



## Mohsen Heydari

### Personal Information

Tel: +98-5135425361  
+98-9151008724  
FAX: +98-5135425406  
E-mails: m.heydari@rifst.ac.ir  
m.heydari.birjand@gmail.com  
Web Pages: <https://scholar.google.com/citations?user=rna6feYAAAAJ&hl=en>

### Education

- **PhD, Mechanical Engineering**, University of Birjand, Birjand, Iran (2012-2017).  
PhD Thesis title: Experimental Study and 3D Simulation of Intermittent Drying with Periodically Changing Air Temperature for Clay-like Materials.
- **MS, Mechanical Engineering**, University of Birjand, Birjand, Iran (2009-2012).  
M.S Thesis title: Analysis and Modeling of Shrinkage in Drying Process.
- **BS, Mechanical Engineering**, University of Birjand, Birjand, Iran. (2005-2009).

### Employment

- Assistant Professor, Research Institute of Food Science & Technology, Mashhad, Iran

### Research Interests

- Dryers Design
- Drying Process
- Freeze Drying
- Modeling and simulation
- Artificial Intelligence

### Research Projects

- Design and Manufacturing of Meat Freeze Dryer
- Experimental studies and manufacturing of a freeze dryer with the aim of reducing the drying time of chicken muscle tissue
- Design and Manufacturing of Barberry Intermittent Dryer
- Equipping the freeze dryer electrical panel with VNC technology
- Preparation of proposals in the field of dryer based on energy recovery of 4 MW small scale gas power plant
- Supervising the construction of a freeze dryer with a capacity of 10 liters
- Designing and manufacturing of a 50 cm diameter freeze dryer lens door
- Monitoring the performance of freeze dryer with two chamber

- **Heydari, M.**, Khalili, K. and Ahmadi-Brooghani, S.Y., 2021. Exploring the effects of the amplitude of variations in the intermittent drying with periodically changed relative humidity. *Drying Technology*, 40 (19), pp.3203-3214.
- **Heydari, M.**, Khalili, K. and Ahmadi-Brooghani, Y., 2020. Influence of convective intermittent drying schemes on drying induced stress-strain of a 3D clay object. *AIChE Journal*, 66(11), p.e16985.
- **Heydari M**, Khalili K, Ahmadi Brooghani S. Y., 2019. Relative humidity period influence on drying induced stresses in intermittent drying of clay. *Amirkabir Journal of Mechanical Engineering*, 51 (4), pp. 181-190.
- **Heydari M**, Khalili K, Ahmadi Brooghani S. Y. (2018) Studying the effect of material initial conditions on drying induced stresses. *Heat and Mass Transfer*, 54(2), pp.341-352.
- **Heydari M**, Khalili K, Ahmadi Brooghani S. Y. (2017) More comprehensive 3d modeling of clay-like material drying. *AIChE Journal*, 64(4), pp.1469-1478.
- **Heydari M**, Khalili K, Ahmadi Brooghani S. Y. (2017) Simulation of stresses induced by heat and mass transfer in drying process of clay-like material, *Journal of Computational Applied Mechanics*, 48(2), pp.171-184.
- **Heydari M**, Khalili K, Ahmadi Brooghani S. Y. (2017) Investigation on the effect of period of temperature variation in intermittent drying of clay. *Modares Mechanical Engineering*, 17 (8), pp.17-28. (in Persian)
- **Heydari M**, Khalili K (2016) Investigation on the Effect of Young's Modulus Variation on Drying-Induced Stresses. *Transport in Porous Media*, 112(2), pp.519-540.
- **Heydari M**, Khalili K (2015) Modeling enhancement and simulation of distortion in drying process, *Modares Mechanical Engineering*, 15(10), pp.291-301.
- Khalili K, **Heydari M** (2012) Studying the effect of part thickness on cracking during drying process. *Modares Mechanical Engineering*, 12(3), pp.103-116.
- Khalili K, **Heydari M** (2012) Numerical modeling of shrinkage of a ceramic material in drying process, *Modares Mechanical Engineering*, 12(2), pp. 58-71.

- maysam mosavinejad, Hossein Zamani, **Mohsen Heydari**, mojtaba jokar , Solar Collector Design Procedure for Saffron Drying and Its Relationship with the Tayyeb Principles , international conference on tayyeb food , 2022 ; Iran , mashhad
- maysam mosavinejad, Hossein Zamani, **Mohsen Heydari**, mojtaba jokar, Investigation Of Different Types Of Saffron Dryers In Order To Produce High-Quality Products , Tayyab international food conference , 2022 ; Iran, mashhad
- maysam mosavinejad, Hossein Zamani, **Mohsen Heydari**, mojtaba jokar, Effect Of Drying Mechanism In Order To Maintain Product Quality (Case Study Of Saffron), Tayyab international food conference , 2022 ; Iran, mashhad
- **Mohsen Heydari**, Razieh Niazmand, Design of barberry drying process based on anthocyanin degradation rate , Production and Postharvest Technology of Horticultural Plants , 2022 ; Iran , Birjand
- **Heydari M**, Khalili K, Ahmadi Brooghani S. Y. (2017) Study the importance of heat transfer induced stresses in convective drying, *Procedia Manufacturing*, 22, pp. 811-817.

- Khalili K, **Heydari M** (2014) Drying clay bricks with variable young's modulus. *Procedia Technology*, 12, pp. 382-387.
- Khalili K, **Heydari M** (2012) Material cracking prediction during drying process, First Middle East Drying, Shahid Chamran University, Iran. (in Persian)
- Khalili K, **Heydari M** (2011) Transfer of heat and mass in drying: modeling and simulation", 19<sup>th</sup> Iranian Society of Mechanical Engineers Conf, University of Birjand, Iran.

## Teaching and other Experiences

- Advanced heat transfer (for PhD students)
- Statistical Methods (for PhD students)
- Advanced food processing technologies (for PhD students)
- Industrial engineering, Metal forming, Process planning, Production management, CAD/CAM, Advanced manufacturing methods, Thermodynamic, Heat transfer, Heat treatment methods (for BS students)