

Mohammadbagher Lak

Dr.

Hamedan, Iran

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Work Experience

Chief Executive Officer (CEO)

Pishgaman Zist Samaneh Hooshmand - Hamedan

December 2019 to Present

Development of Smart Greenhouse Management Systems

Application of Internet of Things (IoT) in Agriculture

Agricultural System Analysis

Managing Editor

AgroTechnology Electronic Magazine - Hamedan

October 2017 to Present

Providing Concepts in the Fields Related to Agricultural Technologies

Reveal Training Videos

Published at www.agrotechnology.ir and www.agrimechanization.com

ISSN: 2717-0543

ISSN for issues on CD: 2645-615X

Chairman

Pardis Biosystems Ltd. - Hamedan

September 2017 to Present

Responsible of Technical Committee on Greenhouse Affairs

Expert in Agricultural Machinery Test and Evaluation

Managing Grafting Teams of Walnut Trees Top-working

Managing Technical Teams Working on Design and Prototyping Food Industries

Administrator

Agricultural Mechanization Specialized Website - Hamedan

July 2013 to Present

www.agrimechanization.com

Ranking Agricultural Industries

Agricultural Services

International Platform to Publish AgroTechnology Concepts

Agricultural Engineer

Iran Agricultural Engineering Regulation Organization - Hamedan

October 2011 to Present

Agricultural Engineer Grade ONE

Lecturer of Technical Courses for Agricultural Engineers
Member and Responsible of Technical Committee on Greenhouse Affairs

Employee

Geological Survey of Iran - Tehran
June 2013 to October 2016

Establishment of Agricultural Geology (Agrogeology) Working Group
Food Security Studies Based on Agrogeological Maps
HSE

Internship

Hamedan Office of Iran Ministry of Agriculture - Hamedan
April 2012 to August 2013

Extension Assistant

Education

Postdoc in Agrogeology

Iran Research Institute for Earth Sciences - Tehran, IR
August 2020 to Present

PhD in Biosystems Engineering

Tarbiat Modares University - Tehran, IR
September 2013 to March 2018

Guest Researcher in Crop Growth Model

Wageningen University and Research - Wageningen
January 2017 to July 2017

Master's Degree in Mechanics of Agricultural Machinery

College of Aburairhan, University of Tehran - Tehran
2012 to 2013

Master's Degree in Agricultural Mechanization

Science and Research Branch of Islamic Azad University - Tehran, IR
September 2008 to September 2010

Bachelor's degree

Bu-Ali Sina University
2004 to 2008

Skills

- Research
- ArcGIS
- Precision agriculture
- Agricultural machinery

- Greenhouse
- Internet Of Things (IoT)
- Systems Analysis
- GIS
- Farsi

Languages

- Farsi - Expert
- English - Fluent
- Arabic - Beginner

Links

<https://scholar.google.com/citations?user=iG6-kH0AAAAJ&hl=en>

<https://www.linkedin.com/in/mohammadbagher-lak-4656163a/>

Awards

First Ranked

2013

First ranked among 34 participants who invited to the scientific interview for PhD program in Biosystems Engineering at Tarbiat Modares University, Tehran, Iran (2013).

First Ranked

May 2008

First ranked among more than 3500 student scientific works in the 1st HAREKAT (National Student Scientific Societies) Festival by writing a book (Modern Agriculture) in Persian (2008).

First Ranked

2010

First ranked among 15 graduate students during my M.Sc. (2010).

Most Active Student Scientific Society

2008

I awarded as the sufficient member of the most active student scientific society, Faculty of Agriculture, Bu-Ali Sina University (2008).

Certifications and Licenses

Internet of Things (IoT)

August 2021 to Present

Internet of Things (IoT) Skill Course Held by Iran Technical & Vocational Training Organization (2021).

Quality Control Manager of Agricultural Products

March 2020 to Present

Certified as Quality Control Manager of Agricultural Products by a Joint Consortium of Iran Ministry of Agriculture and Iran Iranian National Standards Organization (2020)

ArcGIS

October 2014 to Present

- ArcGIS software educational class held by Geological Survey of Iran, ministry of Industry, Mine and Trade, Tehran, Iran (2014).
- ArcGIS software educational class held by Amirkabir University of Technology (Tehran Poly Technique), Tehran, Iran (2008-2009).

HSE

October 2013 to Present

Fire Safety, Electrical Safety, First Aids, Occupational Health Training Course Based on OSHA and ILO Technical Manual Held by QMS Italia, Tarbiat Modares University, Tehran, Iran (2013).

Agricultural Extension

November 2011 to Present

Agricultural Extension Specific Workshop Held by Ministry of Agriculture, Babol, Iran (2011)

Precision Agriculture

December 2010 to Present

Precision Agriculture Workshop Held by Agricultural Engineering Research Institute, Karaj, Iran (2010).

Publications

Books

- Lak, M.B., 2007. Modern Agriculture: Sustainable Agriculture, Precision Agriculture (in Farsi). Rouzandish Publication, Hamedan, Iran. (ISBN: 978-964-91362-5-7)
- Asadi, M., Lak B.H. and M.B. Lak, 2016. Energy Statistics in Iran and Around the World (in Farsi). Iran Energy Efficiency Organization, Tehran, Iran.

Reports

- Lak, M.B. 2021. Infrastructures Required to Make Tehran Urban and Natural Environments Smart based on IoT under the project entitled: "Smart landscape management of Tehran metropolitan" as a part of the main project entitled: "Investigation and identification of Tehran metropolitan landscape comprehensive plan" to Tarbiat Modares University and Sabz Andish Payesh (S.A.P) engineering consulting company joint group.
- Lak, M.B. 2019. Modeling Greenhouse Climate Data. A non-disclosure agreement with a Belgian company in 65 pp.
- Lak, M.B. 2017. Dynamic Model of Lettuce for TIME SCALE (DyMoLeTiS). Horticulture and Product Physiology Group, Wageningen University and Research, Netherlands.
- Lak, M.B., 2016. Atlas of Iran Agrogeology (in Farsi). Geological Survey of Iran, Ministry of Industry, Mine and Trade, Iran.
- Lak, M.B., 2016. Safety Standards in Geological Surveys (in Farsi). Geological Survey of Iran, Ministry of Industry, Mine and Trade, Iran. By now 5 parts have been released.

- Lak, M.B., 2015. Agrogeology (in Farsi). Geological Survey of Iran, Ministry of Industry, Mine and Trade, Iran.
- Lak, M.B., Modarres, M.H., 2015. Unconventional Waters (in Farsi). Geological Survey of Iran, Ministry of Industry, Mine and Trade, Iran.
- Lak, M.B. and K. Oskoui, 2008. Children Health and Safety in Farm (in Farsi). Extensional pamphlet for Hamedan Division of Agriculture.

Papers

- Lak, M.B., Minaei, S., Soufizadeh, S. and A. Banakar, 2018. Agricultural crop growth modelling: a tool for dealing with the threat of climate change affecting food security (case study for greenhouse tomato), *Geosciences*, 106: 83-90.
- Lak, M.B., Minaei, S., Soufizadeh, S. and A. Banakar, 2018. Modelling Rupture Force based on Physical Properties – a Case Study for Roma Tomato (*Solanum lycopersicum*) Fruits, *Agricultural Engineering International: CIGR Journal*, 20(3): 221-226
- Lak, M.B., Minaei, S., Soufizadeh, S., Banakar, A. and G. Polder. Development of a smart machine-vision-based system to detect water stress in greenhouse tomato plants (Under revision).
- Lak, M.B., 2012. Thresholding of Tart-cherry image frame under uncontrolled daylight conditions. *Journal of Agricultural Technology*, 8(4): 1413-1421.
- Lak, M.B., 2011. Geometric properties of Kohanz apple fruits. *Agricultural Engineering International: CIGR Journal*, 13(4), Manuscript No. 1825.
- Lak, M.B. and M. Almassi, 2011. An Analytical Review of Parameters and Indices Affecting Decision Making in Agricultural Mechanization. *Australian Journal of Agricultural Engineering*, 2(5), 140-146.
- Lak, M.B. and A.M. Borghaee, 2011. Multi-criteria decision making based in choosing an appropriate tractor: a case study for Hamedan province (in Persian). *Journal of Agricultural Machinery Engineering*, 1(1), 41-47.
- Lak, M.B., 2011. Estimation of wheat cultivation mechanization status in Iran. *Asian Journal of Agricultural Sciences*, 3(1), 51-54.
- Lak, M.B., Minaei S., Amiriparian J. and B. Beheshti, 2010. Apple fruits recognition under natural luminance using machine vision. *Advance Journal of Food Science and Technology*. 2(6), 325-327.

Presentations

Oral:

- Heidari, B., Lak, M.B., Najafi, G.H. and A. Saeidi, 2017. Roadmap of water and energy for Tehran province: essentiality and remedies. The Second National Conference On Sustainable Development in Energy, Water and Environmental Engineering Systems. Iran University of Science and Technology, Tehran, Iran. February 2017.
- Lak, M.B. and S. Minaei, 2015. Crop growth modeling: a potential method for site-specific management of greenhouses. International Symposium on New Technologies and Management for Greenhouses, Évora, Portugal, July 2015.
- Lak, M.B., Taeibi, F. and A. Sartipi, 2015. Agrogeology: a case study for Urmia. 33rd National Geosciences Symposium, Geological Survey of Iran, Tehran, Iran.
- Lak, M.B., Karami, Z. and S. Bani Adam. 2014. Geosciences serve the modern agriculture (agricultural geology). 32nd National and the 1st International Geosciences Congress, Rasht, Iran.
- Lak, M.B., Nemati, S., Didari, H., Bani Adam, S. and F. Tayebi. 2014. Iran agrogeology - a case study: Malayer, Hamedan Province. 32nd National and the 1st International Geosciences Congress, Rasht, Iran.
- Nakhaei, M., Tayebi, F. and M.B. Lak. 2014. Perlite mineral potential for the optimization use of agricultural water in Iran. 32nd National and the 1st International Geosciences Congress, Rasht, Iran.

- Lak, M.B., Minaei S., Amiriparian J. and B. Beheshti, 2014. Development of a set of machine-vision algorithms for apple fruits recognition under daylight conditions (in Persian). The 8th National Congress on Agricultural Machinery (Biosystems) Engineering and Mechanization, Ferdowsi University, Mashhad, Iran.
 - Lak, M.B., Minaei S., Amiriparian J. and B. Beheshti, 2011. Machine Vision Recognition Algorithm Development as the First Stage of Apple Robotic Harvesting. 46th Croatian and 6th International Symposium on Agriculture, Opatija, Croatia.
 - Lak, M.B. and A.M. Borghaee, 2010. Multi-criteria Decision Making Based Appropriate Tractor Selection (Case Study: Hamedan Province) (in Persian). The 6th National Conference on Agricultural Machinery Engineering and Mechanization, University of Tehran, Iran.
- Poster:
- Lak, M.B. and S. Minaei, 2016. Atlas of wheat agricultural mechanization in Iran. 10th Iranian National Congress on Agricultural Machinery (Biosystems) and Mechanization Engineering, Mashhad, Iran.
 - Lak, M.B. 2015. Important parameters involved in agrogeological studies – north-east counties of Chaharmahal-va-Bakhtiari. 33rd National Geosciences Symposium, Geological Survey of Iran, Tehran, Iran.
 - Hashemi, A.M., Khosro Anjom, F. and A.E. Hashemi, 2014. Economic justification of precision farming for wheat and barley farmlands: A case study for Hamedan province. The 8th National Congress on Agricultural Machinery (Biosystems) Engineering and Mechanization, Ferdowsi University, Mashhad, Iran.
 - Lak, M.B., Aboonajmi, M. 2013. Application of spectrometry in agricultural practices. CSBE/SCGAB 2013 Annual Conference, University of Saskatchewan, Saskatoon, Saskatchewan, Canada.
 - Aboonajmi, M., Lak, M.B., 2013. Non-invasive quality assessment of agricultural products. CSBE/SCGAB 2013 Annual Conference, University of Saskatchewan, Saskatoon, Saskatchewan, Canada.
 - Aghilinategh, N., Samavatean N., Yuneji S. and M.B. Lak, 2012. Determining Optimum Agricultural Mechanization Level for Province of Hamedan (in Persian). The 7th National Congress on Agricultural Machinery Engineering and Mechanization, Shiraz University, Shiraz, Iran.
 - Lak, M.B. and F. Khosro Anjom, 2010. Economics of Precision Agriculture for Wheat and Barley Cultivation in Hamedan, Western Iran. 10th International Conference on Precision Agriculture, Colorado State University, USA.
 - Lak, M.B., 2009. Wheat Cultivation Mechanization General Status in Iran. Conference on Sustainable Agriculture Engineering, Dedicated to 60th Anniversary of Research Institute for Land Reclamation and Agricultural Mechanization, Sofia, Bulgaria.
 - Lak, M.B. and M.S. Boluki, 2008. Estimation of Timeliness as an Important Parameter for Mechanized Cultivation Operations in Hamedan, Western Iran. 10th International Congress on Mechanization and Energy in Agriculture, Antalya, Turkey.
 - Lak, M.B. and M.S. Boluki, 2008. Estimation of Soil Workability as an Important Agricultural Mechanization Parameter in Hamedan Central County (in Persian). The 5th National Congress on Agricultural Machinery Engineering and Mechanization, Ferdowsi University, Mashhad, Iran.
 - Lak, M.B., 2007. Basics of Yield Monitor Installation and Operation (in Persian). The 3rd Student Conference in Agricultural Machinery Engineering, University of Shiraz, Iran.