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**Resume Summary**

**Contact Information**

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| Muhanad Walid Khaled Akash | **Full Name** |
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| 00962-796955958 | **Cell Phone:** |
| The University of Jordan-Amman, Jordan | **Current Location:** |

**Personal Information**

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| --- | --- |
| 05/08/1973 | **Date of Birth** |
| Male | **Gender** |
| Jordanian | **Citizenship** |
| Arabic & English | **Language** |

**Professional & Educational Details**

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| --- | --- |
| 15 years | **Work Experience (Years )** |
| The University of Jordan | **Current Employer** |
| American University of Madaba | **Previous Employer** |
| Ph.D. | **Education** |
| **Louisiana State University-USA** | **University of Graduation** |

**Muhanad W. Akash, Ph.D.**

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EDUCATION

Postdoctoral Research Associate in Statistical Genetics, Iowa State University-USA.

Ph.D. in Plant Biotechnology and Statistics, 3.75/4 GPA (*Excellent*), Louisiana State University-USA.

M.Sc. in Applied Statistics, 3.82/4 GPA (*Excellent*), Louisiana State University-USA.

M.Sc. in Crop Science and Production, 3.86/4 GPA (*Excellent*), The University of Jordan-Jordan.

B.Sc. in Plant Science and Production, 80.8% GPA (*Very Good*), The University of Jordan-Jordan.

EMPLOYMENT

*2015- Present Full Professor,* Department of Horticulture and Crop Science / The University of Jordan.

*2014- 2015 Visiting Scholar* (Research: Genotyping by sequencing)*,* Louisiana State University.

*2013- 2014 Associate Professor,* Department of Biology and Biotechnology / Faculty of Science/ American University of Madaba (On sabbatical leave).

*2011- 2013 Associate Professor,* Department of Horticulture and Crop Science / The University of Jordan.

*2005-2011 Assistant Professor,* Department of Horticulture and Crop Science / The University of Jordan.

*2006- Present* Official statistical consultant at the Deanship of Academic Research/ The University of Jordan.

*2004- 2005 Assistant Professor,* Department of Biotechnology and Genetic Engineering/ Faculty of Science/ Philadelphia University.

*2003-2004 Postdoctoral Research Associate* (Research: Statistical genetics) Iowa State University.

*1999-2003 Research assistant,* Louisiana State University.

Teaching experience

**At American University of Madaba**

Plant Biology (0201221), B.Sc. level

Plant Physiology (0201321), B.Sc. level

Applied Plant Biology (0201323), B.Sc. level

Basic Biotechnology (0201362), B.Sc. level

General Biology (020101), B.Sc. level

Plant Biology Lab (0201222), B.Sc. level

Plant Physiology Lab (0201322), B.Sc. level

**At The University of Jordan**

Molecular Genetics (0601737), M.Sc. level

Plant Biotechnology (0601743), M.Sc. level

Quantitative Genetics in Plant Improvement (0601933), Ph.D. level

Biotechnology (0601781), M.Sc. level

Bioinformatics (0601743), M.Sc. level

Molecular Plant Breeding (0601784), M.Sc. level

Applications in Biotechnology (0601783), M.Sc. level

Design and Analysis of Experiments II (0641901), Ph.D. level

Design and Analysis of Experiments I (0641701), M.Sc. level

Plant Genetics (0631240), B.Sc. level

Plant tissue culture (0601783), M.Sc. level

Plant Breeding, (0631440), B.Sc. level

**At Philadelphia University**

Basic Genetics (240231), B.Sc. level

Molecular Genetics as special topics (240497), B.Sc. level

Plant Biotechnology (240361), B.Sc. level

General Biology I (240101), B.Sc. level

General Biology II (240102), B.Sc. level

Practical Genetic (240232), B.Sc. level

PUBLICATIONS

1. **Akash, M.,** Awad, N. Kasrawi, M., 2019. Genetic diversity among snake melon landraces (Cucumis melo var. flexuosus) using molecular descriptors. Plant Biosystems.
2. Sandhu, S.K., Kang, M.S., **Akash, M.W.** and Singh, P., 2019. Selection indices for improving selection efficiency in Indian mustard. Journal of Crop Improvement, 33: 25-41.
3. **Akash, M.,** Abu Hussein M., Al-Abdallat, A.M., Shiyab, S.,. and Zatimeh, A, 2018. Genetic and phenotypic diversity among local okra (Abelmoschus esculentus L.) landraces using AFLP markers. Research Journal of Biotechnology, 13: 1-13.
4. Al-Awaida, W., Al-Hourani, B.J., **Akash, M.,** Talib, W.H., Zein, S., Falah, R.R. and Aburubaiha, Z., 2018. In vitro anticancer, anti-inflammatory, and antioxidant potentials of Ephedra aphylla. Journal of cancer research and therapeutics, 14: 1350.
5. Saleh, M., **Akash, M.** and Ondier, G., 2018. Effects of temperature and soaking durations on the hydration kinetics of hybrid and pureline parboiled brown rice cultivars. Journal of Food Measurement and Characterization, 12: 1369-1377.
6. Poudyal, D., Akash, M., Khatri, L., Shrestha, D.S. and Uptmoor, R., 2017. Solanum habrochaites introgression line grafted as rootstock in cultivated tomato maintains growth and improves yield under cold and drought stresses. Journal of Crop Improvement, pp.1-19.
7. Al-Abdallat, A.M., Karadsheh, A., Hadadd, N.I., **Akash, M.W.,** Ceccarelli, S., Baum, M., Hasan, M., Jighly, A., Elenein, J.A. 2017. Assessment of genetic diversity and yield performance in Jordanian barley (Hordeum vulgare L.) landraces grown under Rainfed conditions. BMC plant biology. 17:191.
8. Ghidan, A.Y., Al-Antary, T.M. Awwad, A.M. and Akash, M.W. 2017.Aphidicidal potential of green synthesized magnesium hydroxide nanoparticles using olea europaea leaves extract. ARPN Journal of Agricultural and Biological Science. 12: 293-301.
9. Damra, E. M., Kasrawi, M., and Akash, M. W. 2017. Development of Scar Marker Linked to Heat Stress Tolerance in Tomato. International Journal of Management and Applied Science. 3:14-22.
10. Saleh, M., Meullenet, J.F., Toker, T. and **Akash, M.**, 2017. Water to rice ratio and cooked rice texture’s liking-internal preference mapping approach. Quality Assurance and Safety of Crops & Foods, 9(4), pp.413-424.
11. Parhe, S.D., Chimote, V.P., Deshmukh, M.P., Chandra, K. and **Akash, M.**, 2017. Marker-assisted pyramiding of four QTL/genes for Asian rust (Phakopsora pachyrhizi) resistance in soybean. Journal of Crop Improvement, 31(5), pp.689-711.
12. Al-Abdallat, A.M., Shibli, R.A., **Akash, M.W.**, Rabbaa, M. and Al-Qudah, T., 2017. In Vitro Preservation of Transgenic Tomato (Solanum lycopersicum L.) Plants Overexpressing the Stress-Related SlAREB1 Transcription Factor. International journal of molecular sciences, 18(7), p.1477.
13. **Akash, M.W.**, Al-Awaida, W., Ateyyeh, A., Al-Debei, H., Saleh, M., Zatimeh, A., Salameh, N., Alawin, M. and Hasan, S.M. 2017. Exploring genetic variations in faba bean (Vicia faba L.) accessions using newly developed EST-SSR markers. Pakistan Journal of Botany. 49: 667-672.
14. Al- Baba, H., Shibli, R.A., **Akash, M.,** Al-Qudah, T.S., Tahtamouni, R.W., & Al- Ruwaiei, H. 2015. Cryopreservation and Genetic Stability Assessment of Threatened Medicinal Plant (Ziziphora tenuior L.) Grown Wild in Jordan. Jordan Journal of Biological Sciences. 8: 247-256.
15. **Akash, M.W.**, Al-Banna, L., Al-Awaida, W., & Hidmi, T. 2014. Differentially expressed TDFs by cDNA-AFLP in tomato infected with *Fusarium oxysporum* f. sp*. lycopersici*. Research on Crops. 15: 423-431.
16. **Akash, M.W.**, 2014. Quantitative trait loci associated with agronomic traits of barley (*Hordeum vulgare* L.). Journal of Crop Improvement. 28: 390-405.
17. Saleh, M, **Akash, M.,** Al-Dabbas, M., & Al-Ismail K., 2014. Sesame-Oil-Cake (SOC) impacted consumer liking of a traditional Jordanian dessert; A mixture response surface model approach. Life Science Journal 11, 38-44.
18. Saleh, M., Abu-Waar, Z., **Akash, M.,** & Al-Dabbas, M., 2014. Effect of Stabilized Rice Bran Fractions on the Formation of Rice Flour Pasting Properties. Cereal Chemistry. 91, 603-609.
19. Al-Awaida, W., **Akash M.,** Aburubaiha, Z., Talib, W.H., & Shehadeh, H., 2014. Chinese green tea (Lung Chen) consumption reduces oxidative stress, inflammation and tissues damage in smoke exposed rats. Iran J Basic Med Sci 17: 740-746.
20. Al-Awaida, W.,& **Akash, M.W.** 2014. Protective role of aqueous medicinal herbal extracts against oxidative stress on Glucose-6-phosphate dehydrogenase activity and RBC fragility. Life Science Journal 11, 385-391.
21. Al-Awaida, W.,& **Akash, M.W.** 2014. Biochemical and hematological indicators of acute and chronic cases of Mediterranean G6PD deficiency patients from southern Jordan. Life Science Journal 11, 371-377.
22. **Akash, M.W.** 2013.Development of SCAR markers for molecular tagging of drought tolerance QTL in barley. Life Science Journal 10, 1056-1060.‏
23. Kumar, B., Gupta, E., Mali, H., Singh, H. P., & **Akash, M.** 2013. Constant and alternating temperature effects on seed germination potential in *Artemisia annua* L. Journal of Crop Improvement 27, 636-642.‏
24. Al-Zomor, R., Khlaif, H., & **Akash, M.** 2013. Detection and identification of Erwinia Carotovora Subsp. Atroseptica (Van Hall, 1902) the causal agent of potato blackleg by RFLP-PCR.‏ Jordan Journal of Agricultural Sciences 9, 170-183.
25. **Akash, M.W.**, Shiyab, S. M., & Saleh, M. I. 2013. Yield and AFLP analyses of inter-landrace variability in okra (*Abelmoschus esculentus* L.). Life Science Journal 10, 2771-2779.‏
26. Shiyab, S., M. Shatnawi, R. Shibli, N. Al Smeirat, J. Ayad, & **M.W. Akash**. 2013. Growth, nutrient acquisition and physiological responses of hydroponic growth tomato to sodium chloride salt induced stress. Journal of Plant Nutrition 36, 1-12.
27. Saoub, H. M., **Akash, M.W.**, & Ayad, J.Y. 2012. Agronomic potential of vetch landraces from Jordan. Research on Crops 13, 206-213.‏
28. Saoub, H. M., & **Akash, M.W.** 2012. Variations among two vetch landrace species in Jordan. Journal of Food, Agriculture & Environment 10, 763-767.
29. **Akash, M.W.**, & Myers. G. 2012. The development of faba bean expressed sequence tag–simple sequence repeats (EST-SSRs) and their validity in diversity analysis. Plant Breeding 131, 522-530.
30. Shiyab, S., M. Shatnawi, R. Shibli, M. Al-Zweiri, **M.W. Akash** & T. Aburijai. 2012. Influence of developmental stage on yield and composition of *Origanum syriacum* L. oil by multivariate analysis. Journal of Medicinal Plants Research 6, 2985-2994.
31. Abu-Rayyan, A and **M.W. Akash**. 2012. Onion seed germination as affected by temperature and light. International Journal of Vegetable Science 18, 49-63.
32. **Akash, M.W.** 2011. Modeling and maximizing AFLP pre-amplification yield using response surface methodology with covariate. Journal of Food, Agriculture and Environment 9, 1114-1147.
33. Al-Abdallat, A., Al-Debei, H. **Akash**, **M.W.** Misbeh, S. & Kvarnheden. A. 2011. Complete nucleotide sequences and construction of infectious clones of two Jordanian isolates of *Tomato yellow leaf curl virus*. Jordan Journal of Agriculture Sciences 7, 273-283.
34. Abu-Amer, J.H., Saoub, H.M. **Akash**, **M.W.** & Al-Abdallat A.M.. 2011. Genetic and phenotypic variation among faba bean landraces and cultivars. International Journal of Vegetable Science 17, 45-59.
35. Al-Dabbas, M.M., Ahmad,R. Ajo,R.Y., Abulaila, K. **Akash** **M.W.** &Al-Ismail. K. 2010. Chemical composition and oil components in seeds of *Moringa peregrine* (Forssk) Fiori. Crop research 40, 161-167.
36. Rawashdeh, I.M. A. Amri, N.Q. Rawashdeh, and **M.W. Akash**. 2010. Genetic relatedness among Date Palm cultivars in Jordan using amplified fragment length polymorphism (AFLP) markers. Dirasat 37, 29-37.
37. **Akash, M.W.** 2010. Identifying QTL controlling kernel color in barley. Journal of Crop Improvement 24, 219-227.
38. **Akash, M.W.** 2010.Assessment of selected wheat cultivars for drought tolerance using AFLP markers and agronomic traits. Crop Research 39, 1-8.
39. Ghaleb, W. Sh., J. S. Sawwan, **M.W. Akash**, and A. M. Al-Abdallat. 2010. In vitro response of two citrus rootstocks to salt stress. International Journal of Fruit Science 10, 40-53.
40. **Akash, M.W.**, and M.S. Kang. 2010. Molecular clustering and interrelationships among agronomic traits of Jordanian barley cultivars. Journal of Crop Improvement 24, 28-40.
41. **Akash, M.W.**, A. Al-Abdallat, H. Saoub, and J. Ayad. 2009. Molecular and field comparison of selected barley cultivars for drought tolerance. Journal of New Seeds 10, 98-111.
42. **Akash, M.W.**, M.S. Kang, and G.O. Myers. 2009. GGE-biplot analysis of wheat cultivars evaluated in a multi-environment trial. Journal of New Seeds 10, 88-97.
43. Myers, G.O., B. Jiang, **M.W. Akash**, A. Badigannavar and S. Saha. 2009. Chromosomal assignment of AFLP markers in Upland Cotton. Euphytica 165, 391- 399.
44. Zhang, N., Y. Xu, **M. Akash**, S. McCouch, and J.H. Oard. 2005. Identification of candidate markers associated with agronomic traits in rice using discriminant analysis. Theoretical and Applied Genetics 110, 721- 729.

PROFESSIONAL SKILLS

* Extensive experience in laboratory experiments in molecular biology including but not limited to Loci identification, molecular marker development, and marker assisted selection using conventional and IRDye AFLP, M13 tailed SSR, SCAR, Gene derived SSR, cDNA AFLP markers, cloning and bacterial transformation, genotyping by sequencing.
* Extensive experience in statistical analysis for wide range of experiments: life sciences and biomedical studies.
* Teaching certificate issued by The Louisiana State University English Department.
* Member of the Editorial Board of Journal of Crop Improvement.-USA.
* Highly qualified in Statistical Analysis Software (SAS) and SPSS.
* Statistical consult at the local, regional and international levels

Membership of Professional societies

* The Virtual Natural Council for Biotechnology
* American Statistical Association

Attended Training Courses

* Markov Chain Monte Carlo for Genetics, 2004. North Carolina, USA.
* Advanced Pedigree MCMC, 2004. North Carolina, USA.
* Introduction to SAS/SQL Processing, 2003. Louisiana, USA.
* SAS® System Programming Efficiencies: Tips & Techniques, 2003. Louisiana, USA.

Graduate student supervision

* Supervised four Ph.D. and twelve M.Sc. students.

Honors and awards

* The University of Jordan award in recognition of outstanding researcher-2011
* The University of Jordan award in recognition of outstanding researcher-2010
* The Summer Institute in Statistical Genetics Scholarship, Bioinformatics Research Center, North Carolina State University
* Mott Meritorious graduate student award in recognition of outstanding achievements and contributions