

Curriculum Vitae

Tawfiq Qubbaj

(B.Sc., M.Sc., Ph.D., P.Ag.)

CONTACT INFORMATION

Work

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SUMMARY OF QUALIFICATIONS

- A top-performing research professional passionate in plant physiology and biotechnology with combining more than 10 years of national and international academic and research work experience.
- Strongly experienced in designing and implementing horticultural research projects, agro-morphological characterization, evaluation and documentation of germplasms
- Extensive background in Plant tree physiology, farming practices, field trial experimental design, statistics, breeding and research methodologies
- Ability to work as part of a multi-disciplinary research team. Fast learner with proven ability to manage and execute different projects in a busy work setting.
- Solid experience in writing research proposals for several projects submitted to national and international funding organizations, facilitated workshops, conferences and meetings
- Self-starter with excellent organizational, record and report writing skills
- Strong computer skills related to data acquisition, organization, and data analysis. Proficient in MS Word, Excel, Power Point, graphics / presentation and statistical software SAS
- Highly adaptable to new technology and changes in the workplace. Strong communication, negotiation, and problem solving skills
- Multi-lingual Arabic, English, and German

EDUCATION

- 2005 Ph.D. in Plant Physiology and Biotechnology, Institute of Phytomedicine, University of Hohenheim/ Germany.
Thesis title: **Physiological and Molecular responses of resistant and susceptible apple cultivars *Malus domestica* L. to the Rosy apple aphid, *Dysaphis plantaginea* (Passerini).**
- 1999 M.Sc. in Horticulture; Department of Horticulture and Plant Protection, Faculty of Graduate Studies, University of Jordan. Amman - Jordan
Thesis title: **Effect of acid or base treatment on rooting of semi-hard wood ‘Nabali’ olive cuttings.**
- 1996 B.Sc. in Plant Production and Protection; Department of Plant Production and Protection, Faculty of Agriculture, Al-Najah National University, Nablus - Palestine.
- Education evaluated by World Education Services as equivalent to Bachelor’s Degree (four years), Master’s degree and earned doctorate (Ph.D.) from a Canadian University.

ACADEMIC AWARDS AND HONOURS

- Hamdi and Manko fellowship for M.Sc. degree. Amman – Jordan.
- DFG (German Research Foundation) fellowship

ACADEMIC AND PROFESSIONAL EMPLOYMENT HISTORY

August 2016 - present: **Assistant Professor**, Department of Plant Production and Protection, Faculty of Agriculture and Veterinary Medicine, An-Najah National University

2015- 2016 **Researcher**, National Agriculture Research Centre (NARC) / Ministry of Agriculture. Palestinian National Authority, Palestine.

- Handled a research project focusing on extending guava fruit shelf life.
- Project coordinator for the establishment of national plant gene bank
- Study the physiological and morphological changes associated with fruit trees ripening process.
- Quality and quantity fruit assessment.

2013-2015 **Research Associate**, Uni. Guelph, Dep. Plant Agriculture- Vineland station

Handled a research project focusing on the application of safe plant-derived chemical compounds, as a sustainable approach for extending fruit shelf-life.

- Studied the physiological and molecular role of different phytohormones in stone fruit trees ripening process.
- Applied different cutting edge biotechnology protocols for isolation and purification of nucleic acid, Recombinant DNA technology techniques (gene cloning, transformations, primer design and restriction digestions), protein-protein interaction using yeast two-hybrid system, quantification and studying gene expression patterns in different stone fruit trees particularly peaches and plum.
- Designed and implementing experimental studies for evaluating shelf life and optimizing storage condition for different plums varieties.
- Quality fruit assessment as; fruit weight, firmness TSS and acidity etc.
- Determined the extent of Grapevine red blotch virus and Grapevine leafroll virus infections in commercial Chardonnay and Riesling vineyards in Niagara. Collaborated project with AAFC, OMFARA and Grape Growers of Ontario.
- Supervised and training students and other technical staff.

2011-2012 **Visiting Research Participant**. Agriculture and Agri- Food Canada / Southern Crop Protection & Food Research Centre London, Ontario. Plant Molecular Biology & functional genomics Lab. Handled a research project focusing on sustainable insect crop pest control derived from natural plant volatiles; through over expression and transformation of plant volatiles genes.

- Applied several biotechnology laboratory protocols for Amplification and cloning the coding regions and over expression and transformation of Arabidopsis genes and Tomato Micro Tom variety LeCCDs genes. Techniques includes; RNA and DNA extraction and purification, cDNA synthesis and PCR, Real-time PCR and qRT-PCR for quantification of

mRNA transcripts for gene expressions. Recombinant DNA technology techniques (cloning, transformations, primer design and restriction digestions), Gene Cloning, over expression and Gene transformation. Sequence alignments and analysis using bioinformatics software- DNA star and laser gene.

- Presented projects results and achievements to project stakeholder, evaluation committee meeting and conferences.
- Supervised summer and graduate students involved in the project.

2006-2010 **Head of the department of plant production and protection**, National Agriculture Research Centre (NARC) / Ministry of Agriculture. Palestinian National Authority, Palestinian territories.

- Planned and designed experiments in the field of sustainable agriculture
- Designed and implemented horticultural research project, agro-morphological characterization, evaluation and documentation of germplasms relatedness and polymorphisms within local agricultural plant cultivars.
- Proposals preparation, fundraising and facilitated workshops, conferences and meetings.
- Implemented successful technology transfer and developed vegetable grafting techniques, resulting in increasing grafted vegetable cultivation particularly watermelon
- Developed vegetation propagation of fruit trees enhancing rooting ability of semi hard wood olive cutting

2007-2010 **Team leader** of NARC Research staff on the project of Strengthening Support System Focusing on Sustainable Agriculture, in the Jordan River Rift Valley. Funded by Japan International Cooperation Agency (JICA).

- led a multidisciplinary research team on the project “Strengthening Support System Focusing on Sustainable Agriculture” in the Jordan River Rift Valley (funded by JICA, Japan International Cooperation Agency), meeting all project goals; improved agricultural productivity of small farmers in target area through applied research for cycle-oriented agriculture, water saving agriculture and soil conservation taking into consideration the technology suitable for indigenous conditions

2008-2010 **Part time Instructor**, Faculty of Agriculture, Al-Quds Open University-Palestinian territories.

- Instructed the following courses: Medical & Aromatic Plants, Fruit Trees, Principles of Plant Production, and Farm Management
- Arranged field trips and farm visits, trained students for up-to-date horticultural practices

2001-2005 **Junior Researcher and teaching assistant**, Institute of Phytomedicine, University of Hohenheim/ Germany.

- *Molecular basis of plant- insect interactions:*
Gene expression in resistant and susceptible apple cultivars as a response to feeding of rosy apple aphids, *Dysaphis plantaginea* (Passerini)

Project Goals

The aim of the project was to study differential gene expression in aphid-infested resistant

and susceptible cultivars of apple in order to identify and characterize plant genes that are involved in resistance or susceptibility to the rosy apple aphid, *Dysaphis plantaginea*. This had provided the necessary molecular tools to a better understand of plant defence mechanisms against aphids, hence improved the knowledge to design molecular markers for breeding or genetically engineering aphid resistant apple cultivars in the future.

- *The role of phytohormones in plant-insect-interactions:*

Endogenous plant hormone status in the Rosy apple aphid *Dysaphis plantaginea* (Passerini) and its primary host apple *Malus domestica* L.

Project Goals

The aim of this work was to emphasise the role of the endogenous plant hormones cytokinin, auxin and abscisic acid in gall formation on apple due to Rosy apple aphid infestation, as well as detecting, characterising and quantifying plant hormones in Rosy apple aphids. All endogenous hormones, cytokinin, auxin and abscisic acid were determined by radioimmunoassay in both plant and insects extracts.

- Supervised undergraduate students, visitors and technical assistance
- Published several scientific papers in reviewed journals.
- Participated in several international conferences by oral and poster participations.
- Worked in Biological control programs of insects in stone fruits

1999-2000 **Seed technologist**, Conservation and sustainable use of dry land agro-biodiversity project. UNDP / Ministry of Agriculture, Palestinian Authority.

Conservation and sustainable use of Dryland Agro-biodiversity project Funded by GEF "The Global Environment Facility"

- Promoted of in situ and on-farm conservation and sustainable use of the landraces and wild relatives of cereals, food and feed legumes, fruit trees species originating from Palestinian territories.
- Consulted with local farmers involved in the project to assist in collecting, conservation and management of cereals seeds, and to contribute to local knowledge of plant cultivation and usage
- Studied morphological characterization of field crops landraces (legumes and cereals), evaluation of introduced field crops adaptability and performance under dominant environmental condition
- Coordinated networking with project stakeholders and raising awareness, technical backstopping, capacity building and training in in situ and on-farm conservation and sustainable use of agro-biodiversity

1997-1999 **Research and teaching assistant**, Department of horticulture and plant protection, Faculty of agriculture, University of Jordan, Amman-Jordan.

- Taught ornamental and horticulture courses; trained undergraduate students on different methods and techniques for plant propagation
- Carried out field and laboratory experiments in olive trees and ornamental plants propagation techniques

CURRENT AND PAST PROJECTS

- Extending fruit shelf life of Guava fruits through a compensation of different chemical application and cold storage.
- Strengthening Support System Focusing on Sustainable Agriculture, in the Jordan River Rift Valley. Funded by Japan International Cooperation Agency (JICA).
- Vegetable grafting techniques as an Alternative agricultural practices to methyl bromide, to over come soil born pathogen infestations. Funded by Japan International Cooperation Agency (JICA).
- Molecular and Morphological characterization of local Palestinian olive cultivars. Funded by Paltrade (Palestine trade centre) through the project The Export Promotion Project in the Olive Oil Sector in Palestinian territories.

LANGUAGES

- Arabic: mother tongue.
- Very good in spoken and written English.
- Good in spoken and written German.

COMPUTER SKILLS

Excellent knowledge in software in

- Word Processing
- Statistics analysis
- Graphics/presentation
- Bio-informatics; DNA Star-Laser gene.

RESEARCH INTEREST

- Molecular biology of plant- biotic and abiotic stresses interaction
- Molecular ecology, biochemical, physiological and molecular plant insect relations.
- Organic farming and sustainable agriculture, Integrated pest Management; Biological control and Pest control.
- Monitoring and evaluation of field release and treatment with bio-agents (Natural enemies).

PROFESSIONAL AND ACADEMIC INTEREST

Capability of instructing different courses of horticulture and biotechnology

Undergraduate courses:

- Plant Biotechnology, agricultural biotechnology, and Environmental biotechnology
- Plant tissue culture
- Genetic diversity & Biotechnology, Genetic mapping & Biotechnology
- Plant physiology, plant propagation.

Graduate courses:

- Modern techniques in molecular biology
- Advance plant physiology
- Plant Genetic engineering

PROFESSIONAL ASSOCIATIONS

- P. Ag. (Professional Agrologists), member in a good standing with Ontario Institute of Agrologists (OIA). Ontario, Canada. Since 2011.
- Member of the Jordanian Agricultural Engineers Association, Amman, Jordan. 1996.
- Member of the German society of general and applied entomology (DGaaE), German, 2005.

SCIENTIFIC PUBLICATIONS

- El-Sharkawy, I., Sherif, S., **Qubbaj**, T., Sullivan, A. J., & Jayasankar, S. (2016). Stimulated auxin levels enhance plum fruit ripening, but limit shelf-life characteristics. *Postharvest Biology and Technology*, 112, 215-223.
- Jayasankar S., **Qubbaj** T., El-Sharkawy I., 2015 Fruits of Temperate Climates; Factors Affecting Quality. *Encyclopedia of Food and Health (Elsevier)*, submitted.
- Jayasankar S., **Qubbaj** T., El-Sharkawy I., 2015. Fruits of Temperate Climates; Commercial and Dietary Importance. *Encyclopedia of Food and Health (Elsevier)*, submitted.
- Ouda O. Al-Shuhail A. **Qubbaj** T. Samara R. 2013. Assessing the applicability of Ground Penetrating Radar (GPR) techniques for estimating soil water content and irrigation requirements in the Eastern Province of Saudi Arabia: A project methodology. *International Journal of Advanced Research in Engineering & Technology (IJARET)*. 4(1): 114-123.
- Samara, R. & T. **Qubbaj**. 2012. Preliminary study of some aphid natural enemies of Tulkarm-Northern West-Bank and their aphid-plant associations. *International journal of Agronomy and Plant Production*, 3 (4): 123-127.
- Samara R., J.C. Monje, T. **Qubbaj** and C.P.W. Zebitz, 2011. Studies on Host Preference and Oviposition Behaviour of *Trichogramma aurosum* Sugonjaev and Sorokina Strains in Choice and Non-Choice Tests. *Arab Journal of Plant Protection*, 29 (2): 259-266.
- Samara, R. Monje, J.C. Zebitz C.P.W. & T. **Qubbaj**. 2011. Comparative biology and life tables of *Trichogramma aurosum* Sugonjaev & Sorokina (Hymenoptera: Trichogrammatidae) on *Cydia pomonella* L. at constant temperatures. *Phytoparasitica*. 39 (2):109-119.
- Samara, R. Monje, J.C. **Qubbaj**, T. & Zebitz C.P.W. 2011. Host age preference behaviour of *Trichogramma aurosum* Sugonjaev & Sorokina (Hymenoptera: Trichogrammatidae) *International Journal of Agronomy and Plant Production* 2(2)
- QUBBAJ** T. and Abu Eid M. 2009. Application of biotechnology in agriculture in Palestine. In the Study of Biotechnology Application in Crop Production in Arab Countries. Publication of Arab Organization for Agricultural Development (AOAD). League of Arab States. pp: 76.

- Qubbaj, T., Reineke, A. & Zebitz, C.P.W., 2005:** Gene expression pattern in resistant and susceptible apple cultivars as a response to feeding of rosy apple aphids, *Dysaphis plantaginea* (Passerini). *Comp. Biochem. Physiol. Part A* 141, S226.
- Qubbaj, T., Reineke, A. & Zebitz, C.P.W., 2004:** Molecular interactions between Rosy apple aphids, *Dysaphis plantaginea* (Passerini) (Homoptera: Aphididae) and resistant and susceptible cultivars of its primary host *Malus domestica* L. *J. Entomol. Exp. Appl.* 115: 145-152.
- Qubbaj T., Reineke A. & Zebitz C.P.W. 2004.** Plant Aphid Interactions: Molecular responses of resistance and susceptible apple cultivars to feeding of Rosy apple aphids, *Dysaphis plantaginea* (Passerini). Proceedings of the 1st International Symposium for Organic Fruit and Wine Growing. May 12th to 13th. Stuttgart, Germany.
- Qubbaj, T., 2005.** Physiological and molecular responses of resistant and susceptible apple cultivars of *Malus domestica* L. to the Rosy apple aphid, *Dysaphis plantaginea* (Passerini). Grauer publisher, Stuttgart, Germany ISBN: 3-86186-501-7. pp 114
- QUBBAJ T. 1999.** Effect of acid or base treatment on rooting of Semi-hard Wood 'Nabali' Olive cuttings. M.Sc. Thesis. University of Jordan- Amman. pp: 83.

CONFERENCE PARTICIPATIONS, SHORT COMMUNICATIONS

- Lakshminarayan, S., Wei, S., Gruber, M.Y., Bernards, M.A., **Qubbaj, T.**, and Hannoufa, A. (2013). "Role of carotenoid cleavage dioxygenases in volatile emissions and insect resistance in Arabidopsis", Canadian Society of Plant Biologists (CSPB) Eastern Regional Meeting, University of Toronto, Mississauga, ON, Canada.
- Lakshminarayan, S., Wei, S., Gruber, M.Y., Bernards, M.A., Tian, L.-N., **Qubbaj, T.**, and Hannoufa, A. (2012). "Role of carotenoid cleavage dioxygenases in volatile emissions and insect resistance in Arabidopsis.", 3rd Annual Biology Graduate Research Forum 2012, University of Western Ontario, London, ON, Canada, October 20, 2012.
- Lakshminarayan, S., Wei, S., Gruber, M.Y., Bernards, M.A., Tian, L.-N., **Qubbaj, T.**, and Hannoufa, A. (2012). "Role of carotenoid cleavage dioxygenases in volatile emissions and insect resistance in Arabidopsis.", Canadian Society of Plant Biologists (CSPB) Eastern Regional Meeting and Plant Development Workshop, Wilfrid Laurier University, Waterloo, ON, Canada, November 30- December 1, 2012.
- Ontario Institute of Agrologists (OIA) Conference & 54th Annual General Meeting,** 2013, Kitchener, ON. April 5 & 6.
- Ontario Institute of Agrologists (OIA) Conference & 52nd Annual General Meeting,** 2011, London, ON. April 8 & 9.
- Internationally Educated Professionals Conference,** organized by: cclc (London Cross Cultural learner Centre). 2011,. London, ON. March 3ed.
- Qubbaj T. 2010,** Participatory Research and Extension. Dissemination workshop. Palestinian National Authority, Ministry of Agriculture, National Agriculture research centre (NARC), March 14-15, 2010, Jericho. "project of Strengthening Support System Focusing on Sustainable Agriculture, in the Jordan River Rift Valley". Funded by Japan International Cooperation Agency (JICA).

- Qubbaj T.** 2010. Crop productivity in Palestine: Cultivated areas and types of crops. The first workshop on : Horticultural Productivity in Palestine: Current Status and Future Challenges in Education, Outreach and Translational Research, UNESCO Biotechnology Educational & Research Centre at Bethlehem University Bethlehem, Palestine in collaboration with The Department of Horticulture and Landscape Architecture Purdue University W. Lafayette, ,USA Bethlehem University, 18-20 March, 2010
- Qubbaj T.** 2009. Agricultural scientific research in Palestine: facts and expectation. Proceedings of the first conference for agricultural education and training: facts and challenges. Palestine.
- Qubbaj T., Reineke A. & Zebitz C.P.W.** 2005. Gene expression pattern in resistant & susceptible apple cultivars as a response to feeding of Rosy apple aphids, *Dysaphis plantaginea* (Passerini). Annual Main Meeting of the Society for Experimental Biology: Phloem-Insect Interactions, Barcelona, Spain, 11-15th July 2005.
- Qubbaj T., Zebitz C.P.W., & F. Bangerth.** 2005. Endogenous plant hormone status in the Rosy apple aphid *Dysaphis plantaginea* (Passerini) and its primary host apple *Malus domestica* L. Mitteilung der Deutschen Gesellschaft für allgemeine und angewandte Entomologie. Band 15:75. Dresden Entomology conference - Germany.
- Qubbaj T., Reineke A. & Zebitz C.P.W.,** 2004: Molecular interactions between rosy apple aphids, *Dysaphis plantaginea* (Passerini) and resistant and susceptible cultivars of its primary host *Malus domestica*. Proceedings of the 12th International Symposium on Insect Plant Relationships. Berlin, Germany, 7-12th August 2004.
- Qubbaj T., Reineke A. & Zebitz C.P.W.,** 2004: Plant Aphid Interactions: Molecular responses of resistance and susceptible apple cultivars to feeding of rosy apple aphids, *Dysaphis plantaginea* (Passerini). Proceedings of the 1st International Symposium for Organic Fruit and Wine Growing. Stuttgart, Germany, 12-13th May 2004.

INTERNATIONAL AND NATIONAL TRAININGS AND WORKSHOPS ATTENDED

- **OSLT Certificate** (Occupation-specific Training in Environmental Technology), Niagara College, 2013
- **WHMIS Certificate**, University of Guelph 2014. And Agriculture & Agri-Food Canada 2011. The Workplace Hazardous Materials Information System (WHMIS) is Canada's national hazard standard.
- **Articling Agrologist Orientation Workshops.** Networking, Communicating and Being the Right Candidate for the Job. OIA, Woodstock, ON. April 6th 2011.
- **Vegetable Crop Diversification Workshop**, Vineland Research and Innovation Centre., Vineland ON. March 29th 2011.
- **Technical cooperation and International Relations**, National Centre for Agricultural Research and Extension (NCARE), Japan International Cooperation Agency “JICA”. Amman, Jordan January 24th – February 4th 2010.
- **Agriculture Extension and Applied Research strengthening**, Ministry of agriculture, Forestry and Fisheries, Ibaraki Agriculture Institute, and Kanagawa Agricultural Technology centre. Japan February 22nd – 26th , 2010.

- **Participatory Agricultural Research and Extension**, part one. International Centre for Agricultural Research in the Dry Areas. (ICARDA), Japan International Cooperation Agency “JICA”. Amman, Jordan March 15th -19th , 2009.
- **Participatory Agricultural Research and Extension**, part Two. International Centre for Agricultural Research in the Dry Areas. (ICARDA), Japan International Cooperation Agency “JICA”. Amman, Jordan November 1st -5th , 2009.
- **Technology Exchange**. Japan International Cooperation Agency “JICA”, Amman, Jordan June 14th-17th 2009.
- **Report writing**. Ministry of Agriculture, Japan International Cooperation Agency “JICA”, Ramallah, Palestine June 9th -11th 2009.
- **ISO 17025 / 2005 Standard**. Ministry of Agriculture, Japan International Cooperation Agency “JICA”, Jericho, Palestine. March 7th – 11th 2009.
- **Specialized Global GAP Training**, Ministry of Agriculture, Japan International Cooperation Agency “JICA”, Ramallah, Palestine. March 8th – 10th 2008.
- **Concepts and Approaches of Strategic and Operational Planning**. A Case Study: The Palestinian Strategy for Research and Extension. CARDNE, Amman - Jordan. August 25th – September 6th 2007.
- **Seed health testing**. International Centre for Agricultural Research in the Dry Areas (ICARDA), Aleppo, Syria. Mach 18th –29th 2007.
- **Research and reflect**. A course and workshop in scientific writing. University of Hohenheim. Stuttgart. Germany. May 3rd – 5th 2003.
- **Cultivation techniques and phytopathological problems in organic fruit growing and viticulture**. Weinsberg. Germany. February 4th – 7th 2002. 10th.
- **Plant Protection in Production System**. Institute of phytomedicine. University of Hohenheim. Stuttgart. Germany. July 23rd – 27th 2001.

REFERENCES

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