

## Curriculum Vitae (CV)

### Personal Information

**Name:** Dr. Seyed Ahmad Mireei

Associate Professor, Department of Biosystems Engineering, Isfahan University of Technology

**Nationality:** Iranian

**Date of Birth:** 3/19/1981

**Marital Status:** Married

**Number of Children:** One daughter



**Address:**

Department of Biosystem Engineering,  
College of Agriculture (<http://agri.iut.ac.ir/>),  
Isfahan University of Technology (<http://www.iut.ac.ir>).

**Phone:** +98-31-33913408

**Fax:** +98-31-33913471

**E-mail:** [samireei@cc.iut.ac.ir](mailto:samireei@cc.iut.ac.ir)

**Website:** <http://mireei.iut.ac.ir>

### Educational Background

**Ph.D.**

Agricultural Machinery Engineering, Department of Agricultural Machinery Engineering, Faculty of Agricultural Engineering and Technology, University of Tehran, Iran. 2005- 2010.

**Thesis title:** Nondestructive Determination of Effective Parameters on Maturity of Mazafati and Shahani Date Fruits by NIR Spectroscopy Technique.

**M.Sc.**

Agricultural Machinery Engineering, Department of Agricultural Machinery Engineering, Faculty of Agricultural Engineering and Technology, University of Tehran, Iran. 2003- 2005.

**Thesis title:** Static and Vibration Analysis of Budsan Truck Engine Mount.

**B.Sc.**

Agricultural Machinery Engineering, University of Shiraz, Iran, 1999-2003.

**Sabbatical Leave.**

Agricultural Economics and Engineering Department, University of Bologna, Italy. January-July, 2009.

### Awards and Honorary

1. First Class Student in B.Sc. of Agricultural Machinery Engineering, University of Shiraz, Iran, (2003).
2. Second Class Student in M.Sc. of Agricultural Machinery Engineering, University of Tehran, Iran, (2005).

### Research Interests

- Nondestructive quality evaluation of agricultural products.
- NIR and laser spectroscopy.
- Machine vision.
- Artificial intelligence.
- Sensor technology.

### Teaching Experiences

**Undergraduate and Postgraduate Courses:**

- Mathematics (B.Sc.).
- Physical Properties of Agricultural Products (B.Sc.).
- Mechanical Properties of Agricultural Products (B.Sc.).
- Engineering Drawing (B.Sc.).
- Fundamentals of Harvesting Machines (B.Sc.).
- Non-destructive Quality Evaluation of Agricultural Products (M.Sc.).
- Techniques for Food Authentication (M.Sc.)
- Advanced Mathematical Modeling (Ph.D.).

## Research Experiences

### Ph. D. Supervision:

2016- Khorsandi, A.

Qualitative and quantitative detection of drought and salinity stresses in two certain genotypes of soybean and Sesame using two methods: Thermal infrared imaging and visible-near infrared spectroscopy.

Role: Advisor

### M. Sc. Supervision:

2017- Rahmanian, A.R.

Early detection of chilling and freezing damages in orange using nondestructive biospeckle imaging technique.

Role: Supervisor

2017- Saffari, M.

Application of visible and near-infrared spectroscopy for the detection of cucumber mosaic virus symptoms.

Role: Supervisor

2016- Shahzamani, F.

Nondestructive detection of potato quality and rot nematode disorder by Visible/Near infrared spectroscopy.

Role: Supervisor

2016- Jahangiri, E.

Non-destructive detection of quality and insect infestation in quince using Vis/NIR spectroscopy.

Role: Supervisor

2016- Aghili, H.

Moisture content determination of date during drying process by laser light back-scattering imaging.

Role: Joint supervisor

2016- Safarirad, A.

Determination qualitative properties of chicken meat using non-destructive ultrasonic and near-infrared reflectance (NIR) spectroscopy.

Role: Joint supervisor

2016- Rahimzadeh, H.

Machine olfaction analysis of volatile compounds in Iranian rice varieties to determine ageing index.

Role: Joint supervisor

2016- Amini-Pozveh, Samaneh

Detection of adulteration in olive oil using Vis/NIR spectroscopy.

Role: Joint supervisor

2015- Akbarzadeh, N.

Comparison and fusion of waveguide and visible near-infrared spectroscopy for non-destructive prediction of egg quality parameters

Role: Supervisor

2014- Haghshenas, M.

Quality Determination of tomato by using nondestructive fluorescence spectroscopy method.

Role: Supervisor

- 2014- Eshghian, M.J.  
Assessing multi-pass drying of long- and short-grain rough rice varieties by fluidized bed method.  
Role: Joint supervisor
- 2013- Mohammad-Hashemi, H.  
Non-destructive quality determination of tomato by laser-induced light backscattering imaging.  
Role: Supervisor
- 2013- Moomkesh, S.  
Nondestructive measurement of moisture and taste index of mandarin using Vis/NIR spectroscopy.  
Role: Supervisor
- 2013- Poorkhak, B.  
Application of forced impact method in non-destructive firmness measurement of kiwifruit.  
Role: Joint supervisor
- 2013- Vaheb, M.  
Non-destructive impact test for measuring plum firmness.  
Role: Joint supervisor
- 2012- Bagheri, R.  
Non-destructive moisture content determination of date fruit by the dielectric method.  
Role: Joint supervisor
- 2012- Mir-Ahmadi, S.M.  
Online weighing of kiwifruit by impact method.  
Role: Joint supervisor
- 2012- Fathi, M.  
Design, construction and evaluation of an indirect solar dryer with energy storage system.  
Role: Joint supervisor
- 2012- Hatami, S.  
Energy and exergy analysis of an indirect forced convective solar dryer (a case study of banana slices).  
Role: Joint supervisor
- 2011- Heidari, A.R.  
Design and development an online date fruit firmness measuring system based on nondestructive impact force.  
Role: Joint supervisor
- 2017- Jafarpishe, M.  
Detection of sesame (*Sesamum indicum* L.) seed salinity stress by visual image processing.  
Role: Advisor
- 2016- Rezaei, P.  
Design and implementation of a machine vision-based system to sort rotten samples of pomegranate (*Punica granatum* L.)  
Role: Advisor
- 2016- Mostafaei, Z.  
Sesame drought detection using image processing technique.  
Role: Advisor
- 2016- Zaeri, S.  
Study of ascorbic acid degradation kinetics during storage of orange juice using machine vision.  
Role: Advisor
- 2016- Noorbakhsh, S.S.  
Detection of rose flowers using image processing system.  
Role: Advisor

- 2015- Tootoonchi, B.  
Design, fabrication, and evaluation of a navigation assistance system for Tractors during seed planting using Combinat.  
Role: Advisor
- 2015- Mortazavi, S.M.  
Design, development, and evaluation of a multiple-tip horizontal penetrometer combined with a dielectric soil water content sensor.  
Role: Advisor
- 2014- Barge-gol, M.S.  
Study of osmotic dehydration of kiwifruit slices with applying ultrasound pretreatment and it's modeling.  
Role: Advisor
- 2013- Oboodi, M.  
Detection of mosaic symptoms in cucumber using image processing.  
Role: Advisor
- 2013- Zarean, M.  
Efficacy of microwave-assisted osmotic dehydration on glass transition temperature and quality attributes of strawberry.  
Role: Advisor
- 2013- Fazelian-Dehkordi, M.  
Laboratory investigation of the potential of measuring the sugar content of sugarcane using dielectric sensor for precision agriculture application.  
Role: Advisor
- 2012- Zolfaghari, M.  
Investigation of apple drying process using fluidized bed method in order to produce apple tea.  
Role: Advisor
- 2011- Ghasemi, A.  
Determination of rice glass transition temperature and study of drying and tempering effect on its fissuring by modeling intra-kernel moisture distribution.  
Role: Advisor
- 2011- Habibirad, A.H.  
Susceptibility of apple to bruising under impact loading.  
Role: Advisor

### Published Papers in Journals

1. Rahmanian, A., **S.A. Mireei**, S. Sadri, M. Gholami, M. Nazeri. 2020. Application of biospeckle laser imaging for early detection of chilling and freezing disorders in orange. *Postharvest Biology and Technology*. 162: 111118.
2. Haghshenas Adarmanabadi, M., **S.A. Mireei**, M. Sadeghi, M. Nazeri. 2019. Nondestructive firmness estimation of tomato fruit using near-infrared spectroscopy. *Journal of Crop Production and Processing*. 9(3): 113-123.
3. Akbarzadeh, N., **S.A. Mireei**, G. Askari, A.H. Mahdavi. 2019. Microwave spectroscopy based on the waveguide technique for the nondestructive freshness evaluation of egg. *Food Chemistry*. 277: 558-565.
4. Rahimzadeh, H., M. Sadeghi, M. Ghasemi-Varnamkhasti, **S.A. Mireei**, M. Tohidi. 2019. On the feasibility of metal oxide gas sensor based electronic nose software modification to characterize rice ageing during storage. *Journal of Food Engineering*. 245: 1-10.

5. Mortazavi, S.M., A. Hemmat, **S.A. Mireei**, M. Naderi-Boldaji. 2018. Design, development and static evaluation of soil moisture capacitance sensor mountable on multiple-tip horizontal penetrometer. *Iranian Journal of Biosystems Engineering*. 49(3): 447-458.
6. Ghasemi-Varnamkhasti, M., S. Amini-Pozveh, **S.A. Mireei**, P. Mishra, S. Ghosh, D. Ghanbarian, Z. Izadi. 2018. Utilizing visible and near infrared spectroscopy based on multi-class support vector machines classification to characterize olive oil adulteration. *Agricultural Engineering International: CIGR Journal*. 20(3): 206-214.
7. Shirzadifar, A. S. Bajwa, **S.A. Mireei**, K. Howatt, J. Nowatzki. 2018. Weed species discrimination based on SIMCA analysis of plant canopy spectral data. *Biosystems Engineering*. 171: 143-154.
8. Khorsandi, A. A. Hemmat, **S.A. Mireei**, R. Amirfattahi, Ehsanzadeh, P. 2018. Plant temperature-based indices using infrared thermography for detecting water status in sesame under greenhouse conditions. *Agricultural Water Management*. 204: 222-233.
9. Ghasemi, A., M. Sadeghi, **S.A. Mireei**. 2018. Multi-stage intermittent drying of rough rice in terms of tempering and stress cracking indices and moisture gradients interpretation. *Drying Technology*. 36(1): 109-117.
10. Moomkesh, S., **S.A. Mireei**, M. Sadeghi, M. Nazeri. 2017. Early detection of freezing damage in sweet lemons using Vis/SWNIR spectroscopy. *Biosystems Engineering*. 164: 157-170.
11. Hatami, S., M. Sadeghi, **S.A. Mireei**. 2017. Indirect forced solar drying of banana slices: Phenomenological explanation of non-isotropic shrinkage and color changes kinetics. *International Journal of Green Energy*. 14(15): 1277-1283.
12. Pourkhak, B., **S.A. Mireei**, M. Sadeghi, A. Hemmat. 2017. Multi-sensor data fusion in the nondestructive measurement of kiwifruit texture. *Measurement*. 101: 157-165.
13. **Mireei, S.A.**, S. Amini-Pozveh, M. Nazeri. 2017. Selecting optimal wavelengths for detection of insect infested tomatoes based on SIMCA-aided CFS algorithm. *Postharvest Biology and Technology*. 123: 22-32.
14. Moomkesh, S., **S.A. Mireei**, M. Sadeghi, M. Nazeri. 2017. Non-destructive prediction of quality parameters of sweet lemon (*Citrus limetta*) by Vis/SWNIR spectroscopy. *Iranian Journal of Biosystems Engineering*. 47(4): 603-613.
15. **Mireei, S.A.**, R. Bagheri, M. Sadeghi, A. Shahraki. 2016. Developing an electronic portable device based on dielectric power spectroscopy for non-destructive prediction of date moisture content. *Sensors and Actuators A*. 247: 289-297.
16. Mirzabeigi Kesbi, O., M. Sadeghi, **S.A. Mireei**. 2016. Quality assessment and modeling of microwave-convective drying of lemon slices. *Engineering in Agriculture, Environment and Food*. 9: 216-223.
17. Abbasi, H., M. Nazeri, **S.A. Mireei**. 2016. Design and development of a LabVIEW-based LED-induced fluorescence spectroscopy system with applications in non-destructive quality assessment of agricultural products. *Journal of Physics: Conference Series*. 672: 012010.
18. Mirahmadi, S.M., **S.A. Mireei**, M. Sadeghi, A. Hemmat. 2016. Online weighing of kiwifruit using impact method. *Journal of Agricultural Machinery Engineering*. 6(1): 163-175.
19. Mehryar, E., M. Sadeghi, J. Razavi, **S.A. Mireei**. 2016. Moisture sorption isotherm and glass transition temperature of date powder in terms of various model systems. *Journal of Food Process Engineering*. 39: 61-68.
20. Sadeghi, M., A. Ghasemi, S.A. Mireei. 2016. Stress cracking index of rough rice affected by drying and tempering processes. *Iranian Journal of Biosystems Engineering*. 47(2): 268-277.
21. Ghasemi, A., M. Sadeghi, **S.A. Mireei**. 2016. Effect of intermittent drying conditions on fissuring

percentage and process duration of long and medium rough rice varieties. *Journal of Crop Production and Processing*. 5(18): 51-61.

22. Naderi-Boldaji, M., M. Fazeliyan-Dehkordi, **S.A. Mireei**, M. Ghasemi-Varnamkhasti. 2015. Dielectric power spectroscopy as a potential technique for the non-destructive measurement of sugar concentration in sugarcane. *Biosystems Engineering*. 140: 1-10.
23. **Mireei, S.A.**, M. Sadeghi, A. Heidari, A. Hemmat. 2015. On-line firmness sensing of dates using a non-destructive impact testing device. *Biosystems Engineering*. 129: 288-279.
24. Bagheri, R., **S.A. Mireei**, M. Sadeghi, A. Masoumi, S. Moomkesh. 2015. Measurement of date palm fruit moisture content by non-destructive dielectric method. *Iranian Journal of Biosystems Engineering*. 45(2): 97-104.
25. **Mireei, S.A.**, S.S. Mohtasebi, M. Sadeghi. 2014. Comparison of linear and non-linear calibration models for non-destructive firmness determining of 'Mazafati' date fruit by NIR spectroscopy. *International Journal of Food Properties*. 17(6): 1199-1210.
26. **Mireei, S.A.**, M. Sadeghi. 2013. Detecting bunch withering disorder in date fruit by near infrared spectroscopy. *Journal of Food Engineering*. 114: 397-403.
27. Sadeghi, M. O. Mirzabeigi Kesbi, **S.A. Mireei**. 2013. Mass transfer characteristics during convective, microwave and combined microwave-convective drying of lemon slices. *Journal of the Science of Food and Agriculture*. 93(3): 471-478.
28. Tohidi, M., M. Sadeghi, S.R. Mousavi, **S.A. Mireei**. 2012. Artificial neural network modeling of process and product indices in deep bed drying of rough rice. *Turkish Journal of Agriculture and Forestry*. 36(6): 738-748.
29. **Mireei, S.A.**, S.S. Mohtasebi, M. Sadeghi, S. Rafiee. 2012. Comparison between reflectance, transmission and interactance modes of NIR spectroscopy in non-destructive moisture content determining of 'Mazafati' date fruit. *Iranian Journal of Biosystems Engineering*. 43(2): 133-141.
30. **Mireei, S.A.**, S.S. Mohtasebi, R. Massudi, S. Rafiee, A.S. Arabanian. 2010. Feasibility of a near infrared spectroscopy for analysis of date fruits. *Journal of International Agrophysics*. 24: 351-356.
31. **Mireei, S.A.**, S.S. Mohtasebi, R. Massudi, S. Rafiee, A.S. Arabanian, A. Berardinelli. 2010. Non-destructive measurement of moisture and soluble solids content of 'Mazafati' date fruit by NIR spectroscopy. *Australian Journal of Crop Science*, 4(3): 175-179.
32. **Mireei, S.A.**, S.S. Mohtasebi, R. Massudi, S. Rafiee, A.S. Arabanian. 2010. Using FT- NIR spectroscopy in nondestructive maturity determination of 'Shahani' Date Fruits. *Iranian Journal of Biosystems Engineering*. 41(2): 113-120.
33. **Mireei, S.A.**, S.S. Mohtasebi, M. Omid, R. Alimardani. 2008. Modeling, dynamic analysis and optimization of Budsan truck engine mount. *Journal of Applied Sciences*. 8(13): 2369-2377.
34. Omid M., S.S. Mohtasebi, **S.A. Mireei**, E. Mahmoodi. 2008. Fatigue analysis of connecting rod of U650 tractor in the finite element code ANSYS. *Journal of Applied Sciences*. 8(23): 4338-4345.

#### Papers Presented at National and International Scientific Assemblies

1. Akbarzadeh, N., S.A. Mireei, G. Asgari, S.A. Mahdavi. Comparison the waveguide and visible near-infrared spectroscopy methods for non-destructive prediction of egg quality parameters. 12<sup>th</sup> National Congress on Biosystems Engineering and Agricultural Mechanization. 5-7 February 2020, Ahvaz, Iran.
2. **Mireei, S.A.**, H. Mohammad-Hashemi, M. Sadeghi, R. Riahi. Application of laser light back-scattering imaging in quality evaluation of agricultural products, Case study: Measuring the firmness of tomato. 24<sup>th</sup> Iranian and 1<sup>st</sup> International Food Science and Technology Congress. 18-20 October 2016, Tehran, Iran.

3. Haghshenas Adarmonabadi, M., **S.A. Mireei**, M. Sadeghi, M. Nazeri. Application of induced fluorescence spectroscopy using LED excitation source in nondestructive firmness prediction of tomato. 10<sup>th</sup> National Congress on Biosystems Engineering (Agricultural Machinery) and Mechanization. 30-31 August 2016, Mashhad, Iran.
4. Sadeghi, M., M.S. Barge-gol, **S.A. Mireei**, M. Fathi. Effect of osmotic dehydration on moisture desorption isotherms and glass transition temperature of kiwifruit. 10<sup>th</sup> National Congress on Biosystems Engineering (Agricultural Machinery) and Mechanization. 30-31 August 2016, Mashhad, Iran.
5. Barge-gol, M.S., M. Sadeghi, **S.A. Mireei**, M. Fathi. Study and mathematical modeling of osmotic dehydration of kiwifruit slices with ultrasound pretreatment. 10<sup>th</sup> National Congress on Biosystems Engineering (Agricultural Machinery) and Mechanization. 30-31 August 2016, Mashhad, Iran.
6. Maharlooeei, M., **S.A. Mireei**, A. Shirzadifar, S. Sivarajan, S.G. Bajwa, M. Berti, J. Nowatzki. Vis/NIR spectroscopy to estimate crude protein (CP) in Alfalfa crop: Feasibility study. 13<sup>th</sup> International Conference on Precision Agriculture (ICPA), 31 July-4 August 2016, St. Louis, Missouri, USA.
7. Naderi-Boldaji, M., M. Ghasemi-Varnamkhasti, M. Fazeliyan-Dehkordi, **S.A. Mireei**, B. Hosseinzadeh. A non-destructive sensing technique for sugarcane quality in terms of commercial cane sugar (CCS). 3<sup>rd</sup> Iranian International NDT Conference (IRNDT), 21-22 February 2016, Olympic Hotel, Tehran, Iran.
8. Pourkhak Khosroshahi, B., **S.A. Mireei**, M. Sadeghi. Application of falling impact method in non-destructive firmness measurement of kiwifruit using PCA-ANN algorithm. 9<sup>th</sup> National Congress on Agr. Machinery Eng. (Biosystem) & Mechanization. 22-23 April 2015, Karaj, Iran.
9. Moomkesh, S., **S.A. Mireei**, M. Sadeghi, M. Nazeri. Developing a measurement system for Vis/NIR spectral acquisition of agricultural products in transmission, reflectance and interactance modes. 9<sup>th</sup> National Congress on Agr. Machinery Eng. (Biosystem) & Mechanization. 22-23 April 2015, Karaj, Iran.
10. Fazelian Dehkordi, M., M. Naderi Boldaji, M. Ghasemi Varnamkhasti, **S.A. Mireei**. Non-destructive measurement of the sugar content of sugarcane using dielectric spectroscopy method. 9<sup>th</sup> National Congress on Agr. Machinery Eng. (Biosystem) & Mechanization. 22-23 April 2015, Karaj, Iran.
11. Abbasi, H., M. Nazeri, **S.A. Mireei**. Design and developing of a Lab VIEW-based LED-induced fluorescence spectroscopy system for non-destructive quality assessment of horticultural products. 2<sup>nd</sup> International Symposium on Optics and its Applications. 1-5 September 2014, Yerevan-Ashtarak, Armenia.
12. Abbasi, H., M.A. Bani, M. Nazeri, **S.A. Mireei**. Application of Fluorescence Spectroscopy in the Freshness Control of Lettuce Leaf after Irradiation of Cold Atmospheric Pressure Plasma. 2<sup>nd</sup> Conference on Plasma Engineering and Plasma Physics. 22-23 May 2014, Babolsar, Iran.
13. Hatami, S., M. Sadeghi, **S.A. Mireei**. Thin layer drying of banana slices using an indirect solar dryer under forced convection conditions. 3<sup>rd</sup> International Conference on Emerging Trends in Energy Conservation. 11 March 2014, Tehran, Iran.
14. Bagheri, R., S.A. Mireei, M. Sadeghi, A. Masoumi, S. Moomkesh. Measurement of dielectric properties of date palm fruit during maturity in order to introduce the moisture content estimating model. 8<sup>th</sup> National Congress on Agr. Machinery Eng. (Biosystem) & Mechanization. 29-31 January 2014, Mashhad, Iran.
15. Safari Amiri, Z., **S.A. Mireei**, M. Sadeghi. Effect of processing method and variety on milling quality parameters of rice. 8<sup>th</sup> National Congress on Agr. Machinery Eng. (Biosystem) & Mechanization. 29-31 January 2014, Mashhad, Iran.

16. Heidari, A., M. Sadeghi, **S.A. Mireei**, A. Hemmat. Date fruit firmness modeling using nondestructive impact test. 8<sup>th</sup> National Congress on Agr. Machinery Eng. (Biosystem) & Mechanization. 29-31 January 2014, Mashhad, Iran.
17. **Mireei, S.A.**, S.S. Mohtasebi, M. Sadeghi and S. Rafiee. Determination of optimum mode for NIR spectra acquisition in nondestructive moisture content determination of 'Mazafati' date fruit. 20<sup>th</sup> National Food Science & Industrial Congress. 22-24 November 2011, Sharif University, Tehran, Iran.
18. **Mireei, S.A.**, S.S. Mohtasebi, M. Sadeghi and S. Rafiee. Non-destructive detection of bunch withering disease in 'Mazafati' date fruit. 20<sup>th</sup> National Food Science & Industrial Congress. 22-24 November 2011, Sharif University, Tehran, Iran.
19. **Mireei, S.A.**, S.S. Mohtasebi, R. Massudi, S. Rafiee, A.S. Arabanian and F.A. Silaghi. Application of near-infrared spectroscopy for the assessment of maturity stages of 'Mazafati' date Fruits. 5<sup>th</sup> CIGR Conference in Technology and Management to Ensure Sustainable Agriculture, Agro-Systems, Forestry and Safety, 17-19 June 2009, Reggio Calabria, Italy.
20. Omid M., E. Mahmoodi and **S.A. Mireei**. Fatigue analysis of connecting rod of Universal tractor in the finite element code ANSYS. 10<sup>th</sup> International Congress on Mechanization and Energy in Agriculture, 14-17 October 2008, Antalya, Turkey.

## Patents

1. Patent titled: *Design a Counter-Rotating Cams Mechanism in Reciprocating Mowers*, certified by Patent Organization of Iran, (2005).
2. Patent titled: *Developing an Electronic System for Measuring the Dielectric Properties of Agricultural Products*. certified by Patent Organization of Iran, (2015).