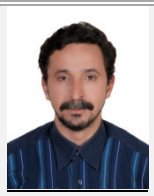

Dr. AfifHassairi

Date of birth	October 15, 1967
Nationality	Tunisian
Marital status	Married
Language	Arabic, French, English
Present address Saudi Arabia	King Saud University; College of Food and Agricultural sciences (Department of plant production); Room N° AA 107 PoBox 2460; 11451 Riyadh-Saudi Arabia Mobile +966 550780217; Tel +966 1 46767715; Fax: +966 1 4678467
Address in Tunisia	Centre of Biotechnology of Sfax BP"1117" 3018 SFAX – TUNISIA **Mobile: +**216 98488605
E-mail	Email **1**: **afif.hassairi@gmail.com** Email **2** : **ahassairi@ksu.edu.sa** Email **3:afif.hassairi@cbs.rnrt.tn**

Education & Academic Qualification

PhD: 1998 plant cellular and molecular biology – INA –PG (Paris-Grignon) FRANCE

Master degree: 1993 ENSH Versailles (FRANCE)

Engineer: 1991 Horticulture ESH Chott-Mariem (TUNISIA)

Bac (last class of secondary school): 1986 Mathematics and Science (TUNISIA)

Research Interest:

1. Plant Molecular Biology and physiology
2. Genomics, Bioinformatics and proteomics
3. Plant transformation
4. Chloroplast transformation
4. Plant Biotechnology and Biopharming
5. Transgenic plant and improving abiotic and biotic stress tolerance

PRACTICAL EXPERIENCE

♣**October 2010 to present**: Associate professor at. College of Food and Agriculture Sciences (King Saud University Saudi Arabia)

♣ **January 2001 to 2010**: Senior scientist at the Centre of biotechnology of Sfax -Tunisia "Laboratory of **Plant Molecular Genetics "**www.cbs.rnrt.tn

*High throughput sequencing of ESTs from a halophyte grass; identification and functional validation of candidate genes for drought and salt tolerance, producing transgenic durum wheat to improve abiotic stress tolerance.

♣ **January 2001 to 2010:Teaching in the Faculty of Sciences at Sfax**: Master degree "Cellular and molecular biology"

*Plant Molecular Biology (DNA replication, transcription, RNA splicing and translation; protein-protein interaction, signal transduction…)

*Plant Genetic Engineering: Methodology and applications

* Biopharming: benefits and risks

*PlantBiotechnology

* Supervisor of three PhD and three master degree students

♣ **March 2003 – August 2003**: AUF (Francophone Agency) France-Montpellier, Excellence Award

Construction of SSH cDNA libraries from a halophyte grass and using of Macroarray to screen for up and down regulated genes by salt stress. Centre de Coopération Internationale en Recherche Agronomique pour le Développement « **CIRAD-BIOTROP Montpellier France** » www.cirad.fr.

♣ **January 1999 - December 2000**: **Post-Doc in ICGEB New Delhi** laboratory of plant molecular biology (**plant transformation group, group leader Dr. V. Shiva Reddy**) : **International Center for Genetic Engineering and Biotechnology** (ICGEB) PO Box 10504 Aruna asaf ali marg , New Delhi 110067 INDIA Tel: 00-91-11-6148539:

*Construction of two vectors for **chloroplast transformation** of cotton and potato

*Purification of an anti-fungal protein from **chickpea** seeds

♣ **February 1994 – April 1998**: PhD supervised by **Prof. Marc Jullien**; **Prof. Christophe Robaglia**

Studying the resistance to potato virus Y (PVY) in transgenic potato and tobacco plants expressing different heterologous coat protein genes: CP-LMV, CP-LMVΔ29aa or CP-PSbMV

Laboratory of « Biotechnologie végétale » Centre de biotechnologie de Sfax TUNISIA ; Laboratory of « Biologie cellulaire » INRA-Versailles FRANCE

♣ **March 26 – April 3, 1996**: "Ecolethématique FRANCO-TUNISIENNE" plant molecular Biology CNRS Montpellier FRANCE

♣ **September 1992 – October 1993**: Master degree directed by **Prof Noelle Dorion**

Plant regeneration from strips of stem in Dutch elm hybrid "Commelin" and *Agrobacterium* susceptibility as prerequisites for elm genetic transformation

Laboratory of "Physiologie végétale appliquée" ENSH Versailles France

Supervising

♣**MunawarManzoorManzoor Ahmed: Master degree 2015-2016**

♣**Walid Ben Romdhane:** PhD 2011-2016

♣**Omar Mustapha Azab:** Master degree 2011-2012

♣ **Rania Ben Saad: PhD 2006-2011**

Functional analysis of abiotic stress tolerance in transgenic tobacco and wheat of AlSAP gene isolated from the halophyte grass plant *Aeluropuslittoralis*

♣**Walid Ben Romdhane:** Master degree 2008-2009:

Production of transgenic tobacco over-expressing one of the three genes AlTMP1, AlTMP2 or AlADP-RF, isolated from *Aeluropuslittoralis*, and analysis of their tolerance to abiotic stresses.

♣**EmnaFetoui:** Master degree 2006-2007

Analysis of antifungal activity of a defensine from chickpea against plant fungi

♣ **Rania Ben Saad**: Master degree 2005-2006:

Isolation and analysis of AlSAP gene from *Aeluropuslittoralis*

♣Supervising students for preparing thesis of end study for engineer diploma

Previous projects

♣Oct 2012-2015**: Principal investigator of the Project 11-BIO1828-02 "Deciphering the regulatory mechanisms of abiotic stress tolerance conferred in transgenic plants expressing the AlSAP gene from the halophyte grass A. littoralis"** The National Plan for Sciences & Technology **(budget 1774060 SAR- King Saud University).**

♣**Sept 2010- November 2012:**

Principal investigator of the Project 09-BIO682-02 **"Isolation of candidate resistance-genes from the halophyte C4 grass "Aeluropuslittoralis" for improving salt and drought tolerance in crops" The National Plan for Sciences & Technology (budget 500000$ - King Saud University)**

♣ **Jan 2006- Oct 2009:**

Principal investigator in Tunisia of the **EU project FP6** "INCO-CT-2005-015468 CEDROME": **"Developing drought-resistant cereals to support efficient water use in the Mediterranean area" budget 105000 Euros** (CBS-TUNISIA)

♣**Jan2001-2005:**

Improving drought and salt stresses in durum wheat using genetic engineering. Ministry of higher education Tunisia (CBS-TUNISIA)

♣**Jan1999-Dec 2000: ICGEB-New-Delhi (India)**

1. Chloroplast transformation of cotton

2. Purification of an antifungal peptide from chickpea and isolation of its coding gene

♣Jan1994-April 1998: Producing of transgenic cultivars "spunta" and "claustar" immune to PVY "potato virus Y"

♣Jan1991-Dec 1993: establishment of a protocol for elm tree transformation (ENSH-Versailles-FRANCE)

Current projects

♣ 2015-2017:Principal investigator of the Project 13-BIO2050-02 "Shotgun De novo sequencing and draft genome assembly of the C4 halophyte grass Aeluropuslittoralis: towards the cloning of the halophyte-specific genes and their promoters"

International publications

♣Meynard, Donaldo ; Mieulet, Delphine ; Saad, Rania Ben ; Breitler, Jean-Christophe ; Petit, Julie ; Gantet, Pascal ; **Hassairi, Afif** ; Guiderdoni, Emmanuel. Use of genetic engineering in rice improvement.**Cahiers agricultures, Septembre-Octobre 2013, vol. 22, no 5, p. 494-505.**

♣Rania Ben Saad; Denis Fabre; Delphine Mieulet; DonaldoMeynard;Michael Dingkuhn; Abdullah Al-Doss; Emmanuel Guiderdoni; **AfifHassairi**. Expression of the *Aeluropuslittoralis*AlSAP gene in rice confers broad tolerance to abiotic stresses through maintenance of photosynthesis. P**lant, Cell & Environment 2012; vol 35; pp 626-643.**doi: 10.1111/j.1365-3040.2011.02441.x. **(IF:5.1)**

♣R Ben-Saad, W Ben-Ramdhan, N Zouari, J Azaza, D Mieulet, EGuiderdoni, R Ellouz and **AfifHassairi**Marker-free transgenic durum wheat cv. Karim expressing the *AlSAP* gene exhibits a high level of tolerance to salinity and dehydration stresses.**Molecular Breeding 2012; vol 30; pp 521-533** DOI: 10.1007/s11032-011-9641-3 **(IF: 2.1)**

♣Triki, M. A., Hadj-Taieb, S. K., Mellouli, I. H., Rhouma, A., Gdoura, R., &Hassaïri, A. (2012). Identification and screening of bacterial isolates from Saharan weeds for Verticilliumdahliae control. Journal of Plant Pathology, 94(2), 305-311.

♣ R. Ben Saad; W. Ben Romdhan; N. Zouari; J. Azaza; D. Mieulet; J-Luc Verdeil; E. Guiderdoni; **AfifHassairi** Promoter of the AlSAP gene from the halophyte grass Aeluropuslittoralis directs developmental regulated, stress-inducible, and organ-specific gene expression in transgenic tobacco. **Transgenic Research 2011; Vol 20, Issue 5, pp 1003-1018DOI:** 10.1007/s11248-010-9474-6 **(IF: 2.5)**

♣R. Ben Saad; N. Zouari; W. Ben Ramdhan; J. Azaza; D. Meynard;E. Guiderdoni; **AfifHassairi.**Improved drought and salt stress tolerance in transgenic tobacco overexpressing a novel A20/AN1 zinc-finger *"AlSAP"* gene isolated from the halophyte grass

*Aeluropuslittoralis**Plant Molecular Biology 2010: 72 pp 171-190* DOI : 10.1007/s11103-009-9560-4. **(IF: 4.1)**

♣Rania Ben Saad; Nabil Zouari; Walid Ben Ramdhan ;JalelAzaza; **AfifHassairi**

"A method for "in embryo" transformation with *Agrobacterium* of wheat and production of transgenic fertile plants over-expressing the AlSAP gene, isolated from the halophyte grass "A. littoralis", for improvement of abiotic stress tolerance"**Tunisian Patent SN08356 17/09/2008**

♣ CEDROME consortium: Ouwerkerk P.B.F., Liu C.M., Guiderdoni E., Lupotto E., Xiong L., El-Azim El-TantawiBadawi A., **Hassairi A**., El Hadrami I., Wang H., Price A.H.**P. CEDROME FP6 EU project 2006-2009:** developing drought-resistant cereals to support efficient water use in the Mediterranean area **--**From seed to pasta: the durum wheat chain-- **International durum wheat symposium I : June 30. July 3 2008 BOLOGNA ITALY**

♣Nabil Zouari, Rania Ben Saad, Thierry Legavre, JalelAzaza, Xavier Sabau, Mohamed Jaoua, Khaled Masmoudi, **AfifHassairi**. Identification and sequencing of ESTs from the halophyte grass Aeluropuslittoralis, **Gene, Vol 404 Issue 1-2 pp: 61-69 (2007) (IF: 2.6)**

♣Islam, A., **Hassairi, A.**, Reddy, V.S. Analysis of molecular and morphological characteristics of plants transformed with antifungal gene. **Bangladesh Journal of Botany**, Volume 36, Issue 1, 2007, Pages 47-52

♣FaïçalBrini, MoezHanin, Victoria Lumbreras, Imen Amara, Habib Khoudi, **AfifHassairi**, Montserrat Pagès, Khaled Masmoudi. Overexpression of wheat dehydrin DHN-5 enhances tolerance to salt and osmotic stress in Arabidopsis thaliana .**Plant Cell Reports, Volume 26, Number 11 / November, 2007 (IF: 2.2)**

♣Triki, M. A., Hassaïri, A., &Mahjoub, M. (2006).Premières observations de Verticilliumdahliae sur olivier en Tunisie. EPPO Bulletin, 36(1), 69-71.

♣ **A. Hassari** and V. S. Reddy."A new antifungal protein isolated from the seeds of chickpea, methods for isolation of such proteins, cloning of the encoding gene and transgenic plants incorporating such genes". **Indian Patent Application No.617/DEL/ (2004).**

♣ Masmoudi K., Yacoubi I.,**Hassairi A**., Elarbi L., Ellouz R. Tobacco plants transformed with an untranslatable form of the coat protein gene of the potato virus Y are resistant to viral infection. **European Journal of Plant Pathology 108: 285-292(2002) (IF: 1.57)**

♣Masmoudi K.,Brini F.,**Hassairi A.**, Ellouz R. Isolation and characterization of a differentially expressed sequence tag from Triticum durum salt stressed roots. **Plant Physiology and Biochemistry 39: 971-979(2001) (IF: 2.4)**

♣ **A. Hassairi**, K. Masmoudi, J. Albouy, C. Robaglia, M. Jullien. R. Ellouz. Transformation of two potato cultivars « spunta » and « claustar » (*Solanumtuberosum*) with lettuce mosaic

virus coat protein gene and heterologous immunity to potato virus Y.**Plant Science 136 pp31-42 (1998) (IF: 2.48)**

♣ H. Ben Jouira, **A. Hassairi**, C. Bigot, N. Dorion. Adventitious shoot production from strips of stem in the Dutch elm hybrid 'commelin': plantlet regeneration and neomycin sensitivity. **Plant Cell Tissue and Organ Culture 53: 153-160, (1998) (IF: 1.24)**

♣ N. Dorion**, A. Hassairi**, P. Guyon, B. Godin, C. Bigot. In vitro budding ability of woody internode and *Agrobacterium* susceptibility as prerequisites for elm genetic transformation.**J. Plant. Physiol. Vol.146 pp: 699-703 (1995) (IF: 2.6)**

Oral communications

♣Walid Ben Romdhane, Rania Ben Saad, Adullah Al-Doss, Emmanuel Guiderdoni, **AfifHassairi "**The Extremophile Grass*Aeluropuslittoralis*: a Source of candidate genes for Improving Salt and Drought Stress in Cereals" First International of Biotechnology at Dubai 14-15 February 2012

♣ **AfifHassairi,** Abdullah Al-Doss"The Halophyte Grass *Aeluropuslittoralis* as a Model Plant for Improving Salt and Drought Stress in Cereals"" THE 26th MEETING OF THE SAUDI BIOLOGICAL SOCIETY May 2011 ".

♣Rania Ben Saad,**Afif Hassairi**. "Isloation and characterization of promoter gene AlSAP from Aeluropuslittoralis in transgenic rice"; oral communication in the Seminary of the Tunisian Association of Biological Sciences (**ATSB**, March **2010**).

♣Rania Ben Saad, Nabil Zouari, Walid Ben Romdhane, JalelAzaza, **AfifHassairi**. "Enhancement of abiotic stress tolerance in transgenic tobacco over expressing an A20/AN1 zinc finger protein gene from a halophyte grass *A.littoralis* "; Participation at the international workshop organised by the Federation of the European biochemical societies (**FEBS**), Adaptation Potentiel in Plants, GMI, **Vienne, Austria** 19-21 Mars (**2009**).

♣Rania Ben Saad, Nabil Zouari, Walid Ben Romdhane, JalelAzaza, **AfifHassairi**."Amélioration de la tolerance aux stress salin et hydrique de plantes transgéniques de tabac sur-exprimant le gène *AlSAP*isolè à partir d'une graminée halophyte *A.littoralis* "; Participation at the international congres Biotech (**AUF**) Agrocampus, **Rennes-France** 30 june-3 juillet (**2008**).

♣Rania Ben Saad, Nabil Zouari, Walid Ben Romdhane, JalelAzaza, **AfifHassairi**. "Over expression of an alien *ZnFAl*from *A.littoralis* in tobacco enhances salt and drought stress

tolerance "; Oral communication in an international symposium of Biotechnology (**ISB**); **Sfax-Tunisia** 4-8 Mai (**2008**).

♣Nabil Zouari,Rania Ben Saad, Walid Ben Romdhane, JalelAzaza, **AfifHassairi**."Identification and sequencing of ESTs implicated in salt and drought stress tolerance from the halophyte grass *Aeluropuslittoralis*"; Oral communication in the International Seminary of the Tunisian Association of Biotechnology (**ATB) Sousse-Tunisia** 23-26 December **(2007)**.

♣Rania Ben Saad,**Afif Hassairi**. "The developpement of drought-resistance cereals to support efficient water use in the Mediterranean area"; Oral communication in the secondmeeting of International CEDEROME Project/ Contrat No.015468 **GIZA, Egypt** 23 september **(2006).**

INTERNATIONAL COLLABORATION

♣**Dr. Emmanuel Guiderdoni :** CIRAD, UMR PIA, AMIS Department ; PO BOX TA 40/03, Postal code 34398, CEDEX 5 Avenue Agropolis, Montpellier, France

E-mail: guiderdoni@cirad.fr web page : http://www.cirad.fr

♣**Dr. ElisabettaLupotto:** IstitutoSperimentale per la Cerealicoltura, SezioneSpecializzata per la Risicoltura, 13100 Vercelli, StradaStatale per Torino Km 2,5, Italia

E-mail: elisabetta.lupotto@entecra.it/ lupotto@iscbg.it web page :www.cerealicoltura.it

♣**Prof.Dr.LizhongXiong**:National Key Laboratory of Crop Genetic Improvement Huazhong Agricultural University HAU Shi-Zhi-Shan Street, No. 1, Postal Code 430070, Wuhan, PR China

E-mail: lizhongx@mail.hzau.edu.cnweb page : http://www.hzau.edu.cn/en.htm

♣**Dr. Adam Price**: School of Biological Sciences

Cruicshank Building, St Machar Drive, University of Aberdeen AB24 2UU, Aberdeen, United Kingdom

E-mail: a.price@abdn.ac.uk

♣**Dr. Martin Parry:** Crop Performance and Improvement; Rothamsted Research

Harpenden, Hertfordshire, AL5 2JQ United Kingdom

Phone: 44 (0) 1582 763133 Fax: 44 (0) 1582 763010

E-mail: martin.parry@bbsrc.ac.uk

♣**Dr. V. Shiva Reddy:** plant transformation group, group leader. International Center for Genetic Engineering and Biotechnology (ICGEB) PO Box 10504 Arunaasafalimarg, New Delhi 110067 INDIA. Tel: 00-91-11-6148539 ; E mail: vsreddy@icgeb.res.in