

Curriculum Vitae

Date: September, 2014

Personal information:

Name: Omar Mousa Darissa.

Date of birth: May 28, 1975.

Place of birth: Bethlehem, Palestine

Email: omarissa75@gmail.com or odarissa@bethlehem.edu

Education:

Secondary school:

Completed in 1993 at Al-Khader Secondary School, Bethlehem by passing the Tawjihi Certificate.

Undergraduate:

BSc. 1997: Biological Sciences, Minor chemistry, Bethlehem University, Palestine.

Graduate:

MSc. Completed in 2000 at An-Najah National University, Nablus. Thesis title: Interaction between the biocontrol agents; entomopathogenic nematodes, *Serratia marcescens*, and *Beauveria bassiana* isolated from Palestine.

PhD. Completed in 2011 at Hamburg University, Germany. Thesis title: Molecular characterization of a novel segmented dsRNA mycovirus and its association with hypovirulence of *Fusarium graminearum*.

Appointments:

2014- Present: Director of the UNESCO BERCEN at Bethlehem University.

2012 - Present: Councilor and Board member of the Arab Society for Virology.

2011 - Present: Faculty member at the Biology Department, Bethlehem University.

2011 - 2014: Deputy Director of the UNESCO BERCEN at Bethlehem University.

2000 - 2007: Researcher, UNESCO BERCEN at Bethlehem University.

2012- Present: DAAD-alumni representative at BU.

Research Experiences:

- Molecular physiology of biotic and abiotic stress in tomato plants.
- Silencing of plant genes up-regulated upon TYLCV infections to evaluate their role in developing resistance to this viral disease.
- Purification of viral dsRNA using the cellulose chromatography.
- Sequence determination of novel viral genomes.
- Purification of virus particles by means of gradient ultracentrifugation.
- Quantitative real-time PCR.
- Agrobacterium-mediated transformation of local tomato landraces for TYLCV resistance. The transformation cassettes include the GROEL gene, or silencing-based constructs.
- Transformation of fungal protoplasts.

- Plant tissue culture techniques including protoplast isolation, callus initiation and maintenance, regeneration, elongation, rooting and hardening of several tomato cultivars.
- Molecular identification of entomopathogenic nematodes using the ITS-RFLP technique and sequencing.
- Genotyping of local plant cultivars using Anchored Microsatellite Primed-PCR, and other PCR-based techniques.
- Detection of the main plant viruses infecting tomatoes, potatoes, citrus, stone fruits, and grapevines by molecular and serological methods including RT-PCR, IC-RT-PCR, Multiplex PCR, Hybridization with non radioactive probes (Dig), DAS-ELISA, direct ELISA.
- Northern, Southern, and Western Blot techniques.
- Designing gene constructs (e.g. silencing construct, over-expression constructs) of viral genes.
- Experience in the physiology of seed germination of the wild plant *Gundelia tournefortii*.
- Isolation, characterization, and identification of local isolates of the entomopathogenic bacterium *Serratia marcescens*.
- Isolation and biological characterization of Entomopathogenic nematodes from soil sample.
- Identification of bacteria by sequencing of PCR products of the 16S rRNA.
- Molecular cloning and transformation of genes.
- Production of poly and monoclonal antibodies of some viral antigens.
- Detection of *Clavibacter michiganensis* and *Erwinia herbicola* using PCR and nested PCR.
- Genotyping of Enterobacteriaceae using RAPD-PCR.
- Proposal writing, organizing project budgets, writing scientific and financial reports to the funding organizations.

Teaching, workshop, and membership activities

- Teaching of the courses Biol 244 (Plant Physiology), Biol 141 (Principles of Biology I), Biol 143 (Principles of Biology II), Biol 243 (Botany), MBT715 (Biotechnology Instrumentation and Techniques), TRGD 301 (Flora and Fauna of Palestine), Scie11 (Science), Biol 411 (Bioreading), in addition to the practical courses Biol001, Biol 017, Biol 019 and Biol 006.
- Reviewer for the Science PG, Journal of Food and Nutrition Sciences.
- Member of the committee for the Biotechnology Mater Program at Bethlehem University.
- Supervisor of 4 master students at the MBT program at BU.
- Member of the committee for re-modulating the course Biol 143 at the Biology department of Bethlehem University.
- Member of the preparatory committee for the third biotechnology conference in Palestine.
- Organize and participate by lecturing in a Workshop on Teaching Botany in Palestinian universities: needs for innovative method, 28-29 June, 2012.
- Participating in teaching a practical course for Master students at Hamburg University under the supervision of Prof. G. Adam, and Prof. W. Schaefer.
- Participated in supervising several Master students at the laboratory of Prof. G. Adam at Hamburg University.

- Attended an intensive training program at the laboratory of immunology of the University of Tunis El-Manar on the production of poly and monoclonal antibodies for some viral antigens for 3 months, Tunis, Tunisia, September – November 2001.
- Lectured in the Biological Control, Plant Tissue Culture, and Molecular biology courses held at the UNESCO BETCEN at Bethlehem University, 1999-2000.
- Lectured in a workshop for staff and students from Hebron University held on October 2004 at the UNESCO Biotechnology Center at Bethlehem University.
- Lectured in several workshops that was held at the UNESCO Biotechnology Center at Bethlehem University in topics related to the detection of grapevine viruses, Citrus Tristeza Virus and TYLCV:
 - Workshop for students from the American Arab University in Jenin, held on August 2004.
 - Workshop for extension people from the Palestinian Ministry of Agriculture, districts of Bethlehem and Hebron, held on July 2004.

Skills:

Programming using Pascal Language.
 Windows & under windows programs.
 Web design using the front page.
 Typing skills: English, German and Arabic, high proficiency

Languages:

English and Arabic: conversation, reading and writing
 Deutsch: B2T level

Conferences and workshops:

1. Attended the VIIth International Plant Virus Epidemiology Symposium: Plant Virus Epidemiology: Current status and future prospects. Held in Aguadulce (Almeria), Spain, 11-16 April, 1999.
2. Attended a workshop on: Development of a Regional Viral Indexing and Certification Program for Plant Propagation materials in the Middle East (MERC), 1st workshop, Egypt, March, 2001.
3. Attended and participated in a workshop entitled: Science for Peace and Regional Scientific Cooperation in Molecular Biology, Microbiology and Biotechnology. Park Plaza Hotel, Jerusalem. 29 & 30 November - 1 December 1999.
4. Attended a workshop on Integrated Pest management in Palestine. Planning, Research, Implementation, Extension, and Implementation of IPM. A program for Palestinian-Israeli Cooperation. Shepherd's Hotel, Bethlehem, November 3-4, 1999.
5. Participated in a scientific meeting and workshop on molecular marker-assisted plant breeding. Cyprus, February 2002. (Funded by MERC-USAID)
6. Attended a scientific workshop on entomopathogenic nematodes. Eilat, Israel, November 2003.
7. Participated by giving lectures and by lab demonstration in a workshop on: Detection of grapevine viruses. Aghadeer, Morocco, December 2003. (Funded by MERC-USAID)
8. Participated by giving lectures reporting the last scientific achievements in the UNESCO BETCEN laboratory at Bethlehem University in two MERC projects related to plant viruses in the Middle East. 12-21 July 2004, Chania, Crete, Greece.

9. Participated by giving a lecture on Agrobacterium-mediated transformation in the meeting of the TYLCV project funded by MERC-USAID. February, 2005, Aqaba, Jordan.
10. Participated by giving lectures and by lab demonstration in a workshop on: Agrobacterium-mediated transformation of tomato for GROEL and GUS genes. Giza, Egypt July 2005. (Funded by MERC-USAID).
11. Attended the American Phytopathological Society (APS) meeting which was held in Austin, Texas, USA during the period 30 July – 3 August 2005.
12. Attended the fifth Joint Meeting of the DPG Working Group "Plant Viral Diseases" and the "Nederlandse Kring voor Plantevirologie". 8 - 9 April, 2009, Hamburg, Germany.
13. Participated in the 42nd annual meeting of the DPG working group of "Plant Viral Diseases". 11-12 March, 2010, Goettingen, Germany.
14. Attended a workshop on proteomics on 20-24 Aug. 2012, at Hohenheim University, Germany.
15. Participated in a scientific meeting on understanding the molecular basis of TYLCV resistance in tomato, 25-27 Jan. 2013, Cyprus.
16. Participated by lecturing and publishing 2 abstracts at the Palestinian Third Biotechnology Conference which was held at Al-Qudus University, 20 Oct. 2012.

Abstracts

The following abstracts were presented at the Bethlehem University research day, 2013:

- Dina Alloun, **Omar Darissa**, and Naim Iraki. Genotypic Characterization of Palestinian and Regional Olive (*Olea europaea*) Cultivars Using ISSR Markers.
- **Omar M. Darissa**, Salwa Rajabi, and Naim M. Iraki. Genotyping of sixteen grapevine (*Vitis vinifera*) varieties in Palestine using microsatellite markers.
- **Omar Darissa**, Hala Sholi, and Naim Iraki. A small-scale survey for *Salmonella typhimurium* in Bethlehem area.
- **Omar Darissa**, Zahra Jabary, Amer Wazwaz, and Naim Iraki. The use of virus-induced gene silencing to study interactions and networking among *Tomato yellow leaf curl virus* resistance genes in tomato.
- **Omar Darissa** and Naim Iraki. Molecular identification of six *Steinernema* isolates and characterization of their ITS regions.

Omar Darissa (2012). Molecular Characterization of a Novel Segmented dsRNA Mycovirus and its Association with Hypovirulence of *Fusarium graminearum*. Bethlehem University Journal, Vol. 30.

Omar M. Dar-Issa, Michael A. Sansour, and Naim M. Iraki. The effect of insect-infection with *Serratia marcescens* and *Beauveria bassiana* on the invasion and recovery of the insect-pathogenic nematode *Heterorhabditis indica*. Science for Peace and Regional Scientific Cooperation; Molecular Biology, Microbiology and Biotechnology UNESCO Workshop, Jerusalem. 29 & 30 November - 1 December 1999.

Omar Dar-Issa, and Naim Iraki (2001). Effect of *Beauveria bassiana* on the invasion and

proliferation of *Heterorhabditis indica* infective juveniles inside *Galleria mellonella* larvae. 8th European Meeting of the IOBC/WPRS Working Group "Insect Pathogens and Insect Parasitic Nematodes". Athens, Greece, 29 May - 2 June 2001.

Michael Sansour, **Omar Issa**, and Naim Iraki. Detection of phytopathogenic bacteria *Clavibacter michiganensis subsp. michiganensis* in tomato plant seedlings and seeds, and *Erwinia herbicola* pv. *gypsophila* in *gypsophila* plants by PCR. Science for Peace and Regional Scientific Cooperation in Molecular Biology, Microbiology and Biotechnology. Park Plaza Hotel, Jerusalem. 29&30 November – 1 December 1999.

Iraki N.M., M. Mahassneh, **O. Dar-Issa**, M. Sansour, N. Salah, B. Sandouka, G. Abul-Hawa, and R. Qabajeh (1999). Biocontrol Research Activity at the UNESCO Biotechnology Educational and Training Center (BETCEN) For Palestinian Territory and Arab Countries. 7th European Meeting in the IOBC/WPRS Working Group. Capturing the Potential of Biological Control. March 22-26. Vienna, Austria.

Michael A. Sansour, **Omar M. Dar Issa**, Basma Sanduqa, and Naim M. Iraki RAPD-PCR Analysis of Two Novel Strains (Bethlehem 11 and Bethlehem 22) of the Entomopathogenic Nematode *Heterorhabditis indica*. Science for Peace and Regional Scientific Cooperation Molecular Biology, Microbiology and Biotechnology UNESCO Workshop, Jerusalem. 29 & 30 November - 1 December 1999.

Naim M. Iraki, **Omar M. Dar-Issa**, and Mai El-aza. A Study of Some Factors Affecting Seed Germination of *Gundelia tournfortii*. Science for Peace and Regional Scientific Cooperation Molecular Biology, Microbiology and Biotechnology UNESCO Workshop, Jerusalem. 29 & 30 November - 1 December 1999.

Maxwell D.P., Nakhla M.K. Hadidi A., Mazyad H.M., Shalaby A., Czosnek H., Akad F. and Zeidan M., Iraki N., Tawil J. and **Dar-Issa O.M.** Development of a Regional Viral Indexing and Certification Program for Plant Propagation Materials in the Middle East. Science for Peace and Regional Scientific Cooperation Molecular Biology, Microbiology and Biotechnology UNESCO Workshop, Jerusalem. 29 & 30 November - 1 December 1999.

Iraki N. M., and **Omar Dar-Issa** (2006). Biotechnology Research in Palestine, Symposium on Biotechnology in Agriculture, Al-Balqa' Applied University, Amman, Jordan, 7-9 February, 2006

Omar Dar-Issa, and Naim Iraki (2000). Effect of Preinfecting *Galleria mellonella* Larvae with the Entomopathogenic Bacterium *Serratia marcescens* on the Invasion and Recovery of *Heterorhabditis indica* Infective Juveniles. Bethlehem University Journal, Vol. 19.

Publications

Omar M. Darissa and Naim M. Iraki (2014). Molecular Identification of Six *Steinernema* Isolates and Characterization of their Internal Transcribed Spacers Regions. Jordan Journal of Biological Sciences, 7 (1), 31-34.

Omar M. Darissa and Naim M. Iraki (2014). Antagonistic interactions between the biocontrol agents *Beauveria bassiana* and *Heterorhabditis indica*. Russian Journal of Nematology, 22 (1), 23-29.

Omar M. Darissa and Naim M. Iraki (2013). In vivo and In vitro interactions between two entomopathogens: the bacterium *Serratia marcescens* and the nematode *Heterorhabditis indica*. Russian Journal of Nematology, 2013, 21 (2), 83-91.

Omar M. Darissa, Salwa Rajabi, and Naim M. Iraki (2013). Genotyping of sixteen grapevine (*Vitis vinifera*) varieties in Palestine using microsatellite markers. Bethlehem University Journal, Vol 32.

Darissa, O., and N. Iraki (2012). Using the Anchored Microsatellite Primed Polymerase Chain Reaction (AMP-PCR) Technique to Study Genetic Diversity in Four Local Tomato (*Lycopersicum esculentum*) Cultivars in Palestine. Bethlehem University Journal, Vol. 30.

Omar Darissa, Günter Adam, and Wilhelm Schäfer. (2012). A dsRNA mycovirus causes hypovirulence-associated traits in *Fusarium graminearum*. European Journal of Plant Pathology, Volume 134, pp 181-189.

Darissa, O., Willingmann, P., Schaefer W., and G. Adam (2011). A novel double-stranded RNA mycovirus from *Fusarium graminearum*; Nucleic acid sequence and genomic structure. Arch. Virol. 156 (4): 647-658.

Elisabeth Grund, **Omar Darissa** and Guenter Adam (2010). Application of FTA Cards to Sample Microbial Plant Pathogens for PCR and RT-PCR. J Phytopathol. 158: 750–757.

Darissa, O., Willingmann, P., and G. Adam (2010). Optimized approaches for the sequence determination of double-stranded RNA templates. Journal of Virological Methods 169:397-403.

Akad Fouad , Eybishtz Assaf , Edelbaum Dagan , **Dar-Issa Omar** , Iraki Naim and Czosnek Henryk (2007). Making a friend from a foe: Expressing a GroEL gene from the whitefly *Bemisia tabaci* in the phloem of tomato plants confers resistance to *Tomato yellow leaf curl virus*. Arch Virol. V 152 No7: 1323-1339.

Iraki, N., **O. Dar-Issa**, B. Sandouka, M. Sansour, R. Arafeh, A. Abu-Sa'da, and N. Salah. 2007. The Development of Agricultural Biotechnology Capacities in Palestine through the UNESCO Biotechnology Educational and Training Center at Bethlehem University, p. 487-490. In Z. Xu, J. Li, Y. Xue, and W. Yang (ed.), Biotechnology and Sustainable Agriculture 2006 and Beyond. Springer Netherlands.

Omar M. Dar-Issa, Naim M. Iraki , Ralf-Udo Ehlers (2003). Effect of *Beauveria bassiana* on the invasion and proliferation of the entomopathogenic nematode *Heterorhabditis indica* inside *Galleria mellonella* larvae. Insect Pathogens and Insect Parasitic Nematodes, IOBC wprs Bulletin 26 (1) pp. 169-172.

Basma Sandouka, Amani Abu-Sa'da, **Omar Dar-Issa**, Ralf-Udo Ehlers and Naim Iraki (2003). Effect of heat shock on the penetration and development of infective juveniles of two entomopathogenic nematodes strains *Heterorhabditis indica* and *H. bacteriophora* inside *Galleria mellonella* larvae. Insect Pathogens and Insect Parasitic Nematodes, IOBC wprs Bulletin 26 (1) pp. 173-176.

Omar Dar-Issa and Naim Iraki (2005). Technical sheets no: 2, 7, 9, 10, and 11 in the electronic booklet: Detection methods for viruses of Banana, Citrus, Cucumber, Grape, Potato, Stone Fruits, and Tomato.
<http://www.plantpath.wisc.edu/invirlab/TextSheetsComplete.pdf>.

نعيم عراقي، عمر عيسى وبسمة صندوقة. (2007). استخدام النيما تودا الممرضة للحشرات في المكافحة الحيوية. المزارع العدد 22.