



Arab Republic of Egypt  
Ministry of Scientific Research  
Faculty of Agriculture  
Ain Shams University



## CURRICULUM VITAE

**Name** : Dr. Tamer Abdalla Nabawy El-Mashtoly

**Current Position:** Assistant Professor of Pesticide Chemistry and Toxicology,  
Faculty of Agriculture – Ain Shams University, Egypt

**Marital State** : Married.

**Nationality** : Egyptian.

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## Academic Qualifications:

- 1. B.Sc., June 1999:** Dept. of Plant Protection  
(Entomology and Pesticides), College of Agriculture,  
Ain Shams University, Egypt.

**2. M. Sc., March, 2005: (Analysis of Pesticide Residues in Environmental Samples)**

Dept. of Plant Protection (Entomology and Pesticides), College of Agriculture – Ain Shams University, Egypt

Thesis title:

**“Environmental Contamination in Relation to Application of Certain Pesticides on Some vegetables”**

**Advisor:** Prof. Mohammad El-Said El-Zemaity

**Ph.D., Plant Protection (Bio-Pesticides) April, 2010**

**Ph. D. Major:**

Enhancement the efficacy of bio- pesticides based on *Bacillus thuringiensis* Against Coleopteran and Lepidopteran Insect Pests with different Enteric Bacteria.

**The research work has been done at University of Rhode Island (URI), USA throughout the Joint Supervision Program (JSP) between URI and Ain Shams University, Egypt. 2008 - 2010**

Dissertation Title:

**“Role of certain Bio-Pesticides in Pest management of Some Organic vegetables”**

**Advisors:** Prof. Mohammad El-Said El-Zemaity (ASU, Egypt)  
Prof. Steven R. Alm (URI, USA)

## **Academic Experience:**

- 1 Teaching Assistant Dec. 1999- Feb, 2005**  
Dept. of Plant Protection (Entomology and Pesticides), Faculty of Agriculture – Ain Shams University, Egypt
- 2 Lecturer March, 2005 – April, 2010**  
Dept. of Plant Protection (Entomology and Pesticides), Faculty of Agriculture – Ain Shams University, Egypt.

### 3 Assistant professor

July, 2010 to 2018

Pesticide Chemistry and Integrated Pest Management, Dept. of Plant Protection (Pesticide Chemistry and Toxicology), Faculty of Agriculture – Ain Shams University, Egypt

#### Lingual Abilities

Arabic

Native

English:

very good

#### Educational , Industrial and Occupational Experience:

- **Consultant of Pesticides and Integrated Pest management – March 2020 until Now**, at The research center for Palms and Dates, Al-Hassa, Ministry of Environment, Water and Agriculture Riyadh, Kingdom of Saudi Arabia.
- **Expert of Pesticide residue analysis.** ( Full Time) **May 2018 until February 2020.** (Pesticide residue analysis lab. Pesticide Department, National Center for Agriculture and animal resources, Ministry of Environment, Water and Agriculture Riyadh, Kingdom of Saudi Arabia.
- **Manager of Pesticide Analysis Laboratory (PAL)** for Technical active ingredient and pesticide formulation analysis at Eid Company for Pesticides. (Part Time) December 2016 to April 2018.
- **Technical Consultant of Public Health Pesticide application in UnitedChem Company for Control of Insects, Reptiles and Rodents. (Part Time) August, 2016 until February 2018.**
- **Consultant of Public Health Pesticide application** in Bestap Company for Control of Insects and Rodents. (Part Time) March, 2013 to April 2015
- **Manager of Research and Development Department,** Eid Company for Fertilizers and Pesticides, Egypt. (Part time) August, 2010 to January 2015.
- **Technical consultant of pesticide formulation development and Quality Control Management of the end product.** FAM Company for Agriculture development, Badr City, Cairo. July 2005 to April 2008.

## Research Experience:

- Determination of pesticide residues in Vegetables, Fruit, Soil, Water, Food and feed using different chromatographic techniques (**GC, HPLC, GC-MS, GC-MS/MS, LC-MS/MS, Q-TOF**)
- Extraction of pesticide residues from different environmental samples using various solvent systems and validated QuEChERS method .
- Clean-up using various adsorbent materials and QuEChERS cleanup reagent .
- Analysis of the active ingredient in Pesticide formulations using **GC-MS – LC-MS/MS**).
- Toxicological studies such as determining acute toxicity and the impact of pesticides on some enzymes activity (Acetylcholinesterase (AChE), alkaline, acidic phosphatase and Glutathione S-transferase (GST) using experimental animals (white albino mice ).
- Insect physiology (dissection and function of brush border membrane vesicles (BBMVs) in relation to binding sites of crystal protein (Cry toxin).
- Microbiology (Culture of Entomopathogenic bacteria, extraction and purification of crystalline Protoxin).
- Molecular Biology such as
  - Amplification of genomic DNA using the Polymerase Chain Reaction (**PCR**) technique
  - Separation of the protein molecules using gel electrophoresis (**SDS-PAGE**).
  - Separation of different size of DNA strands (PCR product) using agarose gel electrophoresis and display it upon molecular imager.
  - DNA and Protein quantification using Nanodrop spectrophotometer.
- Bioassay of chemical pesticides and biopesticides such as botanical pesticides, biopesticides based on *Bt* against Coleopteran, lepidopteran and Orthopteran insects such as Japanese beetle, Oriental beetle, Northern masked Chafer, Egyptian Cotton leafworm, Cotton bollworm, Beet army worm, Black cutworm, Tomato leafminer, Desert locust and grasshoppers.

- Develop bioassay techniques for hemipteran insects such as Aphids, whiteflies and kudzu bugs.
- Investigate insect susceptibility and resistance to the chemical pesticides, IGR's and *Bt*-based insecticides.
- Soil Screening to isolate native Entomopathogenic bacterial strains from Egypt.

### **Training Courses:**

- **"Degradation of organic wastes using the photo-chemistry techniques"** Feb 2001 at Photo Chemistry Center, Faculty of Science , Ain Shams University
- **"Utilize of Scanning Microscope Technique in agriculture research"** April 2002 at Scanning Microscope Unit, Faculty of Agriculture, Ain Shams University.
- **"Pesticide residue analysis using GC and HPLC techniques"** June 2003 at Environmental and Toxicological research Unit, Faculty of Agriculture, Ain Shams University.
- **"Acute, Chronic and Environmental Toxicity of Pesticides"** Dec 2004 at Environmental and Toxicological research Unit, Faculty of Agriculture, Ain Shams University.
- **" Active Communication Skills"** Feb 2005 at FLDP Unit, Ain Shams University.
- **"Ethics of scientific research"** March 2005 at FLDP Unit, Ain Shams
- **" Active Skills in showing issues"** March 2006 at FLDP Unit, Ain Shams
- **" Internet Based TOEFL (IBT)"** October 2007 at AMIED EAST and American University in Cairo (AUC)
- **" Dissection techniques of brush border membrane vesicles (BBMVs) in relation to toxin binding sites"** Plant Science and Environment Department, University of Rhode Island, USA July, 2008
- **" Extraction and determination of different sets of insect enzymes "** Feb 2009 at Biotechnology Building, University of Rhode Island, USA " Feb 2009 at Biotechnology Building, University of Rhode Island, USA

- **“Amplification of genomic DNA using Polymerase Chain Reaction (PCR) technique”**, March 2009 at Biotechnology Building, University of Rhode Island, USA
- **“DNA quantification using Nanodrop spectrophotometer”** May 2009 at Biotechnology Building, University of Rhode Island, USA
- **Parameters of quality assurance in teaching**, Faculty and Leadership Development Center, Ain Shams University, August 2011
- **Time Management Training Course** – Faculty and Leadership Development Center, Ain Shams University, March 2012
- **" International English Language Test System (IELTS)"** , Dec 2015, British Council, Egypt.
- **Initial Radiation Safety Training Course** - Radiation safety Department, The University of Tennessee, Knoxville, Tennessee, USA. June 2015
- **Toxin Purification training** – Jurat-Fuentes lab, **University of Tennessee**, Knoxville, **USA** July 2015-
- Labeling the Bt- toxins with Radioactive Iodine I<sup>125</sup>- Isotope lab in University of Tennessee, Knoxville, September 2015
- **Competitive binding techniques of Toxins to brush border membrane vesicles (BBMVs)**- Jurat-Fuentes lab and Isotope Lab, **University of Tennessee, USA** September to November 2015
- **FPLC training lab-Course-** Jurat-Fuentes lab, **University of Tennessee, USA** July 2015
- **Toxins binding technique using biotin**. Jurat-Fuentes lab, University of Tennessee, USA November, 2015
- **Completion of the research Fellowship from May 20, 2015 - November 30, 2015 in Entomology and Plant pathology Department, University of Tennessee, Knoxville, USA.**
- **Q-TOF Training Course, WATERS Corporation**, November 2019 – February 2020, National Center for Agricultural research and Animal resources. Riyadh, KSA.

### **Teaching Experience:**

- Designing and teaching the following courses for under graduate students at Faculty of .Agric. Ain Shams Univ., Egypt.
  - Principals of “Entomology- Zoology
  - Chemistry of pesticides
  - Antifeedants and Chemosterilants
  - Analytical Chemistry of Pesticides
  - Basics of Fungicides and Herbicides
  - Basics of Pest Control
  - Biochemistry of Insects
  - Basics of Toxicology
  - Pesticide residues analysis in Food
- Participation to teach the following courses to the under graduate students at the Egyptian High Agricultural Co-operation Institute (Basics of Entomology and Zoology)
- Participate in designing and teaching the following courses to postgraduate (Master’s and Doctorate’s students) :
  - Advanced Pesticide Chemistry (A)
  - Advanced Pesticide Chemistry (B)
  - Pesticide residues in food and dairy products
  - Integrated Pest Management (IPM)
  - Insect resistance to Pesticides
  - Biopesticides

### **Awards of Honors and Recognition:**

- 1- Ph. D. Scholarship: Student exchange throughout the Joint Supervision Program (JSP) sponsored by Egyptian government.
- 2- Award of International Publication, 2010, Ain Shams University
- 3- Award of International Publication, 2011, Ain Shams University
- 4- Award of International Publication, 2012, Ain Shams University
- 5- Award of free publishing the Dissertation via LAP LAMBERT Academic Publishing for International Scientific Publication 2012
- 6- Award of USAID Scholarship for Postdoctoral research in the University of Tennessee, Knoxville, TN, USA. May 2015

### **Computer skills**

- International Computer Driving License certificate (ICDL), in cooperation between the UNESCO Organization and Egypt. April 2008
- Good experience in solving software problems and set up operating systems.
- Training in SAS Statistical Analysis software from the University of Tennessee, USA
- Training in SPSS Statistical Analysis software from the University of Tennessee, USA 2015

### **Supervision on M. Sc. dissertations:**

- Master degree titled as "Analytical study for quality assurance practices of pesticide formulations in Egypt. October 2012 until June 2017
- Master degree titled as "Molecular impacts of some bacterial isolates from Egypt on locust" 2013 until December 2017
- Master degree titled as "Biochemical and Toxicological impacts of Nano formulated pesticides in comparison with the common used pesticides on white albino mice. February 2015 - December 2019

### **CONFERENCES & Seminars:-**

- **Advanced Analytical Techniques and sample Preparation Solution for Complex Matrices held on 19th December 2018 at Holiday Inn Riyadh-Izdihar, Riyadh, Kingdom of Saudi Arabia.**
- **The Saudi Forum for Product safety 17- 18<sup>th</sup> April, 2019, Saudi Standards Metrology and Quality Organization, Ritz Carlton, Riyadh, KSA**
- **12<sup>th</sup> Arab Congress of Plant Protection held in Hurghada – Egypt, 4 -10 November 2017**



- **Think Tank Development Solution Seminar, titled "Youth Participation in Policy-Making" 22<sup>nd</sup> and 23<sup>rd</sup> of October 2016 at American University in Cairo (AUC), Cairo, Egypt.**
- **Biovision Alexandria 2016, New Life Science: The Road Ahead at Library of Alexandria, Egypt from 12-14 April, 2016.**
- **Entomology 2015, Synergy for Science partnering for solutions. Minneapolis, MN, USA. Nov. 15-18, 2015. Attendant and Presenter.**
- **Tennessee Entomological Society 42nd Annual Conference October 15-16, 2015. Brehm Animal Science Building, University of Tennessee Institute of Agriculture, Knoxville, TN, USA**
- **The International Conference of Agriculture and Food Safety 19<sup>th</sup> - 20<sup>th</sup> November 2014 Cairo – Egypt**
- **The Entomological Society of America's Eastern Branch Meeting, Attendant. Held March 20-23, 2009, in Harrisburg, PA, USA**
- **The Entomological Society of America's 57th Annual Meeting, Attendant and Presenter. Held December 13-16, 2009, in Indianapolis, IN, USA**
- **The 20<sup>th</sup> Annual Scientific Conference of the Egyptian Society of Toxicology (9<sup>th</sup>-10<sup>th</sup> April, 2005), Benisuef- Egypt**

## List of Publications

- Hajar, M. J; Almugam, A. N.; Ramadan, K.A. and Mashtoly, T.A. (2023).** Spotlight of Pesticide residues of some leafy and non-leafy vegetables in the Riyadh market and their potential impacts on consumer health. **Chemosphere, In Press**
- Bu Shulaybi, F.A, Hajar, M. J and Mashtoly, T.A. (2023).** Monitoring and Evaluating of the potential Pesticide residues in organic farming products, determining the reasons and the potential impacts of the consumer health. **Food Chemistry, In Press**
- Mashtoly, T.A., Bu Shulaybi, F.A, and Almugam, A. N (2023).** The Antagonistic potential of Novel Seven Bacterial strains Originated from Desert locust, *Schistocerca gregaria* Forskål (Orthoptera: Acrididae) on on three key agricultural insect pests in Saudi Arabia. **Egypt J. Biol. Pest Control. In Press**
- Lotfy, K.; Al-Qahtani, S.M.; Al-Harbi, N.A.; El-Absy, K.M.; Bu Shulaybi, F.A.; Alali, S.A.; Mashtoly, T.A. (2022).** Decontamination Potential of date palm fruit via non-thermal plasma technique. **Scientific reports, 12:17323**
- Mashtoly, T.A. and Bu Shulaybi, F.A. (2022).** Sustainable Management of Date Palm Pests to Maintain Biodiversity and Wildlife in Saudi Arabia. **JOJ Wildl Biodivers. 2022: 4(4): 555644 <https://doi.org/10.19080/JOJWB.2022.04.555644>**
- Lotfy, K.; Al-Qahtani, S.M.; Al-Harbi, N.A.; El-Absy, K.M.; Bu Shulaybi, F.A.; Alali, S.A.; Mashtoly, T.A. (2022).** Influence of Non-Thermal Plasma on the Quality and Nutritional Content of Palm Dates. **Appl. Sci. 2022, 12, 8587. <https://doi.org/10.3390/app12178587>**
- Mashtoly, T.A.; El-Beltagi, H.S.; Almujaam, A.N.; Othman, M.N. (2022).** The Potential of a Novel Concept of an Integrated Bio and Chemical Formulate Based on an Entomopathogenic Bacteria, *Bacillus thuringiensis*, and a Chemical Insecticide to Control Tomato Leafminer, *Tuta absoluta* '(Meyrick)' (Lepidoptera: Gelechiidae). **Sustainability,14, 10582. <https://doi.org/10.3390/su141710582>**
- Mashtoly, T.A.; El-Zemaity, M.S.; Abolmaaty, A; Abdelatef, G.M, Marzouk, A. A. and Reda, M. (2019).** Phylogenetic characteristics of Novel *Bacillus weihenstephanensis* and *Pseudomonas* sp to desert locust *Schistocerca gregaria* (Orthoptera: Acrididae). **Egypt J. Biol. Pest Control. (2019) 29:85**

- Reda, M.; **Mashtoly, T.A.**; El-Zemaity, M.S.; Abolmaaty, A.; Abdelatef, G.M. and Marzouk, A.A. (2018). Susceptibility Of Desert Locust, *Schistocerca Gregaria* (Orthoptera: Acrididae) To *Bacillus Cereus* Isolated From Egypt. **Arab Univ., J. Agric. Sci., 26(2), 725 - 734**
- Reda, M.; **Mashtoly, T.A.**; El-Zemaity, M.S.; Abolmaaty, A. and Abdelatef, G.M. (2018). Phylogenic and antagonistic characteristics of novel *Bacillus cereus* isolates against Desert Locust, *Schistocerca gregaria* Forskal (Orthoptera: Acrididae). **Egypt. J. Biol. Pest Control., 28:51**
- Dalia T. Abdelhameed; **Mashtoly, T.A.** and El-Zemaity, M.S. (2018). Completion of label information and physico-chemical properties of commercial pesticide samples traded in Egyptian markets. **Arab Univ. J. Agric. Sci., Ain Shams Univ., 26 (1)**
- Mashtoly, T.A.** and Nesreen A.S.Helal (2016). Comparative efficiency of new insecticide formulations against tomato leafminer, *Tuta absoluta* , Meyrick (Lepidoptera: Gelechiidae) in Egypt. **J. Plant Prot. And Path., Mansoura Univ., 7 (3): 199-204.**
- Mashtoly, T.A.** (2015) Comparative Susceptibility of Tomato Leafminer, *Tuta absoluta* (Lepidoptera: Gelechiidae) to Common Used Chemical Synthetic Pesticides and Biopesticides in Egypt. **Egypt. Acad. J. Biolog. Sci., 7(1): 81-89.**
- Mashtoly, T. A** and S.R. Alm (2012). Improving the efficacy of Biopesticides based on Bt: Enhanced Toxicity of Formulated Bio-Pesticides Based on *Bacillus thuringiensis* for Pest Management in Organic Farming. **[LAP LAMBERT Academic Publishing](#), 176 P.**
- Mashtoly, T. A.**, Abolmaaty, A., M.S.El-Zemaity, M.I.Hussein and S.R. Alm (2011). Enhanced Toxicity of *Bacillus thuringiensis* subspecies *kurstaki* and *aizawai* Toxin to Black Cutworm Larvae (Lepidoptera: Noctuidae) with *Bacillus* sp. NFD2 and *Pseudomonas* sp. FNFD1. **J. Econ. Entomol. 104(1): 41-46.**
- Mashtoly, T. A.**, Abolmaaty, A., Thompson Nicole, M.S.El-Zemaity, M.I.Hussein and S.R. Alm (2010). Enhanced Toxicity of *Bacillus thuringiensis japonensis* Strain Buibui Toxin to Oriental Beetle and Northern Masked Chafer Larvae (Coleoptera: Scarabaeidae) with *Bacillus* sp. NFD2. **J. Econ. Entomol. 103(5):1547-1554.**
- Mashtoly, T.A.** and S.R. Alm (2009). LC and LD50's of *Bacillus thuringiensis* serovar *japonensis* strain Buibui toxin to oriental beetle and northern masked chafer larvae (Coleoptera: Scarabaeidae). **ESA 57<sup>th</sup> Annual Meeting, December 13-16, 2009, Indianapolis, USA.**

- Mashtoly, T. A.**, M. S. El-Zemaity, M. I. Hussein and S.R. Alm (2009). LC and LD50s of *Bacillus thuringiensis* serovar japonensis strain Buibui toxin to oriental beetle and Northern masked chafer larvae (Coleoptera: Scarabaeidae). *J. Econ. Entomol.* 102(5): 1891-1895
- Mashtoly, T.A.**, M.S.El-Zemaity, I.Gabir and M.I.Hussein (2005). Environmental Contamination in relation to application of certain pesticides on some vegetables. M.S. Plant Protection Dept. College .of Agric. Ain Shams Univ.
- El-Zemaity M.s., I.Gabir, M.I.Hussien and **T. A. Mashtoly** (2005). Operator exposure to applied insecticide. 20th Annual Scientific Conference of the Egyptian Society of Toxicology, 9th –10th April, Benisuef-Egypt.
- Mashtoly, T. A.**, M.S. El-Zemaity, I. Gabir and M.I. Hussein (2004). Contamination by Malathion residues at application site with special reference to decontamination treatments. **Research Bulletin, Ain Shams Univ. 1-10.**