

Curriculum vitae

Dr. QASSEM I. MOHAIDAT



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Short Biography

Dr. Qassem Mohaidat: Received His Bachelor and Masterdegrees from Yarmouk University in 1998 and 2001 respectively. Worked as Lab instructor at Yarmouk University from 2003 till 2006. Between 2006 and 2011, Qassem was a Ph.D. candidate and research assistant at Wayne State University where he received his PhD degree in Physics with excellent distinction in August 2011 with a 4.0/4.0 GPA as well. His research interests focused on studying the Structural and Magnetic properties of Magnetic materials (Magnetic Alloys and Compounds, Iron oxides (Cubic and HexaFerrites, Garnets)), and Hyperfine Interactions (Coupling the Hyperfine Properties of materials with the Structural and Magnetic Properties).

PERSONAL INFORMATION	NAME	QASSEM I. MOHAIDAT
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	E-MAIL	Q.MUHAI DAT@YU.EDU.JO Q.MUHAI DAT@WAYNE.EDU
	NATIONALITY	JORDANIAN
	DATE OF BIRTH	02/08/1976
	GENEDER	MALE
LANGUAGES	<ul style="list-style-type: none"> • Arabic: Mother Tongue • English: Excellent Reading/Writing/Verbal Skills 	
EDUCATION	Doctorate of Philosophy Wayne State University, Michigan, MI, 2011 Physics GPA: 4.0/4.0 Advisor: Professor Steven Rehse, rehse@u Windsor.ca Research: Our research is targeted toward two areas: the biomedical applications of laser-based technologies. Thesis title: LASER-INDUCED BREAKDOWN SPECTROSCOPY (LIBS): AN INNOVATIVE TOOL FOR STUDYING BACTERIA	
	Master of Science Yarmouk University, Irbid, Jordan, 2001 Physics GPA: Excellent (89.0%) Advisor: Professor Sami Mahmood, s.mahmood@ju.edu.jo Thesis title: Structural and Mössbauer studies of Fe _{0.9-x} Co _x Zr _{0.1} alloys	
	Bachelor of Science Yarmouk University, Irbid, Jordan, 1998 Physics GPA: Very Good (80.1)	
RESEARCH INTERESTS	<ul style="list-style-type: none"> • Structural and Magnetic Properties of Magnetic Materials (Magnetic Alloys and Compounds. Iron oxides (Cubic and Hexaferrites, Garnets) • Hyperfine Interactions (Coupling the Hyperfine Properties of materials with the Structural and Magnetic Properties) 	
PROFESSIONAL	<ul style="list-style-type: none"> • Associate Professor, (March 2019 – now), Department of Physics, Yarmouk University, Irbid, Jordan. 	

<p>EXPERIENCE</p>	<ul style="list-style-type: none"> • Assistant Professor, (September 2011 – March 2019), Department of Physics, Yarmouk University, Irbid, Jordan. • Graduate Assistant (research and teaching), Department of Physics, Wayne State University, Detroit, Michigan, 2006 – 2011. • Physics Instructor, Department of Physics, Yarmouk University, Irbid, Jordan, 2003 – 2006. • Teacher of Physics, Yarmouk Model School, 2001-2003. • Teaching Assistant, Physics Department, Yarmouk University, 1999 – 2001.
<p>PUBLICATIONS</p>	<ul style="list-style-type: none"> • S.H. Mahmood, Q. Al Sheyab, I. Bsoul, Y. Maswadeh, Q.I. Mohaidat, A. Awadallah. Structural and magnetic properties of $(\text{Mg, Co})_2\text{W}$ hexaferrites. Jordan Journal of Physics (2020) • Ibrahim Bsoul, Rasheed Olayaan, Mahdi Lataifeh, Qassem I Mohaidat, Sami H Mahmood. Structural and magnetic properties of $\text{Er}_3\text{Fe}_{5-x}\text{Ga}_x\text{O}_{12}$ garnets. Materials Research Express 6(7) 076114 (2019) • Mohammad Y Al-Shorman, Majd M Al-Kofahi, Qassem I. Mohaidat. Simulation-Assisted Environment-Mapping Using Unidirectional Ultrasonic Pulses. Jordan Journal of Physics (2019) • Mahdi Lataifeh, Qassem I Mohaidat, Sami H Mahmood, Ibrahim Bsoul, Mufeed Awawdeh, Ibrahim Abu-Aljarayesh. Structural, Mössbauer spectroscopy, magnetic properties, and thermal measurements of $\text{Y}_{3-x}\text{Dy}_x\text{Fe}_5\text{O}_{12}$. Chinese Physics B 27(10)107501 (2018) • Mohaidat, Q., Lataifeh, M., Hamasha, K., Mahmood, S., Bsoul, I. and Awawdeh, M. The Structural and the Magnetic Properties of Aluminum Substituted Yttrium Iron Garnet. Materials Research. 21(3) 1-7(2018). • Mohaidat, Q., Lataifeh, M., Mahmood, S., Bsoul, I., and Awawdeh, M. Structural, Mössbauer Effect, Magnetic, and Thermal Properties of Gadolinium Erbium Iron Garnet System $\text{Gd}_{3-x}\text{Er}_x\text{Fe}_5\text{O}_{12}$. Journal of Superconductivity and Novel Magnetism. 30 (8): 2135–2141(2017). • Awadallah, A., Mahmood, S., Maswadeh, Y., Bsoul, I., Awawdeh, M., Mohaidat, Q., and Juwhari, H. Structural, magnetic, and Mossbauer spectroscopy of Cu substituted M-type hexaferrites. Materials Research Bulletin. 74 192-201 (2016). • Mahmood, S., Zaqasaw, M., Mohsen, O., Awadallah, A., Bsoul, I., Awawdeh, M., and Mohaidat, Q. Modification of the magnetic properties of Co_2Y hexaferrites by divalent and trivalent metal substitutions. Solid State Phenomena. 241; 93-125(2016). • Russell A. Putnam, Qassem I. Mohaidat, Andrew Daabous, Steven J. Rehse, “A comparison of multivariate analysis techniques and variable selection strategies in a laser-induced breakdown spectroscopy bacterial classification,”

	<p>Spectrochimica Acta Part B 87 (2013) 161–167.</p> <ul style="list-style-type: none"> • Khozima Hamasha, Qassem I. Mohaidat, Russell A. Putnam, Ryan C. Woodman, Sunil Palchaudhuri, and Steven J. Rehse, "Sensitive and specific discrimination of pathogenic and nonpathogenic Escherichia coli using Raman spectroscopy—a comparison of two multivariate analysis techniques," BIOMEDICAL OPTICS EXPRESS 481, Vol. 4, No. 4, 2013. • Q.I. Mohaidat, K. Sheikh, S. Palchaudhuri, and S.J. Rehse, "Pathogen identification with laser-induced breakdown spectroscopy: the effect of bacterial and biofluid specimen contamination," Applied Optics 51, B99-B107 (2012). • Q.I. Mohaidat, S. Palchaudhuri, and S.J. Rehse, "The effect of bacterial environmental and metabolic stresses on a LIBS-based identification of Escherichia coli and Streptococcus viridans," Appl. Spect. 65, 386-392 (2011). • S.J. Rehse, Q.I. Mohaidat, and S. Palchaudhuri "Towards the clinical application of laser-induced breakdown spectroscopy for rapid pathogen diagnosis: the effect of mixed cultures and sample dilution on bacterial identification," Appl. Opt. 49, (2010). • S.J. Rehse and Q.I. Mohaidat "The Effect of Sequential Dual-Gas Testing on a LIBS-Based Discrimination of Brass and Bacteria," Spectrochimica Acta B 64, 1020-1027 (2009). • Mohaidat, Q.I., Al-Omari, I.A., and Mahmood, S.H. Structural and Mössbauer Studies of $Fe_{0.9-x}Co_xZr_{0.1}$ Alloys. Physica B, 321, 149-153 (2002).
<p>CONTRIBUTED PRESENTATIONS</p>	<ul style="list-style-type: none"> • The First Yarmouk University Scientific Research Symposium (YUSR), Structural, Mossbauer spectroscopy, Magnetic properties and Thermal measurements of $Y_{3-x}Dy_xFe_5O_{12}$, Yarmouk University, 2017. • Scientific day at Yarmouk University, Laser Induced Breakdown Spectroscopy: An Innovation Tool for Studying Bacteria, Yarmouk University, 2013. • Towards the clinical application of laser-induced breakdown spectroscopy for rapid pathogen diagnosis, Wayne State University Graduate Exhibition, 2010. • "A New Opportunity Using Elemental Microbiological Multi-Variate Analysis for the In Situ Identification of Astro biological Materials," 41st Lunar and Planetary Science Conference (LPSC), Houston, TX, March 1-5, 2010. • LIBS for Rapid Discrimination/Identification of Gram-negative and Gram-positive Bacteria, NASLIBS 2009, New Orleans, July 2009. • The Effect of Sequential Dual-Gas Testing on Discrimination of Brass and Bacterial Samples," LIBS 2008, Berlin, Germany September 2008. • Fourth Symposium on Magnetism, CTAP, Yarmouk University, 6-8 Nov. 2000.

<p>AWARDS</p>	<ul style="list-style-type: none"> • The award for first-place student of the 2001 M. Sc. Physics class, Yarmouk University, Jordan, 2001. • Daniel R. Gustafson Graduate Student Teaching award, Wayne State University, 2007. • A scholarship to peruse M.S. and Ph.D. degrees at Wayne State University, USA, 2008-2010 (Sponsor: Yarmouk University, Jordan) • Institute for Manufacturing Research Award, Wayne State University, 2009-2010. • First Place Award, Graduate Research Day: Wayne State University (Department of Physics and Astronomy), 2010. • Outstanding Academic Achievement Award, 2011 for the PhD degree (Wayne State University).
<p>RESEARCH EXPERIENCE</p>	<ul style="list-style-type: none"> • Fabrication and Characterization of Metallic Alloys. • X-ray Diffraction, Mössbauer Spectroscopy, Magnetism of Alloys and Fine particles. • Developing a new technique called laser-induced breakdown spectroscopy (LIBS) to rapidly identify and characterize pathogenic and non-pathogenic bacteria. • We proved that Bacterial LIBS signatures appear to be correlated with bacterial membrane biochemistry (for Gram-negative bacteria) and may be related to serotype identification. • We proved that Bacterial LIBS signatures appear to be correlated with bacterial membrane biochemistry (for Gram-negative bacteria) and may be related to serotype identification.
<p>TEACHING EXPERIENCE</p>	<ul style="list-style-type: none"> • PHYS 101, General Physics I. • PHYS 102, General Physics II. • PHYS 105, General Physics Lab I. • PHYS 106, General Physics Lab II. • PHYS 225 Classical Physics Lab. • PHYS 235, Electronics lab I. • PHYS 282, Vibrations and Waves. • MPHYS 306, Introduction to Biomedical Physics. • PHYS 322, Modern Physics Lab. • PHYS 332, Electrodynamics I. • MPHYS 341, Radiation Physics. • MPHYS 342, Radiation Biology. • MPHYS 343, Health Physics.

WORKSHOPS	<ul style="list-style-type: none"> • Attended the “E-learning Workshop (Advanced Level)” Yarmouk Faculty Development Center, 2017 • Attended the "New Faculty Members Workshop" at Yarmouk Faculty Development Center, 2017 • Attended the “Questionmark Perception Workshop” Yarmouk Faculty Development Center, 2017 • Attended the “Using LateX Workshop” Yarmouk Faculty Development Center, 2017
FUNDED PROJECTS	<ul style="list-style-type: none"> • 2014 – 2015: Characterization of Environmental Pollutants Using Mössbauer Spectroscopy, 12100 JD.
SUPERVISION OF GRADUATE RESEARCH	<ul style="list-style-type: none"> • Dose assessment and radioactivity of ^{40}K, ^{137}Cs, ^{226}Ra and ^{232}Th Due to different kinds of juice consumed in Jordan. • Dose Assessment and Radioactivity of (^{40}K, ^{137}Cs, ^{226}Ra and ^{232}Th) Due to Different Kinds of Canned Meat Consumed in Jordan. • Mössbauer Spectroscopy Study of (M-type Hexaferrite $\text{BaFe}_{12-x}\text{Ti}_x\text{O}_{19}$) Prepared by Sol-Gel Method
REFERENCES	<ul style="list-style-type: none"> • Professor Sami Mahmood Physics Department Jordan University, Amman, Jordan s.mahmood@ju.edu.jo • Professor Mahdi Lataifeh Physics Department Yarmouk University, Irbid, Jordan mahdiq@yu.edu.jo • Professor Jogindra Wadehra Department of Physics and Astronomy Wayne State University Detroit, MI 48201, US Phone: +1-313-577-2740 wadehra@wayne.edu