

# CURRICULUM VITAE

MUAYAD MASOUD, PhD

## PERSONAL:

Name : **Muayad Masoud Mahmoud Masoud**  
Place of Birth : **Burqa (Nablus)**  
Date of Birth : **Sep. 24<sup>th</sup>, 1973** Nationality : **Jordanian/Palestinian**  
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## EDUCATION:

*Hannover University, Hannover, Germany*

Ph. D. (2002- 2005), **Major subject:** Physical Chemistry, **Minor subject:** Inorganic Chemistry

**Rating:** V. good.

**Thesis:** "Diffusivity and Ionic Conductivity in LiNbO<sub>3</sub> and Related Glasses and Glass Ceramics"

*An-Najah N. University, Nablus, Palestine*

M. Sc., Chemistry. (1996-2001)

**Cumulative average:** 86.3%, **Rating:** V. good.

**Thesis:** "Surface Modification of n-GaAs Semiconductor with Metalloporphyrin/Polysiloxane Matrices: Effect of Modification on Band-Edge Positions, Short Circuit Current and Surface Stability Aqueous Photoelectrochemistry".

*Al-Yarmouk University, Irbid, Jordan*

B. Sc., Chemistry. (1992-1996) **Honor list:** 7 semesters

**Cumulative average:** 89.8%, **Rating:** Excellent.

*Burqa Sec. School, Burqa, Nablus, Westbank*

General School Certificate, (Tawjeehi), **Science Stream:** 95.5%, (1992)

## ADMINISTRATIVE, TEACHING and RESEARCH EXPERIENCES:

### Administrative:

- 1) Assistant to the university vice president for planning and development, March 2012 –August 2013.  
Responsibilities: Strategic planning, Proposing new academic programs for accreditation, Administrating AAUJ computer center, Professional development workshops, Preparing AAUJ annual report, .... etc.
- 2) Vice chair of the scientific research committee 2010-2011 and 2011-2012.
- 3) Member of the scientific research committee 2007-2008
- 4) A member of the strategic planning committee March 2012 –August 2013.

### Teaching:

1) Assistance professor of physical chemistry in the chemistry department in Arab American University-Jenin September 2006 – up to now.

Courses taught up to now: [(course number) course name (number of times taught)]

**Major courses:**

(105) General Chem. Lab. I (7),	(102) General Chem II (15),	(106) General Chem. Lab. II (10),
(265) Analytical Chem Lab (7),	(200) Comp. Appli. in Chem. (6),	(241) Physical Chem I (7),
(345) Physical Chem Lab (3),	(325) Inorganic Chemistry Lab. (8),	(342) Physical Chem II (7),
(495) Special Topics in Chem (Solid State Chem) (4),	(373) Chem and life (5),	(443) Quantum Chemistry (8),
	(499) Undergraduate Seminar (19 students)	

**Other courses:**

(101) General Chem. I (7),	(165) General Chemistry Lab. for Medical Students (2),
(221) Inorganic Chem. I (1),	(232) Organic Chem Lab. for Non-Chem Students (4),
(261) Analytical Chem Lab. for Non-Chemists (7),	(261) Analytical Chem. for Med. Stu. (4),

2) Assistance professor of physical chemistry in the chemistry department in Hebron University (March – September 2006).

3) Chemistry teacher (Secondary School) Aug. 1996–Feb. 2002.

I was involved in many scholastic activities being a high-school chemistry teacher in addition to teaching several subjects like general science, physics, mathematics and computer, besides being responsible for computer and science laboratories, a mem-

ber of teaching developing team in the school as well as a member of the chemistry committee in Nablus directorate for several years. In January 2002 I was designated as the Chemistry director (supervisor) in the Ministry of Education- Nablus Directorate (for 2 weeks and then I started my PhD in Germany).

### ***Non-curriculum activity:***

1. Representative of the Chemistry Department in the Faculty of Art and science Council 2008-2009
2. Member of the Students' Disciplinary Committee 2009-2010
3. Academic supervisor for the chemistry students class of 2006 (about 20 students) September 2006 -2010 & the class of 2010 (about 35 students) September 2010 - 2014.

### ***Research:***

1. Investigation of ions dynamics in different forms of solid-state materials.
2. Preparation of inorganic materials in different forms (nanocrystalline, amorphous, glasses, and glass ceramics) by different methods (conventional quenching of melts, sol-gel, high-energy ball milling, etc.)
3. Solid state NMR for structure and dynamic characterization (static and magic angle spinning-NMR, solid echoes, spin lattice relaxation, and spin alignment echo).
4. Impedance spectroscopy (conductivity, complex-plane impedance, dielectric constant, modulus).
5. Utilizing solar light as alternative energy source in solar cell including chemical modification of semiconductor surfaces.
6. Characterizing semiconductors in solar cells by different photo-electrochemical techniques: current voltage (J-V) plots Capacitance-Voltage (Mott-Schottky), and Cyclovoltammetry etc. ....),
7. X-ray diffraction, in-situ XRD and Extended X-ray Atomic Absorption Fine Structure (EXAFS).
8. AAS, HPLC, UV/Visible, FT-IR, Raman Spectroscopy, and thermal analysis (DTA, DSC, TG, etc. ....).
9. Supported catalysis in different reactions such as, hydrosilylation, using metal carbonyls clusters catalytic systems.
10. Dye degradation using oxidizing agents of metals "Remazol brilliant blue oxidative degradation using acidified iodate".

## **AWARDS & CERTIFICATES:**

### **Administrative:**

- AAUJ President's Staff Recognition Certificate (for administrative work in planning and development office) 29 Jan 2013
- LRQA certificate (No. 13/0824): passing a training course for Internal QMS auditor certified by the international register of certified auditors (IRCA), 08 May 2013
- AAUJ President's Recognition Award (1,000 JD + certificate) for efforts leading AAUJ to achieve ISO9001:2008 certificate 30 June 2013

### **Academic:**

- Graduate Program "New materials with tailored properties" fellowship supported financially by Georg Christoph Lichtenberg-fellowships sponsored by the State of Niedersachsen, (02/2002-02/2005)
- Three months "Research stay abroad" in Institute of Mathematical and Physical Sciences University of Wales Aberystwyth Ceredigion SY23 3BZ Wales-UK. Sep.-Oct. 2003 and May 2004, under the supervision of Dr. Rudolf Winter.
- Conference grants "financial support for young scientists" in The Sixth International Conference on DIFFUSION IN MATERIALS (DIMAT 2004), Krakow-Poland, 18-23 July 2004.

### ***Languages:***

Arabic: mother tongue.      English: Excellent reading and very good writing and conversation.      German: Beginner level.

## Computer skills:

- Excellent knowledge of Microsoft application programs like Win8 and MS Office 2013 (Word, Excel, and PowerPoint).
- Excellent use of fitting and statistics programs like Excel, Origin, Igor ....
- Very good knowledge in Chemistry software like ChemBioDraw Ultra 12, HeperChem 8.0
- Very good knowledge in special scientific software for data handling like Equivelent Circuit and LEVM for impedance spectroscopy, WinNMR, Dmfit2003, Mestrec for NMR fitting, EXCALIB, LINCOM, and EXCURVE98 for EXAFS fitting.
- Advanced skills in e-learning “social media and personal sites”, 50 hours training course, open learning center, Al-quds Open University, 05 Oct. 2013

## INVITED PRESENTATION AND CONFERENCES

Title	Conference	Place & Date
Surface modified n-GaAs semiconductor with metalloporphyrinatomanganese(III) encapsulated in polysiloxane matrices: effect of modification on the semiconductor characteristics at the solid/liquid junctions. (oral contribution)	2 <sup>nd</sup> International Conference on Pure, Applied and Environmental Chemistry	Yarmouk University, Irbid; 17-21/04/(2000)
n-GaAs Band edge repositioning by modification with metalloporphyrin/polysiloxane matrices (oral contribution: 4-SMOA07)	Sharjah Solar Energy Conference incorporating the 7 <sup>th</sup> Arab international solar energy conference and regional world Renewable energy conference	Sharjah, UAE; 19-22/02/(2001)
Stability and Cell Efficiency Enhancement of n-GaAs Electrodes by Metalloporphyrin Complexes Embedded Inside Polysiloxane Matrice (Poster Contribution: P17)	World Renewable Energy Congress VII	Cologne-Germany; 29/06-05/07/(2002)
Impedance spectroscopy study of Li ion dynamics in microcrystalline, nanocrystalline, and Amorphous LiNbO <sub>3</sub> (Poster Contribution)	Deutsche Physikalische Gesellschaft (DPG) “spring meeting of the Division Condensed Matter Physics”	Dresden-Germany; 24-28/03/(2003)
Impedance Spectroscopy Analysis of Li Ion Dynamics in Single Crystal, Microcrystalline, Nanocrystalline, and amorphous LiNbO <sub>3</sub> (oral contribution)	Sixth International Conference on DIFFUSION IN MATERIALS (DIMAT 2004)	Krakov-Poland; 18-23/07/(2004)
Mixed Alkali Effect in (Li, Na) Niobium Silicate Glasses- Probing Cation Dynamics by Impedance spectroscopy and by Solid-echo and Multiple-time Spin-Alignment Echo <sup>7</sup> Li NMR Spectroscopy (Poster Contribution)	Deutsche Physikalische Gesellschaft (DPG) “spring meeting of the Division Condensed Matter Physics	Berlin-Germany; 04-09/03/(2005)
Impedance and NMR Study of Amorphous and Nanocrystalline LiNbO <sub>3</sub> : Influence of Preparation Routes. (Oral contribution)	1 <sup>st</sup> International Student Workshop (Germany-Japan-Korea) Solid State Ionics: Cross-Frontier Problems in Physical Chemistry and Materials Science"	Geissen-Germany; 15-16/07/(2005)
"Application of <sup>7</sup> Li solid echo and two-time stimulated echo NMR spectroscopy to study the mixed alkali effect in (Li,Na) Niobium silicate glasses" (oral contribution - <b>coauthor</b> )		
NMR and impedance studies of nanocrystalline and amorphous ion conductors: lithium niobate as a model system. (oral contribution)	Faraday Discussion 134: Atomic Transport and Defect Phenomena in Solids	University of Surrey, Guildford, U.K.; 10-12/07/(2006)
Recrystallisation of NaNbO <sub>3</sub> nano-crystals by Li <sup>+</sup> /Na <sup>+</sup> ion exchange through a sodium silicate glass matrix	Society of Glass Technology Annual Conference 2007	University of Derby Glass-Industry; 5-7/09/(2007)
NMR and Impedance Studies of Nanocrystalline and Amorphous Lithium Niobate	The fourth Palestinian Chemistry conference	Al-Quds University Abu Deis + The Palestinian Chemical Society; 14-15/04/(2008)

## PUBLICATIONS:

- 1) H. Hilal, M. Suleiman, W. Jondi, S. Khalaf, and M. Masoud, "*Poly(siloxane)-Supported Decacarbonyldimanganese(0) Catalyst for Terminal Olefin Hydrosilylation Reactions: The Effect of the Support on the Catalyst Selectivity, Activity and Stability*", *Journal of Molecular Catalysis A-Chemical*, **144**[1] (1999) 47-59
- 2) H. S. Hilal, M. Masoud, S. Shakhshir, and N. Jisrawi, "*Metalloporphyrin/polysiloxane modified n-GaAs surfaces: effect on photoelectrochemical efficiency and surface stability*", *Journal of Electroanalytical Chemistry* **527**[1-2] (2002) 47-55
- 3) H. S. Hilal, M. Masoud, S. Shakhshir, and N. Jisrawi "*n-GaAs band-edge repositioning by modification with metalloporphyrin/polysiloxane matrices*", *Active and Passive Electronic Components* **26**[1] (2003) 11-22
- 4) M. Masoud, and P. Heitjans, "*Impedance Spectroscopy Study of Li Ion Dynamics in Single Crystal, Microcrystalline, Nanocrystalline, and Amorphous LiNbO<sub>3</sub>*", *Defect and Diffusion Forum* **237-140** (2005) 1016-1021
- 5) P. Heitjans, M. Masoud, A. Feldhoff, and M. Wilkening, "*NMR and impedance studies of nanocrystalline and amorphous ion conductors: lithium niobate as a model system*", *Faraday Discuss.*, **134** (2007), 67–82
- 6) P. Fielitz, G. Borchardt, R. De Souza, M. Martin, M. Masoud, P. Heitjans, "*Oxygen-18 Surface Exchange and Diffusion in Li<sub>2</sub>O-deficient Single Crystalline Lithium Niobate*", *Solid State Sciences* **10** (2008) 746-753
- 7) Martin Wilkening, Muayad Masoud, and Paul Heitjans, "*Li Dynamics in Amorphous LiNbO<sub>3</sub> as Probed by Solid State NMR on Different Length Scales*" *Diffusion Fundamentals* **8** (2008) 5.1 – 5.7

## NAMES OF REFEREES:

### 1. Prof. Dr. Paul Heitjans,

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### 2. Prof. Dr. Hikmat S. Hilal

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### 3. Dr. Rudolf Winter

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