



## Mohsen Irani Rahaghi

Associate Professor

College: Faculty of Mechanical Engineering

Department: Mechanical Engineering - Solid Design

### Education

Degree	Graduated in	Major	University
BSc	2002	Mechanical Engineering	Isfahan University of technology (IUT),
MSc	2005	Mechanic of Flight	Khaje Nasir al Din Toosi University of technology (KNTU),
Doctoral	2012	Mechanical Engineering	Iran University of Science & technology (IUST),

### Papers in Conferences

1. سیدمجتبی امامت, محسن ایرانی رهقی, فرشید احمدی, شبیه سازی عددی ارتعاشات ناشی از گردابه در ژنراتورهای بادی بدون پره: تحلیل توان برداشت شده, نیروهای وارد شده و ارتعاشات القایی با هدف توسعه انرژی های تجدیدپذیر, سی و سومین همایش سالانه بین المللی مهندسی مکانیک ایران, ۱ - تهران, ۲۰۲۵, ۱۳۰۵
2. Design and Evaluation of a Bioinspired Tendon-Driven 3D-Printed Robotic Eye with Active Vision Capabilities ,2023 20th International Conference on Ubiquitous Robots (UR) ,12 - Honolulu, Hawaii ,2023 06 25 .

### Papers in Journals

1. Milad Hasani, Mohsen Irani Rahaghi, The optimization of an electromagnetic vibration energy harvester based on developed electromagnetic damping models, Energy Conversion and Management, 2022.
2. Mohammad Jafari Niasar, Mohsen Irani Rahaghi, Ali Asghar Jafari, Optimal location of FG actuator/sensor patches on an FG rotating conical shell for active control of vibration, Acta Mechanica, 2022.
3. Mohammad Jafari Niasar, Mohammad Javad Babaei, Ali Asghar Jafari, Mohsen Irani Rahaghi, Vibration analysis of a porous hollow conical rotor with circumferentially distributed piezoceramic strips, Mechanics Based Design of Structures and Machines, 2022.
4. Yaser Heidari, Mohsen Irani Rahaghi, Seyed Ahmadreza Afsari Kashani, Mohammad Arefi, Analytical vibration of middle rotor of coaxial magnetic gear with complicated structure due to holes and screws, Mechanics Based Design of Structures and Machines, 2022.
5. Ali Ghorbanpour Arani, Majid Pakize, Mohsen Irani Rahaghi, Zahra Khoddami Maraghi, Shahriar

Niknejad, Vibrational Study on Multilayer Sandwich Plates: Porous FGM Core, Nanocomposite and Piezoelectric Face Sheets, *Journal of Solid Mechanics*, 2022.

6. Yaser Heidari, Mohammad Arefi, Mohsen Irani Rahaghi, Nonlocal vibration characteristics of a functionally graded porous cylindrical nanoshell integrated with arbitrary arrays of piezoelectric elements, *Mechanics Based Design of Structures and Machines*, 2022.
7. M Pakize, Z Khoddami Maraghi, M Irani Rahaghi, S Niknejad, A Ghorbanpour Arani, Monotonous, symmetric, and nonsymmetric patterns of porous core in vibration study of nano-composite sandwich plate bonded by piezoelectric sheets, *Journal of Computational Applied Mechanics*, 2022.
8. Yaser Heidari, Mohsen Irani Rahaghi, Mohammad Arefi, Buckling analysis of FG cylindrical nano shell integrated with CNTRC patches, *Waves in Random and Complex Media*, 2022.
9. A Amiri, M Mohammadimehr, M Irani Rahaghi, Vibration analysis of a micro-cylindrical sandwich panel with reinforced shape-memory alloys face sheets and porous core, *The European Physical Journal Plus*, 2021.
10. Javad Kargar, Ali Ghorbanpour Arani, Ehsan Arshid, Mohsen Irani Rahaghi, Vibration analysis of spherical sandwich panels with MR fluids core and magneto-electro-elastic face sheets resting on orthotropic viscoelastic foundation, *Struct Eng Mech*, 2021.
11. Yaser Heidari, Mohammad Arefi, Mohsen Irani, & Rahaghi, Free vibration analysis of cylindrical micro/nano-shell reinforced with CNTRC patches, *International Journal of Applied Mechanics*, 2021.
12. Yaser Heidari, Mohammad Arefi, Mohsen Irani Rahaghi, Effect of distributed piezoelectric segments on the buckling load of FG cylindrical micro/nano shell, *The European Physical Journal Plus*, 2021.
13. R Rostami, M Irani Rahaghi, M Mohammadimehr, Vibration control of the rotating sandwich cylindrical shell considering functionally graded core and functionally graded magneto-electro-elastic layers by using differential quadrature method, *Journal of Sandwich Structures and Materials*, 2019.
14. Yaser Heidari, Mohsen Irani Rahaghi, Mohammad Arefi, Free vibration analysis of a porous rotor integrated with regular patterns of circumferentially distributed FGP patches on inner and outer surface, *Journal of Intelligent Material Systems and Structures*, 2020.
15. Mahnoush Alinaghian, Saeid Golabi, Mohsen Irani Rahaghi, Experimental and numerical investigation of laser shock peening effects on residual stresses and fatigue life in hollow plate, *Iranian Journal of Manufacturing Engineering*, ۲۰۲۱.
16. Hamed Ghafarzadeh Zare, Ali Maleki, Mohsen Irani Rahaghi, majid Lashgari, Vibration modelling the thresher unit of john deere (۹۵۵) combine harvester using operational modal analysis, *Agricultural Engineering*, ۲۰۲۰.
17. M. Jafari Niasar, A. A. Jafari, M. Irani Rahaghi, Free vibration of rotating FGM conical shell with smart patches, *Journal of Solid and Fluid Mechanics*, ۲۰۲۰.
18. Mehdi Mohammadimehr, Saeed Firouzeh, Mahsa Pahlavanzade, Yaser Heidari and Mohsen Irani, & Rahaghi, Free vibration of sandwich micro-beam with porous foam core, GPL layers and piezo-magneto-electric facesheets via NSGT, *Computers and Concrete*, 2020.
19. Rasoul Rostami, Mohsen Irani Rahaghi and Mehdi Mohammadimehr, Nonlinear forced vibration of sandwich plate with considering FG core and CNTs reinforced nano-composite face sheets, *Smart Structures and Systems*, 2020.
20. Hamed Ghafarzadeh Zare, Ali Maleki, Mohsen Irani Rahaghi and Majid Lashgari, Vibration modelling and structural modification of combine harvester thresher using operational modal analysis and finite element method, *Structural Monitoring and Maintenance*, 2019.
21. R. KARROUBI, M. IRANI, & RAHAGHI, Rotating sandwich cylindrical shells with an FGM core and two FGPM layers: free vibration analysis, *Applied Mathematics and Mechanics*, 2019.
22. M. Irani Rahaghi and F. Barat, Solving nonlinear optimal path tracking problem using a new closed loop direct-indirect optimization method: application on mechanical manipulators, *Robotica*, ۲۰۱۹.
23. R Rostami, M Irani Rahaghi, M Mohammadimehr, Dynamic stability and nonlinear vibration of rotating sandwich cylindrical shell with considering FG core integrated with sensor and actuator, *Steel and Composite Structures*, 2019.

24. R. Karroubi and M. Irani Rahaghi, Free Vibration Analysis of Sandwich Cylindrical Shells with Functionally Graded Core and Sensor and Actuator Piezoelectric Layers, *Tabriz Journal of Mechanical Engineering*, ۲۰۱۸.
25. Hassan Afshari Mohsen Irani Rahaghi, Whirling analysis of multi-span multi-stepped rotating shafts, *Journal of the Brazilian Society of Mechanical Sciences and Engineering*, ۲۰۱۸.
26. Saeed Rafee Nekoo & Mohsen Irani Rahaghi, Recursive approximate solution to time-varying matrix differential Riccati equation: linear and nonlinear systems, *International Journal of Systems Science*, 2018.
27. A. Korayem, M. Irani, H. Babaei, M.H. Korayem, Maximum load of flexible joint manipulators using nonlinear controllers, *Robotica*, 2017, ISI.
28. Masood Mohandes, Ahmad Reza Ghasemi, Mohsen Irani, Rahagi, Keivan Torabi, Fathollah Taheri, Behrooz, Development of beam modal function for free vibration analysis of FML circular cylindrical shells, *Journal of Vibration and Control*, 2017, ISI.
29. H. Mesforoosh, M. Irani Rahaghi, S. Golabi, Optimization of Bearing Location for Multi-Stepped Rotor by Genetic Algorithm, *Journal of Solid and Fluid Mechanics*, ۲۰۱۶.
30. M Irani Rahagi, A Mohebbi, H Afshari, Longitudinal-Torsional and Two Plane Transverse Vibrations of a Composite Timoshenko Rotor, *J Solid Mech*, 2016.
31. Mohammad Arefi, R Karroubi, M Irani و Rahaghi, Free vibration analysis of functionally graded laminated sandwich cylindrical shells integrated with piezoelectric layer, *Applied Mathematics and Mechanics*, ۲۰۱۶, ISI.
32. Mohammad Hosein Kardan, Mohsen Irani Rahaghi, Robot-Borne PLC-Based Control System Used for Lower Limbs Rehabilitation, *Modares Mechanical Engineering*, ۲۰۱۵.
33. Hassan Afshari, Mohsen Irani, Keivan Torabi, Free whirling analysis of multi-step Timoshenko rotor with multiple bearing using DQEM, *Modares Mechanical Engineering*, ۲۰۱۴.
34. A. Korayem, M. Irani, A. Hashemi, M. H. Korayem, Application of Stereo Vision on Determination of End-Effector Position and Orientation of Manipulators, *Journal of Control Engineering and Technology*, ۲۰۱۴.
35. MH Korayem, V Azimirad, M Irani Rahagi, Maximum allowable load of mobile manipulator in the presence of obstacle using non-linear open and closed loop optimal control, *Arabian Journal for Science and Engineering*, 2014, ISI.
36. MH Korayem, M Irani, New optimization method to solve motion planning of dynamic systems: application on mechanical manipulators, *Multibody System Dynamics*, 2014.
37. Moharam Habibnejad Korayem, Michal Irani and Saeed Rafee Nekoo, Application of Stereo Vision and ARM Processor for Motion Control, *John Wiley & Sons, Inc/ Interdisciplinary Mechatronics*, 2013.
38. MH Korayem, M Irani, A Charesaz, AH Korayem, A Hashemi, Trajectory planning of mobile manipulators using dynamic programming approach, *Robotica*, 2013.
39. MH Korayem, M Irani, S Rafee Nekoo, Motion Control and Dynamic Load Carrying Capacity of Mobile Robot via Nonlinear Optimal Feedback, *AMAE Int. J. on Manufacturing and Material Science*, 2011.
40. MH Korayem, M Irani, S Rafee Nekoo, Load maximization of flexible joint mechanical manipulator using nonlinear optimal controller, *Acta Astronautica*, 2011.
41. MH Korayem, M Irani, S Rafee Nekoo, Analysis of manipulators using SDRE: A closed loop nonlinear optimal control approach, *SCIENTIA IRANICA*, 2010.
42. H Korayem, M Irani, Maximum dynamic load determination of mobile manipulators via nonlinear optimal feedback, *SCIENTIA IRANICA*, 2010.
43. احسان لقمان, محسن ایرانی رهقی, عباس لقمان, طراحی کنترل کننده مرتبه کسری تطبیقی برای یک پرده چهار ISC, موتور, نشریه مهندسی مکانیک دانشگاه تبریز, مجلد ۵۴, شماره صفحات ۴۱, ۱۴۰۳/۰۱/۰۷.
44. محمد جعفری نیاسر, علی اصغر جعفری, محسن ایرانی رهقی, شاهین محمدرضا زاده, Active control of free and forced vibration of a rotating FG cylindrical shell via FG piezoelectric patches, *Mechanics Based Design of Structures and Machines*, 2023 05 21, SCOPUS, JCR.

45. داود شریفی دولت ابادی، کیوان ترابی، محسن ایرانی رهقی، حامد شهبازی. Designing a reinforcement learning-based robust controller resisting external forces for a octarotor with new structure, Journal of the Brazilian Society of Mechanical Sciences and Engineering, Vol. 45, pp. 1, 2023 02 09, SCOPUS ,JCR.
46. محمد جعفری نیاسر، محمدجواد بابایی، علی اصغر جعفری، محسن ایرانی رهقی. Vibration analysis of a porous hollow conical rotor with circumferentially distributed piezoceramic strips, Mechanics Based Design of Structures and Machines, Vol. 51, pp. 1, 2022 12 05, SCOPUS ,JCR.
47. M Irani Rahaghi, J Roshanian, Nonlinear optimal control techniques applied to a launch vehicle autopilot, Journal of aerospace science and technology, 2006.