

Curriculum Vitae

1. Name (Marital status):

Monther T. Sadder (Married).

2. Date and place of birth:

June 12th, 1973, Amman, Jordan.

3. Address:

Faculty of Agriculture
University of Jordan
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Jordan
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4. Career objective:

To expand the utilization of functional genomics to serve the humankind needs.

5. Qualifications:

1. Academic Education:

- B.Sc. (85.6%: Excellent) (9.1990-1.1994): Plant Production, University of Jordan, Jordan.
- M.Sc. (93%: Excellent) (9.1994-6.1996): Horticulture, University of Jordan, Jordan. Title: *In vitro* micropropagation in potato (*Solanum tuberosum* L.): effect of plant bioregulators.
- Ph.D. (summa cum laude: Excellent) (10.1997-9.2001): Plant Breeding and Biotechnology, University of Hohenheim, Germany. Title: Physical mapping of molecular markers and genes of maize (*Zea mays* L.).

2. Positions:

- Research assistant (9.1994-3.1997): Faculty of Agriculture, University of Jordan, Amman, Jordan.
- PostDoc (10.2001-3.2002): Arabidopsis beta-glucosidases. Department of Biology, Virginia Tech, VA, USA.
- PostDoc (4.-9.2002; 26.6.-25.9.2003; 9.6.-16.9.2004; 14.6.-13.9.2005; 13.6.-8.9.2006): Epigenetic control in Arabidopsis. Biological Sciences, University of Nebraska - Lincoln, NE, USA.
- Asst. Prof. (9.2002-9.2007): Faculty of Agriculture, University of Jordan, Jordan.
- Assoc. Prof. (9.2007-12.2008): Faculty of Agriculture, University of Jordan, Jordan.
- Distinguished researcher (1.2009-5.2012): Center of Excellence in Biotechnology Research, King Saud University, Saudi Arabia.
- Assoc. Prof. (6.2012-8.2014): College of Food and Agricultural Sciences, King Saud University, Saudi Arabia.
- Assoc. Prof. (9.2014-8.2016): Faculty of Agriculture, University of Jordan, Jordan.
- Expert in University teaching (7.2017-now), The Jordanian Agricultural Engineers Association.
- Prof. (9.2016-now): Faculty of Agriculture, University of Jordan, Jordan.

3. Committees:

1. Biotechnology, Higher Council for Science and Technology, Jordan.
2. Bioinformatics B.Sc. program, University of Jordan, Jordan.
2. National Biosafety Clearing House (BCH), Ministry of Environment, Jordan.
3. Accreditation of Biotechnology programs, Ministry of Higher Education, Jordan.
4. Jordanian Collection of Cell Cultures, University of Jordan, Jordan
5. Scientific Committee, Center of Excellence in Biotechnology Research, King Saud University, Saudi Arabia (11.2009-4.2012).
6. Purchasing Coordinator, Center of Excellence in Biotechnology Research, King Saud University, Saudi Arabia (2.2010-4.2012).
7. Scientific Committee, Department of Plant Production, College of Food and Agricultural Science, King Saud University, Saudi Arabia (1.2013-8.2014).

4. Ad hoc reviewer for refereed scientific journals:

1. *In Vitro* Cellular and Developmental Biology - Plant
2. Acta Physiologiae Plantarum
3. Plant Omics Journal
4. G3: Genes, Genomes, Genetics
5. Jordan Journal of Agricultural Sciences
6. Journal of the Saudi Society of Agricultural Sciences
7. Electronic Journal of Biotechnology
8. Biotechnology
9. African Journal of Plant Science
10. African Journal of Biotechnology

5. Teaching:

- Courses: (University of Hohenheim, Germany; University of Jordan, Jordan; King Saud University, Saudi Arabia)
 1. Plant Breeding and Biotechnology I, B.Sc.
 2. Plant Breeding and Biotechnology II, B.Sc.
 3. Principles of Plant Production (0661101), B.Sc.
 4. Plant Genetics (0631240), B.Sc.
 5. Plant Breeding (0601440), B.Sc.
 6. Seed Production Technology, B.Sc.
 7. Seminar in Horticulture and Crop Science (0641491), B.Sc.
 8. Seminar in Horticulture and Plant Protection (0651491), B.Sc.
 9. Biotechnology (0631781), M.Sc.
 10. Plant Biotechnology (061743), M.Sc.
 11. Bioinformatics (0601782), M.Sc.
 12. Vegetable Crop Science (0601713), M.Sc.
 13. Plant Tissue Culture (0641742), M.Sc.
 14. Techniques in Biotechnology (0601783), M.Sc.
 15. Gene Map Analysis, M.Sc.
 16. Plant Breeding (0651732), M.Sc.
 17. Molecular Genetics (0631737), M.Sc.
 18. Research Methodology (0631702), M.Sc.
 19. Equipment and Techniques in Horticulture and Crop Science (0601792), M.Sc.
 20. Breeding for Stress Environment (0601936), Ph.D.
 21. Plant Molecular Genetics (0601937), Ph.D.
 22. Seminar (0601995), PhD
- Supervision of graduate students:
 1. Isleem, W. (2005) *In vitro* establishment of some local olive (*Olea europaea* L.) cultivars. M.Sc. Thesis. Faculty of Agriculture, University of Jordan.
 2. Shareef, R. (2005) Assessment of genetic diversity among Jordanian eggplant (*Solanum melongena* L.) landraces using Random Amplified Polymorphic DNA (RAPD). M.Sc. Thesis. Faculty of Agriculture, University of Jordan.
 3. Naser-Eddeen, B. (2006): Influence of explant origin and plant bioregulators on *in vitro* callus induction of 'Nabali' olive (*Olea europaea* L.). M.Sc. Thesis. Faculty of Agriculture, University of Jordan.
 4. Tarawneh, N. (2006) Isolation and characterization of rhizobia that nodulate *Vicia faba* bean in the soils of Jordan. M.Sc. Thesis. Faculty of Science, University of Jordan.
 5. Haddadin, S. (2006) Isolation and characterization of rhizobia that nodulate lentils (*Lens culinaris*) from the soils of Jordan. M.Sc. Thesis. Faculty of Science, University of Jordan.
 6. Shalaldehy, G. (2008) Generation and characterization of combined barley (*Hordeum vulgare* L.) genomic library using bacterial artificial chromosome (BAC). Ph.D. Dissertation. Faculty of Agriculture, University of Jordan.
 7. Ismail, F. (2008) Genomics of durum wheat: BAC library construction and genomic *in situ* hybridization. Ph.D. Dissertation. Faculty of Agriculture, University of Jordan.
 8. Dweik, N.-E. (2008) Lentil genomics: BAC library construction, validation and assessment. Ph.D. Dissertation. Faculty of Agriculture, University of Jordan.
 9. Al-Thoumra, M. (2009): Cloning, expression and biochemical analysis of a tomato (*Solanum lycopersicum* L.) β -glucosidase (EC 3.2.1.21). M.Sc. Thesis. Faculty of Agriculture, University of Jordan.
 10. Lafy, H. (2008) Cloning of pectate lyase from the Mediterranean cereal cyst nematode *Heterodera latipons*. M.Sc. Thesis. Faculty of Agriculture, University of Jordan.
 11. Snooper, A. (2009) Mining for parasporin toxin genes in Jordanian *Bacillus thuringiensis* strains. M.Sc. Thesis. Faculty of Agriculture, University of Jordan.
 12. Alzaben, M. (2009) Genetic analysis of Jordanian *Bacillus thuringiensis* isolates by using pulsed field gel electrophoresis (PFGE). M.Sc. Thesis. Faculty of Agriculture, University of Jordan.
 13. Qadamii, L. (2009) Assessment of *in silico* BAC-based SSR marker development. M.Sc. Thesis. Faculty of Agriculture, University of Jordan.
 14. Al-Tamimi, H. (2010) Identification and Cell Culture of Green Microalgae from the Gulf of Aqaba. M.Sc. Thesis. Faculty of Agriculture, University of Jordan.
 15. Idrees, H. (2009): Promoter Cloning and Analysis of Tomato (*Solanum lycopersicum* L.) SGN-U216335 Gene. M.Sc. Thesis. Faculty of Agriculture, University of Jordan.
 16. Almutairi, Z. (2012) Cloning and expression of some polycomb genes from tomato. Ph.D. Dissertation. College of Science, Princess Nora Bint Abdul Rahman University.
 17. Ali, A.A. (2013) Evaluation of salt tolerance in tomato lines by agronomic traits and RNA sequencing. M.Sc. Thesis. College of Food and Agricultural Sciences, King Saud University.
 18. AlRasheedy, F. (2013) Assessment of genetic diversity of Saudi populations of *Atriplex halimus* using SSR. M.Sc. Thesis. College of Food and Agricultural Sciences, King Saud University.
 19. Amireh, R. (2016) Assessment of SNPs of familial Mediterranean fever in Jordan. M.Sc. Thesis. Faculty of Agriculture, University of Jordan.
 20. Allozei, M. (2016) Evaluation of durum wheat (*Triticum turgidum* L. var. *durum*) accessions for yield, agronomic traits and drought responsive genes. M.Sc. Thesis. Faculty of Agriculture, University of Jordan.
 21. Balqadri, B. (2016) Investigation of morphological, agronomical traits and ISSR markers for tetraploid wheat germplasm from Jordan. Ph.D. Dissertation. Faculty of Agriculture, University of Jordan.

22. Irshaid, L. (2017) Pathogenicity of a Jordanian isolate of the dagger nematode (*Xiphinema* sp.) on Aleppo pine *Pinus halepensis*; Molecular and Histological Studies. Ph.D. Dissertation. Faculty of Agriculture, University of Jordan.
23. Al-Shomali, I. (2017) Analysis of salinity stress genes common fig cultivars from Jordan. Ph.D. Dissertation. Faculty of Agriculture, University of Jordan.
24. Musllam, A. (2018) Cloning and characterization of dehydrin gene from *Atriplex* species. M.Sc. Thesis. Faculty of Agricultural Technology, Al-Balqa' Applied University.
25. Alrawahi, F. (2018) Toxicity of two chemicals and neem leaf extract against two populations of dubas bugs *Ommatissus lybicus* De Bergevin (Tropiduchidae: Homoptera) and genetic diversity. M.Sc. Thesis. Faculty of Agriculture, University of Jordan.
26. Snooper A. (20__) Metagenomic Analysis of Gut Microbiota and Relevant Biomarkers in Middle-Age Male Jordanian Type 2 Diabetes Mellitus (T2DM) Patients: A pilot case-control study. Ph.D. Dissertation. Faculty of Science, University of Jordan.
27. Snooper A. (20__) Metagenomic Analysis of Gut Microbiota and Relevant Biomarkers in Middle-Age Male Jordanian Type 2 Diabetes Mellitus (T2DM) Patients: A pilot case-control study. Ph.D. Dissertation. Faculty of Science, University of Jordan.
28. Ghanem, A. (20__) Genetically Modified Foods , A Study Based On Principles Of Islamic Jurisprudence And Islamic Jurisprudence. Ph.D. Dissertation. Faculty of Shari'a, University of Jordan.

– Training:

1. (20-30.4.1998) Biotechnology workshop, Institute of Plant Breeding, University of Hohenheim, Stuttgart, Germany
2. (29-30.6.1998) Major workshop for agriculture biologists: Biotechnology, Institute of Plant Breeding University of Hohenheim, Stuttgart, Germany.
3. (17-19.2.1999) Molecular biology and biotechnology workshop in plants and animals, Institute of Plant Breeding University of Hohenheim, Stuttgart, Germany.
4. (21-22.6.1999) Major workshop for agriculture biologists: Biotechnology, Institute of Plant Breeding University of Hohenheim, Stuttgart, Germany.
5. (28.2-1.3.2000) Biotechnology workshop, Institute of Plant Breeding, University of Hohenheim, Stuttgart, Germany.
6. (3-14.4.2000) Biotechnology in plant breeding workshop, Institute of Plant Breeding, University of Hohenheim, Stuttgart, Germany.
7. (1-23.4.2001) Molecular biology and biotechnology workshop in plants and animals, Institute of Plant Breeding University of Hohenheim, Stuttgart, Germany.
8. (2-3.7.2001) Major workshop for agriculture biologists: Biotechnology, Institute of Plant Breeding University of Hohenheim, Stuttgart, Germany.
9. (2-13.9.2007) Plant biotechnology, University of Jordan, Amman, Jordan.
10. (19-20.4.2011) Utilization of molecular markers in animal genetic variability and fingerprinting, College of Food and Agricultural Sciences, King Saud University, Riyadh, Saudi Arabia.

6. Academic scholarships:

- Jordanian Army B.Sc. scholarship, Jordan (1990-1994).
- Hamdi Mango Center for Scientific Research M.Sc scholarship, Jordan (1995).
- DAAD (Germany Academic Exchange Service) Ph.D. scholarship, Germany (1997-2001).

6. Skills:

1. Languages:

- Arabic: Mother tongue.
- English: good, TOEFL score of 573 (4.1996).
- German: good, PNdS (Test for Verification of Proficiency in German) (9.1997).

2. Software:

- Word processing, statistics (SAS, Excel, SPSS), presentation (PowerPoint, Adobe Photoshop), programming (Basic, Fortran, Pascal, HTML) and bioinformatics (Vector NTI, DNASTar, CLC, BioEdit, PHYLIP).

3. Research:

- Protocol establishment, documentation and photography.
- Plant tissue culture: establishment, regeneration, microtuberization, callusing, cell culture, transformation, regeneration and biopharming.
- Molecular biology: DNA, RNA, and protein isolation; Cot-DNA; gel electrophoresis (2-D, PFGE, zymograms); transformation (*Escherichia coli*, *Agrobacterium*, *Pichia pastoris*); labeling (radioactive and nonradioactive); PCR (overlapping, degenerated, RT-PCR, site directed mutagenesis, qPCR); Southern, Western, and Northern hybridizations; library screening; DNA sequencing; cloning (RE-ligation, Gateway technology, RACE); primer engineering; heterologous protein expression (in bacteria and yeast); protein purification (His-tag, GST-fusion, ion exchange, hydrophobic interaction chromatography); proteomics (Immunoprecipitation, protein-protein interaction assays, HIS and GST pull-down and Far Western); lipid overlay array (protein-phospholipid binding); RNA interference (antisense) and T-DNA knockouts; DNA micro-array; Next generation sequencing (DNA, RNA) and data analysis
- Microscopy: Cytogenetics, mitotic and meiotic chromosomes, FISH, GISH, CISS-hybridization, karyotyping, GFP expression analysis and histochemical staining.
- Chromatography, HPLC, scanning electron microscope, bioassays.

4. Funded Projects*

1. Ateyyeh A. and Sadler, M.T. (1.3.2003-28.2.2005) Variation in vegetative and reproductive growth of Six common fig (*Ficus Carica* L.) cultivars in Jordan (DAR).
2. Sadler, M.T. and Suwwan, M. (9.11.2003-8.11.2006) Functional genomics of the β -glucosidase (EC 3.2.1.21) gene family in tomato (*Solanum lycopersicum* L.) (DAR).
3. Sadler, M.T., Khyami-Horani, H., and Al-Banna, L. (27.7.2003-7.3.2007) Cloning cry genes from the novel Jordanian *Bacillus thuringiensis* ser. *jordanica* (serotype H71) and developing transgenic tomato (*Solanum lycopersicum* L.) for resistance against the root knot nematodes *Meloidogyne incognita* and *M. javanica* (HMCSR and DAR).
4. Sadler, M.T., Kafawin, O., and Haddad, N. (1.4.2004-31.10.2007) Construction of bacterial artificial chromosome (BAC) genomic libraries for wheat (*Triticum aestivum* L.), barley (*Hordeum vulgare* L.) chickpeas (*Cicer arietinum* L.), and lentils (*Lens culinaris* Medik.) (HCST and NCARE).
5. Haddad, N., Al-Soub, H., Sadler, M.T., and Al-Suof, M. (1.4.2004-31.10.2007) Collection and molecular and morphological characterization of the variation of some land races and wild species of lentil (*Lens culinaris* Medik.) native to Jordan (HCST).
6. Sadler, M.T. (1.4.2004-2007) Genetic diversity of important Jordanian landraces and cultivars.
7. Duwayri, M., Kafawin, O., Sadler, M.T., and Mgdadi, H. (1.11.2004-31.10.2006) Evaluation of agronomic and molecular characteristics of natural occurring hybrids of durum wheat with wild wheats (DAR and NCARE).
8. Sadler, M.T. (1.4.2005-31.3.2007) Expression of bioactive human interferon-gamma in transgenic tobacco plant (NCB).
9. Sadler, M.T. (10.4.2004-31.12.2006) Morphological and genetic diversity of native *Iris bismarckiana* from Jordan.
10. Sadler, M.T. (1.1.2007-1.1.2009) Development and production of genetically recombinant bio-pharmaceutical human hormone calcitonin (ASTF).
11. Al-Banna, L. and Sadler, M.T. (21.3.2007-20.3.2009).The parasitome of the Mediterranean cereal cyst nematode *Heterodera latipons* (DAR).
12. Khyami-Horani, H., Al-Banna, L., and Sadler, M.T. (01.6.2007-01.06.2009) Efficacy of Jordanian strains of *Bacillus thuringiensis* on soil borne plant fungal pathogens (DAR).
13. Salem, N. and Sadler, M.T. (3.2009-3.2011) Detection of adulterated food products in Jordan (AASF).
14. Brake, M., Migdadi, H. Sadler, M.T., Qaryouti, M. Ismail, F. and Mheidat R. (6.2009-6.2012) Development of Salinity Tolerant Tomato Genotypes Using Molecular Marker Assisted Selection (SRF).
15. Brake, M., Migdadi, H. and Sadler, M.T. (6.2009-12.2010) Commercial production of Taq polymerase (SRTD).
16. Sadler, M.T. and Salem, N. (1.7.2009-1.7.2010) Development of molecular diagnostics for adulterated Jordanian cheese (SRTD).
17. Sadler, M.T. and Alsadon, A. (12.10.2009-12.10.2010) Cloning of Tomato Trithoax: A Master Regulator for Drought Response (CEBR).
18. Sadler, M.T., Aldosari, S, and Vidyasagar, P. and Al-Doss, A.A. (2.2010-2.2011) Fingerprinting red palm weevils from Saudi Arabia (RPWRC).
19. Sadler, M.T. , Anwar, F. and Al-Doss, A.A. (1.1.2011-31.12.2012) Salt Tolerant Genes from *Atriplex halimus* (NPST).
20. Alsadon, A., Wahballa, M., and Sadler, M.T. (1.1.2011-31.12.2012) Salt Tolerant Tomato Lines: Analysis of Agronomic Traits and Genetic Biomarkers (NPST).
21. Haidary, A., Okab, A., Sadler, M.T., Migdadi, H., and Abdoun, K. (1.1.2011-31.12.2012) Identification of Major Camel Heat Stress Genes (NPST).
22. Al Attal, Y., Sadler, M.T. and Migdadi, H. (1.10.2011-30.9.2013) Behavioral and molecular assessment of heat tolerance in *Apis mellifera jemenetica* (NPST).
23. Sadler, M.T. and Ateyyeh A. (1.3.2016-1.3.2018) Anatomical and molecular analysis of salinity stress on common fig (DAR).
24. Sadler, M.T. (1.10.2017-1.10.2019) Dehydration stress memory genes in Jordanian durum wheat landraces (*Triticum turgidum* L. subsp. *durum*) and related wild accession (*Triticum turgidum* subsp. *dicoccoides*) (DAR).

* AASF: Abdul Hameed Shoman foundation; ASTF: Arab science and technology foundation; CEBR Center of excellence in biotechnology research; DAR: Deanship of academic research; HCST: Higher council for science and technology; HMCSR: Hamdi Mango center for scientific research; NCARE: National center for agricultural research and extension; NCB: National center for biotechnology; NPST: National Plan for science and technology; RPWRC: Red palm weevil research chair; SRF: Scientific research fund; SRTD: Support to research and technological development.

7. References:

- M.A. Suwwan (Prof. of Vegetable Production and Physiology)
Faculty Agriculture, University of Jordan, Amman 11942, Jordan.
Tel: +962-6-535-5000 ext. 22369, Fax: +962-6-535-5578, e-mail: masuwwan@ju.edu.jo
- G. Weber (Prof. of Plant Breeding and Biotechnology)
350/2 Institute for Plant Breeding, University of Hohenheim, D-70593 Stuttgart, Germany.
Tel:+49-711- 459-22334, Fax:+49-711-459-22343, e-mail: weberg@uni-hohenheim.de
- Z. Avramova (Prof. of Molecular Genetics and Cellular Biology)
University of Nebraska at Lincoln, Biological Sciences, 302 Manter Hall, Lincoln, NE 68588, USA.
Tel: +1-402-472-6676, Fax: +1-402-472-2083, e-mail: zavramova2@unlnotes.unl.edu
- A. Al-Doss (Prof. of Plant Breeding and Biotechnology)
Department of Plant Production, College of Food and Agricultural Sciences, King Saud University, PO Box 2460, Riyadh 111451. Kingdom of Saudi Arabia.
Tel: +966-11-467-8461, Fax: +966-11-467-8456, e-mail: aaldoss@ksu.edu.sa
- A. Alsadon (Prof. of Vegetable Physiology and Breeding)

8. Bibliography (SCOPUS h index = 11, AU-ID 6508125038):

1. Refereed journals:

1. Sadler, M.T., Ponielies, N., Born, U. and Weber, G. (2000) Physical localization of single-copy sequences on pachytene chromosomes in maize (*Zea mays* L.) by chromosome *in situ* suppression hybridization. *Genome* 43: 1081-1083.
2. Sadler, M.T. and Weber, G. (2001) Karyotype of maize (*Zea mays* L.) mitotic metaphase chromosomes as revealed by fluorescence *in situ* hybridization (FISH) with cytogenetic DNA markers. *Plant Molecular Biology Reporter* 19: 117-123.
3. Sadler, M.T. and Weber, G. (2002) Comparison between genetic and physical maps in *Zea mays* L. of molecular markers linked to resistance against *Diatraea* spp. *Theoretical and Applied Genetics* 104: 908-915.
4. Sadler, M.T. (2002) *In vitro* establishment of olive (*Olea europaea* L.) 'Nabali' in still liquid medium and callus culture. *Dirasat Agricultural Sciences* 29: 59-64.
5. Alvarez-Venegas, R., Pien, S., Sadler, M.T., Witmer, X., Grossniklaus, U., Zou, X. and Avramova, Z. (2003) ATX-1, an *Arabidopsis* homolog of Trithorax, activates flower homeotic genes. *Current Biology* 13: 627-637.
6. Sadler, M.T. and Suwwan, M.A. (2004) *In vitro* factors involved in potato (*Solanum tuberosum* L.) microtuberization. *Dirasat Agricultural Sciences* 31(2): 157-168.
7. Sadler, M.T., Henrich, J., Ponielies, N. and Weber, G. (2005) Chromosome *in situ* suppression hybridization to B-A translocation lines for physical mapping in maize. *Journal of Genetics and Breeding* 59: 45-52.
8. Isleem, W.R. and Sadler, M.T. (2005) Callus induction and maintenance in seven local olive (*Olea europaea* L.) cultivars. *Jordan Journal of Agricultural Sciences* 1: 119-124.
9. Sadler, M.T. and Ateyyeh, A.F. (2006) Molecular assessment of polymorphism among local Jordanian genotypes of the common fig (*Ficus carica* L.). *Scientia Horticulturae* 107: 347-351.
10. Alvarez-Venegas, R., Sadler, M.T., Hlavacka, A., Baluška, F., Xia, Y., Lu, G., Firsov, A., Sarath, G., Moriyama, H., Dubrovsky, J.G. and Avramova, Z. (2006) The *Arabidopsis* homolog of trithorax, ATX1, binds phosphatidylinositol 5-phosphate, and the two regulate a common set of target genes. *Proceedings of the National Academy of Sciences USA* 103: 6049-6054.
11. Ateyyeh, A.F. and Sadler, M.T. (2006) Preliminary study on the vegetative and reproductive growth of six common fig (*Ficus carica* L.) cultivars in Jordan. *Jordan Journal of Agricultural Sciences* 2:1-7.
12. Sadler, M.T. and Suwwan, M.A. (2006) Detection of *de novo* β -glucosidase (EC 3.2.1.21) enzyme activity in tomato (*Solanum lycopersicum* L.) in 4-methylumbelliferyl β -D-glucoside zymograms. *Jordan Journal of Agricultural Sciences* 2: 179-186.
13. Ateyyeh, A.F. and Sadler, M.T. (2006) Growth pattern and fruit characteristics of six common fig (*Ficus carica* L.) cultivars in Jordan. *Jordan Journal of Agricultural Sciences* 2: 105-112.
14. Ateyyeh, A.F. and Sadler, M.T. (2006) Phylogenetic clustering of three Jordanian olive (*Olea europaea* L.) cultivars within international collection. *Advances in Horticultural Science* 20 (2): 170-174.
15. Sadler, M.T., Khyami-Horani, H. and Al-Banna, L. (2006) Application of RAPD technique to study polymorphism among *Bacillus thuringiensis* isolates from Jordan. *World Journal of Microbiology and Biotechnology* 22: 1307-1312.
16. Alvarez-Venegas, R., Sadler, M.T., Tikhonov, A. and Avramova, Z. (2007) Origin of the bacterial SET domain genes: Vertical or horizontal? *Molecular Biology and Evolution* 24: 482-497.
17. Sadler, M.T., Al-Shareef, R.M. and Haitham, H. (2007) Assessment of genetic, morphological and agronomical diversity among Jordanian eggplant (*Solanum melongena* L.) landraces using random amplified polymorphic DNA (RAPD). *Acta Horticulturae* 745:303-310.
18. Sadler, M.T., Suwwan, M. and Abdeen, A. (2007) Functional genomics of tomato β -glucosidases (β -glucosidases [EC 3.2.1.21] and β -galactosidases [EC 3.2.1.23]): phylogenetic analysis and cloning. *Acta Horticulturae* 745:421-428.
19. Sadler, M.T. (2007) Molecular polymorphism of newly reported endemic *Iris bismarckiana* (*Iris* sect. *Oncocyclus*) in Jordan. *Jordan Journal of Agricultural Sciences* 3(3): 262-271.
20. Duwayri, M., Migdadi, H., Sadler, M.T., Kafawin, O., Ajlouni, M., Amri, A., and Nachit, M. (2007) Use of SSR markers for characterizing cultivated durum wheat and its naturally occurring hybrids with wild wheat. *Jordan Journal of Agricultural Sciences* 3(4): 398-410.
21. Haddad, N.I., Soub, H., Sadler, M.T., and Syouf, M. (2007) Diversity status of lentils (*Lens culinaris* Medic.) landraces collected from Jordan. *Crop Research* 34(1, 2 & 3): 103-109.
22. Saleh, A., Alvarez-Venegas, R., Yilmaz, M., Li, O., Hou, Q., Sadler, M., Al-Abdallat, A., Xia Y., Lu, G., Ladunga, I. and Avramova Z. (2008) The highly similar *Arabidopsis* homologs of trithorax ATX1 and ATX2 encode proteins with divergent biochemical functions. *Plant Cell* 20(3): 568-579.

23. Ding, Y., Lapko, H., Xia, Y., Al-Abdallat, A., Ndamukong, I., Sadder, M.T., Saleh, A., Fromm, M., Lu, G., and Avramova, Z. (2009) The Arabidopsis chromatin modifier ATX1, the myotubularin-like AtMTM and the response to drought. *Plant Signaling and Behavior* 4(11): 1049 – 1058.
24. Saoub, H.M., Haddad, N.I., Sadder, M.T. and Syouf, M. (2010) Morphological and molecular characterization of wild lentil collected from Jordan. *Crop Research* 39(1, 2 & 3): 50-61.
25. Sadder, M.T., Alsadon, A., Al-Thamra, M., Zakri, A.M., and Al-Doss, A. (2011) Phylogenetic analysis of SET domain in trithorax SITX1 of *Solanum lycopersicum*. *Plant Omics Journal* 4(2): 95-99.
26. Dawabah, A.A.M., Al-Hazmi, A.S., Al-Rehiyani, S.M., Abdel-Mawgood, A.L., Motawei, I.M., Al-Otayk, S., Sadder, M.T., Elgorban, A.M., Migdadi, H.M., Moustafa, K.A., and Al-Doss, A.A. (2012) Morphological and molecular characterization of cereal cyst nematode (*Heterodera avenae*) populations from arid environments. *Australian Journal of Crop Science* 6(6): 970-979.
27. Al-Qadumii, L.W., Sadder, M.T. and Migdadi, H. (2012) Assessment of *in silico* BAC-based simple sequence repeat (SSR) marker development for tomato (*Solanum lycopersicum* L.). *African Journal of Biotechnology* 11(75): 13938-13946.
28. Sadder, M.T., Anwar, F. and Al-Doss, A.A. (2013) Gene expression and physiological analysis of *Atriplex halimus* (L.) under salt stress. *Australian Journal of Crop Science* 7(1): 112-118.
29. Alsadon A.A., Sadder, M.T. and Wahb-Allah, M.A. (2013) Responsive gene screening and exploration of genotypes responses to salinity tolerance in tomato. *Australian Journal of Crop Science* 7(9): 1383-1395.
30. Almutairi, Z. and Sadder, M.T. (2013) Cloning and expression profiling of polycomb gene, DNA Polymerase Alpha (POL α) from tomato *Solanum lycopersicum* L. *Plant Omics Journal* 6(4): 302-310.
31. Sadder, M.T. and Al-Doss, A.A. (2014) Characterization of dehydrin AhDHN from Mediterranean saltbush (*Atriplex halimus*). *Turkish Journal of Biology* 38: 469-477.
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35. Almutairi, Z.M. and Sadder, M.T. (2014) Cloning and expression profiling of polycomb gene *VERNALIZATION INSENSITIVE 3* in tomato. *Biologia Plantarum* 58(3) 419-426.
36. Almutairi, Z. and Sadder, M.T. (2014) Cloning and expression profiling of the polycomb gene, Retinoblastoma-Related protein from tomato *Solanum lycopersicum* L. *Evolutionary Bioinformatics* 10: 177–185.
37. Sadder, M.T., Migdadi, H., Al-Haidary, A.I. and Okab, A.B. (2015) Identification of simple sequence repeat markers in the dromedary (*Camelus dromedarius*) genome by next-generation sequencing. *Turkish Journal of Veterinary and Animal Sciences* 39(1): 218-228.
38. Alsadon, A.A., Ibrahim, A.A., Wahb-Allah, M.A., Ali, A.A.M. and Sadder M.T. (2015) Tomato under salinity stress: Correlation between growth and yield components and responsive genes. *Acta Horticulturae* 1081: 111-119.
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45. Al-Shomali, I., Sadder, M.T. and Ateyyeha, A. (2017) Culture media comparative assessment of common fig (*Ficus carica* L.) and carryover effect. *Jordan Journal of Biological Sciences* 10(1): 13-18.
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47. Al-Rawahi, F.G., Al-Antary, T.M. and Sadder, M.T. (2018) Toxicity of three chemicals and neem insecticide against spring populations of dubas bug, *Ommatissus lybicus* de Bergevin (Tropiduchidae: homoptera) in Oman. Fresenius Environmental Bulletin 27(12): 8580-8584.
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2. Books:

1. Abd-Essalam, A.Z., Modawy, R.S., Sadder, M.T. and Fadda, Z.G. (2006) Technical report for the cooperative research project to determine genetic fingerprints of olive cultivars in Jordan, Egypt and Morocco. AOAD, Khartoum, Sudan (in Arabic).
2. Lafi, H.A., Sadder, M.T. and Al-Banna, L. (2009) Cloning of parasitism genes from the Mediterranean cereal cyst nematode, *Heterodera latipons*. In: Riley, I.T., Nicol, J.M. and Dababat, A.A. (Eds), Cereal cyst nematodes: status, research and outlook, pp. 208-212. CIMMYT, Ankara, Turkey.
3. Sadder, M.T., Al-Tamimi, H.A., Al-Zibdah, M.A. and Abdeen, A.O. (2010) Third generation biofuel in the Arab world: cell culture and molecular identification. In: Akash, B.A. and Abu Abdo A.M. (Eds), Proceedings of the International Engineering Conference on Hot Arid Regions - Challenges, Technologies, and Opportunities, pp. 293-297. IECHAR, Al-Ahsa, Saudi Arabia.

3. Conferences and workshops (talks and posters):

1. Ponelies, N., Henrich, J., Stein, N., Sadder, M.T., Born, U. and Weber, G. (19-22.3.1998) Physical mapping of maize chromosomes related to resistance genes and comparison to the genetic map. 40th Maize Genetics Conference, Lake Geneva, Wisconsin, USA.
2. Sadder, M.T., Ponelies, N., Henrich, J., Born, U. and Weber G. (25-26.1.1999) Physical localization of molecular markers in maize and correlation to the genetic map. 6th Arbeitstagung der GPZ-AG Cyto-genetik, Gatersleben, Germany.
3. Sadder, M.T., Ponelies, N., Henrich, J., Born, U. and Weber G. (11-14.3.1999) Physical localization of molecular markers in maize chromosomes and their correlation to the genetic map. 41st Maize Genetics Conference, Lake Geneva, Wisconsin, USA.
4. Sadder, M.T., Ponelies, N., Henrich, J., Born, U. and Weber, G. (11-12.10.1999) Physical mapping of molecular markers and genes. 15th Kolloquium Forschungsschwerpunkt biotechnologie und Pflanzenzuechtung, University of Hohenheim, Stuttgart, Germany.
5. Weber, G., Sadder, M.T., Born, U. and Horlemann, C. (9-12.1.2000) Physical mapping of molecular markers and genes on *Zea mays* L. pachytene chromosomes. 8th Plant & Animal Genome Conference, San Diego, CA, USA.
6. Sadder, M.T., Ponelies, N., Henrich, J., Born, U. and Weber, G. (17.1.2000) Physical mapping of molecular markers and genes. 3rd Stuttgart Plant Virologist meeting, Stuttgart, Germany.
7. Sadder, M.T., Horlemann, C., Born, U., Llaca, V. and Weber, G. (16-19.3.2000) Comparison of the genetic map to the physical map of molecular markers related to QTLs for resistance against southwestern corn borer (*Diatraea grandiosella* D.) on pachytene chromosomes using in situ hybridization in maize (*Zea mays* L.). 42nd Maize Genetics Conference, Coeur d'Alene, Idaho, USA.
8. Sadder, M.T. (7.12.2000) Physical localization of genes on maize chromosomes compared to genetic mapping. 16th Kolloquium Forschungsschwerpunkt biotechnologie und Pflanzenzuechtung, University of Hohenheim, Stuttgart, Germany.
9. Sadder, M.T. (7-9.6.2001) Physical mapping of molecular markers and genes in maize. DAAD BioForum: Research without Limits?, Berlin, Germany.
10. Horlemann, C., Sadder, M.T., Fleischer, R. and Weber, G. (14-17.3.2002) Frequency and physical localization of the major repetitive DNA sequences in maize. 44th Maize Genetics Conference, Orlando, Florida, USA.
11. Horlemann, C., Sadder, M.T., Schwekendiek, A. and Weber, G., (3-7.8.2002) Analysis and optimization of maize repetitive DNA of different *Cot* values for chromosomal *in situ* suppression hybridization. Plant Biology 2002, Denver, Colorado USA.
12. Joshi, S., Verdoucq, L., Sadder, M.T., Winkel-Shirley, B., Bevan, R.D., Esen, A., Mohamed, A., Shih, M.-C., Peng, H.-P., Xu, Z., Escamilla-Treviño, L.L., Zeng, L., Cheng, C.-L. and Poulton, J.E. (3-7.8.2002) Structure and function of the *Arabidopsis* β-glucosidase gene family. Plant Biology 2002, Denver, Colorado USA.
13. Alvarez-Venegas, R., Pien, S., Sadder, M.T., Witmer, X., Grossniklaus, U., Zou, X., and Avramova, Z. (2-7.11.2003) ATX-1, an *Arabidopsis* homolog of Trithorax has histon methyl transferase activity and activates flower homeotic genes. 5th Symposium México-USA and 11th National Congress on Biochemistry and Molecular Biology of Plants, Mexico-EUA.

14. Sadler, M.T. (7-11.12.2003) Utilizing B-A maize translocation lines for Physical mapping through CISS hybridization. 4th GEAR international symposium: Interdisciplinary and intercultural dialog: opportunities for sustainable development. JUST, Irbid, Jordan,
15. Sadler, M.T. (10-15.04.2004) Genetic engineering applications and genetic improvement techniques in releasing genotypes resistant/tolerant to plant diseases. Regional workshop in diagnostics of plant diseases. National Center for Agricultural Research and Technology Transfer, Baqa', Jordan.
16. Sadler, M.T., Khyami-Horani, H., and Al-Banna, L. (16.8.2004) PCR amplification of whole cry genes from *Bacillus thuringiensis* ser. *jordanica* using degenerated primers. 3rd Annual Micorbiology Meeting, University of Nebrtaska-Lincolon, Lincoln, Nebraska, USA.
17. Venegas, R., Sadler, M.T., Hlavacka, A., Xia, Y, Lu, G., Firsov, G., Sarath, G., Moriyama, H., Baluška, F. and Avramova Z. (17-18.9.2004) Phosphoinositide 5-phosphate and the trithorax homolog, ATX1, define a novel cell - signaling pathway in Arabidopsis. Plant Science Initiative Annual Retreat, University of Nebraska-Lincoln, Niobrara, Nebraska, USA.
18. Sadler, M.T. (18.5.2006) Plant biotechnology in Jordan: Current status and future prospective. Scientific Day, Faculty of Agriculture, University Jordan, Amman, Jordan. (In Arabic).
19. Sadler, M.T., Al-Shareef, R.M. and Haitham, H. (23-27.7.2006) Assessment of genetic diversity among Jordanian eggplant (*Solanum melongena* L.) landraces using random amplified polymorphic DNA (RAPD). 6th International Solanaceae Conference: Solanaceae - Genomics meets Biodiversity. Monona Terrace in Madison, Wisconsin, USA.
20. Sadler, M.T. Al-Banna, L., Khyami-Horani, H., Abdeen, A., Abu Al-Ragheb, I. and Abu-Dhaim, E. (23-27.7.2006) Jordanian *Bacillus thuringiensis* isolates against root-knot nematodes (*Meloidogyne* sp.) in tomato. 6th International Solanaceae Conference: Solanaceae - Genomics meets Biodiversity. Monona Terrace in Madison, Wisconsin, USA.
21. Sadler, M.T. Al Abdallat, A., Suwwan, M. and Abdeen, A. (23-27.7.2006) Functional genomics of tomato β -glycosidases (β -glucosidases [EC 3.2.1.21] and β -galactosidases [EC 3.2.1.23]): phylogenetic analysis and cloning. 6th International Solanaceae Conference: Solanaceae - Genomics meets Biodiversity. Monona Terrace in Madison, Wisconsin, USA.
22. Sadler, M.T., Khyami-Horani, H., Al-Banna, L., Abdeen, A., Abu Al-Ragheb, I., and Abu-Dhaim E. (14.8.2006) Polymorphism and assessment of Jordanian *Bacillus thuringiensis* against root-knot nematodes (*Meloidogyne* sp.) infecting tomato. 4th Annual Micorbiology Meeting, University of Nebrtaska-Lincolon, Lincoln, Nebraska, USA.
23. Nasereddin, B.N. and Sadler, M.T. (9-12.4.2007) Influence of plant bioregulators on callus induction from embryonic cotyledon in 'Nabali' olive (*Olea europaea* L.). 6th Agricultural Scientific Conference, University of Jordan, Amman, Jordan.
24. Isleem, W.R. and Sadler, M.T. (9-12.4.2007) Assessment of phenol oxidation reduction treatments for olive (*Olea europaea* L.) in vitro establishment. 6th Agricultural Scientific Conference, University of Jordan, Amman, Jordan.
25. Sadler, M.T., Khyami-Horani, H., and Al-Banna, L. (9-12.4.2007) Molecular polymorphism of Jordanian *Bacillus thuringiensis* isolates using degenerated cry primers. 6th Agricultural Scientific Conference, University of Jordan, Amman, Jordan.
26. Sadler, M.T., Haddad, N., Saoub, H., and Syouf, M. (9-12.4.2007) Detection of genetic variation among wild species and landraces of lentil from Jordan using ribosomal DNA. 6th Agricultural Scientific Conference, University of Jordan, Amman, Jordan.
27. Sadler, M.T., Suwwan, M. and Abdeen, A. (9-12.4.2007) Assessment of degenerated primers from plant β -glucosidases in tomato (*Solanum lycopersicum* L.). 6th Agricultural Scientific Conference, University of Jordan, Amman, Jordan.
28. Sadler, M.T. (8-10.5.2007) Related international agreements and treaties and mechanisms of use. Workshop in international treaties of plant genetic resources for food and agriculture, Damascus Hotel, Damascus, Syria.
29. Sadler, M.T. (22-24.5.2007) Applications in agricultural biotechnology: Pest resistance and biofarming. 3rd seminar on biotechnology and its applications in Arab agricultural investment, Holiday Inn, Amman, Jordan.
30. Sadler, M.T. (9-13.6.2007) Transgenic tobacco BY-2 with cDNA of human interferon-gamma. In Vitro Biology Meeting, Westin, Indianapolis, IN, USA.
31. Sadler, M.T. (26-29.8.2007) Salinity and Plant Physiology: Practical Issues. Forage production management under saline condition, NCARTT, Amman, Jordan.
32. Sadler, M.T. (30-31.10.2007) Genetically modified food: A natural phenomenon without biosafety regulations, 2nd GMO. Holliday Inn, Amman, Jordan.
33. Sadler, M.T. (20.2.2008) Scientific overview on biotechnology and GMOs, 2nd National workshop targeted to customs and border control, Introduction to the CPB and BCH: Obligations and operations. The national institute for training, Jordan.
34. Sadler, M.T. (3-5.3.2008) Stimulating Biopharmaceutical Industry in the Arab World: A Jordanian Initiative. Research, Development & Innovation: Biotechnology in the Arab World forum. Kempinski Hotel, Amman, Jordan.
35. Sadler, M.T. (16-19.3.2008) Cancer Bio-pharmaceuticals Made in Jordan: Interferon-gamma. Advances in Cancer Research: From the Laboratory to the Clinic. King Hussein Bin Talal Convention Center Dead Sea, Jordan.

36. Sadler, M.T. (25-27.3.2008) Genotype-environment interaction can lead to GMO plants. Scientific day for faculty of Agriculture and Science, Jerash Privat University, Jerash, Jordan.
37. Sadler, M.T. (8-10.4.2008) Related international agreements and treaties of seed production and trade. Workshop in harmonizing seed trade of major food crops in the Arab world. Fardoss Tower Hotel, Damascus, Syria.
38. Sadler, M.T. (14-18.6.2008) Transgenic tobacco BY-2 with cDNA of human calcitonin. In Vitro Biology Meeting, Hilton El Conquistador, Tucson, AZ, USA.
39. Alvarez-Venegas, R., Saleh, A., Yilmaz, M., Oahn-Le, O., Hou, Q., Sadler, M.T. Al-Abdallat, A., Xia, Y., Lu, G., Ladunga, I., and Avramova, Z. (26.6-1.7.2008) The highly similar Arabidopsis homologs of trithorax ATX1 and ATX2 encode divergent biochemical functions. Plant Biology 2008, Siglo XXI Convention Centre Mérida, Mexico.
40. Sadler, M.T. (10.07.2008) Introduction to biotechnology. 1st National Biosafety Committee, Ministry of Environment, Amman, Jordan.
41. Sadler, M.T. (11-13.11.2008) GE/GMO/Biosafety in JORDAN. 2nd Jordanian- Egyptian Biotechnology Conference Biotechnology and Society: Prospects and Challenges, Yarmouk University, Irbid, Jordan.
42. Sadler, M.T. (18-19.11.2008) Prospective on next Generation Biofuels: Non- Food Crops. The Third International Conference on Genetically Modified Food "BIOFUELS". Le Meridian Hotel, Amman, Jordan.
43. Sadler, M.T. (15-17.12.2008) "Cell Culture: The Future for Biofuel". 1st Regional Conference on Effect of Biofuel and Global warming on Food Safety and Agricultural Marketing. Regency Palace Hotel, Amman, Jordan.
44. Al-Damra, M.I. and Sadler, M.T. (16-18.2.2009) Cloning, expression and biochemical analysis of a tomato (*Solanum lycopersicum* L.) β -glucosidase 01 and 08. 1st International Conference on Biotechnology. King Fahed Conference Center, Riyadh, Saudi Arabia.
45. Lafi, H.A., Sadler, M.T. and Al-Banna, L. (16-18.2.2009) Cloning parasitism genes from the Mediterranean cereal cyst nematode *Heterodera latipons*. 1st International Conference on Biotechnology. King Fahed Conference Center, Riyadh, Saudi Arabia.
46. Idrees, H.H. and Sadler, M.T. (16-18.2.2009) Cloning and analysis of tomato (*Solanum lycopersicum* L.) β -glucosidase 02 promoter. 1st International Conference on Biotechnology. King Fahed Conference Center, Riyadh, Saudi Arabia.
47. Duwayri, M., Migdadi, H., Sadler, M.T., Kafawin, O., Ajlouni, M., Amri, A. and Nachit, M. (16-18.2.2009) Use of SSR markers for characterizing cultivated Durum wheat and its naturally occurring hybrids with wild wheat. 1st International Conference on Biotechnology. King Fahed Conference Center, Riyadh, Saudi Arabia.
48. Sadler, M.T. (7-9.4.2009) The 24th meeting of Saudi biological society, Epigenetics: Ancient language with future applications, Taibah University, Madinah, Saudi Arabia.
49. Sadler, M.T., Avramova, Z., and Alsadon, A. (6-10.6.2009) Identifying Trithorax and Polycomb Related Genes in Tomato. 2009 In Vitro Biology Meeting, Embassy Suites North Charleston, Charleston, South Carolina, USA.
50. Lafi, H.A., Sadler, M.T. and Al-Banna, L. (21-23.10.2009) Cloning parasitism genes from the Mediterranean cereal cyst nematode *Heterodera latipons*. In 'Cereal cyst nematodes: status, research and outlook.' Eds: Riley, I.T., Nicol, J.M. and Dababat, A.A. pp. 208-212 (CIMMYT: Ankara, Turkey).
51. Sadler, M.T. (15-17.3.2010) Phylogenetic analysis of *in silico* assembled *Phoenix dactylifera* trithorax (PDX) gene. Fourth International Date Palm Conference, Abu Dhabi, United Arab Emirates.
52. Sadler, M.T., Al-Tamimi, H.A., Al-Zibdah, M.A., and Abdeen, A.O. (1-2.5.2010) Third Generation Biofuel in the Arab World: Cell Culture and Molecular Identification. International Engineering Conference on Hot Arid Regions (IECHAR): Challenges, Technologies, and Opportunities. Intercontinental Hotel, Al-Ahsa, Saudi Arabia.
53. Sadler, M.T., Alzaben, M., Al-Banna, L. and Khyami-Horani, H. (11-13.5.2010) The 25th meeting of Saudi biological society: Nanotechnology in life sciences. Genetic analysis of Jordanian *Bacillus thuringiensis* strains using PFGE. King Faisal University, Al-Hassa, Saudi Arabia.
54. Sadler, M.T., and Alsadon, A. (6-11.6.2010) Phylogenetic analysis of SET domain in *Solanum lycopersicum* trithorax SLX1. 12th World Congress of the International Association for Plant Biotechnology (IAPB) and the 2010 In Vitro Biology Meeting, America's Center in downtown St. Louis, Missouri, USA.
55. Sadler, M.T., Al-Doss, A., and Anwar, F. (15-19.1.2011) Salt tolerant transcriptome from *Atriplex halimus*. 19th Plant and animal genome conference. Town & Country Convention Center, San Diego, CA, USA.
56. Sadler, M.T. (19-23.02.2011) Date Palm Biotechnology. Workshop and 2nd national training program on date palm cultivation and management of its pests. Chair of Date Palm Research, College of Food and Agricultural Sciences, King Saud University, Saudi Arabia.
57. Sadler, M.T. (20.03.2011) Salt Tolerant Genes from *Atriplex halimus*. 'National Plan for Science, Technology and Innovation' workshop. , King Saud University, Saudi Arabia.
58. Sadler, M.T., Alsadon, A., Al-Doss, A., Zakri, A.M., Al-Thamra, M., and Avramova, Z. (5-7.4.2011) Characterization of the tomato trithorax gene. 4th meeting of the Saudi Society for Agriculture Sciences, Hail, Saudi Arabia.

59. Sadler, M.T., Al-Doss, A., Anwar, A., Al-Thamra, M. (10-12.5.2011) Genetic diversity among Saudi collection of saltbush *Atriplex halimus* using ISSR. 26th meeting of the Saudi Biological Society, Taif University, Taif, Saudi Arabia.
60. Salem, N., Sadler, M.T., and Abdeen, A. (28.9-1.10.2011) Application of polymerase chain reaction for detection of camels' milk adulteration by milk of cow. European Biotechnology Congress, Istanbul, Turkey.
61. Sadler, M.T., Anwar, F., Al-Thamra, M., and Al-Doss, A. (14-18.1.2012) Transcriptome analysis revealed a wide spectrum of salt stress responsive genes from *Atriplex halimus*. 20th Plant and animal genome conference. Town & Country Convention Center, San Diego, CA, USA.
62. Sadler, M.T., Anwar, F., Al-Thamra, M., and Al-Doss, A. (22-25.2.2012) Molecular and Physiological Response of Saudi *Atriplex halimus* to Salt Stress. Plant Abiotic Stress Tolerance II, University of Veterinary Medicine, Vienna, Austria.
63. Sadler, M.T., Al-Doss, A., Anwar, A., Al-Thamra, M. (8-6.3.2012) *In silico* development of simple sequence repeat markers from Saudi saltbush *Atriplex halimus*. 27th meeting of the Saudi Biological Society, Jazan University, Jazan, Saudi Arabia.
64. Sadler, M.T., Alsadon, A.A. and Wahb-Allah, M.A. (29.4-2.5.2012) Tomato microarray profiling: A tool for salt tolerant biomarkers. International symposium biotechnology and other omics in vegetable science, Antalya, Turkey.
65. Alsadon, A.A., Sadler, M.T. and Wahb-Allah, M.A. (29.4-2.5.2012) Responsive gene screening, growth and yield component analysis for the evaluation of salt tolerant tomato genotypes. International symposium biotechnology and other omics in vegetable science, Antalya, Turkey.
66. Wahb-Allah, M.A., Alsadon, A.A. and Sadler, M.T. (29.4-2.5.2012) Chemical analysis, physiological traits and SINAC expression under salt stress for several tomato lines. International symposium biotechnology and other omics in vegetable science, Antalya, Turkey.
67. Sadler, M.T. and Al-Doss, A. (28.11-1.12.2012) Sequencing saltbush chloroplast genomes and transcriptome. 7th International Conference on Genomics & Bio-IT, Kowloon Shangri-La Hotel, Hong Kong, China.
68. Sadler, M.T., Anwar, F. and Al-Doss, A. (12-16.1.2013) Differential expression of salt responsive genes in saltbush. 21st Plant and animal genome conference. Town & Country Convention Center, San Diego, CA, USA.
69. Alsadon, A.A., Sadler, M.T. and Wahb-Allah, M.A. (12-16.1.2013) Salt biomarkers in advanced tomato lines. 21st Plant and animal genome conference. Town & Country Convention Center, San Diego, CA, USA.
70. Samara, E.M., Abdoun, K.A., Okab, A.B., Migdadi, H., Sadler, M.T. and Al-Haidary, A.A. (17-20.2.2013) Relationship between coat colour and thermoregulation in Saudi camel breeds. Proceedings of International Camel Conference, Faculty of Agricultural and Food Science, King Faisal University, Al-Hasa, Saudi Arabia.
71. Sadler, M.T. (26-27.3.2013) Biomarker profiling. Salt tolerant tomato lines: Analysis of agronomic traits and genetic biomarkers workshop. Plant Biotechnology Lab, Plant Production Department, College of Food and Agricultural Sciences, King Saud University, Riyadh, Saudi Arabia.
72. Sadler, M.T., Zakri, A.M., Alswalmah, H.A. and Al-Doss, A. (9-11.4.2013) Differential gene expression of olive (*Olea europaea*) under *in vitro* salt stress conditions. 28th meeting of the Saudi Biological Society, University of Hail, Hail, Saudi Arabia.
73. Sadler, M.T. (27-28.4.2013) Differential display and gene expression. Cloning, sequencing and sequence analysis of differentially expressed plant cDNAs workshop. Legume Research Unit, Plant Production Department, College of Food and Agricultural Sciences, King Saud University, Riyadh, Saudi Arabia.
74. Sadler, M.T., Alsadon, A.A. and Wahb-Allah, M.A. (22-25.7.2013) Tomato genotype-specific biomarkers under salinity stress. American Society for Horticultural Science 2013 Annual Conference, Desert Springs JW Marriott, Palm Desert, CA, USA.
75. Alsadon, A.A., Sadler, M.T. and Wahb-Allah, M.A. (22-25.7.2013) Evaluation of segregating tomato lines for salinity tolerance. American Society for Horticultural Science 2013 Annual Conference, Desert Springs JW Marriott, Palm Desert, CA, USA.
76. Wahb-Allah, M.A., Alsadon, A.A. and Sadler, M.T. (22-25.7.2013) Phenotypic correlation between yield components and responsive genes under salinity stress for tomato lines. American Society for Horticultural Science 2013 Annual Conference, Desert Springs JW Marriott, Palm Desert, CA, USA.
77. Alsadon, A.A. and Sadler, M.T. (11-14.8.2013) Cryopreservation of wild bitter apple (*Citrullus colocynthis*) seeds, 2nd International Symposium on Plant Cryopreservation, Fort Collins, CO, USA.
78. Brake, M., Migdadi, H.M., Sadler, M.T., Gadomi, L., Qaryouti, M., Al-Khatib, M. and El-Oqlah, A.A. (10-14.11.2013) Microsatellite assessment of genetic diversity among Jordanian tomato (*Solanum lycopersicum* L.) landrace. International Plant Breeding Congress, WOW Topkapi Palace Hotel, Antalya, Turkey.
79. Zakri, A.M., Sadler, T.S., Alswalmah, H.A. and Al-Doss, A.A. (17-18.2.2014) Differential gene expression of olive (*Olea europaea*) under *in vitro* salt stress conditions. Plant Gene Discovery and "Omics" Technologies, Vienna, Austria.
80. Ali, A.A., Alsadon, A.A., Sadler, M.T. and Wahb-Allah, M.A. (19-20.2.2014) Profiling Tomato Salinity Responsive Genes Utilizing RNA-seq. Applied Vegetable Genomics, Vienna, Austria.

81. Ghazi, A., Zakri, A.M., Sadler, A.A. and Al-Doss, A.A. (19-20.2.2014) Differential gene expression in bitter apple (*Citrullus colocynthis* L.) under salinity stress. Applied Vegetable Genomics, Vienna, Austria.
82. Wahb-Allah, M.A., Alsadon, A.A. and Sadler, M.T. (19-20.2.2014) Evaluation of segregating tomato lines for salinity tolerance. Applied Vegetable Genomics, Vienna, Austria.
83. Sadler, M.T. (25-27.2.2014) Identification of simple sequence repeat markers in the Mediterranean saltbush (*Atriplex halimus* L.) genome. 29th meeting of the Saudi Biological Society, University of Dammam, Dammam, Saudi Arabia.
84. Alsadon, A.A., Drahim, A.A., Wahb-Allah, M.A. and Sadler, M.T. (8-11.6.2014) Tomato under salinity stress: correlation between growth and yield components and responsive genes. 13th ISHS Symposium on the Processing Tomato, Sirmione, Italy.
85. Wahb-Allah, M.A., Alsadon, M.T. and Drahim, A.A. (8-11.6.2014) Yield, fruit quality and marker analyses under salt stress for several tomato lines and their segregation populations. 13th ISHS Symposium on the Processing Tomato, Sirmione, Italy.
86. Sadler, M.T., Zakri, A.M., Alswalmah, H., Alsadon, A.A. and Al-Doss, A.A. (3-6.11..2014) Characterization of salinity-responsive genes in olive (*Olea europaea* L.). 5th OLIVEBIOTEQ conference, Holiday Inn, Amman, Jordan.
87. Sadler, M.T., Vidyasagar, P.S.P.V., Aldosari, S.A., Abdel-Azim, M.M. and Al-Doss, A.A. (9-11.11.2014) Phylogeny of red palm weevil (*Rhynchophorus ferrugineus*) based on ITS1 and ITS2. 11th Arab congress on plant protection, Meridien, Amman, Jordan.
88. Sadler, M.T., Brake, M., Migdadi, H.M. and Qaryouti, M. (29.6-1.7.2015) Profiling salinity responsive genes for local Jordanian tomato landraces under salinity stress. Plant Abiotic Stress Tolerance III, Bundesamtsgebäude, Vienna, Austria.
89. Sadler, M.T., Alsadon A.A., Wahb-Allah M.A. and Ali A.A. (1-2.8.2016) Profiling novel root-specific salinity biomarkers in tomato. 7th Annual International Arab Workshop on Biotechnology: Plant Biotechnology and Biodiversity, Imperial Palace Hotel, Amman, Jordan.
90. Al-Shomali, I., Sadler, M.T. and Ateyyeha, A. (1-2.8.2016) Assessment of media carry over effect of common fig *in vitro* establishment. 7th Annual International Arab Workshop on Biotechnology: Plant Biotechnology and Biodiversity, Imperial Palace Hotel, Amman, Jordan.
91. Sadler M.S., Migdadi H.M., Brake M.H. and Al-Qadumii L.W. (12-16.9.2016) Development of SSR markers linked to stress responsive genes along chromosome 3 in tomato. 13th Annual Solanaceae Genomics Conference. UC Davis, CA, USA.
92. Irshaid, L.A., Al Banna, L.S. and Sadler, M.T. (6-9.10.2016) Population dynamics of dagger nematode attacking Aleppo pine tree in Jordan. 7th International Scientific Agriculture Symposium “AGROSYM 2016”, Jahorina mountain, Bosnia and Herzegovina.
93. Sadler, M.T. (21.3.2017) Role of biotechnology to combat and cope with climate changes. Workshop on effect of climate change on agriculture and biodiversity, Jerash University, Jerash, Jordan.
94. Sadler, M.T. (13-14.12.2017) Jordan status towards GMOs. First Arabian parliamentarians conference on genetically modified organisms, Landmark, Amman, Jordan.
95. Sadler, M.T. (15-17.10.2018) Loss of stress adaptive alleles during plant domestication: A phylogenetic prospective. Eighth Scientific Agricultural Conference: Agricultural challenges and sustainable development. Mutah University, Karak Jordan.

4. Invited talks:

1. Sadler, M.T., Henrich, J., Stein, N., Ponelies, N., Born, U., Weber, G., Musket, M., McMullen, M. (29.6.1999) Microdissection and physical mapping of maize (*Zea mays* L.) Chromosomes. University of Milano, Italy.
2. Sadler, M.T., Horlemann, C., Henrich, J., Born, U., Weber, G. (29.10.1999) Physical mapping of maize chromosomes. University of Zurich, Switzerland.
3. Sadler, M.T. (7.12.1999) Induced resistance against plant viruses. University of Hohenheim, Germany.
4. Weber, G., Sadler, M.T., Born, U., Horlemann, C. (20.3.2000) Microdissection and physical mapping in of molecular markers and genes on *Zea mays* (L.) chromosomes. Pioneer Hibred, IA, USA.
5. Sadler, M.T. (14.10.2000) Physical mapping in maize (*Zea mays* L.) by fluorescence in situ hybridization (FISH). University of Hohenheim, Stuttgart, Germany.
6. Sadler, M.T. (4.2002) Physical mapping in maize (*Zea mays* L.) by fluorescence in situ hybridization (FISH). University of Jordan, Amman, Jordan.
7. Sadler, M.T. (20.5.2003) Physical mapping in maize (*Zea mays* L.) by fluorescence in situ hybridization (FISH). Jordanian Genes Society, Amman, Jordan.
8. Sadler, M.T. (20.8.2008) Biotechnology and Biosafety, General Organization for Food and Drugs, Amman, Jordan.
9. Sadler, M.T. (30.12.2008) Bioinformatics: Future outlooks. Faculty of Agriculture, University of Jordan, Amman, Jordan.

10. Sadler, M.T. (16.12.2009) Plant epigenetics and new developments. Department of Plant Production seminar series, Faculty of Food and Agricultural Sciences, King Saud University, Riyadh, Saudi Arabia.
11. Sadler, M.T. (14.3.2010) Genes: Nature and effects. Prof. Dr. Rashed Al-Mubarak Sunday seminars, Riyadh, Saudi Arabia.
12. Sadler, M.T. (11.5.2010) Cloning of Tomato Trithoax: A Master Regulator for Drought Response. CEBR score review. Center of Excellence in Biotechnology Research, King Saud University, Riyadh, Saudi Arabia.
13. Sadler, M.T. (29.12.2010) Plant chromatin methylation as modulated by drought stress. CEBR Scientific Club, Riyadh, Saudi Arabia.
14. Sadler, M.T. (15.3.2011) Genome, public lecture for IT specialists. Riyadh, Saudi Arabia.
15. Sadler, M.T. (14.10.2014) Plant Abiotic Stress: Genomics and Next Generation Sequencing. Faculty of Agriculture, University of Jordan, Amman, Jordan.

9. Conferences and workshops – attendance:

1. (15.10.1998) 14th Kolloquium Forschungsschwerpunkt Biotechnologie und Pflanzenzuechtung, University of Hohenheim, Stuttgart, Germany.
2. (4-8.9.2000) 24th Baden-Wuerttemberg Kolloquium: Novel and functional foods, Stuttgart, Germany.
3. (5.2003) Scientific day. Faculty of Agriculture, University Jordan, Amman, Jordan.
4. (9.2003) 3rd annual symposium in virology. University of Nebraska-Lincoln, Lincoln, Nebraska USA.
5. (6-8.10.2003) 9th Jordanian science week: Biotechnology and its role in the Jordanian economy. JUST-UJ, Irbid-Amman, Jordan.
6. (25-26.10.2003) 1st conference on scientific research in Jordan, Amman, Jordan.
7. (5.2004) Scientific day. Faculty of Agriculture, University Jordan, Amman, Jordan.
8. (29-30.09.2004) Regional Consultations on Biotechnology in the Middle East and North Africa region. IDRC, Cairo, Egypt.
9. (9.10.2004) 1st Jordan national tempus day. University of Jordan, Amman, Jordan.
10. (7.12.2004) Thirty-year partnership between the University of Jordan and Washington State University. University Jordan, Amman, Jordan.
11. (5-7.2.2005) Technical Support to the International Treaty on Plant genetic Resources for Food and Agriculture – Creating an “Intersectoral” Dialogue on Plant genetic Resources Conservation, Breeding and seeds. West Asia and Arabian Peninsula Workshop. Amman, Jordan.
12. (19.5.2005) Scientific day. Faculty of Agriculture, University Jordan, Amman, Jordan.
13. (2.10.2005) 2nd Jordan national tempus day. Princess Sumaya University of Technology, Amman, Jordan.
14. (29-30.11.2005) Regional Conference on Intellectual Property and Agriculture. Le-Meridien Hotel, Amman, Jordan.
15. (13.2.2006) Jordan National Research and Technology Institute. First video conference (North Carolina, USA; Washington, DC, USA; University of Jordan, Amman, Jordan).
16. (29-30.5.2006) Bioinformatics Conference and Lunch of Library of Life Project, Bridging the Rift Foundation. MovenPick, Dead Sea, Jordan.
17. (12-14.9.2006) Expert Consultation Meeting (ECM) to Strengthen Linkages between Biotechnology and Postharvest. Medina, El Hammamet, Tunisia.
18. (22-23.11.2006) DAAD Alumni Conference: Prospective of German-Jordanian Academic Cooperation, University of Jordan, Amman, Jordan.
19. (14.3.2007) Faculty for factory workshop, University of Jordan, Amman, Jordan.
20. (26-27.3.2007) 1st First Jordanian/Swedish Biotechnology & Fermentation Symposium, University of Philadelphia, Jarash, Jordan.
21. (23-24.4.2007) 2nd Intellectual Property Rights in Agriculture Conference. Holliday Inn, Amman, Jordan.
22. (14-15.5.2007) Regional expert consultation on GMO, Jerusalem International Hotel, Amman, Jordan.
23. (21.6.2007) Workshop in establishment of a national information sharing mechanism on the implementation of the global of action (GPA) on plant genetic resources for food and agriculture, NCARTT, Amman, Jordan.
24. (3-4.9.2007) KHCBI – NCI – Duke University Middle East and North Africa (MENA) cancer research conference, Grand Hyatt Hotel, Amman, Jordan.
25. (27.10.2007) The harvest of the century: Biotechnology, Abdul Hameed Shoman Foundation, Amman, Jordan.

26. (28.10-1.11.2007) 13th Jordanian science week: Science and technology parks - Building a knowledge based economy, Higher Council for Science and Technology, Amman, Jordan.
27. (17.11..2007) 3rd conference for scientific research in Jordan, Grand Hyatt, Amman, Jordan.
28. (21.12.2008) Biosafety clearing house task force meeting, Ministry of Environment, Amman, Jordan.
29. (23.2.2008) Agriculture future in Jordan, Philadelphia University and Ministry of Agriculture, Regency Hotel, Jordan.
30. (1-2.4.2008) 3rd Intellectual Property Rights in Agriculture Conference. Holliday Inn, Amman, Jordan.
31. (22.4.2008) Project workshop: Propagation and conservation of black iris, national Jordanian flower, HCST, Jordan.
32. (7-8.5.2008) 4th National biosafety clearing house workshop. Ministry of environment, Jordan.
33. (15.5.2008) Scientific day. Faculty of Agriculture, University Jordan, Amman, Jordan.
34. (19.5.2008) 2nd Science day, Philadelphia University, Jordan.
35. (24-25.6.2008) 5th National workshop targeted on biosafety clearing house, Ministry of Environment, Amman, Jordan.
36. (14.08.2008) 2nd National Biosafety Committee, Ministry of Environment, Amman, Jordan.
37. (21.10.2008) 6th National workshop targeted on biosafety clearing house, Crown hotel, Amman, Jordan.
38. (24.5.2009) 1st workshop of the DNA Research Chair, DNA research: A gateway to knowledge economy. Building 17, King Saud University, Riyadh, Saudi Arabia.
39. (16.1.2010) 1st workshop of the Red Palm Weevil Research Chair. College of Food and Agricultural Sciences, King Saud University, Riyadh, Saudi Arabia.
40. (23.1.2010) Affymetrix Medical Genomics Research Conference. King Faisal Specialist Hospital and Research Center Educational Centre, Riyadh, Saudi Arabia.
41. (25.1.2010) 1st RTV energy workshop: Towards a national initiative for future development. Building 17, King Saud University, Riyadh, Saudi Arabia.
42. (6.3.2010) 1st BADIR for Biotechnology Workshop: Starting a Biotech Business. The Saudi National BioBusiness Incubator, King Fahd Medical City, Riyadh, Saudi Arabia.
43. (18.2.2010) Successful Public Relations for Start-up Biotechnology Businesses. The Saudi National BioBusiness Incubator, King Fahd Medical City, Riyadh, Saudi Arabia.
44. (25.3.2010) Starting the Business Plan for your Biotechnology Business I. The Saudi National BioBusiness Incubator, King Fahd Medical City, Riyadh, Saudi Arabia.
45. (30-31.3.2010) Red palm weevil: The challenge. SABIC, Riyadh, Saudi Arabia.
46. (6-8.4.2010) Protected cultivation - Present status and future trends towards food and water security. King Faisal Hall, Intercontinental Hotel, Riyadh, Saudi Arabia.
47. (15.4.2010) Importance of a good website –How to make the most of the web. The Saudi National BioBusiness Incubator, King Fahd Medical City, Riyadh, Saudi Arabia.
48. (24.4.2010) International workshop for the establishment of Saudi MycoBank. College of Science, King Saud University, Riyadh, Saudi Arabia.
49. (4-5.5.2010) The 4th International Conference of Biomarkers in Chronic Diseases. Al-Khozama Hotel, Riyadh, Saudi Arabia.
50. (15.5.2010) Protecting your biotechnology business: An introduction to IPR for biotechnologists. The Saudi National BioBusiness Incubator, King Fahd Medical City, Riyadh, Saudi Arabia.
51. (24-25.5.2010) Distribution of Samsun ant in the Kingdom of Saudi Arabia and the use of their venom and other natural products in the treatment of breast cancer. College of Science, King Saud University, Saudi Arabia.
52. (24.6.2010) Starting the Business Plan for your Biotechnology Business III. The Saudi National BioBusiness Incubator, King Fahd Medical City, Riyadh, Saudi Arabia.
53. (26.7.2010) National workshop for nanotechnology applications in agriculture. NCARE, Jordan.
54. (28.7.2010) FP7 Call workshop: food, agriculture and fisheries, and biotechnology. Faculty of Agriculture, University of Jordan. Amman, Jordan.
55. (11-12.10.2010) Saudi international technology incubation conference. KACST, Riyadh, Saudi Arabia.
56. (5.12.2010) Frontiers in Life Science. Building 17, King Saud University, Riyadh, Saudi Arabia.
57. (5-6.12.2010) 1st workshop of genome research chair: The Saudi HapMap project. College of Science, King Saud University, Riyadh, Saudi Arabia.

58. (9.12.2010) The Importance of the Internet as a Marketing tool for Biotech Businesses – How to Make the Most Out of the Web and Social Networking Sites. The Saudi National BioBusiness Incubator, King Fahd Medical City, Riyadh, Saudi Arabia.
59. (16.12.2010) An Introduction to Good Manufacturing Practice for Life Science Companies. The Saudi National BioBusiness Incubator, King Fahd Medical City, Riyadh, Saudi Arabia.
60. (10.2.2011) Risk assessment for life science companies. The Saudi National BioBusiness Incubator, King Fahd Medical City, Riyadh, Saudi Arabia.
61. (24.2.2011) Starting a business in KSA: The real scenarios. The Saudi National BioBusiness Incubator, King Fahd Medical City, Riyadh, Saudi Arabia.
62. (26.4.2011) IP day 2011. KACST, Riyadh, Saudi Arabia.
63. (1-2.5.2011) The 2nd International Scientific Meeting On Natural Products and Drug Discovery, College of Science, King Saud University, Riyadh, Saudi Arabia.
64. (13.9.2011) Comprehensive IP policy for NSTIP-funded research and development, KACST, Riyadh, Saudi Arabia.
65. (18-19.9.2012) The Saudi international biotechnology conference 2012 "Nanoscale Materials for Health Technologies: From Science and Engineering to Clinical Translation", KACST, Riyadh, Saudi Arabia.
66. (9.10.2012) Ion Torrent user experience tour, KACST, Riyadh, Saudi Arabia.
67. (19-21.3.2013) Agricultural Technologies in Arid Lands. KACST, Riyadh, Saudi Arabia.
68. (30.10.2013) Ion Torrent™ Sequencing Seminar Cum User's Meet. Radisson Blu Hotel, Riyadh, Saudi Arabia.
69. (11.11.2013) Workshop on phenotype characteristics of root nodulating bacteria isolated from woody legume trees grown in Saudi Arabia and their ability to nodulation. Department of Plant Production, College of Food and Agricultural Sciences, King Saud University, Riyadh, Saudi Arabia.
70. (17.12.2013) Workshop on deciphering the regulatory mechanisms of abiotic stress tolerance conferred in transgenic plants expressing the *AISAP* gene from the halophyte grass *Aeluropus litoralis*. Department of Plant Production, College of Food and Agricultural Sciences, King Saud University, Riyadh, Saudi Arabia.
71. (7.1.2014) Workshop on pulp and paper production from lignocellulosic residues and wood available in Saudi Arabia and assessment of the produced paper. Department of Plant Production, College of Food and Agricultural Sciences, King Saud University, Riyadh, Saudi Arabia.
72. (12.3.2014) Workshop on organic farming: Reality and challenges. Department of Plant Production, College of Food and Agricultural Sciences, King Saud University, Riyadh, Saudi Arabia.
73. (25-28.3.2014) Workshop on genomics and bioinformatics of insect vectors of infectious diseases. Department of Plant Protection, College of Food and Agricultural Sciences, King Saud University, Riyadh, Saudi Arabia.
74. (22-24.4.2014) The 3rd Saudi Intellectual Property Forum 2014. KASCT, Riyadh, Saudi Arabia.
75. (27.4.2014) Workshop on local hybrid seeds of vegetables and economic importance. CEBR, King Saud University, Riyadh, Saudi Arabia.
76. (11-12.05.2018) Meeting the challenges in the region - what can international/regional academic cooperation contribute. DAAD-AvH alumni seminar. University of Jordan, Amman, Jordan.
77. (11-12.06.2018) Regional workshop on science and technology developments relevant to the biological weapons convention (BWC) for the Middle East and North Africa. Royal Scientific Society, Amman, Jordan.
78. (12-16.08.2018) Jordan University BRM curriculum development: Introduction and planning session. Intercontinental, Amman, Jordan.
79. Sadder, M.T. (24.09.2018) Genetically modified material between acceptance and rejection. Agricultural Engineering Association, Amman, Jordan.

10. Attended training courses:

1. (2-11.5.1994) 2nd Training course on plant micropropagation: Application of biotechnology to the development of agriculture in Jordan, University of Jordan, Amman, Jordan.
2. (15-26.6.1998) 7th Workshop in DNA analytical methods, University of Hohenheim, Stuttgart, Germany.
3. (20-24.7.1998) Internet for biologists, University of Hohenheim, Stuttgart, Germany.
4. (21.9-2.10.1998) Molecular biology workshop: Plant protection, University of Hohenheim, Stuttgart, Germany.
5. (5-16.2.2001) Safety in laboratory: Bio-safety and genetic safety leadership license, University of Hohenheim, Stuttgart, Germany.
6. (23.7-3.8.2001) Molecular biology workshop: Plant protection, University of Hohenheim, Germany.
7. (11-12.6.2002) Basic radiation safety training, University of Nebraska at Lincoln, USA.

8. (17.7.2002) Environmental and safety core training, University of Nebraska at Lincoln, USA.
9. (12-16.6.2004) Vector NTI Tutorial, University of Nebraska at Lincoln, USA.
10. (2-8.11.2006) School of Bioinformatics, Cornell University, Ithaca, NY, USA.
11. (12.9.2007) Blackboard courses, University of Jordan, Amman, Jordan.
12. (8-10.1.2008) Joint Seminar for Idealist7fp, ERA-MED, FOOD-N-CO and PROMED Access. Holliday Inn and University of Jordan, Amman, Jordan.
13. (28.7-8.8.2008) Biosafety course: "Holistic foundations for assessment and regulation of genetic engineering and genetically modified organisms", GenØk, Tromsø, Norway.
14. (23.11-2.12.2008) Introductory Course in Bioinformatics. Agricultural Genetic Engineering Research Institute (AGERI), Giza, Cairo, Egypt.
15. (14-15.10.2009) Real Time PCR, Applied Biosystems. King Saud University, Riyadh, Saudi Arabia.
16. (8.12.2009) Real Time PCR, Roche. King Saud University, Riyadh, Saudi Arabia.
17. (15-16.12.2009) GeneChip microarray, Affymetrix.. King Saud University, Riyadh, Saudi Arabia.
18. (8-9.3.2010) Fast protein liquid chromatography, General Electric. King Saud University, Riyadh, Saudi Arabia.
19. (24.3.2010) Biofermentor, New Brunswick Scientific. King Saud University, Riyadh, Saudi Arabia.
20. (27-28.4.2010) GeneChip microarray, Affymetrix. King Saud University, Riyadh, Saudi Arabia.
21. (19-20.5.2010) Gene Analysis System, LI-COR. King Saud University, Riyadh, Saudi Arabia.
22. (3.3.2011) LI-COR photosynthesis measuring equipment. King Saud University, Riyadh, Saudi Arabia.
23. (19.3.2011) Real Time PCR, Applied Biosystems. King Saud University, Riyadh, Saudi Arabia.
24. (20-24.6.2011) Workshop on Cutting-edge Bioinformatics, BGI, Shenzhen, China.
25. (26-28.7.2011) Third International Automated Functional Annotation And Data Mining, University of California – Davis, CA, USA.
26. (19-24.9.2011) Special Informatics Training, VBI at Virginia Tech, Blacksburg, VA, USA.
27. (22-24.11.2011) Microarray Data Analysis, GSC, Dubai, UAE.
28. (6-11.12.2011) Chromatin immunoprecipitation, Pennsylvania State University, PA, USA.
29. (13.03.2017) Introduction to high throughput sequence analysis with SeqMonk, University of Jordan, Amman, Jordan
30. (22.11.2017) Advanced Microsofts Excel, University of Jordan, Amman, Jordan

11. Affiliations:

- The Jordanian Agricultural Engineers Association.
- The Japanese Society of Plant Physiologists.
- The International Society for Plant Molecular Biology.
- Maize Genetics Cooperator.
- The Society for *In Vitro* Biology.