

## Dr. G. Reza Djavanshir, Professor and Academic Director

### Education:

- **ScD., Systems Engineering**, The George Washington University.  
Major: Systems Engineering, Minor (Doctoral Supporting Areas): OR & Economics.  
*Doctoral Dissertation Title: The Elements of Systems Integration and Their Relationships with the Elements of Systems Engineering (Defended with distinction, Dissertation Advisor, Howard Eisner, Distinguished Professor of Systems Engineering).*
- **MS., Industrial Engineering & OR**. The George Washington University (Advisor, Donald Gross).
- **Sc.B., Mathematical Sciences**, University of Tabriz, Iran.

### Corporate Positions (1984 – 2002):

- Vice President and Sr. Technologist, Citicorp (Currently Citigroup).
- Sr. Scientist, MITRE / MITRE-TEK Corp (FFRDC - R&D Organization).
- Director and Chief Systems Engineer, ARINC Corp / PROXY Company.
- Member of Technical Staff: MCI Corp; then, Sr. Engineer: GTE Telenet, & Spacenet Corporations – Sr. Engineer, worked on the **ARPANET** – Member of Engineering team involved in Design and Architecture of the **original Internet – IP** and original **e-Mail** System in the 1980s.

### Academic Positions – The Johns Hopkins University (2002 – Present):

- Full Professor, Johns Hopkins University, 2020 –
- Academic Director, Johns Hopkins University, Information Systems' Programs, 2019 –
- Associate Professor, Johns Hopkins University, January 2007 – 2020,
- Assistant Professor, Johns Hopkins University, September 2002 – January 2007.

### Pedagogic – Teaching (All Graduate Level Courses):

- Artificial Intelligence and Multi-Layered Neural Network Systems,
- Data (Telecom) Network Infrastructures and Emerging Mobile and Cloud Technologies,
- IT Development and Globalizations Strategic Planning,
- Strategic Planning and Decisions Analytics,
- Seminars - Advanced Topics in Information and Complex Systems Architecture.

### Academic Awards and Honors

1. Received Dean's Award for Faculty Excellence, 2020,
2. Received Dean's Award for Faculty Excellence, 2019,
3. Received Dean's Award for Faculty Excellence, 2018,
4. Received Dean's Award for Faculty Excellence, 2017,
5. Received Johns Hopkins University Students Associations' Award for Excellence in Teaching, 2010.

### Editorial Boards

1. **Associate Chief Editor** - IEEE Computer Society ITPro: 2017 – Present.
2. **Chief Editor** - Special Issues in Artificial Intelligence IEEE Computer Society ITPro: 2020
3. **Chair** - IEEE Computer Society for selecting and awarding its best papers, 2018 –
4. **Editor**, IEEE Computer Society, ITPro; 2004 -Present
5. **Associate Editor**, JCIS - Journal of Computer and Info Systems, Minneapolis, 2012 – Present).
6. **Associate Editor**, IEEE, Technology and Society Chapter: November 1, 2010 – 2018.
7. **Associate Editor**, Journal of Administrative Science: September 2007 – 2018.

### **Books (Authored & Coauthored):**

1. G. Reza Djavanshir, Communications for IT Professional, with Liebowitz, J., and Agresti, W. NJ: Prentice Hall (2006).
2. G.RezaDjavanshir,*TechnologyBasedStrategicPlanning,studyguide, McGraw Hill. (2004),*

### **Book Chapters**

Djavanshir, G. R. (2016). The Institutional Inertias of Technology-driven Economics Development. In Phillip Phan (Ed.), *Academic Entrepreneurship: Translating Discoveries to the Marketplace*. Cheltenham , UK: Edgar Publisher, pp. 185-205. (20th ed., pp. 185-205). Edward Elgar Publishing.

Djavanshir, G. (2014). What are Systems-of-Systems (Metasystem) and Authopoietic (self- generating) Systems. In Prof. Phillip Laplante and et al., / IEEE and Pennsylvania State University (Eds.), *Encyclopedia of Information Systems and Technology*. New York, NY: Encyclopedia of Information Systems and Technology, Francis Taylor and IEEE.

Alavizadeh, A., Djavanshir, G., Tarokh, M. J., Mo, J. (2012). Agile Value Creation and Co- evolution in Global Supply Chains. In Ephrem Eyob and Tetteh Edem (Eds.), *Customer- Oriented Global Supply Chains* (vol. 1, pp. 30). IGI Global Publisher.

Djavanshir, G. (2011). From System-of-Systems to Metasystems: Challenges and Complexities. In Adrian V. Gheorghe (Ed.), *Systems of Systems* (pp. 1-12). Rijeka: InTech Publisher.

### **Refereed Journal Articles**

Chen, Renee, Wendy Yang, and G. Reza Djavanshir, Application of AI (Neural Networks) in Medical Diagnoses, Under final reviews, upcoming, 2021

G. Reza Djavanshir, Maria Lee and James Liew, Artificial Intelligence, Editorial in IEEE, Computer Society's ITPro – August, 2020.

Djavanshir, R., Liu, S., Ni, C., Wu, Z., Yang, Y., Fan, Y., Wang, Z. (2019). Applying Block-chain to improve Industries Efficiency: Special Case, the Next Generation Health Care System for Everyone. *Business and Economics Society International, VOLUME 2*(December 2019). <http://www.besiweb.com>

Djavanshir, R., Wang, M. (2019). The "Digital Era" of Translational Research: The application of Semantic Web technology to Translational Research. *Journal of Global Business Management, Vol. 15, Num. 2*. 1721

Djavanshir, G. (2018). Chen, Z., Zhu, S., Djavanshir, G. R. (2018). Predicting Brand Advertisement Consumption on Facebook.. *The Journal of Global Business Management, Vol. 13*(Num. 2), 11. <http://www.jgbm.org>, 13(11), 19.

Djavanshir, G. R., Schnur, J., Shah, M., Yang, C. (2018). In Kiko Xu (Ed.), *An IoT based Strategy to Minimize Inefficiency in Food Supply Chain: Feed the Hunger*, (n4 ed., vol. V8, pp. 7). International Journal of e-Education, e-Business, e-Management and e-Learning.

Chen, Z., Zhu, S., Djavanshir, G. R. (2017). Predicting Brand Advertisement Consumption on Facebook. *The Journal of Global Business Management, Vol. 13*(Num. 2), 11. <http://www.jgbm.org>

Djavanshir, G. R. (2016). Success Factors in Technology Entrepreneurship Strategy Consulting. *Journal of Advanced Management Science, V5*(3).

Djavanshir, G. R. (2014). Meta-systems and their Characteristics. *IEEE - IT Professional, December 2014*.

Djavanshir, G.R. (2014). Life - Health Sciences Computing. *IEEE - IT Professional, July - August 2014*.

Sunil Mithias & Djavanshir, G. (2013). Leveraging Big Data and Business Analytics. *IEEE - IT Professional*.

Nazemi, E., Tarokh, M. J., Djavanshir, G. (2012). ERP: A Literature Survey. *International Journal of Advanced Manufacturing Technology*, 177(1-2), 80-88.

Murgesan, S., Gustavo, R., Willbank, L., Djavanshir, G. (2011). The Future of Web Applications. *IEEE - IT Professional*, 13(5), 12-14.

Djavanshir, G. (2010). Success Factors for Consultings. *IEEE - IT Professional*, 12(4), 4-6. Ferrante, F. E., Djavanshir, G., Costello, T. (2009). Strategic Planning in Today's Information

Technology Environment. *IEEE - IT Professional*, 11(6), 10-11.

Djavanshir, G., Novitzki, J., Khorramshahgol, R. (2009). Critical Characteristics of Meta-Systems: Toward Defining Meta-systems' Governance Structure." IEEE Computer Society, IT Pro. Vol. 11. No 2.. *IEEE - IT Professional*, Vol. 11(No 2).

Khorramshahgol, R., Djavanshir, G. (2008). Application of analytic hierarchy process to Taguchi method to determine proportionality constant in quality loss function. IEEE Transaction on Engineering Management.. *IEEE Transactions on Engineering Management*(August 2008).

Djavanshir, G., Agresti, W. (2007). IT consulting: Communication skills are key. *IEEE - IT Professional*, 9(1), 46-50.

Laplante, P., Agresti, W., Djavanshir, G. (2007). IT quality enhancement and process improvement. *IEEE - IT Professional*, 9(5), 10-11.

Djavanshir, G., Khorramshahgol, R. (2007). The key process areas of systems integration. IEEE Computer Society IT Pro.. *IEEE - IT Professional*, 8(1), 24-29.

Djavanshir, G. (2005). Surveying the Risks of IT Outsourcing. *IEEE - IT Professional*, 12(2), 5. Djavanshir, G. (2005). Meta-Systems and Strategic Planning: A Coming Agenda. *Business Research Year Book*, 12(2), 901-904.

Djavanshir, G. (2004). Chaos Theory and Strategic Planning. *Business Research Year Book*, 11(1), 1069-1084.

Djavanshir, G., Khorramshahgol, R. (1996). An Evaluation of Networking Technologies. *Journal of Telematics and Informatics*, 13(1), 17-22.

#### **Conference Proceedings and International Presentations:**

Wendy, Xu, Djavanshir, G.R., and et al. (2019) "*Applying Blockchain to improve Industries Efficiency: Special Case, the Next Generation Health Care System for Everyone*". Presented in Global Business & Economics Conference in Vienna Austria, and published in Global Business & Economics Anthology (ISSN: 1553-1392).

G. Reza Djavanshir. (2016) "*Success Factors in Technology Entrepreneurship Strategy Consulting*". Presented in ICESM Conference in Rome, Italy.

G. Reza Djavanshir. (2015). "From Systems-of-Systems to Meta-systems Theory", Presented in ICESM Conference in Paris, France.

Djavanshir, G. (2013)., *Communications*. Istanbul: Conference Presentation. *A Strategy for Information Systems Consulting*. Rome Italy: European Business Research Conference.

Djavanshir, G. (2008), *Toward Developing Theory of Meta-systems Engineering* (vol3. July 2008). Presented in B&ESI Conference in Lugano, Switzerland, and published in Proceeding of Business and Economics Society International Conference.

Djavanshir, G. (2007), *Impacts of Effective Communications in Consulting*. Juan les Pins- Cote d'Azur, South of France: Proceeding of Business and Economics Society International Conference.

Djavanshir, G. R., Khorramshahgol, R. (2006)., *The Elements of Systems Integration and Their Importance Ranking*. Newport, CA: Proceedings of Annual Conference of the Association of Global Business Conference.

Djavanshir, G. (2003)., *The Implication of Chaos Theory in Strategic Planning* (pp. 5). Athens, Greece: Proceeding of Annual Conference in Global Business.

Djavanshir, G., Khorramshahgol, R. (1999). Increasing Software Reliability by Decreasing its Complexity., *IAMOT (International Assoc. of Management of Tech.)* (8th ed.). Proceedings of International Conference on Management of Technology.

### **Others**

Djavanshir, G. R. (2016). In San Morgsan (Ed.), *IT Governance*. LA, California: IEEE - IT Professional.

Djavanshir, G. (2014)., *Technology-driven economic development in developing and transitioning countries*. Baltimore MD: T2S Conference.

Djavanshir, G. (2008)., *Some Thoughts on SWOT Analysis in Strategy Formulation. Paper Presented:*. Business & Economics Society International.

Djavanshir, G. (2003)., *What is Chaos and Does it Have Applications in Management? Paper Presented at Eastern Management Association's Annual Conference..* Baltimore, MD:..

### **Presentations Given**

Djavanshir, G. R., International Conference on Economics and Management Sciences (ICEMS), "ICT Innovation in Traditional Businesses," International Economic Development & Research Center, Rome. (July 14, 2016).

Djavanshir, G. R. (Author Only), International Conference on Economics and Management Sciences (ICEMS), "Success Factors in Technology Entrepreneurship Strategy Consulting," ICEMS, Paris, France. (July 20, 2015).

Djavanshir, G. (Author Only), Technology Transfer Society, "Technology-driven economic development in developing and transitioning countries," Johns Hopkins University, Baltimore, MD. (October 23, 2014).

### **Contracts, Grants and Sponsored Research**

Djavanshir, G. (Co-Principal Investigator), Liebowitz, J. (Co-Principal Investigator), Cheong, K. S. (Co-Principal Investigator), De-La-Vina, L. Y. (Principal Investigator), Agresti, W. (Co-Principal Investigator), "Integrated Capstone Projects For The MBA, MS-Finance, MS-Itss," Sponsored by Nasdaq Educational Foundation, Foundation, \$126,393.00. (September 1, 2003 - Present).

### **Research Currently in Progress**

Artificial Intelligence and Neural Networks

"Smart Infrastructures and Smart Cities" (In Process 2016 - Present).

Applications of Cyber Physical and Cyber Biological Systems (aka, "IoT") in Business and Healthcare." (In Process). (July 1, 2015 - Present).

The new emerging technology Cyber Physical Systems (CPS) or so call the Internet of Things (IoT) has started changing our healthcare and business landscapes. My objective is to explore and apply this emerging technology to our healthcare systems and business landscape. This research streams are part of my ongoing extensive passion, research and studies on Smart Infrastructure and Cities. Similar to many technologists, I also share their ideas in envisioning tremendous opportunities in both of these areas.

IT Governance and Management, for IEEE Computer Society". (January 1, 2014 - Present).

Intelligent Infrastructure & Sustainability: A Case of IoT based Waste Management System in China" (In Process). (January 1, 2016 - December 1, 2018).

This paper discusses the application of IoT based waste management systems. It discusses how IoT can be successfully incorporated into waste management systems to identify the level of wastes in cities and collect them on time manage and in efficient manner. I am writing this paper with my Chinese students as my coauthors.

IoT based Solution for Saving Foods and Feeding Hungries" (In Process). (January 1, 2017 - January 1, 2018).

This research is being conducted with my students. There are millions of tons of food that are wasted annually by chain major supermarkets and restaurants.

The objective of this research to use IoT technology to save the excessive foods before they are wasted, to keep and maintain them safe and healthy, and create a technological delivery systems to deliver and feed the homelessness and the poor population.

IoT Solution for Para-transit Systems: An IoT based Technology Solution for Americans with Disabilities" (In Process). (October 1, 2015 - November 1, 2017).

This paper discusses the applications of IoT to optimize the scheduling and management of vehicles for disabled citizen's transportations. I am writing this paper with my students. Particular thanks to Jason Corning and his experience based inputs.

Smart Farms with Food-borne Pathogen Monitoring" (In Process). (July 1, 2016 - September 1, 2017).

Cyber-biological Systems based Smart Farm with Food-born Pathogen Monitoring

Conventional agribusiness uses data about real-time climatic environmental conditions, soil (texture, depth, nitrogen level), illumination, topography, moisture, etc. to make "optimum" decisions with regards to watering, sowing, fertilizing, pesticide-treating, and harvesting. However, it does not have a technological system to detects and monitor pathogens and collect data on the number of pathogens present in various abiotic (e.g., water, soil). Due to the absence of effective information technology and techniques in detecting pathogen contamination at farm or field level, it is currently very difficult if not impossible to deter a food illness and outbreak once contamination has been introduced. The purpose of this research is to create help identify contamination hazards at the farm using Cyber Biological System's Biosensors to detect pathogens in potential environmental sources of contamination, such as water, air, soil, and manure.

By adopting the emerging Cyber Biological Systems (aka, IoT) technology, the objective of Smart Farm is to prevent the environmental threats to the farming and food industry by monitoring pathogen levels and using real-time sensing and alerts to warn and protect applicable stakeholders.

Technology Transfer and Institutional Inertias in Developing and Transitioning countries." (In Process). (October 20, 2014 - July 1, 2015).

Completed and in Press for Publication

Working on a Conference Paper on ICT Entrepreneurship Strategies in Emerging Markets." (In Process). (February 1, 2014 - August 1, 2014).

Conference paper. Presented in Conference in Paris, France July 2015.

Institutional Inertias InTechnology - driven Economic Development Strategies: Cases of Developing Economies" (In Process). (January 1, 2014 - May 15, 2014).

This paper is being prepared for T2S Conference in October 2016. It will be also submitted to Journal of Technology Transfer. Completed and in Press for Publication.

On Going Study Project." (In Process). (March 1, 2012 - August 30, 2013).

Working on a research project that focuses on comprehensive studies of the works of Stafford Beer, Richard Ashby, Niklas Luhmann, Stuart Kauffman, Dan Leventhal, Anthony Giddens (Structure-Agent theory), George Klir, and Charles Keating, in Complexity and Adaptive Systems Theories; along with the seminal works of Richard Nelson & Sid Winter, Douglas North, Edmund Phelps, Ronald Coase, Richard Scott, and Powell DiMagio,... in Institutions Theories and their related works.

The main objective of this study is to satisfy my intellectual curiosity. Also, to better understand normative and cultural cognitive Institutional complexities of global integration strategies of developing countries particularly in the Middle East. Specifically, systemic complexities of their institutional infrastructures when they plan to be integrated into the global collaboration and values creation networks (System-of systems).

From this study, I plan to write and have started writing papers (in progress) related complex adaptive system-of-systems. Current outcomes of this project are 3 papers related to this studies that we are working on, these are: (1) Modeling the complexities and phase shifting of trust in implementing business strategy (listed and defined below); (2) Complexities of technology institutionalizing strategies (Specific case of CI), this working paper is also defined above; (3) a paper on Complex System-of-systems, In which we intend to examine the similarities between Meta-systems architecture and the structures of Global Net-Centric organizational Structures composed of various networked enterprises (divisions) distributed around the world.

"Complexity Theory and System of Systems" (Writing Results). (January 2012 - July 2013). The objective of this paper is examining S. Beer's meta-system's management theory and Ashby's law of minimum requisite variety in Architecting a system-of-systems (meta- systems).

## **SERVICE**

### **School & University Services**

Chair, Johns Hopkins Carey MS IS Subcommittee. (2019 – Present).

Chair, Search Committee for recruiting new Faculty (2019 – 2020).

Committee Member, Curriculum Committee. (September 2017 – Present).

Committee Member, Sheridan Libraries' Library's Advisory Board. (September 1, 2016 – 2019).

Committee Member, Information Systems. (September 2002 – Present).

Students Orientation. (January 1, 2008 – Present).

Committee Member, Search Committee for recruiting a new Practice Track Faculty in IS. (January 2018 - April 2018).

Committee Member, AACSB Faculty Qualifications. (September 1, 2015 - May 2016). Committee Member, Information Systems. (September 1, 2009 - May 30, 2016). Committee Member, Student's Honor Council. (October 8, 2014 - May 2015). Committee Member, Practice Faculty development. (April 1, 2013 - December 2014). Attendee, Meeting. (January 25, 2014 - May 12, 2014).

Committee Member, IT Strategic Planning for Carey Business School. (September 15, 2013 - March 1, 2014).

Eastern Healthcare Partners worked with Dr. Sam Bakeri and Mr. Mike Mok to define, coordinate, formulate and complete 4 Healthcare- (Bariatric procedure) Capstone projects for our MBA Capstone students with MD degrees and for those government worker students who could not work on the Library of Congress's projects. (October 1, 2012 - May 20, 2013).

Library of Congress - Negotiated and Obtained 9 Capstone Projects (Big-data, Strategy analysis and formulations, and Health Informatics Projects) for our MBA students from the Library of Congress. (September 13, 2012 - May 1, 2013).

Committee Member, Enterprise Risk Management. (September 1, 2012 - January 1, 2013). Committee Member, Enterprise Risk Management. (September 1, 2012 - January 1, 2013). Attendee, Meeting, MAACBA. (October 13, 2010 - October 15, 2010).

Committee Chair, Faculty Development. (March 2007 - July 2008).

### **Johns Hopkins University Service**

Committee Member. (September 2017 - September 2019).

Committee Member. (September 2017 - September 2019).

Advisory Board Member, Sheridan Libraries' Library's Advisory Board. (September 2017 - September 2019).

Serve as a Marshal, 2012 Graduation. (May 24, 2012).

### **Professional Memberships**

Technology Transfer Society (T2S): 2013.

International Council on Systems Engineering (INCOSE): 2006 Member, IEEE 2000.