

# Prof. Raed Alkowni

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## Full Professor

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## Areas of Interest

Plant Pathology and Applied Microbiology / Biotechnology; Phytosanitary; Biodiversity; **Environmental biotechnology**/ Phytoremediation

## Biography

- Ph.D. University of Bari, Bari, Italy 2001 Molecular Plant Virology
- M.Sc. CIHEAM/IAM-B, Valenzano, Italy 1997 Plant Virology
- D.S.P.G. CIHEAM/IAM-B, Valenzano, Italy 1996 Protection of Mediterranean Fruit Tree Crops
- B.Sc. University of Jordan, Amman, Jordan 1992 Plant Protection

## Awards/Grants

1. An-Najah Research Excellence and the Quality of Publication Reward 2019
2. An-Najah Research Excellence and the Quality of Publication Reward 2018
3. An-Najah Research Excellence and the Quality of Publication Reward 2016
4. Erasmus+ KA107 Program for Teaching Staff Mobility Grant", 2017. University of Pavia (Italy). Pavia, Italy.
5. Water Research Fellowship Program", 2016. MEDRC Water Research and Palestinian Water Authority.
6. Erasmus+ Program for Teaching Staff Mobility Grant", 2016. University of Pavia (Italy). Pavia, Italy.
7. Zamala fellowship for Academic Development", 2014. Bari University, Italy
8. An-Najah Research Excellence and the Quality of Publication Reward 2011
9. International Teaching Fellow Honor awards", 2011, from Searle Center for Teaching Excellence. Northwestern University, Evanston, Illinois, USA
10. The Engineer Zuhair Hijawi Award for Scientific Research in the natural Sciences and Biotechnology"2009.
11. IDB Merit Scholarship Program" 1427H/2007 from Islamic Development Bank (IDB), Jeddah Saudi Arabia. Scholarship Office (OSP), Islamic Development Bank (IDB), P.O. Box 5925, Jeddah 21432, Saudi Arabia; Tel: (00966-2) 646-6884; Fax: (00966-2) 646-6887; e-mail: [swafa@isdb.org](mailto:swafa@isdb.org)
12. Testimonial Certificate for the Best Master Thesis"1997. (IAMB/CIHEAM). Bari, Italy.

## Working Experience

- Dean, Faculty of Science. An-Najah National University/Nablus, West-Bank, Palestine (2017-2018)
- Professor (Associate), Department of Biology and Biotechnology - Faculty of Science. An-Najah National University/Nablus, West-Bank, Palestine (2009-2021)
- Researcher, Bari University– CNR, Italy, Rewarded by the Zamala fellowship (2014)
- Associate Professor, Department of Biology and Biotechnology - Faculty of Art and Science. The Arab American University – Jenin (AAUJ), Palestine (2007-2009)
- Researcher, UC-Davis (Junior Specialist), California, Rewarded by the IDB merit scholarship (2007-2008)
- Head, Biology and Biotechnology Department - Faculty of Art and Science. The Arab American University – Jenin (AAUJ), Palestine (2003-2007)
- Postdoctoral Fellow, Department of Plant Pathology, University of California at Davis, California, USA (2001-2003)
- Professional Assignment, The Mediterranean Agronomic Institute of Bari (IAM-B), The International Center for Advanced Mediterranean Agronomic Studies (CIHEAM). Bari, Italy (2000–2001)
- Teaching assistant, UNESCO Biotechnology Educational and Training Center, Bethlehem University, Palestine. (1997)
- Staff Agronomist & Technical Supervisor, Palestinian Agriculture Relief Committees (PARC), Jerusalem, Palestine (1993–1995)

## Skills

1. Biotechnology in diagnosis of plant viruses.
2. Phytosanitary actions and measurements for production of healthy propagating materials.
3. Antimicrobial activity assays / Biocontrol
4. Biotechnology for Medicinal Plants conservation
5. Biotechnology for assessments of Biodiversities.
6. PGPRs for Phytoremediation improvement
7. Curriculum & course design with high cognition level skills for Advancing in teaching and learning
8. Fluently speaking of Arabic, English and Italian languages

## Committees and Memberships

- Coordinator of BIRDLIFE INTERNATIONAL funded project “Plant Biodiversity Conservation in AOOs, Palestine”
- Founder Member of the ECOPAL-Forum
- EQA consultant on drafting the guideline “Biological Control of Agricultural Pests in Palestine”
- Coordinator of FAO projects “Conducting applied agricultural researches within research priorities of NARC/MoA”.
- Member of the national team for KBAs categorization in Palestine
- Founder Member of “Biotechnology Research and its Applications in Palestine” Conference
- Coordinator of FP7/H2020 Program
- General Supervisor of Ecology Friends Association (EFA)
- Member (Elected) for the Council of the Faculty of Science – 2016, An-Najah National University
- Member of the Scientific Committee of Graduate Studies for Water and Environmental Sciences - Najah University
- Team Member of the Center of Excellence in Learning and Teaching “CELT”, An-Najah National University

## Publications

- 1) Ali H., Alkowni R., Jaradat N., Al-Masri M. (2021). Evaluation of *Taraxacum syriacum* and *Alchemilla arvensis* phytochemical and pharmacological activities. *Jordan Journal of Pharmaceutical Sciences* (*submitted*)
- 2) Owda Y. and Alkowni R. (2020). Women’s Role in Environmental sustainability: Food Waste Management. Proceeding of 5<sup>th</sup> The Fifth International Conference - of the Arab Academics and Scholars Union: Environmental challenges in the Arab region, held in 11/28/2020 at Al-Quds University - State of Palestine, p10
- 3) Zyoud A.; Dwikat M.; Anabtawi S.; Alkowni R.; Qamhieh N.; Hajamohideen A; Zyoud S.; Helal M.; Zyoud S.; Nassar H.; Hilal H. (2020). Zinc Oxide in Photocatalytic Removal of *Staphylococcus aureus* and *Klebsiella pneumoniae* from Water with Ultraviolet and Visible Solar Radiations. *The Journal of The Minerals, Metals & Materials Society (TMS)* [DOI 10.1007/s11837-020-04488-8]
- 4) Salameh N., Shraim N., Jaradat N., Al- Masri M., Adwan L., K’aibni S., Alkowni R., Radwan A. and Abualhasan M. (2020). Screening of antioxidant and antimicrobial activity of *Micromeria fruticosa serpyllifolia* volatile oils. A comparative study of plants collected from different regions of West Bank-Palestine. *BioMed Research International* Doi.org/10.1155/2020/4851879
- 5) Alkowni R., Alabdallah O., Fadda Z. (2019). Molecular identification of tomato brown rugose fruit virus in tomato in Palestine. *Journal of Plant Pathology*; 101 (3): 719–723
- 6) Alkowni R., Jodeh S., Hamed R. Samhan S., and Daraghme H. (2019). The impact of *Pseudomonas putida* UW3 and UW4-strains on photosynthetic activities of selected field crops under saline conditions. *International Journal of Phytoremediation*; 21(10): 944-952
- 7) Zyoud A., Alkowni R., Yousef O., Salman M., Hamdan S., Helal M., Jabera S., Hilal H. (2019). Solar light-driven complete mineralization of aqueous Gram-positive and Gram-negative bacteria with ZnO photocatalyst. *Solar Energy, Solar Energy* 180: 351–359
- 8) Eid A M, Jaradat N. A., Elmarzugi A., Alkowni R, Hussein F., Abu Ayyash L., Sawafta M., Danaa H. (2019). Development of *Nigella Sativa* Oil Colloidal Emulgel Using Heat Inversion Technique and Evaluation of Its Anti-Bacterial Activity. *Letters in Drug Design & Discovery*. 16 (4): 408 – 416.
- 9) Salman M.T., Abu-Obaid A., Alkowni R., (2018). Study the effect of Reed tissues on the adsorption of heavy metals and bacteria from sewage water. In: the first MEDRIC Palestinian Research Alumni Forum (MPWR): Water and sustainable development; December 11<sup>th</sup>, 2018. An-Najah National University, P59
- 10) Abed Alqader S., Jodeh S., Alkowni R. (2018). Enhanced phytoremediation of olive Mill Wastewater “Zibar” Using Plant Growth Promoting Rhizobacteria (PGPR) with barley and clover. In: the first MEDRIC Palestinian Research Alumni Forum (MPWR): Water and sustainable development; December 11<sup>th</sup>, 2018. An-Najah National University, P56
- 11) Samara R., Alkowni R., Qubbaj T., AbuQauod H., Jarrar S. (2018). Plant diseases associated with olive bark midge in West-Bank, Palestine. *Research On Crops Journal*, 19 (4) : 712-719 (2018)
- 12) Deghles A., Abu-Obaid A., Alkowni R., Salman M.T. (2018). Adsorption of Heavy Metals by Reed (*Phragmites australis*) as a Potential Clean Water Technology. *Journal of Environment and Earth Science*, 8(12):159-171
- 13) Alkowni R, Jodeh S., Hussein F., Jaradat N. (2018). Phytochemical Screening and Antibacterial Activity of (*Cyclamen Persicum* Mill) Tuber Extracts. *Pak. J. Pharm. Sci.*,31(1):187-192
- 14) Shawarb N., Jaradat N., Abu-Qauod H., Alkowni R. and Hussein F. (2017). Investigation of antibacterial & antioxidant activity for methanolic extract from different edible plant species in Palestine. *Moroccan Journal of Chemistry*. 5 (4):573-579
- 15) Salameh R., Alkowni R., Jodeh S., Samhan S. (2017). Detection of pathogenic waterborne bacteria in potable water of Tubas district-Palestine. The Second Palestinian International Graduate Conference, April 20<sup>th</sup>, ANU, p23
- 16) Alkowni R., Solyman E., and Abu Qauod H. (2017). Introducing some of threatened *Thymus* species to in vitro tissue culturing as an approach for their conservation. *Pakistani Journal of Botany*, 49(1):259-264
- 17) Alkowni R., (2017). Phytoviruses in Palestine: Status and Future Perspectives. *An - Najah Univ. J. Res. (N. Sc.)* 31(1):11-34
- 18) Alkowni R.; AbuQauod H.; Jarrar S.; Samara R. (2016). Reporting Olive bark midge *Resseliella oleisuga* Targ. (Diptera: Cecidomyiidae) infesting olive trees in North Palestine. The Third International Conference on olive in Palestine (ICOP 3rd): December 7th- 8th, 2016. The Palestine Technical University – Kadoorie (PTUK), Tulkarm, Palestine. p16
- 19) Khudiesh N. and Alkowni R. (2016). Potato Viruses Y incidences in West Bank. In: “The 4th Conference on Biotechnology Research and Application in Palestine”. March, 21<sup>st</sup>, 2016 AAUJ-Palestine. p44
- 20) Mahmoud M. and Alkowni R. (2016). Detection of Fig viruses in Northern part of west bank. In: “The 4th Conference on Biotechnology Research and Application in Palestine”. March, 21<sup>st</sup>, 2016 AAUJ-Palestine. p39

- 21) Alkowni R., (2016). The use of biotechnology in conservation of plant genetic resources. Scientific conference on Palestinian plant genetic resources, September 21st, 2016, p7
- 22) Alkowni R. (2016). Rhizobacteria for enhancement of plant growth. In: "The 4th Conference on Biotechnology Research and Application in Palestine". March, 21<sup>st</sup>, 2016 AAUJ-Palestine. p5
- 23) Alaoui S M, Salghi R, Alkowni R; Abouatallah A, Ayoub M, Jodeh S (2016). Performance of four greenhouse tomato cultivars grown in soilless culture in Souss Massa region Der PharmaChemica, 8(18):336-344
- 24) Elbouchtaoui M. C. , Ben Hmamou D., Jodeh S., Salghi R. , Alkowni R. , Chebli B. , Kharoubi M. (2016). Chitin as a Corrosion Inhibitor of Carbon Steel in HCl Solution. Der PharmaChemica, 8(18):350-358
- 25) Jodeh S., Amarah J., Radi S., Hamed O., Warad I., Salghi R., Chetouni A., Samhan S., Alkowni R. (2016). Removal of methylene blue from industrial wastewater in Palestine using polysiloxane surface modified with bipyrazolotripodal receptor. Mor. J. Chem. 4 (1):140-156.
- 26) Alkowni R. and Abu-Qaoud H. (2016). Field survey and molecular detection of Potato viruses in Northern fields of Palestine. An - Najah Univ. J. Res. (N. Sc.). 30:127-140
- 27) Jodeh S., Alkowni R., Hamed R. and Samhan S. (2015). The study of electrolyte leakage from barley (*Hordeum vulgare* L) and Pearl millet using plant growth promotion (PGPR) and reverse osmosis. Journal of Food and Nutrition Research, 3(7): 422-429
- 28) Alkowni R., Chiumenti M, Minafra A. and Martelli GP (2015). A survey for fig-infecting viruses in Palestine. Journal of Plant Pathology. 97 (2), 383-386
- 29) Alkowni R., Hamed R.; Jodeh S. (2014). Plant Growth Promoting Rhizobacteria (PGPR) for increase Plant salt tolerances. In: "Food Security Prospective and Challenges Conference". Oct. 30th, 2014. An-Najah National University. Nablus, Palestine. p28
- 30) Alkowni R, (2014). The first molecular detection of Fig mosaic virus in Palestine. In: "Food Security Prospective and Challenges Conference". October 30th, 2014. An-Najah National University. Nablus, Palestine. p24
- 31) Solyman E. and Alkowni R. (2014). RAPD for Assessment of Thymes Genetic Diversity in Palestine. Palestine Technical University Research Journal, 2(2), 01-08
- 32) Amro S., Alkowni R. and Hamdan A. (2014). Molecular and Biological Tools for Assessment of TYLCV Resistant Tomato Cultivars Commercially Grown in Southern Palestine. An-Najah University Journal for Research (N. Sc.). 28: 85-108
- 33) Alkowni R. and Solyman I. (2012). Micropropagation of Selected Thyme Species in Palestine The 3rd Conf. on Biotech. Research and Appl. in Palestine". October 20th, 2012. Al-Quds University. Palestine. p61
- 34) Solyman I. and Alkowni R. (2012). Molecular Genetic Assessment of Selected Palestinian Thyme Species Using RAPD. "The 3rd Conf. on Biotech. Research and Appl. in Palestine". October 20th, 2012. Al-Quds University. Palestine. p36
- 35) Alkowni R. and Sawalha K. (2012). Biotechnology for Conservation of Palestinian Medicinal Plants. Journal of Agricultural Technology. 8(4): 1285-1299
- 36) Alkowni R., Zhang Y-P., Rowhani A., Uyemoto J. K.; and Minafra A. (2011). Biological, Molecular, and Serological Studies of a Novel Strain of Grapevine Leafroll-associated Virus 2. Virus Genes. 43( 1): 102-110
- 37) Mahmoud S. and Alkowni R. (2011). The Spread of Mistletoe in Olive Trees. In: First International Conference of olive in Palestine (ICOP): "Status and Challenges" February 8th-10th, 2011. The Palestine Technical University – Kadoorie (PTUK), Tulkarm, Palestine. p52
- 38) Alkowni R. (2011). Advanced Molecular Techniques For Detection And Identification Of Olive-Infecting Viruses. In: First International Conference of olive in Palestine (ICOP): "Status and Challenges" February 8th-10th, 2011. The Palestine Technical University – Kadoorie (PTUK), Tulkarm, Palestine. p27
- 39) Alkowni R. and Sawalha K. (2010). Conservation of Palestinian Biodiversity by In vitro culture. In: "The Second Conference on Biotechnology Research and Application in Palestine". September 26th -27th, 2010. An-Najah National University. Nablus, Palestine. p77
- 40) Alkowni R., Zhang Y-P., Rowhani A., Uyemoto J. K.; and Minafra A. (2010). Molecular Characterization and detection of Redglobe-Isolated Closterovirus. In: "The Second Conference on Biotechnology Research and Application in Palestine". September 26th-27th, 2010. An-Najah National University. Nablus, Palestine. p33
- 41) Alkowni R. and Srouji F. (ed) (2009). Food Security and Viral Diseases (in Fruit Trees). Palestine Economic Policy Research Institute (MAS). Ramallah-Palestine. [In Arabic]
- 42) Lima M., Alkowni R, Uyemoto J. K., and Rowhani A. (2009). Genomic Study And Detection Of A New Variant Of Grapevine Rupestris Stem Pitting Associated Virus In Declining California Pinot Noir Grapevines. Journal of Plant Pathology. 91 (1): 153-160.
- 43) Sbaih L. and Alkowni R. (2009). Micropropagation of *Gundelliatournefortii* (A'kkub) in vitro. In: "The First Conference on Biotechnology Research and Application in Palestine". April 3rd -4th, 2009. Bethlehem University-Palestine. p30
- 44) Jaradat S.; Abo-Alrob K.; Modallal Y.; and Alkowni R. (2009). In vitro propagation of Palestinian most economically important medicinal plants. In: "The First Conference on Biotechnology Research and Application in Palestine". April 3rd -4th, 2009. Bethlehem University-Palestine. p 29
- 45) Amro S.; Alkowni R. and Hamdan A. (2009). Biological and molecular studies on most economical Palestinian tomato cultivars infected with TYLCV in Southern Highlands of West Bank. In: "The First Conference on Biotechnology Research and Application in Palestine". April 3rd -4th, 2009. Bethlehem University-Palestine. p24
- 46) Alkowni, R. (2009). Complete nucleotide sequence, genome organization and phylogenetic analysis of eight open reading frames of grapevine leafroll associated virus. In: "The First Conference on Biotechnology Research and Application in Palestine". April 3rd -4th, 2009. Bethlehem University-Palestine. p23
- 47) Alkowni R. (2008). Detection of Genomic Variations in Grapevine Rupestris Stem Pitting Associated Virus, leading for identification of new virus isolates and Developing of Molecular Tool for their Specific detection. Hebron University Research Journal. 3 (2): 36-48.

- 48) Lima M. F., Alkowni R., Uyemoto J. K., Golino D., Osman F., and Rowhani A. (2006). Molecular analysis of a California strain of Rupestris stem pitting associated virus isolated from declining Syrah grapevines. *Archive of Virology* 151 (9): 1889–1894.
- 49) Lima, M. F.; Alkowni, R.; Uyemoto, J. K.; and Rowhani, A. (2006). Molecular analysis of a Californian strain of Rupestris stem pitting associated virus from Pinot Noir grapevine. In: 25th Annual Meeting of American Society for Virology, 2006, Madison-WI (USA). p259
- 50) Alkowni R. (2006). Comparative Analyses of the Coat Protein of Newly Discovered Ampelovirus Using Computer-Assisted Phylogenetic Reconstruction and Analysis: An Approach for Classification and Characterization. *Hebron University Research Journal*. 2 (2): 16-26.
- 51) Alkowni, R. (2005). Establishment of a Center for Biotechnological Application. In: e-Forum report of the Modern Biotechnology and application in the Near East and North Africa. September 1<sup>st</sup> -10<sup>th</sup> /2005.. ESCWA-FAO United Nations House, Beirut, Lebanon.
- 52) Alkowni, R. (2005). The role of biotechnology in preserving the plant biodiversity. In: The role of governmental and non-governmental institutions in protection and improvement of local seed varieties: toward establishing of national strategy to improve the biodiversity in seeds of Palestine workshop, 2005. BERC, Til-Nablus. p44 (in Arabic).
- 53) Alkowni R. (2005). Biodiversity and Biotechnology. Chapter 5. In: Sawalha, Kh (ed.). *Plant Biodiversity*. ISBN. 9950-338-00-X. Al-Quds University. [In Arabic]. p81-87
- 54) Lima, M. F.; Alkowni, R.; Golino, D.; Uyemoto, J. K.; Rowhani, A. (2004). Characterization of Two New Strains of Grapevine Rupestris Stem Pitting- Associated Virus. In: American Phytopathological Society Annual Meeting, 2004, Anaheim-CA. *Phytopathology* (Supplement to n° 94):S61.
- 55) Alkowni R., Rowhani A., Daubert S. and Golino D.A., (2004). Partial Characterization of a New Ampelovirus Associated with Grapevine Leafroll Disease. *Journal of Plant Pathology*. 86 (2): 122-132
- 56) Sim S.T., Rowhani A., Alkowni R., and Golino D.A., (2003). Experimental transmission of Grapevine leafroll-associated virus 5 and 9 by longtailed mealybugs. In: 14th Meeting of the International Council for the Study of Virus and Virus-like Diseases of the Grapevine (ICGV), 2003. Locorotondo (Bari), Italy. p211
- 57) Lima M.F., Alkowni R., Rowhani A., Uyemoto J.K., Golino D.A. and Renault-Spilmont A.S., (2003). Genomic study of two Grapevine rupestris stem pitting-associated virus-like isolate. In: 14th Meeting of the International Council for the Study of Virus and Virus-like Diseases of the Grapevine (ICGV)", 2003. Locorotondo (Bari), Italy.p125
- 58) Alkowni R. and Rowhani A., (2003). Molecular characterization of Grapevine leafroll associated virus 9, a new closterovirus associated with grapevine leafroll disease complex. In: 14th Meeting of the International Council for the Study of Virus and Virus-like Diseases of the Grapevine (ICGV)". 2003. Locorotondo (Bari), Italy. p33
- 59) Alkowni R. and Rowhani A, (2003). Grapevine Leafroll Associated virus 9: Partial Genome Organization and Identification of Its Coat Protein Gene. In: The American Society 22nd Annual Meeting for Virology, 2003. University of California, Davis. USA. W46-12, p176
- 60) Alkowni R., Rowhani A., and Golino D.A., (2002). Partial nucleotide sequence and molecular detection of a putative new grapevine leafroll associated virus. *Phytopathology*. 92 (supplement to n°6): S3.
- 61) Saponari, M., Alkowni, R., Grieco, F., Driouech, N., Hassan, M., Di Terlizzi, B., Digiario, M., Pantaleo, V., Savino, V. and Martelli, G.P. (2002). Detection of olive-infecting viruses in the Mediterranean basin. *Acta Hort. (ISHS)*. 586:787-790 (<https://doi.org/10.17660/ActaHortic.2002.586.170>)
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- 63) Tubaile A. and Alkowni R., (2001).Palestine. In: Myrta A. (ed.), Di Terlizzi B. (ed.), Savino V. (ed.). *Production and exchange of virus-free plant propagating material in the Mediterranean region*. Bari: CIHEAM, 2001. p. 113-121. (*Options Méditerranéennes :Série B. Etudes et Recherches*; n. 35).
- 64) Alkowni R., Grieco F. and Martelli G.P., (2001). Complete nucleotide sequence of RNA-2 of Olive latent ringspot virus. *Archives of Virology*, 146 (1): 117-125.
- 65) Grieco F., Saponari M., Alkowni R., Savino V. and Martelli G.P., (2000). Progressi nella diagnosi dei virus dell' olivo. *Informatore Fitopatologico*, 11, 49-52 [In Italian].
- 66) Saponari, M., Alkowni, R., Driouech, N., Hassan, M., Grieco, F., Pantaleo, V., Di Terlizzi, B., Digiario, M., Savino, V. and Martelli, G.P. (2000). Detection of olive-infecting viruses in the Mediterranean basin. In: 4th International Symposium on Olive Growing, 2000. Valenzano, Italy. P 5-103
- 67) Grieco F., Alkowni R., Saponari M., Pantaleo A., Savino V. and Martelli G.P. (2000). Molecular detection of olive-infecting viruses. In: 4th International Symposium on Olive Growing, 2000. Valenzano, Italy. P 5-73.
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- 71) Alkowni R., Digiario M., and Savino V., (1997). A survey of grapevine viruses in Palestine. In: O. A. Sequeira, de, J. C. Sequeira, and M. T. Santos (Ed), *Extended abstracts 12th Meeting ICVG*, Lisbon, Portugal, 1997. Dep. Plant Pathology, EstaçãoAgronomicaNacional, Oeiras, Portugal. p.111-112
- 72) Abu Qaoud H. and Alkowni R., (1995). Measuring and increasing the percentage of germination of Gundelia tournefortii seeds. *An-Najah Journal Research*. 3(9):58-72.
- 73) Alkowni R., (1993). Series of Extension Bulletins on Apiculture -PARC Journal (in Arabic)

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