

# CURRICULUM VITAE

Date: May. 20, 2020

## Personal Data

Full Name : Abdel Khaleq Mousa Alsmadi  
Nationality : JORDANIAN  
Marital Status : Married

## Present Position and Address:

Abdel Khaleq Alsmadi  
Associate Professor of Physics  
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## Education and Academic Qualifications:

| Degree (Training)   | Specialization  | Institute   | Date             |
|---------------------|---|---|------------------|
| *Postdoc. Associate | Neutron and X-ray scattering: Magnetic films and nanostructures | Intense Pulsed Neutron Sources and Material Science Division, Argonne National Lab. (USA) | June 04- Sep.05  |
| **Ph.D. (Physics)   | Experimental condensed mater phys. (magnetism)                  | New Mexico State University and Los Alamos National Lab. (USA)                            | Jan. 00- May 04  |
| ***M.Sc. (Physics)  | Exp. solid state physics and materials science                  | University of Jordan (JORDAN)   | Sep.93 - July 96 |
| B.Sc. (Physics)     | Physics   | Yarmouk University (JORDAN)   | Sep.89 - July 93 |

\* Postdoctoral Advisor: Dr. Suzanne G. E. te Velthuis ([tevelthuis@anl.gov](mailto:tevelthuis@anl.gov))

\*\* Ph.D Dissertation title: Pressure effects on the magnetic transitions in strongly correlated electron systems.

\*\* Ph.D Dissertation Advisor: Prof. H. Nakotte ([hnakotte@nmsu.edu](mailto:hnakotte@nmsu.edu) )

\*\*\* M.Sc Thesis title: Determination of the yield energy of treated polystyrene.

\*\*\* M.Sc Thesis Advisor: Prof. A. M. Zihlif ([adzh@sci.ju.edu.jo](mailto:adzh@sci.ju.edu.jo))

## **Educational Activates:**

### **1. Teaching Experience:**

#### **Undergraduate Courses:**

Phys. 101: General Physics I (Science and Engineering students)  
Phys. 102: General Physics II (Science and Engineering students)  
Phys. 107: General Physics III (life science and medical students)  
Phys. 106: (Introduction to Astronomy)  
Phys. 205: Physics Lab. III (Waves)  
Phys. 213: (Principles of electronics)  
Phys. 306: (Modern Physics Lab)  
Phys. 371: Physics of Materials  
Phys. 471: Solid State Physics  
Phys. 341: Thermal and Statistical Physics  
Phys. 322: Vibrations and Waves  
Phys. 491: Seminar (student graduation projects on different topics in magnetism, materials science and engineering)  
Phys. 411: Advanced Laboratory II (different senior level experiments on modern and advanced physics),

#### **Graduate Courses:**

Phys. 773: Structure and Properties of Materials  
Phys. 794: Special topics: Magnetism, magnetic devices and magnetic technology  
Phys. 791: Seminar (different topics in magnetism, materials science and engineering)  
Phys. 782: Advanced Mathematical Physics  
Phys. 751: Advanced Classical Mechanics

### **2. Courses Coordinated (Convener):**

1. Phys. 108: General Physics Lab I, 24 lecture sections, 1 credit hours, fall semester of 2006
2. Phys. 101: General Physics I, 13 lecture sections, 3 credit hours, fall semester of 2007

### **3. Supervision of Undergraduate Research Projects:**

I supervised about 30 undergraduate students in each semester that I taught the Seminar Course (Phys. 491) on different topics in materials physics and magnetism. I taught this course in spring, 2006, in fall 2007, in fall 2008 and in fall 2010.

### **4. Training of Graduate Students at Argonne National Laboratory:**

I participated in training graduate students in the National school on neutron and x-ray scattering, Organized by Argonne National Laboratory, Argonne, IL 60439. August 12-25, 2004.

### **5. Supervision of Graduate Research at The Hashemite University:**

1. Supervisor: Mahmood Alzayaat, **M. Sc.** thesis title: "Exchange bias field variations in NiFe/FeMn/NiFe trilayers as a function of seed layer thickness", The Hashemite University, December 2008
2. Co-Supervisor: Ahmed Hijazi, **M. Sc.** Thesis title "Effect of fluorine doping on the properties of spray deposited Zinc Tin Oxide (ZTO) thin film"

## **6. Membership on Examining Committees for Postgraduate Studies:**

1. Husaam Yosef Eid, title: "Physical Properties of EPOXY/POSS Nanocomposites ", **Ph. D. thesis**, *University of Jordan*, March 2013
2. Abeer Diab Al-Adaileh, title: "Physical Characterization of Oil shale/Polystyrene composites", **Ph. D. thesis**, *University of Jordan*, December 2009.
3. Suhad Sbeih, title: "Optical and electrical properties of Kaolinite/Polystyrene composites", **M. Sc. Thesis**, *University of Jordan*, April 2009.
4. Hiyam Al-Khazon, title: "Study of neutral many Bosonic systems in static fluctuation approximation with a potential model close to the real potential", **M. Sc. Thesis**, *The Hashemite University*, May 2008
5. Ahmed Ali, title: "Photophysical properties of Pyropheophorbide a derivative of photosensitizer for cancer treatment", **M. Sc. Thesis**, *The Hashemite University*, February 2008.

## **Research Activates:**

### **Research objective:**

The objective of my research is to understand the physical properties of selected strongly correlated electron systems ( $f$ -electron systems and transition-metal oxides), as well as to develop new functional nanomagnetic and semiconductor materials for future applications in optoelectronics and spintronics. I intend to conduct this research program in a way that contributes to the education of both undergraduate and graduate students, by making them very active participants in my laboratory.

### **Current research:**

My current research focuses on studying magnetic and related physical properties in two different classes of materials: correlated-electron systems ( $f$ -electron systems and transition-metal oxides) and diluted magnetic semiconductors (powder, thin films, and multilayers). I am studying magnetism in strongly correlated electrons systems under multi extreme conditions (low temperature, high magnetic field and high pressure) using neutron and x-ray scattering techniques and bulk measurements. In addition, I am studying magnetism and related physical properties in magnetic thin films and diluted magnetic semiconductors, using bulk measurements, polarized neutron reflectometry and x-ray scattering techniques. This includes exchange-biased films, dilute magnetic semiconductor, superlattice films, and quantum dots. Materials studied and/or under investigation are: (Ga,Mn)As, (Ga,Mn)As/Fe, ZnO, (Zn,Mn)O, (Zn,Co)O, Co/FeF<sub>2</sub>, NiFe/FeM. Different characterization tools are used to investigate their properties such as Vibrating Sample Magnetometry (VSM), Hall effect, electrical conductivity, optical transmittance/reflectance, Photoluminescence, Photoexcitation and photocurrent spectroscopy, thermally stimulated current spectroscopy, XRD, XPS, SEM, FESEM, AFM, EDS, I-V & C-V.

### **Research Interests:**

1. **Semiconductor materials and transparent conducting oxides.** Synthesis, characterization and developing of different semiconductor materials based on ZnTe, ZnO, SnO, CdS, TiO<sub>3</sub>, for future applications in optoelectronics and spintronics.
2. **Diluted magnetic semiconductors and thin films** based on transition metals doped ZnO, SnO, and GaAs semiconductors.

3. **Magnetism in strongly correlated electrons system** (*f*-electron systems and transition-metal oxides). In these materials one can observe a variety of ‘exotic’ phenomena that are still far away from complete understanding for example, heavy-fermion behavior, non-Fermi liquid scaling, quantum critical point, unconventional superconductivity, metal-to-insulator transition and unusual type of short-range or long-range magnetic correlations.
4. **X-ray and neutron-scattering techniques.** X-ray and neutron scattering techniques are used to test the dynamical, structural and magnetic properties of materials. At the Advanced Photon Source (APS) users facility of Argonne National Laboratory, I am collaborating with two research groups and using different x-ray scattering techniques to study nanostructures based Eu, ZnO, and GaAs. I will be also working with beamline scientists at the Synchrotron-light for Experimental Science and Applications in the Middle East (SESAME) on adaptation of several different microfocusing techniques, simulate them and introduce new microfocusing techniques (designs) that combine both a toroidal mirror and a low-cost and compact Kirkpatrick-Baez (KB) mirrors for building their beamlines.
5. **Studies under high pressure and in high magnetic fields.** At the APS, I am collaborating with Prof. Ercan Apl group to study phonon density of states and the electronic structure of heavy fermions compounds under high pressure and/or high magnetic fields, using diamond anvil cell specially designed for Nuclear Inelastic Scattering, Nuclear Forward Scattering (Synchrotron Mössbauer Spectroscopy) and X-ray magnetic circular dichroism (XMCD) techniques.

**Experimental Skills:**

1. X-ray and neutron scattering techniques: neutron single crystal diffraction and magnetic space group analyses, polarized neutron reflectometry analysis, neutron diffraction under high pressure. X-ray scattering under multi-extreme conditions: Nuclear Inelastic Scattering, Nuclear Forward Scattering (Synchrotron Mössbauer Spectroscopy), and X-ray magnetic circular dichroism (XMCD) techniques. Data process and analysis software experience: GSAS, ATOMS, POSYIDL2, PARATT, REFPOL, Rfit2000, Fit2D, X-ray helper, Fullprof, and other x-ray and neutrons software that help in analyzing x-ray and neutron data.
2. Magnetic and transport measurements in high magnetic field: Magnetization (SQUID and VSM), susceptibility, magnetoresistance, and thermal expansion measurements.
3. High-pressure techniques: transport measurements under multi extreme conditions (low temperature, high magnetic field and high pressure). Good experience in designing high pressure cells for both transport and neutron diffraction and X-ray scattering measurements. Diamond anvil cells specially designed for diffraction, Nuclear Inelastic Scattering, Nuclear Forward Scattering (Synchrotron Mössbauer Spectroscopy) and X-ray magnetic circular dichroism (XMCD) techniques.
4. Thin films fabrication and characterization using different characterization tools such as Hall effect, electrical conductivity, optical transmittance/reflectance, Photoluminescence, Photoexcitation and photocurrent spectroscopy, thermally stimulated current spectroscopy, XRD, XPS, SEM, FESEM, AFM, EDS, I-V & C-V characterization, solar cell conversion efficiency, DLTS, I-DLTS and admittance spectroscopy.

**Member of the Editorial Board of the Following Journals:**

1. MedCrave Open Access Journal of Science
2. International Journal of Physics: Study and Research (IJPSR)

**Reviewers for the Following Journals:**

1. Jordan Journal of Physics
2. Journal of alloys and compounds
3. Materials Chemistry and Physics
4. Journal of applied physics
5. Journal of magnetism and magnetic materials
6. Transactions on Magnetics
7. Nuclear Science and Techniques
8. Science of Advanced Materials
9. Journal of applied physics D-Applied Physics

**Reviewers for the following National Laboratory committees:**

1. NIST Center for Neutron Research Proposals for Neutron Beam Experiments

**MEMBERSHIP IN PROFESSIONAL INTERNATIONAL SOCIETIES:**

- Member of American Physical Society, since 2000
- Member of American Neutron Scattering Society, since 2001.
- Member of American Material Science society, since 2008
- Member of Jordanian SESAME material science research group, since 2006

**Training Courses:**

1. International Atomic Energy Agency (IAEA) training fellowship, Vienna, Astoria in collaboration with the advanced Photon source, Argonne National Laboratory, Argonne, IL, May17, 2010-Nov 12, 2010.
2. Blackboard (E-learning), April 13- 21, 2007. The Hashemite University, Zarqa, Jordan.
3. Technology of Education and Grading, Nov 19-26, 2005. The Hashemite University, Zarqa, Jordan.
4. LANSCE Neutron Scattering Winter School, Topic: Magnetism, January 9-16, 2004, Los Alamos National Laboratory, Los Alamos, NM.
5. National School on Neutron and X-Ray Scattering, August 12-25, 2001. Organized by Argonne National Laboratory, Argonne, IL 60439.
6. Radiological workers II, high-pressure, cryogenic, incidental crane, hazardous materials, computer security, nuclear material handler and several other training at Los Alamos National Laboratory, Los Alamos, NM (2001) and similar training at Argonne National Laboratory, Argonne, IL (2004).
7. Environmentally Degradable Plastic, June 12 – July 3, 1997, Egypt.

### **Honors, Awards, Fellowships and scholarships:**

1. 2016, Marquis Who's Who in the World 2016 (33rd Edition) for outstanding achievements.
2. Research Sector's award for High Impact Publication, Kuwait University, Kuwait, Contribution: Principal author, 2015 and 2016.
3. May 12, 2014 - Sept 12, 2014, Jordanian-American commission for educational exchange (Fulbright) Scholarship Research at Miami University, Oxford, Oh, USA.
4. May 17, 2010 - Nov 11, 2010, International Atomic Energy Agency (IAEA) fellowship, Vienna, Austria. Research at the advanced Photon source, Argonne National Laboratory, Argonne, IL, USA.
5. June 2004 - September 2005, postdoctoral fellowship at Material Science Division (MSD) and Intense Pulsed Neutron Source (IPNS), Argonne National Laboratory, Argonne, IL, USA
6. January 2000 – September 2004, the Hashimite University competitive scholarship toward the Ph.D. degree in Physics in the USA.
7. June 2001- June 2004, graduate research assistant fellowship at Los Alamos Neutron Science Center (LANSCE), Los Alamos National Laboratory, Los Alamos, USA.
8. Winter 2004, selected participant for the LANSCE Neutron Scattering Winter School, Topic: Magnetism, Los Alamos National Laboratory, Los Alamos, NM, USA.
9. Summer 2001, selected participant for the National School on Neutron and X-ray Scattering, Argonne National Laboratory, Argonne, Illinois, USA.
10. 2000-2001, graduate teaching assistant fellowship, New Mexico State University, Las Cruces, USA.
11. 1997 selected participant, environmentally degradable plastic, Egypt.
12. 1993, Dean's honor list of distinguished student, Yarmouk University, Jordan.
13. September 1989 – September 1993, Ministry of Education competitive scholarship for undergraduate studies, Jordan.

### **Conferences Attendance:**

1. The National Synchrotron Light Source II (NSLS-II) and Center for Functional Nanomaterials (CFN) Users' Meeting, May 18 - 20, (2020): ONLINE due to COVID-19 coronavirus outbreak

2. The 68<sup>th</sup> Annual Denver X-ray conference joint with the 25th International Congress on X-ray Optics and Microanalysis (ICXOM-25), Lombard, Illinois, August 5 – 9, (2019)
3. The 2018 Denver X-ray conference, 67<sup>th</sup> annual conference on application of x-ray analysis, Westminster, Colorado August 6-10, (2018)
4. Frontiers in Theoretical and Applied Physics (FTAPS-2017), American University of Sharjah, February 22-25, (2017).
5. The 2015 Fundamental Optical Processes in Semiconductors Conference, B Breckenridge, Colorado August 2-7, (2015).
6. Royal Society of chemistry's second gulf symposium on the design and application of advanced materials, Kuwait university, Kuwait, December 9 (2014).
7. APS (American Physical society) March Meeting, Denver, CO, March 3-7 (2014).
8. Three-Way meeting (Optics workshop), Advanced Photon Source, Argonne National Laboratory, USA, August 1-2 (2013).
9. 12<sup>th</sup> Joint MMM-Intermag conference. Chicago, Illinois January 14-18, 2013 Organized by American Institute of Physics and IEEE.
10. APS (American Physical society) March Meeting, Boston, MA, Feb27 March 3, (2012).
11. 5<sup>th</sup> European conference on neutron scattering (ECNS-2011), Prague, Czech Republic, July 17- 22 (2011)
12. The 16<sup>th</sup> Pan-American Synchrotron Radiation Instrumentation Conference (SRI 2010), Advanced Photon Source, Argonne National Laboratory, USA, September 21-24 (2010)
13. HPCAT/CDAC Short course on High Pressure Synchrotron Techniques, Advanced Photon Source, Argonne National Laboratory, USA, September 15-18 (2010)
14. Strongly Correlated electron Systems (SCES-2101) conference, Santa Fe, NM, Jun 27-July 2, (2010).
15. APS (American Physical society) March Meeting, Portland, Or, March15-19 (2010)
16. 8<sup>th</sup> SESAME user meeting, Nov. 19-21, 2009, Petra, Jordan.
17. 53<sup>rd</sup> Conference on Magnetism and Magnetic Materials. Austin, Texas November 10-14, 2008 Organized by American Institute of Physics
18. APS (American Physical society) March Meeting, New Orleans, LA, March (2008)

19. 52<sup>nd</sup> Conference on Magnetism and Magnetic Materials. Tampa, Florida November 5-9, 2007 Organized by American Institute of Physics.
20. Sixth SESAME user meeting, Nov. 17-19, 2007, Amman, Jordan
21. 10<sup>th</sup> Joint MMM-Intermag conference. Baltimore, Maryland January 7-11, 2007 Organized by American Institute of Physics and IEEE.
22. APS (American Physical society) 2006 March Meeting. March 7-13, 2006. Baltimore, Maryland.
23. Forth SESAME user meeting, December 6-8, 2005, Dead Sea, Jordan.
24. APS (American Physical society) March Meeting. March 19-25, 2005. Los Angeles, California.
25. 49<sup>th</sup> Conference on Magnetism and Magnetic Materials. Jacksonville, Florida November 7-11, 2004 Organized by American Institute of Physics.
26. 9<sup>th</sup> Joint MMM-Intermag conference. Anaheim, California January 5-9, 2004 Organized by American Institute of Physics and IEEE.
27. 6<sup>th</sup> LANSCE User Group Meeting, October 19-21, 2003, Los Alamos Neutron Science Center, Los Alamos
28. APS Four Corners 2003 meeting, Oct. 24, 25 2003. Arizona state university, Tempe, Arizona.
29. Workshop on Single-Crystal Diffuse Scattering at Pulse Neutron Sources, Intense Pulsed Neutron Sources, Argonne National Laboratory, IL (16-17 June 2003).
30. APS (American Physical society) 2003 March Meeting. March 3-7, 2003. Austin, Texas.
31. 47<sup>th</sup> Conference on Magnetism and Magnetic Materials. Tampa, Florida November 10-15, 2002 Organized by American Institute of Physics.
32. APS Four Corners 2002 meeting. Oct. 3, 5 2002. University of Utah, Salt Lake City, Utah.
33. APS 2002 March Meeting. March 18-22, 2002. Indiana Convention Center, Indianapolis, Indiana.
34. 46<sup>th</sup> Conference on Magnetism and Magnetic Materials. Seattle, Washington November 12-16, 2001 Organized by American Institute of Physics.



35. APS Four Corners 2001 meeting. Nov. 2, 3 2001. New Mexico State University, Las Cruces, New Mexico.
36. NATO Advanced Research Workshop “Frontiers of High Pressure Research II: Application of High Pressure to Low-dimensional Novel Electronic Materials” June 19-15, 2001. Organized by Colorado State University, Fort Collins, Colorado 80523.
37. The First Conference on Materials Science, November 1-4, 1997 Organized by Mu'tah University, Jordan
38. The First Italian-Jordanian Conference “Plastic Materials: Technology, Industry and Environment” March 16-19, 1998 Organized by The Higher Council for Science and Technology (HCST) Jordan and The National Institute of Chemistry, Physics and Technology of Synthetic and Natural Macromolecules (INC MACRO) CNR/Italy.

**Talks and poster presentations:**

1. Structural, Optical, and Magnetic Properties of Mn Doped ZnO Thin Films, the 68<sup>th</sup> annual Denver X-ray conference joint with the 25th International congress on X-ray optics and microanalysis (ICXOM-25), Lombard, Illinois, August 5 – 9, (2019). (Poster)
2. Luminescent Properties, x-ray photoelectron and x-ray absorption study of Antimony doped p-type ZnO nanowires, 2018 Denver X-ray conference. 67<sup>th</sup> annual conference on application of x-ray analysis, Westminster, Colorado August 6-10, (2018). (Poster)
3. Pressure effect on the magnetic transitions in rare earth element, Frontiers in Theoretical and Applied Physics (FTAPS-2017), American University of Sharjah, February 22-25 (2017). (Invited talk)
4. Hot Probe and Optical Measurements of n-Type Conduction in Sb-doped ZnO Microwires, the 2015 Fundamental Optical Processes in Semiconductors Conference, Breckenridge, Colorado August 2-7, (2015). (Poster)
5. *Complex conductivity studies in selected UTX compounds*, Kuwait University, Research sector scientific poster day, March 25, 2014. (Poster)
6. *Interfacial exchange coupling in Fe/(Ga,Mn)As bilayers*, APS (American Physical society) March Meeting, Denver, CO, March 3-7 (2014). (Talk)
7. *Element-Specific Spin and Orbital Polarization in LT GaMnAs/Fe hybrid systems*, 12<sup>th</sup> Joint MMM-Intermag conference. Chicago, Illinois January 14-18, 2013 Organized by American Institute of Physics and IEEE. (Talk)
8. *Microfocusing options for sector 3 of the APS upgrade project*, APS (American Physical society) March Meeting, Boston, MA, Feb 27 March 3, (2012). (Talk)

9. *Moment configuration of SrLaFeO<sub>4</sub> and Sr<sub>1.1</sub>La<sub>0.9</sub>FeO<sub>4</sub> at low temperatures*, 5<sup>th</sup> European conference on neutron scattering (ECNS-2011) Prague, Czech Republic, July 17-22, 2011. (Poster)
10. *Structure and valence of EuO under pressure*, 6<sup>th</sup> Nassau-Argonne International Mossbauer Symposium, Nassau Community College, Garden City, NY, USA, Jan13-14, 2011
11. *High-pressure studies of structure and valence in Europium metal up to 92 Gpa*, HPCAT/CDAC Short course on High Pressure Synchrotron Techniques, Advanced Photon Source, Argonne National Laboratory, USA, September 15-18, 2010. (Poster).
12. *Magnetic phase transitions in CePtSn under high Pressure reassure*, Strongly Correlated electron Systems (SCES-2101) conference, Santa Fe, NM, Jun 27-July 2, 2010. (Poster).
13. *Moment configuration of SrLaFeO<sub>4</sub> at low temperatures*, APS (American Physical society) March Meeting, Portland, Or, March15-19 (2010). (Talk)
14. *Complex Conductivity of UTX Compounds in High Magnetic Fields*, 53<sup>rd</sup> Conference on Magnetism and Magnetic Materials, Austin, Texas, Nov. 10-14, 2008. (Poster)
15. *Pressure and magnetic field effects in heavy-fermion UCu<sub>3.5</sub>Al<sub>1.5</sub>*, APS (American Physical Society) March Meeting, New Orleans, LA, March10-15, 2008. (Talk)
16. *Field cooling dependence of the anisotropy in exchange biased FeF<sub>2</sub>/Co films*, 52<sup>nd</sup> Conference on Magnetism and Magnetic Materials, Tampa, Florida, Nov. 5-9, 2007. (Talk)
17. *Spin structure of exchange-biased NiFe/FeMn/NiFe trilayers*, 10<sup>th</sup> Joint Intermag-MMM conference, Baltimore, Maryland, January 7-11, 2007. (Talk)
18. *Spin structure of NiFe/FeMn/NiFe trilayers*, APS (American Physical Society) March Meeting, Baltimore, Maryland, March 7-13, 2006. (Poster)
19. *A general look on: Neutron scattering technique and its applications*, Department of Physics colloquium, The University of Jordan, April 27, 2006. (Talk, INVITED)
20. *Field cooling dependence of the anisotropy in exchange biased FeF<sub>2</sub>/Co films*, APS (American Physical Society) March Meeting, Los Angeles, CA, March, 2006. (Talk)
21. *Exchange bias phenomena probed by polarized neutron relectometry technique*, Department of Physics colloquium, The Hashemite University, April, 2006. (Talk, INVITED)

22. *Magnetic field effect in UNi<sub>1/3</sub>Ru<sub>2/3</sub>Al*, 49<sup>th</sup> Conference on Magnetism and Magnetic Materials, Jacksonville, Florida Nov. 7-11, 2004. (Poster)
23. *Pressure and magnetic field effect in UNi<sub>0.33</sub>Ru<sub>0.76</sub>Al single crystal*, 9<sup>th</sup> Joint Intermag-MMM conference, Anaheim, CA, January 5-9, 2004. (Talk)
24. *Magnetic ordering of (La,Sr)FeO<sub>4</sub> Studied by neutron diffraction*, Sixth LANSCE user Group meeting, Los Alamos Neutron Science Center, Los Alamos, October 19-21, 2003. (Poster)
25. *Pressure and field effects in UNi<sub>0.33</sub>Ru<sub>0.76</sub>Al*, American Physical Society four corners meeting, Arizona state university, Tempe, Arizona, Oct. 24, 25 2003. (Talk)
26. *Magnetic phase transitions in NdCu<sub>2</sub> under high pressure*, APS (American Physical Society) March Meeting, Austin, Texas, March 3-7, 2003. (Poster)
27. *Pressure and Magnetic Field Effects In CeNiGe<sub>2</sub>*, 47<sup>th</sup> Conference on Magnetism and Magnetic Materials. Tampa, Florida Nov. 10-15, 2002. (Talk)
28. *Pressure and Field Effect in CeNiGe<sub>2</sub>*, APS (American Physical Society) four corners meeting, University of Utah, Salt Lake City, Utah, Oct. 3, (2002). (Talk)
29. *Magnetic Properties of UPdSn Under High Pressure*, APS (American Physical Society) March Meeting, Indianapolis, Indiana, March 18-22, 2002. (Poster)
30. *Hybridization and Pressure Effects in UTX Compounds*, 46<sup>th</sup> Conference on Magnetism and Magnetic Materials, Seattle, Washington Nov. 12-16, 2001. (Talk)
31. *Hybridization and pressure effect in UTX compounds*, American Physical Society four corners meeting, New Mexico State University, Las Cruces, New Mexico, Nov. 2, 3 2001. (Talk)
32. *Resistance and Magnetoresistance of UIrGe Under High Pressure*, NATO Advanced research workshop, Fort Collins, Colorado, June 19-15, 2001. (Poster, INVITED)
33. *Effect of the Dead Sea water on the mechanical properties of polystyrene*, the First Conference on Materials Science, November 1-4, 1997. (Talk)
34. *Determination of the yield energy of treated polystyrene*, the first Italian-Jordanian conference, "Plastic Materials: Technology, Industry and Environment" March 16-19, 1998. (Talk)

### **Journal Published:**

1. **Influence of oxygen defects and their evolution on the ferromagnetic ordering and band gap of Mn doped ZnO films**

**Abdel Khaleq Mousa Alsmadi**, Belal Salameh, and Mouath Shatnawi  
Source: J. Phys. Chem. C (2020) (Journal Impact Factor=4.2, Journal Ranking= Q1)

- 2. Effects of Co concentration and annealing on the magnetic properties of Co-doped ZnO films: Role of oxygen vacancies on the ferromagnetic ordering**  
B. Salameh, **A. M. Alsmadi**, and M. Shatnawi  
Source: J. Alloys Compd. **835**, 155287 (2020) (Journal Impact Factor=3.99, Journal Ranking= Q1)
- 3. Coexistence of superparamagnetism and spin-glass like behavior in Zinc-substituted cobalt ferrite nanoparticles**  
Gassem M. Alzoubi, **A. M. Alsmadi**, G.A. Alna'washi, B. Salameh, M. Shatnawi, Sufan Alnemrat, B. A. Albiss, I. Bsoul  
Source: Applied Physics A **126** (7), 512 (2020) (Journal Impact Factor=1.78, Journal Ranking= Q2)
- 4. Influence of High Temperature Annealing on Structural and Magnetic Properties of Crystalline Cobalt Ferrite NanoParticles Prepared by Hydrothermal Method**  
Gassem M. Alzoubi, B. A. Albiss, M. Shatnawi, I. Bsoul, **A. M. Alsmadi**, B. Salameh, G.A. Alna'washi  
Source: J Supercond. Nov. Magn., (accepted 2020) (Journal Impact Factor=1.2, Journal Ranking= Q3)
- 5. Morphology and Optical Analysis of Defect Levels in Ultrasonically-Sprayed Zinc Tin Oxide**  
Ahmed R. Hegazy, B. Salameh, M. Mathai and **A. M. Alsmadi**  
Source: Ceramics International **46**(9), 13151 (2020) (Journal Impact Factor = 3.45, Journal Ranking= Q1)
- 6. Magnetic study of M-type Co-Ti doped strontium hexaferrite nanocrystalline particles**  
G. A. Aln'washi, **A. M. Alsmadi**, I. Bsoul, Gassem M. Alzoubi, B. Salameh, M. Shatnawi, F. M. Al-Dweri, and S. H. Mahmood,  
Source: J Supercond. Nov. Magn., **33**, 1423 (2020) (Journal Impact Factor=1.2, Journal Ranking= Q3)
- 7. Influence of nickel doping on the energy band gap, luminescence, and magnetic order of spray deposited nanostructured ZnO thin films**  
H. Ali, **A.M. Alsmadi**, B. Salameh, M. Mathai, M. Shatnawi, N.M.A. Hadia, E.M.M. Ibrahim  
Source: J. Alloys Compd. **816**, 152538 (2020) (Journal Impact Factor=3.99, Journal Ranking= Q1)
- 8. Optical transitions and photoluminescence of fluorine-doped zinc tin oxide thin films prepared by ultrasonic spray pyrolysis**  
Ahmed R. Hegazy, B. Salameh, and **A. M. Alsmadi**  
Source: Ceramics International **45**, 19473 (2019) (Journal Impact Factor = 3.45, Journal Ranking= Q1)

- 9. Influence of Antimony doping on the electronic, optical and luminescent properties of ZnO nanowires**  
A. M. Alsmadi, B. Salameh, Lei L. Kerr, and K. F. Eid  
Source: Physica B: Condensed Matter, **545**, 519 (2018) (Journal Impact Factor=1.38, Journal Ranking= Q3)
- 10. Physicochemistry of point defects in fluorine doped Zinc Tin Oxide thin films**  
B. Salameh, A. M. Alsmadi, and F. El Akkad.  
Source: Thin Solid Films **626**, 76 (2017) (Journal Impact Factor=1.84, Journal Ranking= Q2)
- 11. Influence of Mn doping on the magnetic and optical properties of ZnO nanocrystalline particles**  
M. Shatnawi, A.M. Alsmadi, I. Bsoul, B. Salameh, M. Mathai, G. Alnawashi, Gassem M. Alzoubi, F. Al-Dweri, and M. S. Bawa'aneh  
Source: Results in Physics **6**, 1064 (2016) (Journal Impact Factor=1.337, Journal Ranking= Q3)
- 12. Magnetic and optical properties of Co-doped ZnO nanocrystalline particles**  
M. Shatnawi, A. M. Alsmadi, I. Bsoul, B. Salameh, G. Alnawashi, F. Al-Dweree, and F. El Alakkad  
Source: J. Alloys Compd. **655**, 244 (2016) (Journal Impact Factor=2.99, Journal Ranking= Q1)
- 13. Magnetic study of M-type Ru-Ti doped strontium hexaferrite nanocrystalline particles**  
A. M. Alsmadi, I. Bsoul, S. H. Mahmood, G. Alnawashi, F. M. Al-Dweri, Y. Maswadeh, and U. Welp  
Source: J. Alloys Compd., **648**, 419 (2015) (Journal Impact Factor=2.99, Journal Ranking= Q1)
- 14. Hot probe measurements of n-type conduction in Sb-doped ZnO microwires**  
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