

**Dr. KHALDOUN AL-HADID**

Department of Biological Sciences

Faculty of Science

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**Current Academic Position**

- Assistant Professor in Biological Sciences Department at The University of Jordan, Amman, Jordan.

**Previous Academic Position**

- Full-time lecturer in Biological Sciences Department at The University of Jordan, Amman, Jordan.
- Assistant Professor in the Department of Biotechnology and Genetic Engineering at Philadelphia University, Amman, Jordan. September.2011 to June.2012

**Education**

**Doctorate Botany & Plant Molecular Biology**, Graduated Fall, 2009, Purdue University, West Lafayette, Indiana, United States of America

**Master of Science, Horticulture**, Graduated fall, 1999, The University of Reading, Reading, United Kingdom

**Bachelor of Plant Sciences**, Graduated Summer, 1996, The University of Jordan, Amman, Jordan

**Research Experience**

- Research Assistantship, Botany & Plant Pathology Department, Purdue University, West Lafayette, Indiana, USA, January.2007- December.2009
- Research Assistantship, Biological Sciences Department, Purdue University, West Lafayette, Indiana, USA, August.2005-December.2006

- Participated in a project titled “ Alfalfa Responses to Phosphorus and Potassium Management”, Agronomy Department, Purdue University, West Lafayette, Indiana, USA, January.2001- December.2004

**Research Interests**

- Plant cell wall structure & function
- Gene function analysis
- Plant growth & development
- Plant molecular genetics

**Research Skills**

**Molecular Biology Techniques**

- DNA & RNA extraction
- DNA Blotting
- RNA Blotting
- Protein Blotting
- Colony PCR
- Dot Blot
- Differential Display
- Reverse transcriptase expression analysis
- Gene Cloning
- Agrobacterium root GUS assay
- Heterologous gene expression
- Agrobacterium Transformation
- Screening homozygous t-DNA insertion knockout lines
- Generating Arabidopsis RNA Interfere & overexpressed transgenic lines

**Plant Cell Wall & Biochemistry Techniques**

- Plant cell wall extraction
- Plant cell wall fractionation
- Arabidopsis trichome Isolation
- Measurement acetylation degree using Hestrin Assay

- Measurement of total sugars using Phenol-Sulfuric assay
- Measurement of Galacturonic acid.
- Enzyme activity assays

#### **Bioinformatics Techniques**

- Generating phylogenetic trees
- Multiple alignments of different nucleotide and amino acid sequences
- Hydrophilic and hydrophobic analysis of amino acid sequence
- Motif analysis of amino acid sequence

#### **Tissue Culture and Genetic Techniques**

- Initiation callus from Arabidopsis leaves
- Phenotypic screening
- Generating genetic crosses lines of Arabidopsis
- Corn pollination

#### **Spectroscopy and Statistical Analysis Techniques**

- Fourier Transform Infrared Spectroscopy (FTIR)
- SPSS Analysis
- SAS Analysis

#### **Workshops Attended in Research**

- **Microsoft Windows, Power Point, Excel, Word and Access**, Amman, Jordan, June - August.1998
- **Techniques of Plant Biotechnology**, The University of Reading, Reading, UK, October-December.1999
- **Greenhouse Agricultural Production Techniques**, One-week field trip, South Spain, March.1999
- **Bioinformatics Intensive Course**, Purdue University, West Lafayette, USA February.2005
- **“EndNote” Reference Manager Workshop Training**, Purdue University, West Lafayette, USA, 2006

- **Statistical Analysis Course (SPSS)**, 24 hours, Consultation Center, The University of Jordan, June.9-18.2013
- **Web of Science and EndNote Training Workshop**, The University of Jordan, Amman, Jordan, April.28.2015
- **Big Data Analysis**, The University of Jordan, Amman, Jordan, March.8.2018
- **Scientific Communications Skills**, Jordan University of Science and Technology, Irbid, May.12-13.2015
- **Springer Author Workshop**, Accreditation & Quality Assurance Center, The University of Jordan, Amman, Jordan, November.03.2015
- **Plagiarism Workshop**, Accreditation & Quality Assurance Center. The University of Jordan, Amman, Jordan, March.03.2016
- **Web of Science and EndNote Training Workshop**, The University of Jordan, Amman, Jordan, Oct.26.2016
- **Introduction of European Projects (Erasmus+) Workshop**, Amman, Jordan, December. 22.2016
- **Introduction to High Throughput Sequence Analysis with SeqMonq**, Babraham Institute & The University of Jordan, The University of Jordan, Amman, Jordan, March.13.2017
- **“The Genetically Modified Foods”** workshop, organized by Technical Assistance and Information Exchange Instrument of the European Commission (TAIEX) in cooperation with Jordan Food and Drug Administration, October.17-18.2018

### Teaching Experience

- Undergraduate laboratory: **Introduction to Plant Sciences**, Botany & Plant Pathology Department, Purdue University, West Lafayette, Indiana, USA, January.2006- December.2006 (giving lectures, grading quizzes, supervision students while they were doing the experiments\_ number of students: 15 to 20)

- Undergraduate **Arabic language for non-Arab speakers**, Foreign Languages & Literature Department, Purdue University, West Lafayette, Indiana, USA, January.2003- May.2005 (designing syllabus, giving lectures, making quizzes and exams, grading \_ number of students: 20 to 25)
- Undergraduate **Genetics Laboratory**, Agronomy Department, Purdue University, West Lafayette, Indiana, USA, January.2002- December.2002 (lecturing and supervision students while they were doing the experiments, grading \_ number of students: 10 to 15), (two semesters)
- Training three undergraduate student on **Basic Laboratory Techniques of Biological Research**, West Lafayette, Indiana, USA, January.2006- Janurauy.2009
- Undergraduate **Biology 101**, two sections of 40 students, Department of biotechnology and Genetic Engineering, Philadelphia University, Amman, Jordan, September.2011- June.2012, (two semesters)
- Undergraduate **Laboratory Management and Quality Assurance**, one section of 23 students, Department of biotechnology and Genetic Engineering, Philadelphia University, Jordan, September.2011- June.2012, (two semesters)
- Undergraduate **Entrepreneurship in Biotechnology**, one section of 22 students, Department of biotechnology and Genetic Engineering, Philadelphia University, Amman, Jordan, September.2011- June.2012, (two semesters)
- Research project supervisor for five undergraduate students, September.2011 to June.2012, (two semesters)
- Undergraduate **Biology 101**, three sections of 80 students, Department of Biological Sciences, The University of Jordan, Amman, Jordan, September.2012- May.2019
- Undergraduate **General Genetics**, average Student No. per section is 40 students, two- hour lecture per week and one three-hour lab per week, Department of Biological Sciences, The University of Jordan, Amman, Jordan, September.2012- June. 2018, (12 semesters)

- Undergraduate **General Biology Laboratory**, average Student No. per section is 40 students, Department of Biological Sciences, one lab for three hours/week. The University of Jordan, Amman, Jordan, September, 2012- June 2013, and February.2014- June.2015, (three semesters)
- Undergraduate **Plant Physiology**, one section of 48 students, two-hour lecture per week and one three-hour lab per week, Department of Biological Sciences, The University of Jordan, Amman, Jordan, September 2013- June.2014, and from September.2015- June.2016), (four semesters)
- Undergraduate **Botany**, One section of 25 students, three-hour lecture per week and one three-hour lab per week, Department of Biological Sciences, The University of Jordan, Amman, Jordan, September.2014- June.2015, (two semesters)
- Graduate Course (**Master degree**) **Molecular Biology**, three-hour lecture per week, 14 students, Department of Biological Sciences, The University of Jordan, Amman, Jordan, Sep.2017- Jan. 2018 & Jan.2019-May.2019
- Undergraduate **Molecular Biology**, three-hour lecture per week, 23 students, Department of Biological Sciences, The University of Jordan, Amman, Jordan, Jan.2018- May. 2019

#### **Teaching Rewards**

- Teaching Assistant, Botany & Plant Pathology Department, Purdue University, West Lafayette, Indiana, USA, January.2006- December.2006
- Graduate Teacher Certificate (GTC), Purdue University, West Lafayette, USA April.28.2005

#### **Graduate Students Committees**

- **Characterization of GABA Shunt Pathway under the Influence of Chlorosulfuron Herbicide in Cultivated Lentil and Wheat in Jordan,**

Ahmed Ishaq Ghuniem, M.Sc., Jordan University of Science and Technology, Irbid, Jordan, November.2013

- **Molecular and Biochemical Characterization of Cytotoxic Activity of Some Medicinal Plants against Cancer Cells**, Ahmad Sami Sharab, M.Sc., Al-Balqa' Applied University, Salt, Jordan, September.2015

#### **Workshops Attended in Teaching**

- **Creating Effective Teaching Portfolios**, Purdue University, West Lafayette, Indiana, USA, October.29.2009
- **How People Learn and Remember**, Purdue University, West Lafayette, Indiana, USA, October.7.2004
- **Lecturing Techniques**, Purdue University, West Lafayette, Indiana, USA, October.5.2004
- **Designing Instruction**, Purdue University, West Lafayette, Indiana, USA, September.28.2004
- **Student Teacher Relationships**, Purdue University, West Lafayette, Indiana, USA, September.14.2004
- **Moodle Training Course**, The University of Jordan, Amman, Jordan, January.2013.
- **Staff Development Workshops**: Designing Study Plans (3 hours), Modern Trends in University Teaching (6 hours), Exams Preparation Learner's Assessment (9 hours), Academic Ethics (3 hours), Laws, Bylaws and Regulations of The University of Jordan (6 hours), held by Center of Human Resources Development at The University of Jordan, Amman, Jordan, August 25- September 4.2013
- **E-Learning**, Accreditation & Quality Assurance Center. The University of Jordan, Amman, Jordan, March.10.2016
- **Evaluation of Students Using Portfolio**, The University of Jordan, Amman, Jordan, April.16.2017
- **Modern Method in Education of Graduate Studies**, Accreditation & Quality Assurance Center. The University of Jordan, Amman, Jordan, May.24.2017

- **Exams Preparation Techniques**, The University of Jordan, Amman, Jordan, March.23.2018
- **CAMTASIA STUDIO 9**, The University of Jordan, Amman, Jordan, May.5.2018

#### **Courses Attended in Management**

- **Theoretical and Practical Introduction to Integrated Pest Management (IPM)**, GTZ, Amman, Jordan, May.1997
- **6<sup>th</sup> Annual Applied Management Principles Program**, Krannert Graduate School of Management Department, Purdue University, West Lafayette, USA, May.28 to June.10.2003
- **Level 1 Award in Food Safety Awareness in Catering**, Amman, Jordan, 2010
- **Level 2 Award in Food Safety Awareness in Catering**, Amman, Jordan, 2010
- **LRQA Internal Quality Management System (QMS) Auditor Training Course (based on ISO 9001:2008)**, Amman, Jordan, July.2010
- **LRQA Quality Management System (QMS) Auditor/ Lead Auditor Training Course (based on ISO 9001:2008)**, Amman, Jordan, December.2010
- **GLOBALG.A.P Training Course**, M.A.K. International, Amman, Jordan, November, 2010
- **GLOBALG.A.P Crops Base Workshop**: in Berlin, Germany, February.7-8. 2011
- **BUILDING ISO22000 FSMS STEP BY STEP**, Al-Yousei Hygiene & Public Health, Amman, Jordan, March, 4-6, 2011
- **Fundamentals of HACCP**, Royal Society for Public Health (RSPH), Amman, Jordan, April.4.2011
- **A Counting for Non-Accountants**, Consultancy Center, Jordan University, Amman, Jordan, June.19- 30.2011



- **Financial Accounting**, Pioneers Center, Amman, Jordan, July.24-27.2011
- **Quality Management Systems Workshop**, organized by The Arab Organization for Quality Assurance in Education (AROQAE) & Department of quality Management at the Laboratory for Machine Tools and Production Engineering (WZL), Technical University of Aachen, held at Talal Abu Ghazaleh University, Amman, Jordan, June.19-20.2013
- **Linguistics Mistakes in Official Writings**, The University of Jordan, Amman, Jordan, May.2.18

### **Conferences**

- Arab Society of Plant Protection Conference, Amman, Jordan, 2000
- American Society of Agronomy Meeting, Indianapolis, USA, 2002
- American Society of Agronomy, poster titled: "Isolation, characterization and expression of defoliation-responsive genes of different cultivars of Alfalfa", Denver, USA, 2003
- The annual American Society of Agronomy conference, Seattle, USA, 2004
- BIOeConference, Growing the Bioeconomy, Solutions for Sustainability, Iowa State University, West Lafayette, USA, 2009
- International Conference on the Conservation and Use of Soci-Economically Important Wild Plants in the Fertile Crescent, organized by Royal Botanic Garden, Amman, Jordan, April.8-9.2014
- Restoring Degraded Ecosystem: Regional and International Perspectives, organized by Royal Botanic Garden, Amman, Jordan, March.30.2015
- 12<sup>th</sup> SESAME Users Meeting, organized by Synchrotron-Light For Experimental Science and Applications in Middle East (SESAME), Amman, Jordan, November.26-27.2014
- First JoSTA Conference "Employing Science and Technology and Innovation for Economic Development", Amman, Jordan August.12-13, 2015

- NASIC Conference cum Workshop on Herbal Drug Development for socio-Economic Uplift in Developing World, The University of Jordan, Amman, Jordan, September.6-8.2015
- The 1<sup>st</sup> International Conference on Natural Products and Drug Discovery, The University of Jordan, Amman, Jordan, September 8-10, 2015
- 13<sup>th</sup> SESAME Users Meeting, organized by Synchrotron-Light For Experimental Science and Applications in Middle East (SESAME), Amman, Jordan, December.2015
- 14<sup>th</sup> SESAME Users Meeting, organized by Synchrotron-Light For Experimental Science and Applications in Middle East (SESAME), Amman, Jordan, December.3-4.2016
- 15<sup>th</sup> SESAME Users Meeting, organized by Synchrotron-Light For Experimental Science and Applications in Middle East (SESAME), Amman, Jordan, December.18-19.2017
- Plant Biology Meeting, organized by American Society of Plant Biologists, Montreal, Canada, July.14-18.2018

#### Activities

- **Referee of Science Jordan Fair**, The innovation for Creativity & Development Association, held at the University of Jordan, Amman, Jordan, May.17.2015
- **Referee of Science Jordan Fair**, The innovation for Creativity & Development Association, held at the University of Jordan, Amman, Jordan April.30.2016.
- **Referee of Science Jordan Fair**, The innovation for Creativity & Development Association, held at the University of Jordan, Amman, Jordan, May.10.2017

- **Referee of Science Jordan Fair**, The innovation for Creativity & Development Association, held at the University of Jordan, Amman, Jordan, May.12.2018
- Member of **“The Technical Committee of Biological Conservation in Ministry of Environment”**, from April.19.2018

### **Review Articles**

- One manuscript from Jordan Journal of Agricultural Sciences
- Two manuscripts from Jordan Journal of Biological Sciences

### **Public Lectures**

- A lecture of **“Occupational Health and Safety Administration”** (OHSA) was given as part of a workshop held at Philadelphia University to 35- participants from different Saudi universities in summer, 2012.
- A lecture of **“History and Scientific Principles of Genetic Engineering”** was given at Professional Association Complex in June.2013.

### **Professional Affiliation**

- American Association for the Advancement of Science, January, 2008- present
- American Society of Plant Biologist, 2004- present
- American Society of Agronomy, 2001- present
- Crop Science Society of America, 2001- present
- American Chemical Society, 2016-present
- The Jordan Society of Scientific Research, 2007- present

**Publications**

- Abu-Romman, Saeid M, **Khaldoun A Al-Hadid**, and Abdullah R Arabiyyat. 2015. 'Kinetin Is the Most Effective Cytokinin on Shoot Multiplication from Cucumber', *Journal of Agricultural Science*, 7:10, 159-165.
- Abu-Romman, Saeid M, Moawiya A Haddad, and **Khaldoun J Al-Hadid**. 2015. 'The Potential Allelopathic Effects of *Varthemia iphionoides* and the Identification of Phenolic Allelochemicals', *Jordan Journal of Biological Sciences*, 8:4, 301-306.
- Al-Hadid, Khaldoun J.** 2017. 'Quantitative analysis of antimicrobial activity of *Foeniculum vulgare*': A review', *Plant Omics*, 10:1, 28-36.
- Al-Hadid, Khaldoun J.** 2016. 'Evaluation of Antiviral Activity of Different Medicinal Plants against Newcastle Disease Virus', *American Journal of Agricultural and Biological Sciences*, 11: 157-63.
- Saeid, Abu-Romman, and **Al-Hadid Khaldoun**. 2017. 'Novel Zinc Finger-Homeodomain Gene from Barley (HvZFHD1) is Differentially Regulated During Spike Development and under Hormonal Treatments and Abiotic Stresses', *Notulae Botanicae Horti Agrobotanici Cluj-Napoca*, 45: 1, .
- Hazem S. Hasan, **Khaldoun J. AL-Hadid**, AND Saeid Abu-Romman. 2017. *Sarcopoterium spinosum* (L.) Spach aqueous extract inhibits seed germination and seedling growth of winter wheat (*Triticum durum* Desf.). *Res. on Crops* 18 (2): 210-215.