



**In the name of God**

## **Curriculum Vitae**

**Ghotbe Ravandi Blvd  
Department of Biotechnology  
University of Kashan, Kashan, Iran  
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### **Seyed Ali Hosseini Tafreshi**

Associated Professor

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## **EDUCATION**

### ■ University of Isfahan

#### **Ph.D. in Plant Physiology, 2011**

Dissertation: "Study of Virus Induced Gene Silencing (VIGS) in *Nicotiana benthamiana* in order to silencing of *pds* gene in *Taxus baccata* L. and its effects on Taxol production and some physiological parameters"

#### **M.SC., Plant Physiology, 2004**

Dissertation: "The study of  $\beta$ -carotene production by different strains of *Dunaliella salin* in open ponds"

### ■ University of Tehran

#### **B.SC. in Plant Science, 2001**

## **TEACHING EXPERIENCE**

### ■ For undergraduate student

- 1- Plant Physiology
- 2- Plant Physiology Lab
- 3- Botany
- 4- Botany Lab
- 5- Plant Biotechnology
- 6- Molecular biology Lab
- 7- English for Biology Student
- 8- Plant tissue culture
- 9- Plant tissue culture Lab

**10- Environmental Biotechnology**

**11- Phycology**

■ For undergraduate student

**1- Biotechnology**

**2- Bioinformatics**

## **RESEARCH INTERESTS**

- Stress physiology in plants and microalgae
- Molecular Biology of plants and algae
- Bioinformatics
- Isolation and identification of microalgae
- microalgal biotechnology
- Plant tissue culture
- Mass culture of microalgae

## **EXPERIENCE**

■ Methods

- 1- Gene silencing using VIGS (Virus induced gene silencing)
- 2- Plant Physiology techniques
- 3- PCR, Race-PCR, Real time PCR
- 4- Gene cloning
- 1- Extraction of Plant and algal secondary metabolites
- 2- TLC
- 3- HPLC
- 4- FTIR
- 5- Techniques in Nano-sciences
- 6- Techniques of microbial and microalgal culture
- 6- Plant tissue culture of ornamental and non-ornamental plants

## **PUBLICATIONS**

- Hassanpour, M., **Tafreshi, S.A.H.**, Amiri, O., Hamadani, M. and Salavati-Niasari, M. 2021. Toxicity of Nd<sub>2</sub>WO<sub>6</sub> nanoparticles to the microalga *Dunaliella salina*: synthesis of nanoparticles and investigation of their impact on microalgae. RSC Adv., 2021,11, 27283-27291.

- **Hosseini Tafreshi, S.A.**, Aghaie, P., Ebrahimi, M.A., and Haerinasab, M. 2021. Regulation of drought-related responses in tomato plants by two classes of calcineurin B-like (SICBL1/2) proteins. *Plant Physiology and Biochemistry* 162, 431-446.
  
- Ajtahed, S.S., Rezaei, A., and **Hosseini Tafreshi, S.A.** 2021. Identifying superior drought-tolerant Bermudagrass accessions and their defensive responses to mild and severe drought conditions. *Euphytica* 217, 91. <https://doi.org/10.1007/s10681-021-02821-z>
  
- **Tafreshi, S.A.H.**, Aghaie, P., Momayez, H.R., and Hejaziyan, S.A. 2021. Response of *in vitro*-regenerated *Myrtus communis* L. shoots to PEG-induced water stress. *Biocatalysis and Agricultural Biotechnology* 34(1), 102033. <https://doi.org/10.1016/j.bcab.2021.102033>.
  
- Aghaie, P., **Hosseini Tafreshi, S.A.**, and Toghyani, M.A. 2021. Regenerate shoot responses of aromatic *Myrtus communis* L. to salinity under in vitro condition.. *The Journal of Plant Research*. Available Online from 25 January 2021
  
- Jafari, S. M., Masoum, S., and **Tafreshi, S.A.H.** 2021. A microalgal-based carbonaceous sensor for enzymatic determination of glucose in blood serum, *Journal of Industrial and Engineering Chemistry*, 101, 195-204. <https://doi.org/10.1016/j.jiec.2021.06.012>.
  
- Hassanpour, M., **Tafreshi, S.A.H.**, Salavati-Niasari, M. et al. 2021. Toxicity evaluation and preparation of CoWO<sub>4</sub> nanoparticles towards microalga *Dunaliella salina*. *Environ Sci Pollut Res* 28, 36314-36325. <https://doi.org/10.1007/s11356-021-12946-2>
  
- Aghaie, P., **Tafreshi, S.A.H.** 2020. Central role of 70-kDa heat shock protein in adaptation of plants to drought stress. *Cell Stress and Chaperones*. <https://doi.org/10.1007/s12192-020-01144-7>.
  
- Seifi, H., Masoum, S., and **Hosseini Tafreshi, S.A.**, Seifi, S., and Jafari, S.M. 2020. Highly porous carbon from microalga, *Chlorella vulgaris*, as an electrochemical hydrogen storage material. *J Electrochem Soc.* 167,120525.
  
- Tafvizi, F., **Hosseini Tafreshi, S.**, Toluei, Z., and Toghyani, M. 2020. Stress responses of the green microalga, *Dunaliella salina* to PEG-induced drought. *Journal of the Marine Biological Association of the United Kingdom*, 100(7), 1043-1052. doi:10.1017/S0025315420000971
  
- Hassanpour, M., **Tafreshi, S.A.H.**, Amiri, O., Hamadani, M. and Salavati-Niasari, M. 2020. Toxic effects of Fe<sub>2</sub>WO<sub>6</sub> nanoparticles towards microalga *Dunaliella salina*: sonochemical synthesis nanoparticles and investigate its impact on the growth. *Chemosphere* 258, 127348.
  
- Toghyani, M.A., Karimi, F., **Hosseini Tafreshi, S.A.** et al. 2020. Two distinct time dependent strategic mechanisms used by *Chlorella vulgaris* in response to gamma radiation. *J Appl Phycol* 32, 1677–1695. <https://doi.org/10.1007/s10811-020-02106-3>
  
- **Hosseini Tafreshi, S.A.**, Aghaie, P., Toghyani, M.A. and Ramezani moghadam, A. 2020. Improvement of ionizing gamma irradiation tolerance of *Chlorella vulgaris* by pretreatment with polyethylene glycol. *International Journal of Radiation Biology* 96(7).

- Husseini, Z.N., **Tafreshi, S.A.H.**, Aghaie, P. and Toghyani, M.A.2020. *CaCl<sub>2</sub> pretreatment improves gamma toxicity tolerance in microalga Chlorella vulgaris*. Ecotoxicology and Environmental Safety 192, 110261
- **Hosseini Tafreshi, S.A.**, Aghaie, P., Ramezani moghadam, A. and Toghyani, M.A. (Accepted) The effect of Melatonin pretreatment on growth responses and enhancement of the enzymatic antioxidant system in *Chlorella vulgaris* under stress of ionizing radiation. Iranian Journal of Radiation Safety and Measurement.
- **Hosseini Tafreshi, S.A.**, Aghaie, P., Ramezani moghadam, A. and Toghyani, M.A. 2019.The effect of Melatonin pretreatment on some physiological parameters in *Chlorella vulgaris* under stress of ionizing radiation. Iranian Journal of Radiation Safety and Measurement 7 (4), 19-26.
- Neamati F, Khorshidi A, Moniri R, **Hosseini Tafreshi SA**. 2020. Molecular Epidemiology of Antimicrobial Resistance of Uropathogenic *Escherichia coli* Isolates from Patients with Urinary Tract Infections in a Tertiary Teaching Hospital in Iran. Microb Drug Resist. 26(1):60-70. doi:10.1089/mdr.2019.0184
- Toluei, Z., Arefi Tork Abadi, M. and **Hosseini Tafreshi, S. A.** 2019. Evaluation of morphological variation of different populations of *Rosa damascena* Mill. from Kashan and its correlation with essential oil content. Plant Res. 33.
- Hassanpour, M., **Tafreshi, S.A.H.**, Amiri, O., Hamadani, M. and Salavati-Niasari, M. 2020. Toxic effects of Fe<sub>2</sub>WO<sub>6</sub> nanoparticles towards microalga *Dunaliella salina*: sonochemical synthesis nanoparticles and investigate its impact on the growth. Chemosphere 258, 127348.
- Andoorfar, S., **Hosseini Tafreshi, S.A.** and Rezvani, Z. 2019. Assessment of the expression level of miRNA molecules using a semi-quantitative RT-PCR approach. Mol Biol Rep 46, 5057–5062. <https://doi.org/10.1007/s11033-019-04959-5>
- Toluei, Z., **Hosseini Tafreshi, S. A.** and Arefi Torkabadi, M. 2019. Comparative Chemical Composition Analysis of Essential Oils in Different Populations of Damask Rose from Iran. J. Agr. Sci. Tech. 21(2): 423-437.
- VosoughiTabar, H., **Hosseini Tafreshi, S.A.** and Dehghanzadeh, H. 2018. Effect of *azetobacter* on growth indices, yield and essence content of two cumin (*Cuminum cyminum* L.) landraces under salinity conditions. 34, 261-271.
- Elmi Z, shariati M, **Hosseini Tafreshi S A**. Effects of Transient Silencing of HSP90, HSP70 and smHSP on Chlorophyll a fluorescence of *Nicotiana benthamiana* during Adaptation to Salinity Stress. j.plant proc. func.. 2019; 7 (27) :1-18
- Aghaie, P., **Hosseini Tafreshi, S.A.**, Ebrahimi, M.A., Haerinasab, M., 2017. Evaluation of the CBL family gene expression under drought stress and virus attack in two susceptible and drought tolerant tomato cultivars using semi-quantitative PCR analysis. Iranian Plant Biology 9, 89-106.
- Anaraki, Z.E., **Tafreshi, S.A.H.**, Shariati, M., 2018. Transient silencing of heat shock proteins showed remarkable roles for HSP70 during adaptation to stress in plants. Environ. Exp. Bot. 155, 142–157.

- Aghaie, P., **Hosseini Tafreshi, S.A.**, Ebrahimi, M.A., Haerinasab, M., 2018. Tolerance evaluation and clustering of fourteen tomato cultivars grown under mild and severe drought conditions. *Sci. Hortic.* 232, 1–12.
- Elmi Anaraki, Z., Shariati, M. and **Hosseini Tafreshi, S.** 2017. Transient silencing of *phytoene desaturase* reveals critical roles on plant response to salinity stress. *Acta Physiol Plant* 39, 161. <https://doi.org/10.1007/s11738-017-2460-3>
- Ejtahed, R.S., Radjabian, T. and **Hoseini Tafreshi, S.A.** 2015. Expression Analysis of Phenylalanine Ammonia Lyase Gene and Rosmarinic Acid Production in *Salvia officinalis* and *Salvia virgata* Shoots Under Salicylic Acid Elicitation. *Appl Biochem Biotechnol.* 176, 1846–1858. <https://doi.org/10.1007/s12010-015-1682-3>
- Eftekhariyan Ghamsari, M. R., Karimi, F., Mousavi Gargari, S. L., **Hosseini Tafreshi, S. A.** and Salami, S. A. (2014) Assessing the tobacco-rattle-virus-based vectors system as an efficient gene silencing technique in *Datura stramonium* (Solanaceae). *Virus Genes.*49(3), 512-6.
- **Hossein Tafreshi, S.A.**, Shariati, M, Mofid, M. R, Khayam Nekoi, M, and Esmaili, A. (2012) Heterologous virus-induced gene silencing as a promising approach in plant functional genomics. *Molecular Biology Reports* 39(3), 2169-78.
- **Hosseini Tafreshi, S. A.**, Shariati, M., Mofid, M. R. and Khayyam Nekouei, S. M. (2011) Rapid germination and development of *Taxus baccata* L. by *in vitro* culturing of the embryos followed by hydroponic growth of the seedlings. *In Vitro Cell Dev Biol –Plant.* (2011) 47:561–568.
- Abbasi Kejani, A., Mofid, M. R., Abolfazli, K. and **Hosseini Tafreshi, S. A.** (2010) Encapsulated activated charcoal as a potent agent for improving taxane synthesis and recovery from cultures. *Biotechnology and Applied Biochemistry* 56, 71–76.
- Jaberolansar, N., Hayati, J., Rajabi Memari, H., **Hosseini Tafreshi, S. A.** and Nabati Ahmadi, D. (2010) Tomato and Tobacco Phytoene Desaturase Gene Silencing by Virus-Induced Gene Silencing (VIGS) Technique. *Iranian Journal of Virology* 4(1): 7-11.
- Abbasi Kejani, A., **Hosseini Tafreshi, S. A.**, Khayyam Nekouei, S. M. and Mofid, M. R. (2010) Efficient isolation of high quality nucleic acids from different tissues of *Taxus baccata* L. *Molecular Biology Reports* 37:797–800.
- **Hosseini Tafreshi, A** and Shariati, M (2009) *Dunaliella* Biotechnology: Application and methods. *Journal of Applied Microbiology* 107(1), 14-35.
- Haghghatian, M., Mofid, M. R., Nekouei, M. K., Yaghmaei and **Tafreshi, A. H.** 2008. Isomalt production by cloning, purificating and expressing of the MDH gene from *Pseudomonas fluorescens* DSM 50106 in different strains of *E.coli*. *Pakistan Journal of Biological Sciences* 11(16), 2001-2006. (ISI)
- **Hosseini Tafreshi, A** and Shariati, M (2006) Pilot culture of three strains of *Dunaliella salina* for  $\beta$ -carotene production in open ponds in the center region of Iran. *World Journal of Microbiology and Biotechnology* 22(9), 1003-1006.

■ Sarmad J. Shariati, M., and **Hosseini Tafreshi A.** (2006) Preliminary assessment of  $\beta$ -carotene accumulation in four strains of *Dunaliella salina* cultivated under the different salinities and low light intensity. Pakistan Journal of Biological Sciences 9(8), 1492-1496.

## SELECTED PRESENTATIONS AND ABSTRACTS

■ Aghaie, P., **Hosseini Tafreshi, S.A.**, and Toghiani, M.A. 2019. Exogenous calcium pretreatment on antioxidant enzymes responses of tomato to salinity under hydroponic culture conditions. The 6th Iranian national Plant Physiology Conference. Yazd University, Yazd, Iran.

■ **Hosseini Tafreshi, S.A.**, Aghaie, P., and Toghiani, M.A. 2019. Comparison of growth and physiological responses of two susceptible and drought-tolerant tomato cultivars to Tobacco virus (TVR). Conference. The 6th Iranian national Plant Physiology Conference. Yazd University, Yazd, Iran.

■ Mozghan Arefi, zeinab Toluei, **Ali Hosseini Tafreshi**. 2018. *In vitro* regeneration of shoots and ex vitro rooting of damask rose (*Rosa damascena* Mill.). The first international conference of *Rosa damascena*. Essential Oils Research Institute, University of Kashan. Qamsar, Iran.

■ Mozghan Arefi, zeinab Toluei, **Ali Hosseini Tafreshi**. 2018. Essential oil characterization of different populations of *Rosa damascena* Mill. In Kashan. The first international conference of *Rosa damascena*. Essential Oils Research Institute, University of Kashan. Qamsar, Iran.

■ Mansour Shariati, Zohreh Elmi Anaraki and **Sayed Ali Hosseini Tafreshi**. 2017. Effect of transient silencing of heat shock proteins on photosystem II efficiency during adaptation to salinity stress in plants. 2nd International Conference on Plant science & Physiology. Holiday Inn Bangkok Silom

■ R.S. Ejtahed, T. Radjabian, **S.A. Hosseini Tafreshi** and A. Kamrani (2012) Determination of Rosmarinic Acid In Leaves of Some Iranian *Salvia* Species by A Rapid Spectrophotometric Method. National Congress On Medicinal Plants, kish island, Iran.

■ Roghayehsadat Ejtahed, Tayebeh Radjabian, **Sayed Ali Hosseini Tafreshi**, Asghar Kamrani. 2012. Determination of Rosmarinic Acid in Some Iranian *Salvia* Species by HPLC method. 17<sup>th</sup> National & 5<sup>th</sup> International Iranian biology conference. Kerman. Iran.

■ **Hossein Tafreshi, S.A.**, Shariati, M., Mofid, M. R (2011) Heterologous virus-induced gene silencing as an efficient method for characterizing the function of plant genes. 2th congress on plant physiology, Yazd, Iran.

■ Eftekhariyan Ghamsari, M. R., Karimi, F., Mousavi Gargari, S. L. and **Hosseini Tafreshi, S. A.** 2011. Silencing of *pds* gene in *Atropa belladonna* using heterologous VIGS. 7 the biotechnology congress of Islamic Republic of Iran, Tehran.

- Eftekhariyan Ghamsari, M. R., Karimi, F., Mousavi Gargari, S. L., **Hosseini Tafreshi, S. A.** and Darvish Alipour Astaneh, A. 2011. Silencing of *pds* gene in herbs using heterogene of *Arabidopsis* using VIGS. Congress on medicinal plants, Mazandaran, Iran.
- Jaberolansar, N., Hayati, J., Rajabi Memari, H. and **Hosseini Tafreshi, A.** 2010. Gene silencing by Virus-induced gene silencing (VIGS) technique. 11th Genetic Congress, Tehran, Iran. Poster presentation.
- Jaberolansar, N., Hayati, J., Rajabi Memari, H. and **Hosseini Tafreshi, A.** 2010. Using tomato PDS gene sequence for tobacco PDS gene silencing by virus-induced gene silencing (VIGS) technique. 19th Plant Pathology Congress, Tehran, Iran. Oral presentation.
- **Seied Ali Hosseini Tafreshi** and Mansour Shariati (2007) Outdoor culture of different strains of *Dunaliella salina* alga in the climatic conditions of Iran. 1th congress on Microalgal Biotechnology, Tabriz, Iran.

## RESEARCH PROJECTS

- **Hosseini Tafreshi A.** 2014. Optimization of plant tissue culture of some ornamental plants fanatically supported by Kashan municipality.
- Shariati. M, and **Hosseini Tafreshi A.** 2010. B-carotene and *Dunaliella* powder production in pilot scale fanatically supported by university of Isfahan and Incubator of University of Kashan.

## AWARDS

- The top national technologist, 12th National Festival for Glorification of Technologists and Researchers, Iran, 2012.
- The successful activist in incubator center of university of Kashan for establishment of plant tissue culture Lab in commercial scale, 2012.
- The best-talent and distinguished PhD student in University of Isfahan.