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## **EDUCATION**

- **Jun. 2016 – Sep. 2016:** Post-doctoral stay – Department of cell biology and genetics, University of Salzburg, **AUSTRIA**. **Scientific supervisor: Professor Peter M. ECKL**  
The effect of medicinal plants extracts and dietary extracts on hepatocytes and HepG2 cells DNA damage using Coma Assay.

- **Nov. 2003 – Feb. 2007:** **Doctor's degree of Natural Sciences (Dr. rer. nat.) in Genetics and Cell Biology**, University of Salzburg, **AUSTRIA**.  
**Scientific supervisor: Professor Peter M. ECKL**

**Dissertation title:** *Toxicological properties of selected plants used in Arabian traditional medicine.*

- **Sep. 1993 – Jul. 1995:** Master of Science (**M. Sc.**) in *Bioscience*, University of Mysore, **INDIA**.

**Thesis title:** *Lipid Peroxide Induced Cellular DNA Damage.*

- **Sep. 1990 – Jul. 1993:** Bachelor of Science (**B. Sc.**) in *Microbiology, Zoology & Chemistry*, Marathwada University, **INDIA**.
- **Jul. 1986 -** High Secondary School Certificate (**TAWJIHI**) – Ya'bad Secondary School – West bank, **PALESTINE**

## **EXPERIENCES & EMPLOYMENT HISTORY**

- **October 2012 – Present:** **Assistant Professor**, Department of Medical Laboratory Sciences, Faculty of allied medical Sciences, the Arab American University-Jenin, Palestine.
- **October 2011 – September 2012:** Dean of the Faculty of Allied Medical Sciences, the Arab American University-Jenin, Palestine.
- **September 2008 – September 2011:** **Assistant Professor / Head of the Department of Medical Laboratory Science**, Faculty of Allied Medical Sciences, the Arab American University-Jenin, Palestine
- **September 2007 – September 2008:** **Assistant Professor**, Department of Medical Laboratory Sciences, Faculty of allied medical Sciences, the Arab American University-Jenin, Palestine.
- **February – August 2007:** **Postdoctoral scientific research assistant** in the division of Genetics, Department of Cell Biology, The University of Salzburg and guest researcher in

“Geneskin research project”, Department of Dermatology Paracelsus Medical University and the General Hospital, Salzburg, Austria.

- **1998 – 2003: Research Assistant Microbiologist**, National Agricultural Research Centre (NARC), Jericho - the Palestinian Authority.
- **1996 – 1998: Schoolteacher**, Ministry of education, Jenin, the Palestinian Authority.

#### **TRAINING:**

- 1- Intensive training and research stay – Comet Assay Technology updates and its use in the detection of DNA damage – Norwegian institute of Public Health, Oslo October 7, 2018 – October 12, 2018
- 2- Intensive training and research stay – conventional cytogenetic techniques and exon sequencing of G6PD gene in Palestinian patients suffering from G6PD deficiency, Medical Genetics Centre – Innsbruck Medical University – Austria September 2014.
- 3- Workshop - Project funding opportunities of the EU. Design of a logical framework (log frame). Organized by the Austrian Exchange Service (OAED). Graz, Austria. September 22 - September 23, 2006
- 4- Intensive practical training course - Plant Tissue Culture, UNESCO. Biotechnology Education & Training Centre (BETCEN) for Palestinian Territory and Arab Countries, Bethlehem University, Palestine. August 12 to August 23, 1999.
- 5- Intensive practical training course - DNA Molecular Marker Techniques, International Centre for Agricultural Research in the Dry Areas ICARDA, Aleppo, Syria. September 12 to September 23, 1999.
- 6- Intensive practical training course - DNA Molecular Marker Techniques, International Centre for Agricultural Research in the Dry Areas ICARDA, Aleppo, Syria. September 13 to September 24, 1998.
- 7- Training on Medical Laboratory techniques - Al-Razi Hospital, Jenin, West Bank (Three months during 1996)

#### **ACTIVITIES**

##### **AAUJ Committee Memberships & Activities**

1. Member - University Scientific Research council, October 2013 – August 2016
2. Assistant vice president for academic Affairs 2013/2014.
3. Dean, Faculty of Allied Medical Sciences, October 2011 – September 2012.
4. Dean assistant, Faculty of Allied Medical Sciences, October 2010 – September 2011.
5. Head, Department of Medical Laboratory Sciences, October 2008 – September 2011.
6. Member - University Scientific Research Committee October 2008 - September 2010.
7. Member - Faculty Council October 2008 - September 2012.
8. Head, Research and Seminar Evaluation Committee October 2008 - September 2010.
9. Developed guidelines for field training and internships. 2009-2010
10. Developed master program curriculum in biomedical science at the AAUJ and a Tempus Joint project. 2009-2010
11. Head, College Scientific Committee October 2008 - September 2009.
12. Head, College Training Committee October 2008 - September 2009.
13. Developed guidelines for evaluating undergraduate seminar and research. 2008/2009

#### **MEMBERSHIPS**

Member: Medical Technology Association-Palestine

Member: the Society for Medicinal Plant Research-International

Member: the International Society for Ethnopharmacology

#### **SKILLS**

##### **1- Language Skills:**

Arabic – Mother Language

English – Excellent

German – Fair

Bulgarian – little

## **2- Techniques and Methods.**

- 1- Comet Assay.
- 2- Rat Liver Perfusion for Hepatocytes Isolation and culture
- 3- Lymphocyte primary culture for cytotoxicity and genotoxicity testing and cytogenetics
- 4- Immunocytochemical techniques.
- 5- Histological preparation and immunohistochemical staining techniques
- 6- Molecular diagnosis of human genetic disorders
- 7- Classical cytogenetic diagnostic techniques

## **3- Teaching Skills**

I was partially involved in instructing cell biology and immunocytochemistry courses during my PhD study.

In addition, I am involved in instructing Medical Genetics, Molecular Biology, Histology, Toxicology and Fundamentals of Research Methods in the Arab American University-Jenin since September 2007.

Moreover, I supervise undergraduate medical students' seminar and research.

I have the capability of instructing Genetic Toxicology, Environmental and Occupational toxicology, Medicinal plants and Pharmacognosy, Pathophysiology and Microbiology.

## **RESEARCH INTERESTS AND KEY WORDS**

### **Interests:**

- Protective and/or genotoxic effects of herbal extracts and natural products.
- Genotoxic effects of drugs, environmental and occupational exposures.
- Oxidative stress and antioxidants.
- Cytogenetic and molecular diagnosis of human genetic disorders.
- Anticancer activity of medicinal plants.

### **Key words:**

Traditional medicine, Medicinal plants, Cytotoxicity, Genotoxicity, Mutagenicity, Apoptosis, Antioxidants.

## **ONGOING RESEARCH**

- Genotoxic effects of Palestinian medicinal plants on Hepatocytes and HepG2 cells using Comet Assay analysis
- Assessment of genotoxicity in PBMNC among Palestinian cigarette smokers using SCGE (Comet Assay)
- Assessment of genotoxicity in PBMNC among Palestinian radiographers using SCGE (Comet Assay)
- Polymorphism in neonate hyperbilirubinemia associated genes among Palestinians
- Molecular characterization of *G6PD* gene among Palestinian patients.
- The genotoxic and cytotoxic effects of Palestinian medicinal plants on lymphocytes primary culture
- Bacterial profile and drug susceptibility pattern of urinary tract infection in pregnant women referring to Jenin public hospital.
- Study of the genotoxic effects of cigarette smoke on human oral cavity epithelium and peripheral lymphocytes.
- Assessment of cytotoxic and genotoxic effects of smoke exposure on workers in charcoal processing.
- The effects of oral health on DNA damage and systemic plasma oxidative status.
- Frequency of micronuclei and chromosomal aberrations in oral epithelium and peripheral blood lymphocytes of Palestinian untreated cancer patients.
- The effects of psychiatric medications on embryonic development.

## GRANTS

- Post doctoral scholarship - Austrian Exchange Service (OeAD). 01.06.2016 - 30.08.2016.
- Zamalah grant for one month stay in the Medical Genetics Centre, Medical University of Innsbruck, Austria (September 2014).
- Scholarship for research work - Austrian Exchange Service (OeAD). 01.10.2003 - 30.09.2004
- Scholarship for doctoral study - Austrian Exchange Service (OeAD). 30.09.2004 - 30.04.2007

## CONFERENCE CONTRIBUTIONS (Abstracts).

1. **Mohannad Khader**, Suzan Za'rour, Wael Habneen, Yara Helw, and Amal Eter, 2015. **Molecular characterization of G6PD gene among Palestinian patients.** 1<sup>st</sup> National Conference on Applied Biomedical Sciences, AAUJ, April 20, 2015
2. **Mohannad Khader**, Nisreen Sadaqa, Ayat Deeb, Kawthar Nassar, Shada Adas, Mohammad Alkrem, 2012. **The effects of oral health on lymphocyte and oral epithelial DNA damage**  
Third Conference, Biotechnology Research and Application in Palestine  
Al-Quds University – Palestine, October 20th, 2012
3. **Mohannad Khader**, Bresgen N., Eckl PM., 2012. **Black cummin aqueous extracts induce cyto- and genotoxic effects in liver cells**  
Third Conference, Biotechnology Research and Application in Palestine  
Held at Al-Quds University – Palestine, October 20th, 2012
4. **Mohannad Khader**, Bresgen N., Eckl PM., 2010. **Palestinian medicinal plants extract exhibit potential anti-mutagenic effects in cytogenetic assays. The Sixth Palestinian Conference of Laboratory Medicine.** Held at Al-Quds University – Palestine, March 12-13, 2010.
5. **Khader M.**, Eckl PM., 2006. *Ex vivo/in vitro evaluation of the effects of Nigella sativa aqueous extract utilizing rat hepatocytes.* **International conference: Molecular and physiological effects of bioactive food compounds.** Vienna, October 11-14, 2006.
6. **Khader M.**, Eckl PM., Bresgen N., 2006. *Antimutagenic effects of ethanolic extracts from three Palestinian medicinal plants.* **International Congress and 54th Annual Meeting of the Society for Medicinal Plant research – GA 2006.** Helsinki, 29<sup>th</sup> August - 2<sup>nd</sup> September 2006. *Planta Medica* 72(11), 1009
7. **Khader M.**, 2005. *Antimutagenic effects of aqueous extracts from three medicinal plants in the primary rat hepatocyte assay.* **Protection of Genotoxic Effects of Carcinogens by Micronutrients II**, Bratislava, October 27-28, 2005. Slovak Academy of Science. ISBN 80-969398-1-5, pp28.
8. **Khader M.**, 2004. *Antioxidant and antimutagenic effects of Palestinian medicinal herbs.* **Protection of Genotoxic Effects of Carcinogens by Micronutrients**, Bratislava, October 21-22, 2004. Slovak Academy of Science. ISBN 80-969231-3-7, pp36.

## RESEARCH ARTICLES

1. **Mohannad Khader** and Peter M Eckl (2014) **Thymoquinone: an emerging natural drug with a wide range of medical applications.** *Iran J Basic Med Sci*, 17, 950-957.
2. **Khader M**, Bresgen N, Eckl PM., (2010) **Antimutagenic effects of ethanolic extracts from three Palestinian medicinal plants.** *J Ethnopharmacol.* 127 (2), 319-24.
3. **Khader M**, Bresgen N., Eckl P.M. (2009). **In vitro toxicological properties of thymoquinone.** *Food Chem Toxicol.* 47 (1),129-133
4. **Khader M**, Eckl P.M, Bresgen N., (2007). **Effects of aqueous extracts of medicinal plants on MNNG-treated rat hepatocytes in primary cultures.** *J. Ethnopharmacol.* 112 (1), 199–202.

### **BOOK CONTRIBUTIONS**

1. **Khader M**, Bresgen, N, Eckl, P.M., (2007) ***In vitro toxicological properties of selected Palestinian plants. Book contribution in: The Activity of Natural Compounds in Diseases Prevention and Therapy.*** Bratislava: Slovak Academic Press, Ltd., 171-205. ISBN 978-80-8095-019-4

### **Manuscripts under preparation or submitted for publication**

1. *In vivo/in vitro* evaluation of the effects of *Nigella sativa* aqueous extracts utilizing rat hepatocytes.
2. Molecular characterization of G6PD gene among Palestinian G6PD dehydrogenase deficient patients.
3. Assessment of the cytotoxic and genotoxic effects of smoke exposure on workers in charcoal processing.
4. The genotoxic and cytotoxic effects of *ephedra* extract on human peripheral lymphocytes.
5. The effects of oral health on DNA damage in human peripheral lymphocytes and oral epithelium