Integrate Environmental Management and Product Design,” *Production & Operations Management*, vol. 12, no.3, 2003, pp. 353-368.
- Hamid Noori, **Chialin Chen**, & Francis Lau, “Linking Supply Chain Architecture to Product Design: Proposing the P-SC/DM Framework,” *Proceedings of Joint Conference of POMS & EurOMA*, vol. 3, no. 3, 2003, pp. 423-432.
- **Chialin Chen** & Hamid Noori, “Time-To-Value, Customer Learning, and the Design of Breakthrough Products,” *International Journal of Product Development*, vol. 1, no. 3/4, 2005, pp. 261-279.
- **Chialin Chen** & Yu Ren, “Predictive Methods for Using Capacity Data to Estimate Market Shares and the Extent of Risk Pooling by Airline Alliance Partners under Parallel Codesharing,” *Transportation Journal*, vol. 46, no. 4, 2007, pp. 21-35.
- **Chialin Chen** & Jun Zhang, “The Inconvenient Truth about Improving Vehicle Fuel Efficiency: A Multi-Attribute Analysis of the Efficient Frontier of the U.S. Automobile Industry,” *Transportation Research-Part D*, vol. 14, no. 1, 2009, pp. 22-31.
(Note: The paper was cited by the Secretariat of the Economic and Social Council of the United Nations in its 2010 Report to the World Forum for Harmonization of Vehicle Regulations with the concluding remark that “this kind of study provides sound arguments for promoting the implementation of governmental fuel efficiency regulations.”)
- Samson X. Zhao & **Chialin Chen**, “Decision Support Systems for Improving Inter-Hospital Patient Transfer Services for a Rural Community,” *Proceedings of the Forth International Conference on Knowledge Management in Organizations*, 2009, Vol. A-3, 1-15.
- **Chialin Chen** & George E. Monahan, “Environmental Safety Stock: The Impact of Regulatory and Voluntary Control Policies on Production Planning, Inventory Control, and Environmental Performance,” *European Journal of Operational Research*, vol. 207, no. 3, 2010, pp. 1280-1292.
- **Chialin Chen** & Farzam Taham, “Reverse Logistics Networks with the Gateway-Corridor Components: A Case of Waste Electrical and Electronic Equipment,” *Proceedings of the 2010 Asia Pacific Gateway & Corridor Initiative Conference*, 2010.
- **Chialin Chen** & Yu Ren, “Exploring the Relationship between Vehicle Safety and Fuel Efficiency,” *Transportation Research-Part D*, vol. 15, no. 2, 2010, pp. 112-116.

- Amy L. Bergenwall, **Chialin Chen**, & Richard E. White, “TPS’s Process Design in American Automotive Plants and Its Effects on the Triple Bottom Line and Sustainability,” *International Journal of Production Economics*, vol. 140, no. 1, 2012, pp. 374–384.
- **Chialin Chen**, Joe Zhu, Jiun-Yu Yu, & Hamid Noori, “A New Methodology for Evaluating Sustainable Product Design Performance with Two-Stage Network Data Envelopment Analysis,” *European Journal of Operational Research*, vol. 221, no. 2, 2012, pp. 348-359.
- Shih-Nan Hwang, **Chialin Chen**, Yao Chen, Hsuan-Shih Lee, & Pei-Di Shen, “Sustainable Design Performance Evaluation with Applications in the Automobile Industry: Focusing on Inefficiency by Undesirable Factors,” *OMEGA*, vol. 41, 2013, pp. 553–558.
- **Chialin Chen** & Jun Zhang, “Green Product Design with Engineering Tradeoffs under Technology Efficient Frontiers: Analytical Results and Empirical Tests,” *IEEE Transactions on Engineering Management*, vol. 60, no. 2, 2013, 340-352.
- **Chialin Chen** & Lucy Q. Liu, “Pricing and Quality Decisions and Financial Incentives for Sustainable Product Design with Recycled Material Content under Price Leadership,” *International Journal of Production Economics*, vol. 147, vol. 1, 2014, pp. 666–677.
- **Chialin Chen** & Samson X. Zhao, “Modeling and Simulation Analyses of Healthcare Delivery Operations for Inter-Hospital Patient Transfers,” *International Journal of Operations Research & Information Systems*, vol. 5, no. 1, 2014, 76-94.
- **Chialin Chen**, Jun Zhang, & Teresa Delaurentis, “Quality Control in Food Supply Chain Management: An Analytical Model and Case Study of the Adulterated Milk Incident in China,” *International Journal of Production Economics*, vol. 152, 2014, pp. 188-199.
(Note: On June 20, 2014, *Dairy Report*, one of the major digital business magazines in the dairy industry, published a full, dedicated article summarizing the key findings and insights from this paper: It was also listed as one of the most downloaded articles of *International Journal of Production Economics* within 90 days of its publication.)
- Xu Li, Qing Xu, & **Chialin Chen**, “Designing a Hierarchical Decentralized System for Distributing Large-Scale, Cross-Sector, and Multi-Pollutant Control Accountabilities,” forthcoming in *IEEE Systems Journal*.
- **Chialin Chen**, Jun Zhang, & Ruey-Shan Guo, 2015, “The D-Day, V-Day, and Bleak Days of a Disruptive Technology: A New Model for Ex-ante Evaluation of the Timing of Technology Disruption,” forthcoming in *European Journal of Operational Research*.

CONFERENCE PRESENTATIONS

- “Market Competition and Segmentation with Green Product Introduction,” POMS Annual Conference, Washington, D.C., May 2015 (with Amy Y. Xia & Vaidy Jayaraman).
- “A GIS-Based System with Multi-Objective Utility Analysis for the Cost/Equity Frontier in Vehicle Routing,” CORS Annual Conference, Ottawa (ON), June 2014 (with Guyves Achartari).
- “Green Innovation in Supply Chain Competition,” EURO-INFORMS Joint International Meeting, Rome, Italy, July 2013 (with Amy Y. Xia & Vaidy Jayaraman).

- “Green Design as a Competitive Tool in Supply Chain Competition,” POMS Annual Conference, Denver (CO), May 2013 (with Amy Y. Xia & Vaidy Jayaraman).
- “Designing Sustainable Reverse Logistics Systems for E-Waste: A Case of the Ontario WEEE Program,” 7th International Conference on Planning & Design (ICPD), Tainan, Taiwan, May 2013 (with Farzam Taham).
- “A New Model for Evaluating Fuel-Exhaust and System-Design Performances of Vehicle Emissions Control,” CORS Annual Conference, Niagara Falls (ON), May 2012 (with Yu Ren).
- “Green Product Development with Competition and Technology Constraints: Models and Empirical Analyses,” POMS Annual Conference, Chicago (IL), April 2012.
- “Quality Assurance in Supply Chains: Analytical Model and Case Study of Food Safety in China,” OCSAMSE Annual Conference, Tianjin, China, July 2011 (with Jun Zhang and Teresa Delaurentis).
- “Supplier Governance and the Outsourcing Lifecycle,” POMS Annual Conference, Reno (NV), May 2011 (with Keith Rogers).
- “Sustainable Product Design with Technology Tradeoff between Traditional and Environmental Attributes,” OCSAMSE Annual Conference, Beijing, July 2010 (with Jun Zhang).
- “Reverse Logistics Networks with the Gateway Corridor Components: A Case of Waste Electrical and Electronic Equipment,” The Asia Pacific Gateway and Corridor Initiative Workshop, Toronto, June 2010 (with Farzam Taham).
- “Sustainable Product Design with Recycled Material Content under Price Leadership,” OCSAMSE Annual Conference, Shanghai, July 2009 (with Lucy Q. Liu).
- “Decision Support Systems for Improving Inter-Hospital Patient Transfer Services for a Rural Community,” KMO (Knowledge Management in Organization) Annual Conference, Taipei, June 2009 (with Samson X. Zhao).
- “Quantitative Models for Evaluating Disruptive Technologies,” INFORMS Annual Conference, Washington D.C., October 2008.
- “Product Innovation with Technology Efficient Frontier between Vehicle Weigh and Fuel Efficiency for the Automobile Industry,” INFORMS Annual Conference, Seattle (WA), November 2007 (with Jun Zhang).
- “Analyzing the Life-Cycle Environmental Performance under Standard- and Incentive-Based Hybrid Environmental Regulations,” CORS Annual Conference, London (ON), May 2007 (with Yu Ren).
- “Analyzing the Competition between Airlines with Shared Resources under Strategic Alliances,” CORS Annual Conference, Montreal (PQ), May 2006 (with Yu Ren).
- “Analyzing Simultaneous and Sequential Games for Green Product Development,” INFORMS Annual Conference, San Francisco (CA), November 2005 (with Kilsun Kim).
- “The Strategic Use of Green Supply Chain Management to Create Competitive Advantages through Network Effects: A Case of the Body Shop Inc.,” The Strategic Alliance Conference, Toronto (ON), September 2005 (with Tina Dacin and Katherine Breward).

- “Why Not a 40-MPG SUV? Analyzing the Effects of Green Product Development on the Natural Environment” INFORMS Annual Conference, Denver (CO), October 2004.
- “Green Product Development in Competitive Environments: Price Competition and Quality Choice” INFORMS Annual Conference, Atlanta (GA), October 2003 (with Kilsun Kim).
- “Time-To-Value, Customer Satisfaction, and Designing Breakthrough Products,” DSI Annual Conference, San Diego, November 2002 (with Hamid Noori).
- “A Learning-Based Model on the Interactions between New Product Development and Supply Chain Management,” CORS Annual Conference, Toronto, June 2002 (with Hamid Noori).
- “Competition with Logistics and Environmental Performances in Supply Chains,” INFORMS Annual Conference, Miami (FL), November 2001 (with George E. Monahan).
- “Investigating the Impacts of Strategic Alliances and Information Sharing on International Operations of the Airline Industry,” INFORMS International Conference, Maui (HI), June 2001 (with Fisher C. Chen)
- “Process Management with Uncertain Environmental Limits,” INFORMS Annual Conference, San Antonio (TX), November 2000 (with George E. Monahan).
- “Design for the Environment: A Quality-Based Model for Green Product Development,” INFORMS Spring Conference, Cincinnati (OH), May 1999.
- “Integrating Operations and Environmental Decisions in Production Systems,” INFORMS Fall Conference, Philadelphia (PA), November 1999 (with George E. Monahan).

TEACHING EXPERIENCE

- Operations and Supply Chain Analytics (Executive Education Course)
- Technology Strategy (MBA Required Course)
- Production and Operations Management (MBA, MMA, & Undergraduate Required Course)
- Analysis of Supply Chains (MSc/Ph.D. Required Course)
- Applied Business Research (MBA Required Course)
- Operations Strategy and Innovation Management (Undergraduate Elective Course)
- Transportation Management & Computer Applications (Undergraduate Elective Course)
- Introduction to Management Science (Undergraduate Required Course)

PROFESSIONAL ACTIVITIES

- Invited Speaker on Supply Chain Quality Management and Corporate Social Responsibility, Centre of Responsible Leadership, Queen’s School of Business, Queen’s University, January 2014.
- Invited Speaker on Proactive and Reactive Strategies for Green Design, Research Presentation Series, Queen’s School of Business, Queen’s University, September 2013.
- Served on the Internal Advisory Board of the Centre of Corporate Social Responsibility, Queen’s School of Business, Queen’s University (2009 – 2012).
- Invited Speaker on “Management Science and Knowledge Management,” 2010 Study of Business and Knowledge Workshop, Kingston, Ontario, June 2010.

- Invited Speaker on “Corporate Social/Environmental Responsibility,” 2008 International Development Conference (IDC), Kingston, Ontario, March 2008.
- Seminar Speaker for Indiana University, University of Waterloo, University Toronto, University of Western Ontario, Babson College, Wilfrid Laurier University, Penn State University, National Taiwan University, Fudan University, Tongji University, Shanghai University of Finance & Economics, Nanyang Technological University, and York University.
- Discussant on “Corporate Social Responsibility,” The Corporate Social Responsibility Weekend, Queen’s School of Business, Queen’s University, Kingston, Ontario, October 2007.
- Session Organizer and Chairperson: INFORMS Annual Conference (2001), OCSAMSE Annual Conference (2010, 2011).
- Session Chairperson: INFORMS Annual Conference (2004, 2005), CORS Annual Conference (2006), OCSAMSE Annual Conference (2009).
- Ad Hoc Reviewer for *Management Science* (4 papers), *Production & Operations Management* (4 papers), *European Journal of Operational Research* (6 papers), *Transportation Research* (3 papers), *Manufacturing & Service Operations Management* (2 papers), *IEEE Transactions on Engineering Management* (2 papers), *Naval Research Logistics* (2 papers), *Transportation Journal*, *International Journal of Production Economics* (5 papers), *Journal of Systems Science and Systems Engineering* (2 papers), *Technovation*, *INFOR Journal*, and a few other journals.
- Member of Institute for Operations Research and Management Sciences (INFORMS), IEEE Societies, Canadian Operational Research Society (CORS), & Overseas Chinese Scholars Association in Management Science and Engineering (OCSAMSE).

COMMITTEE SERVICES

- Faculty Board Appeals Committee, School of Business, Queen’s University (2014 – present)
- Research Committee, School of Business, Queen’s University (2011 – 2014)
- Renewal, Tenure, & Promotion Committee, School of Business, Queen’s University (2011 – 2012)
- Ph.D. Program Review Committee, School of Business, Queen’s University (2011 – 2012)
- Undergraduate Program Progress & Curriculum Committee, School of Business, Queen’s University (2008 – 2009)
- Library Committee, School of Business, Queen’s University (2008 – 2009)
- TA Management Committee, School of Business, Queen’s University (2007 – 2008)
- Faculty Development Fund Committee, School of Business, Queen’s University (2006 – 2007)
- Computing Committee, School of Business, Queen’s University (2005 – 2007)
- Research Ethics Committee, School of Business, Queen’s University (2004 – 2005)
- Business Appointment and Promotion Committee, School of Business & Economics, Wilfrid Laurier University (2002 – 2003)
- Nominations Committee, School of Business & Economics, Wilfrid Laurier University (2000 – 2001)
- Student Advisory Committee, Department of Business Administration, University of Illinois (1998 – 1999)

CONSULTING EXPERIENCE

- Bell Canada (Internet Pricing & Competitive Strategy)
- Industry Canada, Manufacturing Industries Branch (Sustainable Manufacturing)
- Tyco Fire and Security (Implementation of Environmental Management System)
- Quinte Access (Public Transit System Planning and Design)
- North Hastings Community Futures Development Corporation (Transportation Planning & Management)
- Prince Edward / Lennox & Addington Community Futures Development Corporation (Logistics & Transportation Planning)
- Maple Leaf Canada (Supply Chain Management)
- Illinois EPA (Clean Production & Waste Management)