Curriculum Vitae

GHANDI HUSSEIN ANFOKA

PERSONAL DATA:

First Name: Ghandi
Family Name: Anfoka
Nationality: Jordanian
Family Status: Married
Date and Place of Birth: 1963 Amman/Jordan

CURRENT ADDRESS:

Al-Balqa' Applied University
Faculty of Agricultural Technology
Department of Biotechnology
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FIELD OF SPECIALIZATION:

- Diagnosis of plant diseases caused by viruses, phytoplasma and viroids using molecular techniques.
- Development of plants resistant to plant diseases using classical approaches and molecular techniques.
- Study the impact of climatic changes on the resistance against plant diseases.

EDUCATION:

- DEGREE: DOCTOR OF PHILOSOPHY IN PLANT VIROLOGY
University of Hohenheim, Stuttgart, Germany (1993 – 1997).
Thesis Title: Induction of systemic resistance against *Phytophthora infestans* and Cucumber mosaic virus in *Solanaceae* plants.

- DEGREE: MASTER IN PLANT PROTECTION
University of Jordan, Faculty of Agriculture, Amman, Jordan (1986 – 1989).
Thesis Title: Isolation and identification of bean common mosaic virus in Jordan.

DEGREE: BACHELOR OF SCIENCE IN AGRICULTURAL SCIENCES
University of Jordan, Faculty of Agriculture, Department of Plant Protection, Amman, Jordan (1982 – 1986).

INTERNATIONAL RESEARCH GRANTS:

1. **Development of Tomato with Multi-resistance to *Tomato yellow leaf curl virus*, Salinity, Drought and Heat**. It is a five-years project awarded by the Middle East Regional Cooperation (MERC) Program of USAID, Washington, DC, USA (**On going**).
2. **Development and Improvement of Local Seed Potato Production in the Middle East.** It is a three-years project awarded by the Middle East Regional Cooperation (MERC) Program of USAID, Washington, DC, USA (**On going**).
3. **Impact of Elevated Temperature and Limiting Water Supply on Virus Resistance of Tomato Plants.** It is a three-years project awarded by the German Research Foundation (DFG) (**Terminated**).
4. **The Molecular Basis of Resistance to Tomato Yellow Leaf Curl Virus.** It is a three-years project funded by the German Research Foundation (DFG) (**Terminated**).
5. **Monitoring of Cereal Virus and Virus-Like Diseases for Prevention Through Regional Detection and Quarantine Systems.** It is a three-years project awarded by the Middle East Regional Cooperation (MERC) Program of USAID, Washington, DC, USA (**Terminated**).
6. **Control of New Threatening Cucurbit-Infecting Whitefly-Transmitted Geminiviruses in the Middle East**. It is a four-years project awarded by the Middle East Regional Cooperation (MERC) Program of USAID, Washington, DC, USA (**Terminated**).
5. **Microarray-Based Detection of Plant Viral and Viral-Like Pathogens**. It is a two-years project awarded by the NATO. Brussels (**Terminated**).
6. **Development of a Regional Virus Indexing and Certification Program for Plant Materials in Jordan**. It is a three-year project awarded by the Middle East Regional Cooperation (MERC) Program of USAID, Washington, DC, USA (**Terminated**).

7. **Development of Tomatoes with Combined Resistance to Tomato Yellow Leaf Curl Virus (TYLCV) Using Both Virus-Derived Resistance and Molecular Marker-Assisted Breeding**. It is a five-year project awarded by the Middle East Regional Cooperation (MERC) Program of USAID, Washington, DC, USA (**Terminated**).

NATIONAL RESEARCH GRANTS:

1. **Development of Transgenic Squash Plants Resistant to *Squash leaf curl virus* via Post Transcriptional Gene Silencing Technology**. A three-year grant awarded by Scientific Research Support Fund (**on going**).
2. **Production possibility of transgenic and preserved date palm resistant to Red Palm Weevil.** A three-year grant awarded by Scientific Research Support Fund (**Terminated**).
3. **Distribution of Fig Mosaic Disease in Jordan**. A one-year grant was awarded by the Deanship of Graduate Studies and Scientific Research at Al-Balqa' Applied University, Jordan (**Terminated**).
4. **Germplasm conservation of virus free *Vitis vinifera* using tissue culture.** A two-years grant awarded by the Deanship of Graduate Studies and Scientific Research at Al-Balqa' Applied University, Jordan (**Terminated**).
5. **Detection of Citrus tristeza and Cirtus psorosis viruses in Jordan**. A one-year grant awarded by the Deanship of Graduate Studies and Scientific Research of Al-Balqa' Applied University, Jordan (**Terminated**).

CAREER EXPERIENCE:

2009:	Full Professor in Plant Virology, Faculty of Agricultural Technology
2007-2010:	Dean of Graduate Studies and Scientific Research
2006-2007:	Deputy Dean, Faculty of Graduate Studies and Scientific Research
2005-2006:	Assistant Dean, Faculty of Graduate Studies and Scientific Research
2005:	Associate Professor in Plant Virology, Faculty of Agricultural Technology
2000:	Assistant Professor in Plant Virology, Faculty of Agricultural Technology
1998:	Lecturer, Faculty of Agricultural Technology
1993-1997:	Graduate Research Assistant in Plant Pathology, Institute of Phytomedicine, University of Hohenheim, Stuttgart, Germany.
1986–1989:	Graduate Research Assistant in Plant Pathology, Faculty of Agriculture, University of Jordan.

TEACHING COURSES:

- **General Biology** (undergraduate level)
- **General Biotechnology** (undergraduate level)
- **General Virology** (undergraduate level)
- **Plant Pathology** (undergraduate level)
- **Advanced Biotechnology** (graduate level)
- **Genetic Engineering** (graduate level)
- **Virology** (graduate level)

LIST OF PUBLICATIONS

1. **Anfoka, G**., Abu-Obaida, M. and Altaleb, M. **2016**. First report of Potato virus Y strain Wilga affecting potato in Jordan. **Plant Dis.** (**accepted**).
2. **Anfoka, G**., Al-Talb, M. and Haj-Ahmad, F. **2016**. A new isolate of Tomato Yellow Leaf Curl Axarquia Virus associated with tomato yellow leaf curl disease in Jordan. **Journal of Plant Pathology** 98: 145-149.
3. Leibman, D., Prakash, S., Wolf, D., Zelcer, A., **Anfoka, G**., Haviv, S., Brumin, M., Gaba, V., Arazi, T., Lapidot, M. and Gal-On, A., **2015**. Immunity to tomato yellow leaf curl virus in transgenic tomato is associated with accumulation of transgene small RNA. **Arch of Virology** 160: 2727-2739.
4. Lapidot, M., Gelbart, D., Gal-On, A., Sela, N., **Anfoka, G**., Haj Ahmad, F., Abou-Jawada, Y., Sobh, H., Mazyad, H., Aboul-Ata, A, E., El-Attar, A. K., Ali-Shtayeh, M. S., Jamous, R. M., Polston, J., E. and Duffy, S. **2014**. Frequent migration of introduced cucurbit-infecting begomoviruses among Middle Eastern countries. **Virology Journal** 11: 181.
5. **Anfoka, G**., Haj Ahmad, F., Altaleb, M., Abadi, M., Abubaker, S., Levy, S., Rosner, A. and Czosnek, H. **2014**. First Report of Recombinant Potato Virus Y Strain Infecting Potato in Jordan. **Plant Dis**. 98: 1017
6. **Anfoka, G**., Haj Ahmad, F., Altaleb, M. and Abadi, M. **2014**. Detection of Satellite DNA Beta in Tomato Plants with Tomato Yellow Leaf Curl Disease in Jordan. **Plant Dis**. 98: 1017.
7. Abaza, D., Al-Debei, H., **Anfoka, G**., Kvarnheden, A. and Al-Abdallat, A. **2014**. Utilisation of an agrodrench inoculation method for tomato yellow leaf curl virus. **Journal of Food, Agriculture & Environment** 12: 680- 687.
8. Haj Ahmad, F., Odeh, W. and **Anfoka. G**. **2013**. First Report on the Association of Squash leaf curl virus and Watermelon chlorotic stunt virus with Tomato Yellow Leaf Curl Disease. **Plant Dis**. 97: 428.
9. **Anfoka, G**., Edwan, H., Haj Ahmad, F. and Odeh, W. **2011**. Detection and identification of cereal viruses in Jordan. **Journal of Plant Pathology** 93: 2380.

10. Aboul-Ata E., Mazyad, H., El-Attar, A. K., Soliman, A., **Anfoka, G**., Zeidan, M., Gorovits, R., Sobol, I. and Czosnek, H. **2011**. Diagnosis and Control of Cereal Viruses in the Middle East. **Advances in Virus Research** 81: 33-61.

11. Al-Musa, A., **Anfoka, G**., Al-Abdulat, A., Misbeh, S., Haj Ahmed, F. and Otri, I. **2011**. Watermelon chlorotic stunt virus (WmCSV): a serious disease threatening watermelon production in Jordan. **Virus Genes** 43: 79-89.

12. Shatnawi, M., **Anfoka, G**., Shibli, R., Al-Mazra'awi, M., Shahrour, W. and Arebiat, A. **2011**. Clonal propagation and cryogenic storage of virus-free grapevine (*Vitis vinifera* L.) via meristem culture. **Turk J Agric For** 35: 173-184.

13. Pasquini, G., Faggioli, F., Luigi, M., Gentili, A., Hadidi, A., Canini, I, Gabriele, L., Czosnek, H., Tiberini, A., Caglayan, K., Mazyad, H., **Anfoka, G**. and Barba, M. **2010**. Validation of a microarray protocol for detection and genotyping isolates of Plum pox virus. **Julius-Kuhn-Archiv** 427: 56-60.

14. Aboul-Ata, A.E., **Anfoka, G**., Zeidan, M. and Czosnek, H. **2010**. Diagnosis of cereal viruses in the Middle East. **International Journal of Virology** 6: 126-137.

15. **Anfoka, G**., Edwan, H. and Haj Ahmad, F. **2010**. First report of barley yellow dwarf virus and maize dwarf mosaic virus in Jordan. Petria, Giornale di Patologia delle Piante 20: 268 Proceedings "13th Congres of the Mediterranean Phytopathological Union, MPU"; June 20-25, 2010, Rome Italy.

16. Pasquini, G., Faggioli, F., Luigi, M., Gentili, A., Hadidi, A., Canini, I., Gabriele, L., Czosnek, H., Tiberini, A., Çağlayan, K., Mazyad, H., **Anfoka, G**. and Barba, M. Validation of a microarrays protocol for detection and genotyping isolates of *Plum pox virus*. **2010**. 21st International Conference on Virus and other Graft Transmissible Diseases of Fruit Crops. **Julius-Kühn-Archiv**. 427: 56- 60.

17. **Anfoka, G**., Haj Ahmad, F., Abhary, M. and Hussein, A. **2009**. Detection and molecular characterization of viruses associated with tomato yellow leaf curl disease in cucurbit crops in Jordan. **Plant Pathology** 58: 754-762.

18. Hussain, A. F., **Anfoka, G**. and Hassawi, D. S. **2008**. Transformation of tomato with TYLCV gene silencing construct using optimized Agrobacterium-mediated protocol. **Biotechnology** 7: 537-543.

19. **Anfoka, G**., Abhary, M., Haj Ahmad, F., Rezk, A., Akad F., Abou-Jawdah Y., Lapidot M., Vidavski F., Nakhla M. K., Sobh H., Atamian H., Cohen L., Sobol I., Mazyad H., Maxwell, D. P. and Czosnek, H. **2008**. Survey of tomato yellow leaf curl disease-associated viruses in the Eastern Mediterranean Basin. **Journal of Plant Pathology** 90: 311-320.

20. Al-Musa A., **Anfoka G**., Misbeh S., Abhary M. and Haj Ahmad, F. **2008**. Detection and molecular characterization of Squash leaf curl

virus (SLCV) in Jordan. **Journal of Phytopathology** 156: 311-316.

21. Pasquini, G., Barba, M., Hadidi, A., Faggioli, F., Negri, R., Sobol, I., Tiberini, A., Caglayan, K., Mazyad, M., **Anfoka, G**., Ghanimh, M., Zeidan, M. and Czosnek, H. **2008**. Oligonucleotide microarray-based detection and genotyping of Plum pox virus. **Journal of Virological Methods** 147: 118-126.

22. Misbeh, S., Al-Musa, A., **Anfoka, G**., and Salem, N. **2007**. Molecular characterization of Grapevine virus A isolates from Jordan. **Phytopathologia Mediterranea** 46: 195-200.

23. **Anfoka, G**. **2007**. Gene silencing of Tomato yellow leaf curl virus. In: Czosnek, H. (Ed.), Tomato yellow leaf curl disease, management, molecular biology, breeding for resistance. Springer, Dordrecht, The Netherlands, pp. 391-405.

24. Sweiss, M., G. **Anfoka, G**., and Abou-Jawdah, Y. **2007**. Molecular characterization of Jordanian isolates of Cucurbit yellow stunting disorder virus. **Journal of Phytopathology** 155: 557-562.

25. **Anfoka, G**., and Abhary, M. K. 2007. Occurrence of Tomato infectious chlorosis virus (TICV) in Jordan. **OEPP/EPPO Bulletin** 37: 186-190.

26. **Anfoka, G**., Abhary, M. K., and Stevens, M. R. **2006**. Occurrence of Tomato spotted wilt virus (TSWV) in Jordan. **OEPP/EPPO Bulletin** 36: 517-522.

27. **Anfoka, G**., Abhary, M., and Nakhla, M. **2006**. Simultaneous Detection of Three Viruses Causing Tomato Yellow Leaf Curl Disease By Single-Step Multiplex PCR. Proceedings of the 12th Congress of the Mediterranean Phytopathological Union. Rhodos, Greece. Pp 116-118.

28. Abhary, M., K., **Anfoka, G**. H., Nakhla, M., K., and Maxwell, D. P. **2006**. Post Transcriptional Gene Silencing in Controlling Species of the Tomato yellow leaf curl virus Complex. **Arch. Virology** 151: 2349–2363.

29. Khalil, A. B., Dabaneh, B. F., and **Anfoka, G**. **2005**. Antifungal activity of medicinal plants from Jordan environment. **Plant Pathology Journal** 4: 130-132.

30. **Anfoka, G**., Abhary, M. K., Fattash, I., and Nakhla, M. K. 2005. Occurrence and distribution of Citrus tristeza virus (CTV) in Jordan Valley. **Phytopathologia Mediterranea** 44: 17-23.

31. **Anfoka, G**., Abhary, M., and Nakhla, M. K. **2005**. Molecular identification of species of the Tomato yellow leaf curl virus complex in Jordan. **Journal of Plant Pathology** 87: 61-66.

32. **Anfoka, G**., Shahrour, W., and Nakhla, M. K. **2004**. Detection and molecular characterization of Grapevine virus A (GVA) in Jordan. **Phytopathologia Mediterranea** 43: 387-394.

33. **Anfoka, G**., Shahrour, W., and Nakhla, M. K. **2004**. Detection and molecular characterization of Grapevine fanleaf virus and Grapevine leafroll-associated virus 3 in Jordan. **Journal of Plant Pathology** 86:

203-207.

34. **Anfoka, G**., and Fattash, I. **2004**. Detection and identification of aster yellows (16SrI) phytoplasmas in peach trees in Jordan by RFLP analysis of PCR-amplified products (16S rDNAs). **Journal of Phytopathology** 152: 210-214.

35. **Anfoka, G**., Khalil, A. B., and Fattash, I. **2003**. Detection and molecular characterization of a phytoplasma associated with big bud disease of tomatoes in Jordan. **Journal of Phytopathology** 151: 223-227.

36. Khalil, A. B., **Anfoka, G**., and Bdour, S. **2003**. Isolation of plasmids present in thermophilic strains from hot springs in Jordan. World **Journal of Microbiology and Biotechnology** 19: 239-241.

37. Al-Mughrabi, K., Aburjai, T., **Anfoka, G**. and Shahrour, W. **2001**. Antifungal activity of olive cake extracts. **Phytopathologia Mediterranea** 40: 240-244.

38. **Anfoka G**. 2000. Benzo-(1,2,3)-thiadiazole-7-carbothioic acid S-methyl ester induces systemic resistance in tomato (*Lycopersicon esculentum*. Mill cv. Vollendung) to Cucumber mosaic virus. **Crop Protection** 19: 401-405.

39. Al-Mughrabi, K. I. and **Anfoka, G**. **2000**. Distribution of fig mosaic in Jordan. **Phytopathologia Mediterranea** 39: 263 – 270.

40. Buchenuer, H., Stadnik, M., Chamsai, J., Ch. Jeun, Y., Orober, M., Siegrist, J., and **Anfoka, G**. Induction of resistance in different crops against fungal and viral diseases. SCI Conference on Systemic Acquired Resistance. 10th March **1998**, London.

41. **Anfoka, G**., Yong Chull, Y., and Buchenauer, H. "Cytological and biochemical studies on the systemic resistance induced in tomato by tobacco necrosis virus and DL-3-Aminobuttyric acid against Phytophthora infestans." *MITTEILUNGEN-BIOLOGISCHEN BUNDESANSTALT FUR LAND UND FORSTWIRTSCHAFT* (1996): 290-290.

42. **Anfoka, G**., Hinrichs, J. and Buchenauer, H. Systemic induction of resistance in tomato Lycopersicon esculentum to cucumber mosaic virus and *Phytophthora infestans* by tobacco necrosis virus." *MITTEILUNGEN-BIOLOGISCHEN BUNDESANSTALT FUR LAND UND FORSTWIRTSCHAFT* (**1994**): 266-266.