Resume

Prof. Mohamad Awad Mohamad Shatnawi

Address:

Biotechnology Department. Faculty of Agricultural Technology. Al-Balqa' Applied University. Al-Salt 19117, Jordan
Work phone number: 00962 53491111; Ext. 3556
Mobile phone number: 00962777748371 or 0790568996
Fax: 0096253530469
E-mail: **mshatnawi1@yahoo.com.au or mshatnawi1@hotmail.com**

Current:

Faculty of Agricultural Technology.
Al-Balqa' Applied University. Al-Salt 19117, Jordan
Work phone number: 00962 53491111; Ext. 3556
Mobile phone number: 00962777748371
Fax: 0096253530469

Nationality: **Jordanian and Australian**

Academic rank: **Title**

Professor of Plant Biotechnology and Tissue Culture

Education:

1- Ph.D. 2004. Biotechnology in Horticulture. Department of Environmental Science. Faculty of Science. University of Technology Sydney, Sydney, Australia.

Ph.D. Dissertation, "*In Vitro* Propagation and Germplasm Storage of Woody Plant Species"

2- M.Sc. 2000. Master of Horticulture. University of Western Sydney, Sydney, Hawkesbury. Richmond-Australia.

3- B.Sc. 1990. Plant Production, Faculty of Agriculture, University of Jordan; Amman. Jordan.

Fellowships:

Fellowship on Germplasm Storage. 1997. Training Course. International Plant Genetic Resource Institute. Fruit Tree Research Institute, Ciampino, Rome, Italy.

Language Skills:

Arabic (mother language), English (Spoken and Written); and Italian (spoken, few written skills).

Computer Skills:

Good experience in using different computer software, MicrosoftOffice, Win Word, Excel, Powerpoint, internet websites, also using many statistical programs, SPSS, STATISTIC، and Min Tab). Got ICDL. Got diploma certificate.

Awards **(Honors):**

1-**Showman Foundation Prize for Young Arab Scientists**. Agricultural Sector, 2015. Amman Jordan.

2- The International Association for Plant Tissue Culture and Biotechnology (Australian Branch). **Award for the best student poster presentation**. 7th Meeting, 20-23 January 2002 at the University of New England, Armidale, Australia.

3- **Ali Mango Distinguished Researcher Award for Scientific Faculties.** Hamdi Mango Center for Scientific Research (HMCSR), University of Jordan, Amman, Jordan, 2012.

4- **University Distinguished Researcher Award**. Al-Balqa Applied University, Al-Salt, Jordan, 2012.

5- **Philadelphia University Research Award**. Published book in science and Technology in Jordan. 2012. Distinguished Researcher Award, Amman, Jordan, 2012.

Career Objectives:

I plan to pursue a career in plant biotechnology through my research. I am interested in the area of horticulture, conservation of plant genetics, micropropagation, bioremediation, phytoremediation, medicinal plant, DNA sequencing, biodiversity study, molecular marker, hydroponic, biotic and abiotic stress, and genetic transformation.

Society Membership (Examples):

Editorial Board of Journal of Modern Agriculture and Biotechnology. http://www.innovationforever.com/aboutjournal?code=JMAB&journalcode=JMAB&journalid=1339748319989231621

- Member, of the International Society for Horticultural Science. 2007-Present.
- Editorial Board of Journal of Modern Agriculture and Biotechnology.
- Member, of the Jordan Society of Scientific Research, 2006 – Present. Amman, Jordan.
- Member, of the Agricultural Engineers Association (1990-Present). Amman, Jordan.
- Member, of the Panel of Referees, Ministry of Higher Education Award for Scientific Excellence. Amman, Jordan. 2017.
- Member, of the Technical Committee, Agriculture and Veterinary Scientific Research. Ministry of Higher Education, Jordan. 2016.
- Associated Editor, *In Vitro* Cellular and Developmental Biology-Plant, USA. 2010-Present.
- Reviewer Editor, In Vitro Cellular and Development Biology-Plant.2007-Present.
- Reviewer. Jordan Journal of Agricultural Sciences. 2005-Present.

Teaching Experience (guest lecturer and seminars):

Have given more than 70 lectures and seminars in different plant biotechnology areas, tissue culture, transformation, hydroponic, phytoremediation, biodiversity, agriculture, and environment disciplines in Jordan and many other countries

Professional Experience:

-Chairman of University committee-20212023

-Dean Faculty of Agriculture Technology.6/9-2016-2018.

-Dean Zarqa College. Since 1/9/2014-6/9/2016. Al-Balqa' Applied University, Al-Salt 19117, Jordan.

-Vice Dean: 9/2010-9/2012 Faculty of Agricultural Technology. Al-Balqa' Applied University, Al-Salt 19117, Jordan.

- Professor: Since 13/3/2014. Biotechnology Department. Faculty of Agricultural Technology. Al-Balqa' Applied University, Al-Salt 19117, Jordan.

-Associate Professor: 9/2009-13/3/2014; Biotechnology Department. Faculty of Agricultural Technology. Al-Balqa' Applied University, Al-Salt 19117, Jordan.

-Assistant professor: 7/2004-9/2009; Biotechnology Department. Faculty of Agricultural Technology. Al-Balqa' Applied University, Al-Salt 19117, Jordan.

-Department Chairman: 9/2006-9/200٨. Biotechnology Department. Faculty of Agricultural Technology. Al-Balqa' Applied University, Al-Salt 19117, Jordan.

-Coordinator Plant Tissue Culture Projects. 9/2005-present. Al-Balqa' Applied University, Faculty of Agricultural Technology. Al-Salt 19117, Jordan.

- Research Assistant, 1/2001-6/2004**.** Department of Environmental Science. Faculty of Science, University of Technology Sydney. Sydney. Australia.

- Graduate Research Assistant, 1/1998-1/2001. The University of Western Sydney. Sydney Hawkesbury. Richmond-Australia.

- Research Assistant, 1/1992-1/1997. Jordan University of Science and Technology. Irbid- Jordan.

- Researcher, 5/1996-10/1997. International Plant Genetic Resource Institute. Rome Italy. At Fruit Tree Research Institute, Ciampino, Rome, Italy.

- Research Assistance 2/1992-5/1996. Center of Agriculture Research and Production. Jordan University of Science and Technology. Irbid-Jordan.

Professional Activities:

Member of Scientific Research Council at Ministry of Higher Education 2019-2021

Member of Scientific Research Council at Al- Balqa Applied University 2015-2016 2018-2019 and 2021-2023

University Board, Member. Faculty of Agriculture Technology. 9/2009-9/2012. Al-Balqa' Applied University. Al-Salt Jordan.

Member of Al-Balqa Applied University Council 201- and 2014-2017

Faculty Board, Member. Faculty of Agriculture Technology. 9/2005-9/2007. then 2009-20012 at Al-Balqa Applied University. Al-Salt. Jordan.

Biotechnology Department Committee, Member, 9/2004-Present. Al-Balqa' Applied University. Al-Salt, Jordan.

University Scientific Board, Member. Faculty of Agriculture Technology. 9/2009-9/2011.Al-Balqa' Applied University. Al-Salt, Jordan.

Scientific Faculty Board, Member. Faculty of Agriculture Technology. 9/2005-9/2009.Al-Balqa' Applied University. Al-Salt, Jordan.

Scientific Committee, Member. Faculty of Agriculture Technology. 9/2006-9/2007.Al-Balqa' Applied University. Al-Salt, Jordan.

Head Department. Biotechnology Department. Faculty of Agriculture Technology. 9/20069-9/2008. Al-Balqa' Applied University. Al-Salt, Jordan.

Jordan Society for Scientific Research, 2004 – Present. Amman, Jordan

Agricultural Engineers Association (1992-Present). Amman, Jordan.

10- The International Society for *in vitro* biology cellular and developmental biology (IAPTC&B)

Expertise:

General plant propagation; plant tissue culture with an emphasis on micropropagation. Germplasm conservation (medium-term conservation and cryopreservation). Applied plant biotechnology transformations well as DNA fingerprinting using RAPD technology. DNA sequencing; hydroponic, biotic abiotic stress. A large proportion of my research time is involved with experimental design and the analysis of biological data across a diverse range of fields in collaboration with a number of other university staff from both biotechnology and environmental science backgrounds.

Graduate Students Supervision: Examples

1- Arwa Abdul-Karim Al-Fauri. 2006-2008 Tissue culture and salt stress on *Chrysanthemum morifolium* Ramat. Master student. Biotechnology Department Faculty of Agriculture Technology, Al-Balqa' Applied University, Al-Salt, Jordan.

2- Hana al-Mahmoud. 2007-2009. Micropropagation and medium-term conservation of endemic *Capparis spinosa*. Master student, Biotechnology Department. Faculty of Agriculture Technology, Al-Balqa' Applied University, Al-Salt. Jordan.

3- Mohamad Shahab. 2008-2011. *In vitro* propagation, conservation, and antimicrobial activity of *Ruta graveolens*. Master student, Biotechnology Department. Faculty of Agriculture Technology, Al-Balqa' Applied University, Al-Salt. Jordan.

4. Manar Rabba'a. 2008-2011. *In Vitro* Conservation of Felty Germander (*Teucrium Polium* L.) Shoot Tips. Master student, Plant Production Department. Jordan University. Amman Jordan.

5-Yousef Abadi. 2011-2013. *In vitro* propagation, antimicrobial activity and insecticidal activity of *Artemisia herba-alba plants*. Master student, Biotechnology Department. Faculty of Agriculture Technology, Al-Balqa' Applied University, Al-Salt. Jordan.

6-Linda Alrayes. 2014-2016 Factors affecting *in vitro* growth of *Moringa peregrina* (Forssk) Fiori and the plant antimicrobial activity. Master student, Biotechnology Department. Faculty of Agriculture Technology, Al-Balqa' Applied University, Al-Salt. Jordan.

7- Nahid Abd Elhamid Osman. 2018-2020. Effect of different stress factors on factors, and antimicrobial activity of *Paronychia argentea*. Master student, Biotechnology Department. Faculty of Agriculture Technology, Al-Balqa' Applied University, Al-Salt. Jal-Salt.

8- Sara Ismael Dawood Dawood. 2020-2020. Factors affecting micropropgation of *Retama Raetam* and Effect of Different Stress on *in Vitro* Growth and Development. Master student, Biotechnology Department. Faculty of Agriculture Technology, Al-Balqa' Applied University, Al-Salt. Jal-Salt.

9- Dalal Abdel Qader Abdel Aziz Al-Shayeb. 2020-2023. Micropropagation and antimicrobial activity of *Cardiospermum halicacabum*: A medical plant growing in Jordanian environment. Master student, Biotechnology Department. Faculty of Agriculture Technology, Al-Balqa' Applied University, Al-Salt. Jal-Salt.

Committee Member on Thesis Examination for more than 70 Master and Ph.D. students:

I was a member of the examining thesis for students

Research proposals:

1- Molecular and morphological characterization and evaluation of landraces and wild types of woody plant species native to Jordan. From: Higher Council of Science and Technology, Jordan.

2- Cryopreservation of sweet cherry (*Prunus avium* L.) using cryopreservation methods. -Balqa' Applied University, Faculty of Agricultural Technology, Al-Salt, Jordan.

3- Induction of Mutation in Akub. From Higher Council of Science and Technology, Jordan.

4- *In vitro* propagation and germplasm storage in grapes (*Vitis vinifera*). Al-Balqa' Applied University, Faculty of Agricultural Technology, Jordan.

5- Genetic diversity and *in vitro* conservation of selected endemic medicinal plant species grown in Jordan. From: Ministry of Higher Education and Scientific Research. Jordan. 76.000 approved date 2/7/2009

6- Production possibility of transgenic and preservation date palm resistant to Red Palm Weevil. From: Ministry of Higher Education and Scientific Research, Jordan. 130.000 approved date; 1/11/2010

7- Deanship of Research. Micropropagation, and *in vitro* Conservation of *Arum palaestinum*. University of Jordan. 25.000 approved date 1/102009.

Community Services:

1- Helped many private companies and institutions in developing their biotechnology projects and programs.

2- Participated in many forums explaining different aspects of plant tissue culture and biotechnology to interested people.

3- Participated in the organization of many workshops and was a member of the Committee of many conferences in Jordan and abroad.

4- Wrote many newspaper and magazine articles about plant biotechnology and tissue culture and their utilization.

5-Wrote many newspaper and magazine articles about life aspect.

Teaching courses:

- Plant Cell Culture (Bachelor's degree)
- Plant production (Bachelor's degree)
- Plant Tissue Culture (Bachelor and Master degree)
- Plant Biotechnology (Bachelor's degree)
- Advance Plant Biotechnology (Master's degree)
- Advance in Plant Tissue Culture (Master's degree)
- Plant Physiology (Bachelor's degree)
- Seminar Presentation (Bachelor's and master's degree)
- Plant Biotechnology in Agriculture (Basic biotechnology) (Bachelor's degree)
- Molecular Biology (Basic) (Bachelor and Master degree)
- Advances in Molecular Biology (Master's degree)
- Biology 101 (Bachelor's degree)
- Special Topic (Research Physiology and Methodology) (Master degree)

Teaching Experience:

- Prepared course outline and lecture notes on Biology 101 and 102
- Prepared course outline and lecture notes on Plant Tissue Culture for under graduate students.
- Prepared course outline and lecture notes on Advance Plant Tissue Culture for post graduate students
- Prepared course outline and lecture notes on Molecular Biology for Under graduate students
- Prepared course outline and lecture notes on Advanced Molecular biology for post graduate students
- Prepared course outline and lecture notes on Plant Biotechnology for under graduate students
- Prepared course outline and lecture notes on Advanced Plant Biotechnology for post graduate students
- Helped many graduate and undergraduate students in finding scientific resources for projects at term papers at Al-Balqa Applied University and in Jordan University of Science and Technology.

Scopus Details:

Author ID: 6603122049
Documents: 48
References: 1250
Citations: 615
H index: 15

Google Scholar:

H index: 24
I ten h index: 45
Total citation 1841

Reviewer for the Following Journals:

- Jordan Journal of Agriculture Science
- American-Eurasian Journal of Agricultural and Environmental Science
- Jordan Journal of Biological Sciences
- Journal of Food, Agriculture, and Environment
- African Journal of Biotechnology Ecotoxicology and Environmental Safety
- *In Vitro* Cellular and Developmental Biology-Plant.
- Plant Cell, Tissue and Organ Culture
- Acta Agriculturae Slovenia
- Journal of Medicinal Plants Research.
- Arab Gulf Journal of Scientific Research
- European Journal of Medicinal Plants

Publications:

Tawaha A. R. M., Khali S., Khanum S., Amanuallah I., Al-Tawaha A. R., Thangadurai D., Sangeetha J., Rauf A., Saranraj P., **Shatnawi M** and Al-Gabbeish A. 2023. Biochemical and molecular mechanism of wheat to drought stresses: A review. Proceedings of the 4th International Conference of Animal Science and Technology (ICAST 2021) AIP Conf. Proc. 2628, 120003-1–120003-6; https://doi.org/10.1063/5.0144444 Published by AIP Publishing. 978-0-7354-4529.

Shatnawi M., Al-Gabbiesh A., Al-Tawaha A. R., Sirajuddin N and Jamila. J. 2023. *In Vitro* production of secondary metabolites and plant salinity stress: A review. Proceedings of the 4th International Conference of Animal Science and Technology (ICAST 2021) AIP Conf. Proc. 2628, 110007-1–110007-5; https://doi.org/10.1063/5.0144443 Published by AIP Publishing. 978-0-7354-4529.

Al Tawaha, A. R., Abukhader R., Qaisi A., Dey A., Pati, S., Al-Tawaha, A. R., Ali I and **Shatnawi M**. 2023. Phytochemicals in prostate cancer. In: Pati S., Sarkar T and Lahiri. D 2023. Recent Frontiers of Phytochemicals Applications in Food, Pharmacy, Cosmetics, and Biotechnology. Elsevier Inc. Amsterdam, Netherlands. PP: 179-187.
ISBN: 978-0-443-19143-5

Khanum, S., Tawaha, A. R., Abu-Zaitoon, Y., Al-Tawaha, A. R., Alatrash, H., Rauf, A., Karnwal, A., Dey, A., **Shatnawi, M.,** Thangadurai, D., Sangeetha, J., Islam, S., Amanullah, I., Khalid, S., Saranraj P and Gunal. E. 2023. Mycorrhizal Role in Phosphorus Metabolism. In Sangeetha, A., Abdel Rahman M. Al Tawaha, A. R and Thangadurai, D. In: *Mycorrhizal Technology:* Managing Stress and Mitigating Climate using Mycorrhizae for Sustainable Agricultural Development. Editors: Sangeetha, A., Al Tawaha, A. R and Thangadurai, D. Ph.D. by AAP/CRC Press, Taylor and Frances, USA. Pp: 15-32.

Khanum, S., Al-Tawaha,A. R. M., Abu-Zaitoon, Y., Al-Tawaha, A. R., Alatrash, H., Rauf, A., Karnwal, A., Dey, A., **Shatnawi, M.,** Thangadurai, D., Sangeetha, J., Islam, S., Amanullah, I., Khalid, S., Saranraj, P and Guna E. 2023. Arbuscular Mycorrhizal Biotechnology and Its Applications. In Sangeetha, A., Abdel Rahman M. Al Tawaha, A. R and Thangadurai, D. In: *Mycorrhizal technology:* Managing Stress and Mitigating Climate using Mycorrhizae for Sustainable Agricultural Development. Editors: Sangeetha, A., Al Tawaha, A. R and Thangadurai, D. Ph.D. by AAP/CRC Press, Taylor and Frances, USA. Pp: 85-98.

Al Tawaaha, A. R. M., Vyas, P., Karnwalc, A., Benkeblia, N., Sanmukh, S. G., Serra, E. T., Amanullah, I., Khaled, S., Al- Tawaha, A. R., Dey, A., Alimad, N., Thangadurai, D., Sangeetha, J., Islam, S., **Shatnawi. M.** 2023. Biological Nitrogen Fixation in Non-Legume Plant and Changing Climate. In: Benkeblia, N. Climate Change and Agriculture: Perspectives, Sustainability, and Resilience. Pp: First Edition. Edited by

Noureddine Benkeblia. 2023 John Wiley & Sons Ltd. Published 2023 by John Wiley & Sons Ltd ISBN: 978-1-119-78975-8

Al Tawaha, A. R., Abukhader, R., Qaisi, A., Dey, A., Pati, S., Al –Tawaha, A. R., Ali, I and **Shatnawi M. 2023.** Phytochemicals in prostate cancer. Chapter 11. In: Recent frontiers of phytochemicals. Press, Elsevier; USA. Page: 1-10. https://doi.org/10.1016/B978-0-443-19143-5.00022-0

Al-Tawaha, A. R. M. S., Khanum, S., Benkeblia, N., Imran, A., Khaled, S., Al- Tawaha, A. R., Mondal, M., Odat, N., Dey, A., Alimad, N., Thangadurai, D., Sangeetha, J., Islam, S., and **Shatnawi, M.** 2023. Adapting Crops to Climate Change. In: Benkeblia, N. Climate Change and Agriculture: Perspectives, Sustainability, and Resilience. Chapter 3. Pp**:** First Edition. Edited by Noureddine Benkeblia. © 2023 John Wiley & Sons Ltd. Published 2023 by John Wiley & Sons Ltd. ISBN: 978-1-119-78975-8

Al Shhab, M., **Shatnawi, M.,** Abu-Rommanm S., Majdalawi, M., Abubaker, S and Shahrour, W. 2022. Antimicrobial activity and micropropagation of *Ruta graveolens* medicinal plant. International Journal of Agriculture and Biology. 28:352–358. DOI: 10.17957/IJAB/15.1988.

Mehrat, M., **Shatnawi, M.,** Shibli, R., Qudah, T., Abu malloh, S., Al-qudah, T. **2022.** Clonal propagation of *Tetragonolobus palaestinus* Bioss: A Jordanian medical plant. Acta Agriculturae Slovenica, 118 (3): 1–9. doi:10.14720/aas.2022.118.3.1208.

Alatrash, H., Tawaha, A. R., Jabour, Y, Al-Tawah, A. R., Abusalem, M., Khanum, A., Dey, A., Shatnawi, M., Thangadurai, D., Jeyabalan, S., Turik, M., Amannullah, M and Kalid, S. 2022. A biotic stress respons and adoption of triticale. In: Roychoudhury, A., Aftab, T and Achary, K. Omics approach to manage abiotic stress in Cereals. Pp 599-615. On line 31 May. Springer, Singapore. ISBN 978-981-19-0139-3 ISBN 978-981-19-0140-9 (eBook) https://doi.org/10.1007/978-981-19- 0140-9_25.

Khanum, S., Tawaha, A. M., Jabbour, Y., Al-Tawah, A. R., Abusalem, M, Rauf, A., Karnwal, A., Dey A, Shatnawi, M., Thangadural, D., Sangeetha, J., Turik, M., Amanualh, M and Khalid, S. 2022. Cereal physiology, flowering and grain yield under abiotic stress imposed by different heavy metal. In: Roychoudhury, A., Aftab, T and Achary, K. Omics approach to manage abiotic stress in Cereals. Pp 37-46. On line 31 May 2022. ISBN 978-981-19-0139-3 ISBN 978-981-19-0140-9 (eBook) https://doi.org/10.1007/978-981-19-0140-9_3.

Shatnawi, M., Majdawi, M., Shahrour, W., R. Abu-Zahra, T and Al-Tawaha, A. 2022. Germination and *in vitro* propagation of *Gundelia tournefontii* as an important medicinal plant. Ecological Engineering and Environmental Technology. 23(1): 57–64. https://doi.org/10.12912/27197050/143006.

Osman, A. A. E., **Shatnawi, M**., Shibli, R., Majdalawi, M., Al Tawaha, A. R and Qudah, T. 2021. Salts induced salinity and *in vitro* multiplication of *Paronychia argentea.*

Ecological Engineering and Environmental Technology. ٢٢(5):55–64. https://doi.org/10.12912/27197050/139408.

Al Shhab, M., **Shatnawi, M**., Abu Romman, S., Majdalawi, M and Odat, N. 2021. Micropropagation and *in vitro* conservation of *Ruta graveolens.* Research on Crops Journal. 22 (2): 398-409. DOI: 10.31830/2348-7542.2021.085.

Abu-Zahra, T. R., Al-Bakheit, A and **Shatnawi, M. A**. 2021. Investigating the possible added value of Hydroponically produced Lettuce over soil produce. American-Eurasian Journal of Agricultural and Environmental Science. 21 (1): 53-59. DOI: 10.5829/idosi.aejaes.

Shatnawi, M., Abubaker, S., Odat, N., Al-Tawaha, A. R and Majdalawi, M. 2021. Antimicrobial activity and micropropagation of selected Jordanian medicinal plant. Journal of Ecological Engineering. 22(6): 151–158. https://doi.org/10.12911/22998993/137679.

Shatnawi, M., Osman, N. A., Shibli, R., Odat, N., Al-Tawaha, A. R. Qudah, T and Majdalawi, M. 2021. Effect of heavy metal on the *in vitro* growth of *Paronchia argentea* and its antimicrobial activity. Ecological Engineering and Environmental Technology. 22(3): 142–151. DOI: https://doi.org/10.12912/27197050/135655.

Haddad, M. A., Dmour H., Al-Khazaleh, J. M., Obeidat, M., Al-Abbadi A., Al-Shadaidh A., Al-Mazraawi, M., **Shatnawi M. A** and Candela I. C. 2020. Herbs and medicinal plants in Jordan. Journal of AOAC international. 103 (4): 925–929. https://doi.org/10.1093/jaocint/qsz026.

Shatnawi, M. A., Shibli, R. A., Shahrour, W. G., Al-Qudah, T. S and Abu-Zahra., T. 2019. Micropropagation and conservation of Fig (*Ficus carica* L.). Journal of Advances in Agriculture. 10:1669-1679. **DOI:** https://doi.org/10.24297/jaa.v10i0.8160.

Abu-Zahra,T. R and **Shatnawi, M. A.** 2019. New Pollination Technique in Date Palm (*Phoenix dactylifera* L.) cv. "Barhee" and "Medjol" Under Jordan Valley Conditions. American-Eurasian Journal of Agricultural and Environmental Science. 19 (1): 49-54. **DOI:** 10.5829/idosi.aejaes.2019.49.54.

Alrayes, L. M. H., **Shatnawi, M. A** and Al Khateeb, W. M. 2018. *In vitro* studies on callus induction of *Moringa peregrina* (Forssk) Fiori and antifungal activity of plant extract. Jordan Journal of Agricultural Science. 14 (2): 146-156.

Al-Alouni, Z. I., Abbas, S., **Shatnawi, M. A** and Al-Makhadmeh, I. 2016. Effect of plant growth regulators on *in vitro* micropropagation and evaluation of antimicrobial activity extracts from *ex vitro, in vitro* and callus of rue (*Ruta graveolens* L.). VII International Scientific Agriculture Symposium, "Agrosym. 6-9 October 2016, Jahorina, Bosnia and Herzegovina. Proceedings 2016 pp.157-164 ref.20

Alrayes, L. M. H., Al Khateeb, W. M and **Shatnawi, M. A**. 2016. Clonal propagation and antibacterial activity of *Moringa peregrina* (Forssk) Fiori plant. Journal of Advances in Biotechnology. 6 (1): 787-797. **DOI:** https://doi.org/10.24297/jbt.v6i1.4018

Odat, N. A., Hasan, M. K., Obeidat, M. S., **Shatnawi, M. A**., Abu-Romman, M. A., Qrunfleh, I. M and Massadeh, M. I. **2015.** Identifying Selection Signatures related to Domestication process in Barley (*Hordeum vulgare* L.) Landraces of Jordan using Microsatellite Markers. Jordan Journal of Biological Sciences. 8 (4): 307-313. EID: 2-s2.0-84958974696. DOI: 10.12816/0027067

Al-Ajlouni, Z., Abbas, S and **Shatnawi, M**. 2015. *In vitro* propagation, callus induction, and evaluation of active compounds *Ruta graveolens*. Journal of Food, Agriculture & Environment. 13 (2): 101-106. EID: 2-s2.0-84929086484. DOI: https://doi.org/10.1234/4.2015.3943

Shahrour, W. G., **Shatnawi, M**., Abubaker, S., Al-Ajlouni, Z., Shadaideh, A. N., Al-Dmoor H, and Alhssaen, K, 2013. Identification of *Phytophthora infestans* from infected potato and tomato plants using molecular techniques. 2013: Journal of Food, Agriculture and Environment. 11: (3&4):1216-1221. EID: 2-s2.0-84887583579

Qrunfleh, I M., **Shatnawi, M. A**., and Al-Ajlouni, Z. I. 2013. Effect of different concentrations of carbon source, salinity and gelling agent on *in vitro* growth of fig (*Ficus carica* L.). African Journal of Biotechnology. 12 (90: 936-940. DOI:10.5897/AJB12.2871

Shadiadeh, A.N., Karajeh, M. R., Al-Alawi, S. A., Abu Bakr, S. M., **Shantawi, M. A** and Hassan. H. S. 2013. Knowledge level in tomato diseases among tomato growers in Southern Gours. Arab Journal of Plant Protection. 31 (1): 83-90.

Shiyab, S. M., **Shatnawi, M. A**, Shibli, R. A., Al Smeir, N G., Ayad, A. J and Akash, M. J. 2013. Growth, nutrient, acquisition and physiological responses of hydroponic grown tomato to sodium chloride induce stress. Journal of Plant Nutrition. 36 (4): 665-676. **D**OI: 10.1080/01904167.2012.754037

Shatnawi, M. A. 2013. Multiplication and cryopreservation of Yarrow (*Achillea millefolium* L., Astraceae). Journal of Agriculture Science and Technology. 15: 163-173. URL: http://jast.modares.ac.ir/article-23-769-en.html

Shibli, R. A., Duwayri, M. A., Sawwan, J. S., **Shatnawi, M. A** and Al-Qudah, T. S. 2012. Regeneration via somatic embryogenesis of the endangered wild arum (*Arum palaestinum*). *In Vitro* Cellular and Developmental Biology-Plant. 48: 335-3340. DOI: 10.1007/S11627-012-9438-Z

Al-Ajlouni, Z., Ajlouni, M., **Shatnawi, M**., Shibli R., Makhadmeh, I., Abu Romman, S and Al-Ghazawi. A 2012. Callus induction, plant regeneration and growth on barley

(*Hordeum vulgare* L.). South Western Journal of Horticulture, Biology and Environment. 3: 25-39.

Rabba'a, M. M., Shibli, R. A and **Shatnawi, M. A**. 2012. Cryopreservation of *Teucrium polium* L. shoot-tips by vitrification and encapsulation-dehydration. Plant Cell, Tissue and Organ Culture. 110: 371-382. DOI: 10.1007/S11240-012-0158-1

Raba"a M., Shibli, R. A and **Shatnawi, M. A**. 2012. *In vitro* medium conservation of felty germander (*Tecurium polim* L.) micro-shoots. Jordan Journal of Agricultural Sciences. 8: 523- 535.

Al-Mahmood, H., **Shatnawi, M**. **A**., Shibli, R. A, Makhadmeh, M., I., Abubaker, S. M and Shadiadeh, A. N. 2012. Clonal propagation and medium-term conservation of *Capparis spinosa*: A medicinal plant. Journal of Medicinal Plant Research. 6 (22): 3826-3836. https://doi.org/10.5897/JMPR11.547.

Shiyab, S., **Shatnawi, M**., Shibli, R., Al-Zweiri, M., Akash, M and Aburijai, T. 2012. Influence of developmental stage on yield and composition of *Origanum syriacum* L. oil by multivariate analysis. Journal of Medicinal Plant Research. 6 (15): 2985-2994. https://doi.org/10.5897/JMPR11.1368

Duwayri, M. A., Shibli, R and **Shatnawi M. A**. 2012. Plant Genetic Resources and Methods for their Conservation. Amman: Jordan University. Faculty of Scientific Research. First Eds.

Hassawi, D. H., Abu-Mallouh, S. A., Al-Abbadi, A. A and **Shatnawi, M. A**. 2012. Organelles genome stability of wheat plantlets produced by anther culture. African Journal of Biotechnology. 11 (22): 6108-6026. **DOI:** 10.5897/AJB11.1875

Abu-Romman, S., **Shatnawi, M.,** Hasan, M., Qrunfleh, E., Omar, S and Salem, N. 2012. cDNA cloning and expression analysis of a putative alternative oxidase *HsAOX1* from wild barley (*Hordeum spontaneum*). Gene and Genomics. 34 (1): 59-66. DOI: 10.1007/S13258-011-0164-4

Obeidat, M., **Shatnawi, M**., Al-alawi, M., Al-Zu'bi, E., Al-Dmoor, H., Al-Qudah, M., El-Qudah, J and Otri, I. 2011. Antimicrobial activity of Crude extracts of some plant leaves. Research Journal of Microbiology. 7(1): 59-67. DOI: 10.3923/JM.2012.59.67

Alhssaen, K., Hussein, E. I., Al-Batayneh, K. M., Al-Khatib, M., Al-Khateeb, W., Jacob. J. M., **Shatnawi, M. A**., Khashroum, A and Hegazy, M. I. 2011. Identification and controlling Pythium sp. infecting tomato seedlings cultivated in Jordan valley using garlic extract. Asian Journal of plant Pathology. 5 (2): 84-92. DOI: 10.3923/AJPPAJ.2011.84.92

Shatnawi, M. A. 2011. Cryopreservation of *Capparis spinosa* shoot tips via vitrification, encapsulation dehydration and encapsulation vitrification. World Applied Science Journal. 15 (3): 318-325. EID: 2-s2.0-81755182736

Shatnawi M. A. 2011. Multiplication and cryogenic storage of *Artemisia herba-alba*: A medicinal plant. Journal of Food, Agriculture and Environment. 9: 340-344. EID: 2-s2.0-80655140588

Shatnawi, M. A., Shibli R. A., Abu-Romman, S. M., Al-Mazra'awi, M. S., Al Ajlouni, Z. I., Shatanawi, W. A and Odeh.W. H. 2011. Clonal propagation and cryogenic storage of the medicinal plant *Stevia rebaudian*a. Spanish Journal of Agriculture Research. 9 (1): 213-220. DOI: 10.5424/SJAR/20110901-021-10

Shatnawi. M., Shibli, R, Al-Dmoor, H., Ateyat, M and S. Abubaker. 2011. *In vitro* propagation and cryopreservation of *Stevia rebaudiana* using a vitrification med. Acta Horticulturae. 908: 319-324. DOI: 10.17660/ACTAHORTIC.2011.908.42

Shatnawi, M., Anfoka, G., Shibli, R., Al-Mazra'awi, M., Shahrour, W and Arebiat, A. 2011. Clonal propagation and cryogenic storage of virus free grapevine (*Vitis vinifera* L.) via meristem culture. Turkish Journal of Agricultural and Forestry. 35: 173-184. DOI: 10.3906/TAR-0912-519

Abu-Romman, S and **Shatnawi, M.** 2011. Isolation and expression analysis of chloroplastic copper/zinc superoxide dismutase gene in barley. South African Journal of Botany. 77: 328-334. DOI: 10.1016/J.SAJB.2010.09.012

Baghdadi S. H., Shibli, R. A., Syouf, M. Q., **Shatnawi, M. A**., Arabiat, A and Makhadmeh, I.M. 2010. Cryopreservation by encapsulation-vitrification of embryogenic callus of tow wild *Crocus* species (*Crocus hyemalis* and *Crocus moabiticus*). Jordan Journal of Agricultural Science. 6 (3): 439-443.

Shatnawi, M., Al-Fauri, A., Megdadi, H., Al-Shatnawi, M. K., Shibli, R.A., Abu-Romman, S and Al-Ghzawi, A. 2010. *In vitro* multiplication of *Chrysanthemum morifolium* Ramat and its responses to NaCl induced salinity. Jordan Journal of Biological Sciences. 3 (3): 101-110.

Abu-Romman, S., **Shatnawi,** M and Shibli, R. 2010. Allelopathic effects of spurge (*Euphorbia hrirosolymitana*) on wheat (*Triticum durum*). American-Eurasian. Journal of Agricultural and Environmental Science. 7 (3): 298-302. URL : http://www.idosi.org/.../9.pdf

Ateyyat, M. A., **Shatnawi, M** and Al- Mazra'awi, M. 2010. Isolation and Identification of culturable forms of bacteria from the sweet potato whitefly *Bemisia tabaci* genn (Homoptera: Alerodidae) in Jordan. Turkish Journal of Agricultural and Forestry. 34: 225-234. DOI: 10.3906/TAR-0902-35

Sheyab S., **Shatnawi, M. A.,** Shibli, R. A., Obeidat, M., Shadiadeh, A. N., Alhussaen, K.M and Abu-Zahara, T. 2010. Micropropagation and medium-term conservation of *Antirrhinum majus* L. Jordan Journal for Agricultural Sciences. 6 (2): 171-182.

Shatnawi, M., Shibli, R., Al-Dmoor, H., Al-Mazraawi, M and Ajlouni, M. K. 2009. Development of micropropagation protocol for *Stevia rebauduana* medicinal plants. Jordan Society for scientific research, Amman, Jordan. 7/11/2009. pp: 29-48.

Shibli, R. A., Owies, D. S., Ereifej K. I and **Shatnawi, M. A**. 2009. *In vivo* propagation of Akub (*Gundelia tournefortii* L) by seeds. Jordan Journal of Agricultural Science. 5: 266-272.

Ateyyat, M. A., **Shatnawi, M** and Al-Mazra'awi, M. S. 2009. Culturable whitefly associated bacteria and their potential as biological control agents. Jordan Journal of Biological Science. 2 (3): 139 – 144.

Al-Mazra'awi, M. S., Al-Abbadi, A., **Shatnawi, M** and Ateyyat, M. 2009. Effect of application method on the interaction between *Beuveria bassiana* and tree extract when combined for *Thrips tabaci* (Thysanoptera: Thripidae) control. Journal of Food, Agriculture and Environment. 7 (2): 869-873. **EID: 2-s2.0-66349116727**

Shatnawi, M., Faouri, A., Al-Mazraawi, M., Shibli, R and Makhadmeh, I. 2009. Tissue culture and salt stress in *Chrysanthemum morifolium*. Acta Horticulturae. 829: 189-196. DOI: 10.17660/ACTAHORTIC.2009.829.27

Shibli, R., Baghdadi, S., Makhadmeh, I., Atrabiat, A and **Shatnawi, M**. 2009. Cryopreservation by encapsulation-dehydration of embryogenic callus of wild crocus (*C. hiemalis* and *C. moabiticus*). Acta Horticulturae. 829: 197-203. **DOI: 10.17660/ACTAHORTIC.2009.829.28**

Ateyyat, M. A., Mazraawi, M and Abu Rjai, T., **Shatnawi, M.** 2009. Impact of botanical extracts derived from some Jordanian medicinal plants of sweet potato whitefly *Bemisia tabaci* Genn. (Homoptera:Aleurodidte). Journal of Insect Science. 9: 1-6.

Ateyyat, MA, Al-Mazra'awi, M., Abu-Rjai, T., **Shatnawi M. A**. 2009. Aqueous Extracts of Some Medicinal Plants are as Toxic as Lmidacloprid to the Sweet Potato Whitefly, Bemisia tabaci. *Journal of Insect Science*. 9(1):1-6. https://doi.org/10.1673/031.009.1501. EID: 2-s2.0-67649525473

Makhadmeh, I and **Shatnawi, M. A**. 2008. *In vitro* propagation of threatened *Pimelea spicata* from mature plant material. Advances in Horticultural Science. 22 (3): 212-217. doi: 10.1400/96426. **EID: 2-s2.0-52649177057**

Shatnawi, M. A., Shibli, R. A., Qrunfleh, I., Bataeineh, K and Obeidat M. 2007. *In vitro* propagation and cryopreservation of *Prunus avium* using vitrification and encapsulation

dehydration methods. Journal of Food, Agriculture and Environment. 5 (2): 204-208. EID: 2-s2.0-34249802311

Shatnawi, M. A., Frehat, N., Makhadmeh, I., Shibli, R. A and Abu Ein, A. 2007**.** Influence of sugar source on growth and sugar uptakes of *in vitro* grown wild pear (*Pyrus syriaca*). Advances in Horticultural Science. 21 (3): 133-140. EID: 2-s2.0-35349026070

Subaih, W. S.**, Shatnawi, M. A** and Shibli, R. A. 2007. Cryopreservation of Date palm (*Phoenix dactylifera*) embryogenic callus by encapsulation dehydration, vitrification and encapsulation vitrification. Jordan Journal of Agricultural Science. 3 (2): 156-171.

Shibli R. A., **Shatnawi M. A.,** Mohammad, M. J., Hindiyeh, M. A and Abu-Ein, A. **2007**. Influence of Zn and Mn levels on growth and micronutrient acquisition of apple microculture. American-Eurasian Journal Agriculture and Environment Science**.** 2 (2): 147-152.

Al-Nashash, A., Migdadi, H., **Shatnawi, M A.,** Saoub, H and Masoud, S. 2007. Assessment of phenotypic diversity among Jordanian barley landraces (*Hordeium vulgare* L.). Biotechnology. 6 (2): 232-238. EID: 2-s2.0-34848885438

Al- Nashash, A., Migdadi, H., **Shatnawi, M. A.**, Saoub H and Masoud, S. 2007. Assessment of genetic variation of Jordanian barley landraces (*Hordieum vulgare* L) as revealed by molecular markers. American-Eurasian Journal of Agriculture and Environment Science. 2 (1):68-74.

Ebrahim, N., Shibli, R. A., Makhadmeh, I., **Shatnawi, M. A** and Abu-Ein, A. 2007. *In vitro* propagation and *in vivo* acclimatization of three coffee cultivars (*Coffea arabica* L.) from Yemen. World Applied Sciences Journal. 2 (2): 142-150.

Shibli, R. A., **Shatnawi, M. A.,** Subaih, W and Ajlouni, M. M. 2006. *In vitro* conservation and cryopreservation of plant genetic resources: a review. World Journal of Agricultural Science. 2 (4): 372-382.

Shatnawi, M. A. 2006. Micropropagation and germplasm storage of *Prunus amygdalu*s by the vitrification method. Jordan Journal of Agricultural Science. 2 (3): 222-233.

Shatnawi, M. A. 2006. Cryopreservation of *Prunus avium* using vitrification and encapsulation dehydration method. First International Egyptian –Jordanian conferences on Biotechnology and Sustainable development. Current status and Future Scenario. Cairo Egypt 11-14 December. Pp: **105-109**.

Arafeh, R. M., Shibli, R. A., Al-Mahmoud. H and **Shatnawi, M. A.** 2006. Callusing, cell suspension culture and secondary metabolites production in Persian oregano (*Origanum vulgare* L.) and Arabian oregano (*O. syriacum* L.). Jordan Journal of Agricultural Science. 2 (3): 274-282.

Shatnawi, M. A., Shibli, R. A., Migdadi, H., Obeidat, A., Ereifej, K and Abu-Ein, A. M. **2006.** Influence of different carbon sources on wild pear (*Pyrus syriaca*) growth and sugar uptake. World Journal of Agricultural Science. 2(2):156-161.

Shatnawi, M. A. 2006. Cryogenic storage of apple (*Malus domestica*) shoot tips using encapsulation dehydration. Jordan Journal of Agricultural Science. 2 (2): 187-198.

Shatnawi, M. A., Johnson, K and Torpy, F. **200**4. *In vitro* propagation and cryostorage of *Syzygium francisii* (Myrtaceae) by encapsulation-dehydration method. *In Vitro* Cellular and Developmental Biology-Plant. 40 (4): 403-407. DOI: 10.1079/IVP2004551

Shatnawi, M. A and Johnson, K. A. 2004. Cryopreservation by encapsulation-dehydration of 'Chritsmas bush' (*Ceratopetalum gummiferum*) shoot tips. *In Vitro* Cell, Developmental Biology-Plant. 40 (2): 239-244. DOI: 10.1079/IVP2003518

Al-Ababneh, S., Shibli, R. A., Karam, N. S and **Shatnawi M, A.** 2004. Cryopreservation of bitter almond (*Amygdalus communis* L.) shoot tips by encapsulation-dehydration and vitrification. Advances in Horticultural Science. 17 (1): 15-20. **EID: 2-s2.0-0038322070**

Shibli, R. A., **Shatnawi, M. A** and Swaidat, I. Q. 2003. Growth, osmotic adjustment and nutrient acquisition of bitter almond under induced sodium chloride salinity *in vitro*. Communication in Soil Science and Plant Analysis. 34: 1969-1979. DOI: 10.1081/CSS-120023231

Damiano, C., Fratterali, A., **Shatnawi, M. A.**, Wu, Y., Forni, C and Engelmann, F. 2003. Cryopreservation of temperate fruit tree: Quality plant material and methodologies for gene bank creation. Acta Horticulturea 623: 209-215. https://doi.org/10.17660/ActaHortic.2003.623.22

Shatnawi, M. A and Johnson, K. A. 2002. Cryopresvation of Christmas bush (*Ceratopetalum gummiferum* Ms.) by encapsulation-dehydration method. In: Taji A, Williams R. *The Importance of Plant Tissue Culture and Biotechnology in Plant Science*. University of New England. Armidale. pp 335-341.

Shibli, R.A., Al-Juboory, K. H., Shatnawi, M and A. Abu-Ein, A. 2001. Somatic embryogenesis and plant recovery from callus of 'Nabali' olive (*Olea europea* L.). Scientia Horticulturae. 88: 243-256. DOI: 10.1016/S0304-4238(00)00241-7

Damiano, C., Engelmann, F., Frattarelli, A., **Shatnawi, M. A** and Wu, A. 2000. Research on cryopreservation of temperate fruit germplasm at the fruit tree research institute. International Conference on Science and Technology for Managing Plant Genetic Diversity in the 21 st century. Kuala Lampur-Malaysia.12-16. June.

Damiano, C., Engelmann, F., Frattarelli, A and **Shatnawi, M. A**. 2000. Crioconservazione di apici di melo atti 4 ºC Convegno nazionale biodiversita. Germoplasma locale e sua valorizzazione. Alghero, 8-11 Settember pp: 417-420.

Shibli, R. A., Al Juboory, K and **Shatnawi, M. A**. 2000. Cryopreservation of 'Nabali olive' (*Olea europea*) using encapsulation-dehydration and encapsulation-vitrification. CryoLetters. 21: 357-366. **PMID: 12148028**

Shatnawi, M. A., Engelmann, F., Fratteralli, A and Damiano, C. 2000. Cryopreservation of almond (*Prunus dulcis* Mill) apice. In: Cryopreservation of Tropical Plant Germplasm. Current research progress and applications. Engelmann, F and Takagi, H. Tuskuba, Japan. IPGRI. Rome, Italy. 20-23 Oct. pp: 434-436.

Shibli, R. A., Mohammad, M., Abu-Ein, A and **Shatnawi, M. A**. 2000. Growth and micronutrient acquisition of some apple varieties in response to gradual *in vitro* induced salinity. Journal of Plant Nutrition. 23: 1209-1215. DOI: 10.1080/01904160009382094

Shatnawi, M., Engelmann, F., Frattarelli, A and Damiano, C. 1999. Cryopreservation of apices of *in vitro* plantlets of almond (*Prunus dulcis* Mill). Cryoletters. 20:13-20.

Damiano, C., Engelmann, F., Frattarelli, A., **Shatnawi M. A** and Wu, A. 1999. Cryopreservation of temperate fruit germplasm. International congress of cryobiology. Marseille. France: 12-15 July.

Shibli, R. A., Mohammad, M. J., Ajlouni, M. M **Shatnawi, M. A** and Obeidat, A. F. 1999. Stability of chemical parameters of tissue culture medium (pH, osmolarity, electrical conductivity) as a function of time of growth. Journal of Plant Nutrition. 22: 501-510. DOI: 10.1080/01904169909365647

Shibli, R. A., Smith, M. A. L and **Shatnawi, M. A.** 1998. Pigment recovery from encapsulation-dehydrated of *Vaccinium pahalae* (ohelo) cryopreserved cells. Plant Cell, Tissue Organ Culture. 55: 119-123. DOI: 10.1023/A:1006276205723

Shibli, R. A., **Shatnawi, M. A.**, Ajlouni, M. M., Jaradat, A and Adham, Y. 1999. Slow growth *in vitro* conservation of bitter almond (*Amygdalus communis* L.). Advances Horticultural Science. 13:133-134.

Shibli, R. A., Ajlouni, M., **Shatnawi, M. A.,** and Abu-Ein, A. 1999. An effective method for *in vitro* production of disease-free carnation (*Dianthus caryophyllus*) cv. Balady. Plant Tissue Culture. 9: 159-166.

Shibli, R. A., Smith, M. A. L and **Shatnawi, M. A**. 1999. Pigments recovery from encapsulated-dehydrated *Vaccinium pahalae* (ohelo) cryopreserved cells. Proceedings: 2nd Biotechnology Conference. Al-Al-Bayte University, Mafraq, Jordan.

Shatnawi, M. A., Engelmann, F., Frattarelli, A and Damiano, C. 1998. *In vitro* cryopreservation of apices of (*Prunus dulcis* (Miller) D. Webb) *in vitro* plantlets. World Conferences on Horticultural Research. 17-20 June. Rome Italy.

Shatnawi, M. A., Shibli, R., Ajlouni, M., and Adham, Y. 1998**.** *In vitro* conservation of bitter almond (*Prunus dulcis* (Miller) D. Webb) from Jordan. World Conferences on Horticultural Research. 17-20 June. Rome Italy.

Damiano, C., Engelmann, F., Frattarlli, A., **Shatnawi M. A** and Wu, A. 1998. Crioconservzione di apici di melo. Concresso Nazionale Biodaiversita-Alghero. 8-11 Settember.

Shatnawi, M. A., Engelmann, F., Frattarelli, A and Damiano, C. 1998. Crioconservazione nelle piante da frutto. IV. Giorante Scientifiche. S. O. I. Sanremo. 1-3 Aprile. pp: 503-504.

Shatnawi, M. A., Shibli, R. A., Obeidat, A. R and Ajlouni, M. 1998. *In vitro* propagation and *in vitro* acclimatization of sour orange (*Citrus aurantium* L.). Damascus University Journal of Agriculture Science. 14: 120-132.

Shatnawi, M. A., Engelmann, F., Frattarelli, A., and Damiano, C. 1998. Crioconservazione nelle plante frutto. Regio Calabia conferences

Shibli, R. A., Jaradat, A., Ajlouni, M., Aljanabi, S and **Shatnawi, M.** 1997. Micropropagation in wild pear (*Pyrus syrica*). Scientia Horticulturae**. 68**: 237-242. DOI: 10.1016/S0304-4238(96)00972-7

Shibli, R. A., Jaradat, A., Ajlouni, M., Aljanabi, S and **Shatnawi, M.** 1997. Micropropagation in wild pear (*Pyrus syrica*). Proceeding; 2nd Arab Agriculture Conference, Jordan.

Shibli, R. A., Ajlouni, M., Jaradat, A and **Shatnawi, M. A.** 1997. *In vitro* conservation of wild pear (*Pyrus Syrica*) in Jordan. Hortscience. 32: 549. Abst. # 698.

Published Abstracts:

Shatnawi, M., Faouri, A., Al-Mazraawi, M., Shibli, R and Makhadmeh, I. 2008. Micropropagation and salt stress in *Chrysanthemum morifolium*. 6th International Symposium on *In Vitro* Culture and Horticultural Breeding, Brisbane, Australia. 25-29. August.

Shibli, R., Baghdadi, S., Makhadmeh, I.., Atrabiat, A and **Shatnawi, M**. 2009. Cryopreservation by encapsulation-dehydration of embryogenic callus of wild crocus (*C. hiemalis* and *C. moabiticus*). 6th International Symposium on *In Vitro* Culture and Horticultural Breeding, Brisbane, Australia. 25-29. August.

Shatnawi, M. A and Shibli, R. 2008. Production of secondary metabolites using tissue culture. The 1st International Symposium on Medicinal Plants. Petra, Jordan. 15-16/ October.

Shatnawi, M. A. 2008. Germplasm conservation for long and medium term conservation of endemic plant species. 2008. First International Congress Documenting, Analysing and Managing Biodiversity in the Middle East. Aqaba, Jordan. 20-23 October.

Shatnawi, M. A., Odeh, W. A and Shibli, R. 2008. Development of micropropagation protocol for *Stevia rebaudiana* a medicinal plant. The 1st International Symposium on Medicinal Plants. Petra, Jordan. 15-16/ October.

Shibli, R., Baghdadi, S and **Shatnawi, M**. 2008. Tissue culture method for conservation of plant genetic resources. The 1st International Symposium on Medicinal Plants. Petra, Jordan. 15-16/ October.

Baghdadi, S., Shibli. R., Syouf, M., **Shatnawi, M**., Arabiat, A and Makadmeh, I. 2008. *In vitro* preservation and cryopreservation of embryogenic callus of wild crocus (*Crocus Hyemalis* and *Crocus Moabiticus*). The 1st International Symposium on Medicinal plants. Petra, Jordan. 15-16/ October.

Shatnawi, M. A and Shibli, R., Al Dmoor, H., Mazrawwi, M and Ajlouni, M-K. 2008. Development of micropropagation protocol for *Stevia rebaudiana* a medicinal plant. The Second International Jordanian-Egyptian Biotechnology Conference. Irbid, Jordan. 11-13/ November.

Shatnawi, M. A., Qrunfleh, I Shibli, R and Obeidat, M. 2007. Micropropagation and germplasm storage of *Prunus avium* using cryogenic methods. The Sixth Jordanian Agricultural Scientific Conference, 9-12 / April. Amman, Jordan.

Arafeh, R. M., Shibli, R. A., Al-Mahmoud, M and **Shatnawi, M. A**. 2006. Callusing, Cell Suspension Culture and Secondary Metabolites Production in Persian Oregano (*Origanum vulgare* L.) and Arabian Oregano (*O. syriacum* L.). Cairo, Egypt, Dec. 11-14, 2006.

Shatnawi, M., Qrunfelh, E., Shibli, R., Al-Zubi, Y., and Obeidat, M. 2007. Micropropagation and germplasm storage of *Prunus avium* using cryogenic storage. The Sixth Jordnian Agricultural Scientific Conference. Amman, Jordan. 9-12-April.

Subaih W. S., **Shatnawi, M. A** and Shibli, R. A 2006. Cryopreservation of Date palm (*Phoenix dactylifera*) Embryogenic Callus by Encapsulation-Dehydration, Vitrification and Encapsulation-Vitrification. Proceedings: Third International Date Palm Conference. Abu-Dhabi, United Arab Emirates.

Shibli, R.A., Smith, M. A. L and **Shatnawi, M. A**. 1999. Pigment recovery from encapsulated-dehydrated *Vaccinium pahalae* (ohelo) cryopreserved cells. Proceedings: 2nd Biotechnology Conference. Al-Al- Bayt University, Mafraq, Jordan.

.

Shibli, R. A., Jaradat, A., Ajlouni, M and **Shatnawi, M. A**. 1996. *In vitro* multiplication and rooting of wild pear (*Pyrus syrica*). 2nd Arab Agriculture Conference, Jordan.

Attended Conferences:

1- Expert Consultation on Genetically Modified Crops. Amman-Jordan, May 14-15, 2007.

2- Intellectual property and agriculture. Jerusalem International Hotel, Amman, Jordan. 23-24/4/2007

3- Third International Date Palm Conference. United Arab Emirates University, Al Ain, UAE, Feb. 19-21, 2006.

4. Agricultural future in Jordan, Philadelphian University and Ministry of Agriculture, Regency Hotel, Jordan.

5- Intellectual property and agriculture. Le-Meridien; Amman, Jordan. 29-30/11/2005

References:

Prof. Florent Engelmann

911 avenue Agropolis
BP 64501
34394 Montpellier cedex 5. France
Tel: +33 (0)4 67 41 62 24
Fax: +33 (0)4 67 41 62 22
Email: engelman@ird.fr

Prof. Mohamad Duwairi

Agriculture Minister
Faculty of Agriculture Technology.
Jordan University
Email: mduwayri@yahoo.com
duwayri@ju.edu.jo
Telphone:00962795222233

Prof. Rida Shibli

Previous President. Muta University
Department of Horticulture and Agronomy,

Faculty of Agriculture.
Jordan University. Amman 11942. Jordan.
Tel:0096296466463 or 0962779500003
Email: r.shibli@ju.edu.jo

Prof. Fraser Torpy

Plants and Environmental Quality Research Group,
School of Life Sciences, Faculty of Science, University of Technology Sydney,
Sydney, NSW 2007, Australia
Tel : 0488953631
Email: Fraser.Torpy@uts.edu.au