AMIN MIRKOUEI

ASSISTANT PROFESSOR
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EDUCATION

06/2016	***Ph.D.*** Industrial Engineering, Oregon State Uni., USA with concentration in Manufacturing Systems Eng. and Minor in Business Administration
11/2011	***M.Sc.*** Industrial Engineering, Uni. of Tehran, Iran
06/2009	***B.Sc.*** Industrial Engineering, Islamic Azad Uni., Iran

PROFESSIONAL APPOINTMENTS

05/17-present	**Assistant Professor,** Dep. of Industrial Tech. and Tech. Management, Uni. of Idaho, ID
08/16-05/17	**Visiting Assistant Professor,** Dep. of Mechanical Eng., Georgia Southern Uni. (GSU), GA
01/13-08/16	**Instructor/Graduate Teaching/Research Assistant,** Oregon State Uni. (OSU)
06/14-10/14	**Researcher,** Microproducts Breakthrough Institute, OSU
09/09-10/11	**Graduate Researcher,** Dept. Industrial Eng., Uni. of Tehran
09/08-03/09	**Undergraduate Researcher,** Dept. Industrial Eng., Islamic Azad Uni.

SUMMARY

Technically sophisticated engineering professional with dual experience in academics and industry. Solid history leading process improvement efforts supporting enhanced efficiency and reduced costs to improve sustainability. Recognized as an influencer across all levels with proven ability to effectively interface with external business partners while communicating product/service offerings and supporting growth/retention. Skilled leader, collaborator and communicator. Four years of university teaching experience in Mechanical, Industrial, and Manufacturing Engineering. Fluent in English, Persian; proficient in Arabic.

AREAS OF EXPERTISE:

- Sustainable Design and Manufacturing
- Operations Research
- Energy Systems Modeling
- Life Cycle Assessment
- Real-Time Data Analytics
- Biofuels Production Processes
- Advanced & Smart Manufacturing
- Logistics & Supply Chain Planning
- Project Management
- Network Optimization

ACADEMIC EXPERIENCE

08/2016-05/2017	***Visiting Assistant Professor:*** Dep. of Mechanical Eng., GSU • Performed research, teaching, and service activities in Mech. and Mfg. Eng. program, focused on sustainable design and manufacturing.
03/2016-08/2016	***Lead Researcher:*** ONAMI gap fund project with a startup company at Portland, Puralytics • Designed a commercially viable production line to scale up from a benchtop process the mfg. • Used CATIA/DELMIA to simulate the production line
03/2013-06/2016	***Graduate Research Assistant:*** School of Mech/Indu/Mfg Eng., OSU • Designed multi-criteria decision-making methods for sustainable bioenergy production • Developed mixed-mode and -pathway mathematical optimization models • Employed Gurobi optimization solver, Python, MATLAB, GREET LCA, GaBi, and SimaPro 8 • Considered the sustainability aspects surrounding biomass-to-bioenergy supply chain • Collaborated with College of Forestry, Agriculture, and Business at OSU
06/2014-09/2014	***Researcher:*** Microproducts Breakthrough Institute, Corvallis, OR • Designed and conducted experiments to explore formability of composites and polymers • Worked with several equipment, e.g., Haas CNC machine, Dynamometer, and LabVIEW • Published in *Journal of Materials Processing Technology*
09/2009-10/2011	***Graduate Researcher:*** Uni. of Tehran • Designed and developed supply chain network model to reduce production cost • Designed a stochastic model, considering uncertainties, based on experience with Afandak Co. • Solved using Genetic Algorithm and MATLAB
09/2008-03/2009	***Undergraduate Researcher:*** Islamic Azad Uni. • Acquired abilities in optimization, modeling, and production planning

TEACHING EXPERIENCE

DEPARTMENT OF MECHANICAL ENGINEERING AT GEORGIA SOUTHERN UNIVERSITY

08/2016-Present

Instructor: Spring Term **(Received 3rd Place for Blue Shaft Professor Award)**

- Manufacturing Processes (MENG 1310), Solid Modeling & Analysis (ENGR 2112), & Manufacturing Processing Studio (MENG 3333)
  - Taught SolidWorks and MasterCAM
  - Taught advanced manufacturing tools, e.g., 3D printers, CMM, CNC machines
  - Instructed around 140 students and supervised two GTAs

Instructor: Fall Term

- Engineering Graphics (ENGR 1133) – Instructing 36 students and supervising a GTA
  - Taught free-hand sketching, AutoCAD 2017, etc.
- Manufacturing Processes (MENG 1310) – Instructing 75 students and supervising four GTAs
- Taught several machines and equipment, e.g., Manual Mill, Lathe, Welder, Band Saw, etc.

SCHOOL OF MECHANICAL, INDUSTRIAL, AND MANUFACTURING ENGINEERING AT OREGON STATE UNIVERSITY

01/2016-08/2016

Instructor: Summer Term

- Computer-aided Design & Manufacturing (ME 413) – Instructed 27 students and supervised a GTA
- Engineering Economy (ENGR 390) – Instructing 18 students – Online Course

Lab Instructor: Winter and Spring term

- Production Engineering (MFGE 336) – includes the following labs: Manual part measurement, GD&T, Coordinate measurement machine, Gaging for online quality control, Modular fixturing to design and build a fixture, Effect of orthogonal machining parameters, Effect of milling and turning parameters on tolerances /conditions

01/2015-12/2015

Instructor: Computer-aided Design and Manufacturing (ME 413) – Fall term

- ME 413 includes four main topics (i.e., product data management, manufacturing process modeling, industrial control systems and programmable logic control, rapid prototyping and virtual manufacturing), Several computer labs (e.g., SolidWorks, Edgecam, and CATIA/DELMIA software)
  - Several machining labs (e.g., Bridgeport and Fadal CNC machines, etc.)
- Instructed 80 students and supervised three graduate teaching assistants

Guest Speaker: Industrial Sustainability Analysis (MFGE 535) – Fall term

Instructor: Computer-aided Design and Manufacturing (ME 413) – Summer term

- Instructed 13 students
- Developed a new educational module for manufacturing courses
- Redesigned the curricular for summer term

Graduate Teaching Assistant: Production Engineering (MFGE 336) – Spring term

- Redesigned lab and assignments

TA and Guest Speaker: Computer Control of Manufacturing (MFGE 599) – Spring term

- Developed a machining laboratory

Head Graduate Teaching Assistant: Production Engineering (MFGE 336) – Winter term

- Redesigned lab and assignments

01/2014-12/2014

Head Graduate Teaching Assistant: Computer-aided Design & Manufacturing (ME 413) – Fall term

- Redesigned lab and assignments

Graduate Teaching Assistant: Manufacturing Engineering Lab Development – Spring term

- Production Engineering (MFGE 336) and Computer-aided Design and Manufacturing (ME 413)

01/2013-12/2013

Graduate Teaching Assistant: Computer-aided Design and Manufacturing (Fall term), Intro to Measurement Systems (Spring term), Intermediate Dynamics (Winter term)

THESIS AND DISSERTATION

Amin Mirkouei, 2016, "Techno-Economic Optimization and Environmental Impact Analysis for a Mixed-Mode Upstream and Midstream Forest Biomass to Bio-products Supply Chain," Ph.D. Dissertation, School of Mechanical, Industrial, and Manufacturing Eng., Oregon State University (Advisor: Prof. Karl Haapala)

Amin Mirkouei, 2011, "Modeling supplier selection for purchasing strategic items with considering uncertainties," M.S. Thesis, Department of Industrial Eng., University of Tehran (Advisor: Prof. Jafar Razmi)

PUBLICATIONS: JOURNALS & CONFERENCES

(† Corresponding Author) Google Scholar Page

Mirkouei, A. †, K.R. Haapala, J. Sessions, and G.S. Murthy, 2016, "Multi-criteria Decision Making for Sustainable Bio-oil Production using a Mixed Supply Chain," ***Journal of Cleaner Production***, to be submitted.

Mirkouei, A. †, K.R. Haapala, J. Sessions, and G.S. Murthy, 2016, "A Mixed Biomass-based Energy Supply Chain for Enhancing Economic and Environmental Sustainability Benefits: A Multi-criteria Decision Making Framework," ***Applied Energy***, under review.

Mirkouei, A. †, K.R. Haapala, J. Sessions, and G.S. Murthy, 2017, "A Review and Future Directions in Techno-Economic Modeling and Optimization of Upstream Forest Biomass to Bio-oil Supply Chains," ***Renewable and Sustainable Energy Reviews***, RSER6200, DOI: 10.1016/j.rser.2016.08.053.

Mirkouei, A. †, P. Mirzaie, K.R. Haapala, J. Sessions, and G.S. Murthy, 2016, "Reducing the cost and environmental impact of integrated fixed and mobile bio-oil refinery supply chains," ***Journal of Cleaner Production***, 113(2016):495-507, DOI:10.1016/j.jclepro.2015.11023.

Davarpanah M. A., ***A. Mirkouei,*** X.Yu, R. Malhotra †, and S. Pilla, 2015, "Effects of Incremental Depth and Tool Rotation on Failure Modes and Microstructural Properties in Single Point Incremental Forming of Polymers," ***Journal of Materials Processing Technology***, DOI:10.1016/j.jmatprotec.2015.03.014.

Mirkouei, A. †, R. Bhinge, C. McCoy, K.R. Haapala, and D. Dornfeld, 2016, "A Pedagogical Module Framework to Improve Scaffolded Active Learning in Manufacturing Engineering Education," ***Procedia Manufacturing***, 5, pp. 1128–1142, DOI: 10.1016/j.promfg.2016.08.088.

Mirkouei, A. † *and* K. Kardel, 2017, "Enhance Sustainability Benefits Through Scaling-Up Bioenergy Production From Terrestrial And Algae Feedstocks," ***Proceedings of the 2017 ASME IDETC/CIE***: 22nd Design for Manufacturing and the Life Cycle Conference, DETC2017-67014, August 6-9, 2017, Cleveland, Ohio, USA.

Mirkouei, A. †, Silwal B., and L. Ramiscal, 2017, "Enhancing Economic and Environmental Sustainability Benefits across the Design and Manufacturing of Medical Devices: A Case Study of Ankle Foot Orthosis," ***Proceedings of the 2017 ASME IDETC/CIE:*** *22nd Design for Manufacturing and the Life Cycle Conference*, DETC2017-68427, August 6-9, 2017, Cleveland, Ohio, USA.

Mirkouei, A. †, 2017, "Enhance Sustainability Benefits through Scaling-up Bioenergy Production from underutilized Feedstock," ***Proceedings of the 2017 IIE/ISERC***, ID # 2143, abstract accepted.

Mirkouei, A. †, K.R. Haapala, G.S. Murthy, and J. Sessions, 2016, "Evolutionary Optimization of Bioenergy Supply Chain Cost with Uncertain Forest Biomass Quality and Availability," ***Proceedings of the 2016 IIE/ISERC***, May 21-24, Anaheim, California, USA.

Mirkouei, A. †, K.R. Haapala, G.S. Murthy, and J. Sessions, 2016, "Reducing Greenhouse Gas Emissions For Sustainable Bio-Oil Production Using A Mixed Supply Chain," ***Proceedings of the 2016 ASME IDETC/CIE:*** *21st Design for Manufacturing and the Life Cycle Conference*, DETC2016-59262, August 21-25, Charlotte, North Carolina, USA.

Mirkouei, A. † and K.R. Haapala, 2015, "A Network Model to Optimize Upstream and Midstream Biomass-to-Bioenergy Supply Chain Costs," ***Proceedings of the ASME 2015 International Manufacturing Science and Engineering Conference (MSEC),*** Paper MSEC2015-9355, June 8-12, Charlotte, NC, USA.

Mirkouei, A. † and K.R. Haapala, 2014, "Integration of Machine-Learning and Mathematical Programming Methods into the Biomass Feedstock Supplier Selection Process," ***24th International Conference on Flexible Automation and Intelligent Manufacturing (FAIM)***, May 20-23, San Antonio, TX.

INVITED WEBINAR

05/2016	***Argonne National Laboratory,*** Lemont, Illinois, "Techno-Economic Optimization and Environmental Impact Analysis for a Mixed Upstream and Midstream Forest Biomass to Bio-products Supply Chain."

POSTERS AND PRESENTATIONS

PROFESSIONAL CONFERENCES

Mirkouei, A., K.R. Haapala, G.S. Murthy, and J. Sessions, 2016, "Reducing Greenhouse Gas Emissions For Sustainable Bio-Oil Production Using A Mixed Supply Chain," Proceedings of the 2016 ASME IDETC/CIE: 21st DFMLC, August 21-25, Charlotte, NC.
Mirkouei, A., R. Bhinge, C. McCoy, K. R. Haapala, and D. Dornfeld, 2016, "A Pedagogical Module Framework to Improve Scaffolded Active Learning in Manufacturing Engineering Education," Proceedings of the NAMRC/SME, June 27-July 1, Blacksburg, VA.
Mirkouei, A., K.R. Haapala, G.S. Murthy, and J. Sessions, 2016, "Evolutionary Optimization of Bioenergy Supply Chain Cost with Uncertain Forest Biomass Quality and Availability," 2016 IIE Annual Conference, May 21-24, Anaheim, CA.
Mirkouei, A., K.R. Haapala, G.S. Murthy, and J. Sessions, 2016, "Environmental Analysis of a Mixed-Mode Forest Biomass-to-Bio-oil Supply Chain," 2016 IIE Annual Conference, May 21-24, Anaheim, CA.
Mirkouei, A. and K.R. Haapala, 2015"A Network Model to Optimize Upstream and Midstream Biomass-to-Bioenergy Supply Chain Costs," ASME 2015 International Manufacturing Science and Engineering Conference (MSEC), June 8, Charlotte, NC.
Mirkouei, A. and K.R. Haapala, 2014, "Integration of Machine-Learning and Mathematical Programming Methods into the Biomass Feedstock Supplier Selection Process," 24th International Conference on Flexible Automation and Intelligent Manufacturing, May 20, San Antonio, TX.

POSTERS PRESENTATIONS

Mirkouei, A., K.R. Haapala, G.S. Murthy, and J. Sessions, 2016, "Multi-criteria Decision Making for Sustainable Bio-Oil Production using a Mixed Supply Chain," Engineering Research Expo, Art Museum, March 1, Portland, OR. ***(2nd Place Award)***
Mirkouei, A. and K.R. Haapala, 2015, "A Network Model to Optimize Upstream and Midstream Biomass-to-Bioenergy Supply Chain Costs," Engineering Research Expo, Convention Center, March 4, Portland, OR.
Mirkouei, A. and K.R. Haapala, 2014, "Integration of Machine Learning and Mathematical Programming Methods into the Biomass Feedstock Supplier Selection Process," Oregon BEST FEST, September 15-16, OR.
Mirkouei, A. and K.R. Haapala, 2014, "Integration of Machine Learning and Mathematical Programming Methods into the Biomass Feedstock Supplier Selection Process," Engineering Research Expo, March 6, OR.

CONFERENCES AND WORKSHOPS ATTENDED

08/2016	ASME IDETC/CIE: 21st, August 21-25, Charlotte, North Carolina, USA
06/2016	SME NAMRC *44th*, June 27-July 1, Virginia Tech, Blacksburg, Virginia, USA.
05/2016	IIE Annual Conference and CIEAD/IISE Doctoral Colloquium, May 21-24, Anaheim, CA.
03/2016	Summit on Global Sustainability in Engineering, James Madison University, Harrisonburg, VA
08/2015	ASME IDETC: 20th Design for Manufacturing and the Lifecycle Conference, Boston, MA
06/2015	ASME 2015, Manufacturing Science and Engineering Conference, June 8-12, Charlotte, NC
03/2015	Graduate Research Expo Poster, Convention Center, March 4, Portland, OR
09/2014	Oregon BEST FEST Conference, Convention Center, September 15-16, Portland, OR
05/2014	24th Int'l Conference on Flexible Automation and Intelligent Manufacturing, San Antonio, TX
03/2014	Graduate Research Expo Poster, Convention Center, March 6, Portland, OR

HONORS AND AWARDS

08/2016	Design for Manufacturing and the Life Cycle Scholar Award from ASME Conference, $1000
04/2016	National Science Foundation (NSF) Student Travel Award for IIE/ISERC Conference, $500
03/2016	NSF Honorarium, To Develop a Sustainable Additive Manufacturing Educational Module, $4000
03/2016	2nd Place, Industrial Eng. Graduate Research Expo Award, College of Eng., OSU, $100
05/2015	Industrial Eng. Outstanding Graduate Teaching Assistant Award, OSU
04/2015	NSF Student Travel Award for ASME/MSEC Conference, $500
10/2014	ISAS Student Scholarship, OSU, $8600

ACADEMIC PROJECTS

06/2014-10/2014	Single point incremental forming of composite polymers and metallic materials
06/2014-09/2014	Evaluation of low-energy mfg strategies for vanadium redox flow battery components
10/2013-01/2014	Solar car cockpit redesign for safety and ergonomics
08/2009-02/2009	Manufacturing flow redesign for edible oil production

GRANT PROPOSAL DEVELOPMENT

10/2016	"Collaborative Research: SusChEM: Multi-Criteria Decision Making for Enhancing Sustainable Benefits Across The Mixed Biomass-To-Bioenergy Supply Chain," (***PI: A. Mirkouei,*** co-PIs: K.R. Haapala, J. Sessions, and G. Murthy), NSF-CBET, Environmental Sustainability Program, $300,000, submitted October 19, 2016.
10/2015	"An Educational Module for Sustainable Additive Manufacturing," (PI: K.R. Haapala, co-PIs: ***A. Mirkouei***, H. Nagarajan), CACHE Corp. (NSF-funded Sustainable Manufacturing Advances in Research and Technology Coordination Network), $4,000, submitted October 1, 2015***.***
06/2015	"A Pedagogical MTConnect Module to Improve Scaffolded Active Learning in Manufacturing Engineering Education" (***PI: A. Mirkouei,*** co-PI: R. Bhinge), Department of Defense, MTConnect Student Challenge: Idea Creation, $10,000, submitted June 9, 2015.
07/2014	"A Feasibility Study for an On-Campus Mobile Bio-Oil Processing Unit," (***PI: A. Mirkouei,*** co-PIs: K.R. Haapala), 2014 Student Sustainability Initiative, $4,800, submitted May 23, 2014.

PROFESSIONAL SERVICES

2017- ~	**Editorial Board:** SciFed Journal of Metallurgical Science
2017	**Co-organizer:** ASME-IDETC DFMLC 2017, Design of Sustainable Energy Systems Symposium
2016	***Session co-chair:*** 2016 ASME-IDETC, DFMLC, Charlotte, NC
2016	***Session Chair,*** 2016 IISE-Industrial and Systems Engineering Research Conference, Anaheim, CA
2015- ~	***Article Reviewer:*** Applied Energy, Journal of Cleaner Production, Allied Academies Journals, BioResources, Sustainability, ASME-IDETC and -MSEC, IIE/ISERC, and SME-NAMRC
2015	***Fee Board Member:*** Student Sustainability Initiative (SSI), OSU • Assisted SSI on approving annual budget, managing grant programs • Led the sustainable energy revolving loan fund program
2015	***School of Mech./Indus./Mfg. Eng. Steward:*** Coalition of Graduate Employees (CGE), OSU • Represented the interests and rights of OSU's graduate employees • Bargained and maintenance of a fair working contract

TECHNICAL SKILLS

Platforms:	Windows, MAC, Linux/Unix (Ubuntu), Robotic Operating System (ROS)
Languages:	MATLAB, Python, HTML, Java, SQL
Statistical Analysis:	R, Minitab, Statgraphics, Crystal Ball
Life Cycle Assessment:	SimaPro, GaBi6, GREET LCA, OpenLCA
Optimization Solvers:	GAMS, LINGO, CPLEX, Gurobi
Simulation Packages:	PowerSim, Vensim, AnyLogic, Arena
Design Packages:	AutoCAD, SolidWorks, CATIA
Hardware:	CNC Mill and Lathe, Welding, Band Saw, Coordinate Measurement Machine (CMM), Programmable Logic Controllers (PLC), 3D Printers …

PROFESSIONAL AFFILIATIONS AND HONORARY SOCIETIES

10/2016- 05/2017	Affiliate Faculty Member of the Institute for Interdisciplinary STEM Education at GSU
01/2016- Present	Society of Manufacturing Engineers (SME)
10/2015- Present	Institute of Industrial and Systems Engineers (IISE)
05/2015- Present	American Society of Mechanical Engineers (ASME)
04/2015- 06/2016	Student Sustainability Initiative (SSI) at OSU
01/2013- 06/2016	Coalition of Graduate Employees at OSU