

Curriculum Vitae



Personal Information

First name: Majid

Family name: Sheikhmohammady

Date of Birth: Jun 14, 1972

Marital status: Married with two children

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Educational Background

- Post Doctoral Fellowship in the department of Systems Design Engineering, University of Waterloo, Canada, January 2009 - September 2009.
- Ph.D in Systems Design Engineering, January 2009, University of Waterloo, Canada.
- M.S. in Industrial Engineering, 2000, Isfahan University of Technology, Isfahan, Iran.
- B.S. in Industrial Engineering, 1995, Amirkabir University of Technology, Tehran, Iran.

Professional Background

- 1) Worked as a faculty member in the Faculty of Industrial and Systems Engineering at Tarbiat Modares University since Sep. 2011.
- 2) Adjunct Professor with Conflict Analysis Group, Department of Systems Design Engineering, University of Waterloo, Canada, since January 2019.
- 3) Served as a faculty member in the Department of Industrial Engineering at Khajeh Nasir University of Technology from Sep. 2009 to Feb. 2011.

Overall, I have supervised or co-supervised 46 graduate students including several PhD students.

- 4) Taught the following graduate courses:
 - Quantitative Methods for Managerial Decision Making
 - Seminar in Strategic Management
 - Decision Analysis
 - Game Theory
 - Modern Tools for Analysis of International Relations
- 5) Worked as the manager of Planning and Business Development in Solico food industries (Kalleh Dairy Corporation).
- 6) Worked as the manager of Planning and Development in Dana Darou Kish.
- 7) Worked as the manager of a research project entitled “Systems Engineering Approaches for Brownfield Redevelopment” sponsored by Natural Sciences and Engineering Research of Canada (NSERC), 2009.
- 8) Served as a member of research team for Strategic Change Project of Tarbiat Modares University. (2015)
- 9) Carried out several applied research projects and held a large number of technical workshops for industrial organizations.
- 10) Worked as an information system analyst in the following corporations from 1999 to 2003:

- *Irankhodro* (the greatest automobile manufacturing company in Iran)
- *Saipa* (The second greatest automobile manufacturing company in Iran)
- *Aito* (The greatest tour operator company in Iran)

11) Held the position of Teaching Assistantship in the Systems Design Engineering Department at the University of Waterloo since January 2005 for the following courses:

- Probability
- Calculus 2
- Statistics
- Differential Equations
- Engineering Optimization
- Engineering Economics
- Conflict Analysis

Membership

A member of the *Institute of Electrical and Electronics Engineers (IEEE)*, the world's leading professional association for the advancement of technology and an active member of the Scientific Association of Hydro politic.

Research Interests

Dr. Sheikhmohammady's primary research interests lie in the analysis of decisions, as the intersection of mathematics, engineering, environmental studies, and social sciences. His applications of game theory and related formal techniques include problems in conflict resolution, coalition formation, group decision and negotiation, fair division, and win-win solutions. He has pioneered the development of a methodology to model and analyse multilateral negotiations from a Systems Engineering perspective. More specifically, the new methodology called EMMN, predicts the outcome of multilateral negotiations. Generally, Dr. Sheikhmohammady is interested in systems methodologies for innovatively solving real world complex interdisciplinary problems that lie at the interface of society, technology and

the environment. In addition to his background in Industrial Engineering, he has carried out several research projects in other fields of study including natural resources, geography, international relations, environmental studies and defence science.

Research and publications

1) Author or co-author of three books:

- **Participatory Management based on Suggestions System** (published in 2002, 2004, and 2006)
- **Fundamental Materials of Industrial Engineering** (published in 1996, 1997, and 2001)
- **Calculus; Concepts and Problems** (published in 1994 and 1996)

Translating a book entitled "Opportunities and Challenges in Health Care Systems" from English to Farsi. 2018.

2) Selected of Conference Papers:

- Sheikhmohammady, M., Hipel, K.W and Kilgour, D.M., "New Developments in Modeling Multilateral Negotiations," *Proceedings of the 2007 IEEE International Conference on Systems, Man, and Cybernetics SMC*, Montreal, Canada, October 7-10, pp. 4019-4023, 2007.
- Sheikhmohammady, M., Kilgour, D.M., and Hipel, K.W. "Negotiations over the Caspian Sea: A Preliminary Graph Model Analysis", *Proceedings of the International Conference on Group Decision and Negotiation GDN*, Karlsruhe, Germany, June 25-28, 2006, pp. 100 -105.
- Sheikhmohammady, M., Hipel, K.W and Kilgour, D.M., "A Decision Analysis Approach to Multilateral Negotiations" *Proceedings of the First International Conference on Operations Research*, Kish, Iran, January, 28-30, 2008.

- Sheikhmohammady, M., Kilgour, D.M., and Hipel, K.W. “Multilateral Negotiations: A New Methodology”, *Proceedings of the International Conference on Group Decision and Negotiation GDN*, Mt. Tremblant , Quebec, Canada, May 14-17, 2007, pp. 124 -127.
- Sheikhmohammady, M., Madani, K., “Sharing a Multi-National Resource through Bankruptcy Procedures”, *Proceedings of the World Environmental & Water Resources Congress*, American Society of Civil Engineers Publications, Honolulu, Hawaii, May 12-16, 2008, pp. 1-9.
- Sheikhmohammady, M., Hipel, K.W and Kilgour, D.M., “How to Identify the Most Likely Outcomes of Multilateral Negotiations”, *Proceedings of the 2008 IEEE International Conference on Systems, Man, and Cybernetics SMC*, Singapore, October 12-15, 2008.
- Sheikhmohammady, M., Kilgour, D.M., and Hipel, K.W. "A New Methodology for Predicting Negotiation Outcomes, with Application to the Caspian Sea and Brownfield Redevelopment" for presentation at *the International Conference on Group Decision and Negotiation GDN*, Coimbra, Portugal, June 17-20, 2008.
- Sheikhmohammady, M., Madani, K., “Bargaining over the Caspian Sea: The Largest Lake on the Earth”, *Proceedings of the World Environmental & Water Resources Congress*, Honolulu, Hawaii, May 12-16, 2008, pp. 1-9.
- Sheikhmohammady, M., Madani, K., “A Descriptive Model to Analyse Asymmetric Multilateral Negotiations” *Proceedings of the 2008 UCOWR/NIWR Conference, International Water Resources: Challenges for the 21st Century*, July 22-24, 2008 in Durham, North Carolina, USA.
- Sheikhmohammady, M., Kilgour, D.M., Hipel, K.W., and Asilahijani, H. “Strategic Analysis of the Conflict over Iran’s Nuclear Program”, *Proceedings of the 2009 IEEE International Conference on Systems, Man, and Cybernetics SMC*, San Antonio, Texas, USA, October 11-14, 2009.

- Sheikhmohammady, M., Kilgour, D.M., and Hipel, K.W., “Modeling the Epton Site Redevelopment Negotiations”, *Proceedings of GDN 2009: International Conference on Group Decision and Negotiation*, Toronto, Canada, June 14-17, 2009, pp. 151-154.
- Sheikhmohammady, M., Rouhani, O., Madani, K., and Gholizadeh, S., “Computer Aided Conflict Resolution: the Case of Caspian Sea”, Tenth Symposium on Stochastic Hydraulics, Fifth International Conference on Water Resources and Environment Research, 5th - 7th of July 2010 at Quebec City, Canada.
- Sheikhmohammady, M., Madani, K., Bahrini, A., Tahmasebi, A., and Behmanesh, I., “Modeling and analysis of the conflict over the Triple Islands in the Persian Gulf”, *Proceedings of the 2011 IEEE International Conference on Systems, Man, and Cybernetics SMC*, Anchorage, Alaska, October 9-12, PP:3046-3050, 2011.
- Sheikhmohammady, M., Madani, K., Moradi, M., and Behmanesh, I., “Finding the best legal governance regime for the Caspian Sea through Multi-Criteria Decision-Making methods”, *Proceedings of the 2011 IEEE International Conference on Systems, Man, and Cybernetics SMC*, Anchorage, Alaska, October 9-12, PP:3029-3034, 2011.
- Sheikhmohammady, M., Kilgour, D.M., and Hipel, K.W., “A Support System for Multilateral Negotiations”, *Proceedings of the 2011 IEEE International Conference on Systems, Man, and Cybernetics SMC*, Anchorage, Alaska, October 9-12, PP:3476-3482, 2011.
- Madani, K., Rohani, O., Pournazeri, S., Moradi, M., Sheikhmohammady, M., “Can We Rely on Renewable Energy Sources to Overcome Global Warming?” World Environmental and Water Resources Congress 2011: Bearing Knowledge for Sustainability, Proceedings of the 2011 World Environmental and Water Resources Congress, May 22–26, 2011, Palm Springs, CA
- Baradari, M., Sharifi., E., and Sheikhmohammady, M., “Using Simulation and Assignment Modeling for Optimization with Constraint in Ability of Servers”, Proceedings of the 2011 International Conference on Industrial Engineering and Operations Management Kuala Lumpur, Malaysia, January 22 – 24, 2011

3) Selected Articles

- M Sheikhmohammady, D.M Kilgour, and K.W Hipel, “How to allocate the value of the Caspian seabed oil and natural gas among the five Caspian states”, *Exploration and Production Oil and Gas Review*, 7 (2), 34-36. 2009.
- M Sheikhmohammady, D.M Kilgour, and K.W Hipel, “Modeling the Caspian Sea Negotiations,” *Group Decision and Negotiation*, 19, (2), 149-168, 2010.
- M Sheikhmohammady, K.W Hipel, and D.M Kilgour, “Formal Analysis of Multilateral Negotiations over the Legal Status of the Caspian Sea”, *Group Decision and Negotiation*, 21, (3), 305-329, 2012.
- A Naimi Sadigh, S. K Chaharsooghi, and M Sheikhmohammady, "Coordination Model for Competitive Supply Chain, Using Cooperative and Non cooperative Game Theory", *Modelling in Engineering*, 10 (29), 19-31, 2012 (Published in Farsi)
- K Madani, M Sheikhmohammady, S Mokhtari, M Moradi, and P Xanthopoulos, “Social Planner’s Solution for the Caspian Sea Conflict” *Group Decision and Negotiation*, 23, (3), 579–596, 2014.
- MS Farahani, M Sheikhmohammady, "A review on symmetric games: theory, comparison and applications, *International Journal of Applied Operational Research*,. 4 (3), 91-106, 2014.
- H Mianabadi, M Sheikhmohammady, E Mostert, Nick Van de Giesen, “Application of the Ordered Weighted Averaging (OWA) method to the Caspian Sea conflict” *Stochastic Environmental Research and Risk Assessment*, 28, (6), 1359–1372, 2014.
- M Khorrami, M Sheikhmohammady, "Modelling and Strategic Analysis of the Energy Battle between Russia and Europe, based on Game Theory", *Geopolitics*, 11 (3), 117-138, 2015. (Published in Farsi)

- A Safaei, S Faryadi, M Sheikhmohammady, E Salehi, "Benchmarking for finding appropriate tools and policy making to preserve farmlands in urban fringe of Iran" *Environmental Studies*, 42 (2), 281-314, 2016. (Published in Farsi)
- Z Mafakheri, A Husseinzade Kashan, M Sheikhmohammady, "The dynamic multi-objective rail-car fleet sizing problem and its solution by Non-Dominated Sorting Genetic Algorithm-II" *Industrial Engineering*, 50 (1), 95-107, 2016. (Published in Farsi)
- A Naimi Sadigh, S. K Chaharsooghi, and M Sheikhmohammady, "A Game Theoretic Approach to Coordination of Pricing, Advertising, and Inventory Decisions in a Competitive Supply Chain", *Journal of Industrial and Management Optimization*, 12, (1), 2016.
- M Sheikhmohammady, M Abbasi, "A game-theoretic approach to modeling and analysis of inheritance allocation of a passed away couple" *Economic Modelling*, 10 (1), 23-48, 2016. (Published in Farsi)
- HR Amiri, M Sheikhmohammady, B Ostadi, "An integrated framework for evaluating multi-echelon organizational performance, a business excellence approach", *Journal of Quality Engineering and Management*, 5 (4), 265-276, 2016. (Published in Farsi)
- A Naimi Sadigh, S. K Chaharsooghi, and M Sheikhmohammady, "Game-theoretic analysis of coordinating pricing and marketing decisions in a multi-product multi-echelon supply chain", *Scientia Iranica. Transaction E, Industrial Engineering*, 23 (3), 1459-1473, 2016.
- M Abbasi, M Sheikhmohammady, M Ghayouri Sales, "Modeling and Strategic Analysis of the conflict over malware authors and security analysts, using game theory" *Strategic Studies of Public Policy*, 7 (23), 2017, 19-41, 2017. (Published in Farsi)
- Z Mafakheri, M Sheikhmohammady, A Husseinzade Kashan, "Employing multi-objective simulated annealing algorithm to solve the developed model for determining the size of freight cars in rail transportation industry" *Transportation Engineering*, 8 (4), 501-515, 2017. (Published in Farsi)

- M Sheikhmohammady, A Safaei, "A game theoretic approach to reordering and optimal governance of urban fringes (insights for farmland change conflict)" *Geographical Researches*, 31 (4), 88-123, 2017. (Published in Farsi)
- M Babaei, M Sheikhmohammady, H Lasahkarian, "Modeling and Strategic Analysis of the Conflict between the United States of America and Islamic Republic of Iran, Using Non-Cooperative Game Theory", *Strategic Studies of public policy*, 9 (30), 235-263, 2017.
- SH Sadeghi, M Adhami, M Sheikhmohammady, "Introduction and Applicability of Game Theory in Watershed Co-Management", *Extension and Development of Watershed Management* 6 (20), 1-10, 2018.
- M Adhami, SH Sadeghi, M Sheikhmohammady, "Making competent land use policy using a co-management framework" *Land Use Policy*, 72, 171-180, 2018.
- M. Mollazade Golmahalle, H Lashkarian, M Sheikhmohammady, K Mirzaee, "Evaluation Model for vulnerability of Network Centric Warfare, based on Analytical Hierarchical Process" *Command and Control*, 2 (1), 109-132, 2018. (Published in Farsi)
- A Ghahtarani, M Sheikhmohammady, AA Najafi, "Development of Robust Random Variable for Portfolio Selection Problem" *Industrial Engineering & Management Systems*, 17 (4), 632-641, 2018.
- SH Sadeghi, M Adhami, M Sheikhmohammady, "Introduction and Applicability of Game Theory in Watershed Co-Management", *Extension and Development of Watershed Management*, 6, (20), 1-10, 2018. (Published in Farsi)
- M Adhami, SH Sadeghi, R Duttmann, M Sheikhmohammady, "Changes in watershed hydrological behavior due to land use comanagement scenarios", *Journal of Hydrology*, 577, 124001, 2019.

- A Ghahtarani, M Sheikhmohammady, AA Najafi, "Mathematical modeling for a new portfolio selection problem in bubble condition, using a new risk measure", *Scientia Iranica*, 2019.
- M Teimouri, M Sheikhmohammady, A Husseinzadeh Kashan, "Developing an Iterative Procedure to Estimate Origin-Destination Matrix Based on Two-Point License Plate Tracking Systems", *Scientia Iranica*, 2019.
- N Khanlarzade, SH Zegordi, I Nakhai Kamalabadi, M Sheikhmohammady, "Market power influential approach using game theory in a two competing supply chains with multi-echelons under centralized/decentralized environments", *Journal of Industrial and Systems Engineering*, 12 (3), 22-54, 2019.
- A Ghahtarani, M Sheikhmohammady, M Rostami, "The impact of social capital and social interaction on customers' purchase intention, considering knowledge sharing in social commerce context", *Journal of Innovation & Knowledge*, 5 (3), 191-199, 2020.
- T Hadi, SK Chaharsooghi, M Sheikhmohammady, A Hafezalkotob, "Pricing strategy for a green supply chain with hybrid production modes under government intervention", *Journal of Cleaner Production*, 268, 121945, 2020.
- A Khajepour, M Sheikhmohammady, E Nikbakhsh, "Field path planning using capacitated arc routing problem", *Computers and Electronics in Agriculture*, 173, 105401, 2020.
- M Adhami, SH Sadeghi, R Duttmann, M Sheikhmohammady, "Best soil comanagement practices for two watersheds in Germany and Iran using game theory-based approaches", *Science of The Total Environment* 698, 134265, 2020.
- A Ghahtarani, M Sheikhmohammady, M Rostami, "The impact of social capital and social interaction on customers' purchase intention, considering knowledge sharing in social commerce context", *Journal of Innovation & Knowledge*, 5 (3), 191-199, 2020.

- T Hadi, M Sheikhmohammady, SK Chaharsooghi, A Hafezalkotob, "Competition between regular and closed-loop supply chains under financial intervention of government; a game theory approach", *Journal of Industrial and Systems Engineering*, 13 (2), 179-199, 2021.