

## Curriculum vitae

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### Address

#### **Saeid Mirzaei**

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### Qualifications

**Ph.D.:** Plant Molecular Genetics, University of Queensland November 2013.

PhD thesis title:

“**Functional characterization of the LRR receptor kinase *GmCLVIA* of soybean**”

**M.Sc.:** Agricultural biotechnology, Isfahan University of Technology , Isfahan, Iran, Feb 2003.

**B.Sc.:** Agricultural Engineering – Horticulture, Valiasr University, Rafsanjan, Iran, Sep 1999.

### Research Interests

Legume nodulation and nitrogen fixation; Soybean, *Trigonella foenum-graecum*  
Plant physiology, signaling and development  
Plant functional genomics, Transcriptomics, RNAseq; Genetics  
Symbiosis  
Genetic diversity, Molecular markers

### Current Projects

Transcriptome evaluation of bread wheat plastome under salinity stress using RNAseq

Biochemical and genetic diversity of Fenugreek populations using biochemical, morphological and SRAP markers

Investigation of nitrate and phosphate treatment effects on root growth and CLE gene in Soybean (*Glycine max*)

Study of elicitors effect on diosgenin production by fenugreek in vitro culture  
(*Trigonella foenum-graecum* L.)

### Workshops attended

- 1- **The International Bioinformatics** workshop. Biochemistry and Biophysics Institute, Tehran, Iran, 2004.
- 2- **FISH (Fluorescent in situ hybridization) Practical** workshop. Islamic Azad University, Mashhad, Iran, 2004.
- 3- 3<sup>rd</sup> International Workshop on “**Application of Advanced Molecular Methods for Diagnosis of Human Genetic Diseases**”. National Research Center for Genetic Engineering and Biotechnology, Tehran, Iran, 2005.
- 4- “**Research Methods in Basic Science and engineering**”. Shahid Bahonar University. Kerman, Iran, 2003.
- 5- **The use of Molecular Markers in Agriculture. (As the teaching assistant)**. Isfahan University of Technology. Isfahan Iran, 2002.
- 6- **An Introduction to Biotechnology** (DNA Extraction, PCR and Electrophoresis Application). (**As the teaching assistant**). International Center for Science, High Technology & Environmental Sciences, Kerman, Iran, 2005.
- 7- Workshop on “**Research Method in Biological Sciences**”. International Center for Science, High Technology & Environmental Sciences, Kerman, Iran, 2005.
- 8- Workshop on “**Application of Biochemical markers (Isoenzymes) in Plant Biotechnology**”, International Centre for Science, High Technology & Environmental Sciences, Kerman, Iran, 2006.
- 9- **PCR Primer Design** Workshop, International Centre for Science, High Technology & Environmental Sciences, Kerman, Iran, 2007.
- 10- Workshop on “**Real Time PCR**”. Kerman University of Medical Sciences, Kerman, 2008.
- 11- Workshop on “**Bone Marrow Mesenchymal stem cell isolation & culture**”. Kerman University of Medical Sciences, Kerman, 2008.
- 12- **Research commercialization workshop**, UniQuest, The University of Queensland, 2010.
- 13- **Basics of Transcriptome Assembly Non-model de novo transcriptomics**, University of Queensland, July 5-6, 2012.

### Referees

**Prof. Peter Gresshoff**, Centre for Integrative Legume Research, School of Agriculture and Food Sciences, The University of Queensland, St Lucia, Brisbane QLD 4072; email: [p.gresshoff@uq.edu.au](mailto:p.gresshoff@uq.edu.au)

**Prof. Jacqueline Batley**, Department of Plant Biology, University of Western Australia, Crawley WA 6009, Australia; email: [jacqueline.batley@uwa.edu.au](mailto:jacqueline.batley@uwa.edu.au)

**Prof. Bahram sharifnabi**, Department of Agricultural Biotechnology,  
College of Agriculture, Isfahan University of Technology, Isfahan, Iran;  
email: [sharifna@cc.iut.ac.ir](mailto:sharifna@cc.iut.ac.ir)

## **Publications**

- 1- **Mirzaei, S.**, Mansouri, M., Mohammadi-Nejad, G., and Sablok, G. (2017) Comparative organelle transcriptomics highlights conserved and unique patterns of chloroplast dynamics across Triticeae members under salt stress. *Photosynthesis Research* (Submitted).
- 2- **Mirzaei, S.**, Sadeghi, B. (2017) First report of *Alternaria* leaf spot caused by *Alternaria chlamydosporigena* on tomato in Iran. *Plant Disease* (Submitted).
- 3- **Mirzaei S.**, Batley, J., Meksem, K., Ferguson, B.J. and Gresshoff, P.M. (2017) Neodiversification of homeologous *CLAVATA1*-like receptor kinase genes in soybean leads to distinct developmental outcomes. *Scientific reports* 7: 8878; DOI: 10.1038/s41598-017-08252-y.
- 4- **Mirzaei, S.**, Rahimi, M., Tajabadipour, A., Bahar, M. and Sharifnabi, B. (2017) Regression association analysis of yield related traits with molecular markers in pistachio. *Journal of horticulture science*, 31(1):80-98. DOI: [10.22067/jhorts4.v0i0.43835](https://doi.org/10.22067/jhorts4.v0i0.43835).
- 5- **Mirzaei, S.** (2017) Transcriptome profiling of shoot and root tip of soybean. *Journal of Plant Researches* (Accepted).
- 6- Bagherzadeh, E., Kavosi, H.R., Khezri, M. and **Mirzaei, S.** (2016) Study of protein expression pattern and some morphological and biochemical characteristics of Badami-Sefid and Badami-Zarand pistachio rootstocks under salt stress. *Journal of Agricultural Biotechnology*, Period 8, No. 3, Autumn 95. (In Persian)
- 7- Tadayon, R., **Mirzaei, S.**, Rahimi, M. and Salari, H. (2016). Evaluation the effect of silver nanoparticles on shelf life of *Citrus Sinensis*. *Journal of Plant Researches*, 29(2):1-10.
- 8- Gresshoff, P.M., Hayashi, S. Biswas, B., **Mirzaei, S.**, Indrasumunar, A., Reid, D., Samuel, S. Tollenaere, A., Hameren, V., Hastwell, A., Scott, P., and Ferguson, B., (2015) The value of biodiversity in legume symbiotic nitrogen

- fixation and nodulation for biofuel and food production. *Journal of Plant Physiology*, 172: 128-136.
- 9- **Mirzaei, S.**, Shahsavand Hasani, H, Rameshi, N., Ghasemkhani, M., Ahmadi-Afzadi, M., (2014) Cytogenetic study and optimization of GISH method in *Pistacia* spp. *Journal of Agricultural Biotechnology*. Period 6, No. 3, Autumn 93. (In Persian)
  - 10- **Mirzaei, S.**, Batley, J., Ferguson, B.J., Gresshoff, P.M. (2014) Transcriptome Profiling of the Shoot and Root Tips of *S562L*, a Soybean *GmCLAVATA1A* Mutant. *Atlas Journal of Biology* 3 (1): 183–205.
  - 11- Dehghan Noudeh, G., Khazaeli, P., **Mirzaei, S.**, Sharififar, F. and Nasrollahosaiani, S. (2009) Determination of the Toxicity Effect of Sorbitan Esters Surfactants Group on Biological Membrane. *Journal of Biological Sciences* 9 (5): 423-430.
  - 12- Mozafari, H., Kalantari, K. M., OLIA'IE, M. S., Torkzadeh, M., Salari, H. and **Mirzaei, S.** (2008) Role of Calcium in Increasing Tolerance of *Descurainia sophia* to Salt Stress. *Journal of Agriculture & Social Sciences* 4(2): 53-58.
  - 13- Javanshah, A., Tajabadipour, A. and **Mirzaei, S.** (2007) Identification and introducing a new phenotype (Siah Barg) *pistacia vera* L. with shiny blackish green leaves. *International Journal of Agriculture and Biology*, 9 (2): 307-310.
  - 14- **Mirzaei, S.**, Bahar, M. and Sharifnabi, B. (2006) A phylogenetic study of Iranian pistachio (*Pistacia vera*) based on RAPD markers. *Acta Horticulturae*, 726: 39-43.

### Conference Proceedings

- 1- Negin Azizkhani, **Saeid Mirzaei**, Masoud Torkzadeh (2016) Bioinformatic analysis on the Ribonuclease T2 genes of four legumes species. 2<sup>nd</sup> International & 14<sup>th</sup> Iranian Genetics congress, Tehran, Iran.
- 2- Nategheyani, **Saeid Mirzaei**, Elham Rezvannejad and Mohammadreza Lashkari (2016) Anti-fungal evaluation of some plant extracts on *Paecilomyces* spp. the causal agent of Pistachio dieback. 2<sup>nd</sup> International & 14<sup>th</sup> National Iranian Crop Science Congress, Gilan, Iran.
- 3- Mehrnaz Mashayekhi, **Saeid Mirzaei**, Mahmood Maleki and Hossein Mozafari (2016) Biochemical and physiological effects of nitrogen treatment in soybean cultivar, Bragg, and mutan super nodule (NTS). 2<sup>nd</sup> International & 14<sup>th</sup> National Iranian Crop Science Congress, Gilan, Iran.

- 4- Iraj Tavassolian, **Saeid Mirzaei** (2016) Application of CRISPR-Cas9 genome editing tool in plant breeding. 1<sup>st</sup> Congress on Chemical Biotechnology, Tehran, Iran.
- 5- Nateghyan, **Saeid Mirzaei**, Elham Rezvannejad and Mohammadreza Lashkari (2016) The antifungal effect of thyme and chamomile extracts on fungus *Phytophthora* (*Phytophthora spp*). 19<sup>th</sup> National and 7<sup>th</sup> International Congress of Biology, Tabriz, Iran.
- 6- Mehrnaz mashayekhi, **Saeid Mirzaei**, Mahmood Maleki and Hossein Mozaferi (2016) Effects of nitrogen treatments on growth and nitrogen fixation in both wild and mutant soybean varieties. 19<sup>th</sup> National and 7<sup>th</sup> International Congress of Biology, Tabriz, Iran.
- 7- Amene Estakhri, **Saeid Mirzaei** (2015) Physiological and molecular mechanisms of tolerance to salinity and drought stresses. 2<sup>nd</sup> National symposium on Iranian Date, Bam, Iran.
- 8- Iraj Tavassolian, **Saeid Mirzaei** (2015) Production improvement of agricultural products under irrigation with saline water. 13<sup>th</sup> National Congress Irrigation & Evaporation Reduction, Kerman, Iran
- 9- **Saeid Mirzaei**, Peter M Gresshoff (2014) Transcriptome study of the root tip of soybean *GmCLAVATA1A* mutant. First international & 13<sup>th</sup> Iranian crop science congress, 3<sup>rd</sup> seed science and technology conference, Tehran, Iran.
- 10- **Saeid Mirzaei**, Mehdi Rahimi, Ali Tajabadipur (2014) Identification of molecular markers associated with phenological traits of *pistachio*. 1<sup>st</sup> Iran's Pistachio Conference, Keram, Iran .
- 11- Mehdi Rahimi, **Saeid Mirzaei**, Ali Tajabadipur (2014) Relationship between the split pistachio weight and other agronomic traits in pistachio genotypes. 1<sup>st</sup> Iran's Pistachio Conference, Keram, Iran.
- 12- Mehdi Rahimi, **Saeid Mirzaei**, Ali Tajabadipur (2014) Grouping and identification of better genotypes of pistachio using factor analysis . 1<sup>st</sup> Iran's Pistachio Conference, Keram, Iran.
- 13- Shima Alahtavakoly, **Saeid Mirzaei**, Reza Tedayon (2014) The effect of plant essential oils on quantitative and qualitative characteristics of *Citrus limon cv*. Lisbon. The 2<sup>nd</sup> national conference on sustainable agriculture and natural resources. Tehran, Iran.
- 14- **Saeid Mirzeai**, Brett J. Ferguson, Jacqueline Batley and Peter M. Gresshoff (2012) Functional Characterisation of the LRR Receptor Kinase *GmCLV1A* Gene of Soybean. ComBio, Adelaide, South Australia.
- 15- **Saeid Mirzeai**, Brett J. Ferguson, Khalid Meksem, Jacqueline Batley and Peter M. Gresshoff (2012) Neodiversification in the paleotetraploid soybean genome: GmCLAVATA 1A, a GmNARK paralogue involved in the control of stem nodal

identity but not root nodulation. Plant & Animal Genomes XX San Diego, CA, USA.

- 16- Peter M. Gresshoff, Dugald Reid, Yu-Hsiang Lin, Satomi Hayashi, Dongxue Li, Rob Capon, Julia Kehr, **Saeid Mirzaei**, Jacqui Batley, and Brett Ferguson (2012) Molecular physiology of the genetic regulation of nodulation and symbiotic nitrogen fixation in legumes. The third International Symposium on Genomics and Crop Genetic Improvement, Wuhan, China.
- 17- Peter M. Gresshoff, Dugald E. Reid, Yu-Hsiang Lin, Satomi Hayashi, **Saeid Mirzaei**, Dongxu Li, Alina Tollenaere, Meng-Han Lin, Jacqueline Batley, Khalid Meksem and Brett J. Ferguson (2012) Genetic Components of Developmental Signalling for Nodulation and Nodal Identity Control in Soybean. Plant & Animal Genomes XX San Diego, CA, USA.
- 18- Peter M. Gresshoff, Dugald E. Reid, Satomi Hayashi, **Saeid Mirzaei** and Brett J. Ferguson (2012) Duplication Allows Divergent Evolutionary Fates of Gene Function in Legumes. Plant & Animal Genomes XX San Diego, CA, USA.
- 19- **Saeid Mirzaei**, Jacqueline Batley, Brett J. Ferguson and Peter M. Gresshoff (2012) Characterisation of a *GmCLVIA* mutant in soybean under short photoperiod and cold conditions. 3rd Iranian PhD Students' Conference in Australia and New Zealand, Brisbane, Australia.
- 20- **Saeid Mirzaei**, Jacqueline Batley, Brett J. Ferguson, and Peter M. Gresshoff (2011) Paralogous functions of two *CLAVATAI*-like nodulation genes in soybean. Plant Biology 2011, Minneapolis, Minnesota, USA.
- 21- Brett J. Ferguson, Satomi Hayashi, Dugald E. Reid, Yu-Hsiang Lin, Meng-Han Lin, **Saeid Mirzaei**, Alina Tollenaere, Dong-Xue Li. and Peter M. Gresshoff (2011) Novel factors required for legume nodule development and autoregulation. ComBio, Cairns, Queensland, Australia.
- 22- **Saeid Mirzaei**, Jacqueline Batley, Brett J. Ferguson and Peter M. Gresshoff (2011) New insights on *GmCLAVATA1a*, a paralogue of *GmNARK*, in soybean (*Glycine max* L.). 2<sup>nd</sup> Iranian PhD Students' Conference in Australia and New Zealand, Melbourne, Australia.
- 23- **Saeid Mirzaei**, Jacqueline Batley and Peter M. Gresshoff (2010) The Apparent Function of an Apparent Stem-Cell-Control Gene *GmCLVIA* in Soybean. 1<sup>st</sup> Iranian PhD Students' Conference in Australia and New Zealand, Sydney, Australia.
- 24- Peter M. Gresshoff, Brett J. Ferguson, Dugald E. Reid, Yu-Hsiang Lin, Meng-Han Lin, Satomi Hayashi, Khalid Meksem, **Saeid Mirzaei**, Dong-Xue Li, Shiming, Liu, Ning Chen, Jacqueline Batley, and Arief Indrasumunar (2010) Gene discovery, functional genomics and gene transfer for increased nodulation and nitrogen fixation. Plant & Animal Genomes XVIII San Diego, CA, USA.

- 25- **Saeid Mirzaei**, Najme Rameshi, Hossein Shahsevand-Hasani (2008) Study of chromosome numbers of Pistachio species located in Iran. The 2th National Congress of Cellular and Molecular Biology. Kerman, Iran.
- 26- Masoud Ahmadi-afzadi, **Saeid Mirzaei**, Badraddin Ebrahim Sayed Tabatabaei, Masoud Bahar, Seyed Abolghasem Mohammadi and Ali Tajabadi (2007) Analysis of genetic diversity among some species of pistachio (*Pistacia* sp L.) based on AFLP and RAPD markers. The 5<sup>th</sup> national biotechnology congress of Iran, Tehran, Iran.
- 27- **Saeid Mirzaei**, Masoud Bahar, Bahram Sharifnabi and Ali Tajabadi (2005) Analysis of genetic diversity of Iranian pistachio (*P. vera* ) based on RAPD and morphological markers. XVII International botanical congress, Vienna, Austria.
- 28- **Saeid Mirzaei**, Masoud Bahar and Bahram sharifnabi (2005) A phylogenetic study of Iranian wild pistachio species and some cultivars using RAPD markers. IV International Symposium on Pistachio& Almonds, Tehran- Iran.
- 29- **Saeid Mirzaei**, Masoud Bahar and Bahram sharifnabi (2004) Genetic diversity of Iranian Pistachio cultivars based on RAPD markers. The 3rd National Biotechnology Congress, Mashhad, Iran.