LENA ABU-EL-HAIJA

Assistant Professor, Industrial Engineering, German Jordanian University

EDUCATION

Doctorate of Philosophy, Industrial and Systems Engineering *August 2014 - July 2019*
North Carolina State University
Minor in Operations Research with focus on its application to Health Systems Engineering

Master of Science, Industrial and Operations Engineering *August 2012 - May 2014*
University of Michigan, Ann Arbor

Bachelor of Science, Industrial Engineering *August 2008 - May 2012*
University of Iowa
Minors in Business Administration and Mathematics

WORK EXPERIENCE

Assistant Professor September 2019 - Present
School of Applied Technical Sciences *German Jordanian University*

- Head of IE Department, September 2021 - June 2023:
  Managing nineteen faculty members, fourteen staff members, seven hundred students and two academic programs in the Industrial Engineering Department. Estimated faculty and staff needs and accordingly interviewed and hired two faculty members and four staff. Periodically studied rules and regulations in the department and adjusted them for a better student and faculty experience.

- Taught the courses: Probability and Statistics, Operations Research, Data Analytics and Innovation and Entrepreneurship (Master's). Happy to provide written student reviews upon request.

- Hired by Aalen University to teach a group of their Master's students Innovation and Entrepreneurship; a program where the students traveled to Jordan for the course.

- Supervised graduation projects and master's theses (eight projects in the past four years).

Research Assistant August 2016 - July 2019
Industrial and Systems Engineering *North Carolina State University*

- Pancreatic Cancer Screening Evaluation Tool:
  Built a simulation model of pancreatic cancer progression (Coded in Python 3.6). Established the framework for high-risk patients of pancreatic cancer into potentially developing the disease creating a natural history model. Evaluated different pancreatic cancer screening policies via simulation.

- Computer Science Education in NC Schools:
  Disparities in computer science education in the public high school system in Wake County, North Carolina. Extracted patterns from data, studied policies, teacher scarcity, and provided recommendations.

- Agent based simulation of a patient's progression from the first episode of acute pancreatitis until chronic pancreatitis (Coded in Matlab).

Teaching Assistant

- Deterministic Models in Industrial Engineering (Undergraduate level), NC State University, January - May 2017

- Introduction to Operations Research (Graduate level), NC State University, August - December 2016

- Financial Engineering I (Graduate level), University of Michigan, January - May 2013, 2014

- Manufacturing Systems (Undergraduate level), University of Iowa, January - May 2012

PRESENTATIONS, PROCEEDINGS, AND PAPERS

- **Abu-El-Haija, L.**, Payton, F.C., (2021) *A Plan to Offer Computer Science Classes in All North Carolina High Schools.* Issues in Science and Technology, 37(2).

- **Abu-El-Haija, L.**, Ivy, J., Park, W. (2020) *SEER Baser Pancreatic Cancer Resectability Prediction Tool.* IIE Annual Conference. Proceedings (pp 1-6). Institute of Industrial and Systems Engineering (IISE).

- **Abu-El-Haija, L.**, Ivy, J., Ozaltin, O., Park, W. (2019) *The Effect of the Distribution of the Inverse Growth Rate on Pancreatic Cancer Progression.* In 2019 Winter Simulation Conference (WSC) (pp. 1044-1054). IEEE.

- **Abu-El-Haija, L.**, Payton, F.C. (2018) *Computer Science Enrollment in Magnet High Schools: Issues of Curricula Clusters, Equity, and Pathways*, the fourth international conference on Research in Equity and Sustained Participation in Engineering, Computing, and Technology.

- **Abu-El-Haija, L.**, Ivy, J., Ozaltin, O., Park, P. (2018) *PRECiSE: PancREatic Cancer Prioritization and Screening Evaluation Tool*, Conference presentation at the Institute of Industrial and Systems Engineering annual meeting, Orlando, FL.

- **Abu-El-Haija, L.**, Ivy, J., Ozaltin, O., Park, P. (2018) *PRECiSE: PancREatic Cancer Prioritization and Screening Evaluation Tool*, Conference presentation at the INFORMS annual meeting, Phoenix, AZ.

PROJECTS

- **Joint Master's Program in Innovation and Entrepreneurship:** Created and took part in the initiative to create a joint Master's program in Innovation and Entrepreneurship with Magdeburg-Stendal University of Applied Sciences to combine engineering and business management along with interventions from the industry into one international program across two countries. *March 2021-Present*

- **iCCiEE:** Creation of an entrepreneurship master's program curriculum that aims to incorporate elements from different regions in the world. Chosen to be one of two professors to represent GJU in the DAAD funded project. The project spans for two years and in collaboration with New Uzbekistan University, Dresden University of Applied Sciences, and TUM International. *May 2023-Present*

- **University Disciplinary Committee** *October 2023-Present*

- **Research Ethics Committee:** Providing recommendation to the university on creating an IRB process to aid researchers in adhering to ethics standards in research involving human subjects. *October 2023-December 2023*

- **German Accreditation:** Mapping the curricula of both programs hosted in the department from an American system to the German system. Accreditation successfully granted. *June 2020-April 2021*

- Department Representative in School Council *September 2020-August 2021*

- IISE Student Chapter Faculty Advisor *September 2019-June 2020*

SKILLS

Technical Skills	Data Analysis, Python, Six Sigma Green Belt, Arabic
Soft Skills	Leadership, Marketing and Market Analysis, Teamwork

HONORS AND AWARDS

- Winter Simulation Conference 2019 Diversity Award

- Edward P. Fitts Fellowship, August 2015 till August 2016

- Provost Fellowship, August 2014 till August 2015

- U of I Tuition Scholarship: Fall 2009 till Spring 2012

- UI Tuition Sch-Engineering: Fall 2011 till Spring 2012