

Mo Mansouri, PhD

Associate Professor
School of Systems and Enterprises
Stevens Institute of Technology, Hoboken, NJ

+1 201-216-8644
mo.mansouri@stevens.edu

Education

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| 2000 – 2004 | D.Sc. in Engineering Management
The George Washington University, Washington, DC |
| 1997 – 1999 | M.Sc. in Industrial Engineering
University of Tehran, Tehran |
| 1992 – 1997 | B.Sc. in Industrial Engineering
Sharif University of Technology, Tehran |

Academic Experience

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| 2008 – 2015 | Assistant Professor
School of Systems and Enterprises
Stevens Institute of Technology, Hoboken |
| 2005 – 2008 | Management and Business Consultant
Multiple Businesses, Think Tanks and NGOs
Washington, DC and San Francisco, CA |
| 2000 – 2004 | Research Assistant
School of Engineering and Applied Science
Engineering Management and Systems Engineering
The George Washington University, Washington, DC |

Areas of Research

Governing Platform Design for Smart Cities: Primary research area that studies new forms of participatory governance structures for cities of the future through integration of existing data, planned sensing, and crowd sourcing. The purpose of this effort is to utilize the model-based approach in scenario-based analytics concerning the city activities.

Dashboard-based Data Visualization and Knowledge Management and Sharing Platforms for Developing Quantitative Governance Frameworks: Primary research area that focuses on data collection, analytics and visualization with the goal of creating dashboards, which enable decision makers to govern complex environments based on quantitative and real-time data.

Governance Frameworks for Complex Adaptive Socio-technical Systems: Primary research area that includes the development of frameworks, models, mechanisms, and methods for influencing desired behavioral patterns as well as performance output of complex adaptive socio-technical systems through quantifying, estimating and optimizing methodologies. This research

area is applicable to all complex environments in which many stakeholders interact to achieve their own goals while following established rules and regulations of the entire system. Such frameworks can be used as a Decision Support System that guides stakeholders to allocate all their available resources effectively.

Governing Patterns of Human Behavior in Online Social Networks: This research focuses on developing frameworks for effectively governing patterns of evolution among sub-communities of the public online social networks. It improves upon analysis and understanding the dynamics of online communities and their influence on polarization / homogenization of participants. The outcomes of such research are methodic approaches for capturing dynamics of relationships within an online community and measuring polarity levels among its sub-communities, understanding patterns of change in the relative size and activity of sub-communities as well as their merging or splitting dynamics, regulating behavioral patterns using the design features of an online community.

Resilience Engineering and Decision-making under Uncertainties: The main goal of this research area is to provide the stakeholders of a complex environment with a portfolio of strategies that secure them against systemic vulnerabilities and guide them to face disruptiveness of any kind including environmental factors, market fluctuations, emergence of new technologies, terrorist attacks and etc. The research focuses on developing frameworks for modeling uncertainties in complex environments.

Selected Journal Publications

- H. Darabi, **M. Mansouri**, "Governing Competition and Collaboration in Network Industries Using Agent-based Modeling: A Case Study of US Air Transportation Network," *IEEE Transaction on Systems, Man, and Cybernetics: Systems*, Accepted, 2015.
- J. Friedhoff, **M. Mansouri**, "Assessing IT Operational Risks across the U.S. Capital Market Extended Enterprises Using Fuzzy Tree Analysis," *The IEEE Systems Journal*, Accepted, 2015.
- N. Khansari, A. Vesaghi, **M. Mansouri**, A. Mostashari, "Systems Dynamics Approach: Multi- Stakeholder Framework in Energy Behavior," *The IEEE Systems Journal*, Accepted, 2015.
- H. Darabi, **M. Mansouri**, Mostashari, A., "Modeling Competition and Collaboration in the Airline Industry Using Agent-based Modeling," *International Journal of Industrial and Systems Engineering*, Volume 16, Issue 1, pp. 30-50, 2014.
- N. Khansari, A. Mostashari, **M. Mansouri**, "Impacting Sustainable Behavior and Planning in Smart City," *International Journal of Sustainable Land Use and Urban Planning (IJSLUP)*, 1(2), 16-30, 2014.
- H. Darabi, **M. Mansouri**, "The Role of Competition and Collaboration as a Governing Mechanism to Influence the Level of Autonomy and Belonging in System of Systems," *IEEE Systems Journal*, Volume 7, Issue 4, pp. 520-527, 2013.
- C. Chricton-Summers, **M. Mansouri**, B. Sauser, "Systems Thinking for Knowledge Transfer in Organic and Mechanistic Organizations: State Government Transportation Research Organizations," *Transportation Research Record: Journal of the Transportation Research Board*, Issue 2399, pp. 112-120, 2013.

- A. Ganguly, **M. Mansouri**, “Evaluating risks associated with extended enterprise systems (EES),” *IEEE Aerospace and Electronic Systems Magazine*, 27(5), 4-10, 2012.
- M. Omer, A. Mostashari, R. Nilchiani, **M. Mansouri**, “A Framework for Assessing Resiliency of Maritime Transportation Systems,” *Maritime Policy and Management*, Volume 39, Issue 7, pp. 685-703, 2012.
- B. Sauser, **M. Mansouri**, M. Omer, “Using Systemigrams in Problem Definition: A Case Study in Maritime Resilience for Homeland Security,” *Journal of Homeland Security and Emergency Management*, Volume 8 Issue 1, pp. 1-19, 2011.
- S. Epelbaum, **M. Mansouri**, A. Gorod, A. Fridman, B. Sauser, “Target Evaluation and Correlation Method (TECM) as an Assessment Approach to Global Earth Observation System of Systems (GEOSS),” *International Journal of Applied Geospatial Research (IJAGR)*, Volume 2 Issue 1, pp. 36-62, 2011.
- **M. Mansouri**, A. Gorod, T. Wakeman, B. Sauser, “System of Systems Approach to Maritime Transportation Governance,” *Transportation Research Record: Journal of the Transportation Research Board*, Volume 2166, pp. 66-73, October 2010.
- O. Erol, B. Sauser, B., **M. Mansouri**, “A Framework for Investigation into Extended Enterprise Resilience,” *Enterprise Information Systems*, Volume 4 Issue 2, pp. 111-136, 2010.
- **M. Mansouri**, A. Gorod, T. Wakeman, B. Sauser, “Maritime Transportation System of Systems Management Framework: a System of Systems Engineering Approach,” *International Journal of Ocean Systems Management (IJOSM)*, Volume 1 Issue 2, pp. 200-226, 2009.

Selected Book Chapters

- S. Epelbaum, **M. Mansouri**, A. Gorod, A. Fridman, B. Sauser, “Target evaluation and correlation method (TECM) as an assessment approach to global earth observation system of systems (GEOSS),” *Emerging Methods and Multidisciplinary Applications in Geospatial Research*, Chapter 20, 301-327, Editors: Donald Patrick Albert and G. Rebecca Dobbs, IGI Global 2013.
- H. Darabi, **M. Mansouri**, “NextGen Enterprise Transformation of the United States Air Transport Network,” *Case Studies in System of Systems, Enterprise Systems, and Complex Systems Engineering*, Chapter 22, 657-683, Editors: Alex Gorod, Brian E. White, Vernon Ireland, S. Jimmy Gandhi, Brian Sauser, CRC Press Taylor and Francis Group 2014.
- A. Ganguly, **M. Mansouri**, A. Mostashari, “Dynamic Models for Knowledge-Driven Organizations; Measuring Knowledge Management / Knowledge Sharing (KM/KS) Efficiency and Effectiveness in Enterprise Networks,” Chapter 19, 318-336, Editor: Murray E. Jennex, Information Science Reference, IGI Global Publishing 2012.

Teaching Experiences

- ES 684 Systems Thinking
- ES 621 Fundamentals of Enterprise Systems
- MGMT 9500 Management Science
- MGMT 9702 Operations Management
- SYS 710 Research Methods

- ES 677 Governing Development
- ES 810A Research on Urban Governance Studies
- EM 435A Business Process Reengineering
- EM 345 Modeling and Simulation
- FE 590 Introduction to Knowledge Engineering

Stevens Doctoral Committee Chair

Doctoral Graduated

- Hamid Reza Darabi, PhD: May 2014
- Nasrin Khansari, PhD: May 2015
- Mayur Chikhale, PhD: May 2015
- Richard Ens, PhD: May 2015

Doctoral Students Post Qualifying Exam

- Jerry Friedhoff, PhD: Expected December 2015
- Robert Edson: Expected December 2015
- Camille Chricton-Sumners: Expected December 2015
- John Comas: Expected December 2015

Doctoral Students Pre Qualifying Exam

- Arash Vesaghi: Expected May 2017

Doctoral Students Rejected (due to lack of doctoral quality)

- Laurence Levine: Rejected 2013
- Ozgur Erol: Rejected 2012
- Valerie Cho: Rejected 2011
- Philip Chan: Rejected 2010

Stevens Doctoral Committee Service

- Daniel Collotti, Stevens Institute of Technology, School of Systems and Enterprises, "Message Dispersion, Actor Importance, and System Resilience within Social Networks, a Probabilistic Perspective," Approximate graduation date May 2018, (Advisor: Jose Emmanuel Ramirez-Marquez)
- Chen Liu, Stevens Institute of Technology, School of Systems and Enterprises, "A Multi-level of Enterprise Transformation: Case Studies from the Automobile Industry," Approximate graduation date May 2018 (Advisor: William Rouse)
- Hugh Lester, Stevens Institute of Technology, School of Systems and Enterprises, "Cities in an Age of Scarcity," Approximate graduation date May 2017 (Advisor: William Rouse)
- Raed Alhamad, Stevens Institute of Technology, School of Engineering and Science: Department of Electrical and Computer Engineering, "Cooperative Spectrum Sensing with Random Access Reporting Channels in Cognitive Radio Networks," Approximate graduation date May 2017, (Advisor: Yu-Dong Yao)
- Suleman Alnatheer, Stevens Institute of Technology, School of Engineering and Science: Department of Electrical and Computer Engineering, "Posterior Sampling

- for Opportunistic Spectrum Access Modeled as Restless Markov Bandits,” Approximate graduation date May 2017, (Advisor: Yu-Dong Yao)
- Dave Gianetto, Stevens Institute of Technology, School of Systems and Enterprises, “Mechanisms and Dynamics of Cooperation and Trust in Evolving Networked Systems,” Approximate graduation date May 2016, (Advisor: Babak Heydari)
 - Dante Gama Dessavre, Stevens Institute of Technology, School of Systems and Enterprises, “Comparative Multidimensional Mathematical Systems Resilience Modeling,” Approximate graduation date May 2016 (Advisor: Jose Emmanuel Ramirez-Marquez)
 - John Comas, Stevens Institute of Technology, School of Systems and Enterprises, “Mitigating Risk During Real-time Deployment to Live Internet Software Systems Using Extreme Integration,” Approximate graduation date May 2016 (Advisor: Richard Turner)
 - Alhusin Abudiah, Stevens Institute of Technology, School of Systems and Enterprises, “Optimization Methods for Multi-echelon Inventory Routing Problems,” Approximate graduation date May 2016 (Advisor: Jon Wade)
 - John Mikruk, Stevens Institute of Technology, School of Systems and Enterprises, “Developing Management Tools to Ensure and Increase Performance of Organization Design,” Approximate graduation date May 2016 (Advisor: Brian Sauser)
 - Mohammed Muaafa, Stevens Institute of Technology, School of Systems and Enterprises, “Multi-criteria Decision Making Framework for Logistics and Surveillance Applications, Graduated May 2015 (Advisor: Jose Emmanuel Ramirez-Marquez)
 - James Mason, Stevens Institute of Technology, School of Systems and Enterprises, “An Integrated Systems Approach to Accelerated Quality of Life Development in Emergent Economies,” Graduated May 2015 (Advisor: Jon Wade)
 - Stuart VanWeele, Stevens Institute of Technology, School of Systems and Enterprises, “Optimization Techniques for Baggage and Cargo Screening,” (Systems Engineering), Graduated May 2014 (Advisor: Jose Emmanuel Ramirez-Marquez)
 - Chi Zhang, Stevens Institute of Technology, School of Systems and Enterprises, “Reliability Implications of Orienteering and Complex Network Problems,” (Systems Engineering), Graduated May 2012 (Advisor: Jose Emmanuel Ramirez-Marquez)

Stevens Masters Graduates

- Nalan Ilayda Karaca
- Behnam Esfahbod
- Ben Choe
- Lauren Autz
- Amanda Nauman
- Winfield S. Battle

Selected Presentations, Keynotes, and Chairing Panels

- Keynote Speaker, An Introduction to Data-Driven Urban Governance in Smart Cities through Systems Thinking, Universidad del Norte, Ingenia and Transforma, Barranquilla, Colombia, July 2015.
- Invited Talk, Sensing and Analytics in Smart Cities: Towards Building a Science of Urban Governance through Systems Thinking, American University of Sharja, IGLUS Workshop Series, UAE, February 2015.
- Invited Talk, A Framework for Governing Competition and Collaboration in Network Industries Using Agent-based Modeling: A Case Study of the United States Air Transportation, 12th International Management Conference, Tehran, Iran, December 2014.
- Invited Talk, Perspectives on Data Visualization and Analytics in City Governance, International Symposium of Big Data, Universidad de Bogotá Jorge Tadeo Lozano (U-Tadeo), Colombia, October 2014.
- CESUN 2012, 3rd International Engineering Systems Symposium: Design and Governance in Engineering Systems, Panel Chair on Modeling Infrastructure Systems, June 18-20, 2012 – Delft, The Netherlands.
- Governing a Smart City: The Case of Hoboken; Dubai School of Management, UAE, Dubai; December 2011.
- ALIO-INFORMS Joint International Meeting, Panel Organizer and Chair on Modeling and Simulation of Complex Systems, June 6-9, 2010 – Buenos Aires, Argentina.

Granted Proposals

- Virtual Antarctica: Data Visualization and Dashboard Development for Smart City McMurdo, Lockheed Martin through SSE internal funding allocation, PI, 2013, \$300,000.
- Proposing an approach for modeling and analyzing the governance of the NextGen Program at the FAA, Co-PI with Dr. Ali Mostashari, 2010, \$250,000.

Selected Not-granted Proposals

- Toward Developing a Theory of Computational Governance, National Science Foundation: Faculty Career Development (CAREER), PI, 2015, Submitted July 21, 2015, \$514,743.24.
- A framework for evaluating adaptability value of disruptive innovations in complex adaptive socio-technical systems (CASS), Naval Postgraduate School, PI with Dr. Roshanak Nilchiani, 2012, \$204,452.91.
- A framework for evaluating adaptability value of disruptive innovations in complex adaptive socio-technical systems (CASS), Naval Postgraduate School, PI with Dr. Roshanak Nilchiani, 2012, \$119,955.95.

Service at Stevens

- Serving the Engineering Management Board of Advisors, 2015
- SSE Best Paper Award Committee, 2014
- SSE Outstanding Dissertation Committee, 2013 and 2014
- SSE Doctoral Admission Committee, 2010 and 2012

- Co-director of COMPASS, 2011 and 2012
- SSE Strategic Initiative Committee, 2011
- SSE Doctoral Research Day Chair, DRS 2009 and 2010
- Institute Curriculum Committee (ICC), 2014-Present
- Graduate Curriculum Committee (GCC), 2013-Present
- Library Committee, 2013