

Ahmed MLIKI

Nationality: Tunisian

Centre of Biotechnology of Borj-Cedria (CBBC), Tunisia

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Actual position: - Professor-Researcher in Plant Biotechnology and Food security at the Centre of Biotechnology of Borj-Cedria (CBBC) Tunisia (since 1995)
- Head of Laboratory of Plant Molecular Physiology (since 2006)
- Teaching of Plant Biotechnology and Food security at several Tunisian universities (since 1996: Master degree students)

Degree and international research experience:

- 1990: **PhD** in Biology: University of Joseph-Fourier, Grenoble **France** (1990)
- 1990-1992: **Post- doctoral** position at the Swiss Federal School of Technology, ETH-Zürich, **Switzerland** (Project: Lignin biodegradation: financed by **Sandoz-AG company**)
- 1993-1994: **Visiting scientist**: National Research Centre-Rome **Italy** "ENEA-Casaccia"
(Project: genetic engineering of resistance of globe artichoke to viruses: **EU-Fellowship**)
- 1998: **Visiting scientist** at the Department of Horticulture, Univ. Wisconsin-Madison, **USA** (
(Project: Genetic diversity of African cucumber and melon: financed by **UNESCO fellowship**)

Teaching Experience:

- Teaching of Plant Biotechnology and Food security:**
 - at several Tunisian Universities: Master degree (**since 1996**)
 - at the faculty of Pharmacy-Univ. of Valencia-Spain: Master degree (2014)

National expertise in biotechnology and food security:

- 2008**: Expert leader : Elaboration of National Strategy and action plan on biosafety .
projet financed by NOEP
Beneficiary: Tunisian **Ministry of environment** ,
- 2013**: Expert: Elaboration of the National strategy on biotechnology-Food industry
projet financed by European Community (PASRI initiative)
Bénéficiary **Ministry of Industry**

International Expertise:

- 2013-2015: **Expert in Food security** next to EMEG (Euro-Mediterranean Expert Group):
MEDSPRING Project, section "FOOD"
- 2014-2015: **Expert** in Biotechnology within European project "PASRI":
PASRI: Projet d'Appui au Système de Recherche et de l'Innovation:
Action: Assistance technique pour l'élaboration d'une stratégie nationale des Biotechnologies
Beneficiary: Tunisian Ministry of Industry
Expert contract with POHL-Consulting, Germany

Management experience in R&I projects and programmes

- **Since 2006**: Group leader and Project manager of several 4-years-projects funded by Tunisian Ministry of Higher Education and Scientific Research (3 projects): **Project**: Grapevine biotechnology and sustainability under climate change effects
- **2008-2010**: Fund from ICGEB (International Center of Genetic Engineering and Biotechnology) for Collaborative Research Programme. **Project**: Developing genomics to study grapevine tolerance to salinity

- **2008-2010**: Tunisian-Spanish bilateral cooperation funding. -**Project**: Controls of ochratoxin A and toxinogenic fungi in grape and wine. -**Partner**: University of Valencia, Faculty of Pharmacy (Prof. Jordi Manez)
- **2010-2012**: Tunisian-French bilateral cooperation funding. -**Project**: WORKY genes and tolerance of grapevine to drought. -**Partner**: University of Bordeaux (Prof. Said Hamdi)
- **2013-2015**: Tunisian-Portugal bilateral cooperation: -**Project**: Genetic engineering of viral resistance in grapevine. -**Partner**: Univ. Lisbon, Institute of chemical Biology (.Prof Cala Pinhero)
- **2015-2017**: Tunisian-German bilateral cooperation funding. -**Project**: Metabolomics in wild European and African grapevine. -**Partner**: Karlsruhe Institute of Technology, Institute of Botany (Prof. Peter Nick)
- **2016-2018**: Tunisian-Swiss-Moroccan cooperation (Swiss funding: SNF). -**Project**: Application of organic bio-fertilizer technology to improve the sustainability of date palm production and cultivation. -**Partners**: Tunisia (Centre of Biotechnology CBBC, Faculty of Science of Sfax), Switzerland Federal research Institute for Organic Agriculture FiBL, Morocco (ENA-Meknes, Faculty of science of Marrakech)
- 2017-2019**: Euro-Mediterranean Project Arimnet2: D4 DECLIC: **Project**: Dual cropping system, Genetic Diversity, Decision support and Digital tool for Designing eco-efficient Cereal-Legume Integrated food value Chain in the Mediterranean Basin. **Partners** : Fance-Morocco-Greece

PhD Thesis supervised and accomplished with collaboraion between Tunisia and Europe

Collaboration with Germany : 2 PhD thesis co-supervised with the German Research Institute "Alplanta" in Neustadt an der Weinstrasse (Dr. Michael Hofer and Goetz Reusle):

Research subject : Genomic study of salt tolerance in Tunisian autochthonous grapevines (physiology and genomics). candidates: Samia Daldoul (2013) and Synda Chenenaoui (2017).

Collaboration with France:

2 PhD thesis with Univ. Bordeaux-CBMN (Prof. Bernard Gallois). Research subject : Key enzymes involved in grape maturity and wine quality. Candidates: Mahmoud Gargouri (2010) and Nadia Trabelsi (2013)

2 PhD thesis with Univ. Bourgogne-Dijon (Prof. Bernard Paul) . Research subject : Biocontrol of black rot disease in grapevine. Candidates: Sabeh Ben Fradj (2009) and Afef Balghouthi (2017)

1 PhD thesis co-supervised with INRA Colmar-Université Haute Alsace (Prof. Jean masson).

Research subject : Identification of grapevine elicitors involved in the biocontrol of Botrytis cynerea. Candidate: Hatem Boubakri (2013)

2 PhD thesis co-supervised with INRA-CIRAD-Montpellier (Prof. Patrice This). Research subject : Domestication and evolution of Mediterranean wild grapevine. Candidates: Nejia Zoghلامي (2007) and Leila Riahi) (2013)

Collaboration with Spain:

1 PhD thesis with INRIA-Valencia-Spain (Prof. Maria-José Asins): Research subject : Management of Tunisian and Mediterranean citrus Genetic resources using molecular and metabolic markers. Candidate : Meriem Lamine (2017)

1 PhD thesis with Experimental Station of Aula Dei, Zaragoza (Prof. Yolanda Gogorcena): Research subject : Management of Mediterranean almond genetic resources using conventional descriptors and molecular markers. Candidate: Hassouna Gouta (2013)

Collaboration with Italy :

1 PhD thesis with co supervised with Univ. De Bari (Prof. Antonio Ipolito): Research subject : Tolerance of Tunisian and Mediterranean lemon to the disease of Mal Secco. Candidate: Sana Ziadi (2015)

Selected publications:

- Riahi L., N. Zoghalmi, K. El-Heit, V. Laucou, L. Le Cunff, J.M. Boursiquot, T. Lacombe, A. **Mliki**, A. Ghorbel, P. This (2010). Genetic structure and differentiation among grapevines (*Vitis Vinifera*) accessions from Maghreb region. *Gnet Resour Crop Evol.* 57: 255-272.
- Riahi L., N. Zoghalmi, V. Laucou, A. **Mliki**, P. This (2011) Use of chloroplast microsatellite markers as a tools to elucidate polymorphism, classification and origin of Tunisia grapevines. *Sci. Horticult.* 130: 781-786.
- Lamine M and **Mliki A.** 2015. Elucidating Genetic Diversity among Sour Orange Rootstocks: a Comparative Study of the Efficiency of RAPD and SSR Markers. *Appl Biochem Biotechnol.* 175(6):2996-3013.
- Toumi I., P. N. Moschou, K. A. Pashalidis, B. Bouamama, A. Ben Salem-Fneyou, A. Ghorbel, A. **Mliki**, K. A. Rouberlakis Angelakis (2010). Abscisic acid signals reorientation of polyamine metabolism to orchestrate stress responses via the polyamine exodus pathway in grapevine. *Journal of Plant Physiology* 167 (2010) 519-524.
- Boubakri, H., Poutaraud, A, Wahab M.A., Clayeux C, Baltenweck R., Damien S., **Mliki A.**, Soustre Gacougnolle, I (2013). Thiamine modulates metabolism of the phenylpropanoid pathway leading to enhanced resistance to *Plasmopara viticola* in grapevine. *BMC Plant Biology* 13:31.
- Boubakri, H., Wahab, MA., Chong, J., Gertz, C., Gandoura, S., Bertsch, C., **Mliki**, A and Soustre-Gacougnolle, I. (2013). Methionine elicits H₂O₂ generation and defense gene expression in grapevine and reduces *Plasmopara viticola* infection. *Journal of Plant Physiology*: 170(18):1561-8.
- Daldoul S., Guillaumie S., Reustle G M., Krczal G., Ghorbel A., Delrot S., **Mliki A.** & Höfer M. (2010). Isolation and expression analysis of salt induced genes from contrasting grapevine (*Vitis vinifera* L.) cultivars. *Plant Science.* 179 (2010) 489-498.
- Ben Amar Anis, S. Oueslati, A. Ghorbel & A. Mliki (2012). Prediction and early detection of mycotoxigenic *Fusarium culmorum* in wheat by direct PCR-based procedure. *Food Control* 23: 506-510.
- Ziadi S., S. Chebil, I. Melki, A. Ippolito and A. **Mliki.** 2013. Virulence spectra and geographical distribution of Mal Secco disease of citrus caused by *Phoma tracheiphila* in the Mediterranean countries: Tunisia and Italy. *European Journal of Plant Pathology.* 138:123-131.
- Daldoul S., M. U. Höfer, A. Ghorbel and A. **Mliki** (2012). "Differential Expression of Osmotic Stress-associated ESTs in Grapevine Cultivars (*Vitis Vinifera* L.) Cultivated under Salt and Drought Stresses" in "*Grapevines: Varieties, Cultivation and Management*". P. V. Szabo, J. Shojania (eds) *Nova Science Publishers, Inc., New York, USA, pp. 169-183 ISBN: 978-1-62100-361-8.*
- Daldoul S, Ben Amar A, Guillaumie S and **Mliki A.** (2014). Integration of omics and system biology approaches to study grapevine (*vitis vinifera* l.) response to salt stress: a perspective for functional genomics - A review. *J. Int. Sci. Vigne Vin*, 48, 189-200.
- Ben-Amar A, P. Cobanov, G. Buchholz, A. **Mliki**, G. Reustle (2013). In planta agroinfiltration system for transient gene expression in grapevine. *Acta Physiologia Plantarum* 35 (11): 3147-3156
- Oueslati S; G; Meca, A **Mliki**, A. Ghorbel, J; Manes. (2011). Determination of *Fusarium* mycotoxins enniatins, in cereals and derived products from Tunisia. *Food Control.* 22:1371-1377.
- Lasram Salma, S Oueslati, A **Mliki**, A Ghorbel, P Silar, Samir Chebil. 2012. Ochratoxin A and ochratoxinogenic black *Aspergillus* species in Tunisian grapes cultivated in different geographic areas. *Food Control* 25:75-80.
- Lasram S., S. Oueslati, H. Ben Jouira, S. Chebil, A. **Mliki** and A. Ghorbel. 2012. Identification of Ochratoxigenic *Aspergillus* Section *Nigri* Isolated from Grapes by ITS-5.8S rDNA Sequencing Analysis and In Silico RFLP. *Journal of Phytopathology.* 161:280–283.
- Wassim Azri, Pascal Cosette, Clément Guillou, Mokded Rabhi, Zouheir Nasr, **Ahmed MLIKI.** 2020. Physiological and proteomic responses to drought stress in leaves of two wild grapevines (*Vitis sylvestris*): a comparative study. *Plant Growth Regulation* volume 91, pages37–52(2020). <https://doi.org/10.1007/s10725-020-00586-4>
- Samia Daldoul, Hatem Boubakri, Mahmoud Gargouri, **Ahmed Mliki.** 2020. Recent advances in biotechnological studies on wild grapevines as valuable resistance sources for smart viticulture. *Mol. Biol Rep.* 2020 Apr; 47(4):3141-3153.. doi: 10.1007/s11033-020-05363-0. Epub 2020 Mar 4.
- Fatma Karray1*†, Mahmoud Gargouri2*†, Asma Chebaane2, Najla Mhiri1, **Ahmed Mliki**, and Sami Sayadi. 2020. Aridity Gradient Modulates the Diversity of the Rhizosphere and Endosphere Bacterial Microbiomes of *Opuntia ficus-indica*. *Frontiers in Microbiology.* doi: 10.3389/fmicb.2020.01622
- Chebaane Asma, Symanczik Sarah, Oehl, Fritz, Azri Rahma, Gargouri Mahmoud, Mäder Paul, **Mliki Ahmed**, Fki, Lotfi. 2020/06/01. Arbuscular mycorrhizal fungi associated with Phoenix dactylifera L. grown in Tunisian Sahara oases of different salinity levels. *Symbiosis* 81:173-186. DO - 10.1007/s13199-020-00692-x
- Rahma Jardak Hatem Boubakri Hassene Zemni Samia Gandoura Samiha Mejri , **Ahmed Mliki** , Abdelwahed Ghorbel. 2020. Establishment of an in vitro regeneration system and genetic transformation of the Tunisian 'Maltese half-blood' (): an agro-economically important variety. *3 Biotech* 2020 Mar 6;10(3):99. Epub 2020 Feb 6. DOI :<https://doi.org/10.1007/s13205-020-2097-6>