

Qualifications

- **PhD in Plant Biology** 2019

The University of Western Australia, Perth, Australia.

Thesis title: Characterising the role of *Brassica napus* genomic structural variation in disease resistance

- **Master's Degree in Crop Physiology** 2008

Tarbiat Modares University, Tehran, Iran.

Thesis title: Effect of vitamin C foliar application on physiological and morphological traits of grain corn (*Zea mays* L.) under water deficit stress

- **Bachelor's Degree in Agronomy and Plant Breeding** 2010

Azad University, Rasht, Iran.

Awards

- 2022 A Letter of Intent, titled "Canola's new disease: managing *Verticillium* through genetics, beneficial microbes and understanding interactions", was approved to secure a research grant with up to \$615,250 by the Canola AgriScience Cluster funding program under the Canadian Agricultural Partnership.
- 2018 Awarded a UWA Convocation Postgraduate Research Travel Award to travel to Poland to visit the Institute of Plant Genetics, Polish Academy of Science.
- 2018 Awarded a UWA Graduate Research School Travel Award to travel to France to attend and present at the Brassica 2018 Conference.
- 2014 Awarded a Scholarship for International Research Fees and an International Living Allowance Scholarship (Ad Hoc Postgraduate Research Scholarship) by The University of Western Australia.
- 2012 Awarded a research grant from Iran National Science Foundation
- 2012 Awarded a travel grant to visit the Centre for Integrative Legume Research (CILR) at the University of Queensland, Brisbane, Australia.

Employment

Research Officer: 2022-now

Batley Lab, School of Biological Sciences, The University of Western Australia, Perth, Australia.

Postdoctoral Research Fellow: February 2021-July 2022.

Department of Plant Science, University of Manitoba, Winnipeg, Canada.

Technical Officer: September 2019-August 2020.

Indian Ocean Marine Research Centre, Department of Primary Industries and Regional Development, Watermans, Australia

Operations Manager: 2013-2015.

Sooshia Cooperative Company, Tehran, Iran

Teaching and Research Assistant: 2010-2013.

Agronomy Department, Faculty of Agriculture, Tarbiat Modares University, Tehran, Iran

Skills

Genetics and genomics skills

- Whole-genome sequencing and SNP genotyping assay (Illumina, Infinium assay)
- Whole-genome sequencing data analysis
- GWAS analysis
- RNA-seq analysis

Molecular biology skills

- DNA/RNA extraction (Plants, Bacteria, Fungi, Soil)
- DNA library preparation (Illumina)
- PCR, Multiplex PCR, qPCR, and Electrophoresis
- Covaris Ultrasonicator
- LabChip GX

Microbiology and plant pathology skills

- Bacterial and fungal culture
- Bacterial and fungal isolation, inoculum preparation and inoculation
- Disease resistance phenotyping and screening
- Spore trapping and counting
- Fungal morphology identification
- Agrobacterium transformation
- Heat-shock transformation

Plant physiology skills

- Microscopic examination, optical microscopes
- Hydroponics systems and plant tissue culture
- Phytochemistry skills
- Spectrophotometer, HPLC, GC-MS,
- Evaluation of antioxidant enzymes activity (Catalase, Peroxidase, Superoxide dismutase)
- Malondialdehyde and peroxidation assay

Plant breeding skills

- Plant phenotyping and genotyping
- Plant population development and germplasm cataloguing
- Crossing: Arabidopsis, Brassica species (production of introgression lines), Maize

Agronomy skills

- Crop production, organic farming
- Glasshouse experience and familiarity with PC2 and quarantine laboratory procedures

Soil science skills

- Measurement of elements content in soil and plant tissues (N: Kjeldahl method, P: Colorimetric method, K, Ca, Mg and Na: Atomic absorption spectroscopy)

Computer Skills

- Programming language: Python and R
- Biotechnology and Bioinformatics Software: Geneious, CLC, MEGA, Circa, MapChart, LabChip Reviewer
- Statistical Software: SAS
- Image processing program: ImageJ, Python image processing packages
- Microsoft Office Suite

Editorial Board

- Guest Editor in Biology, MDPI, Special issue "[The Plant-Pathogen Interaction](#)."
- Guest Editor in Biology, MDPI, Special issue "[Recent Advances in Molecular Genetics of Plant-Microbe Interactions](#)."
- Topic Editor in Frontiers in Agronomy, Disease Management, Frontiers, Research Topics " [Modeling and Artificial Intelligence \(AI\) in Disease Management](#)"
- Guest Associate Editor in Frontiers in Agronomy, Plant-Soil Interactions
- Review Editor in Frontiers in Microbiology, Virology
- Review Editor in Frontiers in Plant Science, Plant-Pathogen Interactions
- Review Editor in Frontiers in Agronomy, Disease Management

Publications

Journal publications

1. Vazayefi M, Shekari F, Zangani E, **Dolatabadian A**, Janda T, Mastinu A. (2023). Seed treatment with chlormequat chloride improves the physiological and biochemical characteristics of *Brassica napus* L. under salt stress. *Plant Stress* 9:1-9.
2. Rezaei-Chiyaneh E, Mahdavia H, Alipour H, **Dolatabadian A**, Battaglia ML, Maitra S, Harrison MT (2023) Biostimulants alleviate water deficit stress and enhance essential oil productivity: a case study with savory. *Scientific Reports* 13(720)
3. Jamshidi Jam B, Shekari F, Andalibi B, Fotovat R, Jafarian V, **Dolatabadian A** (2023) The Effects of Salicylic Acid and Silicon on Safflower Seed Yield, Oil Content, and Fatty Acids Composition under Salinity Stress. *Silicon* 15:4081–4094.
4. **Dolatabadian A**, Yuan Y, Bayer P, Petereit J, Severn-Ellis A, Timaz S, Patel D, Edwards D, Batley J (2022) Copy number variation among resistance genes analogues in *Brassica napus*. *Genes* 13(11), 2037.
5. Sayari M, **Dolatabadian A**, El-Shetihy M, Rehal PK, Daayf F (2022) Genome-Based Analysis of *Verticillium* Polyketide Synthase Gene Clusters. *Biology* 11(9), 1252.
6. Zamanmirabadi A, Hemmati R, **Dolatabadian A**, Batley J (2022) Genetic structure and phylogenetic relationships of *Leptosphaeria maculans* and *L. biglobosa* in northern regions of Iran. *Archives of Phytopathology and Plant Protection*. 55(9): 1062-1081.
7. Fernando WGD and **Dolatabadian A** (2022). Microbiome: Diversity, Distribution, and Potential Role in Sustainable Crop Production. *Journal of National Science Foundation* 50 (Special): 133-152.
8. **Dolatabadian A**, Fernando WGD (2022) Genomic variations and mutational events associated with plant-pathogen interactions. *Biology*. 1(3), 421.
9. Chen S, Hayward A, Dey SS, Choudhary M, Hmon KPW, Inturrisi FC, **Dolatabadian A**, Neik TX, Yang H, Siddique KHM, Batley J, Cowling WA (2022) Quantitative trait loci for heat stress tolerance in *Brassica rapa* L. Are distributed across the genome and occur in diverse genetic groups, flowering phenologies and morphotypes. *Genes*. 13, 296.
10. **Dolatabadian A**, Cornelsen J, Huang S, Zou Z, Fernando WGD (2022) Sustainability on the Farm: Breeding for Resistance and Management of Major Canola Diseases in Canada Contributing towards an IPM Approach. *Canadian Journal of Plant Pathology*. 44: 157-190.
11. Zamanmirabadi A, Hemmati R, **Dolatabadian A**, Batley J (2021) Current progress in studying blackleg disease (*Leptosphaeria maculans* and *L. biglobosa*) of canola in Iran: Where do we stand now? *Plant Pathology*. 71: 239-250.
12. Zamanmirabadi A, Hemmati R, **Dolatabadian A**, Batley J (2021) Status of SSR, cSSR, iSSR and VNTR motifs from *Leptosphaeria maculans* based on high throughput sequencing data. *Mycologia Iranica* 8(2)
13. Yang C, **Dolatabadian A**, Fernando WGD (2022) The wonderful world of intrinsic and intricate immunity responses in plants against pathogens. *Canadian Journal of Plant Pathology*. 44: 1-20.
14. **Dolatabadian A** (2021) Plant-Microbe Interaction. Editorial, Special Issue: Plant-Microbe Interaction. *Biology*. 10(1),15.
15. Timaz S, Bayer P, Inturrisi F, Zhang F, Yang H, **Dolatabadian A**, Neik TX, Severn-Ellis A, Patel D, Ibrahim MI, Pradhan A, Edwards D, Batley J (2020) Resistance gene analogs in the Brassicaceae: Identification, characterisation, distribution, and evolution. *Plant Physiology*. 184: 909-922.

16. **Dolatabadian A**, Batley J, Edwards D, Barbetti MJ (2020) Virulence/avirulence patterns among *Leptosphaeria maculans* isolates determines expression of qualitative resistance and senescence involving programmed cell death in cotyledons of *Brassica napus*. *European Journal of Plant Pathology* 156: 1077-1089.
17. **Dolatabadian A**, Bayer P, Tirnaz S, Hurgobin B, Edwards D, Batley J (2019) Characterisation of disease resistance genes in the *Brassica napus* pangenome reveals significant structural variation. *Plant Biotechnology Journal*. 18: 969-982.
18. Gholamhoseini M, **Dolatabadian A**, Habibzadeh F (2019) Ridge-furrow planting system and wheat straw mulching effects on dryland sunflower yield, soil temperature and moisture. *Agronomy Journal*. 111: 3383-3392.
19. Hurgobin B, Golicz AA, Bayer PE, Chon-Kit KC, Tirnaz S, **Dolatabadian A**, Schiessl SV, Samans B, Montenegro JD, Parkin IAP, Pires JC, Chalhoub B, King GJ, Snowden R, Batley J, Edwards D (2018) Homoeologous exchange is a major cause of gene presence/absence variation in the amphidiploid *Brassica napus*. *Plant Biotechnology Journal*. 16: 1265-1274.
20. Etemadi F, Hashemi M, Zandvakili O, **Dolatabadian A**, Sadeghpour A (2018) Nitrogen Contribution from Winterkilled Faba Bean Cover Crop to Spring-Sown Sweet Corn in Conventional and No-Till Systems. *Agronomy Journal*. 10: 1-8.
21. Hemmati P, Zafari D, Mahmoodi SB, Hashemi M, Gholamhoseini M, **Dolatabadian A**, Ataei R (2018) Histopathology of charcoal rot disease (*Macrophomina phaseolina*) in resistant and susceptible cultivars of soybean. *Rhizosphere*. 7: 27-34.
22. **Dolatabadian A**, Patel DA, Edwards D, Batley J (2017) Copy number variation and disease resistance in plants. *Theoretical and Applied Genetics*. 130: 2479-2490.
23. Ahmadi-Rad S, Gholamhoseini M, Ghalavand A, Asgharzadeh A, **Dolatabadian A** (2016) Foliar application of nitrogen-fixing bacteria increases growth and yield of canola grown under different nitrogen regimes. *Rhizosphere*. 2: 34-37.
24. Manafi E, Modarres Sanavy SAM, Aghaalikhani M, **Dolatabadian A** (2015) Exogenous 5-Aminolevulinic Acid Promotes Antioxidative Defence System, Photosynthesis and Growth in Soybean against Cold Stress. *Notulae Scientia Biologicae*. 7: 486-494.
25. **Dolatabadian A**, Modarres Sanavy SAM, Ghanati F, Gresshoff PM (2013) *Agrobacterium rhizogenes* transformed soybean roots differ in their nodulation and nitrogen fixation response to genistein and salt stress. *World Journal of Microbiology and Biotechnology (Formerly MIRCEN Journal of Applied Microbiology and Biotechnology)*. 29: 1327-1339.
26. **Dolatabadian A**, Modarres Sanavy SAM, Gholamhoseini M, Khodaei-Joghan A, Majd M, Beyraghdar-Kashkoli A (2013) The role of calcium in improving photosynthesis and related physiological and biochemical attributes of spring wheat subjected to simulated acid rain. *Physiology and Molecular Biology of Plants*. 19: 189-198.
27. Gholamhoseini M, Ghalavand A, **Dolatabadian A**, Jamshidi E, Khodaei-Joghan A (2013) Effects of arbuscular mycorrhizal inoculation on growth, yield, nutrient uptake and irrigation water productivity of sunflowers grown under drought stress. *Agricultural Water Management*. 117: 106-114.
28. Gholamhoseini M, Ghalavand A, Khodaei-Joghan A, **Dolatabadian A**, Zakikhani H, Farmanbar E (2013) Zeolite-amended cattle manure effects on sunflower yield, seed quality, water use efficiency and nutrient leaching. *Soil and Tillage Research*. 126: 193-202.
29. Zakikhani H, Ardakani MR, Rejali F, Gholamhoseini M, Khodaei-Joghan A, **Dolatabadian A** (2012) Influence of Diazotrophic Bacteria on Antioxidant Enzymes and Some Biochemical Characteristics of Soybean Subjected to Water Stress. *Journal of Integrative Agriculture*. 11: 1828-1835.
30. Gholamhoseini M, Aghaalikhani M, **Dolatabadian A**, Khodaei-Joghan A, Zakikhani H (2012) Decreasing Nitrogen Leaching and Increasing Canola Forage Yield in a Sandy Soil by Application of Natural Zeolite. *Agronomy journal*. 104:1467-1475.
31. Rahimi-Dehgolan R, Tahmasebi-Sarvestani A, Rezazadeh SA, **Dolatabadian A** (2012) Morphological and Physiological Characters of *Aloe vera* Subjected to Saline Water Irrigation. *Journal of Herbs Spices & Medicinal Plants*. 18: 222-230.
32. **Dolatabadian A**, Modarres Sanavy SAM, Ghanati F, Gresshoff PM (2012) Morphological and physiological response of soybean treated with the microsymbiont *Bradyrhizobium japonicum* pre-incubated with genistein. *South African Journal of Botany*. 79: 9-18.
33. Khodaei-Joghan A, Ghalavand A, Aghaalikhani M, Gholamhoseini M, **Dolatabadian A** (2012) How Organic and Chemical Nitrogen Fertilizers, Zeolite, and Combinations Influence Wheat Yield and Grain Mineral Content. *Journal of Crop Improvement*. 26: 116-129.
34. Mahdavi B, Modarres Sanavy SAM, Aghaalikhani M, Sharifi M, **Dolatabadian A** (2011) Chitosan Improves Osmotic Potential Tolerance in Safflower (*Carthamus tinctorius* L.) Seedlings. *Journal of Crop Improvement*. 25: 728-741.
35. Aghaalikhani M, Gholamhoseini M, **Dolatabadian A**, Khodaei-Joghan A, Asilan KS (2011). Zeolite influences on nitrate leaching, nitrogen-use efficiency, yield and yield components of canola in sandy soil. *Archives of Agronomy and Soil Science*. 58: 1-21.
36. **Dolatabadian A**, Modarres Sanavy SAM, Ghanati F (2011) Effect of Salinity on Growth, Xylem Structure and Anatomical Characteristics of Soybean. *Notulae Scientia Biologicae*. 3: 41-45.
37. Gholamhoseini M, Ghalavand A, **Dolatabadian A**, Jamshidi E, Khodaei-Joghan A (2010) Integrated fertiliser management to attain sunflower sustainable production under different irrigation regimes. *Archives of Agronomy and Soil Science*. 56: 295-309.
38. Mahdavi B, Modarres Sanavy SAM, Saberali SF, **Dolatabadian A** (2010) Influence of root-zone temperature on growth and nitrogen fixation in three Iranian grasspea landraces. *Acta Agriculturae Scandinavica, Section B - Soil & Plant Science*. 60: 40-47.
39. Bagheri M, Modarres Sanavy SAM, **Dolatabadian A** (2010) Impact of Inter-Row Spacing on Yield and Yield Components of several Annual Medics Species. *Notulae Scientia Biologicae*. 2: 116-124.
40. **Dolatabadian A**, Modarres Sanavy SAM, Asilan KS (2010) Effect of Ascorbic Acid Foliar Application on Yield, Yield Component and several Morphological Traits of Grain Corn under Water Deficit Stress Conditions. *Notulae Scientia Biologicae*. 2: 45-50.

41. Khodaei-Joghan A, Ghalavand A, Aghaali khani M, Gholamhoseini M, **Dolatabadian A** (2010) Comparison among Different Integrated Nutrition Management for Soil Micro and Macro Elements after Winter Wheat Harvesting and Yield. *Notulae Scientia Biologicae*. 2: 107-111.
42. Balouchi HR, Modarres Sanavy SAM, Emam Y, **Dolatabadian A** (2009) UV radiation, elevated CO₂ and water stress effect on growth and photosynthetic characteristics in durum wheat. *Plant Soil and Environment*. 55: 443-453.
43. **Dolatabadian A**, Modarres Sanavy SAM, Sharifi M (2009) Effect of salicylic acid and salt on wheat seed germination. *Acta Agriculturae Scandinavica, Section B - Soil & Plant Science*. 59: 456-464.
44. **Dolatabadian A**, Saleh-Jouneghani R (2009) Impact of Exogenous Ascorbic Acid on Antioxidant Activity and Some Physiological Traits of Common Bean Subjected to Salinity Stress. *Notulae Botanicae Horti Agrobotanici Cluj-Napoca*. 37: 165-172.
45. **Dolatabadian A**, Modarres Sanavy SAM, Sharifi A (2009) Alleviation of Water Deficit Stress Effects by Foliar Application of Ascorbic Acid on *Zea mays* L. *Journal of Agronomy and Crop Science*. 195:347-355.
46. Tohidi-Moghadam HR, Shirani-Rad AH, Nour-Mohammadi G, Habibi D, Modarres-Sanavy SAM, Mashhadi-Akbar-Boojari M, **Dolatabadian A** (2009) Response of six oilseed rape genotypes to water stress and hydrogel application. *Pesquisa Agropecuária Tropical*. 39: 43-250.
47. Fattahi-Neisiani F, Modarres Sanavy SAM, Ghanati F, **Dolatabadian A** (2009) Effect of Foliar Application of Pyridoxine on Antioxidant Enzyme Activity, Proline Accumulation and Lipid Peroxidation of Maize (*Zea mays* L.) under Water Deficit. *Notulae Botanicae Horti Agrobotanici Cluj-Napoca*. 37: 116-121.
48. **Dolatabadian A**, Modarres Sanavy SAM (2008) Effect of the Ascorbic Acid, Pyridoxine and Hydrogen Peroxide Treatments on Germination, Catalase Activity, Protein and Malondialdehyde Content of Three Oil Seeds. *Notulae Botanicae Horti Agrobotanici Cluj-Napoca* 36: 61-66.
49. **Dolatabadian A**, Modarres Sanavy SAM, Chashmi NA (2008) The Effects of Foliar Application of Ascorbic Acid (Vitamin C) on Antioxidant Enzymes Activities, Lipid Peroxidation and Proline Accumulation of Canola (*Brassica napus* L.) under Conditions of Salt Stress. *Journal of Agronomy and Crop Science*. 194: 206-213.

Conference Proceedings

1. Tirnaz S, Bayer PE, Inturrisi F, Neik TX, Yang H, **Dolatabadian A**, Zhang F, Severn-Ellis A, Patel DA, Pradhan A, Edwards D, Batley J (2020) Genome-wide identification of resistance gene analogs in the Brassicaceae. PAG XXVIII
2. **Dolatabadian A**, Bayer P, Tirnaz S, Hurgobin B, Edwards D, Batley J (2019) Characterisation of Resistance Genes in the *Brassica napus* Pangenome. PAG XXVII.
3. Scheben A, Bayer P, **Dolatabadian A**, Golicz A, Hurgobin B, Tirnaz S, Chan KC, Edwards D, Batley J (2019) *Brassica* Pangenomes as a Novel Source of Disease Resistance Genes. PAG XXVII.
4. Inturrisi FC, Tirnaz S, Bayer P, Neik TX, Yang H, **Dolatabadian A**, Zhang F, Severn-Ellis A, Patel DA, Pradhan A, Lee HT, Edwards D, Batley J (2018) Genome-Wide Analysis of NBS-LRR Genes in the Brassicaceae and Applications for Breeding. PAG XXVI.
5. **Dolatabadian A**, Hurgobin B, Bayer P, Edwards D, Batley J (2018) Characterisation of disease resistance genes in the *Brassica napus* pangenome. Brassica 2018, St-Malo, France.
6. **Dolatabadian A**, Bayer P, Edwards D, Batley J (2018) Characterisation and genetic mapping of resistance genes in the *Brassica napus* pangenome. The Integrative Plant Biology Conference IPG PAS, Poznan, Poland.
7. **Dolatabadian A**, Batley J, Edwards D, Barbetti M, Hurgobin B, Bayer P (2016) Association of Copy Number Variation with Qualitative and Quantitative Resistance against *Leptosphaeria maculans* in *Brassica napus*. Brassica 2016, Melbourne, Australia.
8. Chen S, Hayward A, Witt Hmon KP, Dey SS, Inturrisi FC, **Dolatabadian A**, Neik TX, Yang H, Nelson MN, Turner NC, Siddique KHM, Cowling WA, Batley J (2016) Genome-wide association analyses provide genomic insights into natural variation in heat tolerance of *Brassica rapa*. Brassica 2016, Melbourne, Australia.
9. Batley J, **Dolatabadian A**, Yang H, Severn-Ellis A, Alamery S, Tollenaere R, Bayer P, Hurgobin B, Golicz A, Edwards D (2016) The More the Merrier? Investigating Copy Number Variation in *Brassica* Disease Resistance. PAG ASIA.
10. **Dolatabadian A**, Modarres Sanavy SAM, Ghanati F, Gresshoff PM (2012) Nodulation and Nitrogen Fixation of Transformed Soybean Hairy Roots by *Agrobacterium rhizogenes* Affected by Genistein and Salt Stress. VIPCA; Austria.
11. **Dolatabadian A**, Modarres Sanavy SAM, Ghanati F, Gresshoff PM (2011) Effects of Genistein on Nodulation, Nitrogen Fixation and Physiological Attributes of Soybean under Salt Stress. TROPENTAG; Germany, 2011.

Book chapter

1. **Dolatabadian A**, Yang H, Batley J. (2018) Case Study for Trait-Related Gene Evolution: Disease Resistance Genes in *Brassica napus*. In: The *Brassica napus* genome (Ed Shengyi Liu, Rod Snowdon and Boulos Chalhoub) Springer (India) pp 223-232.

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