Niamat Ullah Ibne Hossain, PhD

Department of Industrial & Systems Engineering

Phone: (662) 497 1129

Mississippi State University

Email: ni78@msstate.edu

Miss State, MS 39762

Career Objectives

Actively seeking for a faculty position in a reputed university that would allow me to utilize my research and teaching skills, knowledge and potentialities, while making a significant contribution to the success of the university and community.

Research Interests

- *Methodologies:*
  i. Systems Engineering; Model-Based Systems Engineering; Systems Simulation; Systems Thinking
  ii. Resilience Analytics; System Risks, Sustainability, and Reliability Assessment.
  iii. Data Analytics, Multi-scale Probabilistic Approach, Bayesian Approach.

- *Application Areas:*
  i. Complex Systems Exploration, System Architecture, Engineering Management.
  ii. Critical Infrastructures (Transportation network, Health Care, Waterway Port, Security Services,Smart Energy Systems, Oil and Gas Industry).
  iii. Logistic & Supply Chain, Cyber-physical Systems, Pandemic Severity.

Teaching Interests

- Systems Analysis and Design
- Systems Simulation
- Model Based Systems Engineering
- Requirement Engineering
- Systems Resilience and Risk Analysis
- Systems Thinking
- Logistic and Supply Chain Management
- Engineering Economy and Statistical Analysis

Education

PhD in **Industrial & Systems Engineering**   Spring, 2016 - Fall, 2020

Bagley College of Engineering

Mississippi State University, Starkville, MS, USA

Expected Graduation: Fall' 2020

- Cognate Area: Systems Engineering and Systems Resilience & Risk Analytic
- Advisor: Dr. Raed M. Jaradat
- Dissertation Title: "Development of a New Instrument to Assess the Performance of Systems Engineers based on their System Skills".
- Dissertation Committee Members: Dr. Michael A Hamilton, Dr. Junfeng Ma, Dr. Charles B. Keating.
- GPA: 3.90/4.0

MBA in **Management Information System**   December, 2013

University of Dhaka

Dhaka, Bangladesh

Bachelor of Science in **Mechanical Engineering**   April, 2010

Khulna University of Engineering and Technology (KUET)

Khulna, Bangladesh

Honors and Awards

- Outstanding (Best) PhD Student Award 2020, Industrial Engineering & Systems Engineering, Bagley College of Engineering, Mississippi State University.
- Winner 2nd place - Institute of Industrial and Systems Engineers (IISE) Innovation Design '2020.
- "Preparing the Future Professoriate Program (PFPP)"–Dean office graduate teaching assistantship award for Fall'2020, Mississippi State University.
- Recipient of Gulf Region Intelligent Transportation Society (GRITS) Scholarship,USA for 2019-2020.
- Best Paper Award in Master and PhD Dissertation Category at 4th North American Industrial Engineering and Operation Management Conference (IEOM), Toronto,Canada, 2019.
- J.R. "Ron" Walsh Best Research Paper Award Winner 2019, Industrial Engineering & Systems Engineering, Bagley College of Engineering, Mississippi State University.
- Best Poster Award at Graduate Student Council Annual Research Symposium 2019, Mississippi State University, MS.
- National Science Foundation (NSF) Grant for 4th North American Industrial Engineering and Operation Management Conference (IEOM), USA, 2019.
- Finalist for Best PhD Student Award 2019, Industrial Engineering & Systems Engineering, Bagley College of Engineering, Mississippi State University.
- Nominated for Spirit of State Award 2019, Mississippi State University.
- Alpha Pi Mu Honors Society, Industrial Engineering & Systems Engineering, Mississippi State University.
- Gamma Beta Phi Honors Society, Industrial Engineering & Systems Engineering, Mississippi State University.
- Honorable Mention at 3rd Annual Summer Science Symposium, Mississippi Academy of Sciences, 2019.
- Bagley College of Engineering Travel Grants, Mississippi State University, 2017, 2018, 2019 & 2020.
- Graduate Student Travel Assistance Grants (TAGGS), Mississippi State University, 2018 & 2019.
- Government Funded University Fellowship at Khulna University of Engineering & Technology , Bangladesh, 2006-2010.

Employment

Academic

- **Temple University**, PA   January, 2021 - Present
  Adjunct Assistant Professor
  Industrial & Systems Engineering Department

- **Raspet Flight Research Laboratory, Mississippi State Univ,** MS   January, 2021 - Present
  Post Doctoral Associate
  Industrial & Systems Engineering Department

- **Mississippi State University**   January, 2016 - Present
  Graduate Research Assistant
  Industrial & Systems Engineering Department

Funded Research(Project)

(i) Validation of Low-Altitude Detect and Avoid Standards   January, 2021 - Present
  Federal Aviation Administration (FAA)
  Role: Post Doctoral Associate

(ii) Leveraging Systems Thinking to Enhance the Holistic Formation of Engineers   July, 2018 - Present
  National Science Foundation (NSF)
  Amount: $199,961
  Role: Graduate Student Researcher and Team Member
  Synopsis:
  1. Evaluate current engineering students' systems thinking capability, using a newly developed instrument, and connect systems thinking capability to the established theoretical frameworks (inductive and deductive reasoning)
  2. Identify and explore various cognitive, demographic, academic, and intuitional factors that influence systems thinking capability; and
  3. Evaluate employers' needs to investigate gaps between students' systems thinking capacity and employers' needs.

(iii) Systems Thinking Capacity Method: Coping with Increasing Complexity   September, 2018 - Present
  U.S. Department of Defense
  Amount: $289,749
  Role: Graduate Student Researcher and Team Member
  Synopsis:
   With the rapid growth and integration in technology and information, the behavior and structure of complex systems presents escalating challenges. Complex systems are marked by a high level of ambiguity, uncertainty, and emergence. These conditions impose challenges and difficulties for practitioners responsible to successfully manage and design complex systems. There is a fundamental need to have a cadre of individuals who are capable of dealing with increasingly complex systems and their problems. One response is Systems Thinking Skills which can provide a holistic thinking paradigm that open new channels and opportunities to think differently about complex systems as a whole unit.The emphasis of this research is to explore the development of a research-based instrument to capture the level of systems skills for individuals who engage and design complex systems.

(iv) Line Balancing of Material Flow of a Manufacturing Company   June, 2018 - December, 2018
  Viking Range, Greenwood, MS.
  Amount: $10,000
  Role: Student Team Leader
  Synopsis:
   The goal was to understand the overall material flows in the assembly line network and rebalancing of assembly line accounted for production and inventory control, cost allocation, and employee evaluation. We designed an effective assembly line balancing that manages the workload of the individual operator and increases the productivity as well. The new documentation also helped to assign a proper number of operators for each steps of the assembly line in order to meet the required production rate with minimum or zero ideal time.

(v) Simulation and Analysis of Air Cargo Material Flow   August, 2016 - September, 2017
  Fedex Corporation, Memphis, TN.
  Amount: $128,000
  Role: Team Member
  Synopsis:
   This research project applies discrete event simulation techniques to study the processes and movement of the vehicle and planes at the FedEx hub, analyzing the performance of the hub and investigating alternative process and policies for its operation. Two main concept models were developed to begin this process, including the intersection traffic model, focusing on the various intersections throughout the facility and the different types of vehicles that traverse them; and the plane loading model, focusing on the process of loading and unloading the planes and the transfer of containers via cargo tractors to and from the planes.

(vi) Continuous Improvement (Kaizen) of Gas Range Production Line   June, 2019
  Viking Range, Greenwood, MS.
  Amount: $10,000
  Role: Student Team Leader
  Synopsis:
   The goal was to apply Kaizen, a Lean manufacturing tool to reduce the waste (idle time) and to improve the quality and productivity of a gas range production line of a manufacturing company. We identified the issues and opportunities, developed solutions based on the statistical analysis using Minitab and proposed new approach. Our proposed approach significantly increase the productivity and reduces the waste of production line. We further developed the Kaizen 5s framework (sort,set, shine, standardize, sustain) inorder to establish a ideal production line.

Teaching & Laboratory Experience   January, 2017 - Present
Courses:
  – ISE 4104 Production Planning and Control, *Temple University, PA.*   Spring, 2021
    Role: Instructor
    Class Size: 25 (Synchronize Online)

    – IE 3123 Industrial Ergonomics Lab, *Miss State Univ.*   Fall, 2020
      Role: Instructor
      Class Size: 25 (Synchronize Online)

    – IE 4763/6763 Industrial Quality Control, *Miss State Univ.*   Summer, 2020
      Role: Instructor
      Class Size: 17 (Synchronize Online), **Evaluation**: 4.0/5.0

    – IE 4773/6773 Systems Simulation, *Miss State Univ.*   Spring, 2020
      Role: Instructor
      Class Size: 32 (in-class), 13(online), **Evaluation**: 4.0/5.0

    – IE 4543/6543 Logistics Engineering   Spring, 2019
      Role: Instructor of Record
      Class Size: 47 (in-class), 20(online), **Evaluation**: 4.2/5.0

    – IE 4543/6543 Logistics Engineering   Spring, 2017 ; Spring, 2018
      Role: Graduate Teaching Assistant
      Class Size: 37 (Spring, 2017), 35 (Spring, 2018)

    – IE 4773/6773 Systems Simulation   Fall, 2017; 2018; 2019
      Role: Graduate Teaching Assistant
      Class Size: 40 (Fall, 2017), 38 (Fall, 2018)

- **Graduate Teaching Assistant (GTA), Level-3 Certification Program**
  Mississippi State University, MS, Starkville

- Mentoring Undergraduate and Masters Researchers (*11 Undergrads* and *5 Masters* Students till Spring 2020)

Industry

- **BanglaCAT/ Caterpillar, Bangladesh**,   February, 2012 - July, 2015
  Senior Engineer, Product Support Division
  Responsibilities: (i) Used Caterpillar Feature based configuration (Fbc) software to generate numeric models for heavy machinery as per customer requirements. (ii) Responsible for developing and coordinating preventative maintenance, overhauling, and trouble shooting program for Caterpillar heavy machinery. (iv) Work with R & D section along with the operations manager to scope out a required technical solution.

- **Energypac Power Generation Ltd.**,   November, 2010 - January, 2012
  Engineer, Power Generation Division
  Responsibilities: (i) Used "ECAP" software to provide an optimum solution for generator spare parts. This allows for efficient if-else analyses of different alternatives, provide most favorable solution for the customer. (ii) Responsible for performing overhauling, maintenance and trouble shooting of UK based generators.

Publications

Referred Journal Publications

J16. Nagahi, M.; **Hossain, N.U.I.**; Dayarathna, V.L.; Jaradat, R. (2020). Classification of individual managers' systems thinking skills based on different organizational ownership structures. *Systems Research and Behavioral Science.*

J15. Kerr, C., Jaradat, R., & **Hossain N.U.I.** (2020). Battlefield mapping by an unmanned aerial vehicle swarm: Applied model based systems engineering processes and architectural considerations. *IEEE access.*

J14. **Hossain N.U.I**, Nagahi, M., Dayarathna, V., & Jaradat, R (2020). Systems Thinking: A review and bibliometric analysis.*Systems Journal.*

J13. Nagahi, M.; **Hossain, N.U.I.**; Dayarathna, V.L.; Karam, S.; Babski-Reeves, K.; Jaradat, R. (2020). The impact of participants' anthropometry on muscle activation levels while interacting with the level of expertise, task Type, and single muscles. *Journal of Functional Morphology and Kinesiology.*

J12. Lawrance, J.M., **Hossain N.U.I**, Jaradat, R. & Hamilton, M (2020). A Bayesian network analysis of the vulnerability of supplier to disruptions following severe weather risk: A case study of the U.S. pharmaceutical supply chain following Hurricane Maria. *International Journal of Disaster Risk Reduction.*

J11. **Hossain, N.U.I**, Nagahi. M., Jaradat, R., & Sturgis, E (2020). The effect of an individual's education level on their systems skills in the system of systems domain. *Journal of Management Analytic.*

J10. **Hossain N.U.I.**, Nagahi. M., Jaradat, R., Shah, C., Hamilton, M., & Buchanan, R. (2020). Modeling and assessing cyber resilience of smart grid using Bayesian network based approach: A System of Systems (SoS) problem. *Journal of Computational Design and Engineering.*

J9. **Hossain, N.U.I.**, Jaradat, R., Hamilton, M , Keating, C., & Goerger, R. (2020). A historical perspective of Systems Engineering: A review and analysis. *Journal of Systems Science and Systems Engineering.*

J9. **Hossain N.U.I.**, El Amrani, S., Jaradat, R., Marufuzzaman. M., & Buchanan,R (2020). Modelling and assessing interdependencies between critical infrastructures using Bayesian network: A case study of inland waterway port and surrounding supply chain network. *Reliability Engineering and System Safety.*

J7. **Hossain, N.U.I.**, Nur, F., Jaradat, R., Hosseini, M., Marufuzzaman, M., & Puryear, S. (2019). M. A Bayesian network based approach for modelling and assessing resilience: a case study of a full service deep water port. *Reliability engineering and System Safety*, 189, 378-396.

J6. **Hossain, N.U.I.**, Nur, F., Jaradat, R., Hosseini. M., Marufuzzaman. M., Puryear, S.M., & Buchanan R.K. (2019). Metrics for assessing overall performance of inland waterway port: a Bayesian network based approach. *Complexity.*

J5. Alfaqiri, A., **Hossain, N.U.I**, Jaradat, R., Abutabenjeh, S., Keating, C., Khasawneh, M., & Pinto, A. (2019). A systemic approach for disruption risk assessment in oil and gas supply chains. *International Journal of Critical Infrastructures*, 15(3).

J4. **Hossain, N.U.I.**, Jaradat, R., Hosseini, S., & Marufuzzaman, M. (2019). A framework for modeling and assessing system resilience using a Bayesian network: a case study of an interdependent electrical infrastructure system. *International Journal of Critical Infrastructure Protection*, 25, 62-83.

- **Received J.R. "Ron" Walsh Outstanding ISE Student Research Paper Award.**

J3. Jaradat, R., Stirgus, E., Goerger, R. Ma, J., **Hossain, N.U.I.**, Buchanan, R., & Burch, R. (2019). The assessment of workforce systems skills based on employment domain. *Engineering Management Journal.*, 1-13.

J2. Quddus, M. A., **Hossain, N.U.I.**, Mohammad, M., Jaradat, R. M., & Roni, M. S. (2017). Sustainable network design for multi-purpose pellet processing depots under biomass supply uncertainty. *Computers & Industrial Engineering*, 110, 462-483.

J1. **Hossain, N.U.I.**, Nur, F., & Habib, M. A. (2014). Achieving competitive advantage through practicing TQM tools in Pharmaceuticals Company. *Journal of Mechanical Engineering*, 43(2), 103-109.

Manuscripts Under Review

2. El-Amrani, S., **Hossain, N.U.I**, Jaradat, R, & Hamilton, M. Assessing sustainability of a supply chain network using data fusion technique. *Journal of Cleaner Production. (Under review 2nd round review)*

1. **Hossain N.U.I.**, Zameila, C., & Jaradat, R. Enablers of Resilience in the healthcare supply chain: An illustration of U.S healthcare industry during COVID-19 Pandemic *(Under review 1st round review).*

Manuscripts in Preparation

2. Sakib, N., **Hossain N.U.I.**, Nur, F., & Jaradat, R. Assessment for probabilistic disaster of oil and gas supply chain leveraging multi-echelon Bayesian belief network.

1. Rahman, S., **Hossain N.U.I.**, Nur, F., Kannan, G., & Jaradat, R. Assessing cyber resilience of additive manufacturing supply chain leveraging data fusion technique: A model to generate cyber resilience index of a supply chain.

Conference Proceedings

C20. Elakramine, F., **Hossain, N.U.I**, Jaradat, R.M., Banghart, M., & Kerr, C. (2020). The application of system modelling language (SysML) in an aviation structure and maintenance system. *Proceedings of the 2020 American Society for Engineering Management Annual Conference (ASEM)*, Colorado, CO.

C19. **Hossain, N.U.I**, Nagahi, M., Jaradat, R.M., & Dadi, K. (2020). Development of new systems engineering instrument using text mining technique. *Proceedings of 14th Annual IEEE International Systems conference*, Montreal, Canada, April 20-23.

C18. Nagahi, M., Jaradat, R.M., **Hossain, N.U.I**, Nagahisarchoghaei, M., & Elakramine, F. (2020). Indicators of engineering students' academic performance: A gender-based study'. *Proceedings of 14th Annual IEEE International Systems conference*, Montreal, Canada, April 20-23.

C17. **Hossain, N.U.I**, Jaradat, R.M., Kerr, C., & Dadi, K. (2020). How to develop effective system engineers? *Proceedings of the 2020 American Society for Engineering Management Annual Conference (ASEM)*, Colorado, CO.

C16. **Hossain, N.U.I**, El-Amrani, S., Nagahi, M., & Jaradat, R.M.(2020). Modeling and assessing social sustainability of a healthcare supply chain network leveraging multi-echelon Bayesian Network. *Proceedings of 14th Annual IEEE International Systems conference*, Montreal, Canada, April 20-23.

C15. Muthumanickam, A., Kumar, L., **Hossain, N.U.I** Lawrence, J.M., & Jaradat, R.(2020). Determining the consistency rate for overall equipment effectiveness using the coefficient of variance method. *Proceedings of the 2020 American Society for Engineering Management Annual Conference (ASEM)*, Colorado, CO.

C14. Nagahi, M., Nagahisarchoghaei, M., **Hossain, N.U.I,**, & Jaradat, R.M. (2020). The relationship between Engineering Students' Systems Thinking Skills and Proactive Personality: Research Initiation .*Proceedings of the 2017 Industrial and Systems Engineering Conference (IISE)*, LA, May 30th-June 2nd, 19-21.

C13. Lawrence, J.M., **Hossain, N.U.I,** Rinaudo, C., Buchanan, R., & Jaradat, R.M. (2020). An Approach to Improve Hurricane Disaster Logistics Using System Dynamics and Information Systems .*18th Annual Conference on Systems Engineering Research (CSER)*, CA, March 19-21.

C12. **Hossain, N.U.I**, Nagahi, M., Jaradat, R.M., & Keating, C. (2019). Development of an new instrument to assess the performance of systems engineers. *Fourth North American International Conference on Industrial Engineering and Operation Management* , Toronto, Canada, October 23-25.

- **Received Best Paper Award: Master and PhD Dissertation Category.**

C11. Nagahi, M., **Hossain, N.U.I**, Jaradat, R.M., Georger, S., & Abutabenjeh, S. (2020). Do the practitioners' level of systems-thinking skills differ across sector types? *Proceedings of 14th Annual IEEE International Systems conference*, Montreal, Canada, April 20-23.

C10. Kerr, C., **Hossain, N.U.I**, & Jaradat, R.M. (2020). Method for Non-Linear Scaling of Multi-Criteria Decision Making Attribute Values. *Proceedings of 14th Annual IEEE International Systems conference*, Montreal, Canada, April 20-23.

C9. Lawrence, J.M., **Hossain, N.U.I**, Nahagi, M., & Jaradat, R.M. (2019). Impact of cloud-based applied supply chain network simulation tool on developing systems thinking skills of undergraduate students. *Fourth North American International Conference on Industrial Engineering and Operation Management* , Toronto, Canada,October 23-25.

C8. Nagahi, M., **Hossain, N.U.I**, & Jaradat, R.M.(2019). Gender differences in practitioners preferences for systems thinking skills. *Proceedings of the 2019 American Society for Engineering Management Annual Conference (ASEM)*, Philadelphia, PA.

C7. Nagahi, M., **Hossain, N.U.I**, Jaradat, R. M., & Grogan, S. (2019). Moderation effect of managerial experience on the level of systems thinking skills. *Proceedings of 13th Annual IEEE International Systems conference*, Orlando, FL, April 8-11.

C6. **Hossain N.U.I.**, Jaradat, R. M., Marufuzzaman, M., Buchanan, R.K., & Rinaudo C. (2019). Assessing oil and gas supply chain resilience: Bayesian Network approach. *Proceedings of the 2019 Industrial and Systems Engineering Conference*, Orlando, FL, May 19-23.

C5. **Hossain N.U.I.**, & Jaradat, R. (2018). Leveraging six sigma approach to reduce patient waiting time. *Proceedings of the 2018 International Annual Conference of American Society for Engineering Management (ASEM)*, Coeur d'Alene, ID, October, 17-20.

C4. **Hossain N.U.I.**, & Jaradat, R. (2018). A synthesis of definitions for systems engineering. *Proceedings of the 2018 International Annual Conference of American Society for Engineering Management (ASEM)*, Coeur d'Alene, ID, October, 17-20.

C3. **Hossain, N.U.I.**, Debusk, H., Hasan, M., Jaradat, R. M., & Khasawneh, M. (2017). Reducing patient waiting time in an outpatient clinic: A Discrete Event Simulation (DES) based approach. *Proceedings of the 2017 Industrial and Systems Engineering Conference*, Pittsburg, PA,May 19-23.

C2. **Hossain, N.U.I.**, Nur, F., & Jaradat, R. M. (2016). An analytical study of hazards and risks in the shipbuilding industry. *Proceedings of the 2016 American Society for Engineering Management Annual Conference*, Charlotte, NC. October, 18-21.

C1. **Hossain, N.U.I.**, Islam, K.S., & Rahman, M. Design, construction & performance test Of Solid Desiccant Cooling System(2010). *Proceedings of the 2010 International Conference on Mechanical, Industrial and. Energy Engineering* , Khulna, Bangladesh.

Conference/Symposium Presentations

P16. **Hossain, N.U.I.**, Jaradat, R.M., & Nagahi, M., (2019). A performance measure approach for systems engineers. *17th Annual Graduate Research Symposium*, Mississippi State University. Miss State, MS.

P15. Nagahi, M., Jaradat, R.M.,& **Hossain, N.U.I.** (2019). Personality Types and Systems Thinking Skills of Practitioners. *Graduate Student Council Annual Research Symposium*, Mississippi State University, MS.
   - **Received Best Poster Award in Doctoral Student Category.**

P14. El Amrani, S., **Hossain, N.U.I.**, Jaradat, R.M., & Marufuzzaman, M. (2019). Modelling and assessing critical infrastructure interdependencies using multi echelon Bayesian network: A case study of Mississippi port and nearby supply chain network. *17th Annual Graduate Research Symposium*, Mississippi State University. Miss State, MS.

P13. **Hossain, N.U.I.**, Jaradat, R.M., & Nagahi, M., (2019). How to find effective systems engineers? *Fourth North American International Conference on Industrial Engineering and Operation Management*, Mississippi State University. Miss State, MS.

P12. Nagahi, M., Jaradat, R.M., & **Hossain, N.U.I.** (2019). How Personality Types Impacts Systems Thinking Skills of Individuals. *INFORMS Annual Meeting*, Seattle, WA.

P11. Nagahi, M., **Hossain, N.U.I.**, Jaradat, R.M., & El Amrani, S. (2019). Does job experience affect managers' level of Systems-Thinking (ST) skills? *Mississippi Academy of Science Symposium*, Mississippi State University. Miss State, MS.

P10. Dayarathna, V.L., Karam, S., El Amrani S., Jaradat, R., Hamilton, M., Jones, P., Wall, E., Hsu, G., & **Hossain, N.U.I.** (2019). Measuring individuals' systems thinking skills through the development of an immersive virtual reality complex system scenarios. *Mississippi Academy of Science Symposium*, Mississippi State University. Miss State, MS.

P9. **Hossain, N.U.I.**, Mimesh, H., Nur, F., Jaradat, R. M., & Marufuzzaman, M. (2019). Assessing cyber vulnerabilities of power systems using Bayesian network approach. *2019 Industrial and Systems Engineering Conference*, Orlando, FL,May 19-23.

P8. Mimesh, H., **Hossain, N.U.I.**, Nur, F., Marufuzzaman, M., & Puryear, S. (2019). A Discrete event simulation based approach for managing cyber vulnerabilities. *2019 Industrial and Systems Engineering Conference*, Orlando, FL,May 19-23.

P7. **Hossain, N.U.I.**, El Amrani, S., Jaradat, R.M., Marufuzzaman, M., & Nagahi, M. (2019). Modelling and assessing interdependencies between critical infrastructures: A case study of Mississippi port and surrounding supply chain network. *Mississippi Academy of Science Symposium*, Mississippi State University. Miss State, MS.

P6. **Hossain, N.U.I.**, Hasan, M., & Jaradat, R.M (2019). Metrics for selection of additive manufacturing supplier using multiscale probabilistic approach. *Graduate Student Council Annual Research Symposium*, University of Mississippi. Miss State, MS.

P5. **Hossain, N.U.I.**, Nagahi, M., & Jaradat, R.M (2018). The effects of an individual's education level in their systems thinking skill in system of system domain. *Mississippi Academy of Science Symposium*, Mississippi State University. Miss State, MS.

P4. **Hossain, N.U.I.**, Marufuzzaman, M., & Jaradat, R.M (2018). Modelling and assessing resilience of an electrical Infrastructure system using Bayesian approach. *Mississippi Academy of Science Symposium*, Mississippi State University. Miss State, MS.

P3. Nagahi, M. Jaradat, R.M., & **Hossain, N.U.I.** (2018). Classification of an individual's systems thinking skills/preference based on organizational ownership structure. *Mississippi Academy of Science Symposium*, Mississippi State University. Miss State, MS.

P2. **Hossain, N.U.I.**, & Jaradat, R.M (2017). The development of a holistic multi-state reliability methodology for a system of systems (SoS). *Graduate Research Symposium*, Mississippi State University. Miss State, MS.

P1. Quddus, M.A., **Hossain, N.U.I.**, Marufuzzaman, M., & Jaradat, R. M. (2016). Sustainable network design for multi-purpose pallet processing depots under biomass supply uncertainty. *INFORMS Annual Meeting*, Nashville, TN.

Training Experience

- **Model Based Systems Engineering (SysML)** May, 2019
  Trainer: Sanford Friedenthal
  NO Magic Corporation
  Allen, TX

- **Simulation and Modeling Analysis Using FlexSim** July, 2018 - August, 2018
  Center for Advanced Vehicular System Extension(CAVSE)
  Mississippi State University, USA

- **Six Sigma Green Belt** August, 2019
  Institute of Industrial and Systems Engineers (IISE), USA

- **Six Sigma Yellow Belt** September, 2016
  Institute of Industrial and Systems Engineers (IISE), USA

- **Graduate Teaching Assistant (GTA) Certification Program** August, 2016
  Mississippi State University, USA.
  Certified for GTA level-3

Professional Services

Reviewer
- Complexity Journal (Wiley)
- IEEE Engineering Management Journal (IEEE)
- Environment Systems and Decisions (Springer)
- International Journal of System of Systems Engineering (Inderscience)

INFORMS Student Chapter at Mississippi State University, USA
- **Role:**Vice President of Corporate Relation January, 2020 - Present
  Responsibilities
  1. Finding and inviting corporate and managing communications.
  2. Arranging industrial tours.
  3. Attracting sponsors and organize fund raising events.
  4. Communicating with other chapters to learn their practices and look for any collaborative activities.
  5. Managing facilities to run the event.

International Student Advisory Board (ISAB) at MSU, USA
- **Role**: Secretary (Executive Board Member) April, 2018 - April, 2019
  Responsibilities
  1. Help the president to run the international leaders meeting.
  2. Keep a record of all members of the organization.
  3. Keep a record of all activities of the organization.
  4. Keep and distributes the minutes of each executive board meeting.
  5. Other duties as required.

INFORMS Student Chapter at Mississippi State University, USA
- **Role:**Vice President of Social Affairs January, 2017 - December 2017
  Responsibilities
  1.Manages all social activities and marketing procedures of the organization.
  2.Communicates with Public Relations Officer to publicize and market all events held by the organization.

3. Creates all flyers, promotional items,logos, t-shirt designs and other publicity items as needed.

Membership in Professional Organizations:
- Institute of Industrial and Systems Engineers (IISE)
- International Counsel of Systems Engineering (INCOSE)
- Institute of Operation Research and Management Science (INFORMS)
- American Society of Engineering Management (ASEM)

Volunteer Services

Bangladesh Student Association at MSU, Starkville, Mississippi, USA   June, 2016 - May, 2017
- Vice President

Habitat for Humanity, Starkville, Mississippi, USA   April, 2017- May, 2019
- Member

United Way, North Central Mississippi, USA   May, 2019- May, 2020
- Member

Maroon Volunteer Service at MSU, Starkville, Mississippi, USA   July, 2017- December, 2019
- Member

Computer Skills

- Simulation Language: Flexsim (intermediate), Vensim (intermediate), AgenaRisk (advance).
- Modeling Language: Cameo Systems Modeler (A system engineering modeling language -SysML)(intermediate).
- Data Analytics: AMOS (advance), Nvivo (advance), Qiqqa (intermediate).
- Programming Language: C (intermediate),Visual Basic (intermediate), R (intermediate),Python (intermediate).
- Utility Software: AutoCAD (Basic), LaTex (advance), Lawson.
- Application Packages: Microsoft Office (advance), Microsoft Visio (advance).

References

Raed M. Jaradat, PhD
Associate Professor
Department of Industrial & Systems Engineering
Mississippi State University, Starkville, MS 39762
Email: jaradat@ise.msstate.edu ; Phone: (662) 325-7623

Kari Babski-Reeves, PhD
Professor and Head, Department of Industrial and Systems Engineering
Larry G Brown Endowed Professor
Associate Dean, Bagley College of Engineering
Mississippi State University
Email: kari@bagley.msstate.edu; Phone: (662) 325-7624

Michael Hamilton, PhD
Assistant Professor, North Carolina AT&T University
Department of Industrial & Systems Engineering
Greensboro, NC 27411
Email: mahamilton1@ncat.edu
Phone: (540) 413-6153

Charles Keating, PhD
Professor and Director for the National Centers for System of Systems Engineering (NCSOSE)
Engineering Management and Systems Engineering
Old Dominion University, Norfolk, VA 23529
Email: ckeating@odu.edu ; Phone: (757) 683-5753