

Curriculum Vitae

Reza Aghnoum
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Personal details

Name: Reza Aghnoum

Nationality: Iranian

Date of Birth: June 22, 1972

Marital Status: Married , two child

Education

B.Sc. in Plant Protection ,1991-1995, Ferdowsi University of Mashhad, Iran, with Honours
(Grade Point Average=17.50 out of 20.0)

M.Sc. in Plant Pathology, 1995-1998, Ferdowsi University of Mashhad, Iran. with
Honours (Grade Point Average=18.24 out of 20.00)

PhD in Plant Breeding (Genetics of plant disease resistance). 2005-2009, Department of Plant
Breeding, Wageningen University, The Netherlands. Thesis project: Basal resistance of barley to
adapted and nonadapted forms of *Blumeria graminis*

Postdoctoral position in Genomics of Plant-Pathogen interactions 2009-2010, Department of
Plant Breeding, Wageningen University. ERA-NET Plant Genomics Project: Integrative genomic
and genetic analysis of non-host resistance across *Triticeae* species.

Employment background

- From April 1998 to present, Plant Pathologist-breeder, Member of Scientific Board, Department of Seed and Plant Improvement, Khorasan Razavi Agricultural and Natural Resources Research and Education Center, Mashhad, Iran
- From Dec. 2014 to Sep. 2018 Deputy Director General (Research and Technology), Khorasan Razavi Agricultural and Natural Resources Research and Education Center, Mashhad, Iran
- From Sep. 2018 to present, Director general, Khorasan Razavi Agricultural and Natural Resources Research and Education Center, Mashhad, Iran.

Full Papers in International peer-reviewed journals (2007-2021)

- 1- Marcel, T.C., **Aghnoum, R.**, Durand, J., Varshney, R.K., Niks, R.E. (2007). Dissection of the barley 2L1.0 region carrying the 'Laevigatum' quantitative resistance gene to leaf rust using near isogenic lines (NIL) and subNIL. *Molecular Plant-Microbe Interactions*.20:1604-1615.
- 2-**Aghnoum, R.**; Marcel, T.C.; Johrde, A.; Pecchioni, N.; Schweizer, P.; Niks, R.E. (2010). Basal host resistance of barley to powdery mildew: connecting quantitative trait loci and candidate genes. *Molecular Plant-Microbe Interactions*. 23:91-102.
- 3- **Aghnoum, R.**, Niks, R.E. (2010). Specificity and levels of nonhost resistance to nonadapted *Blumeria graminis* forms in barley. *New Phytologist*. 185: 275- 284.
- 4-**Aghnoum, R.**, Niks, R.E. (2011). Transgressive segregation for very low and high levels of basal resistance to powdery mildew in barley. *Journal of Plant Physiology*. 168: 45-50.
- 5- **Aghnoum, R.**, Niks, R.E. (2012). Compatible Puccinia hordei infection in barley induces basal defense to subsequent infection by *Blumeria graminis*. *Physiological and Molecular Plant Pathology*. 77:17-22.
- 6- **Aghnoum, R.**, Nazeri, M., Moayedi, A. A., and Kouhestani, B.(2017). Effect of sowing date on occurrence and severity of barley yellow dwarf virus (BYDV) in different wheat cultivars. *Scientific Papers. Series A. Agronomy*. Vol. LX, 191-196
- 7- Delventhal, R., Rajaraman, J., Stefanato, F.L., Rehman, S., **Aghnoum, R.**, McGrann, G.R. D., Bolger, M., Usadel, B., Hedley, P.E., Boyd, L., Niks, R. E., Schweizer, P., and Schaffrath, U. (2018). A comparative analysis of nonhost resistance across the two Triticeae crop species wheat and barley. *BMC Plant Biology*. 17:232
- 8- Jabbari, M., Fakheri, B.A., **Aghnoum, R.**, Mahdi Nezhad, N., Ataei, R. (2018). GWAS analysis in spring barley (*Hordeum vulgare* L.) for morphological traits exposed to drought. *PLoS ONE*. 13(9): e0204952. <https://doi.org/10.1371/journal.pone.0204952>
- 9- Beheshtizadeh, H., Fakheri, B.A., **Aghnoum, R.**, Mahdinezhad, N., Pourdard, S.S., and Masoudi, B. (2018). QTL mapping of grain yield and its components under normal and drought stress conditions in barley (*Hordeum vulgare* L.). *Indian Journal of Genetics*. 78(1): 69-80.
- 10- **Aghnoum, R.**, Bvindi, C., Menet, G., D'hoop, B., Maciel, J. L.N. and Niks, R.E. (2019). Host/nonhost status and genetics of resistance in barley against three pathotypes of *Magnaporthe* blast fungi. *Euphytica*.215:116.
- 11- **Aghnoum, R.**, Yassaie, M., Dalvand, M., Tabatabaei Fard, N. (2019). Virulence analysis and effectiveness of new sources of resistance to barley powdery mildew (*Blumeria graminis* f. sp. hordei) in southwestern regions of Iran. *Crop Breeding Journal*. 9(2): 23-31.
- 12- Bajestani, M.S., Moghadam, E.M., **Aghnoum, R.**, Rohani, H. (2019). Genotypic and biochemical variation in the response of barley to the root-knot nematode (*Meloidogyne javanica*) at seedling stage. *Pakistan Journal of Phytopathology*. 31(1): 7-17.

- 13- Jabbari, M., Fakheri, B. A., **Aghnoum, R.**, Nezhad, N. M.,; Ataei, R.; Koochakpour, Z. (2019). Association mapping of morphological and physiological traits of flag leaf related to drought tolerance in barley. *Revista de Agricultura Neotropical*. 6(2):7-18.
- 14- **Aghnoum, R.**, Zare Fizabadi, A. (2020). Population density of plant-parasitic nematodes under conservation agriculture and conventional cropping systems. *Pakistan Journal of Phytopathology*. 32 (02) 97-106.
- 15- Bajestani, MS., Moghadam, EM., **Aghnoum, R.** and Rohani, H. (2020). Study of Plant Parasitic Nematodes and Description of New Record (*Rotylenchus alius*) Associated with Barley (*Hordium vulgare* L.) in Khorasan Razavi Province, Northeast Iran. *Pakistan Journal of Nematology*. 38 (2).
- 16- Koochakpour, Z., Solouki, M., Fakheri, B.A., **Aghnoum, R.**, Mahdi Nezhad, N. (2020). Genome wide association analysis of plant height, spike and awn length in barley (*Hordeum vulgare* L.) exposed to mn stress. *Journal of Animal and Plant Sciences*. 30(2) :384-390.
- 17- Jabbari, M., Fakheri, B.A., **Aghnoum, R.**, Darvishzadeh, R., Mahdi Nezhad, N., Ataei, R., Koochakpour, Z., and Razi, M. (2021). Association analysis of physiological traits in spring barley (*Hordeum vulgare* L.) under water-deficit conditions. *Food Science and Nutrition*. 9 (3): 1761-1779.
- 18- Jabbari, M., Fakheri, B.A., **Aghnoum, R.**, Darvishzadeh, R., Mahdi Nezhad, N., Ataei, R., Koochakpour, Z., and Razi, M. (2021). Identification of DNA markers associated with phenological traits in spring barley (*Hordeum vulgare* L.) under drought stress conditions. *Cereal Research Communications*. <https://doi.org/10.1007/s42976-021-00181-x>

Full Papers in Iranian Peer-reviewed Journals

- 1- **Aghnoum, R.**, Falahati-Rastegar, M., and Jafarpour, B. (1999). Comparison of chemical and biological control of cumin wilt (*Fusarium oxysporum* f.sp *cumini*) in Lab. and greenhouse conditions. *Iranian Journal of Agricultural Science*. 30(3): 619-631.
- 2- Nazari, K., Torabi, M., Dehghan, MA., **Aghnoum, R.**, Ahmadian-Moghadam, MS., Falahi, HA. (2001). Pathogenicity of *Puccinia striiformis*, and reactions of improved cultivars and advanced lines of wheat to yellow rust in northern provinces of Iran. *Seed and Plant*. 16 (4): 393-424.
- 3- Patpour, M., Torabi, M., Afshari, F., **Aghnoum, R.**, Dehghan, MA., Dadrezaei, ST., and Ahmadian-Moghadam, MS. (2005). Pathogenicity factors of the barley powdery mildew pathogen in some regions of Iran and their changes during 2000-2002. *Seed and Plant*. 21 (2): 303-313.
- 4- Afshari, F., Torabi, M., Nazari, K., Malhipour, A., Mardoukhi, V., Rajaei, S.,and **Aghnoum, R.** (2005). Pathogenicity of the wheat yellow rust pathogen (*Puccinia striiformis* f.sp. *tritici* Westend) in some regions of Iran during 2002-2004. *Seed and Plant*. 21 (3): 357-372.
- 5- Yazdansepas, A., Khodarahmi, Rezaei, M., Nazeri, M., Pedram, A.... **Aghnoum, R.**, Safavi, SA, And Zare Fizabadi, A. (2011). Zareh, A New Bread Wheat Cultivar for Irrigated and Post-Anthesis Drought Stress Conditions in Cold Regions of Iran. *Seed and Plant*. 27(1): 635-638.

- 6- Yazdansepas, A., Najafi Mirak, T., Golkari, S, Rezaei, M., Ashouri, Sh., and **Aghnoum, R.**(2011). Oroum, A New Bread Wheat Cultivar for Irrigated Condition in Cold Regions of Iran. *Seed and Plant*. 27(3): 445-448.
- 7- Ghazvini, H., Koocheki, AR., Yousefi, A., Razavi, SA., Mohammadi, S., Aminzade, Gh R., Sharifalhossaini, M., Rezaee Moradaela, M., Babae, T., Tat, MH.,8 Kamel, M., **Aghnoum, R.**, Safavi, SA., and Barati, A.2 (2017). Jolge, a new irrigated barley cultivar with wide adaptability in the cold agro-climate zone of Iran. *Research Achievements for Field and Horticulture Crops*. 6(1): 37-50.
- 8- Ghazvini, H., Lakzade, I., Kouhkan, SH., Jabari, M., Barati, A., Fallahi, HA., ... Tajali, H., **Aghnoum, R.** et al. (2018). Oksin, a New Irrigated Six-Rowed Barley Cultivar with Wide Adaptability in Warm Agro-Climature Zone of Iran. *Research Achievements for Field and Horticulture Crops*. 7(2): 149-159.
- 9- Zare Kohan, M., Babaeian Jelodar,N.,**Aghnoum, R.**, Tabatabaee, S.A., Kazemi Tabar, S.K.1.(2018). Association mapping of some phenological traits in barley under salt stress. *Journal of Crop Breeding*. Vol 10 (26): 12-21.
- 10- Nikkhah, H., Yousefi, A., Ghazvini, H., Sorkhi, B., ... **Aghnoum, R.** et al. (2018). Goharan, A new terminal drought tolerant barley cultivar with high water use productivity for cultivation in the moderate agro-climate zone of Iran. *Research Achievements for Field and Horticulture Crops*. 7(1): 83-95.
- 11- Mazinani1,MA., Navabpour, S., **Aghnoum, R.**, Zynalinezhad, Kh., and Dehghan, MA. (2019). Identification of gene loci associated with seedling resistance to common spot blotch disease of barley using association analysis method. *Cereal Research*. 9(2):179-192.
- 12- Nikkhah, H., Yousefi, A., Ghazvini, H., Sorkhi, B., Barati, A., Patpour, M., ... **Aghnoum, R.** et al. (2019). Armaghan, a High-Yielding Barley Variety with High Adaptation to Temperate Regions of Iran. *Research Achievements for Field and Horticulture Crops*. 8(1): 13-24.
- 13- Nikkhah, H., Tabatabaee, SA., Yousefi, A., Ghazvini, H., Saberi, H., Tajali, H., Mahlogi,M., Binabagi, MH., **Aghnoum, R.** et al. (2019). Mehr, Barley cultivar tolerant to salt stress for cultivation in the temperate climate of the country. *Research Achievements for Field and Horticulture Crops*. 7(2): 235-249.
- 14- Ghazvini, H., Lakzade, I., Kouhkan, SH., Fallahi, HA., Jabari, M., Barati, A., Kouchaki, AR., **Aghnoum, R.** et al. (2020).Nowruz, a new barley cultivar with lodging resistance appropriate for cultivation in the south warm and dry climate zone of Iran. *Research Achievements for Field and Horticulture Crops*. 9(1): 53-66.
- 15- **Aghnoum, R.**, Dehghan, M. A., Ebrahimnejad, Sh. and Mehrabi, R. (2020). Identification of the Virulence Factors of *Blumeria graminis* f.sp *hordei*, the Causal Agent of Barley Powdery Mildew in North East and Northern Regions of Iran. *Cereal Research*.10(4):

16- Barati, A., Nikkhah, H., Tabatabaee, SA., Mahlogi, M., Tajali, H., . . . **Aghnoum, R.** et al. (2020). Golshan, new salt tolerant barley variety suitable for cultivation in the temperate regions of Iran. *Research Achievements for Field and Horticulture Crops*. 9(2): 153-163.

17- **Aghnoum, R.**, Sharifi, H. R., Ezzat-Ahmadi, M. (2020). The effect of conservation and conventional agricultural practices on the population of some plant pathogenic nematodes in the wheat-sugarbeet rotation system. *Applied Research in Field Crops*. 33 (1): 44-60.

18- Mazinani, MA., Navabpour, S., **Aghnoum, R.**, Zynalinezhad, Kh., and Dehghan, MA. (2020). Identification of genomic regions associated with net blotch resistance in barley. *Modern Genetics Journal*. 15 (3):235-247.

19- Katooli, N., Mahdikhani Moghadam, E. and **Aghnoum, R.** (2020). Morphological and Molecular Identification of Major Species of *Meloidogyne* and Distribution there in Pomegranate Orchards in Khorasan Provinces. *Journal of Plant Protection*. 34(3): 297-308.

20- Khalili, M., Mirshamsi Kakhki, A., **Aghnoum, R.**, Seifi, A. (2020). Detection of *Rdg1a* and *mlo* Genes for Resistance to Leaf stripe and Powdery Mildew Diseases in Barley. *Journal of Plant Protection*. 34(2): 183-194.

21- Koochakpour, Z., Solouki, M., Fakheri, BA., **Aghnoum, R.**, Mahdi Nezhadand, N., Jabbari, M. (2021). Identification of genomic loci controlling phenologic and morphologic traits in barley (*Hordeum vulgare* L.) genotypes using association analysis. *Iranian Journal of Crop Sciences*. 22(4): 291-304.

22- **Aghnoum, R.**, and Ghodsi, M., 2021. The effect of different tillage methods and crop residue management on the population of plant parasitic nematodes in the wheat (*Triticum aestivum* L.), barley (*Hordeum vulgare* L.) and cotton (*Gossypium hirsutum* L.) rotation system. *Journal of Agroecology* 13(3):409-422.

Full papers in proceedings of scientific congress

1- Jafary, H., **Aghnoum, R.**, Schweizer, P., and Niks, R.E. (2011). Transcriptome analysis of non-host and host resistance of barley to the leaf rust pathogens. Proceeding of 1st National Conference on Modern Agricultural Sciences & Technologies. Zanjan, Iran. pp. 244-248.

2- Nazari, M., **Aghnoum, R.**, and Moayedi, A. (2014). Study on effects of post anthesis water limited on yield and yield components in promising winter and facultative bread wheat lines. The First International & 13th Iranian Crop & Plant Breeding Sciences Congress, August 26-28 2014. Karaj, Iran.

3- **Aghnoum, R.**, Dehghan, M.A., Nikkhah, H.R., and Nazeri, M. (2014). Evaluation of partial resistance to powdery mildew in Elite lines and cultivars of barley by AUDPC. 13th Iranian Crop & Plant Breeding Sciences Congress, August 26-28 2014. Karaj, Iran.

4- **Aghnoum, R.**, Safavi, S.A., Dehghan, M.A., Sorkhi, B., and Sharifalhossaini, M. (2014). Identification of sources of powdery mildew and yellow rust resistance in barley. The First

International & 13th Iranian Crop & Plant Breeding Sciences Congress, August 26-28 2014. Karaj, Iran.

5- Javan, F., **Aghnoum, R.** and Valizade, M.(2014). Identification of quantitative trait loci for resistance to Scald (*Rhynchosporium secalis*) in barley. The First International & 13th Iranian Crop & Plant Breeding Sciences Congress, August 26-28 2014. Karaj, Iran.

6- Ezazi, M., **Aghnoum, R.** and Valizade, M.(2014). Identification of quantitative trait loci associated with some agronomical important traits in a population of barley by association mapping. The First International & 13th Iranian Crop & Plant Breeding Sciences Congress, August 26-28 2014. Karaj, Iran.

7- Shahi-Bajestani1,M., Mahdikhani-Moghadam, E., Aghnoum, R., and Rohani, H.(2016). The response of commercial cultivars and promising lines of barley against root knot nematode in seedling stage. 14th National Crop Science Congress, Aug. 30- Sep. 1 2016, Rasht, Iran.

8- **Aghnoum, R.**, Ebrahimnejad, Sh. and Ghazvini, H. (2018). Evaluation of resistance in advanced and elite lines of barley (2014-2015 cropping season) to leaf stripe disease. 15th National Crop Science Congress, Karaj, Iran.

9- **Aghnoum, R.**, Mehrabi, R., Dehghan, M.A and Tabatabaei Fard, N.A.(2018). Response of commercial barley cultivars to Net Blotch disease at seedling and adult plant stage. 15th National Crop Science Congress, Karaj, Iran.

10- Mirshamsi kakhki, A., **Aghnoum, R.**, and khalili, M.(2018). Usage of molecular markers for pyramiding of *Rdg1a* and *mlo* genes for resistance to leaf stripe and powdery mildew diseases in barley. 15th National Crop Science Congress, Karaj, Iran.

International conference contributions (Oral and poster presentations) (after 2007)

1- **Aghnoum, R.**, Mehrabi, R., Ebrahimnejad, Sh., Dehghan, M.A. 2017. Monitoring the population of barley powdery mildew pathogen, *Blumeria graminis* f. sp. *hordei*, in North and North-Eastern regions of Iran. 2nd International Workshop on Barley Leaf Diseases.5-7 April 2017. Rabat, Morocco

2- **Aghnoum, R.**, Ebrahimnejad, Sh. 2017. Identification of sources of resistance to the seed-borne barley leaf stripe disease (*Pyrenophorea graminea*). 2nd International Workshop on Barley Leaf Diseases.5-7 April 2017. Rabat, Morocco

3- **Aghnoum, R.**, Bvindi-Maphango, C., Menet, G., Maciel, J.N., D'hoop, B., Niks, R.E. 2017. Barley -*Magnaporthe oryzae* pathosystem: The Specificity and Genetics of Host Resistance. 2nd International Workshop on Barley Leaf Diseases.5-7 April 2017. Rabat, Morocco

4- **Aghnoum, R.**, Safavi, S.A., Dalvand, M. and Atahosseini, M. (2014). Sources of yellow rust resistance in modern European barley cultivars and Iranian breeding lines. 2nd International Wheat Stripe Rust Symposium. Izmir, Turkey, 28 April - 1 May, 2014 (poster presentation)

5-Atahosseini, M., **Aghnoum, R.**, and F.Afshari (2014). Yellow rust of wheat in north-eastern Iran: Current status of host resistance and pathogen virulence . 2nd International Wheat Stripe Rust Symposium. Izmir, Turkey, 28 April -1 May, 2014 (poster presentation).

6-Marcel, T. C., **Aghnoum R.**, Jafary H., Yeo F. K.S., Chalhoub B., and Niks R. E.(2009). A map-based cloning approach to unravel genes for basal resistance to biotrophic fungi in barley. 19th International Triticeae Mapping Initiative. 31 August – 4 September 2009. Clermont-Ferrand, France (Abstract).

7- **Aghnoum, R.** and Niks, R.E. (2009). Bgt: Experimental barley lines with susceptibility to wheat powdery mildew as a tool to study non-host resistance. 12th International Cereal Rusts and Powdery Mildews Conference, October 13-16, 2009 Antalya, Turkey- (oral presentation)

8- Niks, R.E., Jafary, H., **Aghnoum, R.** and Marcel. T.C._(2009). The Barley-Rusts and Mildews: Two Models to Study the Molecular Basis of Host Status of Plants to Specialized Pathogens. 12th International Cereal Rusts and Powdery Mildews Conference, October 13-16, 2009 Antalya, Turkey- (Abstract)

9- Douchkov, D., Jhrde, A., Himmelbach, A., **Aghnoum, R.**, Niks, R. and Schweizer, P. (2009). Convergent Evidence for Genes Underlying Quantitative Powdery Mildew Resistance in Barley. 12th International Cereal Rusts and Powdery Mildews Conference, October 13-16, 2009 Antalya, Turkey- (Abstract)

10- **Aghnoum, R.**, Marcel. T.C., Jafary, H. and Niks, R.E. (2007). Genetic diversity for Quantitative resistance of barley against powdery mildew. Plant and Animal Genome XV Conference, January 13-17, 2007, San Diego, California, USA, (poster presentations)

11-**Aghnoum, R.**, and Niks, R.E. (2008). Development of a barley lines with extreme low and high level of basal resistance to powdery mildew. 10th International Barley Genetics Symposium, April 5-10, 2008, Alexandria, Egypt, (poster presentations).

12-**Aghnoum, R.**, Bvindi, C., Nunes Maciel, J., Kema, G.H.J. Niks, R.E. (2010). Host status and genetics of blast (*Magnaporthe oryzae*) resistance in barley. 1st International Workshop – Wheat Blast a Potential Global Threat to Wheat Production, May 3-6, 2010, Passo Fundo, Brazil , (poster presentation).

Final report of projects, since 2010 (As project leader)

1- **Aghnoum, R.** (2012). Evaluation of powdery mildew resistance in Preliminary, Advanced and Elite lines of barley at adult plant stage. Seed and Plant Improvement Institute. pp 28.

2- **Aghnoum, R.** (2014). Evaluation of some resistance sources of spring barley for yellow rust and powdery mildew diseases. Seed and Plant Improvement Institute. pp 36.

3- **Aghnoum, R.** (2014). Evaluation of resistance to powdery mildew in Preliminary, Advanced, Elite lines and cultivars of barley at adult plant stage. Seed and Plant Improvement Institute. pp 37.

4- **Aghnoum, R. (2016)**. Evaluation of resistance to major leaf spots (Spot blotch, Net blotch and scald) in genotypes of Preliminary, Advanced and Elite trials of barley. Seed and Plant Improvement Institute. pp 47

5- **Aghnoum, R. (2017)**. Monitoring virulence factors of *Blumeria graminis* f.sp *hordei*, the causal agent of barley powdery mildew in different regions of Iran. . Seed and Plant Improvement Institute. pp 43

6- **Aghnoum, R. (2017)**. Evaluation of reaction in Preliminary, Advanced and Elite genotypes of barley to major fungal leaf spots (Spot blotch, Net blotch and scald) at adult plant stages. Seed and Plant Improvement Institute. pp 53.

Supervision of PhD and M.Sc. students

1- Supervision of M.Sc. student, Mathieu Wident, thesis project entitled “Association mapping and genealogy study of genes for resistance to pathogens in barley”. Laboratory of Plant Breeding. Wageningen University. 2006-2007.

2- Supervision of M.Sc. student, Carol Nunurai Bvindi, thesis project entitled “Host status and genetic analysis of blast (*Magnaporthe oryzae*) resistance in barley”. Laboratory of Plant Breeding. Wageningen University. 2009-2010.

3- Supervision of M.Sc. student, M. Ezazi, thesis project entitled “Identification of Quantitative Trait Loci Associated with some Agronomical Important Traits in a Population of Barley by Association Mapping”. Faculty of Agricultural Engineering, Payame Noor University of Mashhad, 2013-2014.

4- Supervision of M.Sc. student, F. Javan, thesis project entitled “Study on Genetics of Scald (*Rhynchosporium secalis*) resistance in barley at seedling stage”. Faculty of Agricultural Engineering, Payame Noor University of Mashhad, 2013-2014.

5- Supervision of PhD candidate, H. Beheshtizade, thesis project entitled “Mapping genomic regions of morphological and physiological traits in Nure × Tremois doubled haploid population of barley under drought stress”. Faculty of Agriculture, University of Zabol, 2014-2017.

6- Supervision of PhD candidate, M. Jabbari, thesis project entitled “Association mapping of drought tolerance in barley”. Faculty of Agriculture, University of Zabol, 2014-2018

7- Supervision of PhD candidate, M. Zare, thesis project entitled “Association mapping of loci controlling salt tolerance in barley (*Hordeum vulgare* L.)”. Sari University of Agricultural Sciences and Natural Resources, Since September 2014-2017.

8- Supervision of PhD candidate, A, Mazinani. Thesis project entitled “: Mapping quantitative trait loci associated with resistance to brown spot of Barley”. Gorgan University of Agricultural Sciences and Natural Resources, Since September 2016-2019.

9- Supervision of M.Sc. student, M. Khalili, thesis project entitled “Development of molecular markers for pyramiding of *Rdg1a* and *mlo* genes for resistance to leaf stripe and powdery mildew diseases in barley”. Ferdowsi University of Mashhad, 2017-2018.

10- Supervision of PhD candidate, M., Sohrabi. Thesis project entitled “:Identification of barley leaf stripe resistance loci using association mapping and comparison of gene expression of *Rdg2a* candidate gene”. Ferdowsi University of Mashhad, Since September 2017, in progress.

Memberships

1- Member of Scientific Committee -Iranian Academic Centre for Education, Culture and Research. Mashhad Branch, Institute of Industrial Biotechnology, since February 2014

2- Member of Scientific and Technical Committee- Agricultural and Natural Resources Research Center of Khorasan Razavi. Since January 2014

3- Member of Scientific and Technical Committee- Khorasan Razavi Agricultural, Natural Resources and Food Technology Incubator Center (KANFIC). Khorasan Science and Technology Park (KSTP). Since January 2017

4- Member of Publications Committee, Agricultural and Natural Resources Research Center of Khorasan Razavi. Since July 2014

5- Member of Crop Science Society of Iran.. Since March 2018

Leadership experiences

I am responsible for coordinating of barley disease resistance projects. National Cereal Breeding Program. Seed and Plant Improvement Institute.

Language skills

Fluent in English, Fluent in Persian

Teaching experience

Teaching Introductory Plant Pathology, Diseases of Vegetables and Fruit Crops, Islamic Azad University of Gonabad, Zahedan and Sabzevar

Honors and awards

Distinguished researcher of Agricultural and Natural Resources Research Center of Khorasan Razavi in 2005

Contributions to wheat and Barley variety development

I contributed as a pathologist-breeder to the development of seven high-yielding and disease resistant cultivars of bread wheat, namely Toos, Pishtaz, Zareh, Orum, Mihan, Parsi and Sivand and barley cultivars namely, Bahman, Khatam, Mehr, Armaghan, Occin, Govharan Jolge, Novrouz and Mahtab. Released by Seed and Plant Improvement Institute, Department of Cereal Research. Karaj, Iran 2002-2018.

Technical and specialized skills in genetics, molecular biology and plant pathology

1-Linkage analysis, QTL mapping, association mapping, candidate gene analysis and related softwares (like Joinmap, Map QTL, Map Chart, GGT (Graphical Genotyping))

2-Working with different molecular markers (e.g. SSR, AFLP, CAPS, dCAPS, SNP, SCAR) linked to a trait/gene of interest and conversion of DNA sequences to different PCR based molecular markers

3-Basic lab skills in molecular biology like DNA and RNA extraction, Agarose gel electrophoresis, elution of DNA fragments from gel

4- Designing a molecular breeding program, development of near isogenic lines (NILs) and marker assisted selection

5-Basic bioinformatics and internet resources in molecular biology, e.g. sequence analysis and alignment (BLAST, restriction maps; primer design, etc.) and database mining

6-Microarray gene expression analysis and related softwares like GeneSpring for analyzing expression data

7-Experience and skills in microscopy, histological analysis of plant-pathogen interactions, Applications of Phase Contrast and Fluorescent Microscopy

8-Laboratory and greenhouse skills related to multiplication and inoculation of plant- pathogenic fungi