


Curriculum Vitae



NAME & SURNAME: Mohammad Reza Siahpoosh

 **ADDRESS, SUBURB, STATE, POSTAL CODE:** Department of Production Engineering & Plant Genetics, College of Agriculture, Shahid Chamran University of Ahvaz, Iran

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PROFESSIONAL PROFILE:

1. Faculty member of Fars Agricultural and Natural Resources Research Center (**Plant Breeder**), Shiraz, Iran, Between 1999 and 2003.
2. Faculty member of Shahid Chamran University of Ahvaz, (**Associate professor in molecular physiology-plant breeding**), Ahvaz, Iran, From 2008.

EDUCATION BACKGROUND:

Postdoc in Metabolomics, Max-Planck institute of Molecular Plant Physiology, Golm, Germany (2007-2008).

Ph.D. in Biotechnology (Molecular Physiology and Plant Breeding), Potsdam University (Max-Planck-Institute of Molecular Plant Physiology), Potsdam, Germany (2003-2007).

M.S. in Plant Breeding, University of Shiraz, Collage of Agriculther, Shiraz, Iran (1996-1999).

B.S. in Agronomy and Plant Breeding, University of Shahid Chamran, Collage of Agriculture, Ahwaz, Iran (1991-1996).

Diploma in natural science, Dr. Shariatie school, Ahvaz, Iran (1985-1991).

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TEACHING AND TRAINING EXPERIENCE:

Genetics; Plant Breeding; Advanced Plant Breeding, Molecular Genetics; Quantitative Genetics, Physiological Genetics; Statistics; Advanced Statistics, Multivariate Statistics, Experimental Design in Agriculture

HONOURS AND AWARDS:

Title	Date	Confirming Reference
Top university educational teacher	2020	Vice Chancellor for Education and Postgraduate Studies, Shahid Chamran University of Ahvaz

INTERESTS AND RESEARCH FIELDS:

1. Plant central metabolism in regards to responses of plants to stresses
2. Molecular plant breeding for heat and drought stresses
3. Plant antioxidants as nutritional drugs for human
4. Mutation breeding using Gama radiation in plants

RESEARCH ACTIVITIES:

PUBLICATIONS:

Siahpoosh MR, Assad MT, Emam Y, Saiidi A, Kheradnam M. 2001. Implication of four selection indices in wheat cultivars (*Triticum aestivum* L.) for increasing the grain yield. *Iranian Journal of Agricultural Sciences*. **32**:236-252.

Siahpoosh, MR, Emam Y, Saiidi A. 2004. Genotypic variation, heritability, genotypic and phenotypic correlation coefficients of grain yield, its component and some morphological and physiological characters in Wheat cultivars (*Triticum aestivum* L.). *Iranian Journal of Agronomy Science* **38**, 122-130.

Sanchez DH, **Siahpoosh MR**, Roessner U, Udvardi MK, Kopka J. 2008. Plant metabolomics reveals conserved and divergent metabolic responses to salinity. *Physiol Planta* **132**, 209-219.

Siahpoosh Mohammad R., Ebrahim Dehghanian, Ali A. Kamgar. 2011. Drought Tolerance Evaluation of Bread Wheat Genotypes Using Water Use Efficiency, Evapotranspiration Efficiency, and Drought Susceptibility Index. *Crop Science*, 51, 1198-1204.

- Siahpoosh Mohammad R.**, Diego H. Sanchez, Armin Schlereth, Graham N. Scofield, Robert T. Furbank, Joost T. van Dongen, Joachim Kopka. 2012. Modification of *OsSUT1* gene expression modulates the salt response of rice *Oryza sativsa* cv. Taipai 309. **Plant Science**, **182**, 101-111.
- Siahpoosh Mohammad R.**, Ebrahim Dehghanian. 2012. Water use efficiency, Transpiration efficiency and uptake efficiency of wheat during drought. **Agronomy Journal**, 104, 1238-1243.
- Hamid Rasmiye, **Siahpoosh Mohammad R.**, Mamghani Reza and Siahpoosh Amir. 2013. Evaluation the genetic diversity of 10 Iranian Milk thistle (*Silybum marianum* L) ecotypes using morphological, phenological and phytochemical traits. The Plant Production, In press
- Ghamar Masoome, **Siahpoosh Mohammad R.**, Hassibi Peyman. 2013. Salinity tolerance assessment of rice sucrose transporter antisense lines (OsSUT1) at seedling stage (*Oryza sativa* Var. TaiPai). Agricultural Plant Biotechnology, In press.
- Kalantar Sadegh, **Siahpoosh Mohammad R.** 2013. Regeneration of two commercial sugarcane cultivars (CP48-103 and CP69-1062) from callus tissue derived from terminal leaves. Agricultural Plant Biotechnology, 4: 33-53. (In Persian).
- Omidi Mahyar, **Siahpoosh Mohammad R.**, Mamghani Reza, Modaressi Mohammad. 2013. The influence of terminal heat stress on the meiosis abnormalities in pollen mother cells of wheat. Cytologia 79 (1): 49-58.
- Siahpoosh MR.** 2014. Sugar Partitioning and Sink-Source Modification in Plants. J Rice Res 3: 1. DOI: 10.4172/2375-4338.1000e106
- Hashemi S., Alemzadeh A., **Siahpoosh M.R.** 2014. A new isoform of plasma membrane H⁺-ATPase from *Aeluropus littoralis* with a high homology to A1ah1. Advance in Plant Science Research, 1(1):1-6.
- Siahpoosh MR**, Ghamer M .2019. Morpho-Physiological Responses and Nutrient Profile of Rice Cultivars to Salinity. J Rice Res 7: 210. doi:10.4172/2375-4338.1000210
- Siahpoosh MR.** 2020. Sucrose Transporters Regulate Sugar Partitioning in Plants. J Agric Forest Meteorol Res, 3(1): 280-283.
- Mirzavan, S., Sorkheh, K., **Siahpoosh, M.R.** 2017. Genetic diversity and population structure analysis of Pistacia species revealed by phenylalanine ammonia-lyase gene markers and implications for conservation. Journal of Forestry Research. 29(4):991-1001. DOI:10.1007/s11676-017-0508-2.

- Ghahramani Pirsalami, F., Rahnama A., **Siahpoosh, M.R.**, Bromand Nasab. 2017. Effect of irrigation management with saline water on some agronomic and physiological traits of maize hybrid 704. Iranian Journal of Field Crop Research. 49(1):143-154. (In Persian).
- Barajehfard, M., **Siahpoosh, M.R.**, Modarresi, M. 2016. QTLs Associated with Stemlet and Rootlet Growth in the Early Stages of Germination of Wheat. Plant Genetic Researches, 3(2):59-68.
- Oraki. A., **Siahpoosh M.R.**, Rahnama, A., Lakzadeh, I. 2015. The effects of terminal heat stress on yield, yield components and some morpho-phenological traits of barley genotypes (*Hordeum vulgare* L.) in Ahvaz weather conditions. Iranian Journal of Field Crop Science, 47(1):29-40.
- Ghahramani Pirsalami, F., Rahnama A., **Siahpoosh, M.R.**, Bromand Nasab. 2016. Effect of sprinkler irrigation with saline water on some morph-physiological traits and grain yield of maize (*Zea mays* L.). Iranian Journal of Crop Sciences. 18(2): 135-146. (In Persian).
- Rezaii Rad, H., Hooshmand, A.R., Naseri, A.A., **Siahpoosh, M.R.** 2014. Effects of Drought Stress on Physiological Characteristics and Yield of Maize in The Presence of a Shallow Water Table in Ahvaz Climatic Condition. Journal of Irrigation Sciences and Engineering. 39(1):55-66. (In Persian).
- Minaei, S., Brooman nasab, S., Zan Parsa, S., **Siahpoosh, M.R.** 2014. Evaluation of Distribution Uniformity and Water Saline Gradient for a Double Line- Source Sprinkler Irrigation System in Ahvaz Climate Condition. Journal of Irrigation Sciences and Engineering. 39(1):21-32. (In Persian).
- Ghamar M., **Siahpoosh M. R.** 2019. Morpho-Physiological Responses and Nutrient Profile of Rice Cultivars to Salinity. Rice Research, 7:1-6.
- Siahpoosh M. R.** 2019. Sucrose Transporters Regulate Sugar Partitioning in Plants. [Journal of Agriculture and Forest Meteorology Research](#), 1:280-283
- Oraki. A., **Siahpoosh M.R.**, Rahnama, A. 2020. The effects of terminal heat stress on pollen and ability of seed setting in barley genotypes (*Hordeum vulgare* L.). Iranian Journal of Field Crop Science, 50:111-125.
- Siahpoosh M.R.**, Nasrolahi, S., Sekhavat, R. 2020. Effects of Gamma Radiation on Mitosis and Meiosis Anomalies and Agronomic Features in M2 Plants of *Vicia faba* cv. Saraziri. Cytologia, 85:135-140.
- Siahpoosh, M. R.**, Tahmasebi, B., Nabati Ahmadi, D., & Rahimi, M. (2021). The dose response and mutation induction by Gamma ray in *Vicia faba* cv. Saraziri. Plant Productions, 43(4), 517-526.

Mousavi, S.F., **Siahpoosh, M.R.**, Sorkheh, K. 2021. Influence of sowing date and terminal heat stress on phenological features and yield components of bread wheat genotypes. *Plant Productions*, 44(2), 157-170.

CONFERENCE PRESENTATIONS (a sample):

Siahpoosh MR. 2000a. A study of genotypic and phenotypic correlation and path analysis of grain yield, its component and some morphological and physiological traits in bread Wheat (*Triticum aestivum* L.). In: The 6th Iranian Congress of Production and Plant Breeding.3-6 Sep. Babolsar, Iran.

Siahpoosh MR. 2000b. Application of selection indices for increasing grain yield in bread Wheat (*Triticum aestivum* L.). In: The 6th Iranian Congress of Production and Plant Breeding.3-6 Sep. Babolsar, Iran.

Siahpoosh MR, Dehghanian A, Kamgar A. 2002. Production of drought tolerant varieties, A safe solution to problems of drought in agriculture. In: First National Conference on "Water Crisis Mitigation Strategies". 9-10 Mar. Zabol, Iran.

Siahpoosh MR. 2002a. Evaluation of Bread Wheat lines and cultivars in International Experiments in Fars province. In: The 6th Iranian Congress of Production and Plant Breeding.3-6 Sep. Karaj, Iran.

Siahpoosh MR. 2002b. Evaluation of Barley lines and cultivars in International Experiments in Fars province. In: The 6th Iranian Congress of Production and Plant Breeding.3-6 Sep. Karaj, Iran.

Siahpoosh MR, Erban A, Koehl K, Zuther E, Kopka J. 2006. GC-TOF-MS Metabolic Phenotyping of Salt Tolerant Rice Cultivars: Does Metabolite Profiling allow a Functional Analysis of Metabolic Modes of Adaptation? 8th International Congress of Plant Molecular Biology, Adelaide, Australia.

Siahpoosh MR, Erban A, Walther D, Kopka J. 2006. Using efficient statistical approach in GC-MS studies: Enhanced the metabolite fingerprinting in complex biological profiles. 4th International Rice Functional Genomics Symposium Montpellier, France.

Siahpoosh MR, Kopka J. 2006. A statistical workflow based on ANOVA for enhancing metabolite fingerprinting in complex biological profiles.Havel-Spree-Kolloquium, Max-Planck-Institute of Molecular Plant Physiology, Golm, Germany

Siahpoosh MR, Sanchez D, Van Dongen J, Kopka J. 2008. Metabolite profiling indicates a role of carbohydrate partitioning in the response of rice to salinity. *Metabolomics Society's 4th Annual International Conference*, 2-6 Sep, Boston, USA.

Siahpoosh MR, Sanchez D, Kopka J. 2008. Identifying biomarker metabolites in complex biological systems: A statistical approach. Metabolomics Society's 4th Annual International Conference, 2-6 Sep, Boston, USA.

Hamid Rasmiye, **Siahpoosh Mohammad R.**, Mamghani Reza and Siahpoosh Amir. 2010. Evaluating genetic diversity among Iranian Milk thistle ecotypes based on morphological and agronomical traits. National Drug Plants congress, 2-3 March, Sari, Iran.

Hamid Rasmiye, **Siahpoosh Mohammad R.**, Mamghani Reza and Siahpoosh Amir. 2010. Assessing the diversity of phenol, flavonoid and antioxidant capacity among ten Milk thistle (*Silybum marianum* L.) ecotypes. National Drug Plants congress, 2-3 March, Sari, Iran.

Omidi Mahyar, **Siahpoosh Mohammad R.**, Mamghani Reza, Modaressi Mohammad and Mortazavi Mohammad Hassan. 2011. Optimizing the in vitro pollen germination and pollen tube growth in wheat (*Triticum aestivum*). 7th International Biotechnology Congress, 12-14 Sep, Tehran, Iran.

Masoom Ghamar, **Siahpoosh Mohammad R.** 2011. Weed resistant transgenic plants, a jump to future biosafety. 2nd National Safety Science Conference of Iran, 11-12 May, Ahvaz, Iran.

Kalantar Sadegh, **Siahpoosh Mohammad R.** 2011. Weed resistant transgenic plants, a jump to future biosafety. 2nd National Safety Science Conference of Iran, 11-12 May, Ahvaz, Iran.

Abbasian Somayeh, **Siahpoosh Mohammad R.**, Siahpoosh Amir. 2011. Towards a better Biosafety, Cereals, the cheap but rich drugs for preventing the oxidative disease, 2nd National Safety Science Conference of Iran, 11-12 May, Ahvaz, Iran.

Hashemi Sara, **Siahpoosh Mohammad R.** Alemzadeh Abass. 2011. Survey of cultivation Bt cotton in India. 3rd National Congress of Biosafety and Genetic Engineering, 13-15 June, Tehran, Iran.

Ghamar Masoom, **Siahpoosh Mohammad R.**, Hassibi Peyman .2012. Reduction effect of gene expression SUT1 the characteristics Morpho- Physiological antisense lines of rice. The 12th Iranian Genetics Congress, Tehran, Iran.

Shahraki Zahra, Daneshvar Mohammad H., **Siahpoosh Mohammad R.**, Al;amisaeid Khalil. 2012. Transformation of *Saccharomyces cerevisiae* yeast driven Apoplatic Invertase gene to Rice (*Oryza sativa* L. var Nipponbare) in order to change the allocation of sucrose. The 12th Iranian Genetics Congress, Tehran, Iran.

Omidi Mahyar, **Siahpoosh Mohammad R.**, Mamghani Reza, Modaressi Mohammad. 2011. Physiological study of wheat cultivars under natural heat stress. The first national conference on abiotic stresses, Esfahan, Iran.

Omidi Mahyar, **Siahpoosh Mohammad R.**, Mamghani Reza, Modaressi Mohammad. 2011.

Application of easy-calculable indices for evaluating the heat tolerance of five wheat cultivars.
The first national conference on abiotic stresses, Esfahan, Iran.

Shahraki Zahra, Daneshvar Mohammad H., **Siahpoosh Mohammad R.**, Al;amisaeid Khalil.
2013. Heritability of hygromycin phosphotransferase as the reporter gene in T1 transgenic rice
by yeast (*Saccharomyces cerevisiae*) driven apoplastic invertase gene. 8th International
Biotechnology Congress, 15-17 Sep, Tehran, Iran.

RESEARCH PROJECTS:

Previous research projects:

Evaluating yield component and determining selection indices in Wheat cultivars.

Evaluation of water use efficiency and its component as selection criteria in development of
tolerant Wheat cultivars.

Application of water use efficiency for evaluating drought tolerance in Barley.

Evaluation of Bread Wheat lines and cultivars in International Experiments (IBWSN, ESWYT,
HRWYT, HTWYT).

Evaluation of Barley lines and cultivars in International Experiments (IBYT, IBON, IRRI).

I collaborated in "Project of producing Advance and Promising Lines in Bread Wheat".

Evaluation of quantitative and qualitative traits of Barley lines and cultivars in yield trials.

Study on genetic resource for drought tolerance among Wheat lines in Fars province.

Current research projects:

Metabolite profiling and fingerprinting of rice plants (*Oryza sativa*) under salt stress.

Developing statistical workflows and tools for analysis the data in highly complex biological
systems.

Molecular modification of sugar allocation in rice plants and effects on salinity tolerance of
lines

Characterization and isolation of third isoform encoding plasma membrane H⁺-ATPase from
Aeluropus littoralis

Conferring resistance to *Sesamia* spp. in sugarcane using genetic transformation of Bt gene

Evaluating the effect of over expression of yeast driven apoplastic invertase in rice plant

Effect of temperature on physiological and cytogenetical characters of pollen in bread wheat
genotypes

Effect of temperature on physiological and cytogenetical characters of pollen in barley
genotypes

QTL analysis for pollen germination and pollen tube length under normal and heat stress in

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wheat

The dose response and mutation induction by gama ray for breeding in faba bean

Sesame genetical breeding in order to producing commercial indehiscent cultivars

Preparation of pollen grain morphological Atlas of Ahvaz plant flora

Producing double haploid lines in rape seed

PROFESSIONAL MEMBERSHIPS:

Title	Start date	End date	Forum location
Member of Khuzestan Environment and Sustainable Development Working Group (Provincial Council of Experts)	2017	continuing	Provincial Management and Planning Organization, Iran
Genetic Association	2010	continuing	Iran
Agronomy and Plant Breeding Association	2010	continuing	Iran
Biosafety Association	2019	continuing	Iran
Fellow of the CYMMIT International Research Center (in Mexico) on drought tolerance experiments in wheat	1990	2003	Mexico
Collaboration with Max Planck Institute Of Molecular Plant Physiology on increasing salinity tolerance in rice	2006	2009	Germany
Cooperation with Shahid Rajaei Agro-industry Company	2017	continuing	Iran

LANGUAGES:

PERSIAN: Native

ENGLISH: Advanced

GERMAN: Intermediate