# Curriculum Vitae(2019)



**Personal Information**

1. **Name**: YousefMahmoud Abu-zaitoon
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**Academic Qualifications**

1. **2007-2010**: A PhD in biochemistry from the University of New England, NSW, Australia.. Thesis was about” characterization of the tryptamine pathway of auxin biosynthesis in developing rice grains”. In this study, bioinformatics, reverse transcriptase polymerase chain reaction and real time polymerase chain reaction were used to identify and analyse the expression of genes proposed to be involved in the tryptamine pathway. Auxin content in developing rice grains, the plant system used in this research was measured using liquid chromatography electrospray ionization/tandem mass spectrometry. Expression data were then compared to auxin content at various developmental stages of rice grains to find out the actual involvement of identified genes in auxin biosynthesis.
2. **1998-2001**:A master degree in applied biological science/microbiologyfrom Jordan University of Science and Technology.
3. **1991-1995**: A bachelor degree in biology from Yarmouk University, Jordan.
4. TOEFL. IELTS, and ICDL certificates with a high efficiency of using Microsoft Word, Excel, PowerPoint, Access and internet as bioinformatics constitutes 25% of PhD thesis.

**Research Interests**

1. My research interests include investigating tryptophan dependent pathways of auxin biosynthesis in plants in particular role of aldehyde oxidase, nitrilase, and amidase. I am also focusing on the importance of IAA on various aspects of grain development in crop plants including rice, wheat, barley and sorghum.

**Research Proposals**

* The involvement of YUCCA in auxin biosynthesis is well established. In my thesis, I hypothesized that in the developing rice grains *OsYUCCA9* and *OsYUCCA11* may dominate over other *OsYUCCAs*. This could be further investigated by knocking out these two genes and examination of any effect on the level of IAA in rice grains. However, it should be noted that an increase in expression of other *OsYUCCA* genes or a possible alternative pathway may compensate for any decline in expression of these two genes.
* *Arabidopsis* would be a good model plant to test the involvement of tryptophan decarboxylase (TDC) in IAA synthesis as it has only two putative *TDC* genes. Knocking out these two genes and measuring the content of IAA may be a good strategy to confirm the role of TDC in IAA synthesis. It should be noted that this mutant could be lethal if TDC is actually involved in a major pathway of IAA synthesis.
* I, previously showed that (sent for publication toCell Biochemistry And Biophysics) neither nitrilase nor amidase expected to have a significant role in IAA synthesis in developing rice grains. This result was obtained using phylogenetic analysis of targeted genes from all available fully genome-sequenced plants. It will be interesting to knock out these genes in developing rice grains to more dissect their role in IAA synthesis. RNA interference approach could be used.
* Aldehyde oxidase on the other hand was expected to be involved in IAA synthesis. According to data obtained from phylogenetic, expression, and co-expression analysis I suggested an important role for aldehyde oxidase in the tryptophan-independent pathway. I need to do some experimental work including real time PCR and I am sure the manuscript will be heavily cited in the next few years taken into consideration that neither intermediates nor enzymes involved in this pathway have been identified so far.

**Conferences**

* Abu-zaitoon, Y.M. &Nonhebel, H.M. (2009). Investigation of the tryptamine pathway of auxin biosynthesis in developing rice grains. ComBio 2009, Christchurch, New Zealand.
* Nonhebel, H.M. & Abu-zaitoon, Y.M. (2010). Correlations between expression of putative auxin synthesis genes and IAA content of developing rice grains. IPGSA, the 20th International Conference on Plant Growth Substances, Tarragona, Spain.

**Grants**

1. A grant (28000 Saudi Ryial ) from the Islamic University in Madinah. (10/B/1435H) in 2014. Aldehyde Oxidase: A dual role in auxin and abscisic acid synthesis. Dean of Scientific research.
2. A travel grant to attend ComBio 2009 conference from the school of science and technology, University of New England, Armidale, NSW, Australia.
3. University of New England fees assistance scholarship (2008)

**Work Experiences & Positions**

* **2010-2012**, assistant professor of biochemistry at the department of clinical laboratory sciences at Al-Ghad International Colleges of Applied Medical sciences / Jeddah/ Saudi Arabia.
* **2010-2012**, a Vice-Dean for the preparatory year affairs, as well as a member of the faculty council at Al-Ghad International Colleges of Applied Medical sciences / Jeddah/ Saudi Arabia.
* **2012- 2015**, Assistant professor of biochemistry at the Islamic University in Madinah/ Saudi Arabia.
* **2015-2016**, lecturer of biochemistry at Al-Hussein Bin Talal University/ Maan.
* **2016-2017**, assistant professor of biochemistry at Al-Hussein Bin Talal University/Maan.
* **2016-2017**, member of the college of sciences council at Al-Hussein Bin Talal University/Maan.
* **2017- 2018**, head of the school of biology at Al-Hussein Bin Talal University/ Maan.

**2018-till now**, associate professor of biochemistry at Al-Hussein Bin Talal University/Maan

**Teaching Interests**

* Biochemistry(1,3)
* Molecular Biology(3)
* Human Physiology(1)
* Human anatomy(1)
* Biology(1,2)
* Gene Technology and Medical Genetics(1)
* Electron microscope(1)
* Histology(3)
* Evolution(3)
1. Al-Ghad International Colleges of Applied Medical sciences
2. Islamic University in Madinah
3. Al-Hussein Bin Talal University

**Referees**

1. Dr Heather M. Nonhebel (supervisor), School of Science and Technology, University of New England, Armidale, NSW 2351, Ph 02 6773 2083, email: [hnonheb2@une.edu.au](https://mail.une.edu.au/webmail/src/compose.php?send_to=hnonheb2%40une.edu.au).
2. Associate professor Barrie Entsch (co-supervisor), bentsch@nsw.chariot.net.au.
3. DrTourkey Ali, vice-dean at Al-Ghad International Colleges of Applied Medical sciences / Jeddah- Saudi Arabia. Email: tasbaokbah@hotmail.com.
4. Dr. Abd Al-kareem Al-Sallal. Professor of Microbiology at Jordan University of Science and Technology. Email: sallal5@hotmail.com, sallal51@yahoo.com

**Publication:**

1. Abdel Rahman M. Al-Tawaha1, Nusrat Jahan, Nidal Odat, Ezz Al-Dein Al-Ramamneh, Abdel Razzaq Al-Tawaha, Yousef M. Abu-Zaitoon, Khalid Fandi, Mohammad Alhawatema, Amanullah, Abdur Rauf, Mohammad Wedyan, Mohammad Ali Shariati, Ali M. Qaisi, Imran, Khaled Tawaha, Munir Turk, Samia Khanum. ***Growth, Yield and Biochemical Responses in Barley to DAP and Chitosan Application Under Water Stress.*** Journal of Ecological Engineering. 2020. 21(6): 86–93
2. Imran Amanullah, Abdel Rahman Mohammad Said Al-Tawaha, Abdel Razzaq Al Tawaha, Ali M. Qaisi, Devarajan Thangadurai, Jeyabalan Sangeetha, Saher Islam, Yousef M. Abu-Zaitoon, Wafa’a A. Al-Taisan, Alla Aleksanyan, Ezz Al-Dein Al-Ramamneh. ***Micronutrient Biofortification in Rice for Better Quality***. In edited book [***Rice Research for Quality Improvement: Genomics and Genetic Engineering***](https://link.springer.com/book/10.1007/978-981-15-5337-0). Springer, Singapore. [https://doi.org/10.1007/978-981-15-5337-0\_28. 2020](https://doi.org/10.1007/978-981-15-5337-0_28.%202020): 639-65.
3. Abdel Rahman M. Al- Tawaha, Nusrat Jahan, Ezz Al-Dein Al-Ramamneh, Abdel Razzaq Al Tawaha, Yousef M Abu-Zaitoon, Amanullah, Shah Khalid, Imran, H. Nasri and Swapnil Ganesh Sanmukh. ***Actinomycetes as Means of Increasing Yield and Yield Components and Decreasing the Disease Incidence of Lentil Plants. In abstracts book of national conference on beneficial microbes & sustainable crop production****.* Editors Dr. Amanullah and Mr. Shah Khalid. Organized by department of agronomy, the university of agriculture. Pakistan, Peshawar. 19th –20th Feb. 2020.
4. Ahmed Abu-Zaiton, Mahmoud Abu-Samak, Sawsan Oran, IsraaYousef, Yousef Abu-Zaitoon and Ayah Algaramseh. ***Hypoglycemic, Hypolipidimic and Protective Effects of Arbutus andrachne Extract in Streptozotocin Induced Diabetic Rat****s*. Research Journal of Biological Sciences. 2019. 14 (3-6): 56-60
5. Yousef M. Abu-Zaitoon, Abdel Rahman Al Tawaha, Sulaiman M. Alnaimat, Ibrahim M. Al-Rawashdeh, Ahmed Abu-Zaiton And Ahmad Khalifat. ***Investigation of The Potential Role of Aldehyde Oxidase In Indole-3-Acetic Acid Synthesis of Developing Rice Grains*.** Plant Cell Biotechnology and Molecular Biology. 2019. 20(1&2):6–13.
6. Ahmed Abu-zaiton, Sohail Alsohaili, Yousef Abu-zaitoon, BahaTrad and Ammar Wardat. ***Anti-hyperglycemic Effect and Liver Enzymes Activity of Varthemia iphionoides essential Oil in Diabetic Rats***. International Journal of Advanced Biotechnology and Research (IJABR). 2018. 9(4): 549-554. **ISI**
7. Rawashdeh IMA, Twaha AR, Abu-Zaitoon YM, Ahmed NM, Jawasreh KI. ***Evaluation of the Genetic Variability among a Wild Peganum Harmala L. Populations with RAPD-PCR***. MOJ Biol Med. (2017). 1(3): 00015. DOI: 10.15406/mojbm.
8. Al-Tawaha, A. R., M. A. Turk, Y. M. Abu-Zaitoon, S. H. Aladaileh, I. M. Al-Rawashdeh, S. Alnaimat, A. R. M. Al-Tawaha, M. H. Alu’datt and M. Wedyan, 2017. ***Plants adaptation to drought environment****.* Bulgarian Journal of Agricultural Science. 2017. 23 (3): 381–388. **Q3 Journal**
9. Sulaiman Alnaimat, Saleem Aladaileh, Saqer Abu Shattal, Ali Al-asoufi, Hussein Nassarat, and Yousef Abu-Zaitoon. ***Isolation and Molecular Characterization of a Newly Isolated Strain of Bacillus sp. HMB8, With a Distinct Antagonistic Potential Against Listeria monocytogenes and Some Other Food Spoilage Pathogens*.** Jordan Journal of Biological Sciences. 2017. 10(2): 135-142.
10. Yousef Abu-Zaitoon; SaleemAladaileh; and Abdel Rahman Al Tawaha. ***Contribution of the IAM Pathway to IAA Pool in Developing Rice Grains.*** Brazilian Archives of Biology and Technology. 2016. 59: e16150677.**Q2 Journal**
11. Yousef M. Abu-Zaitoon. ***Identification and characterization of putative conserved IAM-hydrolases in developing rice grains*.** African Journal of Biotechnology. 2015. [14 (1):](http://onlinelibrary.wiley.com/doi/10.1111/ppl.2012.146.issue-4/issuetoc)29–37. **Impact factor 0.56**.
12. [Sarah Russell French](http://www.mdpi.com/search?authors=Sarah%20Russell%20French), [Yousef Abu-Zaitoon](http://www.mdpi.com/search?authors=Yousef%20Abu-Zaitoon), [Md. MynUddin](http://www.mdpi.com/search?authors=Md.%20Myn%20Uddin), [Karina Bennett](http://www.mdpi.com/search?authors=Karina%20Bennett) and [Heather M. Nonhebel](http://www.mdpi.com/search?authors=Heather%20M.%20Nonhebel). ***Auxin and Cell Wall Invertase Related Signaling during Rice Grain Development*.** Plants (ISSN 2223-7747). 2014. 3(1): 95-112. This article belongs to the **Special Issue**[Auxin Signaling, Transport,](http://www.mdpi.com/journal/plants/special_issues/auxin-signaling) and metabolism. The editor for this issue is the pioneer researcher in auxin biosynthesis, Prof. Dr. **Yunde Zhao**. This journal has been recently launched and impact factor not assigned.
13. Yousef M. Abu-Zaitoon. ***Phylogenetic Analysis of Putative Genes Involved in the Tryptophan-Dependent Pathway of Auxin Biosynthesis in Rice****.* Appl Biochem Biotechnol. 2014. [172 (8):](http://onlinelibrary.wiley.com/doi/10.1111/ppl.2012.146.issue-4/issuetoc)2480–2495. **Impact factor 1.893**.
14. Yousef M. Abu-Zaitoon, Karina Bennett, Jennifer Normanly, Heather M. Nonhebel. ***A large increase in IAA during development of rice grains correlates with expression of tryptophan aminotransferase OsTAR1 and a grain-specific YUCCA*.** Physiologia Plantarum. 2012. [146 (4):](http://onlinelibrary.wiley.com/doi/10.1111/ppl.2012.146.issue-4/issuetoc) 487–499. **Impact factor 3.656**.
15. Abu-ZaitoonYousef and Sallal Abdul-Karim. ***Ecological and physiological studies of symbiotic nitrogen fixing microorganisms in non leguminous plants*.** African Journal of Microbiology Research.2012. 6(15):3656-3661.**Impact factor 0.533**.

RG Score (Research Gate): 8.18

<https://www.researchgate.net/profile/Yousef_Abu-Zaitoon2/reputatio>

*h*-index (Google Scholar): 3

<https://scholar.google.com/citations?user=HbQ2tyAAAAAJ&hl=en>

*h*-index (Scopus): 3

https://www.scopus.com/authid/detail.uri?authorId=55256158500

Publication Range: 2012-2018