

Forouzandeh Soltani

Present: Research associate at Stockbridge of Agriculture, University of Massachusetts, Amherst.

My research interests center around crop improvement and cultivar development with a particular focus on vegetable crops, genetics and breeding to enhance resilience to climate changes, nutritional content, higher yield, and disease resistance. I am also intrigued by plant molecular physiology and the combination with gene editing techniques aims to alter reproduction system and flowering habit.

EDUCATION

Ph.D. Horticultural Science, Genetic and breeding of vegetable crops, 2010, University of Tehran, Iran

PROFESSIONAL POSITIONS

2022-2023 Deputy of Horticultural science Department, University of Tehran

2011-2022 Graduate and undergraduate program director

2023-Present Associate Professor, Horticultural science Department, University of Tehran

2011-2022 Assistant Professor, Horticultural science Department, University of Tehran

INTERNATIONAL RESEARCH PROJECTS COLLABORATION

- 1- **UMass CNS Bridge and Seed Funding (BSF)** grant on Center of Excellence for Breeding Tomatoes for heat and drought stress Tolerance
- 2- Bilateral project with Prof. Susan Baldermann, **Leibniz-Institute of Vegetable and Ornamental Crops, Großbeeren, Germany**: Identification and regulation of carotenoid metabolism in colored cauliflowers (*Brassica oleracea* L. ssp. *botrytis*) cultivars grown under different environmental conditions.
- 3- Bilateral project with Prof. Joachim Kopka, **Max Planck Institute, Germany**: Characterization of melon lines containing new alleles of genes that will improve the sugar profile and aroma compounds.
- 4- **PHC** project with Dr. Rebecca Stevens, **INRA, (France)** on Root Phenotyping of aubergine genotypes and related *Solanum* species to select superior genotypes for breeding under drought and salinity stress conditions.
- 5- Collaboration with Prof. Kato, **Okayama University, Japan**: Genetic diversity of melon accessions by molecular markers.

Grants and Awards

- UMass CNS Bridge and Seed Funding (BSF) grant (2024)
- Received the fully funded grants for the greenhouse cucumber inbred lines breeding program.
- Award by the **University of Tehran** and **Seed and Plant Certification and Registration Institute** for registration and commercialization of Cantaloup new hybrid varsities.

PUBLICATIONS, 50 in peer-reviewed journals. H-index 15, number of citations: 550

Some publications

Fatemeh Izadpanah, Navid Abbasi, **Forouzandeh Soltani** and Susanne Baldermann. Impact of Water Management on Growth and Pigment Composition of Cauliflower and Broccoli. *Plants* 2025, 14, 725. <https://doi.org/10.3390/plants1405072>.

Soltani, F., M. Shajari, G. Mir Behbahani, M., R. Bihamta. 2022. Assessment of Melon Genetic Diversity Based on Fruit Phenotypic Traits and Flowering Habits. *International Journal of Horticultural Science*, 9:97-116.

Tahereh Javanmard, **Forouzandeh Soltani**, Michael Alabboud, Moien Shajari and Ana Isabel López-Sesé. 2023. Screening Iranian melon (*Cucumis melo* L.) genotypes against *Fusarium oxysporum* f.sp.*melonis* and heritability in selected progenies. *Scientia horticulturae*, Under press.

Alabboud, M., **F. Soltani**, S. Kalantari. 2022. Expression of CMe-ACS1 and Ethylene Receptor Genes in Melon F1 Progenies under Cold Storage Condition. *Journal of Agricultural Science and Technology*, 24(6). DOI: [10.52547/jast.24.6.1443](https://doi.org/10.52547/jast.24.6.1443)

Alabboud, M., S. Kalantari, **F. Soltani**. 2022. Postharvest performance interpretation and storage temperature optimization in some newly introduced melon hybrids. *Advances in Horticultural Science*, 36:27-36.

Alabboud, M., S. Kalantari, **F. Soltani**. 2022. Novel models to predict stored melon fruit marketability using convolutional neural networks. *Journal of Ambient Intelligence and Humanized Computing*, DOI: 10.1007/s12652-022-03741-z.

Ebadi, M., **F. Soltani**, Y. Mostoufi and M. Alabboud. 2022. Analysis of Genetic Diversity among Watermelon [*Citrullus lunatus* Thunb (Matsum.) and Nakai] Accessions by Phenotypic and Molecular Markers. *Journal of Agricultural Science and Technology*, 24.

Soltani, F. 2021. Breeding of Melon (*Cucumis melo* L. Groups Dudaim and Flexuosus). In book: *Advances in Plant Breeding Strategies: Vegetable Crops*. Eds: Al-Khayri, Jameel M., Jain, S. Mohan, Johnson, Dennis V. Chapter: 9 Publisher: Springer.

Shajari, M., **F. Soltani**, M. R. Bihamta, M. A L A b b o u d . 2020. Genetic analysis and inheritance of floral and fruit traits in melon (*Cucumis melo*) in the full diallel cross. *Plant breeding*, DOI: 10.1111/pbr.12915.

Alabboud, M., S. Kalantari, **F. Soltani**. 2020. Analysis of general and specific combining ability of postharvest attributes in melon. *Journal of Agricultural Science and Technology*, 22: 1523-1535.

Mahboobeh Saeedi, **Forouzandeh Soltani**, Mesbah Babalar, Melanie Wiesner-Reinhold, [b], Susanne Baldermann, and Andrea Mastinu. Selenium Enhances Growth, Phenolic Compounds, Antioxidant Capacity in *Brassica Oleracea* Var. *Italica*. *Chem. Biodiversity* 2025, 22, e202401731 (1 of 10).

Fatemeh Izadpanah, Katja Frede, **Forouzandeh Soltani**, Susanne Baldermann. 2023. Comparison of Carotenoid, Chlorophyll Concentrations and their Biosynthetic Transcript Levels in Different

Coloured Cauliflower (*Brassica oleracea* L. var. *botrytis*). Horticultural plant journal, <https://doi.org/10.1016/j.hpj.2022.09.014>.

F. Izadpanah, F. Katja, **F. Soltani**, S. Baldermann. 2021. Effects of Shading on Plant Growth, Chlorophylls and Carotenoids in Florets of Differently Coloured Cauliflowers (*Brassica oleracea* L. ssp. *botrytis*). DOI: 10.1002/lemi.202153016

Saeedi, M., **F. Soltani**, M. Babalar, F. Izadpanah, M. Wiesner-Reinhold and S. Baldermann. 2021. Selenium Fortification Alters the Growth, Antioxidant Characteristics and Secondary Metabolite Profiles of Cauliflower (*Brassica oleracea* var. *botrytis*) Cultivars in Hydroponic Culture. Plants, 10, doi.org/103390/plants/10081537.
Hamed, S., **F. Soltani** and M. Alabboud. 2021. Screening snake melon inbred lines under simulated drought. International Journal of Vegetable Science. DOI:10.1080/19315260.2021.1920542

Aqeel Hussein Abdulraoof Almatwari, Mohammadreza Hassandokht, **Frouzandeh Soltani**, Amir Mirzadi Gohari, Mohammad Javan-Nikkhah. 2020. Temporal expression profiles of defense-related genes involved in *Lactuca sativa*-*Sclerotinia sclerotiorum* interactions. Journal of Plant Pathology, <https://doi.org/10.1007/s42161-020-00714-z>

Almatwari, A.H.A., Hassandokht, M.R., **Soltani, F.**, Mirzadi Gohari, A., and Javan-Nikkhah, M. 2020. Biochemical defense responses of tolerant and susceptible lettuce accessions following infection by *Sclerotinia sclerotiorum*. Archives of Phytopathology and Plant Protection. <https://doi.org/10.1080/03235408.2020.1869385>.

Hamed, S., **Soltani F.** and Alabboud, M. 2021. Screening snake melon inbred lines under simulated drought. International Journal of Vegetable Science, <https://doi.org/10.1080/19315260.2021.1920542>.

Mohsen Hatami, Siamak Kalantari, **Forouzandeh Soltani**, and John C. Beaulieu. 2019. Storability, Quality Changes, and General Postharvest Behavior of Dudaime Melon Harvested at Two Maturity Stages. HortTechnology, <https://doi.org/10.21273>.

Mohsen Hatami, **Forouzandeh Soltani**, Siamak Kalantari and John C. Beaulieu. 2021. Evolution of polygalacturonase and pectin methyl esterase activity during the storage of dudaim melons harvested at two maturity stages. Italus Hortus, DOI: 10.26353/j.itahort/2021.2.5869

M. Bigdelou, G. Colla, Y. Rouphael, Hasandokht, M.R., **F. Soltani** and R. Salehi, P. Kumar and M. Kardarelli. 2021. Morphological and Physio-Biochemical Responses of Watermelon Grafted onto Rootstocks of Wild Watermelon [*Citrullus colocynthis* (L.) Schrad] and Commercial Interspecific Cucurbita Hybrid to Drought Stress. Horticulturae 7(10):359

Reza Darrudi, Vahideh Nazeri, **Forouzandeh Soltani** and Maria R Ercolano. 2018. Evaluation of combining ability in *Cucurbita pepo* L. and *Cucurbita moschata* Duchesne accessions for fruit and seed quantitative traits. Journal of Applied Research on Medicinal and Aromatic Plants, 8:60-66.

Reza Darrudia, Vahideh Nazeria, **Forouzandeh Soltania**, Majid Shokrpoura, Marria Raffaella Ercolanob. 2018. Genetic diversity of *Cucurbita pepo* L. and *Cucurbita*

moschata Duchesne accessions using fruit and seed quantitative traits. Journal of Applied Research on Medicinal and Aromatic Plants, 9:70-77.

T. Javanmard, **F. Soltani**, and M.R. Bihamta. 2018. Estimation of some genetic parameters through generation means analysis in Melon. Indian J. Agric. Res., 52(6): 619-624.

Mohsen Yoosefzadeh Najafabadi . **Forouzandeh Soltani**, Hamideh Noory and Juan C. Diaze-Perez. 2018. Growth, yield and enzyme activity response of watermelon accessions exposed to irrigation water deficit. International Journal of Vegetable Science.

M. Bigdelou, Hasandokht, M.R., G. Colla, **F. Soltani** and R. Salehi. 2017. Evaluation of bitter apple (*Citrullus colocynthis* (L.) Schrad) as potential rootstock for watermelon. Australian Journal of Crop Science 11(06):727-732.

Forouzandeh Soltani, Sajad Heidari, Majid Azizi & Javad Hadian. 2015. Influence of $\text{Ca}(\text{NO}_3)_2$ and KNO_3 Application on Biomass, Yield, Oil and Mineral Contents of Tarragon in "Ray" Region. Journal of Agricultural Science, Vol. 7.

Forouzandeh Soltani, Roghayeh Karimi & Abodlkarim Kashi. 2017. Estimation of Genetic Diversity in Cucurbita Species Using Morphological and Phytochemical Analysis. International Journal of Vegetable Science.

Ebadi, M., **F. Soltani** and Y. Mostoufi. 2015. Effect of temperature and accession type on lycopene stability and total phenolic compound of watermelon fresh cut fruit. Acta Horticulture 1012:947-954.

Ebadi, M., **F. Soltani** and Y. Mostoufi. 2015. Fresh cut quality change of watermelon accessions during storage in different temperature condition. Acta Horticulture 1012:497-502.

Sajad Heidari., Majid Azizi., **Forouzandeh Soltani**., Javad Hadian. 2014. Foliar application of $\text{Ca}(\text{NO}_3)_2$ and KNO_3 affects growth, essential oil content, and oil composition of French tarragon. Industrial Crops and Products, 62:526-532.

Soltani, F., A. Kashi, Z. Zamani, Y. Mostofi, Y. Akashi and K. Kato. 2010. Characterization of Iranian melon landraces Groups Flexuosus and Dudaim by the analysis of morphological and Random Amplified Polymorphic DNA. Breeding Science, 60:34-45.