

Saeed Irian

Education

Ph.D. program / Plant Molecular Genetics

University of Delaware Delaware, USA 02/98 – 02/02
Research Assistant

M.Sc. Program / Molecular Genetics

York University Ontario, Canada 05/96 – 01/98
Research Assistant / Teacher Assistant
Transferred to Ph.D. program at the University of Delaware

B.Sc. (honors) in Biology

York University Ontario, Canada 1991 - 1996

Work experience

01/07-Present Kharazmi University Tehran-Tehran-Iran
Assistant Professor

03/05 – 09/05 Alberta Research Council Vegreville-Alberta-Canada
Research Scientist 2

- **Conducted experiments on project titled 'Identification of Fatty acid synthesizing genes in *Canabis sativa*'.**

03/02 – 03/05 Sam Noble Foundation Ardmore-Oklahoma-USA

Post-doctoral research

- Conducted experiments on project titled 'Identification of disease related genes involved in Cucumber mosaic virus and D4-satellite RNA infection of tomato plants using Long Serial Analysis of Gene Expression (LongSAGE)'.
- Conducted experiments on project titled 'Identification of D4-Satellite RNA interacting proteins using the Yeast Three Hybrid system'.
- Conducted experiments on project titled 'Novel gene discovery in

tomato plants using a Modified Reverse LongSAGE (Serial Analysis of Gene Expression).

**02/98 – 02/02 University of Delaware Newark - Delaware
Graduate student**

- Conducted experiments on project titled 'Comparative Expression Analysis of Stems from Wassilewskija and the *eceriferum3* Mutant BRL1 using SAGE'
- Conducted experiments on project titled 'Microarray analysis of the arabidopsis *eceriferum* mutants'
- Contributed equally to the experiments on project titled 'Serial Analysis of Gene Expression Assay of the Developing Kernels from the Illinois Long-Term Selection Oil Strains'

**06/96 – 12/97 York University Ontario - Canada
Graduate student**

- Conducted experiments on project titled 'Subcellular localization of the arabidopsis CER2 protein'
- Teacher Assistant for the course titled 'Molecular genetics lab (4th year)'
- Teacher Assistant for the course titled 'Biochemistry (2nd year)'

**09/91 – 05/96 York University Ontario – Canada
Undergraduate student**

- Conducted experiments on project titled 'Analysis of Protein-Protein Interaction Using CER2 Gene as Bait in the Yeast Two Hybrid System'

**Skills and
Achievements**

- Isolated DNA, RNA and protein from various plant tissues
- Proficient with molecular genetic techniques such as PCR, RT-PCR, automated (Autogen 850) and manual plasmid purification, cloning, sequencing (Beckman CEQ 2000), Microarray hybridization station (Genomic Solutions), Scanarray 5000 (Gsi Lumonics), southern, Northern, western blotting, VIGS, SAGE, LongSAGE, and reverse LongSAGE
- Performed expression analysis on robotically printed cDNA microarray glass slides of Cy3/Cy5 labeled cDNA preps
- Trained in radioactive chemical use in probing, labeling and data analysis
- Experienced with Robotics such as Multiprobe II Liquid Handling System, Autogen 850 Plasmid Purification System, GeneMachines

cDNA Microarrayer

- Performed large scale greenhouse arabidopsis and tomato handling at Dupont Delaware Biotechnology Park and Samuel Roberts Noble foundation
- Advanced academic writing skills, knowledge of all Office 2000 programs (Word, Excel, PowerPoint), Adobe Photoshop, Acrobat, Internet Applications, knowledge of database resources
- Responsible for preparation of laboratory reagents and performing various laboratory procedures

List of Published Research Articles

Norouzi S, Norouzi M, Amini M, Amanzadeh A, Nabiuni M, **Irian S**, Salimi M. (2016). Two COX-2 inhibitors induce apoptosis in human erythroleukemia K562 cells by modulating NF- κ B and FHC pathways. *DARU Journal of Pharmaceutical Sciences* 24:1.

Zeinpour M., Azadi P., Majd A., Kermani M. J., **Irian S**. (2015). Effect of stress factors on somatic embryogenesis of rose. *IJB*. 6(2): 255-265.

Norouzi M, Norouzi S, Amini M, Amanzadeh A, **Irian S**, Salimi M. (2015). Apoptotic effects of two COX-2 inhibitors on breast adenocarcinoma cells through COX-2 independent pathway. *J Cell Biochem*. 116(1):81-90.

Nazari Z., Nabiuni M., Safaei Nejad Z., Delfan B., **Irian S**. (2015). Expression of Aquaporins in the Rat Choroid Plexus. *Arch Neurosci*. 2(1): e17312.

Majd A., **Irian S**, Jonoubi P., Asgari F. (2014). MERISTEM STRUCTURE, DEVELOPMENT OF CONES AND MICROSPOROGENESIS OF TEHRAN PINE (*PINUS ELDARICA* Medw.). *JPD* 21(2014): 81-93.

Majd A, **Irian S**, Jonoubi P, Asgari F. (2014). MERISTEM STRUCTURE, DEVELOPMENT OF CONES AND MICROSPOROGENESIS OF TEHRAN PINE (*PINUS ELDARICA* Medw.). *J. Plant Develop*. 21(2014): 83–93.

Dadook M., Ashkar S., **Irian S**. (2014). Antibacterial effect of zinc on benzalkonium chloride-tolerant and -sensitive smr + *Staphylococcus aureus*. *IJCMB* 2014:1-8.

Barzan E., Mehrabian S. **Irian S**. (2014). A survey of antimicrobial and genotoxicity effects of Zero-valent Iron Nanoparticles (nZVI). *Jundishapur J Microbiol*. 7(5): e10054.

Dadook M., Mehrabian S., Salehi M., **Irian S.** (2014). Morphological, biochemical and molecular characterization of 12 N₂ fixing bacteria isolated from Mazandaran –Iran and their response to various zinc concentration. *Jundishapur J Microbiol.* 7(4): e9415.

Haghighi L., Majd A, Nematzadeh G, Shokri M, Kelij S and **Irian S.** (2014). Salt-induced changes in cell wall peroxidase (CWPRX) and phenolic content of *Aeluropus littoralis* (Willd) Parl. *AJCS* 8(2): 296-300.

Majd A., **Irian S.**, Jonoubi P., Asgari F. (2014). MERISTEM STRUCTURE, DEVELOPMENT OF CONES AND MICROSPOROGENESIS OF TEHRAN PINE (PINUS ELDARICA Medw. *Journal of Plant Development* 21 (2014): 83-94.

Gudarzia H., Salimib M., **Irian S.**, Amanzadeh A., Kandelous H. M., Azadmanesh K., Salimi M. (2014). Ethanolic extract of *Ferula gummosa* is cytotoxic against cancer cells by inducing apoptosis and cell cycle arrest. *Natural Product Research* 29(6):546-50.

Gharari Z., Ali khavarinejad R., Shekaste band R., Najafi F. Nabiunin M., **Irian S.** (2014). The Role of Mn-SOD and Fe-SOD Genes in Response to Low Temperature in Chs Mutants of Arabidopsis. *TURKISH JOURNAL OF BOTANY* 38:80-88.

Dadook M., Mehrabian **S. Irian S.** (2014). Identification of ten N₂-fixing bacteria using 16S rRNA and their response to various zinc concentrations. *IJCMB* 2013: 1-8.

Gita Amini, **Saeed Irian**, Ahmad Majd, Sedigheh Mehrabian. (2014). Antioxidant effects of strawberry fruits at two phenological stages. *Journal of Herbal Drugs* 4(2): 63-6.

Norouzi S., Norouzi M., **Ayerian S**, Nabiuni M., Amini M, Salimi M. (2014). Evaluation of cytotoxicity mechanism of two cyclo-oxygenase-2 inhibitors in leukemia cell line. *Physiology and Pharmacology* 18 (1), 16-26.

Haghighi L., Majd A, Nematzadeh G, Shokri M, Kelij S and **Irian S.** (2013). Effect of NaCl on antioxidant enzymes activity in halophyte *Aeluropus littoralis* leaves. *AEB* 7(9): 2229-2234.

Javadi S., Kermani M. J., **Irian S.**, Majd A. (2013). Indirect regeneration from *in vitro* grown leaves of three pear cultivars and determination of ploidy level in regenerated shoots by flow cytometry. *Scientia Horticulturae*: 164:455-460.

Torabi F., Majd A., Enteshari S., **Irian S.**, Nabiuni M. (2013). Effects of salinity on the development of hydroponically grown borage (*Borago officinalis* L.) male gametophyte. *Notulae Botanica Horti Agrobotanici Cluj-Napoca* 41:65-72.

Norouzi M., **Irian S.**, Divsalar A., Salimi M. (2013). A study on the DNA cleavage, Morphological changes and Cytotoxicity Activities of the Two Synthetic COX-2 Inhibitors. *Journal of Repts on Pharmaceutical Sciences.* 2(3): 38-44.

Majd A., Rezanejad F., **Irian S.**, Mousavi F. (2013). Hypersensitivity to *Alanthus altissima* (tree of heaven) pollen: Identification of a major IgE-binding component. *Aerobiologia*. 29:407-412.

Irian S., Majd A., Hoseinizadeh A., Jonubi P. (2013). A comparative study on the allergenicity, structure and ultrastructure of two Acacia pollen grains in guinea pigs. *Aerobiologia* 29(3):333-339.

Irian S., Majd A., Jonubi S., Hoseininejad A. (2013). A study on the ontogeny and allergenicity of *Acacia farnesiana* pollen grains in guinea pigs. *Aerobiologia* Volume 29(1): 21-29.

Karimzadeh L., Nabiuni M., Eslami A., Irian S. (2012). Bee venom treatment reduced C-reactive protein and improved follicle quality in a rat model of estradiol valerate-induced polycystic ovarian syndrome. *Journal of Venomous Animals and Toxins including Tropical Diseases*. 18: 384-392.

Karami L., Majd A., Mehrabian S., Nabiuni M., Mandana salehi, **Irian S.** (2012). Anti-mutagenic and anticancer effects of *Avicennia marina* leaf extract on *Salmonella typhimurium* TA100 bacterium and human promyelocytic leukemia HL-60 cells. *Science Asia*. 38:349-355.

Alizadehnohi M., Nabiuni M., Nazari Z., Safaeinejad Z., **Irian S.** (2012). The synergistic cytotoxic effect of cisplatin and honey bee venom on human ovarian cancer cell line A2780cp. *JVR*. 3: 22-27.

Hemati A., Azarnia M., Nabiuni M., Mirabolghasemi G., **Irian S.** (2012). Effect of the hydroalcoholic extract of *Heracleum persicum* (Golpar) on folliculogenesis in female wistar rats. *Cell Journal (Yakhte)*. 14: 47-52.

Salimi M. , Majd A., Sepahdar Z., Azadmanesh K. **Irian S.**, Ardestanian M.H., Hedayati M.H., Rastkari N. (2012) Cytotoxicity effects of various *Juglans regia* (walnut) leaf extracts in human cancer cell lines. *Pharmaceutical Biology* 50(11): 1416-1422.

Nabiuni M., Rasouli J., Parivar K., Kochesfehani H. M., **Irian S.**, Miyan J. A. (2012). In vitro effects of fetal rat cerebrospinal fluid on viability and neuronal differentiation of PC12 cells. *Fluids and Barriers of the CNS* 9:8.

Shams A., Mehrabian S., **Irian S.** (2012). Assessing the antioxidant and anticarcinogenic activities of virgin olive oil and purified olive oil samples treated with light and heat using the Aimes test. *Int. J. Microbiology Res.* 4(2): 173-177.

Baghali Z., Majd A., Chehregani A., Pourpak Z., **Ayerian S.**, Vatanchian M. (2011). Cytotoxic effect of benzo(a)pyrene on development and protein pattern of sunflower pollen grains. *Toxicological and Environmental Chemistry* 93: 665-677.

Arbabian S., Zandi S. **Irian S.** (2011). Effect of Gibberellic acid on the speed and percentage of germination and vascular tissue ontogenesis in

Helianthus annuus L. *Advances in Environmental Biology* 5: 2546-2550.

Kouchesfehiani HM., Nabiuni M., Majlesara MH., Amini E. **Irian S.** (2011). Effect of vitamine E succinate as a differentiation agent on the efficacy of 5-ALA-PDT on prostate cancer cells in culture. *JPS* 2: 16-23.

Irian S., Xu P., Xibin D., Zhao P.X., Roossinck M.J. (2007) Regulation of a virus-induced lethal disease in tomato revealed by LongSAGE analysis. *MPMI* 20: 1477-1488.

Published Research Articles in Farsi

Norouzi S., Norouzi M., **Ayerian S.**, Nabiuni M., Amini M., Salimi M. (2104). Evaluation of cytotoxicity mechanism of two cyclo-oxygenase-2 inhibitors in leukemia cell line. *Physiology and Pharmacology* 18(1): 16-26.

Karami L., Majd A., Mehrabian S., Nabiuni M., **Irian S.**, Salehi M. (2013). Antimutagenic effects of ethanol and aqueous extracts of *Avicennia marina* leaves on *Salmonella typhimurium* TA100 bacterium. *Arak Medical University Journal* 15(67): 68-76.

Torabi F., Majd A., Enteshari SH., **Irian S.** (2013). Study of Effect of Silicon on Some Anatomical and Physiological Characteristics of Borage (*Borago officinalis* L.) in Hydroponic Conditions. *Journal of Cell and Tissue* 4(3): 275-285.

Irian S., Darash A. (2013). A study on pollen grain and secretory petal sacs in *Citrus grandis* L. *Kharazmi University Science Publication*. 13(1): 691-700.

Mousavi F., Rezanejad F., Majd A., **Irian S.** (2013). Flower structure, and growth of pistil and pollen grain in *Ailanthus altissima* (Simaroubaceae). *Tarbiat Moallem University Science Publication*. 10(4): 1033-1046.

List of Published Review Articles

Irian S. (2014). Large scale tag/PCR-based gene expression profiling. *World J. Microbiol. Biotechnol.* 30,(8): 2125-2139.

List of Published Books

Irian S. Ghahramaninejad F. (2011). English for the Sudents of Cell and Molecular Biology. Samt Publication. pp. 290.

List of Selected Supervised/Advised Dissertations and Theses

Doctoral Dissertations Supervised

Mohammadi H and **Irian S.** Effect of zinc and nano zinc particles on seed germination seedling ontogeny and reproductive organs in *Cicer arietinum* L. (In progress).

Tajik Esmaeili S. and **Irian S.** Effect of electromagnetic radiations on germination, ontogeny of seedlings and generative organs, genome and anthocyanin level alterations in red been, and the effect these changes may have on ovarian cancer cell lines (In progress).

Nazaralian S. Irian S. A study on the effect of sodium silicate and silicon nano-particles on germination, and seedling and generative organ ontogeny in *Trigonella foenum-graecum* L. (In progress).

Doctoral Dissertations Advised

Zeinipur M, **Irian S.** (2015). A study on petal ontogeny and F35S gene transfer or metabolic engineering of anthocyanin biosynthesis pathway in rose.

Haji Abas Tabrizi F., **Irian S.** (2014). Study on the ontogenic-developmental structure of *Fumaria vaillantii* L., (Fumariaceae) and its anticancer effects in cancer and normal cell lines.

Torabi F., **Irian S.** (2013). A study on Interaction of sodium silicate in pollen germination, seedling and generative organ ontogeny in *Borago officinalis* L.

Haghighi L., Irian S. (2013). The evaluation of changes in phenolic component and antioxidant activity over vegetative developmental stages in *Aeluropus littoralis* Parl. leaves under NaCl treatment.

Karami L., **Irian S.** (2012). Comparative study of the anatomical and ontogenical structure of vegetative organs, changes protein (total proteins and stress enzymes) and antioxidant properties of *Avicennia marina* (Forssk.) Vierh (Aviceniaceae) in two regions Assaluyeh and Bordekhon of Bushehr provine.

Baghaeifar Z., Irian S. (2010). A study on anther development, microsporogenesis, pollen total protein content and allergenicity in sunflower *Helianthus annuus* L. and the effect of benzo(a)pyrene in DEP on them.

MSc Thesis Supervised

Motaleb zadeh J., **Irian S.** (2015). Investigating the involvement of FBLN-4 gene in biopsy samples of breast cancer.

Farzinpur M., **Irian S.** (2014). Cyto-histological study of generative organs and the analysis of Pollen and petal allergenicity effects in Citrus limon (L.).

Norouzi S., **Irian S.** (2013). Investigating the effect of celecoxib derivatives on apoptosis in K562 and MCF7 cell lines.

Gudarzi H., **Irian S.** (2013). A study on anatomical-ontogenical structure and anticancer effects of Ferula gummosa Bioss. (Umbellifera).

Darash A., **Irian S.** (2013). The cyto-histological, ontogenical study of generative organs and the analysis of pollen and petal allergenicity effects of Citrus grandis (L.) Obseck.

Haghi H., **Irian S.** (2012). Study the potency of Naja naja oxiana snake antivenom using ELISA, and evaluating its effect with biological index of ED50 in mice.

Norouzi M., **Irian S.** (2012). Investigating the anti-cancer and apoptotic effects of celecoxib derivatives in blood and cancer cell lines.

Mousavi Mahdi Abadi F., **Irian S.** (2011). Flower and pollen structure, anther development and pollen extract allergenicity Alianthus altissima (Mill.) Swingle.

Izadi H., **Irian S.** (2011). The effect of water deficiency stress on anatomical developmental structure of reproductive organs of sunflower (Helianthus annuus L.) and protein content analysis of stressed plants and their seeds.

Amooshahi N. **Irian S.** (2011). A study on the microsporogenesis and allergenicity of populus alba L. (Salicaceae) pollen grain.

Bakhtiari S., **Irian S.** (2011). Studies of propagation of two different date palm (Majool and Berehi) by using somatic embryogenesis and development of normal embryogencalli.

MSc Thesis Advised

Hasani Sadrabadi Z., **Irian S.** (2015). Investigating the effects of electromagnetic fields on germination, seedling ontogeny in Hibiscus esculentus L. and the effect of its extract on breast cancer MCF-7 cell lines.

Moradi K., **Irian S.** (2015). Effect of blood stem cells on invasive behavior of breast cancer cell lines and assessing the role of two derivatives of Cox-2 inhibitor in this process.

Ashofteh M., **Irian S.** (2015). The anti-aging effect of deuterium depleted water on Mn-induced toxic human fibroblast cell.

Noroozi S and **Irian S.** (2015). A study on the effects of celecoxib derivatives on apoptosis in MCF7 and K562 cell lines.

Noroozi M and **Irian S.** (2014). A study on oanticancerous and apoptotic effects of celecoxib derivatives in leukemia and breast cancer cell lines.

Hatami Z., **Irian S.** (2012). Investigating the effects of electromagnetic fields on somatic embryogenesis in Cucumis melo cv.khatooni.

Sepahdar Z. **Irian S.** (2010). Comparison of anticancer properties of Juglans regia L. (walnut) leaves extract during their ontogenesis.