EHSAN GHOTBI

59 Sayles Street, Alfred, NY, 14802
Tel: 607-871-2560 ghotbi@alfred.edu

Associate Professor, Inamori School of Engineering,
Department of Mechanical Engineering, Alfred University, NY, Jul 2019- Present

EDUCATION

PhD, Mechanical Engineering, June 2013
University of Wisconsin-Milwaukee
Minor: Economics
Thesis Title: Bi-And Multi Level Game Theoretic Approaches in Mechanical Design
GPA: 3.91/4.

Master of Science, Mechanical Engineering, Dec 2009
University of Wisconsin, Milwaukee
GPA: 3.98/4

Master of Science, Socio-Economic Systems Engineering, May 2006
Institute for Management and Planning studies

Bachelor of Science, Mechanical Engineering, May 2003
Amirkabir University (Polytechnic of Tehran)

PROFESSIONAL APPOINTMENTS

Associate Professor, Inamori School of Engineering,
Department of Mechanical Engineering, Alfred University, NY, Jul 2019- Present

Assistant Professor, Inamori School of Engineering,
Department of Mechanical Engineering, Alfred University, NY, Aug 2013- Jun 2019

Instructor, Department of Mechanical Engineering,
University of Wisconsin-Milwaukee, Jan 2010-May 2013.

Faculty Assistant, Department of Physics,
University of Wisconsin-Milwaukee, Jun 2010-July 2010.

Research Assistant, Department of Energy,
National Renewable Energy Laboratory (NREL). Denver, CO, Aug 2010- May 2011.

Mechanical Engineer, Sadra Co, June 2003- October 2004.

RESEARCH INTERESTS

- Design Optimization
- Electricity Market
- Game Based Design
- Renewable Energy

SELECTED PAPERS

Azad S., **Ghotbi E.,** "A game equilibrium of a retail electricity market with a high penetration of small and mid-size renewable suppliers" *Electricity Journal* , Vol. 30, No. 5, 2017, pp. 22-29.

Ghotbi E., "Multi-objective Mechanism Design using a Bi-level Game Theoretic Formulation," *Journal of Concurrent Engineering: Research and Applications,* Vol. 24, No. 3, 2016, pp. 266–274.

Ghotbi E., "Applying 3D Printing to Enhance Learning in Undergraduate Kinematic and Dynamic of Machinery Course," ASEE 2017 Annual Conference and Exposition, Columbus, OH.

Ghotbi E., "Board 139: MAKER: Design and Build a New Concrete Block to Make the Curved Roofs". *2018 ASEE Annual Conference & Exposition , Salt Lake City, Utah, 2018, June*. ASEE Conferences, 2018. https://peer.asee.org/29938 Internet. 25 Nov, 2019

Ghotbi E., Dhingra A., "A Bi-Level Game Theoretic Approach to Optimum Design of Flywheels," *Journal of Engineering Optimization,* Vol. 44, No. 11, 2012.

Ghotbi E., Otieno W., and Dhingra A., "Determination of Stackelberg–Nash equilibria using a sensitivity based approach." *Journal of Applied Mathematical Modeling,* Vol. 38, No. 21, 2014, pp. 4972-4982.

Mandic, G., **Ghotbi, E.**, Nasiri, A., Muljadi, E., "Lithium–Ion Capacitor Energy Storage Integrated with Variable Speed Wind Turbines for Power Smoothing," *Emerging and Selected Topics in Power Electronics, IEEE Journal of,* Vol. 1, No. 44, 2013, pp. 287-295.

Ali A., **Ghotbi E.**, and Dhingra A., "Optimum Placement of Actuators using Stackelberg Game Theory" , *Journal of Vibration and Control,* Vol. 21, No. 7, 2015, pp. 1373-1382.

Ghotbi E., Dhingra A., "The Game Theory Approach for solving the Hierarchical and Decentralized Bi-Level problem," *ASME 2013 International Mechanical Engineering Congress & Exposition.*

Mandic, G., **Ghotbi, E.**, Nasiri, A., Oyague, F., Muljadi, E., "Mechanical stress reduction in variable speed wind turbine drivetrains," *Energy Conversion Congress and Exposition (ECCE),* 2011 *IEEE* ,pp. 306-312, Sept. 2011.

Ghotbi E., A. Dhingra., "Optimum Design Of High-Speed 4-Bar Mechanisms Using A Bi-Level Game Theoretic Approach," *ASME 2012 International Mechanical Engineering Congress & Exposition.*

Azimian, B., Fijani, R. F., **Ghotbi, E.,** & Wang, X. (2018, June). Stackelberg Game Approach on Modeling of Supply Demand Behavior Considering BEV Uncertainty. *In 2018 IEEE International Conference on Probabilistic Methods Applied to Power Systems (PMAPS)* (pp. 1-6). IEEE.

TRAINING WORKSHOPS

National Effective Teaching Institute (NETI-1), (Jan 4-7, 2014). New Orleans, LA.

How to Engineer Engineering Education (NETI-2), (July 23-25, 2014), Bucknell University

ABET Fundamentals of Program Assessment, (October 25, 2014), Baltimore, MD.

SERVICES ACTIVITY

- Engineering Foundation Committee Member — Sep 2019-Present
- ABET Committee Member — August 2013-Present
- Assessment Committee Member — August 2013-Present
- Scholes Library Committee Member — May 2017-May 2019
- Dean search Committee — Jun 2016- May 2017
- Faculty Search Committee Member — Spring 2014-Present
- Session Chair of ASME Conferences — Nov 2013
- ASEE Member — August 2013-Present
- ASME Member — August 2012-Present

TEACHING EXPERIENCE

• **Associate Professor**, Inamori School of Engineering, Department of Mechanical Engineering, Alfred University, Aug 2013- Present. Taught Kinematic and Dynamic Analysis of Machinery (MECH 362), Engineering Economics (ENGR 206, ENGR 306), Machine Design (MECH 364), Vibration (MECH 415) and Engineering Optimization (ENGR 584). Selected as the Best Professor in School of Engineering 2018.

• **Instructor**, Department of Mechanical Engineering, University of Wisconsin-Milwaukee, Sep 2011-Dec 2012. Taught Design of Machinery (ME360) and Design of Machine Elements (ME 366). Prepared syllabus, lecture notes, home works and exams.

• **Faculty Assistant,** Department of Physics, University of Wisconsin-Milwaukee, Jun 2010-July 2010. Taught non calculus treatment physics Lab (Physics 123).

- **Instructor,** Department of Mechanical Engineering, University of Wisconsin-Milwaukee, Jan 2010-May 2010. Taught senior level elective course, Introduction to Robotics (ME 476), Fundamentals of manipulators, sensors, actuators, end-effectors and product design for automation, computer vision and pattern recognition. Prepared syllabus, lecture notes, class projects, home works and exams.

FUNDS, GRANTS, PATENT AND SPONSORED RESEACRH

• Peter Roberts, Ehsan Ghotbi (**Co PI**), Title: "Robotic Assemble of Energy Efficient Innovative Concrete Block Masonry Buildings" Submitted on Jun 2019 to NSF, Award: $250,00, Pending

• Peter Roberts, Ehsan Ghotbi (**Co PI**), Title: "Robotic Assembly of Energy Efficient Innovative Concrete Block Masonry Buildings" Submitted on Jul 2019 to DOE, Award: $350,00, Pending

• Ehsan Ghotbi (**PI)**, Eric Payton (**Co PI**), Title : "Topological Interlocking Concrete Block Domes" , National Science Foundation (NSF), Submitted Feb 2015, Award: $ 207,664, not funded.

• Ehsan Ghotbi (PI), Technology Enhancement Commercialization Partnership (TECP) for NSF, $100,000.

• PATENT filed and approved (Advising Senior Design Project), PATENT number, 14/548,546 (Architectural Building Block)

• PATENT filed and approved (Advising Senior Design Project), (Spherical Concrete Block)

• Ehsan Ghotbi (**Co PI)**, Amir Shahirinia (**PI)**, Seong-Jin Lee (**Co PI),** Xingwu Wang (**Co PI),** Title : "Stochastic modeling for Renewable Penetrated Power Systems", Submitted Nov 2015, Award: $ 454,251, not funded.

• Ehsan Ghotbi (**PI)**, Jalal Baghdadchi (**Co PI**), Wally Leigh, (**Co PI**), Title : "Feasibility Study on strategies aimed at achieving high penetration for PEVs" , New York State Energy Research and Development Authority, Submitted Aug 2015, Award: $ 190,621, not funded.

• Ehsan Ghotbi, Seed funding, Inamori School of Engineering, Alfred University, Award: $ 10,000.

• Ehsan Ghotbi (**Co PI)**, HyungSeon (**PI**), Title : "Smart SUNY, Smart Campus" , SUNY Research Foundation, Submitted October 2013, Award: $ 102,500, Not Funded.

ADVISING STUDENTS

• Master student Advisor, “A Game Theoretic Framework for Retail Electricity Market”, Mechanical engineering Department, Alfred University May 2016.

• Master student Advisor, “The Design of a Hybrid Rocket Engine”, Mechanical engineering Department, Alfred University. Sep 2014.

• Master student Advisor, “Design a New Platform for the building Architecture”, Mechanical engineering Department, Alfred University. Dec 2017.

• Master student Advisor, “Training Simulator for First Responders: repairing Damaged Pipes”, Mechanical engineering Department, Alfred University. May 2018.

• Master student Advisor, “Project Vitruvius”, Mechanical engineering Department, Alfred University. May 2018.

• Senior Design Advisor, “Variable Pressure Clamping Shim Valve for Bicycle Suspension Damping Systems”, Mechanical engineering Department, Alfred University. May 2014. The project was selected as the best project in ASME competition.

• Senior Design Advisor, “Concrete Block Optimization”, Mechanical engineering Department, Alfred University. May 2015. The PATENT submitted and approved (14/548,546). The project won the ASME competition for Senior Design Projects.

• Senior Design Advisor, “Spherical Concrete Block”, Mechanical engineering Department, Alfred University. May 2016. The PATENT submitted and approved (14/548,546). The project won the ASME competition for Senior Design Projects.

AWARDS, HONORS AND MEMBERSHIPS

Excellence Teaching Award (Distinguished Professor)	2017-2018
Reviewer of Journal of Applied Mathematic Modeling	Since May 2012
Reviewer of Journal of Engineering Optimization	Since Jan 2012
Reviewer of Journal of Structural and Multidisciplinary Optimization	Since May 2015
Reviewer of ASEE conference	2017-2018
University of Wisconsin-Milwaukee Chancellors’ Award.	2007-2012
Session Chair at ASME congress	Nov 2012
Vice president of Persian Culture Association	2010-2012
Ranked 2nd Graduate Student of Graduate School.	2006-2007
Awarded the best thesis for Bachelor of Science.	2003-2004

COMPUTER SKILLS

- MATLAB/Simulink
- ANSYS
- Solid Works
- Pro-Engineering
- Auto CAD
- Visual DOC
- Minitab
- Analyzer Excel
- Eviews
- Lab View
- PDMS
- PASCAL
- Maple