

CURRICULUM VITAE OF KAREEM A. MOSA

Personal
Information

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<http://scholar.google.ac/citations?user=6D2nM78AAAAJ&hl=en>

Educations

- **(2012)** Department of Plant, Soil and Insect sciences ,University of Massachusetts, Amherst, USA
 - *PhD degree (Plant genetic engineering & biotechnology), May, 2012*
- **(2002)** Department of Biotechnology, Al-Azhar University, Cairo, Egypt
 - *Bachelor degree on Agricultural sciences – Biotechnology.*

Grade: Excellent, (First Class Honours) - the second of the batch.

Professional
Experience

(September 2022- present) Department of Applied Biology, College of Sciences, University of Sharjah, UAE

- *Chairman of Applied Biology Department*

(January 2022- present) Department of Applied Biology, College of Sciences, University of Sharjah, UAE

- *Associate Professor*

(September 2014- December 2021) Department of Applied Biology, College of Sciences, University of Sharjah, UAE

- *Assistant Professor*

(February 2013- February 2014) Plant Science Department , **McGill University, Canada**

- *Postdoctoral fellow* (prof. *Ajjamada C. Kushalappa* lab)

(May 2012- present, on leave) Department of Biotechnology - Faculty of Agriculture, Al-Azhar University , Cairo , Egypt

- *Assistant professor of Biotechnology*

(Fall 2007 – May 2012) Department of Plant, Soil and Insect sciences, **University of Massachusetts , Amherst, USA**

- *PhD student and research assistant* (prof. *Om Parkash Dhankher* lab).

(2004 – 2007) Department of Biotechnology - Faculty of Agriculture, **Al-Azhar University, Cairo , Egypt**

- **Teaching and research assistant.**

Publications **Articles in Peer Reviewed Journals:**

(* Corresponding author , \$ Equal First Author)

1. **Kareem A. Mosa***, Amro E. Ahmed, Yousef Hazem, Israa S.Kanawati, Amenah Abdullah, Lazaro Hernandez-Sori, Muna A. Ali and Wagner Vendrame (2023). Insights into Cryopreservation, Recovery and Genetic Stability of Medicinal Plant Tissues. **Fitoterapia**, DOI: [10.1016/j.fitote.2023.105555](https://doi.org/10.1016/j.fitote.2023.105555)
2. Noor Hilal Abushamleh, Ali El-Keblawy, **Kareem A. Mosa**, Sameh SM Soliman, François Mitterand Tsombou (2022). Different Traits Affect Salinity and Drought Tolerance during Germination of *Citrullus colocynthis*, a Potential Cash Crop in Arid Lands. **Seeds**, 1(4), 244-259; <https://doi.org/10.3390/seeds1040021>
3. Naglaa S Ashmawy, Eman M El-Labbad, Alshaimaa M Hamoda, Ali A El-Keblawy, Abdel-Nasser A El-Shorbaji, **Kareem A. Mosa**, Sameh SM Soliman (2022). The Anti-*Candida* Activity of *Tephrosia apollinea* Is More Superiorly Attributed to a Novel Steroidal Compound with Selective Targeting. **Plants**, <https://doi.org/10.3390/plants11162120>
4. Zarreen Badar, Abdallah Shanableh, Ali El-Keblawy, **Kareem A. Mosa**, Lucy Semerjian, Abdullah Al Mutery, Muhammad Iftikhar Hussain, Sourjya Bhattacharjee, François Mitterand Tsombou, Sefeera Sadik Ayyaril, Islam M Ahmady, Attiat Elnaggar, Muath Mousa, Mohammad H Semreen (2022). Assessment of Uptake, Accumulation and Degradation of Paracetamol in Spinach (*Spinacia oleracea* L.) under Controlled Laboratory Conditions. **Plants**, <https://doi.org/10.3390/plants11131626>
5. Muna A Ali, Sameh SM Soliman, Khalid Bajou, Ali El-Keblawy, **Kareem A. Mosa*** (2022). Identification of phytochemicals capping the exogenously biosynthesized silver nanoparticles by *T. apollinea* (Delile) DC. living plants and evaluation of their cytotoxic activity. **Biocatalysis and Agricultural Biotechnology**, <https://doi.org/10.1016/j.bcab.2022.102336>
6. Rahul Jamdade, **Kareem A Mosa***, Ali El-Keblawy, Khawla Al Shaer, Eman Al Harthi, Mariam Al Sallani, Mariam Al Jasmi, Sanjay Gairola, Hatem Shabana, Tamer Mahmoud (2022). DNA Barcodes for Accurate Identification of Selected Medicinal Plants (Caryophyllales): Toward Barcoding Flowering Plants of the United Arab Emirates. **Diversity**, 14(4), 262; <https://doi.org/10.3390/d14040262>
7. Shaimaa Al-Nablsi, Ali El-Keblawy, Muna A Ali, **Kareem A. Mosa**, Alshaimaa M Hamoda, Abdallah Shanableh, Ahmed M Almehdi, Sameh SM Soliman (2022). Phenolic Contents and Antioxidant Activity of *Citrullus colocynthis* Fruits, Growing in the Hot Arid Desert of the UAE, Influenced by the Fruit Parts, Accessions, and Seasons of Fruit Collection. **Antioxidants**, 11(4), 656; <https://doi.org/10.3390/antiox11040656>
8. Elsiddig A. E. Elsheikh, Ali El-Keblawy, **Kareem A. Mosa**, Anthony I. Okoh, Ismail Saadoun (2021). Role of Endophytes and Rhizosphere Microbes in

Promoting the Invasion of Exotic Plants in Arid and Semi-Arid Areas: A Review. **Sustainability**, 13, 0. <https://doi.org/10.3390/su13220000>

9. Attiat Elnaggar, **Kareem A Mosa**^{*}, Kalidoss Ramamoorthy, Ali El-Keblawy, Teresa Navarro, Sameh SM Soliman (2021). De novo transcriptome sequencing, assembly, and gene expression profiling of a salt-stressed halophyte (*Salsola drummondii*) from a saline habitat. **Physiologia Plantarum**, <https://doi.org/10.1111/ppl.13591>
10. Shaimaa Al-Nablsi, Ali El-Keblawy, **Kareem A. Mosa**, Sameh Soliman (2021). Variation among individuals of *Citrullus colocynthis* from a desert population in morphological, genetic, and germination attributes. **Tropical Ecology**, <https://doi.org/10.1007/s42965-021-00190-1>
11. Abdul Hameed, Ali El-Keblawy, Mariam Aljasmi, Sanjay Gairola, Shyam S Phartyal, **Kareem A. Mosa**, Sameh Soliman (2021). Seed provenance, thermoperiod, and photoperiod affect low water potential tolerance during seed germination of the multipurpose exotic tree *Prosopis juliflora*. **Journal of Arid Environments**, <https://doi.org/10.1016/j.jaridenv.2021.104627>
12. Ali El-Keblawy, Mariam Aljasmi, Sanjay Gairola, **Kareem A. Mosa**, Abdul Hameed (2021). Provenance determines salinity tolerance and germination requirements of the multipurpose tree *Prosopis juliflora* seeds. **Arid Land Research and Management**, <https://doi.org/10.1080/15324982.2021.1889713>
13. Muna A. Ali, **Kareem A. Mosa**^{*} (2021). Encapsulation of Metal and Metal Oxide Nanoparticles by Nutraceuticals: Implications for Biological Activities. **Current Nutraceuticals**, DOI: 10.2174/2665978601666201207212204
14. Mariam Aljasmi, Ali El-Keblawy, **Kareem A Mosa** (2021). Abiotic factors controlling germination of the multipurpose invasive *Prosopis pallida*: towards afforestation of salt-affected lands in the subtropical arid Arabian desert. **Tropical Ecology**, <https://doi.org/10.1007/s42965-020-00124-3>
15. Eman Humaid Alketbi, Rania Hamdy, Abdalla El-Kabalawy, Viktorija Juric, Marc Pignitter, **Kareem A. Mosa**, Ahmed M. Almehtdi, Ali A. El-Keblawy, Sameh S. M. Soliman (2021). Lipid-based therapies against SARS-CoV-2 infection. **Reviews in Medical Virology**, DOI: 10.1002/rmv.2214
16. Mohamed Abouleish, Ali El-Keblawy, **Kareem A. Mosa**, Sameh SM Soliman (2020). Importance of Environmental Factors on Production of Computationally-Defined Natural Molecules against COVID-19 Pandemic. **Current Topics in Medicinal Chemistry**, 20 (22), 1958-1961
17. Attiat Elnaggar, **Kareem A. Mosa**^{*}, Ali El-Keblawy, Amal Tammam, Mohamed El-Naggar (2020). Physiological and Biochemical Insights of Salt Stress Tolerance in the Habitat-indifferent Halophyte *Salsola drummondii* During the Vegetative Stage. **Botany**, <https://doi.org/10.1139/cjb-2019-0160>
18. Ali El-Keblawy, Attiat Elnaggar, Amal Tammam, **Kareem A. Mosa** (2020). Seed Provenance Affects Salt Tolerance and Germination Response of the Habitat-indifferent *Salsola drummondii* Halophyte in the Arid Arabian Deserts. **Flora**, 266, 151592; <https://doi.org/10.1016/j.flora.2020.151592>
19. Muna A. Ali, **Kareem A. Mosa**^{*}, Ali El-Keblawy, Hussain Alawadhi (2019). Exogenous Production of Silver Nanoparticles by *Tephrosia apollinea* Living

- Plants under Drought Stress and Their Antimicrobial Activities. **Nanomaterials**, 9(12), 1716; <https://doi.org/10.3390/nano9121716>
20. Ali El-Keblawy, Masarra Elgabra, **Kareem A. Mosa**, Amal Fakhry, Sameh Soliman (2019). Roles of Hardened Husks and Membranes Surrounding *Brachypodium hybridum* Grains on Germination and Seedling Growth. **Plants**, <https://doi.org/10.3390/plants8090322>
 21. Amani Ghassan Al-Nuairi, **Kareem A. Mosa***, Mohammad G. Mohammad, Ali El-Keblawy, Sameh Soliman, Hussain Alawadhi (2019). Biosynthesis, Characterization, and Evaluation of the Cytotoxic Effects of Biologically Synthesized Silver Nanoparticles from *Cyperus conglomeratus* Root Extracts on Breast Cancer Cell Line MCF-7. **Biological Trace Element Research**, <https://doi.org/10.1007/s12011-019-01791-7>
 22. Ahmed Almeahdi, Ali El-Keblawy, Ihsan Shehadi, Mohamed El-Naggar, Ismail Saadoun, **Kareem A. Mosa**, Purushothaman C. Abhilash (2019). Old leaves accumulate more heavy metals than other parts of the desert shrub *Calotropis procera* at a traffic-polluted site as assessed by two analytical techniques. **International Journal of Phytoremediation**, DOI: 10.1080/15226514.2019.1619164
 23. Masarra Elgabra, Ali El-Keblawy, **Kareem A. Mosa**, Sameh Soliman (2019). Factors controlling seed dormancy and germination response of *Brachypodium hybridum* growing in the hot arid mountains of the Arabian Desert. **Botany**, <https://doi.org/10.1139/cjb-2018-0207>
 24. Alya O. AlQuraidi, **Kareem A. Mosa***, Kalidoss Ramamoorthy (2019). Phytotoxic and Genotoxic Effects of Copper Nanoparticles in Coriander (*Coriandrum sativum*-Apiaceae). **Plants**, 8 (1), 19; <https://doi.org/10.3390/plants8010019>
 25. **Kareem A Mosa***, Sanjay Gairola, Rahul Jamdade, Ali El-Keblawy, Khawla Ibrahim Al Shaer, Eman Khalid Al Harthi, Hatem Shabana, Tamer Mahmoud (2018). The promise of molecular and genomic techniques for biodiversity research and DNA barcoding of the Arabian Peninsula flora. **Frontiers in Plant Science** 9, 1929, doi: 10.3389/fpls.2018.01929
 26. Kundan Kumar, **Kareem A. Mosa**, Ahmed G. Meselhy, Om Parkash Dhankher (2018). Molecular insights into the plasma membrane intrinsic proteins roles for abiotic stress and metalloids tolerance and transport in plants. **Indian Journal of Plant Physiology**, 23(4):721–730, <https://doi.org/10.1007/s40502-018-0425-1>
 27. Attiat Elnaggar, Ali El-Keblawy, **Kareem A. Mosa**, Teresa Navarro (2018). Adaptive drought tolerance during germination of *Salsola drummondii* seeds from saline and nonsaline habitats of the arid Arabian deserts. **Botany**, <https://doi.org/10.1139/cjb-2018-0174>
 28. Attiat Elnaggar, Ali El-Keblawy, **Kareem A. Mosa**, Sameh Soliman (2018). Drought tolerance during germination depends on light and temperature of incubation in *Salsola imbricata*, a desert shrub of Arabian deserts. **Flora**, <https://doi.org/10.1016/j.flora.2018.11.001>
 29. Naeema Al-Shamsi, Ali El-Keblawy, **Kareem A. Mosa** and Navarro T. (2018). Drought tolerance and germination response to light and temperature for seeds of saline and non-saline habitats of the habitat-indifferent desert halophyte

Suaeda vermiculata. **Acta Physiologiae Plantarum**. 40 (11), 200, <https://doi.org/10.1007/s11738-018-2771-z>

30. Ali El-Keblawy, Naeema Al-Shamsi, and **Kareem A. Mosa (2018)**. Effect of maternal habitat, temperature and light of germination on salt tolerance of *Suaeda vermiculata*, a habitat-indifferent halophyte of arid Arabian deserts. **Seed Science Research**, <https://doi.org/10.1017/S0960258518000144>.
31. **Kareem A. Mosa***, Mohamed El-Naggar, Kalidoss Ramamoorthy, Hussain Alawadhi, Attiat Elnaggar, Sylvie Wartanian, Emy Ibrahim, Hala Hani (2018). Copper Nanoparticles Induced Genotoxicity, Oxidative Stress, and Changes in Superoxide Dismutase (SOD) Gene Expression in Cucumber (*Cucumis sativus*) Plants. **Frontiers in Plant Science** 9, doi: 10.3389/fpls.2018.00872
32. Sanjay Gairola, Khawla I. Al Shaer, Eman K. Al Harthi and **Kareem A. Mosa* (2018)**. Strengthening desert plant biotechnology research in the United Arab Emirates: a viewpoint. **Physiology and Molecular Biology of Plants**. <https://doi.org/10.1007/s12298-018-0551-2>
33. Wasia Wani, Khalid Z. Masoodi, Abbu Zaid, Shabir H. Wani, Farheena Shah, Vijay Singh Meena, Shafiq A. Wani, **Kareem A. Mosa (2018)**. Engineering plants for heavy metal stress tolerance. **Rendiconti Lincei. Scienze Fisiche e Naturali**. <https://doi.org/10.1007/s12210-018-0702-y>
34. **Kareem A. Mosa***, Sameh Soliman, Ali El-Keblawy, Muna Abdalla Ali, Hessa Ali Hassan, Aysha Ali Bin Tamim, Moza Mohamed Al-Ali (2018). Using DNA barcoding to detect adulteration in different herbal plant-based products in the United Arab Emirates: Proof of concept and validation. **Recent Patents on Food, Nutrition & Agriculture**. doi: 10.2174/2212798410666180409101714
35. Ankush Ashok Saddhe, Shweta, **Kareem A. Mosa**, Kundan Kumar, Manoj Prasad and Om Parkash Dhankher (2018). Genome-wide characterization of Major Intrinsic Protein (MIP) gene family in *Brachypodium distachyon*. **Current Bioinformatics**. 13, 2018. doi : 10.2174/1574893612666171023152558
36. Sameh Soliman, Dina Alnajdy, Ali A. El-Keblawy, **Kareem A. Mosa**, Ghalia Khoder, Ayman M. Noreddin (2017). Plants' Natural Products as Alternative Promising Anti-Candida Drugs. **Pharmacognosy Reviews**, 11(22), 104-122
37. Sameh S. M. Soliman, **Kareem A. Mosa**, Ali A. El-Keblawy, Mohamed I. Hussein (2017). Exogenous and endogenous increase in fungal GGPP increased fungal Taxol production. **Applied Microbiology and Biotechnology**, 101(20):7523-7533. doi: 10.1007/s00253-017-8509-9
38. Mohamed Awad, Ragab M. Fahmy, **Kareem A. Mosa***, Mohamed Helmy, Fawzy A. El-Feky (2017). Identifying Effective DNA Barcodes for *Triticum* Plants through Chloroplast Genome-wide Analysis. **Computational Biology and Chemistry**. 2017 Sep 12;71:20-31. doi: 10.1016/j.compbiolchem.2017.09.003
39. Arun Kumar, **Kareem A. Mosa**, Liyao Ji, Udaykumar Kage, Dhananjay Dhokane, Shailesh Karre, Deepa Madalageri, Neemisha Pathania (2017). Metabolomics assisted biotechnological interventions for developing plant-based functional foods and nutraceuticals. **Critical Reviews in Food Science and Nutrition**. Mar 8:0. doi: 10.1080/10408398.2017.1285752
40. Eslam A. Heb El-din, Fawzy A. El-Feky, Ali M. El-Refy, Ahmed I. Ismail, and **Kareem A. Mosa* (2017)**. Molecular characterization of two AP2/ERF

Resume

[Kareem A. Mosa, PhD]

transcription factor genes from Egyptian tomato cultivar (Edkawy). *Plant Science Today*, 4(1): 12-20, doi: 10.14719/pst.2017.4.1.269

41. **Kareem A Mosa***, Ismail Saadoun, Kundan Kumar, Mohamed Helmy, Om Parkash Dhankher (2016). Potential Biotechnological Strategies for the Cleanup of Heavy Metals and Metalloids. *Frontiers in Plant Science*, 7 : 303, doi: 10.3389/fpls.2016.00303
42. Mohamed Helmy, Mohamed Awad, **Kareem A. Mosa*** (2016). Limited Resources of Genome Sequencing in Developing Countries: Challenges and Solutions. *Applied & Translational Genomics*, March 2016. doi:10.1016/j.atg.2016.03.003
43. **Kareem A. Mosa**, Kundan Kumar, Sudesh Chhikara, Craig Musante, Jason C. White, and Om Parkash Dhankher (2016). Enhanced Boron Toxicity Tolerance in Plants Mediated by a Bidirectional Transport through Plasma Membrane Intrinsic Proteins. *Scientific Reports, Nature Publishing Group*, 6, 21640; doi: 10.1038/srep21640
44. Liyao Ji, Kalenahalli Yogendra, **Kareem A. Mosa**, Ajjamada Kushalappa, Clara Peneros, Teresa Mosquera, Carlos Narvaez (2016). Hydroxycinnamic acid functional ingredients and their biosynthetic genes in tubers of Solanum tuberosum Group Phureja. *Cogent Food & Agriculture*, 1138595, DOI: 10.1080/23311932.2016.1138595
45. Mohamed Awad, Osama Ouda, Ali M. El-Refy and Fawzy A. El-Feky, **Kareem A. Mosa**, Mohamed Helmy (2015). FN-Identify: Novel Restriction Enzymes-Based Method for Bacterial Identification in Absence of Genome Sequencing. *Advances in Bioinformatics*, 303605, 14, DOI: 10.1155/2015/303605
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47. Arun Kumar, Udaykumar Kage, **Kareem A. Mosa**, Dhananjay Dhokane (2014). Metabolomics: A Novel Tool to Bridge Phenome to Genome under Changing Climate to Ensure Food Security. *Medicinal & Aromatic Plants*, DOI: 10.4172/2167-0412.1000e154
48. Kalenahalli N. Yogendra, Doddaraju Pushpa, **Kareem A. Mosa**, Ajjamada C. Kushalappa, Agnes Murphy, and Teresa Mosquera (2014). Quantitative resistance in potato leaves to late blight associated with induced hydroxycinnamic acid amides. *Functional & Integrative Genomics*, 14(2):285-98. doi: 10.1007/s10142-013-0358-8
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50. Alaa Al-Din Helaly, Ali El-Refy, Emad Mady, **Kareem A. Mosa**, Lyle Craker (2013). Morphological and Molecular Analysis of Three Celery Accessions. *Journal of Medicinally Active Plants*, 2 (3):27-32.

51. **Kareem A. Mosa**, Kundan Kumar, Sudesh Chhikara, Joseph Mcdermott, Zijuan Liu, Craig Musante, Jason C. White, and Om Parkash Dhankher (2012). Members of rice plasma membrane intrinsic Proteins Subfamily are Involved in Arsenite Permeability and Tolerance in Plants. *Transgenic Research*, 21:1265–1277

Book Chapters:

52. Muna A Ali, Naglaa S Ashmawy, **Kareem A Mosa**, Mohamed D Al-Shamsi, Ali A El-Keblawy, Sameh SM Soliman (2024). Arta (*Calligonum comosum*) in the Middle East and Biomedical Applications. *IN: Ancient and Traditional Foods, Plants, Herbs and Spices used in the Middle East* (pp. 117-133). CRC Press
53. Muna A Ali, **Kareem A. Mosa*** (2023). Metal Nanoparticles Applications and Their Release into Surrounding: Perspectives of Plant Uptake and Effects on Phytohormones. *IN: Agricultural Biocatalysis* (pp. 103-130). Jenny Stanford Publishing.
54. **Kareem A Mosa***, Aya Awad, Rand Alhaj Yahya, Shatha N Alameeri, Kalidoss Ramamoorthy, Muna A Ali (2022). Metal Nanoparticle Implication, Transport, and Detection in Plants. *IN: Plant Metal and Metalloid Transporters*, pp. 331-360. Springer, Singapore, DOI: 10.1007/978-981-19-6103-8_16
55. **Kareem A. Mosa***, Muna A Ali, Kalidoss Ramamoorthy, Ahmed Ismail (2022). Exploring the relationship between plant secondary metabolites and macronutrient homeostasis. *IN: Vinay Kumar, Ashish Kumar Srivastava, Penna Suprasanna (Eds), Plant Nutrition and Food Security in the Era of Climate Change*. Elsevier, <https://doi.org/10.1016/B978-0-12-822916-3.00007-X>
56. Ahmed Ismail, **Kareem A. Mosa***, Muna A. Ali, and Mohamed Helmy (2020). Biochemical and Molecular Markers: Unraveling Their Potential Role in Screening Germplasm for Thermotolerance. *IN: Shabir H. Wani, Vinay Kumar (Eds), Heat Stress Tolerance in Plants: Physiological, Molecular and Genetic Perspectives*. WILEY
57. Kundan Kumar, Divya Gupta, **Kareem A. Mosa**, Kalidoss Ramamoorthy and Pallavi Sharma (2019). Arsenic transport, metabolism and possible mitigation strategies in plants. *IN: Sudhakar Srivastava, Ashish K. Srivastava, Penna Suprasanna (Eds.), Plant-Metal Interactions*. Springer, PA, USA
58. Sameh Soliman, Ali El-Keblawy, **Kareem A. Mosa***, Mohamed Helmy, Shabir Hussain Wani (2018). Understanding the Phytohormones Biosynthetic Pathways for Developing Engineered Environmental Stress-Tolerant Crops. *IN: Satbir Singh Gosal and Shabir Hussain Wani (Eds.), Biotechnologies of Crop Improvement, Volume 2: Transgenic Approaches*. Springer, PA, USA
59. Kundan Kumar & **Kareem A. Mosa** (2015). Ion Transporters: A Decisive Component of Salt Stress Tolerance in Plants. *IN: Shabir Hussain Wani and Anwar Hossain (Eds.), Managing Salt Tolerance in Plants: Molecular and Genomic Perspectives*. CRC Press, Taylor & Francis Group, USA

Books:

60. **Kareem A. Mosa**, Ahmed Ismail, and Mohamed Helmy (2017). Plant Stress Tolerance: An Integrated Omics Approaches. *Springer Briefs in Systems Biology*. Springer, PA, USA

PhD Thesis:

Kareem A. Mosa (2012). Functional Characterization of Members of Plasma Membrane Intrinsic Protein Subfamily and their Involvement in Metalloids Transport in Plants. University of Massachusetts Amherst. Advisor: Dr. Om Parkash Dhankher.

B.Sc Graduation Mini Thesis :

Kareem A. Mosa (2002). Micro propagation of Banana by using tissue culture technique. (mini thesis) - Graduation research project (as a part of the requirements of the bachelor degree).

Gene Sequences Submitted to NCBI GenBank Database

- Ahmed M. Hashem, **Kareem A. Mosa**, Fawzy A. El-Feky, Aly Elrefy (2017). *Oryza sativa* Japonica Group water channel protein RWC3-like gene, partial sequence. Accession KT957159
- Mohamed A. Awad, **Kareem A. Mosa**, Ahmed M. Hashem, and Fawzy A. El-Feky (2016). *Cenchrus americanus* cultivar shandaweel 1 ribulose-1,5-bisphosphate carboxylase/oxygenase large subunit (rbcl) gene, partial cds; chloroplast. Accession KT852570
- Mohamed A. Awad, **Kareem A. Mosa**, Ahmed M. Hashem, and Fawzy A. El-Feky (2016). *Oryza sativa* cultivar Giza 178 ribulose-1,5-bisphosphate carboxylase/oxygenase large subunit (rbcl) gene, partial cds; chloroplast. Accession KT852569
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- Mohamed A. Awad, Ragab M. Fahmy, **Kareem A. Mosa**, Ahmed M. Hashem, and Fawzy A. El-Feky (2016). *Oryza sativa* cultivar Giza 178 maturase K (matK) gene, partial cds; chloroplast. Accession KT351782
- **Kareem A. Mosa**, Ali El-Keblawy, Fatima S. Abdalla, Noor A. Aldayel, Fatma A. Aljarwan, Fatima A. Haroun, and Amna S. Marshoud. (2015) *Cyperus conglomeratus* DNAJ heat shock protein mRNA, partial cds. Accession KT004438
- Eslam Hebeldein, Ali M. El-Refy, **Kareem A. Mosa**, and Fawzy A. El-Feky (2015). *Solanum lycopersicum* cultivar Edkawy ethylene-responsive factor 1 (ERF1) gene, partial cds. Accession KP780206
- Eslam Hebeldein, Fawzy A. El-Feky, **Kareem A. Mosa**, and Ali M. El-Refy (2015). *Solanum lycopersicum* cultivar Edkawy ethylene response factor 5 (ERF5) gene, partial cds. Accession KP835548
- Mohamed A. Awad, Ragab M. Fahmy, **Kareem A. Mosa**, and Fawzy A. El-Feky (2015). *Triticum aestivum* maturase K (matK) gene, partial cds; chloroplast. Accession KM649683.1

- Mohamed A. Awad, Ragab M. Fahmy, **Kareem A. Mosa**, and Fawzy A. El-Feky (2015). *Triticum aestivum* ribulose-1,5-bisphosphate carboxylase/oxygenase large subunit (rbcl) gene, partial cds; chloroplast. Accession KM668209.1
- **Kareem A. Mosa**, Kalenahalli N. Yogendra, Doddaraju Pushpa, Ajjamada C. Kushalappa (2014). *Solanum tuberosum* genotype F06025 tyramine hydroxycinnamoyl transferase mRNA, complete cds. Accession KF943628.1
- **Kareem A. Mosa**, Kalenahalli N. Yogendra, Doddaraju Pushpa, Ajjamada C. Kushalappa (2014). *Solanum tuberosum* genotype F06037 tyramine hydroxycinnamoyl transferase mRNA, complete cds. Accession KF943629.1
- Kalenahalli N. Yogendra, **Kareem A. Mosa**, Doddaraju Pushpa, Ajjamada C. Kushalappa (2014). *Solanum tuberosum* cultivar Shepody tyramine hydroxycinnamoyl transferase mRNA, complete cds. Accession KF943630.1
- **Kareem A. Mosa**, Kalenahalli N. Yogendra, Doddaraju Pushpa, Ajjamada C. Kushalappa (2014). *Solanum tuberosum* cultivar Shepody 4-coumarate: coenzyme A ligase mRNA, complete cds. Accession KF943627.1
- **Kareem A. Mosa**, Kalenahalli N. Yogendra, Doddaraju Pushpa, Ajjamada C. Kushalappa (2014). *Solanum tuberosum* genotype F06025 4-coumarate: coenzyme A ligase mRNA, complete cds. Accession KF943625.
- **Kareem A. Mosa**, Kalenahalli N. Yogendra, Doddaraju Pushpa, Ajjamada C. Kushalappa (2014). *Solanum tuberosum* genotype F06037 4-coumarate: coenzyme A ligase mRNA, complete cds. Accession KF943626.1
- Kalenahalli N. Yogendra, **Kareem A. Mosa**, Ajjamada C. Kushalappa, Agnes Murphy (2014). *Solanum tuberosum* cultivar F06025 tyrosine decarboxylase mRNA, complete cds. Accession KF819806.1
- Kalenahalli N. Yogendra, **Kareem A. Mosa**, Ajjamada C. Kushalappa, Agnes Murphy (2014). *Solanum tuberosum* cultivar Shepody tyrosine decarboxylase mRNA, complete cds. Accession KF819807.1
- Mohamed A. Attia, **Kareem A. Mosa**, Ali M. El-Refy and Fawzy A. El-Feky (2014). *Phragmites mauritanus* transcription factor (myb15) gene, complete cds. Accession KJ020102.1

Conferences & Academic Presentations

Invited presentations/ workshops/ Symposium:

1. **Kareem A. Mosa (2023)** Presented a talk titled "Converting Biological Data into Digital Information: Current Status and Future Perspectives" in the scientific symposium (Digital Culture and its Contemporary Challenges), organized by The College of Sharia and Islamic Studies, University of Sharjah, **UAE**, February 16th, 2023.
2. **Kareem A. Mosa (2022)** Presented a seminar titled " UAE Native Plants: Unique Applications in Chemistry, Pharmacology, and Biotechnology", bilateral seminar

series, organized by the Department of Applied Biology, College of Sciences, University of Sharjah, **UAE**, April 11th, 2022.

3. **Kareem A. Mosa (2021)** Presented a seminar titled "Potential use of UAE native plants for the biosynthesis of silver nanoparticles", Connect_CoS seminar series, organized by the College of Sciences, University of Sharjah, **UAE**, November 23, 2021.
4. **Kareem A. Mosa (2021)** Presented a workshop titled "Steps for successful scientific research", organized by Wasit Research Center, Ministry of Education, Sharjah, **UAE**, January 24, 2021.
5. **Kareem A. Mosa (2021)** Presented a seminar titled "Green synthesis of silver nanoparticles using UAE native plants and their biological activities ", organized by the Research Institute of Sciences & Engineering, University of Sharjah, **UAE**, January 21, 2021.
6. **Kareem A. Mosa (2018)** Presented a seminar titled "Metalloid transport, toxicity, and tolerance in plants: a biotechnological perspective", organized by the department of Applied Biology, University of Sharjah, **UAE**, November 04, 2018
7. **Kareem A. Mosa (2018)** Presented a talk titled " Validation of an Effective Method to Detect Adulteration in Plant-Based Products in the UAE Market Using DNA Barcoding", on the "Agritech, Aquaculture & Food Safety" UK and Gulf Countries Science Collaboration Symposium, organized in collaboration by the UK Science and Innovation Network, the Department for Business, Energy and Industrial Strategy and the British Council, **Oman**, March 5- 6, 2018.
8. **Kareem A. Mosa (2017)** presented lectures on biology for the "Professional Diploma in Environmental Inspection", organized by "The Center for Continuing Education and Professional Development", University of Sharjah, and Directorate of Human Resources, Government of Sharjah, Sharjah, **UAE**, October, 22, 2017- November 26, 2017
9. **Kareem A. Mosa (2014)** "Omics of plant stress tolerance", Plant Biotechnology Department, Genetic Engineering and Biotechnology Division, National Research Center, Cairo, **Egypt**, April, 2014. Host: Dr. Hattem M. El-Shabrawi
10. **Kareem A. Mosa (2012)** "Proteomics and its applications in biology", workshop organized by Al-Azhar University Computer Center (Girls Branch), Cairo, **Egypt**, October 8 –10, 2012.
11. **Kareem A. Mosa (2012)** "Metalloid transport in plants; the role of aquaporins", Al-Azhar University, Department of Biotechnology, Cairo, **Egypt**, September, 2012. Host: Professor Fawzy El-Fiky, Head of the department
12. **Kareem A. Mosa (2012)** "Bioinformatics for molecular biologists", workshop organized by Al-Azhar University Computer Center (Girls Branch), Cairo, **Egypt**, 24th – 26th June 2012.

Oral Conference Presentations:

Resume
[Kareem A. Mosa, PhD]

13. Ali El- Keblawy, **Kareem A. Mosa** (2023). Effects of maternal habitat and storage conditions on temperatures and light requirements during seed germination of the forage grass *Cenchrus ciliaris*. In the “International Conference and Exhibition in Science”, Riyadh, **Saudi Arabia**, February 6-8, 2023.
14. **Kareem A. Mosa**, Shamleh, N., Sameh Soliman, Ali El- Keblawy (2023). Anticancer metabolites of *Citrullus colocynthis* fruits are affected by fruit part, genetic accession, and season of collection in the arid deserts of the UAE. In the “International Conference and Exhibition in Science”, Riyadh, **Saudi Arabia**, February 6-8, 2023.
15. Noor Hilal AbuShamleh, Ali El- Keblawy, **Kareem A. Mosa** and Sameh S. Soliman (2021). Salinity and temperature interact with time of seed collection to determine germination rate of different *Citrullus colocynthis* accessions. Graduate Students Research Conference (UAEGSRC2021), Khalifa University, **UAE**, June 28, 2021.
16. Rabiant Ali Sultan, Sana M Taher Sabbagh, Sara Mohammed Saeed Rashid Alnaqbi, Sarah Yusra Kamal, **Kareem A. Mosa** (2019). Assessment of Aluminum Uptake, Localization and Accumulation in *Cucumis sativus* Plants. 7th Undergraduate Research Competition, Abu Dhabi University, **UAE**, April 29, 2019.
17. Om Parkash Dhankher, **Kareem A. Mosa**, Kundan Kumar, Ahmed Meselhy Ali Gameel (2017). Rice Plasma Membrane Intrinsic Proteins Play Critical Role in Arsenite and Boron Transport and Providing Tolerance in Plants. Managing Global Resources for a Secure Future, ASA, CSSA and SSSA International Annual Meetings, Florida, **USA**, October 22- 25, 2017.
18. **Kareem A. Mosa**, Ali El-Keblawy, Attiat El-Najar (2017). *Calotropis procera* seedlings could be used as a rapid cost effective bioindicator for measuring aluminum environmental pollution. European Geoscience Union General Assembly, EUG 2017, Vienna, **Austria**, April 23- 28, 2017.
19. Ismail Saadoun, **Kareem A. Mosa** (2017). Awareness of Higher Education Institutes’ Students (University of Sharjah, UAE) about Global Warming and Climate Change. 4th International Conference on Global Warming: EcoSystem Productivity, Ras Al Khaimah, **UAE**, April 3- 5, 2017.
20. Om Parkash Dhankher, **Kareem A. Mosa** and Kundan Kumar (2015). Rice Plasma Membrane Intrinsic Proteins (PIPs) Play Critical Role in Arsenite and Boron Transport and Tolerance Transport in Plants. 12th Phytotechnology Conference, Manhattan, Kansas, **USA**, September 26-29, 2015.
21. Om Parkash Dhankher, Sudesh Chhikara, Bibin Paulose, Kundan Kumar, **Kareem A. Mosa** and Jason C. White (2013). Biotechnological Approaches for Mitigating Arsenic Threat in the Environment and Developing Arsenic Free Food Crops. Water, Food, Energy& Innovation for a Sustainable World, ASA, CSSA, SSSA Annual Meetings, Tampa, Florida, **USA**, November 3-6, 2013

22. Ajjamada C. Kushalappa, Kalenahalli N Yogendra, Doddaraju Pushpa, **Kareem A. Mosa**, Luis Ernesto Rodriguez and Teresa Mosquera (2013). Metabolo-genomics and cisgenics to improve resistance in potato to late blight. international workshop on food security through potato production and human nutrition, Bogotá, **Colombia**, June 24-25, 2013

23. **Kareem A. Mosa**, Kundan Kumar, and Om Parkash Dhankher (2011). Arsenite and boron permeability of PIP aquaporins in plants. University of Massachusetts First Annual Life Sciences Graduate Research Symposium, **USA**, November 18th, 2011

24. Kundan Kumar, **Kareem A. Mosa**, Sudesh Chhikara, and Om Parkash Dhankher (2011). Rice plasma membrane intrinsic proteins AQP9-1 and AQP9-16 are involved in arsenite and boron transport. 75th Annual Meeting of the Northeast Section of the American Society of Plant Biologists (2011), University of New Hampshire Durham, NH, **USA**, May 6-7, 2011

25. Om Parkash Dhankher, Bibin Paulose, Sudesh Chhikara, Kundan Kumar and **Kareem A. Mosa** (2010). Engineering plants for arsenic containment: what we know and where should we go? The International Conference on Green Remediation (Environment, Energy, Economics), University of Massachusetts Amherst, Massachusetts, **USA**, June 15 - 17, 2010

Poster Presentations:

26. Masarra Elgabra, Ali El-Keblawy, **Kareem A. Mosa** (2018). Comparison of DNA and Life History Traits Between local and Mediterranean Lines of *Brachypodium* Species. Genomics & Systems Biology VIII, NYU Abu Dhabi, **UAE**, February 6 – 8, 2018

27. Mohamed Awad, Mohamed Helmy, **Kareem A. Mosa***, and Fawzy A. El-feky (2017). *In-silico* assessment of five chloroplast intergenic regions in *Poaceae* family for DNA barcoding. 7th International Barcode of Life Conference, Skukuza, **South Africa**, November 20 - 24, 2017

28. Mohamed Awad, Mohamed Helmy, **Kareem A. Mosa*** and Fawzy A. El-Feky (2016). Chloroplast Genome-wide in silico analysis of Triticum species for highly variable chloroplast loci using as DNA barcode. BioVision, Bibliotheca Alexandrina, Alexandria, **Egypt**, April 12- 14, 2016

29. Eslam A. Heb El-din, Fawzy A. El- Feky, Ali M. El-Refy, **Kareem A Mosa*** (2016). Identification and isolation of Two AP2/ERF transcription factor genes from Egyptian tomato cultivar (Edkawy). 13th National Conference "Advances in Biochemistry and Molecular Biology in Diagnosis and Treatment". Academy of Scientific Research and Technology (ASRT) in Egypt. Cairo, **Egypt**, March 23 – 24, 2016

30. Mohamed Awad, Ragab M. Fahmy, **Kareem A. Mosa***, Mohamed Helmy, Fawzy A. El-Feky (2015). Assessment of candidate DNA Barcoding loci for wheat and grass family (poaceae) in Egypt. 6th international Barcode of life conference, At Guelph University- **Canada**, August 18 – 21, 2015

31. Mohamed A. Attia, **Kareem A. Mosa**, Ali M. El-Refy and Fawzy A. El-Feky (2014). Isolation and identification of MYB15 transcription factor sequence from Egyptian neglected plant *Phragmites mauritianus* for drought tolerance. 11th National Conference of Biochemistry and Molecular Biology. Academy of Scientific Research and Technology (ASRT) in Egypt. Cairo, **Egypt**, March 30 – April 1, 2014
32. **Kareem A. Mosa**, Kalenahalli N Yogendra, Ajjamada C. Kushalappa, Stan Kubow, Clara Pineros, Luz Patricia Restrepo, Luis Ernesto Rodriguez and Teresa Mosquera (2013). Identification of functional foods compounds in potato based on non-targeted metabolomics. international workshop on food security through potato production and human nutrition, Bogotá, **Colombia**, June 24-25, 2013
33. Kundan Kumar, **Kareem A. Mosa**, Sudesh Chhikara and Om Parkash Dhankher (2012). Rice plasma membrane intrinsic proteins, are involved in transport and providing tolerance to boron toxicity. 10th International Symposium on Rice Functional Genomics (ISRFG10), Chiang mai, **Thailand**, November 26-29, 2012
34. **Kareem A. Mosa**, Kundan Kumar, Sudesh Chhikara, and Om Parkash Dhankher (2012). A bidirectional arsenite permeability of rice plasma membrane intrinsic proteins (PIPs) subfamily in plants. 76th Annual Meeting of the Northeast Section of the American Society of Plant Biologists, Worcester Polytechnic Institute, MA, **USA**, May 4-5, 2012
35. **Kareem A. Mosa**, Kundan Kumar, Sudesh Chhikara, and Om Parkash Dhankher (2011). The Role of Rice Plasma Membrane Intrinsic Proteins in Boron Transport. The 2011 In Vitro Biology Meeting (2011), Raleigh, North Carolina, **USA**, June 4-8, 2011
36. **Kareem A. Mosa**, Kundan Kumar, Sudesh Chhikara, and Om Parkash Dhankher (2011). The involvement of rice plasma membrane intrinsic proteins in arsenite transport. 75th Annual Meeting of the Northeast Section of the American Society of Plant Biologists (2011), University of New Hampshire Durham, NH, **USA**, May 6-7, 2011
37. Om Parkash Dhankher, Sudesh Chhikara, and **Kareem A. Mosa** (2010). Engineering arsenic free rice: what do we know and where should we go? Plant Biology 2010, Montreal, Canada, July 31 – August 4, 2010
38. **Kareem A. Mosa**, Sudesh Chhikara, Kundan Kumar, Zijuan Liu, and Om Parkash Dhankher (2010). Members of plasma membrane intrinsic protein (PIP) subfamily are involved in arsenite transport in rice. Plant Biology 2010, Montreal, **Canada**, July 31 – August 4, 2010
39. **Kareem A. Mosa**, Sudesh Chhikara, and Om Parkash Dhankher (2009). Analysis of rice aquaglyceroporin genes for arsenite transport. 7th Annual Symposium in Plant Biology, University of Massachusetts Amherst, Massachusetts, **USA**, October 3, 2009
40. **Kareem A. Mosa**, Sudesh Chhikara, and Om Parkash Dhankher (2009). Analysis of rice aquaglyceroporin genes for arsenite regulation. 73rd Annual Meeting of the

Northeast Section of the American Society of Plant Biologists (2009), State University of New York at Plattsburgh, New York, **USA**, May 1-2, 2009

Teaching Experience

- **(2014 - present) University of Sharjah, UAE- Taught the following courses:**
 - **Undergraduate level:** Basic Biotechnology, Environmental Biotechnology, Selected Topics in Biotechnology A, General Biology I, Plant Biotechnology, Pharmaceutical Biotechnology, Seminar, Research Project.
 - **Postgraduate level:** Research Methodology, Selected Topics in Biotechnology B (**MSc Biotechnology Program**), Advanced Environmental Research Methodology (**MSc Environmental Science & Engineering Program**)
- **(2012 - 2014) Al-Azhar University, Egypt- Taught the following courses:**
 - **Undergraduate level:** Principles of Biotechnology, Molecular Biology, Genome and Maps, Principles of Genetic Engineering, Indicators of Genetic Modified Organisms (GMO) in Environment.
 - **Postgraduate level:** Seminar, Genetic Engineering
- **(2004 - 2007) Assist in teaching the following courses as a T.A:**
 - Principles of Biotechnology , Molecular Biology , Principles of Genetic Engineering , Biosafety Regulations , Plant cell and Tissue culture Technology , Genome and Maps ,Biotechnology in Plant Pathology, Indicators of Genetic Modified Organisms(GMO) in Environment , Genetic Modified Organisms(GMO) In Agricultural Industry .

Research Experience

- My research work at the department of Applied Biology, University of Sharjah, UAE lie generally in the area of plant molecular biology and biotechnology, genetic engineering, environmental biotechnology, and nanobiotechnology with a focus on developing and employing plants for significant health benefits to human and developing environmental stress tolerant crops using advanced molecular biology and Omics tools such as genomics, proteomics and metabolomics. A special recent interests include the use of DNA barcoding for plant biodiversity conservation, utilizing desert non edible plants for the green synthesis of metal nanoparticles, and phytotoxicity and genotoxicity assessment of metal nanoparticles on edible crops.
- My research work as a postdoctoral fellow at McGill University, Canada focused on identifying the important metabolites which have a beneficial biological role in human health as functional foods in different potato genotypes using metabolomics, and genomics approaches which will be highly useful for designing strategies to improve the candidate potato genotypes for functional foods with significant health benefits using cisgenic and transgenic technologies. Also I was involved on another project to identify resistance related metabolites, in late blight resistant potato genotypes, based on non-target metabolomics and

genomic approaches. These metabolites can be used as resistance biomarkers for screening cultivars against late blight.

- My research work at the department of biotechnology at Al-Azhar University, Egypt focused on plant genetic diversity and phylogeny. Different plant species genotypes were screened using polymorphic RAPD (Random Amplified Polymorphic DNA) markers.
- My research work as a PhD student at the University of Massachusetts Amherst, USA focused on the role of Plasma Membrane Intrinsic Protein (PIPs) subfamily in metalloid transport in plants. Regulation of rice PIP genes in response to arsenite and boron was tested by qRT-PCR. The PIPs were heterologously expressed (in *Xenopus laevis* and Yeast) and metalloid transport activity was determined. Rice PIPs were constitutively overexpressed in *Arabidopsis* and the transgenic plants were highly tolerant to metalloids, these transgenic plants showed no significant accumulation of As and B in shoot and root tissues in long term uptake assays. Whereas, short duration exposure to arsenite caused both active influx and efflux of metalloids in the roots. Knockdown studies are carried out by RNAi in rice. Embryogenic rice callus were infected with the EHA105 *Agrobacterium* strain expressing the OsPIP RNAi constructs. Selected Independent transgenic RNAi lines produced from rice tissue culture process were analyzed for metalloids phenotype and accumulation.
- My research work as a teaching and researcher assistant at Al-Azhar University, Egypt focused on Molecular and biochemical studies for some Egyptian barley varieties. DNA fingerprinting was performed using different molecular markers (RAPD, AFLP, SSR). Protein fingerprinting was conducted using SDS-PAGE.
- My research on my B.Sc graduation project at Al-Azhar University, Egypt focused on the micro propagation of banana by using tissue culture technique.

Bioinformatics techniques: such as- BioPerl, , DNA and protein sequence analysis, alignment, and phylogenetic construction software, protein structure prediction, Nucleotides Primer design for PCR, Protein sequence analysis, Cytoscape software, MZmine-2 software..... etc.

Funded Research Projects

- **PI: Kareem A. Mosa**, Co-PIs: Ali El-Keblawy. Using DNA barcoding to investigate the botanical origin of honey in Fujairah honey. (2023-2024). Funded by University of Sharjah and Fujairah Research Center **(AED 350,000)**
- PI: Ali El-Keblawy, **Co-PI: Kareem A. Mosa**, Sameh Soliman, Chaouki Ghenai, Ali Hassan Al-Marzouqi. Impacts of environmental factors on germination, growth, oil yield and composition and biologically active anticancer compounds in *Citrullus colocynthis* : a native oily seeded potential cash-crop for marginal desert lands. (2021-2023). Funded by University of Sharjah **(AED192,000)**
- **PI: Kareem A. Mosa**, Co-PIs: Ali El-Keblawy, Ihsan Ahmed Shehadi, Ahmed M Almehdi. Physiological, biochemical and molecular responses of vegetable crops to metal nanoparticles: a phytotoxicity assessment (2021- 2023). Funded by University of Sharjah **(189,000 AED)**

- **PI: Kareem A. Mosa**, Co-PIs: Ali El-Keblawy, Ana Martins, Mohamed Helmy. DNA Barcoding of Important Medicinal Plants in UAE (2018- 2021). Funded by University of Sharjah and Sharjah Research Academy (**400,000 AED**)
- **PI: Kareem A. Mosa**, Co-PIs: Ali El-Keblawy, Mohamed El-Naggar, Ihsan Ahmed Shehadi, Miguel Angel Botella Mesa, Victoriano Valpuesta. Transcriptomics and Metabolomics analysis to Reveal Salt and Heat Stress Related Genes, Phytohormones, and Osmolytes in Facultative Halophytes plant of the UAE (2017-2020). Funded by University of Sharjah (**196,000 AED**)
- Undergraduate research project, Supervisor: **Kareem A. Mosa**. Assessment of adulteration in herbal medicinal products in the UAE market using DNA barcoding and Fourier Transform Infrared (FTIR) spectroscopy (2021-2022). Funded by University of Sharjah (**5,000 AED**)
- Undergraduate research project, Supervisor: **Kareem A. Mosa**. Elicitation of Bioactive Phytochemicals by Copper Nanoparticles in Callus Cultures of the UAE Medicinal Plant *Tephrosia apollinea* (2021-2022). Funded by University of Sharjah (**5,000 AED**)
- Undergraduate research project, Supervisor: **Kareem A. Mosa**. Comparative analysis of differentially expressed genes in the UAE desert plant *Salsola drummondii* under heat stress (2020- 2021). Funded by University of Sharjah (**5,000 AED**)
- Undergraduate research project, Supervisor: **Kareem A. Mosa**. Evaluation of different methods for cryopreservation of shoot tips and callus culture of the medicinal plant *Citrullus colocynthis* (2019- 2020). Funded by University of Sharjah (**5,000 AED**)
- Undergraduate research project, Supervisor: **Kareem A. Mosa**. Callus induction and *In vitro* production of bioactive compounds from *Citrullus colocynthis* (Cucurbitaceae) (2019- 2020). Funded by University of Sharjah (**5,000 AED**)
- Undergraduate research project, Supervisor: **Kareem A. Mosa**. Effect of nickel nanoparticles on the growth and development of lettuce (*Lactuca sativa*) plants (2019-2020). Funded by University of Sharjah (**5,000 AED**).
- Master research project, Supervisor: **Kareem A. Mosa**. Effect of biosynthesized silver nanoparticles using *Cyperus conglomeratus* plant extracts on Mesenchymal stem cells proliferation and differentiation (2019- 2020). Funded by University of Sharjah (**15,000 AED**).
- Master research project, Co-Supervisor: **Kareem A. Mosa**. Improving medicinally important bioactive secondary metabolites production in the medicinal plant *Citrullus colocynthis* under field and callus culture conditions (2019-2020). Funded by University of Sharjah (**15,000 AED**).
- Undergraduate research project, Supervisor: **Kareem A. Mosa**. Comparative analysis of drought stress effects on two *Citrullus* sister species; watermelon *Citrullus lanatus* and desert gourd *Citrullus colocynthis* (2018- 2019). Funded by University of Sharjah (**5,000 AED**)

- Undergraduate research project, Supervisor: **Kareem A. Mosa**. Phytotoxicity assessment of Cobalt nanoparticles on Cucumber plants (2018- 2019). Funded by University of Sharjah **(5,000 AED)**
- Master research project, Supervisor: **Kareem A. Mosa**. Production and characterization of silver nanoparticles from living plants native to the UAE under drought stress (2018- 2019). Funded by University of Sharjah **(5,000 AED)**, and **Sandooq Alwatan (10,000 AED)**.
- Master research project, Co- Supervisor: **Kareem A. Mosa**. Identification and characterization of *Prosopis species* in UAE using molecular, morphological and seed biology traits (2018- 2019). Funded by University of Sharjah **(5,000 AED)**.
- Undergraduate research project, Supervisor: **Kareem A. Mosa**. Assessment of Aluminum Uptake, Localization and Accumulation in *Cucumis sativus* Plants (2018- 2019). Funded by University of Sharjah **(5,000 AED)**
- Undergraduate research project, Supervisor: **Kareem A. Mosa**. Evaluation of lead nanoparticles phytotoxicity and genotoxicity on tomato plants (2017- 2018). Funded by University of Sharjah **(5,000 AED)**
- Undergraduate research project, Supervisor: **Kareem A. Mosa**. DNA barcoding and In vitro callus induction of *Tephrosia apollinea*, a high value medicinal plant of the UAE (2017- 2018). Funded by University of Sharjah **(5,000 AED)**
- Master research project, Co- Supervisor: **Kareem A. Mosa**. Comparison of DNA and Life History Traits Between local and Mediterranean Accessions of *Brachypodium* Species (2017- 2018). Funded by University of Sharjah **(5,000 AED)**
- Master research project, Supervisor: **Kareem A. Mosa**. Green Biosynthesis of Silver Nanoparticles Using the UAE Native Plant *Cyperus conglomeratus* and its Possible Biomedical Applications (2017- 2018). Funded by University of Sharjah **(5,000 AED)**
- Master research project, Supervisor: **Kareem A. Mosa**. Assessment of metal nanoparticles phytotoxicity on Coriander (*Coriandrum sativum*) plants (2017- 2018). Funded by University of Sharjah **(5,000 AED)**
- Undergraduate research project, Supervisor: **Kareem A. Mosa**. Green Synthesis of Silver Nanoparticles Using UAE Native Plants (2016- 2017). Funded by University of Sharjah **(5,000 AED)**
- Undergraduate research project, Supervisor: **Kareem A. Mosa**. Using DNA barcoding to detect market fraud for various plant based products in the UAE (2016- 2017). Funded by University of Sharjah **(5,000 AED)**
- Undergraduate research project, Supervisor: **Kareem A. Mosa**. Phytotoxicity assessment of metal nanoparticles on some edible plants (2016- 2017). Funded by University of Sharjah **(5,000 AED)**

- Undergraduate research project, Supervisor: **Kareem A. Mosa**. Green Synthesis of Gold Nanoparticles Using UAE Native Plants (2015- 2016). Funded by University of Sharjah **(5,000 AED)**
- Undergraduate research project, Supervisor: **Kareem A. Mosa**. Assessment of some UAE native plants for phytoremediation of heavy metals (2015- 2016). Funded by University of Sharjah **(4,000 AED)**
- Undergraduate research project, Supervisor: **Kareem A. Mosa**. Development of DNA Barcodes for Some Medicinal Plants in UAE (2015- 2016). Funded by University of Sharjah **(5,000 AED)**
- Undergraduate research project, Supervisor: **Kareem A. Mosa**. Isolation and Identification of Drought Resistance Genes from *Cyperus Conglomeratus* plants growing in UAE (2014- 2015). Funded by University of Sharjah **(2,000 AED)**
- Undergraduate research project, Supervisor: **Kareem A. Mosa**. Isolation and characterization of genes encoding for heat shock proteins from *Cyperus conglomeratus* plants growing in UAE (2014- 2015). Funded by University of Sharjah **(2,000 AED)**
- PIs: Kushalappa, Ajjamada; Kubow, Stan; Oxhorn, Philip; Ramaswamy, Hosahalli; Raghavan. Research team: Vijaya; Yogendra, Kalenahalli; **Mosa, Kareem**; Pushpa, Doddaraju; Mosquera, Teresa; Del Castillo, Sara; Cuéllar, David; Rodríguez, Ernesto; Patricia Restrepo; Carlos Eduardo Narváez; Leonor Perilla; Felipe Sarmiento. Improving Potato Production for Increased Food Security of Indigenous Communities in Colombia. Funded by Canadian International Food Security Research Fund (CIFSRF) **(Ca\$2.8 million)**
- PI: Om Parkah Dhankher. PhD student: **Kareem A. Mosa**. PhD scholarship. Molecular and biochemical characterization of a family of arsenite transporters in rice (2007- 2012). Funded by Egyptian Education and Cultural Bureau **(\$206,800)**

Academic Honors & Awards

- **(2021) I won the first place of the “Rashid bin Humaid Award for Culture and Science”, in the field of environmental sciences.**
- **(2020) I received the College of Sciences, University of Sharjah certificate of recognition for the outstanding performance and services during the academic year 2019-2020.**
- **(2019) I won the “Incentive Award for Distinguished Faculty Members in Scientific Research”, for the academic year 2018- 2019. Honored by His Highness Sheikh Dr. Sultan bin Mohammed Al Qassemi, Member of the Supreme Council, Ruler of Sharjah, and Supreme President of the University of Sharjah.**

- **(2019) My Master student "Alya Omran AlQuraidi Alshamsi" won the "Sharjah Islamic Bank" award for distinguished research, for the academic year 2018- 2019**
- **(2018) My undergraduate research group won the "Sharjah Islamic Bank" award for distinguished research, for the academic year 2017- 2018**
- **(2017) My undergraduate research group won the 3rd position at the national level on the category of Universities- Applied Chemistry and Biochemistry, Think Science, UAE**
- **(2016) I won the "Sharjah Islamic Bank" award for distinguished research, for the academic year 2015- 2016. Honored by His *Highness Sheikh Dr. Sultan bin Mohammed Al Qassemi*, Member of the Supreme Council, Ruler of Sharjah, and Supreme President of the University of Sharjah.**
- **(2011) Travel Grant Award** - from the University of Massachusetts Amherst to present my work at the 2011 In Vitro Biology Meeting, Raleigh, North Carolina, USA, June 4-8, 2011.
- **(2010) Travel Grant Award** - from the American Society of Plant Biologists (ASPB) to present my work in Plant Biology 2010 meeting, Montreal, Canada, July 31 – August 4, 2010 2010 Plant Biology.
- **(2007 – 2011) Governmental Mission**, full funded Scholarship by the Egyptian Ministry of Higher Education to obtain PhD from the University of Massachusetts Amherst, USA.
- **(2002)** Graduated with the first honored degree, excellent grade - the second of the batch (bachelor degree on Agricultural sciences, Biotechnology major).
- **(1998 – 2002) Undergraduate Student Awards**, Annual financial support from Al-Azhar University, Egypt for obtaining highest grades.

**Academic
administrative
and services
activities**

- **(2022-2023) Chairman** of Department of Applied Biology, College of Sciences, University of Sharjah
- **(2021-2022)** Department representative at the college council, College of Sciences, University of Sharjah (College level)
- **(2021- 2022)** Member of " Student Affairs Committee", University of Sharjah (University level)
- **(2021- 2022)** Chair of " Student Affairs Committee", College of Sciences, University of Sharjah (College level)
- **(2020-2021)** Member in the "Center of Continuing Education" council, University of Sharjah (University level)
- **(2020-2021)** Member in "Laboratories, Safety and Physical Plan" committee, Department of Applied Biology, College of Sciences, University of Sharjah (Department level)

- **(2019-Present)** Member in "Budget" committee, Department of Applied Biology, College of Sciences, University of Sharjah (Department level)
- **(2019-2021)** Chair of "Academic Advising Committee", College of Sciences, University of Sharjah (College level).
- **(2019-2020)** Coordinator, and College of Sciences representative for "Sustainability Tracking, Assessment & Rating System" (STARS) (College level).
- **(2019-2020)** Chair of "Academic Advising Committee", Department of Applied Biology, College of Sciences, University of Sharjah (Department level)
- **(2018- 2019)** Member of " Student Affairs Committee", University of Sharjah (University level)
- **(2018- 2019)** Chair of " Student Affairs Committee", College of Sciences, University of Sharjah (College level)
- **(2017- 2019)** Member in "Examination" committee, College of Sciences, University of Sharjah (College level)
- **(2015- 2019)** Chair of "Examination & Schedules" committee, Department of Applied Biology, College of Sciences, University of Sharjah (Department level)
- **(2015- 2016)** Member in "Recruitment committee", Department of Applied Biology, College of Sciences, University of Sharjah (Department level)
- **(2014- 2016)** Secretary general, Department of Applied Biology council meeting, College of Sciences, University of Sharjah (Department level)
- **(2014- 2016)** Member in "Academic Advising" committee, College of Science, University of Sharjah (College level)
- **(2014- Present)** Member in "Conferences and Scientific committee", Department of Applied Biology, College of Sciences, University of Sharjah (Department level)
- **(2014- Present)** Member in "Laboratories and Safety committee", Department of Applied Biology, College of Sciences, University of Sharjah (Department level)
- **(2004- 2007, 2012- 2014)** Member in "Library Committee", Department of Biotechnology, Al-Azhar University.
- **(2004- 2007, 2012- 2014)** Member in "Graduate and undergraduate Admissions Committee", Department of Biotechnology, Al-Azhar University.
- **(2004- 2007, 2012- 2014)** Member in "Supplies ordering committee", Department of Biotechnology, Al-Azhar University.
- **(2012- 2013)** Graduate seminar coordinator, Department of Biotechnology, Al-Azhar University.
- **(2013)** Consultant, "Misr El Kheir Qualifying Program for Postgraduate Student", Misr El-Kheir Foundation (MEK), Egypt.

Academic supervisions

- **Supervisor** of the **Master** research project "Utilization of *Tephrosia appolinea* UAE Medicinal plant for the Green Synthesize of Chitosan Silver Nanoparticles and Investigation of their Medical Application". Student: Shifa Malik Malik Muhammad Tayyab Bashir, University of Sharjah.

- **Supervisor** of the **Master** research project "Effect of biosynthesized silver nanoparticles using *Cyperus conglomeratus* plant extracts on Mesenchymal stem cells proliferation and differentiation". Student: Mohamed Ali Alshamsi, University of Sharjah
- **Co-Supervisor** of the **Master** research project "Improving medicinally important bioactive secondary metabolites production in the medicinal plant *Citrullus colocynthis* under field and callus culture conditions". Student: Noor Hilal Hasan Abu Shamleh, University of Sharjah
- **Supervisor** of the **Master** research project "Comparative analysis of differentially expressed genes in the UAE salt-stressed halophyte (*Salsola drummondii*) from a non-saline habitat. Student: Mohammed Mohammed Ahmed Al-khaledi, University of Sharjah. **Awarded May 2022**
- **Co-Supervisor** of the **Master** research project "Identification and characterization of *Prosopis species* in UAE using molecular, morphological and seed biology traits". Student: Mariam Ahmed Aljasmi, University of Sharjah. **Awarded May 2021**
- **Supervisor** of the **Master** research project "Production and characterization of silver nanoparticles from living plants native to the UAE under drought stress". Student: Muna Abdalla Ali Alhussain Alhammadi, University of Sharjah. **Awarded December 2020**
- **Co-Supervisor** of the **PhD** research project "Regulations of salt and drought tolerance in *salsola l.*, species of the arid deserts of United Arab Emirates (UAE)". Student: Attiat Elnaggar, University of Malaga, Spain. **Awarded May 2020**
- **Supervisor** of the **Master** research project "Green Biosynthesis of Silver Nanoparticles Using the UAE Native Plant *Cyperus conglomeratus* and its Possible Biomedical Applications". Student: Amani Ghassan Fahmi, University of Sharjah. **Awarded January 2020**
- **Co-Supervisor** of the **Master** research project "Comparison of DNA and Life History Traits Between local and Mediterranean Accessions of *Brachypodium Species*". Student: Masarra Elgabra, University of Sharjah. **Awarded January 2020**
- **Supervisor** of the **Master** research project "Assessment of metal nanoparticles phytotoxicity on Coriander (*Coriandrum sativum*) plants". Student: Alya Omran Abdalla AlQuraidi AlShamsi, University of Sharjah. **Awarded May 2019**
- **Co-Supervisor** of the **Master** research project "Identification and isolation of AP2/ERF transcription factor genes from Egyptian tomato cultivar (Edkawy)", Student: Eslam Hebeldeen, Al-Azhar University. **Awarded May 2018**
- **Supervisor** of the **undergraduate** research project "Elicitation of Bioactive Phytochemicals by Copper Nanoparticles in Callus Cultures of the UAE Medicinal Plant *Tephrosia apollinea*". Students: Mariya Syed Abdul Majid, Afra Al Ali, Fatma Mahmoud, Hind Abdelsalam, University of Sharjah.
- **Supervisor** of the **undergraduate** research project "Assessment of adulteration in herbal medicinal products in the UAE market using DNA barcoding and Fourier

Transform Infrared (FTIR) spectroscopy". Students: Hessa Abdullah Lootah, Khola Younus Haji, Najma Nur Islam, University of Sharjah.

- **Supervisor** of the **undergraduate** research project "Comparative analysis of differentially expressed genes in the UAE desert plant *Salsola drummondii* under heat stress". Students: Abrar Mohamed Alkokhardi, Shaikha Ali Hussain Alhosanim, Shaikha Ali Khalifa Alsuwaidi, Hassan Saeed Alshamsi, University of Sharjah.
- **Supervisor** of the **undergraduate** research project "Evaluation of different methods for cryopreservation of shoot tips and callus culture of the medicinal plant *Citrullus colocynthis*". Students: Amro Elsayed Ahmed, Israa Saad Edeen Kanawati, Mohammad Bassim T. Al Hamidi, Amenah Abdullah H Alkhuraidah, Yousef Hazem Al Herbawi, University of Sharjah.
- **Supervisor** of the **undergraduate** research project " Callus induction and In vitro production of bioactive compounds from *Citrullus colocynthis* (Cucurbitaceae)". Students: Israa Bader Haji, Fatima Mohammed Ali, Ayesha Mahmood Aljassmi, Ruwaida Rashad Salem, Nuha Fahad Abdullah, University of Sharjah.
- **Supervisor** of the **undergraduate** research project "Effect of nickel nanoparticles on the growth and development of lettuce (*Lactuca sativa*) plants". Students: Samar Alansari, Bayan Jasim, Alya Abdulaziz, Maitha Humaid, University of Sharjah.
- **Supervisor** of the **undergraduate** research project "Comparative analysis of drought stress effects on two Citrullus sister species; watermelon *Citrullus lanatus* and desert gourd *Citrullus colocynthis*". Students: Roa Younsou, Ram Yasin, Ola Saloukha, Muhammad Tehsil, University of Sharjah.
- **Supervisor** of the **undergraduate** research project "Phytotoxicity assessment of Cobalt nanoparticles on Cucumber plants". Students: Aya Awad, Rand Alhaj yahya, Shatha Nasir Alameeri, University of Sharjah.
- **Supervisor** of the **undergraduate** research project " Assessment of Aluminum Uptake, Localization and Accumulation in *Cucumis sativus* Plants". Students: Rabiant Ali Sultan, Sana M Taher Sabbagh, Sara Mohammed Saeed Rashid Alnaqbi, Sarah Yusra Kamal, University of Sharjah.
- **Supervisor** of the **undergraduate** research project "Evaluation of lead nanoparticles phytotoxicity and genotoxicity on tomato plants". Students: Omnia Abdulhameid, Ola Faisal Abu El Maali, Moza Mohamed Saeed, University of Sharjah.
- **Supervisor** of the **undergraduate** research project "DNA barcoding and In vitro callus induction of *Tephrosia apollinea*, a high value medicinal plant of the UAE ". Students: Hamda Ibrahim Mohammad, Mariam Abdelrahman Amin, Noorieh Abdolrahman, University of Sharjah
- **Supervisor** of the **undergraduate** research project "Green Synthesis Of Silver Nanoparticles Using UAE Native Plants". Students: Sana Alrouh, Samar Arafat, Shahd Mohamed, University of Sharjah

- **Supervisor** of the **undergraduate** research project Undergraduate research project "Using DNA barcoding to detect market fraud for various plant based products in the UAE". Students: Aysha Ali Bin Tamim, Hessa Ali Hassan, Moza Mohamed Al-Ali, Muna Abdalla Ali , University of Sharjah
- **Supervisor** of the **undergraduate** research project Undergraduate research project "Phytotoxicity assessment of metal nanoparticles on some edible plants". Students: Hala Hani Awad, Emy Ibrahim, Sylvie Wartanian, University of Sharjah
- **Supervisor** of the **undergraduate** research project "Using *Calotropis procera*, a native plant of the UAE, as a cost effective bio indicator for assessing heavy metals". Students: Alya Omran AlShamsi, Shamma AlMuhairi, Sara Mohamed, Jawaher Ali AlRasheed, Manal Hussain, Noora AlZaabi, University of Sharjah
- Supervisor of the undergraduate research project "Green Synthesis of Gold Nanoparticles Using UAE Native Plants". Students: Maab Babiker, Nadia Abusamra, Nuha Salim, Duaa Salaheldin, Rihaa Mohamed, University of Sharjah
- **Supervisor** of the **undergraduate** research project "Development of DNA Barcodes for Some Medicinal Plants in UAE". Students: Noora Alnoaimi, Saeeda Ahmed Salim, Dana Amin, Lama M R Abed Rabu, Mansoura Abdelmajid, Fatma M. Alghalban, University of Sharjah
- **Supervisor** of the **undergraduate** research project" Isolation and Identification of Drought Resistance Genes from *Cyperus Conglomeratus* plants growing in UAE". Students: Fatima Alkhoudary, Nesreen Al-khofash, Tasneem Amrou, Kholoud Al Mahdy, Yara Karaman, University of Sharjah
- **Supervisor** of the **undergraduate** research project" Isolation and characterization of genes encoding for heat shock proteins from *Cyperus conglomeratus* plants growing in UAE". Students: Fatima Shaheen, Fatma Aljarwan, Noor Aldayel, Fatima Haroun, Amna Marshoud, University of Sharjah
- **Co-supervised** the graduate student Liyao Ji, Master student at McGill University, Canada.
- **Co-supervised** the undergraduate students: Janelle Hayes and Mike Esposito during their scholarship at the University of Massachusetts Amherst, USA.

Trainings & Workshops

- **(2022)** Completed the following online courses that was organized by "The central laboratory directorate" at the University of Sharjah: The central laboratory directorate" : Pipetting safety, Personal protective equipment, Autoclave safety (Microlearning), Laboratory safety, Reactives in laboratory and research facilities, Laboratory safety-Physical hazards. March-June, 2022
- **(2022)** Attended a workshop on "Your guide to SCOPUS journals " organized by the office of the vice chancellor for research and graduate studies. April 25th, 2022
- **(2021)** Attended a workshop on "How to use SPIN database to find external funding opportunities" " organized by the office of the vice chancellor for research and graduate studies. November 11th, 2021

- **(2021)** Attended a workshop on “Pre-Award: Research Funding Opportunities - Grants and Guidelines” organized by the office of the vice chancellor for research and graduate studies. October 28th, 2021
- **(2021)** Attended a training workshop on: "Hands on Hybrid-Learning Model. Training" organized by " Institute of Leadership in Higher Education, University of Sharjah. August 25th, 2021.
- **(2021)** Attended a training program on: "Using Zoom and MS Teams as a Second Camera for invigilating Online Exams" organized by the IT center, University of Sharjah. March 8th, 2021.
- **(2020)** Completed the following online courses that was organized by "The central laboratory directorate" at the University of Sharjah: Corona virus (COVID-19) awareness, Corona virus (COVID-19) prevention in the workplace, Electrical safety/ NFPA 70E in research and education, Emergency response, Eye wash and safety shower awareness (Microlearning), Fire safety, Formaldehyde safety in research and education.
- **(2020)** Participated in online training on "How to prepare online exams using blackboard tools", organized by the college of Sciences, University of Sharjah, April, 2020
- **(2020)** Participated in a workshop on "How to prepare and present online classes using blackboard tools", organized by the Department of Applied Biology, College of Sciences, University of Sharjah, January, 2020
- **(2020)** Completed the following online courses that was organized by "The central laboratory directorate" at the University of Sharjah: BIOSAFETY LEVEL 2, CHEMICAL HYGIENE PLAN, LABORATORY CHEMICAL WASTE MANAGEMENT (RCRA), LABORATORY SAFETY - BIOLOGICAL, OFFICE ERGONOMICS, RESPIRATORY PROTECTION, SAFETY DATA SHEETS, SCALPEL AND NEEDLE SAFETY IN LABORATORIES, and SMALL SPILL RESPONSE
- **(2019)** Completed the following online courses that was organized by the "Information Technology Center" at the University of Sharjah: Security beyond the office, Data protection, UOS Cyber strength Assessment, Security Essentials, and Avoiding dangerous links.
- **(2018)** Participated in the workshop “Using technology in education: new trends and tools”. November 08, 2018, The Institute of Leadership in Higher Education, University of Sharjah, UAE
- **(2018)** Participated in the workshop “Handling of biological waste”. November 07, 2018, Ministry of climate change & environment, Dubai, UAE

- **(2018)** Participated in the workshop on “Teaching and Learning” - Integrating research in Undergraduate Courses. April 23, 2018, The Institute of Leadership in Higher Education, University of Sharjah, UAE
- **(2016)** Participated in the International Workshop (Biodiversity of the Arabian peninsula and its conservation: A multidisciplinary approach), March 27-30, 2016, the Sharjah Research Academy, Sharjah, UAE
- **(2016)** Participated in the 17th Annual International Conservation Workshop for Arabia’s Biodiversity, organized by the Environment and Protected Areas Authority of Sharjah (EPAA), February 08-11, 2016, UAE
- **(2013)** McGill University, Canada
 - Attended a training course titled “Workplace hazardous materials information system (W.H.M.I.S)” May 21, 2013
- **(2010)** University of Massachusetts, Amherst, USA
 - Participated in workshop on "Practical Macromolecular 3D Structure Visualization & Structural Bioinformatics" May 26-27, 2010.
- **(2008)** The Department of Environmental Health & Safety, University of Massachusetts, Amherst, USA
 - Attended the biological safety training course.
- **(2007)** Genetic Engineering and Biotechnology Research Institute, Minufiya University, Egypt
 - Participated in the American Egyptian workshop: “the practical approach to DNA sequencing and Bioinformatics workshop” and “the advanced molecular techniques and practical approaches to DNA analysis workshop “January 9-16, 2007.
- **(2006)** International Computer Driving Licence
 - Got the ICDL Certificate “, March 16, 2006.
- **(2006)** AMIDEAST, Egypt
 - Got a training course on “Pre Academic English “, April 9 - May 4, 2006.
 - Got a training course on “TOEFL preparation “, May 6 – May 22, 2006.
 - Got a training course on “GRE preparation “.
- **(2005)** The Central laboratory for agricultural expert systems , supervised by the Ministry of Agriculture and Land reclamation , Egypt
 - Invited to workshop session to discuss some agricultural software prepared by the “Central laboratory for agricultural expert systems “.
- **(2004)** The Agricultural Genetic Engineering Research Institute (AGERI)
 - Got a training course on: “introduction to molecular biology techniques “by the Agricultural Genetic Engineering Research Institute (AGERI) sponsored by AERI institutional linkage project (MUCIA), April 17– 28, 2004.

- **(2004)** NGO Service Center, Egypt
 - Got a training course on “Strategic Planning “, Sept. 20– 23, 2004.
- **(2002)** Al-Azhar University – “ Regional center of mycology and biotechnology”
 - Attended a training course in the computer applications and software in biology.
- **(2002)** Sadat academy ,Cairo – Egypt
 - Got some courses in English language.
- **(2002)** National Research Center in Egypt
 - Attended a summer courses on “Genetic engineering &Molecular Biology ” by National Research Center in Egypt.
- **(2001)** The Agricultural Research Center in Egypt
 - Got training on “Plant Tissue Culture Techniques

Memberships

- **(2019- present)** Member in the "International Phytotechnology Society", **USA**
- **(2017- 2020)** Member in the " European Geosciences Union (EGU)", **European Union**
- **(2013- 2014)** Member in the “Canadian Society of Plant Biologists”, **Canada**.
- **(2008 – present)** Member in the “American Society of Plant Biologists”, **USA**.
- **(2007- Present)** Founder member in “Bioinformatics & Biotechnology” association, **Egypt**.
- **(2006- 2007)** Board Member in the “Federation of Egyptian Youth NGOs “, **Egypt**.
- **(2003-2007)** Founder member and Secretary General of “Development no borders “association, **Egypt**.

Examining Committees

- **M.Sc. thesis:** Copper-Mediated Signal Amplification for the Electrochemical Detection of Nucleic Acids at Novel Clay-Based Sensors **(2023)**. By Ayat Tawfiq Al Nimer, (MSc. Program in Chemistry). **University of Sharjah, UAE, May 2023**
-
- **M.Sc. thesis:** Diagnostic Screening for Microdeletion Frequency in the AZF-region of Y-Chromosome and Chromosomal Abnormalities among Emirati Infertile Male Patients: 10 Years Retrospective Study **(2022)**. By Ferdos Ebrahim, (MSc. program in Biotechnology). **University of Sharjah, UAE, November 2022**
- **PhD. thesis:** Isolation and Partial Characterization of Bioactive Compounds from Potential Mangrove Plants **(2022)**. By Nilesh Lakshman Dahibhate.

PhD program, **Birla Institute of Technology & Science, Pilani, India**,
August, 2022

- **M.Sc. thesis:** Rhizosphere-competent Actinobacterial Isolates with ACC Deaminase Activity Alleviate Salt Stress in Tomato Plants in the UAE (2022). By Alaa Ahmed Elbadawi. Msc program in Molecular Biology & Biotechnology. Department of Biology, College of Science, **United Arab Emirates University, UAE**, June 8, 2022
- **M.Sc. thesis:** Improving Phytoremediation of oil polluted soil in the UAE using ACC deaminase-producing bacteria under arid conditions (2021). By Maitha Mubarak Khalid Mohamed Almansoori. Msc program in Environmental Science. Department of Biology, College of Science, **United Arab Emirates University, UAE**, November 14, 2021
- **PhD. thesis:** Studies on rice responses and adaptive strategies to sodium toxicity (2021). By Tushar Khare. Ph.D. program in Environmental Science. **Savitribai Phule Pune University, Pune, India**, October 18, 2021
- **M.Sc. thesis:** Molecular mechanism of antitumor activities of *Asplenium* plants on MDA-MB-231 cells (2021). By Nada Beesan Al-Assar (MSc. program in Biotechnology). **University of Sharjah, UAE**, September 29, 2021
- **M.Sc. thesis:** The roles of Arylated gold nanoparticles in the differentiation of MG-63 cells into Adipocytes (2021). By Muhammad Abdulwahab (MSc. program in Biotechnology). **University of Sharjah, UAE**, July 06, 2021
- **M.Sc. thesis:** Comparative anticancer activities of *Ficus carica* and *Ficus salicifolia* latex in MDA-MB-231 cells (2021). By Fatima Mousa AlGhalban (MSc. program in Biotechnology). **University of Sharjah, UAE**, May 23, 2021
- **M.Sc. thesis:** Molecular and Physiological Assessment of Salinity Stress Tolerance in Transgenic Arabidopsis Lines Expressing a *Solanum Tuberosum* Ribosome-Binding Protein (2020). By Onoud Rashed Saeed Ali Alyammahi. Msc program in Molecular Biology & Biotechnology. Department of Biology, College of Science, **United Arab Emirates University, UAE**, November 15, 2020
- **M.Sc. thesis:** BIOLOGICAL CONTROL OF FUSARIUM WILT IN DATE PALM (*Phoenix dactylifera L.*) IN THE UNITED ARAB EMIRATES BY ENDOPHYTIC ACTINOBACTERIA (2020). By Aisha Abdalla Darwish Alblooshi. Department of Biology, College of Science, **United Arab Emirates University, UAE**, June 18, 2020

- **M.Sc. Research project:** In Vitro Cytotoxicity of Ceratonia, Ephedra, Crateagous and Melissa Officinalis on MDA-MB-231 breast cancer cell line (2020) by Ms. Shaikhah S. Rashed (MSc. program in Biotechnology). **University of Sharjah, UAE**, May 13, 2020
- **M.Sc. thesis:** Identification of Pathogens Associated with Mango Dieback Disease on Mango in the United Arab Emirates. By Fatima Ali Hassan Kamil (2018). Msc program in Molecular Biology & Biotechnology. Department of Biology, College of Science, **United Arab Emirates University, UAE**, November 18, 2018
- **M.Sc. thesis:** Soil-plant interface, carbon sequestration and the eco-physiological growth of *Salsola imbricata* and *Zygophyllum mandavillei* using locally grown rizosphere and endophytic bacteria. By Nour ElHouda Debouza (2018). Department of Biology, College of Science, **United Arab Emirates University, UAE**, November 18, 2018

Languages

- Arabic: Mother language
- English: Fluent spoken and written

Journal's Editorial Boards & Refereeing Research Papers

- **Editorial Board Member:**
 - BMC Plant Biology, ISSN: 1471-2229 (2022- Present)
 - Frontiers in Plant Science, ISSN: 1664-462X (2022- Present)
 - Current Nutraceuticals, ISSN: 2665-9786 (2020- Present)
 - Journal of Phytology; ISSN: 2075-6240 (2019- Present)
 - Plant Science Today (PST); ISSN: 2348-1900 (2017- Present)
 - Academic Research Journal of Biotechnology (ARJB); ISSN:2384-616 (2017-2019)
 - International Journal of Agricultural Sciences and Natural Resources; ISSN: 2375-3773 (2017-2018)
- **I am a reviewer for the following journals:**
 - Nature Scientific Reports, Nature Publishing Group
 - PLOS ONE, PLOS
 - International Journal of Nanomedicine, Dove Medical Press
 - Environmental geochemistry and health, Springer
 - Frontiers in Veterinary Science, Frontiers
 - Industrial Crops and Products, Elsevier
 - Acta Physiologiae Plantarum, Springer
 - Journal of Hazardous Materials, Elsevier
 - Frontiers in Plant Sciences, Frontiers
 - Saudi Journal of Biological Sciences, Elsevier
 - Applied & Translational Genomics, Elsevier
 - Molecular Biology Reports, Springer
 - Plant Cell Reports, Springer
 - International Journal of Phytoremediation, Taylor & Francis
 - Journal of Plant Interactions, Taylor & Francis
 - Journal of Applied Microbiology, Wiley
 - Pharmaceutical Medicine, Springer

Resume

[Kareem A. Mosa, PhD]

- Journal of Plant Biochemistry and Biotechnology, Springer
 - Biology, MDPI
 - Horticulture, MDPI
 - Evolutionary Bioinformatics, SAGE Publications
 - Plant Gene, Elsevier
 - Journal of Plant Pathology, Springer
 - Journal of Genetic Engineering and Biotechnology, Elsevier
 - Plant Omics Journal, Southern Cross Publishing
 - Plant Science Today, Horizon e-Publishing Group
- **REVIEWER FOR BOOKS**
 - I reviewed three chapters in the global edition of the 4th edition of the book "Introduction to Biotechnology" by William Thieman and Michael Palladino. Pearson, Publishing Company
 - **REVIEWER FOR SCIENTIFIC GRANT PROPOSAL**
 - Evaluation of grant proposal in Funding scheme OPUS for the National Science Centre in Poland.

Academic References

1- Prof. Dr. Om Parkash Dhankher, Professor,

The Stockbridge School of Agriculture, University of Massachusetts, Amherst
MA-01003, USA

Email: parkash@umass.edu , Phone: +1-413-545-0062

2- Prof. Dr. Fawzy El-Feky, Professor,

Head of Biotechnology Department, Faculty of Agriculture, Al-Azhar University,
Nasr City, Cairo, Egypt

Email: fiki1946shobra@gmail.com , Phone: +201006609072

3- Prof. Dr. Ajjamada C. Kushalappa, Professor,

Department of Plant Science, McGill University

Raymond Building, 21111 Lakeshore Road, Ste. Anne de Bellevue, Quebec H9X
3V9, Canada

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