C. V.

PERSONAL BIODATA

Name: Babak

Family Name: Pakdaman Sardrood

Date of Birth: March 30, 1974

Place of Birth: Tabriz

Country of Permanent Residence: Iran

Official Address: B. S. Pakdaman
Department of Plant Protection
Agricultural Faculty,
Agricultural Sciences and Natural Resources
University of Khuzestan,
Mollasani, Khuzestan, Iran

Tel: (+98) 9900474434
Email: bpakdaman@yahoo.com

Marital state: Married with Behnaz Aftabi, with a son Sepehr

ORCID identifier: https://orcid.org/0000-0002-7099-101X

DEGREES

Type of Certificate	Year	School/ University	Cumulative GPA (total score is 20.00)
Diploma (Empirical Science)	1988-1992	Ferdowsi High School, Tabriz	18.47
B. Sc. (Plant Protection)	1992-1996	Azarabadegan University, Tabriz	17.38
M. Sc. (Plant Pathology)	1996-1999	Tarbiat Modares University, Tehran	18.47
Ph. D. (Plant Pathology)	2008-2013	Tarbiat Modares University, Tehran	18.47

M. Sc. Thesis Title: Application of semi-purified phytotoxins of *Fusarium graminearum* for evaluation of head blight resistance in wheat- *The dissertation includes*

a globally new finding and precedes the finding of the Austrian Group published by CIMMYT.
Ph. D. Thesis Title: Study on the Entomopathogenicity of *Trichoderma* Species and the Generation of a Transgenic *Trichoderma* for the Effective Biocontrol of Insect and Fungal Pests- *The dissertation includes 11 globally new findings from molecular and non-molecular methodologies to new discoveries in the fields of Molecular Biology, Medicinal Plants, and Mycology.*

Scientific Interest: Plant Pathology, Fungal Plant Diseases, Biological Control, Fungal Genetics and Mycotechnology, Agrobiotechnology

HONOURS AND AWARDS

1- Various gifts awarded along all my studies till my high school course termination because of being the first or the second top student

2- Being the first top student among the students of Empirical Science, in Ferdowsi high school, in 1992

3- An appreciation letter for a seminar about the fungal cell walls and membranes at Tabriz University

4- Being the second top student among Plant Protection students of Tabriz University in 1996

5- Extension of academic studies as an M. Sc. exhibitioner financially supported by the Iranian Ministry of Agriculture

6- An appreciation letter because of being the first top student among other Plant Pathology M. Sc. students in Tarbiat Modarres University, in 1999

7- 400, 000 Rials rewarded by the Iranian Ministry of Agriculture in 1999

8- The first global introduction of the antifungal activities of the herbicides Ethalfluralin, Diclofop-methyl, Cycloxydim, Haloxyfop ethoxy ethyl and Clodinafop

9- Ph. D. Exhibitioner financially supported by Agricultural Sciences and Natural Resources University of Khuzestan, Mollasani, Ahwaz, Khuzestan, Iran

10- Innovation of a statistically analyzable methodology for 70 years old globally well-celebrated confrontation test: Introduction of *R* factor (representative of the resistance of the pathogen to a biological control fungus) and Pakdaman Biological Control Index (PBCI) in 2013

WORK EXPERIENCE

1- Translation and edition of academic articles in Tarbiat Modarres University, Tehran, Iran

2- Edition of the book, “Complementary Mycology” written by Mr. Dr. Peighami at Tabriz University, Tabriz, Iran

3- Preparation of academic and educational charts about fungal biology at Tabriz University, Tabriz, Iran

4- Working as a researcher in the Plant Pathology Department in Agricultural and Natural Resources Research Center of Moghan (4 months)

5- Working as a researcher in Plant Pest and Disease Research Institute (PPDRI), Tehran, Iran (2 years)

6- Working as a visiting researcher in the Institute for Plant Breeding and Plant Protection , Martin-Luther-University, Halle-Wittenberg, Halle, Germany (17 months)

7- Working as a researcher in Agricultural Biotechnology Research Institute of Iran (ABRII), Karaj, Tehran, Iran (2 years)

8- Working as a research assistant in the Group for Gene Technology and Applied Biochemistry, Institute of Chemical Engineering, Vienna University of Technology, Vienna, Austria (2 months)

9- Working as a researcher in the Department of Plant Protection, West Azerbaijan Agricultural and Natural Resources Research Center, Urmia, Iran (2 years)

10- Working as an academic lecturer in the Department of Plant Protection, Agricultural Faculty, Agricultural Sciences and Natural Resources University of Khuzestan, Mollasani, Ahwaz, Iran (since 2013 till now)

RESEARCH EXPERIENCE

1- Study on the possibility of *Fusarium graminearum* semi-purified phytotoxins application for valuation of the wheat cultivar resistance to fusarium head blight disease

2- Study on the efficacy of various fungicides in rapeseed sclerotinial stem rot control through plant shoot sprayings

3- Investigation on the possibility of rapeseed sclerotinial stem rot biological control by *Trichoderma* genus belonged antagonistic microorganisms under field conditions

4- Antifungal activity of *Bacillus thuringiensis* bacteria isolated from the rhizosphere of tomato plants

5- Antifungal activity of *Sternbergia* bulb extract

MEMBERSHIP IN SCIENTIFIC SOCIETIES

1- The Iranian Phytopathological Society

2- Research Scientist in the Scientific Society of the Plant Pest and Disease Research Institute, Tehran, Iran

3- The Iranian Bio-Safety Society

LIST OF PUBLICATIONS

A. RESEACH PAPERS IN INTERNATIONAL JOURNALS

1- **Pakdaman, B. S.,** Goltapeh, E. M., Alizadeh, A., Allameh, A. A. (2006). Effects of *Fusarium graminearum* semi-purified phytotoxins on wheat germinating seeds and tissue in relation to fusarium head blight resistance of wheat. Journal of Indian Phytopathology 59: 26-31.

2- **Pakdaman, B. S.,** Khabbaz, H., Goltapeh, E. M., and Afshari, H. A. (2002). *In vitro* studies on the effects of sugar beet field prevalent herbicides on the beneficial and deleterious fungal species. Pakistan Journal of Plant Pathology 1: 23-24.

3- **Pakdaman, B. S.,** and Goltapeh, E. M. (2006). An *in vitro* study on the possibility of rapeseed white stem rot disease control through the application of prevalent herbicides and *Trichoderma* species. Pakistan Journal of Biological Sciences 10:7-12.

4- Fazeli Sabzvar, Mirabdulbaghi, M., Zarghami, R., and **Pakdaman, B. S.** (2006). Minituber production as affected by planting bed composition and node position in tissue cultured plantlet in two potato cultivars. Pakistan Journal of Biological Sciences 9: 416-418.

5- Mohammadi Goltapeh, E., Aggarwal, R., **Pakdaman, B. S.**, and Renu (2007). Molecular characterization of *Aspergillus* species through amplicon length

polymorphism (ALP) using universal rice primers. Intenational Journal of Agricultural Technology 3: 29-37.

6- Chaloushi, B., Zarghami, R., Abd-Mishani, C., Omidi, M., Agayev, Y. M., and **Pakdaman, B. S.** (2007). Effects of different hormonal treatments on the callus production and plantlet regeneration in saffron (*Crocus sativus* L.). Pakistan Journal of Biological Sciences 10: 1625-1631.

7- **Pakdaman, B. S.**, Mohammadi Goltapeh, E., Sepehrifar, R., Pouriesa, M., Rahimi Fard, M., Moradi, F., and Modarres, S. A. M. (2007). Cellular membranes as the sites for the antifungal activity of the herbicide sethoxydim. Pakistan Journal of Biological Sciences 10: 2480-2484.

8- Mohammadi Goltapeh, **E.**, Shams-Bakhsh, M., and **Pakdaman, B. S.** (2008). Sensitivity of the nematophagus fungus *Arthrospora oligospora* to fungicides, insecticides and crop supplements used in the commercial cultivation of *Agaricus bisporus*. Journal of Agricultural Research and Technology 10: 383-389.

9- Zarghami, **R.**, Pirseyedi, M., Hasrak, S., and **Pakdaman, B. S.** (2008). Evaluation of genetic stability in cryopreserved *Solanum tuberosum*. African Journal of Biotechnology 7: 2798-2802.

10- Ghafarokhy, M. R., Goltapeh, E. M., Pourjam, E., **Pakdaman, B. S.**, Modarres Sanavy, S. A. M., and Varma, A. (2011). Potential of mycorrhizal-like fungi and *Trichoderma* species in biocontrol of take-all disease of wheat under greenhouse condition. Journal of Agricultural Technology 7: 185-195.

11- Kari, H. D., Mohammadi Goltapeh, E., Moieni, A., Jaimand, K., **Pakdaman, B. S.**, and Varma, A. (2011). Effect of *Piriformospora indica* and *Sebacina vermifera* on plant growth and essential oil yield in *Thymus vulgaris*. Symbiosis 53: 29-35.

12- Mohammadi, N., Puralibaba, H., Goltapeh, E. M., Babaie Ahari, A., and **Pakdaman, B. S.** (2012). Advanced lentil lines screened for resistance to *Fusarium oxysporum* f. sp. *lentis* under greenhouse and field conditions. Phytoparasitica 40: 69-76.

13- **Pakdaman, B. S.**, Mohammadi Goltapeh, E., Allameh, A. A., and Alizadeh, A. (2013). Production of deoxynivalenol by *Fusarium graminearum* Schwabe in culture and it's toxicity to wheat germlings in relation to virulence. African Journal of Agricultural Research 8: 3598-3603.

14- **Pakdaman, B. S.**, Goltapeh, E. M., Soltani, B. M., Talebi, A. A., Naderpoor, M., Kruszewska, J. S., Piłsyk, S., Sarrocco, S., and Vannacci, G. (2013). Toward the quantification of confrontation (dual culture) test: a case study on the biological control of *Pythium aphanidermatum* with *Trichoderma asperelloides*. Journal of

Biofertilizers & Biopesticides 4: 137. https://doi.org/10.4172/2155-6202.1000137 (*OMICS HOT PAPERS !!!*)

15- Osdaghi, E., **Pakdaman, B. S.**, Bavi, M., Akbari, N. O., Kimiaei, S., and Hadian, S. (2014). First report of *Curtobacterium flaccumfaciens* pv. *flaccumfaciens* causing cowpea bacterial wilt in Iran. Journal of Phytopathology, https://doi.org/10.1111/jph.12300

16- Parizipour, M. H. G., Ramazani, L., and **Pakdaman, B. S.** (2018). Temperature affected transmission, symptom development and accumulation of wheat dwarf virus. Plant Protection Science 54: 222-233. https://doi.org/10.17221/147/2017-PPS

17- Dezhabad, M., Taheri, H., and **Pakdaman, B. S.** (2018). *Bacillus thuringiensis*-mediated priming induces jasmonate/ ethylene and salicylic acid-dependent defense pathways genes in tomato plants. Journal of Plant Molecular Breeding 6: 61-69. https://doi.org/10.22058/JPMB.2019.116294.1196

18- **Pakdaman, B. S.,** and Farkhari, M. (2021). Milk thistle [*Silybum marianum* (L.) Gaertn.] seed fungi in a sub-tropical district. Journal of Innovative Agriculture 8: 11-15. https://doi.org/10.37446/jinagri/8.1.2021.11-15

19- Elahifard, E., Derakhshan, A., and **Pakdaman, B. S.** (2021). Does seed heteromorphism affect the critical temperature thresholds for wild mustard (*Sinapis arvensis* L.) germination? A modeling approach. Botany https://doi.org/10.1139/cjb-2020-0193

20- **Pakdaman, B. S.,** and Akbari, N. O. (2021). Area under microorganisms interaction curve: A statistical protocol for *in vitro* analysis of antifungal activity of *Bacillus thuringiensis* against *Fusarium oxysporum* f. sp. *lycopersici*. Biopesticides International 16: 1-7.

21- **Pakdaman, B. S.** (2021). Effects of various metal ions on the growth of some phytopathogenic and biological control fungi. Journal of Innovative Agriculture 8: 1-9. https://doi.org/10.37446/jinagri/rsa/8.3.2021.1-9

22- Dezhabad, M., Taheri, H., and **Pakdaman, B. S.** (2022). Transcriptional response of defensive and regulatory genes involved in tomato plant hormone signaling pathways against fusarium wilt. Journal of Plant Molecular Breeding, https://doi.org/10.22058/jpmb.2021.527725.1228

23- Zibanezhadian, M., **Pakdaman, B. S.,** Taheri, H., and Farkhari, M. (2022). Anti-oxidative response of *Bacillus thuringiensis*- primed tomato plants to *Fusarium oxysporum* f. sp. *lycopersici*. Journal of Plant Molecular Breeding, https://doi.org/10.22058/JPMB.2022.543818.1245

24- **Pakdaman, B. S.,** Elahifard, E., and Heidari, M. (2022). *In vitro* studies in the quest for herbicidal mycochemicals. Environmental Engineering and Management Journal 21:1097-1103.

25- Kiani, Z. D., Taheri, H., **Pakdaman, B. S.,** and Farkhari, M. (2024). Controlling tomato fusarium wilt disease through *Bacillus thuringiensis*-mediated defense priming. Iranian Journal of Biotechnology, 11: e3690. Https://doi.org/10.30498/ijb.2024.394291.3690

B. RESEARCH PAPERS IN NATIONAL JOURNALS

1- **Pakdaman, B. S.,** Goltapeh, E. M., Alizadeh, A., and Allameh, A. A. (2003). Application of *Fusarium graminearum* semi-purified phytotoxins in the evaluation of various wheat cultivars partial resistance to head blight disease. Journal of Agricultural Science and Natural Resources 10: 137-147.

2- Salehi Salmi, M., Eisa-Salam, S., and **Pakdaman, B. S.** (2018). Effect of salicylic acid on germination and physiological indices in ornamental palm under salt stress. Journal of Seed Research 8: 18-28.

3- Khodaie, A. J., Moshattati, A., Moosavi, S. H., **Pakdaman, B. S.,** and Abdollahi, M. N. (2019). Study on the Reduced Effects of Water Shortage on Wheat Growth and Yield through Application of Zeolite and the Fungus *Piriformospora indica*. Water Research in Agriculture 33: 613-627.

4- Momeni, F., Abdali Mashhadi A., Siadat, S. A., **Pakdaman, B. S.,** and Ghobadi, M. (2020). The effect of application of biofertilizer and salicylic acid on biochemical characteristics and grain elements of chickpea cultivars under rainfed conditions in Kermanshah. Scientific Journal of Crop Physiology 12: 5-25.

5- Momeni, F., Siadat, S. A., Abdali Mashhadi A., **Pakdaman, B. S.,** and Ghobadi, M. (2021). Effect of biofertilizers and salicylic acid application on yield and yield components of chickpea cultivars under rainfed conditions. Dryland Agriculture 9: 195-216, and 282 (English Abstract). https://doi.org/10.22092/idaj.2021.342974.307

6- Momeni, F., Abdali Mashhadi A., Siadat, S. A., **Pakdaman, B. S.,** and Ghobadi, M. (2021). Effect of salicylic acid spraying and application of biofertilizers on the physiological characteristics and yield of chickpea (*Cicer arietinum* L.) cultivars under rainfed conditions. Iranian Journal of Pulses Research 12: 136-150, https://doi.org/10.22067/ijpr.v12i2.87109

7- **Pakdaman, B. S.,** Elahifard, E., and Heidari, M. (2021). Identification of *Utrechtiana* Species from Common Reed in Khuzestan Province: New Records

for Iran. Taxonomy and Biosystematics Journal. https://doi.org/10.22108/TBJ.2021.127238.1151

8- Mirzaei, S., Siadat, S. A., **Pakdaman, B. S.**, and Moradi, M. T. (2021). Effect of *Piriformospora indica* and foliar application of salicylic acid on morphological characteristics and antioxidant enzymes of thyme irrigation cut-off stress. Journal of Crops Improvement. https://doi.org/10.22059/jci.2021.309204.2443

9- Parwizizadeh, Z., Gharineh, M. H., Bakhshandeh, A. M., Lotfi, A. J. A., and **Pakdaman, B. S.** (2022). Changes in growth, quantitative and some secondary metabolites of German chamomile (*Matricaria recutita* L.) cultivar Presov in response to *Serendipita indica* and zeolite. Environmental Sciences, https://doi.org/10.52547/envs.2022.222111.1066

10- Tahmasebi, K. A., Salehi Selmi, M., and **Pakdaman, B. S.** (2023). Effect of the endophytic fungus, *Serendipita indica* on the morphological and biochemical characteristics of narcissus (*Narcissus tazetta* L.) in various culture substrates. Plant Process and Function 12: 243-254.

11- Tahmasebi, M., Salehi Selmi, M., Heidari, M., and **Pakdaman, B. S.** (accepted). Study on the vegetative growth and mineral element uptake by *Rosa damascena* Mill. irrigated with various contents of sodium chloride. Journal of Flower and Ornamental Plants

C. REVIEW AND OPINION ARTICLES

1- Seiboth, B., **Pakdaman, B. S.**, Hartl, L., and Kubicek, C. P. (2007). Lactose metabolism in filamentous fungi: how to deal with an unknown substrate. Fungal Biology Reviews 21: 42-48. (*ScienceDirect TOP25 Hottest Articles !!!*)

2- **Pakdaman, B. S.,** and Mohammadi, N. (2020). Creation of Trichoderman: from an idea to realization. Journal of Biotechnology and Bioresearch 2: JBB000540.2020

3- **Pakdaman, B. S.** (2021). *Bacillus thuringiensis* Berliner: A key biological agent for sustainable agriculture. Journal of Biotechnology and Bioresearch 3: JBB000551.2021

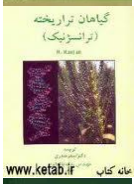
4- **Pakdaman, B. S.** (2022). *Neoscytalidium dimidiatum*: an emerging threat in global warmth era. Journal of Biotechnology and Bioresearch 3: JBB. 000566. 2022

5- **Pakdaman, B. S.** (2022). Weed control: Current and prospective approaches. Journal of Biotechnology and Bioresearch 4: JBB. 000579.2022

6- **Pakdaman, B. S.** (2022). *Lactobacillus rhamnosus*, as a potential candidate against candidiasis. Journal of Biotechnology and Bioresearch 4: JBB.000583.2022

D. BOOKS AND BOOK CHAPTERS

1. "Compendium of Beet Diseases and Insects" translated by Dr. E. M. Goltapeh, **B. S. Pakdaman,** and Y. Rezaei Danesh. Published by Tarbiat Modarres University Publication Center in 1999

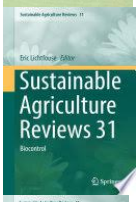


2. "Transgenic Plants" translated by Dr. A. Heydari, and **B. S. Pkdaman**. Published by Sabzandishan Publishing Co. in 2003

3. "Nutrient Deficiencies & Toxicities in Crop Plants" translated by Dr. E. M. Goltapeh, Dr. E. Purjam, Dr. M. J. Malakuti, and **B. S. Pakdaman**. Published by Avaye Noor Co. in 2010

4. "An Introduction to Bioremediation" by **B. S. Pakdaman**, E. M. Goltapeh, A. Varma in "Fungi as Bioremediators, Soil Biology, Vol. 32" edited by E. M. Goltapeh, Y. D. Rezaei, and A. Varma. Published by Springer Co. in 2013

5. "Fusarium Blight Disease of Wheat Head- Extensional Publication" by G. Khalilzadeh, **B. S. Pakdaman**, and P. Agazadeh. Published by Agricultural Extension Management, West Azerbaijan Agricultural Organization in 2010



6. "Weeds, Herbicides and Plant Disease Management" by **B. S. Pakdaman**, E. Mohammadi Goltapeh in "Sustainable Agriculture Reviews 31 Biocontrol, pp. 41-178" edited by Lichtfouse E. Published by Springer Co. in 2018

7. "Effect of Agricultural Chemicals and Organic Amendments on Biological Control Fungi" by **B. S. Pakdaman**, E. Mohammadi Goltapeh in "Sustainable Agriculture Reviews 31 Biocontrol, pp. 217-359" edited by E. Lichtfouse E. Published by Springer Co. in 2018

8. "Plant Epidemiology and Ecology, Principles and Applications" translated by **B. S. Pakdaman**, M. Mehrparwar, E. Mohammadi Goltapeh, published by Agricultural Education and Extension Publication in 2019

9. “Composting for Dummies” translated by **B. S. Pakdaman**, M. Mehrparwar, E. Mohammadi Goltapeh, published by Agricultural Education and Extension Publication in 2019

E. CONTRIBUTIONS TO INTERNATIONAL CONFERENCES AND CONGRESSES

1- **Pakdaman, B. S.,** Komijani, S., Afshari, H. A., and Goltapeh, E. M. (2002). An *in vitro* study on the possibility of rapeseed white stem rot disease control through the application of prevalent herbicides and *Trichoderma* species. p. 91. 53. Deutsche Pflanzenschutztagung (53. DPST), Bonn, Germany.

2- **Pakdaman, B. S.,** Khabbaz, H. J., Goltapeh, E. M., and Afshari, H. A. (2002). *In vitro* studies on the effects of sugar beet field prevalent herbicides on the beneficial and deleterious fungal species. p. 103. 53. Deutsche Pflanzenschutztagung (53. DPST), Bonn, Germany.

3- **Pakdaman, B. S.,** Goltapeh, E. M., and Afshari, H. A. (2003). Production of indole and its derivatives by various pathogenic, ectomycorrhizal fungi and plant disease biocontrol agents. The 6th International PGPR (Plant Growth Promoting Rhizobacteria) Workshop, Kozhikoda (Calcuit), India.

4- **Pakdaman, B. S.,** Sepehrifar, R., Pouriesa, M., Rahimi Fard, M., Moradi, F., and Goltapeh, E. M. (2006). Plasma membrane as the target site for the antifungal activity of the herbicide sethoxydim. p. 93. 8th Conference of European Foundation for Plant Pathology & British Society of Plant Pathology Presidential Meeting, Copenhagen, Denmark.

5- **Pakdaman, B. S.,** and Kariman, K. (2006). Sethoxydim, an herbicide with potentially increasing effects on the virulence of fusarium head blight causal *Fusarium* species. p. 99. 8th Conference of European Foundation for Plant Pathology & British Society of Plant Pathology Presidential Meeting, Copenhagen, Denmark.

6- Kariman, K., Goltapeh, E. M., Minasian, V., **Pakdaman, B. S.,** and Danesh, Y. R. (2006). Evidences on mycoparasitism in spores of AM fungi isolated from sugar cane fields of Iran. p. 125. The 5th International Symbiosis Symposium, Vienna, Austria.

7- **Pakdaman, B. S.,** Goltapeh, E. M., Kruszewska, J. S., Mohammad Soltani, B., Pilzyk, S., Komon-Zelazowska, M., Druzhinina, I., Pajhoohandeh, M., Sarrocco, S., Vannacci, G., Kubicek, C. P., and Deising, H. B. (2012). Insect-specific sodium ion pump targeting μ-Agatoxin IV peptide inhibits *Trichoderma asperellum* conidiation. p. 21. 2012 International Congress on Invertebrate Pathology and Microbial Control and 45th Annual Meeting of the Society for

Invertebrate Pathology Program and Abstracts. Centro de Convenciones de la UCA Puerto Madreo, Buenos Aires, Argentina (Abstract in English).

8- Rahimi, M., Heidari, M., **Pakdaman, B. S.**, Salehi, M. R. S., and Rahmati, M. J. (2017). Effect of oxalic acid, and arabic gum on some biochemical parameters of pomegranate arils. The 1st International Conference and the 10th National Horticultural Congress of Iran, Tarbiat Modares University, Tehran, Iran (Full paper with an abstract in English)

9- **Pakdaman, B. S.**, and Heidari, M. (2018). The antifungal effect of the methanolic extract of *Sternbergia clusiana* Spreng. International Conference on Agricultural Science, Medicinal Plants and Traditional Medicine, Payam Noor University of Razavi Khorasan, Mashhad (Full paper with an abstract in English)

F. CONTRIBUTIONS TO THE NATIONAL CONFERENCES AND CONGRESSES

1- **Pakdaman, B. S.,** Goltapeh, E. M., Alizadeh, A., and Allameh, A. A. (2000). Comparison of deoxynivalenol production potential in different isolates of *Fusarium graminearum* and evaluation of its inhibitory effect on wheat seed germination. The 14th Iranian Plant Protection Congress.

2- **Pakdaman, B. S.,** Goltapeh, E. M., Alizadeh, A., and Allameh, A. A. (2000). Effects of *Fusarium graminearum* semi-purified phytotoxins on wheat germinating seeds and tissues in relation to fusarium head blight resistance of wheat. The 14th Iranian Plant Protection Congress.

3- **Pakdaman, B. S.,** Goltapeh, E. M., Alizadeh, A., and Allameh, A. A. (2002). Effect of light on the reaction of wheat coleoptiles to the various concentrations of semi-purified phytotoxins of *Fusarium graminearum*, head blight pathogen. The 15th Iranian Plant Protection Congress.

4- **Pakdaman, B. S.,** Khabbaz, H. J., Afshari, H. A., and Goltapeh, E. M. (2002). Study on the effects of various metal ions on the growth of the pathogenic fungi, *Fusarium oxysporum*, *Macrophomina phaseolina*, *Ceratocystis radicicola*, and the fungus *Trichoderma* sp. The 15th Iranian Plant Protection Congress.

5- **Pakdaman, B. S.,** Khabbaz, H. J., Goltapeh, E. M., and Afshari, H. A. (2002). The estimation of ecotoxicological effects of sugar beet field prevalent herbicides residues on the various fungal populations. The 15th Iranian Plant Protection Congress.

6- Naderpour, M., Safaie, N., and **Pakdaman, B. S.** (2013). Morphological, virulence and genetic diversity of *Macrophomina phaseolina* isolates from sesame plants in Iran. 1st Iranian Mycological Congress, University of Guilan, Rasht, Iran.

7- Anafcheh, E., Salehi Selmi, M., **Pakdaman, B. S.** (2014). The effect of soilborne fungi on the growth characteristics of Opuntia plant and their role in sustainable agriculture development. 1st E-Congress on Technologies to Achieve Sustainable Development,

8- Monjezi, Z. A. S., Meratan, A. A., Farkhari, M., Babaeizad, V., and **Pakdaman, B. S.** (2015). Effect of endophyte fungus, *Piriformospora indica*, to increase resistance of *Zea mays* to salinity stress. 1st International and 9th National Biotechnology Congress of Islamic Republic of Iran. Shahid Beheshti University, Tehran, Iran.

9- Monjezi, Z. A. S., Farkhari, M., Meratan, A. A., **Pakdaman, B. S.**, and Babaeizad, V. (2015). Study the effect of *Piriformospora indica* fungus on the antioxidant enzymes activity of *Zea mays* under salinity stress. 1st International and 9th National Biotechnology Congress of Islamic Republic of Iran. Shahid Beheshti University, Tehran, Iran.

10- Rahimi, M., Heidari, M., **Pakdaman, B. S.**, Salehi, M. S., Rahmati, M. J. (2017). Effect of oxalic acid on some biochemical indices of minimally processed fresh pomegranate (*Punica granatum* L.) arils. 2nd Conference & Exhibition on Methods to Increase the Shelf-life of Food Products. Tehran, Iran (in Farsi).

11- Parvizizadeh, Z., Garineh, M. H., Bakhshandeh, A. A., Lotfi, A. J. A., and **Pakdaman, B. S.** (2018). The effect of the fungus *Piriformospora indica* and zeolite on the quantitative and qualitative characters of chamomile (*Matricaria chamomilla* L.) cv. Presov. The 2nd National Conference of New Achievements in Agronomy and Plant Breeding, Technical and Professional University of Damavand, Tehran, Iran

12- Sayyadian, I., Farkhari, M., and **Pakdaman, B. S.** (2018). The effect of the fungus *Piriformospora indica* on the grain yield of various corn hybrids in response to heat stress in flowering stage. The first National Conference on Novel Ideas in Agriculture and Natural Resources, University of Ardebil, Ardebil, Iran

13- Salehi Salmi, M., Jalili, R., **Pakdaman, B. S.** (2018). Effect of cutting size and plant growth promoting *Trichoderma* and *Piriformospora* fungi on the rooting and vegetative growth of dragon fruit (*Hylocereus undatus*) cuttings. The First National Conference on Agricultural and Environmental Sciences of Iran, Agricultural Sciences and Natural Resources University of Khuzestan, Khuzestan, Iran

14- **Pakdaman, B. S.**, Elahifard, E., Haji Mahmoodi M. (2018). The effect of potassium nitrate and sulfuric acid on the germination of the pathogenic weed dodder seed. The First National Conference on Agricultural and Environmental

Sciences of Iran, Agricultural Sciences and Natural Resources University of Khuzestan, Khuzestan, Iran

15- Dejhabad, M., Taheri, H., and **Pakdaman, B. S.** (2018). Study on the effect of the inoculation of the bacterium *Bacillus thuringiensis* on the expression of tomato defensive genes and its effect on the severity of fusarium wilt disease. The 9th Conference on Agriculture and Persistent Natural Resources, Tehran

16- Rahimi, M., Heidari, M., **Pakdaman, B. S.,** Salehi, M. R. S., Rahmati, M. J. (2020). Effect of oxalic acid and Arabic gum on polyphenol oxidase and peroxidase activity in pomegranate fresh arils. The First National Conference on Plant Antioxidants, Isfahan University, Isfahan, Iran

17- Rahimi, M., Heidari, M., **Pakdaman, B. S.,** Salehi, M. R. S., Rahmati, M. J. (2020). Effect of oxalic acid and propolis alcoholic extract on some biochemical indices and enzymatic activity of pomegranate fresh arils. The 11th Iranian Horticultural Sciences Congress, Urmia University, Urmia, Iran

18- Kiani Z. D., Taheri, H., **Pakdaman, B. S.,** and Farkhari, M. (2020). Effect of *Bacillus thuringiensis* as plant promoting rhizobacteria against tomato fusarium wilt.16th National Iranian Crop Science Congress, Agricultural Sciences and Natural Resources University of Khuzestan, Mollasani, Iran

LIST OF TERMINATED RESEARCH PROJECTS

1- **Pakdaman, B. S.**, and Heidari, M. (2017). Antifungal activity of bulb extract of *Sternbergia* sp. Project No. 951.40. Agricultural Sciences and Natural Resources University of Khuzestan

2- **Pakdaman, B. S.**, Elahifard, E., Heidari, M. (2018). Study on the possibility of common reed [*Phragmites australis* (Cav.) Trin. Ex Steud.] using the phytotoxins of phytopathogenic fungi- The first step. Applied Project No. 2.411.202. Agricultural Sciences and Natural Resources University of Khuzestan and Agricultural and Natural Resources Research Center of Khuzestan

3- **Pakdaman, B. S.**, Farkhari, M., and Shadkam, B. (2021). Study on the seedborne mycoflora of the medicinal plant milk thistle (*Silybum marianum*). Project No. 951.39. Agricultural Sciences and Natural Resources University of Khuzestan

LIST OF THESES AND DISSERTATIONS SUPERVISED OR ADVISED

G. MSc THESES SUPERVISED

1. Rahimi, M. 2017. The Effects of Oxalic Acid and Natural Coating Compounds on Some Biochemical Indices, Enzyme Activity and Microbial Load of

Minimally Processed Pomegranate (*Punica granatum* L.) Arils. Thesis for Master of Science (M. Sc.) in Horticulture. Department of Horticulture, Faculty of Agriculture, Ramin Agriculture and Natural Resources University of Khuzestan, Jan. 2017.

2. Dejhabad, M. 2018. Study of *Bacillus thuringiensis* Effect on Expression of Defense Genes against Fusarium Wilt of Tomato. Thesis for Master of Science (M. Sc.) in Agricultural Biotechnology. Department of Plant Production and Genetics, Faculty of Agriculture, Khuzestan Agricultural Sciences and Natural Resources University, Sep. 2018.

3. Zibanezhadian, M. 2021. Molecular Antioxidant Response of *Solanum lycopersicum* Pre-Treated with *Bacillus thuringiensis* Against Fusarium Wilt Caused by *Fusarium oxysporum* f. sp. *lycopersici*. Department of Plant Production and Genetics, Faculty of Agriculture, Khuzestan Agricultural Sciences and Natural Resources University, Feb. 2021.

H. MSc THESES ADVISED

1. Akbari, Z. 2015. The Interaction Effect of Mycorrhizal Fungus *Rhizophagus irregularis* and *Trichoderma asperelloides* on Absorption of Some Nutrients and Growth Parameters of Clover under Drought. Thesis for Master of Science (M. Sc.) in Chemistry and Soil Fertility. Department of Soil Science, College of Agriculture, Ramin Agriculture and Natural Resources University of Khuzestan, Sep. 2015.

2. Tahmasebi, M.K.A. 2015. Study on the Effect of Endophytic Fungus *Piriformospora indica* on Growth and Salt Tolerance in *Rosa damascena* Mill. Thesis for Master of Science (M. Sc.) in Ornamental Plant Science. Department of Horticulture, College of Agriculture, Ramin Agriculture and Natural Resources University of Khuzestan, Nov. 2015.

3. Mohammadpoor, F.S.A. 2015. Study on Thermostable Secretion of the Fungus *Piriformospora indica* on Growth and Some of the Biochemical and Physiological Parameters of *Brassica napus* Plant under *In Vitro* Conditions. Thesis for Master of Science (M. Sc.) in Plant Breeding. Department of Agronomy and Plant Breeding, College of Agriculture, Ramin Agriculture and Natural Resources University of Khuzestan, Oct. 2015.

4. Sayyadian, I. 2017. Morphological, Physiological and Biochemical Assessment of Different Corn Hybrids under the Influence of the Endosymbiotic Fungus *Piriformospora indica* in Response to Heat Stress. Thesis for Master of Science (M. Sc.) in Plant Breeding. Department of Agronomy and Plant Breeding, College of Agriculture, Ramin Agriculture and Natural Resources University of Khuzestan, Jan. 2017.

5. Darvishi, S. 2018. Effect of *Piriformospora indica* and Sugarcane Filter Muds on the Fennel (*Foeniculum vulgare* Mill) Growth and Yield under Late Season Irrigation Cut-off Condition. Thesis for Master of Science (M. Sc.) in Agroecology. Department of Plant Production and Genetics, Faculty of Agriculture, Khuzestan Agricultural Sciences and Natural Resources University, Feb. 2018.

6. Saki, F. 2018. Effect of *Piriformospora indica* inoculation and Different Levels of Vermi-Compost on Growth and Yield of Fennel (*Foeniculum vulgare* Mill). Thesis for Master of Science (M. Sc.) in Agroecology. Department of Plant Production and Genetics, Faculty of Agriculture, Khuzestan Agricultural Sciences and Natural Resources University, Feb. 2018.

7. Parvizi zadeh, Z. 2018. Investigation on the Effect of *Serendipita indica* and Zeolite (Clinoptilolite) on the Quantitative and Qualitative Yield of German Chamomile (*Matricaria recutita* Cultivar Presov). Thesis for Master of Science (M. Sc.) in Agroecology. Department of Plant Production and Genetics, Faculty of Agriculture, Khuzestan Agricultural Sciences and Natural Resources University, Jan. 2018.

8. Jalali, H. 2018. Effect of *Serendipita indica* Fungus and Urea Fertilizer on Sesame (*Sesamum indicum* L.) Quantitative and Qualitative Yield. Thesis for Master of Science (M. Sc.) in Agroecology. Department of Plant Production and Genetics, Faculty of Agriculture, Khuzestan Agricultural Sciences and Natural Resources University, Jan. 2018.

9. Mohamadi GomYek, S. 2018. The Effect of *Serendipita indica* on Transcription Rate of some Genes Involved in the Initial Steps of Steviol Glycosides Biosynthesis in the Plant Stevia (*Stevia rabaudiana* Bert.). Thesis for Master of Science (M. Sc.) in Biotechnology. Department of Plant Production and Genetics, Faculty of Agriculture, Khuzestan Agricultural Sciences and Natural Resources University, Jan. 2018.

10. Toolabi, A. 2018. Effect of Mycorrhiza and Mycorrhiza-Like Fungi Symbiosis and Spent Mushroom Compost Different Levels on Growth and Yield of Mize 611. Thesis for Master of Science (M. Sc.) in Agroecology. Department of Plant Production and Genetics, Faculty of Agriculture, Khuzestan Agricultural Sciences and Natural Resources University, Jan. 2018.

I. PhD DISSERTATIONS SUPERVISED

J. PhD DISSERTATIONS ADVISED

K. AQUAINTANCE WITH SCIENTIFIC TECHNIQUES

1- Isolation and cultivation of fungi and bacteria (Practically worked)
2- Identification of fungi through microscopy (Practically worked)
3- ED_{50} determination and calculation (Practically worked)
4- Thin Layer Chromatography (TLC) (Practically worked)
5- Extraction of *Fusarium* mycotoxins (trichothecenes and zearalenone) (Practically worked but with simple facilities)
6- DNA extraction and purification (Practically worked)
7- Polymerase Chain Reaction (PCR) (Practically worked)
8- DNA electrophoresis (Practically worked)
9- Cloning of PCR amplified DNA fragments on vector plasmids (Practically worked)
10- Electroporation of *Escherichia coli* (Practically worked)
11- Transformation of *Escherichia coli* through cold shock (Practically worked)
12- Southern blotting (not independently worked)
13- Non-radioactive digoxygenin- and PCR-based probe synthesis (Not independently worked)
14- Fluorescent microscopy (Not independently worked)
15- Double-Joint-PCR (Practically worked)
16- Preparation of yeast competent cells and electroporation of *Pichia pastoris* (Practically worked)
17- RNA extraction and cDNA synthesis (Practically worked)
18- Transformation of *Trichoderma asperelloides* protoplasts (Practically worked)
19- Working on activity of secreted enzymes like chitinases, and proteases (Practically worked)
20- High Performance Liquid Chromatography (HPLC) (Not independently worked)

L. Referees

Mr. Prof. Dr. Ebrahim Mohammadi Goltapeh
Tarbiat Modares University, Tehran, Iran
Email address: emgoltapeh@modares.ac.ir

Mrs. Prof. Dr. Joanna Stefania Kruszewska
Institute of Biophysics and Biochemistry, Warsaw, Poland
Email address: jsk@ibb.waw.pl

Mr. Prof. Dr. Giovanni Vannacci
University of Pizza, Pizza, Italy
Email address: g.vannacci@agr.unipi.it

Mr. Prof. Dr. Christian Peter Kubicek
Polytechnic University of Vienna, Vienna, Austria
Email address: ckubicek@mail.zserv.tuwien.ac.at

Mr. Prof. Dr. Holger Bruno Deising

Martin Luter University, Halle-Wittenberg, Halle an der Saale, Germany
Email address: Deising@landw.uni-halle.de