

## **Curriculum Vitae**

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## **Education:**

**2006-2009:** Master in Agricultural Biotechnology, Department of Biotechnology, Faculty of Technical and Engineering, Imam International University (IKIU)

**1999-2003:** Bachelor in Engineering in Agronomy and Plant Improvement, Department of Agronomy and Plant Breeding Sciences, Faculty of Abureyhan, Tehran University

## **Academic Reports:**

**M.Sc. Dissertation:** Cloning of tropinone reductase II gene (TR-II) in *E. coli*, 2009.

**M.Sc. seminar report:** Hairy root in increasing of secondary metabolites production, 2008.

**B.Sc. final year project report:** Study of proliferation and rooting in pistachio (Badami Zarand), 2003.

## **Publications:**

### **- Book**

- 1) Sadat-Noori, A. and **Parsa, M.**, "Concepts of Genetics", 3rd edition, 2009. (in Persian language)

### **- Journal**

- 1) **Parsa M.** and Zeinali A., Effects of salicylic acid elicitor on the production of tropane alkaloids (atropine and scopolamine) in hairy roots and *in vitro* roots cultures of *hyoscyamus niger* L. Iranian Journal of Medicinal and Aromatic Plants. 32(4). 2016. (in Persian Language)
- 2) **Parsa M.** and Zeinali A., Effects of jasmonic acid and methyl jasmonate elicitors on the production of tropane alkaloids (atropine and scopolamine) in hairy roots and *in vitro* roots cultures of *hyoscyamus niger* L. Journal of Plant Research (Iranian Journal of Biology). Accepted (in Persian Language)

- 3) Saboura, A, Ahmadi, A, Zeinali, A, **Parsa, M.** Comparison Between the Contents of Phenolic and Flavonoid Compounds and Aerial Part Antioxidant Activity in *Scutellaria pinnatifida* in Two NorthIranian Populations. Journal of Rafsanjan University of Medical Sciences. 13 (3) :249-266. 2014. (in Persian Language)
- 4) Ahmadi E., Saboora A., Zeinali A. and Parsa M. In vitro callus, root and shoot induction in *scutellaria pinnatifida* as Iranian medicin plant. Iranian journal of pharmaceutical research, 11(2): 296. 2012.
- 5) Yousefzadi, M., Heidari, M., Akbarpour, M., Mirjalili M. H., Zeinali, A. and **Parsa M.**, *In vitro* Cytotoxic Activity of the Essential Oil of *Dorema ammoniacum* D. Don. Middle-East Journal of Scientific Research (*Middle-East J. Sci. Res.*). 7 (4): 511-514. 2011.
- 6) Yousefzadi M., Mirjalili M. H., Alnajjar, N., Zeinali, A. and Parsa M. Composition and *in vitro* antimicrobial activity of the essential oil of *Dorema ammoniacum* D. Don. fruit from Iran. Journal of the Serbian Chemical Society (*J. Serb. Chem. Soc.*). 76 (6) 857–863. 2011.
- 7) **Parsa, M.**, Garoosi, G. and Haddad, R., Cloning of tropinone reductase-II (TR-II) gene in *Agrobacterium tumefaciens*, Clinical biochemistry (*j. clinbiochem*). 44 (13): S344, 2011. (The 12<sup>th</sup> National Congress ICB & 4<sup>th</sup> International congress ICBMB. Mashhad. Iran. Poster.
- 8) Hosseini, R., **Parsa M.**, Micropropagation of *Aloe Vera* L. Grown in south Iran. Pakistan Journal of Biological Sciences (*Pak. J. Biol. Sci.*). 10 (7): 1134-1137. 2007.
- 9) Baftechi L., Samavat S., **Parsa M.** and Soltani N., Study the Function of Blue-green Algae in Urban Garbage compost of Iran. Asian Journal of Plant Sciences (*Asian. J. Biol. Sci.*). 1-3. 2007.

- **National and International Congress**

- 1) **Parsa, M.**, kashanchi M., Zeinali, A. Identification of superoxide dismutase (SOD) gene in grass pea (*Lathyrus Sativus*). The 10<sup>th</sup> National and 2<sup>nd</sup> International biotechnology Congress of Islamic Republic of Iran. 2017. Poster.
- 2) **Parsa, M.** and Zeinali, A. Study of the bioinformatic traits of tropinone reductase-II (TR II) Gene from *Hyoscyamus kurdicus*. The 10<sup>th</sup> National and 2<sup>nd</sup> International biotechnology Congress of Islamic Republic of Iran. 2017. Poster.

- 3) **Parsa, M.** and Zeinali, A. Relative expression analysis of Zinc finger (*AZF2*) gene in three different genotypes of *Lathyrus sativus* in germination stage under drought stress condition. The 10<sup>th</sup> National and 2<sup>nd</sup> International biotechnology Congress of Islamic Republic of Iran. 2017. Poster.
- 4) **Parsa, M.,** Javadi, S. M., A Effects of drought on Zinc finger (*AZF2*) gene relative expression in three different genotypes of *Lathyrus sativus* in 50%podding stage. The 10<sup>th</sup> National and 2<sup>nd</sup> International biotechnology Congress of Islamic Republic of Iran. 2017. Poster.
- 5) Javadi, S. M., **Parsa, M.,** Identification candidate genes for drought tolerance in vegetative stage of grass pea (*Lathyrus sativus*). The 10<sup>th</sup> National and 2<sup>nd</sup> International biotechnology Congress of Islamic Republic of Iran. 2017. Poster.
- 6) **Parsa, M.,** Zeinali, A., Javadi, S. M., Roshanfekar Rad, M. and Kashanchi, M. Study of drought tolerance on germination of four populations of grass pea (*Lathyrus sativus*) in *in Vitro* by PEG 6000. The First International and Third National Conference Engineering and Agricultural Management, Environment and Satable Natural Resources. 2016. Oral.
- 7) **Parsa, M.,** Zeinali, A., Javadi S. E., Roshanfekar Rad, M. and Kashanchi, M. Study of Salinity on germination of grass pea (*Lathyrus sativus*) in *in vitro* through sodium chloride and sodium sulfate. The First International and Third National Conference Engineering and Agricultural Management, Environment and Satable Natural Resources. Hamedan. Iran. 2016. Poster.
- 8) **Parsa, M.,** Roshanfekar Rad, M., Zeinali, A, and Javadi S. M. Effects of drought stress induced by polyethylene glycol (PEG) on germination of grass pea (*Lathyrus sativus*). The 2<sup>nd</sup> Iranian National Conference of Biology and Biological Sciences. Tehran. Iran. 2016. Poster.
- 9) **Parsa, M.,** Zeinali, A., Javadi S. M., Roshanfekar Rad, M. and Kashanchi, M. Effect of stresses of neutral and alkaline salts on germination Grass pea (*Lathyrus sativus* L.). 3<sup>rd</sup> National and 1<sup>st</sup> International Conference in applied research on Biology. Tehran. Iran. 2016. Oral.
- 10) **Parsa, M.,** Zeinali, A., Mollabakhshi, K., Vahidnia, B. and Nadimi, M. Study of the crop production and consumption of energy in greenhouse and comparison with the Netherlands and Canada. 2<sup>nd</sup> International conference on sustainable development,

- strategies and challenges with a focus on Agriculture, Natural Resources, Environment and Tourism. Tabriz. Iran. 2016. Poster.
- 11) Zeinali, A., **Parsa, M.**, Roshanfekar, M. and Javadi S. M. Cytotoxicity study and antioxidant activity of methanol extract of aerial parts and root in *Scutellaria pinnatifida*. The first international and the fourth national conference of medical herbs and sustainable agriculture. Hamedan. Iran. 2015. Poster.
  - 12) Javadi S. M., **Parsa, M.**, Zeinali, A., Roshanfekar Rad, M. and Kashanchi, M. Reconstruction of gene network and analysis of drought tolerance in chickpea genotypes (*Cicer arietinum* L). The First International and Third National Conference Engineering and Agricultural Management, Environment and Sustainable Natural Resources. Hamedan. Iran. 2016. Poster.
  - 13) Zeinali, A., **Parsa, M.** and Javadi S. M. Quantitative comparison of Baicalian and Baicalian flavonoids in the aerial parts and roots in *scutellaria pinnatifida* from Northern Iran. 2<sup>nd</sup> International conference on sustainable development, strategies and challenges with a focus on Agriculture, Natural Resources, Environment and Tourism. Tabriz. Iran. 2016. Poster.
  - 14) Javadi S. M., **Parsa, M.**, Zeinali, A., Roshanfekar Rad M. and Shobar Z. Reconstruction of Gene network and analysis of drought tolerance in germination stage of Grass pea (*Lathyrus sativus* L.). 3<sup>rd</sup> National and 1<sup>st</sup> International Conference in applied research on Biology. Tehran. Iran. 2016. Poster.
  - 15) Javadi S.M., Tohidfar M., Naderi S., Zeinali A., **Parsa M.**, Assessment of TPS genes as housekeeping gene in *Gossypium* for quantify of transgenic cotton products through Real-Time PCR technique. The 2<sup>nd</sup> Iranian National Conference of Biology and Biological Sciences. Tehran. Iran. 2016. Oral.
  - 16) Javadi S. M., Jafari, H., Naderi, S., **Parsa, M.**, Zeinali, A. and Roshanfekar Rad, M. Identification of *verticillium dahliae* in olive trees through Syber Green Real-time PCR System. 3<sup>rd</sup> International Conference on Applied Research in Agriculture Sciences. Tehran. Iran. 2016. Oral.
  - 17) **Parsa, M.** and Zeinali, A. Effect of salicylic acid on atropine and scopolamine accumulation in hairy roots and in vitro roots of *hyoscyamus*. 2<sup>nd</sup> National Conference on Applied Research in Agricultural Sciences. Tehran. Iran. 2015. Oral.

- 18) Zeinali, A. and **Parsa, M.** Comparison of total flavonoids content in two species of scutellaria in north of iran and antioxidant capacity of them. 2<sup>nd</sup> National Conference on Applied Research in Agricultural Sciences. Tehran. Iran. 2015. Poster.
- 19) **Parsa, M.** and Zeinali, A. Effect of elicitor jasmonic acid elicitor on tropane alkaloids hyoscyamine and hyoscyne in the hairy root *Hyoscyamus niger*. The first national congress on medicinal plants and agriculture. Hamedan. Iran. 2013. Poster.
- 20) Zeinali, A. and **Parsa, M.**, Review of phytochemicals and pharmaceutical applications Scutellaria genus in Iran. The first national congress on medicinal plants and agriculture. Hamedan. Iran. 2013. Poster.
- 21) **Parsa M.**, Zeinali, A. and Yousefzadi, M., Induction of hairy root with two strains of *Agrobacterium rhizogenes* in *Hyoscyamus niger*. The First National Biological Sciences Congress in Iran. Flavarjan. 2012. Poster.
- 22) Ahmadi, E. **Parsa, M.**, Zeinali A. and Saboura A. Hairy root induction with three strains of *agrobacterium rhizogenes* in *scutellaria pinnatifida*, The 17<sup>th</sup> National & 5<sup>th</sup> International Conference of Biology of Iran, Kerman, Iran. 2012. Poster.
- 23) Zeinali, A., **Parsa, M.**, Rastkari, N. and Yousefzadi, M. Study of effective factors in Wool Yarn Dyeing with *Chrozophora tinctoria* with Taguchi Method experimental design. The First National Biological Sciences Congress in Iran. Flavarjan. 2012. Poster.
- 24) **Parsa M.**, Zeinali, A. and Yousefzadi, M., Induction of hairy root with two strains of *Agrobacterium rhizogenes* (A<sub>4</sub> and LBA9402) in *Hyoscyamus niger*. The 2<sup>nd</sup> National Plant Physiology Congress in Iran. Yazd. 2011. Poster.
- 25) **Parsa, M.**, Garoosi, G. and Haddad, R., Effect of jasmonate and methyl jasmonate elicitors on quality and quantity of total RNA extraction in *Hyoscyamus niger* in vitro culture roots. The 2<sup>nd</sup> National Plant Physiology Congress in Iran. Yazd. 2011. Poster.
- 26) Zeinali, A., **Parsa, M.** and Farshian, S., Study of proliferation of *Chrozophora tinctoria* in in vitro. The 2<sup>nd</sup> National Plant Physiology Congress in Iran. Yazd. 2011. Poster.
- 27) **Parsa, M.**, Garoosi, G. and Haddad, R., Study of jasmonate and methyl jasmonate elicitors on tropinone reductase II gene expression in *Hoscyamus niger*. The 6<sup>th</sup> Iranian Horticultural Science Congress. Page: 1100-1102. Rasht. Iran. 2009. Oral.

- 28) **Parsa, M.**, Garoosi, G. and Haddad, R., Cloning of tropinone reductase-II (TR-II) gene in *E. coli*. The 6<sup>th</sup> National Biotechnology Congress of Iran. Tehran. Iran. 2009. Poster.
- 29) Zeinali, A., **Parsa, M.**, Rastkari, N. and Alnajjar, N. Comparison Study of Fastness Properties in Yarn Dyed with *Chrozophora Tinctoria* with Taguchi Method. The 3<sup>rd</sup> International Color and Coatings Congress (ICCC 2009). Page: 63-73. Tehran. Iran. 2009. Poster.
- 30) Zeinali, A., **Parsa, M.**, Rastkari, N. and Alnajjar, N. Study of Effective Factors in Wool Yarn Dyeing with *Chrozophora Tinctoria* with Taguchi Method Experimental Design. The 3<sup>rd</sup> International Color and Coatings Congress (ICCC 2009). Page: 62-72. Tehran. Iran. 2009. Poster.
- 31) Zeinali, A., **Parsa, M.**, Rastkari, N. and Alnajjar, N. Effect of pH & content of chromogen on absorption, Reflectance & K/S properties in wool dyed with *Chrozophora tinctoria*. The 15<sup>th</sup> National & the 3<sup>rd</sup> International Conference of Biology. Page: 85. Tehran. Iran. 2008. Poster.
- 32) Zeinali, A., Rastkari, N., **Parsa, M.** and Alnajjar, N. The Effect of pH & content of chromogen on light & wash Fastness properties of yarn dyed with *Chrozophora tinctoria* L. (Rafin). The 15<sup>th</sup> National & the 3<sup>rd</sup> International Conference of Biology. Page: 232. Tehran. Iran. 2008. Poster.
- 33) Zeinali, A., **Parsa, M.** and Alnajjar, N. The effect of pH & mordants on dye absorption by wool dyed with *Chrozophora sabulosa* kar & kir. The 1<sup>st</sup> National congress of Plant Biology. Page: 674-675. Talesh. Iran. 2008. Poster.
- 34) Zeinali, A., **Parsa, M.** and Alnajjar, N. The effect of efficiency factors in dyeing on absorption by yarn dyed with *Chrozophora sabulosa* kar & kir cu mordant. The 1<sup>st</sup> National congress of Plant Biology. Page: 672-673. Talesh. Iran. 2008. Poster.
- 35) **Parsa, M.** and Zeinali, A., Study of *Artemisia annua* proliferation in vitro. The 3<sup>rd</sup> Congress of Medicinal Plants. Page: 373. Tehran. Iran. 2007. Poster.
- 36) Yousefzadi, M., Sonboli, A., Nezhad-Ebrahimi, S., Zeinali, A. and **Parsa, M.** Antimicrobial Activity and Chemical Composition of the Essential Oil of *Salvia Chloroleuca* Rech. f. & Aell. The 3<sup>rd</sup> Congress of Medicinal Plants. Page: 343. Tehran. Iran. 2007. Poster.
- 37) **Parsa, M.** and Karimi, F. *Atropa belladonna* micropropagation in in vitro. The 14<sup>th</sup> National & the 2<sup>nd</sup> International Conference of Biology. Page: 511. Tehran. Iran. 2006. Poster.

- 38) Hosseini, R., **Parsa, M.** and Zeinali, A., Study of Micropropagation of *Aloe Vera* L. in *in vitro*. The 14<sup>th</sup> National & the 2<sup>nd</sup> International Conference of Biology. Page: 511. Tehran. Iran. 2006. Poster.
- 39) Baftechi, L., Samavat, S., **Parsa, M.** and Soltani, N., Study the Function of Blue-green Algae in Urban Garbage compost. The 14<sup>th</sup> National & the 2<sup>nd</sup> International Conference of Biology. Page: 539. Tehran. Iran. 2006. Poster.
- 40) Vatanpoor, A. A., **Parsa M.** and Mojtahedi N., Study of pistachio shoot growth and proliferation in a micropropagation system. The 3rd National Biotechnology Congress of Iran. Page: 434-437. Mashhad. Iran. 2003. Poster.

### Experience

#### - **Academic**

- 1- In vitro propagation of *Aloe vera* L. 2005. (Co-investigator).
- 2- Study of produced useful materials in plants by gene manipulating methods for assigning relevant research priorities in Iran. 2005. (**Main-investigator**)
- 3- Correction, improvement and development of technology required intended of export ornamental plant production. 2005. (Co-investigator).
- 4- The possibility of usage of *diazotrophic cyanobacteria* to enrichment of Urban Garbage compost. 2005. (Co-investigator).
- 5- In vitro micropropagation of strawberry. 2006. (**Main-investigator**).
- 6- Hairy root culture of *Dorema ammoniacum* and study of biological and effects of some of ecological condition on essential oil. 2008-2010. (Co-investigator).
- 7- Effects of some chemical elicitors on the production of hyoscyamin and hyoscyne alkaloids from hairy roots and normal root (in vitro root) of *Hyoscyamus niger*. 2009-2011. (**Main-investigator**).
- 8- Study of antioxidant properties of crude extract from *Scutellaria tourneforti* in comparison with standards herbal flavonoids. 2009-2011. (Co-investigator).
- 9- Study and research of project in order to criteria developing for fuel consumption in commercial greenhouses. 2009-2011. (Co-investigator).
- 10- The study of antioxidant activity and flavonoid compounds in the whole body of plant and hairy root of *scutellaria pinnatifida* . 2012. (**Advisor in M.Sc. Dissertation**).
- 11- Reconstruction of gene network and analysis of drought tolerance in chickpea genotypes (*Cicer arietinum* L). 2015-2016. (Co-investigator).

- 12- Effect of salinity and alkalinity on germination of grass pea (*Lathyrus sativus*) in *in vitro* conditions. . 2015-2016. (**Main-investigator**).
- 13- Effect of drought tolerance on germination of four populations of grass pea (*Lathyrus sativus*) in *in Vitro* conditions. 2015-2016. (**Main-investigator**).
- 14- Somatic embryogenesis in *camellia sinensis* . 2015-2016. (Co-investigator).
- 15- Increasing of drought resistance in *Lathyrus sativus* sensitive cultivars through genetic manipulation. 2015-2018. (**Main-investigator**).

**Vocational:**

**Full time expert:** Institute of Applied Science, Plant Ecology and Systematic Department (2005-2008)

**Full time Academic Staff:** Institute of Applied Science, Plant Physiology and Genetic Department (2008- present)

**Certificates:**

- 1) Research Method in Applied Science
- 2) Introduction to data mining and its applications
- 3) Biosafety in research laboratory
- 4) Basics of quality system
- 5) Basics of human and animal cells culture
- 6) Determination of cytotoxicity and anti-microbial properties of plant essential oil
- 7) Identification and analysis methods of phytochemical components workshop
- 8) Training of ICDL (Computer basics, Excel, Access, PowerPoint, Word, Internet, Windows)

**Languages:**

Persian	Written and oral fluency (native language)
English	Fluent writing and language (second language)



**Computer skills:**

Primer Design: Oligo5

Statistical Analysis Software: SPSS

Presentation: Microsoft PowerPoint

Database management: Microsoft Excel

Typesetting: Microsoft Word

**Research interests:**

- Biotechnology (biotic and abiotic stresses)
- Biotechnology (metabolites)
- Molecular Biology
- Tissue culture

**Award:**

Best Researcher- Institute of Applied Science- 2011.

**Activities:**

- Member of the Iranian Genetic Society
- Member of scientific council of ecology group- Institute of Applied Science