

## **Resume**

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### **Areas of Interest**

- Mathematical Modeling of Biological Systems
- Organic Agriculture
- Biomimicry

### **Educational Background**

<b>Educational Level</b>	<b>Bachelor's Degree</b>	<b>Master's Degree</b>	<b>Ph.D</b>
<b>Field of Study</b>	Plant Protection	Agricultural Entomology	Agricultural Entomology - Ecology
<b>Institution</b>	Shahid Chamran University	Tehran university	Tarbiat Modares University
<b>Location</b>	Ahvaz, Iran	Tehran, Iran	Tehran, Iran
<b>Graduation Year</b>	1990	1994	2001

### **Academic Project:**

<b>Master's Degree</b>	Population Dynamics of Wheat Bug in the Karaj Region
<b>Ph.D</b>	Computer Modeling Using Engineering Methods for Simulating the Growth and Development of Greenhouse Whitefly Populations

### **Teaching Experience at Master's and Doctorate Levels**

- Insect Ecology at Islamic Azad University, Arak Branch, from 2003 to 2007
- Pest Management at Islamic Azad University, Arak Branch, from 2003 to 2007
- Biological Control at Islamic Azad University, Arak Branch, from 2003 to 2007
- Research Methods at Islamic Azad University, Arak Branch, from 2003 to 2007

- Computer Modeling in Entomology at Islamic Azad University, Arak Branch, from 2003 to 2007
- Computer Modeling in Entomology at the Faculty of Agricultural and Natural Resources, 2006-2007
- Teaching Experimental Design at the Iranian Research Organization for Science and Technology from 2014 to present

## Research Experience

Project Name	Position	Activity Period
Study of Cultivation Methods, Quality Control, and Efficiency Evaluation of Encarsia Wasps	Project Leader	2003
Project for Developing Technical Knowledge of Organic Tomato Production in Greenhouse Conditions	Project Leader	2009-2011
Research Project on Control of the Weed Cuscuta (Dodder)	Project Leader	2010-2011
Evaluation of the Performance of Compost and Vermicompost Tea in Controlling Powdery Mildew on Roses	Project Leader	2012-2013
Investigating the Possibility of Gene Transfer for Increased Longevity and Sensitivity to Powdery Mildew in African Violets	Project Leader	2017-2019
Evaluation and Optimization of Subsurface Irrigation in Greenhouse Cultivation (Tree Cucumbers)	Project Leader	2014-2015
Study on the Performance of Subsurface Irrigation Optimization in Sample Orchards of Alborz Province	Project Leader	2015-2017
Study, Identification, and Development of Innovative Methods for Water Collection, Storage, and Consumption Optimization Inspired by Environmental Forms and Patterns - Internal Project	Project Leader	2020-2021
Construction, Optimization, and Evaluation of Organic Fertilizer Aimed at Increasing Yield and Reducing Water Consumption	Project Leader	2023-2024

## Professional and Executive Experience

No.	Position	Location	Year
1	Head of the Department of Applied and Industrial Entomology	IROST	2003-2004
2	Member of the Scientific Committee of the National Seminar on Chemical Fertilizers and Plant Pesticides	IROST	2004
3	Representative of the organization and member of the National and International Codex Committee on Pesticide Residues	IROST	2003
4	Head of the Support Laboratory	IROST	2004-2006

5	Representative of the organization in the National Committee for Strategic Research on Pesticides	IROST	2006-2008
6	Member of the Growth Center Council of the Organization	IROST	2008-2010
7	Representative of the Research Institute in the Technical Commission of the Growth Center	IROST	2008-2010
8	Head of the Library and Documentation Center	IROST	2010-2012
9	Responsible for the Biological Imitation Laboratory	IROST	2012-present
10	Scientific Secretary of the National Gathering "Two Days with Entomologists of Iran"	IROST	2013
11	Head of the Department of Sustainable Agriculture and Crop Production	IROST	2014-2016
12	Liaison between the Agricultural Research Institute and the Library	IROST	2014-present
13	Responsible for the Macrography Laboratory	IROST	2014-present
14	Member of the Pesticide Oversight Committee	IROST	
15	Representative of the organization and member of the Technical Committee on Pesticide Residues in the National Codex Alimentarius Commission of Iran	IROST	2016-2017
16	Member of the Green Space Committee	IROST	2018
17	Head of the Graduate Studies and Specialized Training Department	IROST	2022-2023
18	Member of the Executive Committee of the Halal Festival	IROST	

## Thesis Consultation and Guidance

1. Integrated Management of Three Key Pests in Organic Strawberry Production in Greenhouse Conditions, Thesis Advisor for Ms. Leili Kiani, 2010
2. Study of Polymorphism in the Hydcyl Gene Involved in Carbohydrate Metabolism in Sucking Pests, Thesis Advisor for Ms. Samineh Sadeghi, 2011
3. Study of the Biological Effectiveness of Compost and its Products on Some Physiological Traits of Mustard Plants, Thesis Advisor for Ms. Azadeh Reza, 2011
4. Immobilization of Inulinase Enzyme on Nano Peptides from Gluten Hydrolysates, Thesis Advisor for Ms. Asieh Mahmoodi, 2014
5. Optimization of Pesticide Usage Against Greater Wax Moth in Laboratory Conditions, Thesis Advisor for Mr. Alireza Shabani Nejad, 2015

6. Optimization of Essential Oil Extraction from Coriander Seeds, Thesis Advisor for Ms. Elnaz Feyzi, 2016
7. Simultaneous Immobilization of Fungal Enzymes and Maltogenase Using Enzyme Aggregation Methods with Side Links and Nano Magnetic Connections for High Maltose Syrup Production from Corn Starch, Thesis Advisor for Ms. Ansiyeh Montazeri, 2017
8. Optimization of Pesticide Use for Controlling Whitefly in Commercial Gerbera Greenhouses, Thesis Advisor for Mr. Ali Bakhshi, 2017
9. Experimental Study and Modeling of Carbon Dioxide Adsorption Using Hydroxide-Based Adsorbents (Sodium, Calcium, Potassium, Magnesium, Strontium, and Barium), Thesis Advisor for Ms. Mahsa Saeedi, 2018
10. Effect of Seed Priming with Polyethylene Glycol and Irrigation Method on Important Traits of Three Lettuce Varieties (*Lactuca Sativa* L.), Thesis Advisor for Ms. Akram Ghafari, 2019
11. Tri-Trophic Interaction of Plant-Plant-Herbivore-Natural Enemy for Greenhouse Whitefly and Its Analysis Using Artificial Neural Networks, Thesis Advisor for Ms. Sakineh Naeim Amiri, 2023

### **Domestic and International Articles**

1. Simulation of the Developmental Stages of the Greenhouse Whitefly Nymph, *Journal of Plant Pests and Diseases*, 2001
2. Effect of pre spring spray to reduce of citrus important pest, *Pakistan journal of biological science*, 2008
3. Biological Effectiveness of Compost Tea on Some Physiological Traits of Mustard (*Lepidium sativum* L.) During the Vegetative Stage, *Applied Biology*, 2012
4. Gene Encoding and Bioinformatics Analysis of Protein Structure of Galactosidase from Bird Cherry Oat Aphid, *Archive De Science*, 2012
5. Using aerated compost tea in comparison with a chemical pesticide for controlling rose powdery mildew, *Archives of Phytopathology and Plant Protection*, 2014
6. Evaluation of Geostatistical Methods and Artificial Neural Networks in Determining the Spatial Distribution of Two-Spotted Spider Mite in a Cucumber Field in Ramhormoz, *Journal of Plant Pests and Diseases*, 2017
7. Optimization of Deltamethrin Pesticide Use Against Greater Wax Moth Using Response Surface Methodology in Laboratory Conditions, *Plant Pest Research*, 2016
8. Extraction of essential oil from *Bunium Persicum* by instant controlled pressure drop, *Journal of chromatography A*, 2017
9. Automatic Clustering of Data from Sampling and Evaluation of a Fuzzy-Neural Network for Estimating the Spatial Distribution of Cotton Whitefly (Hem.:Aleyrodidae) *Bemisia tabaci*, *Journal of the Entomological Society of Iran*, 2017
10. Efficiency of Insect Netting in Reducing Strawberry Infestation by Three Major Pests and the Effect of Several Biocompatible Compounds on Two-Spotted Spider Mite

- (*Tetranychus urticae* K.) in Greenhouse Conditions, *Applied Plant Pathology Research*, 2017
11. Comparison of the Performance of Different Neural Network Learning Algorithms in Predicting the Distribution Pattern of Cotton Whitefly in Cucumber Fields of Behbahan, *Iranian Journal of Plant Pathology*, 2017
  12. Hybrid neural network with genetic algorithms for predicting distribution pattern of *Tetranychus urticae*, *Persian journal of Acarology*, 2017
  13. Comparison of Confidor and Palizin Pesticides in Controlling Adult Greenhouse Whitefly in Commercial Gerbera Greenhouses in Pakdasht, *Applied Plant Pathology*, 2018
  14. Prediction of the Distribution Pattern of *Bemisia tabaci* G. (Hem.: Aleyrodidae) Using Artificial Neural Networks Optimized by the Particle Swarm Optimization Algorithm, *Applied Plant Pathology*, 2018
  15. Chemical control optimization of *Trialeurodes vaporariorum* (Homoptera: Aleyrodidae) in gerbera commercial greenhouses, *Journal of crop protection*, 1399
  16. Evaluation of the Genetic Algorithm Optimized MLP Artificial Neural Network in Estimating and Predicting R0 and rm of Greenhouse Whitefly: *Trialeurodes vaporariorum* (Hemiptera: Aleyrodidae) Based on Host Plant Characteristics in Greenhouse Conditions, *Journal of the Entomological Society of Iran*, 2021
  17. Interaction between hostplant morphological characteristics with lifehistory of the greenhouse whitefly *Trialeurodes vaporariorum*, *Arthropod-Plant Interactions*, 2021
  18. Preparation of Low-Fat Mayonnaise Using Potato Starch Modified by Carboxymethyl-Phosphorylation Method Containing Nanocitosan, *New Technologies in Food Industry*, 2022
  19. Optimization of the microorganism's performance in tea compost for controlling African violet, *Microbiology, Metabolites and Biotechnology*, 1402
  20. Optimization of Mucilage Secretion of *Plantago ovata*, *Alyssum desertorum*, and *Ocimum basilicum* Seeds by Response Surface Method, *BMC research notes*, 2024

## Conferences

1. Population dynamics system of cereal sunn pest (*Eurygaster integriceps* Put.), 4<sup>th</sup> International Conference on MATHEMATICS & COMPUTERS IN BIOLOGY AND CHEMISTRY (MCBC 2003)
2. Simulation and Mathematical modeling of controlled release of Ondansetron, International Conference OF MATHEMATICS & COMPUTERS IN BIOLOGY & CHEMISTRY (MCBC 2004)
3. Teaching to computer based on neural network model, 8th International Conference on COMPUTERS, 2004
4. Lotka – Volterra type differential equations model of *Trialeurodes vaporariorum* - *Encarsia formosa* interaction, International Conference on APPLIED MATHEMATICS, 2004

5. Functional response of *Exochomus nigromaculatus* (Col.: Coccinellidae) to different densities of *Aphis nerii* and *Aphis craccivora*, International Conference on: MATHEMATICAL BIOLOGY and ECOLOGY (MABE '05), 2005
6. Tomato Polygalacturonase Inhibiting Protein (Pgip) is Not Induced by Pathogen but Increased with Ageing, International Conference on Cellular and Molecular Biology, Biophysics and Bioengineering, 2005
7. Temperature based model to forecasting attack time of the sunn pest *Eurygaster integriceps* put. in wheat field of Iran, International Conference on MATHEMATICAL BIOLOGY and ECOLOGY (MABE '06), 2006
8. Evaluation of the effect of compost as soil bed for cucumber seedling production, Compost and digestate: sustainability, benefits, impacts for the environment and for plant production, 2008
9. Application of Differential Equations in Predicting the Growth of Greenhouse Whitefly Populations, *Third Seminar on Differential Equations and Dynamical Systems*, 2008
10. Intelligent control of robots's decision making by a living thing like an insect of plant, 12<sup>th</sup> International conferences on system, 2008
11. Effects of compost application on cress (*Lepidium sativum*) productivity in Iran, International horticulture conference, 2010
12. Compost tea effects on yield of organic tomato in greenhouse condition, International Symposium on Agricultural and Agroindustrial Waste Management (SIGERA), 2011
13. Effects of soil solarization in greenhouse agro-ecosystem of organic cucumber production, The third international renewable energy congress, 2011
14. Application of Differential Equations in Predicting the Growth of Greenhouse Whitefly Populations, *Third Seminar on Differential Equations and Dynamical Systems*, 2008
15. Fermentative production of hydrogen from potato, کنفرانس بین المللی علم و فناوری خوارزمی, 2024

### Abstract Articles

1. Evaluation of greenhouse whitefly on thin layer of squash fruit, International whitefly association, 2<sup>ND</sup> European Whitefly Symposium, 2004
2. International whitefly association, Numerical simulation of greenhouse whitefly, 2<sup>ND</sup> European Whitefly Symposium, 2004
3. Mass rearing, quality control and evaluation of *Encarsia Formosa* for biological control of *Trialeurodes vaporariorum* under greenhouse condition, International whitefly association, 2<sup>ND</sup> European Whitefly Symposium, 2004
4. Rearing of *Trialeurodes Vaporariorum* and *Encarsia Formosa* on tissue of squash fruit, University of California United state department of agriculture, 2<sup>ND</sup> International Symposium on Biological Control of Arthropods, 2005

5. Cotton whitefly, *Bemisia tabaci* (Genn.) Degree-Hour Model for Predicting Phenological Development, Entomological society of America, 4<sup>th</sup> international whitefly workshop, 2006
6. Evaluation of efficiency of *Encarsia Formosa* for biological control of greenhouse whitefly on gerbera, Consejería de Agricultura Pesca, Junta de Andalucía, 3<sup>rd</sup> European Whitefly Symposium, 2008
7. Situation of whitefly in Iran: current problem, research and IPM, Consejería de Agricultura Pesca, Junta de Andalucía, 3<sup>rd</sup> European Whitefly Symposium, 2008
8. Integrated whitefly management in cucumber and tomato organic production in greenhouse condition, Consejería de Agricultura Pesca, Junta de Andalucía, 3<sup>rd</sup> European Whitefly Symposium, 2008
9. Genetic Variation of *Bemisia tabaci* (Hemiptera:Aleyrodidae) by PCR-RFLP in West and Center of Iran, International whitefly association, the 5<sup>th</sup> International Bemisia Workshop, 2009
10. Control of flies in organic mushroom, International Society for horticultural science, International horticulture conference, 2010
11. Taghuchi experimental design for optimization the control of the western flower thrips *Frankliniella occidentalis* by organic pesticides, International horticulture conference, 2010
12. Performance evaluation of insect-proof screens in excluding three majorpests of strawberry into the greenhouse, Global conference on Entomology, Global conference on Entomology. 2011
13. Control of flies in button mushroom by using of the neem azal organic insecticide in comparison with damelin chemical insecticide, Global conference on Entomology, Global conference on Entomology, 2011
14. Control of two spotted spider mite *tetranychus urticae* by botanic pesticides on strawberry, Maejo University, International conferences on Biopesticides, 2011
15. The control of rose powdery mildow by using different types of compost tea, Maejo University, International conferences on Biopesticides, 2011
16. Comparing digestive alpha glucosidase in *eurygaster integriceps*, Elsevier, 6<sup>th</sup> international symposium on molecular insect science, 2011
17. Integrated flies management in organic mushroom, University of Amity, International conference on natural products, 2012
18. Effects of Sanitation and using Insect-Proof Screens on Population Density of *Chaetosiphon fragaefolii* (Cockerell) on Strawberry under Greenhouse Conditions, International research on food security, TROPENTAG, 2012
19. Optimization of Insecticidal Soap Usage (Palizin) Against Greater Wax Moth (*Galleria mellonella* L.) Using the Response Surface Methodology, Entomological Society of Iran, 22nd Iranian Plant Protection Congress, 2016

20. Biomimicry: Nature as Our Teacher in Technology and Industry, University of Varamin, National Conference on Agriculture Industry and Commercialization, 2019
21. Inspiring Microbial Behaviors for Innovative Solutions, Institute for Research in Fundamental Sciences, 24th International Congress of Microbiology in Iran, 2023
22. Biomimicry and Biological Control, University of Jiroft, 11th International Conference on Biological Control, 2024

### Authorship and Translation of Books

1. **Compost Tea**, *Sepehr Publications*, 2007
2. **Guide to DESIGN EXPERT Software**, *Afarin Publications*, 2009
3. **Patterns in Nature**, *Institute for Research in Fundamental Sciences*, 2020
4. **Beneficial Insect Rearing (Key and Practical Points)**, *Marz Danesh Publications*, 2021

### Instructor of Training Workshops

No.	Title	Location	year
1	Taguchi Statistical Design and Qualitek Software	IROST	2013
2	Taguchi Statistical Design Workshop	IROST	2013
3	Scientific Image and Documentation Preparation and Editing Workshop	IROST	2013
4	Response Surface Methodology Workshop	IROST	2013
5	Pesticides and Pesticide Residues	Standard Organization	2013
6	Chromatography Laboratory	IROST	2014
7	Prezi Software Training Workshop	IROST	2015
8	Response Surface Statistical Design Workshop	IROST	2015
9	Biomimicry	Isfahan University of Art	2016
10	Creative Thinking and Biomimicry Workshop	Nano Special Headquarters	2016
11	Creativity	Tehran Central Azad University	2016
12	Structured Innovation	Tehran Central Azad University	2016
13	Systemic Thinking	Tehran Central Azad University	2016
14	Biomimicry	Tehran Central Azad University	2016
15	Brainstorming	Tehran Central Azad University	2016
16	Biological Computation Laboratory	IROST	2012-2017
17	Scientific Image and Documentation Preparation and Editing Workshop	Iran's Research Institute for Scientific and Industrial Research and Amirkabir University	2015



18	Collaborative Design Workshop on Water Ideas	National Scientific Policy Research Center	2017
19	Workshop on Methods for Validating Statistical Data Analysis Results	IROST	2017
20	Specialized Scientific Texts Workshop	IROST	2017
21	Workshop on How to Lie with Statistics	Isfahan University	2018
22	Application of Neural Networks and Genetic Algorithms in Life Sciences Workshop	IROST	2019
23	Data Mining Workshop, Analysis of Irregular Data Using Historical Data Methods	IROST	2019
24	Green Space Pest Recognition and Management Workshop	IROST	2019
25	Design of Experiments (DOE) Workshop	Physics Department of Tarbiat Modares University	2019
26	Laboratory Data Validation Workshop	IROST	2019
27	Response Surface Statistical Design Workshop	IROST	2019
28	Prezi Software Training Workshop	IROST	2019
29	Neo Biomimicry	Kurdistan University of Medical Sciences	2019
30	Scientific Editing with Photoshop	IROST	2021
31	Prezi Training	IROST	2021
32	Word Training	IROST	2021
33	Data Verification Workshop	IROST	2022
34	Response Surface Design Using Design Expert Software	Shahid Beheshti University Comprehensive Research Laboratory	2022
35	Interaction Effect Evaluation in Applied Research	IROST	2023
36	Personality Typing Workshop Inspired by Five Natural Archetypes	IROST	2023